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a Strong Competitive Airline Industry

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AIRLINE COMPETITION

**Options for Addressing
Financial and Competition
Problems**

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Mr. Chairman and Members of the Commission:

Over the past several years, we have completed an extensive body of work on the nation's airlines and the aviation system. Our statement summarizes that work and draws from it to offer our observations on the directions the Commission might pursue to meet its goal of ensuring a financially healthy competitive airline industry. A bibliography of our reports and testimonies on aviation issues is included (see app. V).

Our basic points are the following:

- The Airline Deregulation Act of 1978 phased out economic regulation of the airline industry. The industry was deregulated because it was widely believed that the industry was naturally competitive and that there were few economies of scale. In the years immediately following deregulation many new airlines entered the industry, existing carriers expanded operations, competition flourished, and fares fell. By the mid-1980's, however, the industry began to reconcentrate as a wave of mergers and bankruptcies swept over the industry. By some measures, the airline industry today is as concentrated as it was before deregulation. Nevertheless, while there are some airports where fares are relatively high because one or two airlines dominate the traffic, airline fares, on balance, continue to be lower than before deregulation, after adjusting for inflation.
- Nearly all the major U.S. airlines have sustained serious losses over the last 3 years, but these losses have been especially severe for the financially weakest airlines. The five major airlines that have failed or have been operating in bankruptcy have seen their market share fall from about 35 percent in 1987 to less than 18 percent in 1992. At the same time, the three largest airlines have increased their market share from 41 percent to almost 58 percent.¹
- No single factor can explain all of the airlines' financial problems. High debt-service costs resulting from leveraged buy-outs, ill-timed expansions, excess capacity, limited

¹The five airlines are Eastern and Pan Am (which ceased operations in 1991); America West and TWA (which are reorganizing under bankruptcy court protection); and Continental (which recently emerged from bankruptcy). The three largest airlines are American, United, and Delta. Market shares are based on systemwide revenue passenger miles.

access to capital,² and fare wars have all contributed. The recession has exacerbated the industry's financial condition. Physical and marketing barriers to competition, such as slot controls at key airports, long-term exclusive use leases for airport gates and other facilities, frequent flyer programs, code-sharing arrangements, travel agent commission overrides, and airline-owned computerized reservation systems (CRS), have made it difficult for the smaller and financially weaker airlines to compete, especially in markets dominated by the largest airlines. In addition, we have found that air fares tend to be higher when entry barriers are present. We have offered observations and recommendations on these barriers to competition in numerous reports and testimonies over the past several years. In addition, there have been allegations, although not substantiated, that airlines operating under bankruptcy court protection offered fares that were below costs. Not all discounting is initiated by bankrupt airlines, however, and limiting airline pricing activity could harm consumers by reintroducing fare regulation and raising fares.

- FAA use of budgetary resources also can affect airline operating costs and profits. FAA could help the industry through modernization of the air traffic control system, better allocation of staff, and investing in ways that improve airport access and operations. Our work shows that FAA needs to improve its performance significantly in each of these areas. For example, FAA's \$33 billion air traffic control modernization program has experienced serious schedule slippages and multi-billion dollar cost increases. Therefore, it will be many years before the flying public realizes the billions of dollars in benefits FAA projects will result from its modernization efforts. We have made numerous recommendations to FAA on ways to improve these programs. Full implementation of the recommendations would yield benefits to the industry and the consumer and could be part of a strategy to repair the financial health of the nation's airlines.
- Just as no single factor explains the current state of the industry, no single action will address its interrelated financial and competitive problems. Thus, the challenge will be for the Commission to identify a strategy that combines efforts to reduce entry barriers with efforts to

²A major limitation on U.S. airlines' access to capital is the restriction on foreign investment and control.

ensure financial stability.³ In our opinion, such a strategy would be most effective if it contained four key elements: (1) improving U.S. airlines' access to capital markets through relaxing the restrictions on foreign investment and control, under certain conditions; (2) enhancing access to the growing international market for all U.S. airlines; (3) reducing barriers to competition; and (4) examining the claims and counterclaims about airline pricing practices, especially those of bankrupt airlines. Finally, a more strategic approach by FAA in addressing air traffic control modernization, airport improvements and workforce issues could improve the efficiency of airline operations.

As the Commission deliberates over what policies might be appropriate to ensure a competitive and financially healthy airline industry, it should distinguish between short- and long-term issues. Policies that improve airline balance sheets but do not address underlying causes, including barriers to market entry, will not be effective in the longer term. Moreover, there are positive signs that the Commission should keep in mind as it considers appropriate policies. The airlines are cutting costs and reducing losses. A number of new, niche airlines are starting up operations and could become potential competitors for the existing airlines. It is important to create an environment that nurtures the new entrants.

