United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Consumer and Environmental Affairs, Committee on Governmental Affairs
United States Senate

For Release on Delivery
Expected at
9:30 a.m. EST
Friday
February 21, 1992

AIRLINE COMPETITION

Industry Competitive and Financial Problems

Statement by John H. Anderson, Jr.,
Associate Director, Transportation Issues
Resources, Community, and Economic
Development Division

GAO/T-RCED-92-28

145993

GAO Form 160 (12/91)
OPR:OIMC/PCC

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify on prospects for competition in the airline industry. We have completed an extensive body of work over the past several years on issues related to airline competition, including reports on barriers to entry, the impact of industry consolidation on fares, and the financial health of the industry.[1] In our testimony today, we will summarize our findings on the competitive problems of the airline industry and discuss how the financial problems of the industry are likely to affect competition.

Our basic points are the following:

-- Although deregulation has benefited many consumers by providing reduced fares and more frequent service on many routes, consumers on other routes pay higher fares. Our analysis of 1988 fares on routes from 15 concentrated airports found that, when one or two airlines dominated an airport, fares were about 21 percent higher than on routes from less concentrated airports.[2] Three jet airlines ceased operations last year, and most of the others recorded substantial losses. Just three weeks ago, another airline entered bankruptcy, bringing the total number of major airlines currently operating in bankruptcy to three. If additional major airlines cease operations, domestic concentration could increase further. Because 76 percent of all passengers nationwide fly on routes served by three or fewer airlines and 45 percent fly on routes served by only one or two, the loss of another competitor on those routes could erode competition and lead to higher fares. In addition, many observers predict a wave of consolidation among international airlines.

-- As we have reported previously, barriers to entry limit competition in the airline industry. In our August 1990 report, we found that slot restrictions and restrictive lease agreements limit airlines' access to airport gates and facilities, and that restrictive marketing practices associated with computerized reservation systems (CRSs) and frequent flyer plans

---

[1]A list of our recent reports and testimonies on airline competition can be found in appendix III.

[2]See Airline Competition: Higher Fares and Reduced Competition at Concentrated Airports (GAO/RCED-90-102, July 11, 1990). We are currently updating this analysis and will be prepared to report on 1991 fares at concentrated airports within the next few months.

make it difficult for airlines to compete effectively in each other's markets. Some of these barriers raise the costs of entry or transfer revenues to the dominant airlines in a market, transfers which can mean the difference between profit and loss in an industry with profit margins as low as the airline industry. In addition, barriers harm consumers because they can raise fares significantly.

-- To compete effectively, an airline, like any other business, must be financially sound. The market shares of the financially distressed airlines have fallen from about 30 percent in 1990 to about 23 percent in 1991.[3] Airlines must generate funds for day-to-day operations; for maintaining, upgrading, and replacing existing aircraft fleets; and for investing in new aircraft to support domestic and international service expansion. If airlines are unable to find enough equity capital, they must either rely more heavily on debt financing--making them more vulnerable to cyclical fluctuations--or sell valuable international route rights and other assets.

-- In past reports and testimonies, we have discussed approaches to help ensure the continued success of deregulation by strengthening competition. We believe that proposals for reregulation of fares are not the best solution to the industry's problems. Rather, competitive access to airport facilities, a level playing field for marketing airline services, and better access to domestic and international capital markets would provide an atmosphere to enhance competition. Congressional action in 1990 to authorize Passenger Facility Charges (PFCs) was a valuable first step toward easing access to airport facilities. Even if the barriers to competition that we discuss are eliminated, excessive financial leverage and the continuing effects of the recession will weaken competition and discourage entry for some time to come. Nevertheless, a well-designed, broad program to reduce competitive barriers should both improve the long-term financial status of distressed airlines and make them more effective competitors in the airline marketplace.

---

[3]Market shares are based on revenue passenger miles reported in the January 15, 1992, edition of Aviation Daily, for the full year 1990 and 1991. Distressed airlines include Eastern (which ceased operations in January 1991), Pan Am (which ceased operations in December 1991), and America West, Continental, and TWA (which have all filed Chapter 11 bankruptcy).

I would now like to discuss in more detail the competitive problems of the airline industry and how the financial health of U.S. airlines affects competition both in the domestic and international markets.

