United States General Accounting Office

GAO Testimony

For Release
on Delivery
Expected at
9:30 a.m. EDT
Wednesday
September 20, 1989

Barriers to Competition in the Airline Industry

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Before the
Subcommittee on Aviation
Committee on Commerce, Science,
and Transportation
United States Senate

GAO/T-RCED-89-65

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify on our on-going work on the status of competition in the airline industry. The deregulation of the airline industry was predicated on the belief that low fares and good service would be ensured because the industry was inherently competitive. Proponents of deregulation believed that competition would thrive because it would be relatively easy for new firms to enter the industry or for existing firms to expand into new markets. The success of deregulation depends in large measure on minimizing the barriers to new entry that can result when existing firms take actions that raise the potential entrants' costs or erect other obstacles that bar entry entirely.

At the request of Senator Danforth, Ranking Minority Member of the Committee on Commerce, Science, and Transportation, and also at the request of the Chairman of the House Committee on the Judiciary, we are examining how changes in airline operating and marketing practices might discourage new or existing carriers from entering new markets.

Our testimony today is based on a broad data-gathering effort designed to assess the extent to which airports are accessible to entrants and the likelihood that airline marketing practices would affect entry. To determine the extent to which essential facilities at airports are available for use by entrants, we conducted an extensive survey of 185 airports, which has yielded detailed data on gate leases, restrictions on expansion, and noise regulations, which might affect market entry. To determine the effects of the Federal Aviation Administration's (FAA) buy/sell rule for slots, which restricts landings and take-offs at four congested airports, we analyzed trends in slot transactions at the four airports and their impact on entry since the rule went into effect in April 1986. Finally, to determine how airline marketing practices affect travelers' airline choices, we surveyed a cross

section of travel agents. The final part of our work--an econometric model of the industry to estimate the effect of these practices on airline fares--has been developed and estimation of the model has begun.

Although our focus is on barriers to market entry and how these barriers might affect airline fares, some of these barriers can have positive effects as well. For example, restrictions on landings at some airports to control noise can prevent entry, but also benefit the airport's residential and commercial neighbors. Similarly, airline-owned computerized reservation systems, known as CRSs, may raise the cost of competing with a CRS vendor airline, but reduce the cost of marketing airline tickets. Any assessment of practices that result in possible barriers to competition must therefore consider not only costs, but possible benefits as well.

Overall, our work on airline competition to date shows that essential facilities at airports are often not readily available on competitive terms to entrants, and that some airline marketing strategies can discourage market entry. Some factors are likely to have a greater impact than others, and some have benefits as well as costs. Specifically, we found the following:

-- Exclusive-use gate leases give effective control over gates to the incumbent airlines and enable them to prevent entrants from providing competitive new service using existing gates. Contractual clauses in some airport general use agreements give the incumbent airlines the power to prevent the airport from constructing new gates. These provisions do have the benefit of reducing interest costs for airports and allowing incumbent airlines to plan their service offerings with greater assurance about the availability of gate space. Our survey found the use of these provisions to be widespread.

-- Noise restrictions are important in reducing the environmental costs that airports impose on their neighbors. However, our survey showed that these restrictions effectively bar entry at two airports and raise the cost of entry at several others.

-- Airport take-off and landing "slots," which are needed to gain entry at the four airports covered by FAA's high-density rule, have not been readily available for new entrants. The high-density rule is intended to prevent congestion and to help maintain safe access to these four airports. However, our analysis showed that under the present system no airlines seeking to start service at these airports have been able to buy slots, and the number of slots sold has steadily declined. Short-term leases of slots, which allow the owner of a slot to prevent entry by potential competitors, have become more common.

-- Airline-owned CRSs provide a valuable distribution tool for travel agents and airline passengers. However, CRSs artificially raise the costs of participating carriers, making it more difficult for non-CRS-owning carriers to compete in markets against an airline whose CRS is widely used by travel agents.

-- Frequent flyer plans are popular bonuses with airline passengers, and according to the travel agents in our survey, business flyers often choose their flights on the basis of their frequent flyer plans. Our analysis indicates that the dominant carrier at an airport has an intrinsic advantage in attracting passengers to its frequent flyer plan. These plans therefore give the dominant carrier an advantage over other carriers and could discourage new entry.

-- Travel agent commission overrides, known as TACOs, are bonus commissions that airlines pay to travel agents on top of their regular commissions as an incentive for the agents to book more flights on those airlines. Most of the travel agents we spoke with said that the airlines pay them TACOs, which the agents describe as making an important contribution to agency profits. TACOs appear to influence the share of tickets sold by an agent on the airline paying the TACOs, but may not offer an incumbent airline any clear advantage over a new entrant.

-- Code-sharing is an agreement between a jet carrier and a commuter carrier to share a common 2-letter airline code, so that connecting flights between the two airlines are booked as if they were on a single airline. Our survey of travel agents indicated that, among those passengers who expressed a preference, most preferred code-sharing connections over connections between two flights of different airlines, though some of the airlines we talked to said that code-sharing may make market entry difficult for non-code-sharing airlines.