THE AIRLINE INDUSTRY'S EXPERIENCE WITH DEREGULATION

Economic regulation of the airline industry was phased out by the Airline Deregulation Act of 1978. It was widely believed that the industry did not exhibit the characteristics of an industry that needed economic regulation. Proponents of deregulation did not recognize that there might be significant barriers to industry or market entry, nor did there appear to be substantial economies of scale that would limit the number of efficient and profitable firms. Moreover, experience with deregulation in intrastate air travel markets in Texas and California indicated that deregulation could succeed in lowering fares. Numerous studies of the industry concluded that regulation had led to excessive costs, high fares, and service levels that differed from what the market would yield.

In the years immediately following deregulation, many new firms entered the industry, fares fell, and competition flourished. Airline fares, in real terms, had been falling for many years, but in the period prior to deregulation, the decline traced to

³Legislation has been proposed which provides a framework for addressing such issues as slot, gate, and route sales, CRSS, and foreign investment restrictions. In this regard see, for example, H.R. 470, H.R. 471, and H.R.472.

technological improvements such as the introduction of jets or wide body aircraft. The drop in fares following deregulation was not associated with any dramatic technological improvement and was, instead, due to increased competition.

However, in the mid-1980's the airline industry experienced a wave of mergers and bankruptcies that caused the industry to begin to reconcentrate. We examined the Department of Transportation's (DOT) performance in reviewing the mergers and concluded that DOT had not adequately taken into account the effects of mergers on competition when it reviewed the proposed transactions.⁴ In another study we examined the changes in airline fares and services at St. Louis following the merger between TWA and Ozark Air Lines.⁵ In that case, we found that fares increased substantially following the merger, especially on routes where TWA and Ozark had been competitors. This study led to a broader review of airline fares at airports where one or two airlines handled most of the traffic and our analysis showed that fares were more than 20 percent higher at concentrated airports.⁶

In addition to our examination of airline fares at specific airports, we also analyzed alleged anticompetitive practices and conditions that could lead to higher fares. Specifically, we reviewed allegations about excessive profits being earned by the computerized reservations systems (CRS) by the two largest airlines. While data limitations made it difficult to conclude that the CRS-owning airlines were earning excess profits, on the basis of subsequent data collected by DOT, it became clear that substantial revenues were being transferred to the major CRS-owning airlines.⁷

⁴Airline Competition: DOT's Implementation of Airline Regulatory Authority (GAO/RCED-89-93, June 28, 1989).

⁵Airline Competition: Fare and Service Changes at St. Louis Since the TWA-Ozark Merger (GAO/RCED-88-217BR, Sept. 21, 1988).

⁶Airline Competition: Higher Fares and Reduced Competition at Concentrated Airports (GAO/RCED-90-102, July 11, 1990). Concentrated airports were defined as those where one airline was responsible for 60 percent of the enplaning passengers or two airlines were responsible for 85 percent. We excluded airports in metropolitan areas served by more than one commercial airport, such as New York City and Chicago, and airports outside the contiguous 48 states.

⁷Competition in the Airline Computerized Reservation System Industry (GA)/T-RCED-88-62, Sept. 14, 1988).

We undertook a broader review of the so-called barriers-to-entry in the airline industry, including CRSs and identified both physical and marketing barriers-to-entry. Physical barriers include restricted access to gates and other key facilities at the nation's major airports and the inability to obtain landing and take-off rights at key slot-controlled airports. Based on an extensive survey of airport officials, we determined that most of the gates and other key facilities were controlled by the incumbent airlines under long-term, exclusive use leases making it more costly for new entrants to secure airport access. In addition, we found that the market for slots established by DOT was not effective in improving access to the key slot-controlled airports.⁸

We also examined airline marketing practices such as frequent flyer programs, code sharing arrangements and travel agent commission overrides that also can be barriers to entry. Our survey of 500 travel agents revealed that these marketing practices influenced their clients' preferences and the agents' booking patterns. We modeled the impact of some of the physical and marketing barriers to entry on airline fares.⁹ Our econometric analysis revealed that while each of the barriers in our model had a statistically significant impact on airline fares, no single factor greatly dominated the rest.¹⁰ This implies that any policy designed to address anticompetitive problems must be comprehensive. We have supported attempts to improve competitive access. For example, we supported removing the restrictions on passenger facility charges to give airports a source of revenue for expansion that did not depend on incumbent airlines.

Our studies have shown that while airline passengers continue to benefit from lower fares, the industry is becoming more concentrated. If this concentration results in market dominance, then fares could eventually rise above competitive levels and some of the principal benefits of deregulation could be lost. Although nearly all the domestic U.S. airlines have suffered losses over the past several years, the airlines that have been most successful in gaining competitive advantages through the erecting of entry barriers have fared better in the competitive struggle.

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

⁹We were able to model most of the entry barriers, but for some, including frequent flyer plans, adequate data were not available.

¹⁰Airline Competition: Effects of Airline Market Concentration and Barriers-to-Entry on Airfares (GAO/RCED-91-10-1, Apr. 26, 1991).