CHANGES IN THE AIRLINE INDUSTRY PRESENT CHALLENGES FOR GOVERNMENT POLICYMAKERS

In the last few years, we have seen significant changes in the airline industry. Concentration has increased in some domestic markets, while declining in others. Data on shares of enplanements (passenger boardings) at 30 of the nation's largest airports show that, while concentration has increased between 1987 and 1991 at 18 of the airports, it has decreased at 12 others. (See appendix I.) Our analysis found that fares in 1989 were 21 percent higher at concentrated airports than at unconcentrated airports with comparable route lengths. We are currently updating this analysis to examine 1991 fares. While we have not done a national survey of changes in route concentration, our earlier work on the TWA-Ozark merger suggests that, when airport concentration increases because one carrier exits a market, route concentration also rises.[4] We also found that concentration at major hub airports increases fares by 34 percent for passengers flying to those airports from small-city airports.[5] Finally, our analysis of trends in fares in small and medium-sized communities shows that fares fell sharply between 1978 and 1988 in the Southwest, where two small new entrant carriers competed vigorously, but rose in the Southeast, where these carriers did not compete.[6] Continued industry concentration could further reduce competition and, therefore, harm consumers through higher fares or reduced service. Our work has also shown that significant barriers to entry and expansion exist and that such barriers raise fares. In fact, when certain barriers were present in combination on a route, we found that fares were 5 to 9 percent higher.

On the domestic side, the financial weakness of several of our largest airlines could lead to additional failures and more industry concentration. Although airlines appear to charge prices in excess of competitive levels on some routes, overall industry profitability has been low. In 1990, only Southwest and United among the major airlines reported positive net income

---

[4]Airline Competition: Fare and Service Changes at St. Louis Since the TWA-Ozark Merger (GAO/RCED-88-217BR, Sept. 21, 1988).

[5]Airline Competition: Fares and Concentration at Small-City Airports (GAO/RCED-91-51, Jan. 18, 1991)

[6]Airline Deregulation: Trends in Airfares at Airports in Small and Medium-Sized Communities (GAO/RCED-91-13, Nov. 8, 1990).

(profits); the industry as a whole reported a combined $3.81 billion net loss for the year. Reports so far indicate a $2.04 billion loss for all major airlines in 1991, with only one carrier--Southwest--reporting profits for the entire year. (See appendix II.) Eastern, Pan Am, and Midway have ceased operations, while Continental, America West, and TWA are reorganizing under bankruptcy court protection. We have also seen a growing network of financial and marketing relationships between U.S. and foreign airlines as they prepare to compete on a global basis.

On the international front, we are seeing rapid growth in international service and increasing pressure for changes in the system of bilateral agreements that govern international aviation. Between now and the year 2000, global passenger air traffic is expected to grow nearly twice as fast as the U.S. market. The European Community has proposed opening intra-Community markets to greater competition and taking responsibility for negotiating air service agreements with countries outside the Community. It remains to be seen when and how much of this program will be accomplished. Many observers predict a wave of concentration among international airlines as foreign flag airlines are privatized and international markets become more open to competition.

BARRIERS TO COMPETITION DISTORT THE DISTRIBUTION OF CONSUMER BENEFITS FROM DEREGULATION

The premise of deregulation was that actual and potential competition could be relied on to maintain adequate service and reasonable fares. If competition is weak, deregulation will not succeed. We have identified a number of restrictive practices in the airline industry that limit competitive opportunities for airlines wishing to begin or expand domestic service at U.S. airports and help airlines preserve dominant positions. In April of last year, we released the results of our econometric analysis, estimating the effects of some of these barriers on airline fares. Although our analysis did not identify any single practice as having a predominant effect on fares, several had a modest but statistically significant impact, typically 1 to 4 percent. Moreover, some of the practices we examined had much stronger effects on particular types of routes (such as short-haul routes) or passengers (such as business travelers).

Slot Restrictions Limit Access to Key Airports

Access to four of the nation's key airports is limited by

the Federal Aviation Administration's (FAA) High Density Rule.[7] The High Density Rule requires airlines serving these airports to secure take-off and landing reservations (or slots) before beginning service. For the most part, the airlines with access to these airports now are the same airlines that the Civil Aeronautics Board (CAB) awarded access to before deregulation in 1978. When the Department of Transportation (DOT) amended the High Density Rule in 1985 to allow airlines to buy and sell slots, these airlines were allowed to retain slots they already held. Our analysis found that the consumer paid 4 percent higher fares, on average, on routes to and from these airports. Slot controls were associated with 11 percent higher fares on short routes and 7 percent higher fares for less price-sensitive passengers, such as business travelers.