Our analysis of airline market competition indicates that some government and industry practices can reduce competition by discouraging market entry. Some, such as slot restrictions and gate leases, restrict access to facilities that are essential for entry. Others, such as CRSs and frequent flyer plans, have characteristics that could disadvantage entrants and discourage competition. Finally, some industry practices, such as TACOs and code-sharing, seem less likely to disadvantage entrants or have more compelling compensating advantages for consumers. While we do not yet have definite estimates from our econometric model of the impacts of these industry features, we believe that some are likely to restrict entry and inhibit competition.

Given these findings, the Congress and the Department of Transportation (DOT) may wish to begin reviewing policy options for reducing the anticompetitive potential of some of these practices while retaining most of their beneficial effects. In the remainder of our statement, we will review the development of a deregulated airline industry; discuss the data sources we have used to analyze barriers to competition; discuss our findings on airport capacity, slot restrictions, and airline marketing strategies; and review possible policy options for minimizing the impact of entry barriers.

BACKGROUND

In 1978, the Congress passed the Airline Deregulation Act, which provided for the gradual deregulation of the airline industry, culminating in the "sunsetting" of the Civil Aeronautics Board (CAB) at the end of 1984. CAB's authority to set fares and to control which carriers served which routes was eliminated. The deregulation of the airline industry was predicated on the belief that the industry was inherently competitive, and that the potential for easy entry by new carriers in a market would apply enough competitive pressure on incumbent airlines in that market to keep fares low and service high.

Indeed, in the early years after deregulation, many new carriers did enter the industry, and many existing carriers entered new markets. Most of the new carriers were small regional carriers, but several competed effectively as jet carriers. After 1985, however, the rate of entry declined and most of the new entrants went bankrupt or were absorbed in mergers.

In the early years of deregulation, the major airlines all adopted "hub-and-spoke" networks, which concentrated the operations of each airline at a handful of "hub" airports. Airlines also adopted several new marketing strategies, such as frequent flyer plans, TACOs, code-sharing, and more widespread use of CRSs. Hub-

and-spoke routings, code-sharing, and CRSs provided benefits by reducing the cost of providing service and permitting increased flight frequencies. However, they also raised concerns about increased market power. These changes led some observers to wonder whether entry into airline markets was still as easy as had once been believed.

Objectives, Scope, and Methodology

We have examined two categories of factors that may reduce competition by discouraging entry. One category includes restrictions on capacity and operating authority at airports. These include potential problems in getting access to gates and other physical facilities at the airport; in offering service because of noise restrictions; and in securing slots at the four slot-controlled airports. The other category includes airline marketing strategies that may increase the difficulty of entry into new markets. These strategies include airline ownership of CRSs; frequent flyer plans; TACOs and other volume incentives offered to travel agents; and code-sharing agreements between jet carriers and commuter airlines.

To assess the extent of restrictions on capacity at airports, we sent out an extensive survey to 185 airports.[1] We received responses from 183 airports, including all 66 large and medium-sized airports, for a response rate of 99 percent.[2] The survey

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[1]Actually, we sent the survey to 187 airports. However, two of these responded that they had no scheduled passenger service, so they were dropped from the sample. Our sample included all the large and medium hub airports and a stratified sample of smaller airports.

[2]DOT classifies airports as large hubs if they handle 1 percent or more of the nation's total revenue passenger enplanements. Medium hubs are those handling between 0.25 percent and 0.99 percent. DOT identifies 71 large and medium-sized airports, but we included only those in the 48 contiguous states.

asked the airports to report which airlines leased their gates, ticket counters, baggage carrousels, and other facilities, and the terms on which those facilities were leased. It also asked about the potential for expanding the airport's capacity, about financing for capacity expansion, and about contractual clauses in leases that may restrict expansion. Finally, it asked about noise restrictions that may reduce entrants' access to the airport.

To assess the impact of FAA's "buy-sell" rule for airport take-off and landing slots, we analyzed data from the FAA's Slot Administration Office on transactions that have taken place since the rule went into effect in April 1986. This rule allows the slots allocated under the FAA's high-density rule to be bought, sold, and leased. We identified trends in sales and leases of air carrier and commuter slots by different airline types at each of the four slot-controlled airports.

To assess the likely impact of airline marketing strategies on the booking of airline flights by travel agents and their customers, we conducted a series of structured interviews with a stratified random sample, designed to represent various geographical and revenue categories, of 32 travel agencies. We also examined the provisions of frequent flyer plans, interviewed representatives of large and small airlines, and reviewed a wide range of studies of airline competition.

Finally, we have developed an econometric model of the airline industry to analyze the effects of industry practices and structural features on airline fares.

AIRPORT CAPACITY IS LIMITED BY LEASE RESTRICTIONS AND NOISE RULES

An airline wishing to establish competing service at an airport needs access to a gate. It also needs access to other physical facilities, such as hold rooms, ticket counters, and

baggage carrousels. If the entering airline cannot get access to these facilities at a competitive cost, entry can be impeded and competition reduced. To assess the extent to which gates are available for use by entrants who wish to establish competing service at an airport, we surveyed 185 airports and asked them about the terms under which their gates and other physical facilities were leased.