THE INDUSTRY'S CURRENT FINANCIAL
PROBLEMS MAY REDUCE FUTURE COMPETITION

The major U.S. airlines have lost over \$10 billion in the last 3 years. (See app. I, table I.1.) However, that figure is skewed by the huge losses suffered by a few airlines. For example, about two-thirds of the industry's 1990 and 1991 losses were recorded by Eastern, Pan Am, and Continental. Among the airlines reporting full-year financial results for 1992, about half of the losses reported are due to the new Financial Accounting Standard (FAS 106), which changes the way retiree medical and life insurance benefit costs are recorded. (See app. I, table 1.2) In addition, some of the losses reported by the three largest and strongest airlines (American, Delta, and United) stem from the costs associated with integrating the assets they have purchased from their bankrupt rivals in the last few years. For example, Delta's 1992 operating expenses rose more than 20 percent from calendar year 1991, largely because of the costs associated with the takeover of Pan Am's European operations. In response to their losses, the major airlines have been implementing cost-cutting programs, laying off employees, cancelling or delaying aircraft deliveries, and refocusing service.

Financial Problems Weaken Competition
and Reduce Profitability

Both GAO and DOT have found that consumers pay higher fares when flying from airports where there is little competition. In our analysis of 1988 fares, we found that fares for flights from concentrated airports were about 20 percent higher than for trips of similar lengths from other airports. We are updating this study and the results should be available early this summer. DOT reported that fares at a group of eight airports dominated by one airline were about 19 percent higher than average fares in 1988.¹¹ A DOT study of 1991 fares showed no change in this premium. While most routes continue to be served by several competitors, if the industry continues to consolidate, the decrease in competition could lead to higher fares.

Since January 1990 two major airlines have ceased operations and three more have been reorganizing under bankruptcy court protection. The market shares of these five airlines have fallen from 35 percent in 1987 to less than 18 percent in 1992. During that same period, the market share of the three largest airlines has grown from about 41 percent to almost 58 percent. The financially weaker airlines have also sold more than \$2 billion

¹¹In the DOT study, airports were classified as concentrated if one airline enplaned 75 percent or more of the passengers.

worth of assets, primarily international route rights and slots,¹² to their stronger competitors. (See app. II.)

Over the past decade, several large airlines have developed serious problems that weaken their financial positions. Chief among these problems are the high levels of debt some airlines have incurred to finance leveraged buy-outs and expansion plans and the operating and marketing practices that raise the costs of competing with the dominant airlines in a market. The five major airlines that declared bankruptcy--America West, Continental, Eastern, Pan Am, and TWA--all experienced substantial increases in their debt ratios (i.e., long-term debt as a percentage of total capitalization) during the 1980s. All of those airlines had average debt ratios over 80 percent. In contrast, the other six major airlines all held their debt ratios under 65 percent, and most of them held their average debt ratios under 50 percent between 1985-89. (See app. IV.)

In the future, airlines will have to spend billions of dollars to repair and modify older aircraft to ensure safety and reduce noise. 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 dollars.¹³ In addition, airlines must finance the acquisition of new aircraft if they are to remain competitive.

For more than a decade, profit margins in the U.S. airline industry have been about half those of the average U.S. company in other industries, and airlines have had to borrow or sell stock to raise capital. Debt financing, whether through issuing debt instruments such as bonds or through the sale-leaseback of aircraft, carries fixed charges for interest, principal, and lease payments. In a cyclical industry like the airline industry, revenues available to cover fixed charges may fluctuate widely, making it difficult to cover fixed charges during cyclical downturns in demand or short-term increases in costs. Another way to raise additional capital is to sell stock. However, because of their low returns, the weaker U.S. airlines are not likely to attract much additional equity investment from U.S. sources. Therefore, the most likely investors are foreign airlines that believe they can capitalize on operating synergies between the two airlines, something nonairline investors cannot do.

¹²A slot is a reservation for take-off or landing at one of four U.S. airports where access is restricted under the High Density Rule (14 C.F.R. Part 93, Subpart K).

¹³Aviation Noise: Costs of Phasing Out Noisy Aircraft (GAO/RCED-91-128, July 2, 1991), p. 2. Our estimate reflects the present-value cost to the industry in 1990 dollars.

Some industry observers believe that the actions of certain bankrupt airlines may have also affected profitability. Because bankrupt firms can suspend repayment of long-term debt, they may set prices to generate sufficient cash flow to meet short-term needs, rather than setting prices that cover the full costs of operation.¹⁴ To remain competitive, the other airlines would have to respond by matching these low fares and, as a result, suffer losses.

STRATEGIES FOR ADDRESSING AIRLINE FINANCIAL AND COMPETITIVE PROBLEMS

We believe that the most appropriate approach to resolving the competitive and financial problems of the airline industry is to focus on strategies that address the multiple factors that have led to the current problems. Airlines' access to capital needs to be improved, possibly by relaxing restrictions on foreign investment and control. However, improved access to capital is not a panacea for the airlines' financial and competitive problems. Access to international markets also needs to be enhanced, and the relaxation of U.S. restrictions on foreign investment could be linked to gaining better access for U.S. airlines to international markets. In addition, a number of barriers to competition resulting from airline marketing and operating practices continue and must be reduced if competition is to thrive. Finally, claims about unfair pricing practices need to be carefully examined before any action is taken to "protect" the airlines.