DOT's buy/sell rule has allowed airlines to buy and sell the privilege of using publicly controlled airspace, but has not produced the active market for distributing slots envisioned in the rule. In our August 1990 report,[8] we found that allowing airlines to buy and sell slots has led to the hoarding of excess slots, which airlines then lease for relatively short periods, often to other airlines related to the holders by common ownership or code-sharing agreements.[9] In 1988, the most recent year for which we have analyzed data, slot sales per quarter amounted to less than one percent of all slots. About 5 percent of all slots are leased, but leases are typically for a 30-day to 90-day period that does not provide a reliable basis on which to establish service.

Revisions to the slot rule could increase opportunities for airlines to establish or expand service at the four airports with slot controls. However, revisions to the slot rule should be carefully designed to provide access by new competitors to slot-controlled airports without undermining the financial viability of threatened airlines. For example, it may be possible for FAA to increase the total number of slots available and reserve the new slots for entrants, without substantially reducing the allocations of incumbents. Such a revision could enhance the competitive status of airlines like America West and Midwest

---

[7]14 C.F.R. Part 93 Subpart K. Operations are currently restricted at four airports -- Washington National, Chicago O'Hare, New York LaGuardia, and New York Kennedy.

[8]Airline Competition: Industry Operating and Marketing Practices Limit Market Entry (GAO/RCED-90-147, August 29, 1990).

[9]Code-sharing is an agreement between two airlines to market services jointly by sharing one airline's two-letter airline code. In the domestic market, code-sharing is usually between a jet airline and a commuter airline that shares the jet airline's reservations code.

Express that currently have very limited access to these airports, without harming financially threatened airlines, such as TWA, that could be injured if the financial value of its slots is substantially reduced. DOT has proposed revisions to the slot rule, but the proposed revisions do not create any new slots, nor do they provide for any reallocation of slots to entrant airlines or to airlines with limited service.

Access to Airport Gates and Facilities Is Also Limited

Restrictive gate leases and airport use agreements also limit access to airport facilities. Airlines that were protected by CAB route regulation until 1978 are still protected by long-term exclusive-use gate leases that, in many cases, were signed before deregulation.[10] In our August 1990 report, we found that about 88 percent of all gates were leased, that 85 percent of the leased gates were leased for the exclusive use of a single airline, and that 60 percent of the leased gates were covered by leases with more than 10 years left to run. At concentrated airports, these figures were even higher (91 percent leased, 89 percent exclusive-use, and 77 percent leased for more than 10 years). Exclusive leasing limits access to gates because the airport operator cannot offer the unused capacity to another airline, even if the incumbent uses the gates only part of the day. While entrants can usually gain access by subleasing gates, they often cannot get terms comparable to those of incumbent lessors. We also found that the more gates an airline controls at an airport, the higher its fares tend to be.[11]

Our reports and testimony on airline competition have suggested several ways to ease access to airport facilities. For instance, in our April 1991 report, we suggested that strategies for increasing airport capacity or for making better use of existing airport capacity, such as peak hour pricing, be considered. We also supported passage of the Aviation Safety and Capacity Expansion Act of 1990 (P.L. 101-508), authorizing passenger facility charges (PFCs), as one step toward easing access to airports. FAA has recently approved the first application by an airport to levy PFCs, which should allow airports to expand their facilities without seeking approval from dominant incumbent airlines. However, increasing capacity may

---

[10]According to our 1989 survey of 183 airports, about 37 percent of leased gates were on leases signed in 1978 or earlier. Some leases go back to 1958.

[11]For example, holding other factors constant, doubling an airline's share of an airport's gates (e.g., from 10 percent to 20 percent), whether the gates were exclusively leased or not, was associated with 1-percent higher fares.

not be possible at all of the congested airports. Fifty-eight percent of the nation's 66 largest airports reported that one or more constraints greatly impeded their expansion.[12] Another strategy we have suggested is encouraging airports to use preferential-use leases (rather than exclusive-use leases) for leasing airport facilities to airlines. Preferential-use leases allow airlines other than the primary lessee access to gates and other facilities when they are not needed by the primary airline.

CRSs Can Limit Competition

Even if an airline can gain access to an airport on reasonable terms, it still needs to be able to compete on a level playing field. After the airlines that had CAB route authority established CRSs and signed up most of the travel agents in the late 1970s and early 1980s, high capital costs and restrictive contract agreements with travel agents made it virtually impossible for other airlines to establish competitive systems. Because CRSs are the primary tool for marketing airline tickets, most airlines market their tickets through systems controlled by their competitors, on terms set by their competitors.