Our survey found that gates are often leased under provisions that give some degree of control over the gate to the leasing airline, either because the gate is for the airline's exclusive use, or because the lease is for a long period of time, or both. To the extent that gates are leased on these terms, it will be more difficult for airlines wishing to establish new competing service at an airport to gain access to the gates needed to establish service. Moreover, the provisions of some airport leases give the airlines control over the construction of new gates, as well as over the use of existing gates. These provisions are called "majority-in-interest" clauses.

Exclusive-use leases

Most airport gates at large and medium-sized airports are leased to major airlines on a long-term, exclusive-use basis.[3] Half of all airports, and more than three-quarters of large airports, lease all their gates on an exclusive-use basis. Many of these gates are leased on very long-term agreements of up to 20 to 30 years duration, with some not expiring until the 21st century. Eighty-three percent of all leased gates are on leases that will not expire for more than 2 years, and 54 percent will not expire for more than 10 years.

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[3]The Department of Justice focuses on a two-year time period for purposes of assessing ease of entry into a market in its U.S. Department of Justice Merger Guidelines (Section 3.3, p. 28) dated June 14, 1984. Therefore, we considered any lease of more than two years to be long-term.

When gates are leased on an exclusive-use basis, carriers wishing to establish new service at the airport can gain access to those gates only by subleasing them from the leasing carrier. According to airport officials, gates are normally subleased for at least 10 percent more than the cost of leasing the gate directly from the airport. Airline officials told us that sublease rates sometimes are for considerably more than 10 percent over the basic lease rate. Such rates would put a subleasing airline at a competitive disadvantage to the airline that leases the gates directly from the airport.

In other cases, according to officials of airlines that have sought to sublease gates, leasing airlines have refused to sublease gates, but instead have offered the entrant a "handling" contract, under which the leasing airline provides personnel to staff the gate as well as the physical space. In some cases, one airline official told us, these contracts increase the costs of the entrant by as much as four times over the cost of servicing the flight with its own personnel. Airports receiving federal grants for development projects must provide the Secretary of Transportation with assurances that subtenants are charged reasonable rent and that each carrier serving the airport has the right to handle its own planes. These assurances in turn become part of the contract between the airport and its airline tenants.

Majority-in-interest clauses

Majority-in-interest clauses in an airport's general use agreement usually give the carriers performing a majority of the operations at the airport a veto power over airport expansion, thus possibly preventing the construction of new gate space that could be used by entrants. These clauses are in effect at 55 airports, including 15 of the 27 largest airports and 11 of the 15 concentrated airports we reported on in our June 1989 testimony

before this committee.[4] In 14 cases, these agreements give a single dominant airline a veto over airport expansion (see app. I).

Airport officials told us airports sign these majority-in-interest and other restrictive agreements because of their needs for capital funds. The more restrictive an agreement the airport signs, the greater the commitment the airlines will make to continue revenue-generating operations at the airport. The stronger the commitment from the airlines to generate revenue, the lower the cost of the capital which the airports must borrow. These restrictive agreements thus have the beneficial effect of reducing the cost of capital for the airports. The revenue commitment from the airlines can be a two-edged sword, however, because the majority-in-interest agreement may limit the airport's ability to expand and increase its capacity to raise revenue. The airport's revenue potential is also limited by the Airport Development Acceleration Act of 1973, which prevents the airport from charging passengers directly for the use of the facility.

As these long-term leases expire, some airports, such as Miami and Boston, are seeking to regain control over their facilities by requiring airlines to sign leases that are short-term or that have provisions that allow the airport to recapture the use of the gate if it is needed for another airline. More leases are being signed on a "preferential-use" basis that allows the airport to lease part of the use of a gate to an entrant airline at times when the primary leasing airline is not using it. However, the airlines are resisting these changes. In at least four cases, airports in our survey told us that the old exclusive-use leases expired years ago, but that the airlines have refused to sign new leases that would give the airport greater control over its facilities.

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[4]"Air Fares and Service at Concentrated Airports," (GAO/T-RCED-89-37, June 7, 1989).

Expansion plans

Many airports do not plan to expand. Fifty-four airports said they had no plans to build any additional gates in the next 5 years, and another 63 said they planned to add no more than 5 gates. Among large and medium-sized airports, 50 percent of the large and 39 percent of the medium plan to add 5 or fewer gates. Among the 15 concentrated airports we recently studied, 9 plan to add five or fewer gates. The airports in our survey cited funding as a major constraint on their ability to expand, and 8 of the 55 airports with majority-in-interest clauses cited them as a factor greatly limiting or delaying expansion. Many airports also cited opposition to noise and congestion as constraints on expansion.

Noise restrictions

Noise restrictions play an important role in reducing the adverse environmental impact of airports on their neighbors. However, by requiring the use of newer, more expensive aircraft, these restrictions can make it more difficult for new entrants to the industry that have older, less expensive aircraft to serve particular airports. Several of the new entrant carriers relied on older aircraft when they first entered the industry.