Improving Airlines' Access to Capital

U.S. airlines have not generated an attractive rate of return in recent years and, as a result, must either sell equity or borrow to finance capital needs. However, borrowing raises fixed costs for debt repayment and many airlines already have heavy debt loads. Moreover, because of low rates of return, the most likely investors in the financially weaker U.S. airlines are other airlines that can capitalize on operating and marketing synergies. The continuing consolidation within the U.S. airline industry may mean that further mergers between U.S. airlines could have a difficult time clearing the Justice Department's antitrust scrutiny. The most likely investors, therefore, are foreign airlines that could link the domestic and international operations of the U.S. airline with their own route systems. For example, DOT recently approved Air Canada's investment in Continental, and USAir and British Airways have announced a modified version of their previous investment agreement, which was withdrawn last December.

¹⁴The full costs of operation would include, for example, the costs of financing aircraft.

We have examined the issue of foreign investment in some detail.¹⁵ Federal law currently limits foreign investment in U.S. airlines to 25 percent of the airline's voting stock. In addition, the president and two-thirds of the airline's board of directors, and key management officials must be U.S. citizens. DOT interprets the law to require that effective control must also remain in the hands of U.S. citizens. Some of the reasons that the restrictions were first put in place, such as protection of a heavily subsidized, fledgling industry, are no longer a concern. Allowing greater foreign investment could help some U.S. airlines remain viable competitors, thus enhancing domestic competition. However, other concerns remain.

On the one hand, foreign airlines are not likely to invest substantially in U.S. airlines, particularly the weaker ones, unless they can (1) exercise control over their investment commensurate with the amount of voting stock held and (2) integrate the operations of the two airlines into one system. On the other hand, U.S. airlines that already have significant international operations are concerned that allowing a foreign airline to gain control over a U.S. airline could place them at a competitive disadvantage, especially if the investing foreign airline is from a country that has a particularly restrictive bilateral agreement.

There are other issues in the debate on foreign investment and control as well. The Department of Defense is concerned about the continued availability of commercial aircraft and crews to supplement its own airlift capacity in times of military emergency. Airline labor unions are concerned about potential job losses, especially high-paying crew jobs on international flights, if foreign airlines are allowed to gain effective control over U.S. airlines.

Our analysis of the likely impacts of changing foreign investment and control limits showed that these interests and concerns could be addressed. If the Congress chooses to relax the limits on foreign investment and control of U.S. airlines, DOT could be required to proactively consider potential impacts on international aviation competition in assessing the proposed investment, and eligibility to make such investments could be limited to airlines from nations that are willing to exchange improved access to their markets. The Congress could also expand DOT's review of these transactions to consider their potential impact on national security. We also suggested that our examination of potential job impacts concluded that there are practical limits to the number of jobs that might be lost and that U.S. airline employees are highly cost-competitive with their international counterparts. Finally, the potential for jobs to be

¹⁵Airline Competition: Impact of Changing Foreign Investment and Control Limits on U.S. Airlines (GAO/RCED-93-7, Dec. 9, 1992).

lost if an airline ceases operations because it cannot get the capital needed to stay afloat is likely to be much greater than any losses associated with increased foreign investment and control.

Domestic Issues Should Be Considered
in the Context of the Changing
International Environment

The second element of the strategy is enhancing access to international markets. The international aviation industry, like the domestic industry, has been changing. The international market is expected to grow about twice as fast as the domestic market through the year 2000. Thus, the major U.S. airlines have begun to focus greater attention on expanding their international operations. Between 1987 and 1991 the proportion of major U.S. airlines' systemwide revenue passenger miles represented by international operations grew about 22 percent, and international operations now account for about 26 percent operations. (See app. III.) For the three largest major airlines, the growth in international operations has been dramatic, with international revenue passenger miles more than doubling between 1987 and 1991.

Access to international markets is regulated by bilateral agreements between governments that set the conditions under which U.S. and foreign airlines operate and compete. These agreements, known as bilaterals, can restrict competition by limiting the services and fares that can be offered. The United States has 72 bilaterals with 95 countries around the world, each one separately negotiated. Although the European Community (EC) has integrated its internal market, the European Commission does not yet negotiate aviation issues for the 12 EC member nations as a whole.¹⁶ While the United States can mandate change in the domestic industry, it can influence, but cannot dictate, the pace of international change. Change in the international arena is likely to be slow because of the many bilaterals in place and the necessity of negotiating changes with each country individually under the current system. We believe that an examination of U.S. policy, to ensure that it encourages greater international competition, protects the interests of consumers, and allows all U.S. airlines to participate in international markets, would be useful.

Also, while some industry analysts believe that the system of bilaterals will be replaced by a more open, competition-oriented system, the results of recent negotiations with our aviation trading partners are mixed. For example, within the past year the United States had concluded an open-skies bilateral with the

¹⁶International Aviation: Measures by European Community Could Limit U.S. Airlines' Ability to Compete Abroad (GAO/RCED-93-64, Apr.26, 1993).