We have found several problems with CRSs. First, the booking fees that other airlines must pay to book their tickets on the CRS have, in some cases, been set at levels far in excess of the cost of providing the service. In addition, DOT has concluded that the system software used by CRSs is often designed so that flight bookings on the host airline are easier and more reliable than on other participating airlines. DOT has concluded that this design probably generates increased bookings and additional ("incremental") revenues for the host airline at the expense of the participating airlines. For example, DOT believes that information on the number of seats available is generally more reliable for the host airlines, and bookings on the host airline may require fewer keystrokes. We currently have this issue under review. Finally, the last definitive data collected by DOT in 1988 showed that, of the four CRS systems, two dominate the market, with a combined market share of 71 percent.[13] Data collected by DOT for 1986 showed that the two dominant systems

---

[12]The factors limiting airport expansion included unavailability of land, community opposition to increased noise and other consequences of expansion, and limitations on the ability of the air traffic control system to handle expansion.

[13]Market share data are calculated based on the number of flight segments booked through each CRS. The industry's dominant vendor, SABRE, is owned by AMR Corporation, the corporate parent of American Airlines. The second largest vendor, Covia, is owned by a consortium of domestic and foreign airlines, in which United Airlines is the managing partner.

transfer significant amounts of revenue from other participating airlines to the airlines owning the two systems.[14] We do not know exactly what current market shares are, or how large these revenue transfers currently are. However, in an industry with profit margins as low as those of the airline industry, revenue transfers of this magnitude can spell the difference between profit and loss.

In our September 1989 testimony on CRSs, we presented ways of revising DOT's rules governing these systems to improve their competitive impact. These include eliminating or restricting booking fees, establishing a common CRS governed by a consortium of airlines, and eliminating the minimum-use clauses and required 5-year terms from contracts between CRS vendors and travel agents. Policies to eliminate the adverse effects of CRSs on competition should be designed to preserve their positive features. Consumers benefit from CRSs when they allow travel agents to quickly search among the fare, route, and schedule offerings of competing airlines to find the flight that best meets the passenger's needs. Finally, airlines that have invested heavily in the development of CRSs should not be deprived of fair returns on their investments. DOT considered revision of its CRS rules for more than a year; a proposed rule was issued in March 1991 that addresses many of the competitive issues we have raised, with the exception of regulating booking fees. No final rule has been issued.

Frequent Flyer Plans Benefit Dominant Airlines

Frequent flyer plans also help the dominant airline in a market to maintain its position. In our survey of travel agents, 81 percent of the agents said that business passengers chose their flights on the basis of frequent flyer plans more than half the time. Passengers earn awards such as free trips by accumulating mileage in an airline's plan, mileage that cannot generally be transferred to other members of the plan. Because the value of awards increases with the number of miles the passenger earns, passengers have an incentive to concentrate their travel on the airline that offers the most flights to the most destinations from their local airport. This makes it more difficult for new airlines to attract enough passengers in a local airport market to sustain competitive entry in cities that are already dominated by another airline.

Policies that would restrict frequent flyer plans might enhance competition by strengthening the competitive position of the smaller or weaker airlines. For instance, a requirement

---

[14]Based on these data, we calculated that each of the two dominant CRSs annually transfered over $300 million to its airline owners. DOT has not gathered more recent data.

that frequent flyer plans allow their participants to transfer mileage earned to other participants who belong to the same plan would reduce the competitive problems raised by frequent flyer plans while still allowing airlines to make use of the plans as legitimate promotional vehicles. Under a transferable mileage requirement, passengers would no longer have as much incentive to concentrate all their flying on the dominant airline in each market. They could spread their flying across several airlines, selling off the miles they could not use. A transferable mileage requirement would probably not induce airlines to drop their frequent flyer plans because airlines would still be able to provide their passengers with a promotional benefit--free travel--whose value to passengers is normally greater than its cost to the airline.

Travel Agent Commission Overrides Influence Booking Patterns

Travel agent commission overrides are monetary bonuses paid to travel agents who book a large volume of business with the airline offering the incentive. To the extent that such incentives are effective in inducing agents to book a disproportionate number of passengers on a particular airline, they may increase the costs of marketing tickets, because other airlines may feel compelled to offer equally costly incentives. An increase in the cost of selling tickets in a market may, in turn, discourage airlines from entering the market. We found that travel agents often receive volume incentives and that these incentives have some influence on their booking patterns. Since 81 percent of airline tickets are booked through travel agents, and since 51 percent of the agents we surveyed reported choosing the airline for their clients at least half of the time, there is a potential for these incentives to influence a large proportion of airline bookings.