The most serious restrictions on noise occur at two airports in southern California that, according to airport officials, operate under court orders effectively prohibiting new entry altogether to control noise. Seven other airports use the alternative approach of establishing a noise budget or cap. These plans may restrict competition by requiring new entrant airlines to buy "noise rights" from incumbent airlines, who may be unwilling to sell. Another 20 airports raise the costs of entrants by banning the use of the noisier "Stage II" aircraft and limiting the use of

the quieter "Stage III" aircraft.[5] Another 4 airports impose a lower cost by limiting the use only of Stage II aircraft. Large and concentrated airports are more likely to have these kinds of noise restrictions than small, medium, and unconcentrated airports. Overall, most of the airports in our sample did not have any restrictions on the kinds of aircraft that could be used.

SALES OF SLOTS HAVE DECLINED

Our analysis of FAA data on transactions that have taken place under the FAA's slot "buy-sell" rule leads us to conclude that the market for slots is not working as intended at the four high-density airports. Sales of slots have declined, and potential entrants have not been able to buy slots, even when the slots were not being used by the owner. Carriers have accumulated slots in excess of their present needs and have leased out those they are not currently using rather than selling them. Concentration in ownership of slots rose substantially at Chicago O'Hare airport.

In 1969, the FAA's "high density rule" went into effect at four congested airports--Washington National, LaGuardia, JFK, and Chicago O'Hare--restricting the number of landings and take-offs that could occur each day.[6] In order to land or take off at one of these airports, an airline had to secure a landing or take-off

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[5]These stages are defined in Federal Aviation Regulation (FAR) Part 36, Sections 36.1 (f)(3) and (f)(5). The first generation of jets, such as the Boeing 707 and the DC-8-61, were classified as Stage I, and can no longer be flown in the United States unless modified to meet Stage II standards. Stage II aircraft meet standards issued in 1969 and include later generation jets such as the Boeing 727 and the DC-10. Stage III aircraft meet more stringent standards issued in 1977 and include jets currently being built such as the Boeing 757 and the MD-80.

[6]Newark was originally covered by the rule, but the rule was subsequently suspended at that airport.

reservation, or "slot."[7] Slots were initially allocated by the airlines with CAB authority to serve the airport at the time the rule took effect, though FAA did on one occasion re-allocate a small portion of the slots to other carriers. The rule has helped to mitigate congestion at these airports and permit their safe use. However, since possession of a slot is necessary to establish service at one of these airports, the limitation in the number of slots impedes entry.

In April 1986 the FAA amended the high-density rule to allow airlines holding slots to sell those slots to others. The rule's intent was to develop a free market in slots, so that any carrier wishing to acquire slots at one of these airports could simply buy them from another carrier. The FAA did not apparently envision that the leasing of slots would become widespread, but leasing was specifically permitted. The allocation of slots to carriers can be revoked or modified by FAA when required in the public interest.

A large volume of slots were sold in 1986, partly due to the forced sale to Pan Am of 76 slots used by New York Air in its shuttle operation,[8] and partly due to sales of 54 slots distributed by FAA in the slot lottery held that year. Of approximately 3,800 slots at all 4 airports, an average of 128 air carrier slots were sold per quarter in 1986, and 124 slots were leased.[9] This volume

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[7]Three major classes of slots were created, one for "air carriers" operating jet aircraft, one for commuter carriers, and one for non-scheduled flights. We have focused on transactions involving air carrier slots.

[8]The sale was a condition imposed by DOT in permitting Texas Air's acquisition of Eastern.

[9]We calculated the number of "slot-days" leased by multiplying the number of slots leased by the number of days for which each slot was leased. We then divided this figure by the number of days in a year to calculate the number of year-round slots to which these short-term leased slots would be equivalent. These year-round slot equivalents are shown above as the number of "leased slots."

allowed the airlines with slots to re-allocate them to improve the efficiency of their hub-and-spoke networks and to absorb the effects of mergers. Since 1986, however, the number of slot sales has steadily fallen, from an average of 128 per quarter in 1986 to 20 per quarter in 1988.

While the intent of the buy-sell rule was in part to open access to slots to new entrants, not a single independent carrier has been able to establish new service at a slot-controlled airport by using slots bought on the free market.[10] This is partly because an increasing portion of the sales that do occur are between related carriers--either subsidiaries of the same holding company or code-sharing partners. Sales between related carriers rose from 14 percent of all sales in 1986 to 39 percent in 1988. As a result, sales between unrelated carriers have fallen from 110 per quarter in 1986 to 28 per quarter in 1987 and to 12 per quarter in 1988. Sales between related carriers are not open-market sales, and the increasing proportion of sales to related carriers further reduces the number of slots that have been sold on the open market and that are potentially available to new entrants.

Leases of slots, on the other hand, have risen from 109 slots in 1987 to 151 in 1988. Leasing of slots can allow the owner of the slot to ensure that the slot's user is not a direct competitor, because the slot owner does not give up control of the slot. For example, 15 percent of the leased "air carrier" slots, intended for the use of jet aircraft, are leased to regional carriers for use by small turboprop commuter planes. This practice prevents the slots from being used by competing jet carriers. Furthermore, 69 percent of all leases have been for 90 days or less. Such short-term leases give the lessees of these slots little assurance that any long-term investment in service (e.g., by leasing gates or

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[10]Pan Am established its shuttle service between Boston, New York, and Washington by buying slots from New York Air, but this sale was mandated by DOT as a condition of its approval of the purchase of Eastern Air Lines by Texas Air, New York Air's owner.

advertising) will be worthwhile. However, short-term leases maximize flexibility for the airline controlling a slot.