Netherlands, but several other countries--France, Germany, and Japan--have requested changes to their bilaterals, such as temporary capacity constraints, that would place additional limits on competition. In addition, many industry officials and analysts believe that the current consolidation in the U.S. airline industry is the precursor of a global trend, leading to the eventual domination of worldwide aviation by a handful of mega-carriers. Thus, many U.S. and foreign airlines have been developing networks of equity and marketing alliances to improve access to each others' international and domestic markets and thereby improve their chances of surviving the expected restructuring.

An airline's financial condition affects whether it can continue to participate in international markets and how it can participate. The financially distressed airlines have sold international routes, and some have reduced their participation in the international market, while the stronger U.S. airlines have expanded their international operations. In addition, some of the smaller or financially weaker U.S. airlines have had to rely on marketing agreements with foreign airlines to continue or expand their participation in some international markets. Thus, U.S. airlines must be financially sound if they are to continue to play a significant role in international markets.

Barriers to Competition Limit Market Entry and Raise Fares

In the past several months a number of new, start-up airlines have begun service and their success could bode well for the future of competition in the industry. The probability of their success could be enhanced if barriers to competition were removed or at least lowered. Therefore, the third element of the strategy is addressing the barriers to market entry on which we have reported and testified extensively. Over the past several years a number of bills have been introduced that attempt to address these barriers, but none have been enacted. DOT has made some changes in the rules governing CRSs and slots, but the changes were not major and do not eliminate the anticompetitive aspects of these barriers.

Airline operating and marketing practices make it more difficult for some airlines to compete by limiting access to airports and by limiting the ability of new airlines on a route to market their services. These practices also affect airline profitability by raising costs of competing airlines. When entry into markets is constrained, competition is reduced. In our 1991 report,¹⁷ we found that fares were 5 to 9 percent higher on routes when two or more of these barriers were present. We have

¹⁷Airline Competition: Effects of Airline Market Concentration and Barriers to Entry on Airfares (GAO/RCED-91-101, Apr. 26, 1991).

previously presented a number of options for addressing these barriers, which we will summarize today.

Certain Practices Limit Access to Airports

Airport access is limited by the practice of leasing airport gates and other facilities to airlines on long-term, exclusive-use leases. These leases give control of key airport facilities to airlines and make it possible for them to exclude other airlines from using the facilities. Federal government action to encourage the use of preferential-use leases on airport facilities could help improve access to the terminal facilities an airline needs to offer service.¹⁸ Since new facilities built with passenger facility charges (PFC) cannot be leased on long-term, exclusive-use leases, the 1990 PFC legislation clearly moved in that direction.¹⁹ By 1995 PFCs could generate as much as \$1 billion annually for projects that could increase competition.

Another factor limiting airport access is the FAA's High Density Rule, which restricts access to take-off and landing slots at four key airports--Washington's National, Chicago's O'Hare, and New York's Kennedy and La Guardia Airports. Competition at the slot-controlled airports could be enhanced if slots were made available to airlines with little or no service at those airports. The limits on operations at the slot-controlled airports were designed to tailor demand for air traffic services to the capacity of the airports. However, it has been many years since the number of slots available was determined and technical improvements in air traffic control may make it feasible for FAA to increase the number of slots available at those airports. In addition, the buy/sell rule, which was designed to create a market in slots, could be altered to encourage airlines to sell slots they do not use.

Marketing Practices Limit the Ability of Airlines Entering New Markets to Compete

Certain airline marketing practices also limit competition. These practices include computerized reservation systems (CRS), travel agent incentives, frequent flyer plans, and code-sharing.

CRSs and Travel Agent Incentives--Because each airline must, as a practical matter, have its flights listed on each CRS in order to market its flights successfully, each airline must pay the booking fees charged by the other airlines that own the CRSs. As

¹⁸A preferential-use lease protects the primary lessee's right to use the facilities whenever the airline has operations scheduled, but allows the airport to make the facilities available to other airlines when the facilities would otherwise be idle.

¹⁹PFCs were authorized in 49 U.S.C. app. sec. 1513(e).

we reported in 1991,²⁰ the lack of effective competition in the CRS industry allows the dominant CRSs, which are controlled by American and United, to each receive substantial revenues, in excess of the costs of the service provided (including a reasonable profit),²¹ from other airlines in the industry, most of which are financially weaker. Travel agent commission overrides may also restrict competition.²² Commission overrides and other travel agent incentives encourage agents to divert traffic to the airline offering the best incentives, usually the largest in the market, when the passenger's needs can be met by the services of more than one airline.

DOT issued new CRS rules in September 1992 that addressed some of the concerns we have raised in the past about the contractual relationships between travel agents and CRS vendors. These concerns included minimum-use clauses, automatic rollovers, and 5-year minimum contract terms. The new regulations should make it easier for travel agents to change systems. However, DOT did not address the problem of booking fees and there are still some concerns over whether the CRSs provide functional equality for airlines not hosted in the systems. Eliminating or reducing booking fees would halt or reduce the revenue transfers from participating airlines to CRS vendor airlines. Although such a strategy could raise the cost of the systems for travel agents, travel agents are in a better position to negotiate terms with the vendors than are the airlines that, as a practical matter, must participate in every system. Alternatively, requiring arbitration of increases in booking fees could give participating airlines some leverage and help minimize revenue transfers. In addition, eliminating commission overrides and other travel agent incentives could reduce agents' tendency to book on the dominant airline in a market. However, policies to eliminate the adverse effects of CRSs on competition should be designed to preserve their positive features. Consumers benefit from CRSs because the systems 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.