The widespread use of these incentives--52 percent of the agents in our survey reported receiving them--indicates that travel agent incentives significantly raise the costs of marketing airline tickets. This may adversely affect entrant airlines, which may be less able to bear these costs than a well-established incumbent airline can. Eliminating commission overrides and other travel agent incentives would probably help to even the playing field between large established carriers and smaller entrants.

Code-Sharing Agreements Also Favor Dominant Airlines

In a domestic code-sharing agreement, a commuter airline enters into a partnership with a larger airline to transport connecting passengers to and from the larger airline's flights. Code-sharing agreements appear to strengthen the position of

predominantly jet airlines with such agreements, especially at the airlines' hubs. In doing so, these agreements could prevent other airlines from competing effectively. Code-sharing agreements might also reduce the long-run competitiveness of the industry by making commuter airlines less independent and preventing them from potentially offering a competitive challenge to larger airlines in some markets. Our econometric analysis found that fares were, on average, 2 percent higher on routes where a major airline had a code-sharing agreement at one of the route's endpoint airports.

However, code-sharing or its equivalent may be impossible to avoid. If carriers were not allowed to code-share, they would probably simply acquire their code-sharing partners, as several major carriers already have, or develop commuter divisions internally. The competitive effects of commuter carriers marketing cooperatively with major airlines is likely to be the same whether the commuter airline is separately owned or not.

Code-sharing may provide improved consumer service as compared with conventional interlining arrangements.[15] Two-thirds of the travel agents we surveyed who said their customers had expressed a preference reported that their customers preferred code-shared flights. However, more than half of the agents said their customers had no preference between code-shared and interline flights. Moreover, it may be possible to achieve many of these advantages through enhanced interlining relationships.

A COMPETITIVE AIRLINE INDUSTRY REQUIRES FINANCIALLY SOUND AIRLINES THAT CAN RESPOND TO CHANGING MARKET FORCES

Over the past decade, several large airlines have developed serious problems that weaken their financial position. Chief among these problems are the high levels of debt some airlines have incurred to finance leveraged buyouts and expansion plans, and the high costs of overcoming operating and marketing practices that limit competition. Over the next few years,

---

[15]Interlining arrangements are the traditional method by which airlines facilitate travel for passengers who must use more than one airline to reach their destinations. Interlining agreements between the airlines allow the passenger to book passage on one airline for the first part of the trip, on a second airline for the second part of the trip, and on other airlines for subsequent parts of the trip. All the tickets can be purchased from one airline, with the interline agreement providing for the other airlines to be paid for their parts of the journey. The interline agreement also provides for checking of baggage through to the final destination and for other necessary cooperation between the different airlines involved.

airlines will have to spend billions of dollars to repair and modify older aircraft to ensure safety and reduce noise. In addition, airlines must finance the acquisition of new aircraft if they are to expand domestic and international air transport service.

Reliance on Debt Financing Makes Airlines More Vulnerable to Market Fluctuations

Airlines require huge amounts of capital to finance the upgrading, replacement, and expansion of their fleets necessary to remain competitive. For example, we have estimated the industry's cost of retrofitting or replacing noisier Stage 2 aircraft to be between $2 billion and $5 billion.[16] One way to raise this financing is through securing additional equity investment by selling stock. For airlines that cannot secure adequate equity financing--for example because of low profitability--the alternatives are taking on additional debt or selling valuable assets to generate funds. However, both of these alternatives have drawbacks. An increase in debt financing, whether through issuing debt instruments such as bonds or through the sale-leaseback of aircraft, increases fixed charges for interest, principal, and lease payments. High levels of fixed charges make highly leveraged airlines much more vulnerable either to a short-run decrease in demand due to a recession or to a short-term increase in costs. Although selling assets such as international routes or slots generates cash, it also reduces the seller's opportunities to generate future revenue.

In the past two years, the importance of a strong financial position and the effects of heavy reliance on debt financing have been made all too clear. Among the airlines that have relied heavily on debt financing, Eastern, Pan Am, and Midway have ceased operations, and Continental, America West, and TWA have filed for bankruptcy court protection. But for the stronger airlines in the industry, the troubles of their competitors have offered opportunities. American, United, Delta, Northwest, and USAir have been able to expand their international and domestic route systems and acquire additional aircraft and facilities from their troubled rivals.

Federal Law Restricts U.S. Airlines' Access to Foreign Capital

Foreign investment is an additional source of capital for U.S. airlines. However, federal law limits foreign ownership to

---

[16]Aviation Noise: Costs of Phasing Out Noisy Aircraft (GAO/RCED-91-128, July 2, 1991), p. 2.