Concentration in ownership of slots has not changed significantly since 1986 at Washington National, LaGuardia, and JFK airports. At Chicago O'Hare, however, slots have come increasingly under the control of American and United, and concentration in ownership has correspondingly risen. Between June 1986 and December 1988, the joint share of slots for American and United has risen from 65.1 to 74.5 percent, and the Herfindahl-Hirschman Index of concentration of slot ownership has risen from 2441 to 3008, an increase of 567 points.[11]

One airline that has sought to buy slots, particularly at Washington National and LaGuardia airports, reports that most slot owners are not even willing to seriously consider selling slots, and that those who are will not consider selling for less than $1 million per slot. This airline believes it could not enter the market profitably at these prices.

AIRLINE MARKETING STRATEGIES MAY REDUCE COMPETITION BY IMPEDING ENTRY

Airline marketing strategies are the second general category of factors that may inhibit competition by preventing or raising the cost of entry. These strategies include computerized reservation systems, frequent flyer plans, volume incentives for travel agents, and code-sharing agreements.

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[11]The Herfindahl-Hirschman Index of concentration (or HHI) is commonly used in antitrust and competition analysis. It is calculated by squaring the market shares of all the firms in the market, adding the squares, and multiplying by 10,000. The HHI ranges from 0 to 10,000. The Justice Department has characterized markets with HHI above 1800 as "highly concentrated," and regards a merger in a highly concentrated market which increases the HHI by more than 100 points as a matter of significant competitive concern that may be subject to challenge on antitrust grounds.

Computerized Reservation Systems

As we testified last year before the House Aviation Subcommittee, airline-owned Computerized Reservation Systems (or CRSs) earn profits exceeding those that could reasonably be expected to be earned in a competitive market.[12] These high profits are earned through high booking fees and incremental revenues, which transfer profits from airlines that do not own CRSs to those that do. This transfer artificially raises the costs of carriers not owning CRSs, making it more difficult for them to compete in markets against a CRS vendor. Restrictive provisions in contracts between CRS vendors and travel agents regarding, for example, minimum use, make it virtually impossible for new airlines to start their own CRSs.

Frequent flyer plans

Frequent flyer plans are a popular bonus for which millions of passengers have signed up in the hope of gaining free airline tickets. They provide rewards to travelers for flying extensively on a single airline. To the extent that passengers use these plans heavily, and to the extent that passengers prefer to use the plans of dominant airlines, the plans could discourage passengers from trying out a new competitive entrant in a market. Our analysis of frequent flyer plans indicates that these plans are widely used, that they have features designed to encourage travelers to concentrate their travel on a single airline, and that travelers seeking to concentrate their travel are likely to concentrate on the airline with the most service from the traveler's point of origin. Frequent flyer plans therefore have the potential to benefit the dominant airline in its markets and to discourage travel on airlines new to those markets.

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[12]"Competition in the Airline Computerized Reservation System Industry" (GAO/T-RCED-88-62, Sept. 14, 1988).

Frequent flyer plans have a substantial impact on booking patterns. Three-fourths of the travel agents we surveyed told us that their business customers choose their flights on the basis of their frequent flyer plans more than half the time. Further evidence that frequent flyer plans are heavily used comes from a 1986 study based on a survey of 204 corporate travel managers. This study found that the travel managers believed that frequent flyer plans resulted in higher fares and unnecessary travel, and that this wasted more than 5 percent of their corporate travel expenses.[13]

A frequent flyer who concentrates travel on a single airline will earn awards more quickly. Our analysis of frequent flyer plan provisions shows that some plans also have features that encourage passengers to concentrate their travel on a single carrier. Some, for example, are designed so that the value of the award earned with later 10,000-mile blocks flown is greater than the value earned with the first 10,000-mile block. Thus, a passenger who has already flown 30,000 miles with one airline would be better off flying another 10,000 miles with the same airline rather than flying an initial 10,000-mile block with a second airline. Others have deadlines on the use of mileage so that a traveler can only reach the higher award levels if miles are accumulated quickly within a limited period of time. Travelers who spread their travel across several airlines may find that the mileage has expired before accumulating enough on any one airline to earn an award.

A passenger wishing to concentrate travel on a single carrier is likely to use the carrier that offers the most service from the traveler's origin point. While a carrier new to a market can also offer a frequent flyer plan, the dominant carrier in a market will

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[13]Frederick J. Stephenson and Richard J. Fox, "Corporate Attitudes Toward Frequent Flyer Programs," Transportation Journal, v. 27, no. 1 (Fall, 1987), pp. 10-23.

give the traveler the most opportunities to accumulate miles quickly. The travel agents we surveyed cited ease of building up miles as the leading factor in choosing a frequent flyer plan. Passengers who participate actively in a frequent flyer program will thus have an incentive to book as much of their travel as possible on the dominant carrier in a market. Heavy use of frequent flyer plans can thus make it more difficult for a carrier to enter a new market where an established carrier already offers a substantial amount of service.