²⁰Airline Competition: Weak Financial Structure Threatens Competition (GAO/RCED-91-110, Apr. 15, 1991).

²¹Based on data collected by DOT for its 1988 study of the CRS industry, we calculated that the two dominant CRSs annually transferred over \$300 million to their airline owners. Although we recommended that DOT update its information on the CRS industry, DOT has not gathered more recent data.

²²Commission overrides are bonus commissions paid by individual airlines to travel agents to encourage booking on a particular airline.

Frequent Flyer Plans--Frequent flyer plans may also have a significant effect in reinforcing the market power of dominant airlines. Our survey of travel agents indicated that business flyers often choose an airline on the basis of frequent flyer plans, which generally favor the larger airlines in each market. The aspects of frequent flyer plans that reinforce the market power of dominant airlines could be reduced without eliminating the plans. For example, making mileage transferable between passengers belonging to the same plans would reduce passengers' incentives to fly only with the dominant airline in a market, but airlines and travelers would still benefit from the plans. Benefits would occur because passengers must still take flights on an airline to earn awards from that airline, but the passengers do not have to concentrate their travel on a single airline if they can trade mileage earned with other travelers who belong to the same frequent flyer programs.

Code-sharing Agreements--Code-sharing agreements²³ appear to strengthen the position of major airlines with such agreements, especially at the airlines' hubs. One option for reducing the anticompetitive impact of code-sharing would be to remove the preference code-shared flights currently have over interline flights in CRS displays,²⁴ since flights that are displayed sooner are more likely to be booked. However, our survey of travel agents showed that passengers tend to prefer code-shared flights over interline flights because of customer convenience factors, such as the proximity of gates for changing planes and increased reliability in baggage handling. Thus, passengers should at least have information on whether code-shared flights are available so that they may choose the service that best meets their needs.

Conflicting Claims About Airline Pricing Practices Should Be Carefully Examined

²³Code-sharing agreements are cooperative marketing agreements, generally between large airlines and smaller, commuter airlines, in which the commuter airline transports connecting passengers to and from the larger airline's flights. The passenger's ticket shows the two-letter airline code of the larger airline for all segments of the trip even though part of the trip is actually flown on the smaller airline.

²⁴Interlining 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 airlines allow the passenger to book passage on one airline for the first part of a trip, on a second airline for the second part of a trip, and on other airlines for subsequent parts of the trip.

The fourth element of the strategy is a careful examination of the claims and counterclaims about the role of airline pricing practices in the industry's financial difficulties. We urge caution before acting on the claims and counterclaims about the pricing practices of airlines. The extent of the problem and its systemwide effects need to be established and weighed against the longer-term competitive implications of any proposed action. Some industry observers believe that bankrupt airlines may be pricing below the full costs of operations. However, because the bankruptcy code is not structured on an industry-specific basis, any action to change the bankruptcy laws would likely affect firms in other industries as well as airlines. In addition, actions that would force airlines to limit time spent in reorganization could force additional airlines to simply cease operations and adversely affect the interests of airline creditors. If measures were implemented to protect the nonbankrupt airlines from alleged below-cost pricing by bankrupt airlines, these measures could make it more difficult for bankrupt airlines to successfully reorganize, regain financial health, and offer effective competition. Moreover, not all discounting is initiated by bankrupt airlines. Finally, actions to limit airline pricing activity could harm consumers by reintroducing fare regulation and raising fares.

Thus, there are risks to competition from intervening in the market, even if there is a need to protect airlines from unfair pricing practices, whether the practices emanate from bankrupt airlines or from other airlines. In our opinion it is crucial to first determine whether the pricing practices of the airline industry are unique and would thus warrant different treatment before giving consideration to changing airline pricing behavior or to changing the bankruptcy laws.

FAA ACTIVITIES AFFECT AIRLINE OPERATING EFFICIENCY AND INDUSTRY COSTS

While the root causes of the airline industry's financial and competitive problems involve more systemic issues, FAA's activities can also affect airline operating costs. FAA's Acting Administrator recently said that air traffic delays impose annual costs on the nation's airlines and air travelers of \$3 billion and \$7 billion, respectively. The areas where FAA could contribute most include modernizing the air traffic control system, maintaining adequate workforces and deploying them to the areas of greatest need, and making improvements to the airport grant program to relieve congestion and delays. FAA's performance in all of these areas needs improvement.