25 percent of a U.S. airline's voting stock, while remaining silent on foreign ownership of non-voting stock. DOT announced in January 1991 that it would allow foreign interests to acquire up to 49 percent of the voting and non-voting stock of a U.S. airline, provided that the statutory limit on voting stock not be exceeded. Federal law also requires that the president and two-thirds of a U.S. airline's board of directors and managing officers be U.S. citizens. Some industry observers have suggested that these restrictions limit the access of U.S. airlines to capital and thus reduce their ability to compete. However, we agree that relaxing foreign investment limits will not necessarily attract new foreign investment to the weaker airlines if investors do not believe that those airlines have the opportunity to compete effectively with the stronger airlines.

If the smaller airlines are to compete with the so-called "mega-carriers" with their global route networks, they must create competitive route networks, either by expanding their own route networks or by forming alliances. Because the primary motivation for most of the foreign investment overtures to U.S. airlines appears to be a desire to form such expanded global networks, the investments generally come from foreign airlines. For example, Scandinavian Airlines System (SAS) has invested in Continental, and KLM Royal Dutch Airlines has invested in Northwest. The foreign airline benefits by participating in the profits of the U.S. airline just as a similar U.S. investor would. In addition, if there are marketing agreements between the two airlines, the presence of an equity investment signals a greater degree of commitment to the relationship. While some relationships between large U.S. airlines and foreign airlines could reduce levels of competition, relationships between smaller airlines are more likely to enhance competition by allowing smaller airlines to remain in the market.

Changing Limits on Foreign Investment Can Provide Access to New Capital Sources

As we have previously reported, our work on foreign investment in U.S. airlines indicates that, while relaxing foreign investment restrictions can provide them with access to new capital sources, it could also present problems.[17] Specifically, we have identified potential pitfalls in the areas of bilateral negotiations, investment by government-subsidized foreign airlines, and national security.

First, foreign investment may blur the nationality of airlines and complicate the task of U.S. negotiators, especially when negotiating with a foreign airline investor's home country.

---

[17]Airline Competition: Industry Competitive and Financial Problems (GAO/T-RCED-91-89, Sept. 11, 1991).

Access to international aviation markets is restricted by bilateral agreements negotiated between governments. The agreements usually require that the airlines flying international routes be controlled by citizens of the country that awards them the route. In addition, the agreements specify the routes that can be flown, the number of flights that can be offered, and sometimes even the number of seats that can be offered.

Second, government owned or subsidized airlines could present special competitive problems for the privately-owned U.S. airlines, because they face an operating environment different from that faced by U.S. airlines. While some countries have begun to privatize their airlines, many foreign airlines are still substantially owned or subsidized by their governments. If a U.S. airline were owned and subsidized by a foreign government, it would make it difficult for privately-owned U.S. airlines to compete. We have not yet finished assessing whether the existing controls over anti-competitive activities, such as predatory pricing (i.e., pricing below costs to drive competitors from the market), are sufficient to preclude harmful activity by government owned or subsidized airlines.

Finally, the Department of Defense (DOD) has expressed concern that allowing greater foreign investment in U.S. airlines could compromise military access to civilian aircraft. U.S. airlines provide peacetime and emergency airlift to DOD through voluntary contracts under the Civil Reserve Air Fleet (CRAF) program. They are paid at a rate negotiated between the participating airlines and DOD, based on the airlines' costs. By participating in CRAF, airlines become eligible for DOD's lucrative peacetime charter business, business to which foreign airlines have no access. Our preliminary work suggests that there may be several possible strategies for ensuring DOD access to an ample supply of aircraft, without continuing to limit foreign investment.

While none of the potential problems we have identified in our work appears to be insoluble, we have not yet finished our work in this area and are not ready to make specific suggestions at this time. However, our work does indicate that the conditions or limitations attached to foreign investment will affect the opportunities for U.S. airlines to attract equity capital from foreign sources. For example, continuing to limit foreign control of U.S. airlines may be necessary to ensure DOD access to civilian aircraft. However, without the ability to control the U.S. airline's management decisions, a foreign investor may be reluctant to provide equity capital to an airline that is being poorly managed.