Volume incentives

Airlines provide various kinds of volume incentives to travel agents, including TACOs, overbooking privileges,[14] free tickets, and VIP Club memberships.[15] These incentives are provided as a reward for the agent surpassing a given threshold level of ticket sales on the airline paying the incentive. They provide a source of extra income to travel agents and, in some cases (e.g., overbooking privileges and VIP Club memberships), allow the agent to provide enhanced service to favored clients. If airline passengers leave the choice of an airline to the agent, these volume incentives could induce agents to book more passengers on the airline providing the volume incentives.

Most of the travel agents we surveyed received volume incentives of various kinds from the airlines. The most popular

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[14]Overbooking privileges are the right to book an extra passenger on a flight that is already fully booked. Airlines usually overbook their flights in any case to compensate for passengers who make reservations but don't show up for the flight. Providing overbooking privileges to agents extends to the agent the privilege normally reserved to the airline. Agents told us they value these privileges because they allow the agent to do a favor for highly valued clients.

[15]VIP Clubs are special waiting rooms that airlines provide for their favored passengers. These special waiting rooms provide a higher level of service than regular airline hold rooms.

form of volume incentive was the commission override. Most of the agents receiving overrides said they were an important part of the agency's overall revenues. The travel agents also told us that passengers often leave the choice of the airline to the travel agent. While the most important considerations for the agent in making these choices were fares and passenger convenience, several agents told us that they based their choice of a preferred airline on which airline provided commission overrides or overbooking privileges. Last year, DOT issued its report on CRSs, which analyzed the effects both of CRS ownership and of commission overrides on booking patterns of agents.[16] DOT concluded that commission overrides significantly increase the number of tickets that an agent will book on a particular airline.

The evidence available to us suggests that commission overrides and other volume incentives influence the number of tickets that are sold on the various airlines competing in a market. When the dominant carrier in a market pays override commissions, the need to match these volume incentives may increase the cost of entry for an entrant carrier. An entrant that is well-financed may be able to enter successfully, while an entrant with fewer resources may be deterred.

Code-sharing

Passengers often must make connections between two flights when no direct flight between two points is available. A connection between two flights of the same airline is called an "on-line" connection; a connection between two flights of different airlines is called an "interline" connection. Since deregulation, a third type of connection has become popular, the "code-sharing" connection. Under code-sharing, two airlines that are separately

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[16]U.S. Department of Transportation, "Study of Airline Computer Reservation Systems" (DOT-P-37-88-2, May 1988).

owned agree to share the two-letter code of the larger airline in identifying their flights.

The purpose of a code-sharing agreement is to market the services of the two airlines jointly. Typically the smaller airline does business under the name of the larger airline, repaints its planes in the larger airline's colors, and coordinates schedules with and relocates its gates near those of the larger airline. The small commuter carrier encourages its passengers to connect with its major partner, and vice versa. Some industry officials say that code-sharing can be a barrier to entry because it discourages the smaller regional carrier from providing interline traffic to any carrier other than its code-sharing partner. This problem is worsened, the airlines said, by the fact that CRSs give preference to code-shared connections over interline connections in ranking flights on the CRS screen.

The travel agents we surveyed reported that their customers expressed some preference for code-shared flights relative to interline flights. Passengers particularly cited the greater convenience of gate locations of code-sharing airlines at airports where the passenger must change planes. While code-sharing may have some anticompetitive effects, it appears also to have some consumer benefits.

POLICY OPTIONS

The data we have gathered on potential barriers to entry in the airline industry indicate that some features of airline markets are likely to discourage entry. Slot controls, gate leases, and, at a few airports, noise restrictions are likely to restrict access to the essential facilities needed to establish competing service. While we do not have definite estimates yet from our econometric model of the impacts of these restrictions, we believe they are likely to restrict entry and inhibit competition.

The effects of some of the airline marketing strategies are less clear. CRSs, as we indicated in our testimony last year, appear to have a clear anticompetitive effect, and we have urged DOT to consider possible remedies. Frequent flyer plans appear to present a clear potential for disadvantaging entrants. However, because of the lack of data on levels of use of these plans, it may not be possible even with the results of our econometric model to estimate these plans' effects. TACOs appear to offer a less compelling basis for disadvantaging entrants. We do have some data on TACOs, however, that may be able to show their effect on fares. Code-sharing may have some anticompetitive effects, but also appears to offer some consumer advantages that may offset these effects.

We recognize that the Committee is considering taking action to minimize the possible anticompetitive effects of the practices we have discussed. During the course of our work, we have identified various policy options. Though not an exhaustive list, our preliminary evaluation suggests that they can provide a framework for analysis and deliberation. All of these options involve important policy considerations and require a careful weighing of costs and benefits and an assessment of trade-offs.