Air Traffic Control Modernization Should Help Airlines Operate More Efficiently, but Billions in Benefits Have Been Deferred

We have reported extensively on FAA's \$33 billion air traffic control modernization program. This program is intended to, among other things, allow the airlines to fly more efficiently, and thereby save fuel, crew, and other operating costs. FAA has projected over \$200 billion in benefits from air traffic control modernization, but few of these benefits have been realized. Key components of the program have experienced multi-million dollar cost increases and schedule slippages of 5 years or more. FAA has been implementing numerous procurement reforms to address the schedule slippages. These reforms include efforts to better justify the need for systems in the first place, establish the expected benefits for the airline industry, define the requirements of the project in the early stages of the acquisition and avoid premature commitments to production. These reforms are, however, far from fully implemented.

Also, we believe that FAA could do more to develop air traffic control systems that meet the needs of the airlines. First, as we reported in January 1993, FAA must do a better job of defining its own and the industry's needs.²⁵ We identified numerous instances where project justifications did not explain what performance problem was to be fixed, or how the investment could reduce delays or enhance capacity. Second, FAA must carefully consider impacts on the airlines. For example, our report on FAA's acquisition of precision landing systems noted that airlines are installing satellite compatible avionics to support aircraft operations during all phases of flight. If a satellite-based system can be used for precision landings, airlines may avoid spending about \$300 million on microwave landing system avionics.

FAA's Workforces Can Also Affect Airline Operating Efficiency

FAA can improve the efficiency of air traffic control operations and the maintenance of that system by making judicious staffing decisions. As we have been reporting for some time, FAA needs to assign controllers to where they are needed most. The controller workforce is largely rebuilt, but the distribution of controllers is less than optimal. According to data developed by FAA officials performing a facility-by-facility analysis of controller staffing, more than 200 terminal facilities were understaffed in May 1992, while more than 150 facilities were overstaffed. Similar problems exist in the en route centers. An improperly staffed facility can affect aircraft spacing and distances and cause extended holding patterns and holdover times at congested facilities. These problems have resulted in aircraft delays at a cost to the industry.

²⁵Air Traffic Control: Justifications for Capital Investments
Need Strengthening (GAO/RCED-93-55, Jan. 14, 1993)

More Strategic Approach in Funding Airport Improvement Grants Could Improve Airline Industry Efficiency

FAA and the Congress have an opportunity to leverage the almost \$2 billion annual budget for the Airport Improvement Program (AIP) in ways that could be very important to the industry and the travelling public. However, FAA lacks a set of measurable goals by which to assess the effectiveness of its spending. Goals would set expectations for the plan as well as establish a basis for measuring its performance. On the basis of our work on several major airport development projects, FAA will need better data and analytic methods for judging how best to leverage airport improvement grant funds to best assist the industry and benefit the travelling public.

CONCLUSIONS

Overall, deregulation of the domestic airline industry has benefited U.S. consumers and has made U.S. airlines more efficient competitors. In most air travel markets fares are lower and service is more frequent on many routes. U.S. airlines have become more efficient, and U.S. airline employees are among the world's most productive. Nevertheless, some firms in the industry face serious financial problems, and the long-term competitive health of the industry could be at risk.

The Commission will need to distinguish between the short- and long-run problems facing this industry. Policies that simply shore up airline balance sheets and do not get to the underlying causes of the problems will not be effective in the longer term. In selecting solutions to the more systemic problems facing the industry, such as barriers to entry and access to capital, a well-designed, broad strategy that covers the elements we have outlined today is the best approach for improving the long-term financial status of distressed airlines and making them more effective competitors. Finally, a more strategic approach by FAA in addressing air traffic control modernization, airport improvements and workforce issues could improve the efficiency of airline operations. Postponing action will dramatically narrow the range of options open to the Congress. Ensuring a competitive market will be much more difficult with fewer airlines in the marketplace.

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Table I.1: YEARLY AND CUMULATIVE NET INCOME/LOSSES OF MAJOR U.S. AIRLINES, 1987-92

Airline	1987	1988	1989	1990	1991	1992	1987-92 total
America West	\$(45.7)	\$9.4	\$20.0	\$(74.7)	\$(213.8)	(131.8)	(436.6)
American	207.6	449.5	423.1	(76.8)	(239.9)	(935.0)	(171.6)
Continental	(258.0)	(315.5)	3.1	(1,236.4)	(305.7)	(125.3)	(2,237.8)
Delta	217.5	344.5	473.2	(154.0)	(239.5)	(564.8)	76.9
Eastern	(181.7)	(335.4)	(852.3)	(1,115.9)	b	b	(2,485.3)
Northwest	140.7	162.8	355.2	(10.4)	(3.1)	(383.0)	261.4
Pan Am	(274.6)	(118.3)	(414.7)	(638.1)	(283.1)	c	(1,728.8)
Southwest	3.8	57.4	71.4	47.1	26.9	103.6	310.2
TWA	106.2	249.7	(298.5)	(237.6)	48.2 ^d	(239.8)	(371.8)
United	33.3	589.2	358.1	95.8	(331.9)	(956.8)	(212.3)
USAir	238.6	217.2	2.1	(410.7)	(305.3)	(1,230.0)	(1,488.2)
Total	\$187.9	\$1,310.5	\$140.6	\$(3,811.8)	\$(1,847.2)	\$(4,462.9)	\$(8,482.9)

Note: Losses are in parenthesis.