CONCLUSIONS

We believe that the most appropriate approach to resolving the competitive and financial problems of the airline industry is to focus on long-term strategies to enhance competition. Although these goals will be difficult to achieve, barriers to competition should be reduced and solutions found to improve the financial condition of the industry. Government action by itself, of course, will not preserve a competitive airline industry. Even if the barriers to competition that we discuss are eliminated, excessive financial leverage and the continuing effects of the recession will weaken competition and discourage entry for some time to come. If airlines are not soundly financed, they will remain vulnerable to the cyclical swings of demand for airline services and costs of aviation fuel. Nevertheless, a well-designed, broad program to reduce competitive barriers should both improve the long-term financial status of distressed airlines and make them more effective competitors in the airline marketplace. Government action can provide the structural preconditions for effective competition--equal access to the nation's publicly financed airports, a level playing field for marketing airline services, and better access to domestic and international capital markets.

The government's interest in the survival of threatened airlines is one of ensuring that there are enough airlines to provide effective competition. To the extent that the difficulties experienced by a specific firm are the result of anti-competitive forces within the industry, government policies are appropriately directed at opposing those forces. To the extent that a specific firm's problems stem from mismanagement or inefficiency, its distress reflects the natural processes of the marketplace that favor the efficient, well-run business over an inept competitor, and government intervention harms the consumer by keeping inefficient suppliers in the industry. Thus, the primary goal of federal competition policy should be to protect competition, not to protect specific competitors. However, if additional airlines cease operations, the decline in the number of competing airlines will probably harm competition. It has been suggested that the survival of four or five airlines would be enough to achieve effective competition. This would be true <u>if</u> several airlines served most routes, but this is often not true. On routes with less competition, the loss of a single airline could have a serious adverse effect.

That concludes my testimony. I would be happy to respond to any questions you may have.

CHANGE IN CONCENTRATION AT 30 MAJOR AIRPORTS, 1987 TO 1991

Table I.1: Airports Where Concentration Has Increased Since 1987

Airport	HHI[a] 1987[b]	HHI[a] 1991[c]	Percent change[d]
Hartsfield-Atlanta Int'l	4,544	7,966	75.31
Charlotte/Douglas Int'l	7,754	9,087	17.19
Chicago O'Hare Int'l	3,593	3,704	3.10
Greater Cincinnati	4,752	7,787	63.88
Dallas/Ft. Worth Int'l	4,606	4,779	3.76
Detroit Metro/Wayne County	4,388	5,440	23.97
Houston Intercontinental	6,038	6,498	7.61
McCarran Int'l (Las Vegas)	1,208	2,355	94.96
John F. Kennedy Int'l (New York)	1,982	2,397	20.93
Orlando Int'l	1,707	2,080	21.86
Philadelphia Int'l	2,583	3,173	22.83
Sky Harbor Int'l (Phoenix)	2,217	2,874	29.65
Greater Pittsburgh Int'l	7,227	8,047	11.35
Raleigh/Durham	2,625	6,897	162.74
Salt Lake City Int'l	5,700	6,879	20.68
San Diego Int'l/Lindbergh Field	1,280	1,307	2.08
San Francisco Int'l	2,143	2,545	18.77
Dulles Int'l (Washington, D.C.)	3,250	4,746	46.03

[a]The Herfindahl-Hirschman Index (HHI) measures the overall concentration in a market. The HHI equals the sum of the squared enplanement shares of all airlines serving a market. The Department of Justice uses the HHI as its standard indicator of industry concentration.

[b]1987 HHIs, taken from Airline Competition at the 50 Largest U.S. Airports Since Deregulation, by Julius Maldutis, Ph.D., Salomon Brothers, Inc., are based on the period ending March 31, 1987.

[c]1991 HHIs were calculated from individual airline enplanement shares taken from Aviation Daily, "U.S. Carrier Market Share at Leading U.S. Airports," and are based on the first 6 months of 1991.

[d]Percentage changes are rounded to the nearest hundredth.

Table I.2: Airports Where Concentration Has Decreased Since 1987

Airport	HHI[a] 1987[b]	HHI[a] 1991[c]	Percent change[d]
Logan Int'l (Boston)	1,890	1,302	(31.13)
Stapleton Int'l (Denver)	3,943	3,580	(9.21)
Honolulu Int'l	1,637	1,578	(3.59)
Los Angeles Int'l	1,283	1,282	(0.09)
Miami Int'l	3,188	2,292	(28.12)
Minneapolis/St. Paul Int'l	6,698	6,656	(0.62)
LaGuardia (New York)	1,801	1,225	(31.97)
Newark Int'l	3,514	3,223	(8.28)
Lambert-St. Louis Int'l	6,821	5,936	(12.97)
Sea-Tac Int'l (Seattle)	1,675	1,457	(13.00)
Tampa Int'l	1,870	1,758	(5.99)
Washington National	1,920	1,331	(30.69)

[a]The Herfindahl-Hirschman Index (HHI) measures the overall concentration in a market. The HHI equals the sum of the squared enplanement shares of all airlines serving a market. The Department of Justice uses the HHI as its standard indicator of industry concentration.