Gate access

Airport facilities are essentially local responsibilities, yet most operate under federal restrictions imposed by the Airport and Airway Improvement Act of 1982. This act requires that airports receiving federal grants be public use facilities, available for all to use on an equal basis. One policy option would be to extend additional federal restrictions on new leases so as to reduce the long-term control that leasing airlines acquire over the airport's facilities. Airlines need some assurance of access to an airport's gates to justify their investment in providing service. However, it might be possible to provide this assurance without giving the airline the broad control over a gate that an exclusive-use lease

provides. A preferential-use gate, for example, gives the leasing airline access to the gate whenever it needs it, while still making the gate available to others when it is unused. Several airports have acted to regain control over their facilities, either by requiring short-term or preferential leases or, as Omaha and Grand Rapids have done, by not renewing majority-in-interest clauses.

Another policy option would be to reduce the federal restrictions that make the airports dependent on the airlines as a source of revenue. The Airport Development Acceleration Act of 1973, for example, prohibits the airports from imposing any direct passenger facility charges on the passengers using the airport. The airports argue that this act, by preventing the airports from charging the passengers directly, forces them to rely on the airlines as a source of revenue, thus giving the airlines more bargaining power in lease negotiations. Airlines believe that it is appropriate for them to control airport expansion, and also have been concerned that municipal authorities would use revenues from passenger facility charges for non-airline purposes. However, the 1982 Airport and Airway Improvement Act requires airport operators to provide the Secretary of Transportation with assurances that all local revenues will be expended for airport purposes as a precondition for obtaining federal airport grants. Passenger facility charges could help solve the funding problems that have prevented airport expansion and reduce the airports' need to seek majority-in-interest clauses.

Noise restrictions

A small number of airports have particularly stringent noise restrictions that, while not imposed by airlines, can be a substantial entry barrier. While all parties agree on the desirability of reducing airport noise, they disagree on the questions of the pace and strategy for doing so. These contentious issues have often set local and national interests at odds, and it is not clear how far federal efforts to impose national noise

policies should go. Some airports (such as Boston and Denver) have adopted noise rules that have waivers to ease entry while still achieving the desired level of noise reduction. Further exploration of noise control strategies might identify other approaches that would allow airports to control noise while minimizing adverse impacts on competition.

Slot restrictions

In our view, the buy/sell rule for airport slots has been ineffective at encouraging entry into slot-controlled markets. Our analysis of FAA's data indicates that no new entrants have been able to establish service by buying slots; that the number of slots sold has steadily declined; and that the slot market is increasingly becoming a short-term leasing market, in which major carriers that have accumulated excess slots lease out rather than sell the ones they do not need. The leasing market, while permitted in FAA's original formulation of the market, appears to have been considered the exception. It is now the exception that is becoming the rule. Several outside studies have found that the presence of slot controls increases airline fares significantly.[17]

By allowing a public right--the right to use the nation's airspace--to be treated in some respects as a private asset that is not generally available on the open market, the present operation of the buy/sell rule not only restricts competition at

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[17]See, for example, David R. Graham, Daniel P. Kaplan, and David S. Sibley, "Efficiency and Competition in the Airline Industry," Bell Journal of Economics, vol. 14, No. 1 (Spring 1983), pp. 135-136; Elizabeth E. Bailey, David R. Graham, and Daniel P. Kaplan, Deregulating the Airlines (Cambridge: MIT Press, 1985); Gregory D. Call and Theodore E. Keeler, "Airline Deregulation, Fares and Market Behavior: Some Empirical Evidence," in Andrew F. Daughety (ed.), Analytical Studies in Transport Economics (Cambridge: Cambridge University Press, 1985), pp. 221-247; and Stephen A. Morrison and Clifford Winston, "Empirical Implications and Tests of the Contestability Hypothesis," Journal of Law and Economics, vol. 30 (April 1987), pp. 61-62.

the four slot-controlled airports, but can impede competition throughout the northeastern and midwestern United States. These airports are a critical part of any air traffic network in the northeastern or midwestern parts of the United States. It is difficult for any carrier to become an effective competitor in these heavily populated parts of the country without access to these four airports. The short-run access to slots that leasing permits is a risky basis on which to invest in a long-term service commitment (e.g., by leasing gates and investing in advertising).

We believe that something should be done to open up the slot market so that permanent entry becomes easier at slot-controlled airports. We are particularly concerned about proposals to extend slot restrictions as currently structured to other congested airports. One solution to this problem would be for the FAA to lease slots to the airlines rather than allow them to retain the control of slots that were given to them for nothing. Leasing would have the advantage both of generating revenue for the federal government and of opening up the slot market to new entrants. It would be essential, in establishing such a market, to recognize that airlines need to have assured access to slots for a long enough period to make reasonable investments in serving routes from that airport. It would be equally important, however, to ensure that the leases ran for a limited period of time so as to prevent the slots from becoming the de facto property of the leasing airlines (as gates have become at airports that have long-term gate leases). Lease terms could be staggered so that leases would be long enough to assure continuity of service while ensuring that some leases would come up for renewal each year, giving entrants an opportunity each year to bid on airport capacity.