[b]1987 HHIs, taken from Airline Competition at the 50 Largest U.S. Airports Since Deregulation, by Julius Maldutis, Ph.D., Salomon Brothers, Inc., are based on the period ending March 31, 1987.

[c]1991 HHIs were calculated from individual airline enplanement shares taken from Aviation Daily, "U.S. Carrier Market Share at Leading U.S. Airports," and are based on the first 6 months of 1991.

[d]Percentage changes are rounded to the nearest hundredth.

NET PROFIT (LOSS) OF U.S. MAJOR AIRLINES

Dollars in millions

	Full year[a]			
	1988	1989	1990	1991
America West	$ 9.4	$ 20.0	$ (74.7)	$(213.8)
American	449.4	423.1	(76.8)	(239.9)
Continental	(315.5)	3.1	(1,236.4)	(305.7)
Delta	344.5	473.2	(154.0)	(239.5)
Eastern[c]	(335.4)	(852.3)	(1,115.9)	[c]
Northwest	162.8	355.3	(10.4)	(317.0)
Pan Am[b]	(118.3)	(414.7)	(638.1)	(309.2)
Southwest	57.4	71.4	47.1	26.9
Trans World[b]	249.7	(298.5)	(237.6)	197.5[d]
United	589.2	358.1	95.8	(331.9)
USAir[e]	217.2	2.1	(410.7)	(305.3)
Total	1,310.4	140.8	(3,811.8)	(2,037.9)

[a]Full year data on net income (loss) for 1988, 1989, and 1990 were provided by the Air Transport Association (ATA) for its member and associate airlines. Data for 1991 for Pan Am and Trans World are from ATA and are for the first 9 months. Data for the other airlines are for the full year and are from Aviation Daily.

[b]Full-year 1991 data are not yet available for these airlines. Data shown are for the first 9 months of 1991.

[c]Eastern ceased operations in January 1991.

[d]Trans World Airlines' net profit during the first 9 months of 1991 was entirely attributable to its sale of transatlantic route rights to American Airlines. Its operating loss during this period was $257.7 million.

[e]Net profit (loss) of Piedmont and Pacific Southwest are included in the USAir data for 1988 and 1989.

RELATED GAO PRODUCTS

Airline Competition: Industry Competitive and Financial Problems (GAO/T-RCED-91-89, September 11, 1991).

Aviation Noise: Costs of Phasing Out Noisy Aircraft (GAO/RCED-91-128, July 2, 1991).

Aircraft Maintenance: Additional FAA Oversight Needed of Aging Aircraft Repairs (Vol. I) (GAO/RCED-91-91A, May 24, 1991).

Airline Competition: Effects of Airline Market Concentration and Barriers to Entry on Airfares (GAO/RCED-91-101, April 26, 1991).

Airline Competition: Weak Financial Structure Threatens Competition (GAO/RCED-91-110, April 15, 1991; GAO/T-RCED-91-6, February 6, 1991).

Airline Competition: Fares and Concentration at Small-City Airports (GAO/RCED-91-51, January 18, 1991).

Airline Competition: Passenger Facility Charges Represent a New Funding Source for Airports (GAO/RCED-91-39, December 13, 1990).

Airline Deregulation: Trends in Airfares at Airports in Small and Medium-Sized Communities (GAO/RCED-91-13, November 8, 1990).

Airline Competition: Industry Operating and Marketing Practices Limit Market Entry (GAO/RCED-90-147, August 29, 1990).

Airline Competition: Higher Fares and Reduced Competition at Concentrated Airports (GAO/RCED-90-102, July 11, 1990).

Barriers to Competition in the Airline Industry (GAO/T-RCED-89-65, September 20, 1989, and GAO/T-RCED-89-66, September 21, 1989).

Airline Competition: DOT's Implementation of Airline Regulatory Authority (GAO/RCED-89-93), June 28, 1989).

Airline Competition: Fare and Service Changes at St. Louis Since the TWA-Ozark Merger (GAO/RCED-88-217BR, September 21, 1988).

Competition in the Airline Computerized Reservation System Industry (GAO/T-RCED-88-62, September 14, 1988).

Airline Competition: Impact of Computerized Reservation Systems (GAO/RCED-86-74, May 9, 1986).

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendents of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20877

Orders may also be placed by calling (202)275-6241.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100