An alternative would be for DOT, under the provisions of the current buy/sell rule, periodically to withdraw a portion of the slots and reallocate them by lottery. Incumbent carriers would have the opportunity to buy the slots back from the winners of the lottery, but at least new entrants would have an opportunity to

secure slots, either through the lottery itself, or by bidding on slots sold by lottery winners.

Computerized reservation systems

In our testimony last year on CRSs, we discussed a number of policy options, ranging from divestiture of airline-owned CRSs to non-airline owners to modifications in vendor contracts with travel agents. We continue to believe that further action is warranted to remedy the anticompetitive features of the CRS industry. As we emphasized in our earlier testimony, action in one area, such as reducing or eliminating booking fees, could create problems in another area, such as increases in CRS subscription fees to travel agents. Consequently, travel agents' bargaining power with CRS vendors would have to be increased by modifying restrictive contract provisions, e.g., length of contract terms and minimum use clauses. While DOT is making further investigations into the competitive impact of CRSs, it has not acted to open any regulatory proceedings, as we recommended it do last fall. It is especially important that DOT begin to act since its CRS rules will sunset at the end of 1990.

Other airline marketing practices

The three other airline marketing practices that we have discussed--frequent flyer plans, TACOs, and code-sharing--have effects that are more difficult to measure. Frequent flyer plans have proven to be extremely popular promotional tools, but they have the potential to reduce competition in markets where a single carrier has a dominant market share. Frequent flyer plans offer a literal free ride to their participants, but these free trips are paid for in the form of higher fares for the average traveler and possibly also in the form of excessive business travel. DOT, in its Information Directive of June 14, 1989, has requested information on frequent flyer plans which may help to resolve the question of their impact on competition. Travel agent commission

overrides, overbooking privileges, and other volume incentives clearly have some effect on the pattern of airline bookings. They increase the cost of marketing tickets and thus may pose an entry barrier to entrants with less access to capital than established airlines have. Code-sharing agreements offer some advantages to airline passengers, while also probably having some anticompetitive effects.

All these practices are subject to regulation by DOT under its authority to regulate anticompetitive practices in the airline industry. Should anticompetitive effects of these practices be demonstrated, they could be either prohibited or modified in some way so as to reduce any anticompetitive impact. The popularity of frequent flyer plans may make action to reduce their anticompetitive effect unpalatable. For example, one modification short of outright prohibition would be to require that mileage be transferable from one plan to another or from one passenger to another. While this would reduce the potential anticompetitive effects because passengers could earn valuable miles on any airline, such a requirement could make the plans so unattractive to the airlines that they would withdraw them.

If TACOs were prohibited, airlines might well resort to other kinds of volume incentives. If code-sharing agreements were prohibited, airlines would probably just buy out their code-sharing partners or develop commuter subsidiaries internally, as several airlines have already done. An important part of the success of code-sharing has been the preference that code-shared flights are allowed in CRSs, where code-shared flights are generally listed ahead of interline flights. It would be possible to prohibit CRSs from listing code-shared and on-line connections ahead of interline connections, as the European CRS rules propose, but this would make it more difficult for travel agents to find code-shared flights for passengers who prefer code-shared connections.

CONCLUSIONS

While our analysis is not yet complete, the work we have done so far indicates that some features of airline markets are likely to discourage entry. The factors that appear most likely to discourage entry are gate access problems, slot controls, and CRSs. We have offered some alternatives for reducing the potential anticompetitive effects of these factors. While not an exhaustive list, these options involve important policy considerations and require a careful weighing of costs and benefits and an assessment of trade-offs. While the effects of some of these factors seem fairly clear, the effects of others are still uncertain. As we obtain further results from our econometric model, we will be able to provide the Committee with more information on the relative significance of these factors. And as the significance of these factors becomes clearer, we would be happy to work with the Committee on further analysis of possible solutions.

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

AIRPORTS AT WHICH ONE AIRLINE CAN BLOCK APPROVAL OF EXPANSION PROJECTS UNDER A MAJORITY-IN-INTEREST CLAUSE

Airport	Airline	Airport size	Concentrated[a]	MII[b] expires
Atlanta, GA	Delta	Large	C	2010
Asheville, NC	USAir	Small	O	1990
Burlington, VT	USAir	Small	O	1996
Baltimore, MD	USAir	Large	O	1993
Charlotte, NC	USAir	Large	C	2016
Chattanooga, TN	Delta	Small	O	1992
Charleston, WV	USAir	Small	O	1988
Cincinnati, OH	Delta	Medium	C	2015
Dayton, OH	USAir	Medium	C	1996
Dallas/Fort Worth, TX	American	Large	O	2009
Lexington, KY	Delta	Small	O	2001
Chicago/Midway, IL	Midway	Medium	O	1995
Minneapolis/St. Paul, MN	Northwest	Large	C	1989
St. Louis, MO	TWA	Large	C	1989

[a]Airports marked "C" are the concentrated airports we reported on in our June 1989 testimony; airports marked "O" are other airports, including all the unconcentrated airports as well as the concentrated airports (such as Dallas/Fort Worth and Midway) in multi-airport cities.

[b]"MII" refers to "majority-in-interest" clause.