^aTotals may not add due to rounding.

^bNo data available. Eastern ceased operations in January 1991.

^cPan Am ceased operations in December 1991. Full-year 1991 and 1992 data are not available. 1991 data reflect January-through-September results.

^dTWA had an operating loss of \$353.5 million during 1991. Its net profit, therefore, can be attributed to the sale of three of its transatlantic routes to American Airlines for \$445 million.

Source: Compiled by GAO from data supplied by the Air Transport Association.

Table I.2: One-Time Charges for Compliance with Financial Accounting Standard 106

Airline	1992 net income(loss)	FAS 106
American ^a	\$(935.0)	\$595.0
Northwest	(383.0)	227.0
United ^a	(956.8)	540.0
USAir ^a	(1,230.0)	848.4
Total	\$(3,504.8)	\$2,210.4

^aData shown are for the holding company.

Source: Compiled by GAO from Air Transport Association data.

SELECTED INTERNATIONAL ROUTE SALES BETWEEN
MAJOR U.S. AIRLINES, 1986-92

Dollars in millions

Buyer	Seller	Route	Price ^a
American ^b	Eastern	Latin American system	\$471
	Trans World	3 U.S.-London routes	445
Delta	Pan Am	European routes	526
	Pan Am	New York-Mexico City	25
Northwest ^c	America West	Honolulu-Nagoya, Japan	15
	Hawaiian	Pacific routes	9
USAir ^b	TWA	2 U.S.-London routes	50
United ^b	Pan Am	Pacific routes	716
	Pan Am	U.S.-London routes	400
	Pan Am	Latin American system, Los Angeles-Mexico City	148

^aPrices were verified with the airlines that bought the routes. In some cases, the prices include related facilities and assets as well as international route authority.

^bPrice given includes related facilities and assets.

^cPrice given does not include related facilities and assets.

PERCENTAGE OF MAJOR U.S. AIRLINES'
SYSTEMWIDE REVENUE PASSENGER MILES (RPMS)
REPRESENTED BY INTERNATIONAL OPERATIONS, 1987 AND 1991

Airline	International operations as percent of total operations		Percentage change in international operations (in RPMS) ^a
	1987	1991	
America West	0.0	1.9	^b
American	12.8	21.6	139.5
Continental	16.3	27.3	73.9
Delta	9.4	15.3	145.3
Eastern	9.2	1.3	(99.3)
Northwest	35.1	42.3	60.7
Pan Am	79.8	71.5	(27.9)
Southwest	0.0	0.0	^b
TWA	36.7	35.7	(17.9)
USAir ^c	1.7	3.5	498.2
United	15.5	30.7	142.6
Subtotal: American, United, and Delta	27.1	45.5	142.0
Subtotal: Top three airlines in 1987	58.6	41.0	(1.0)
Subtotal: Top three airlines in 1991	39.3	56.1	105.6

^aAn RPM is a revenue passenger mile, i.e., one paying passenger carried one mile.

^bNot applicable.

^cUSAir's data reflects the airline's acquisition of Piedmont on November 5, 1987.

Source: Compiled by GAO from Department of Transportation data.

LONG-TERM DEBT AS A PERCENTAGE OF TOTAL CAPITALIZATION, 1986-90

Airline	1986	1987	1988	1989	1990	Average
Pan Am Corp.	99.0	132.3	151.1	272.9	*	131.1
Eastern ^b	90.7	97.3	473.3	(52.9)	(21.8)	117.3
Continental ^c	97.3	85.4	96.3	96.3	197.2	114.5
TWA ^d	94.2	89.8	101.3	114.8	140.6	108.1
America West	81.5	89.0	86.9	84.5	96.7	87.7
UAL Corp.	45.8	32.7	62.7	46.1	42.8	46.0
USAir ^e	24.8	44.5	35.6	44.8	61.8	42.2
AMR Corp.	45.1	45.0	41.0	33.5	42.8	41.5
Southwest	35.3	29.5	35.6	33.4	31.4	33.0
Delta ^f	33.4	28.7	21.0	18.3	29.8	26.2
NWA, Inc. ^g	50.8	34.4	32.1			
Industry average ^h	56.8	54.6	53.6	56.2	73.6	

Note: For years for which no data appear, data were not publicly available.

*Pan Am's ratio of long-term debt to total capitalization was infinity in 1990.

^bDue to Eastern's bankruptcy, 1989 and 1990 data for Eastern are not comparable with earlier data for Eastern or with data for other airlines.

^cBefore December 31, 1986, Continental had \$653.9 million in liabilities subject to Chapter 11 reorganization proceedings.

^dTWA's data for 1986 and subsequent years reflect the airline's acquisition of Ozark on September 15, 1986.

^eUSAir's data for 1987 and subsequent years reflect the airline's acquisition of Piedmont on November 5, 1987.

^fDelta's data for 1987 and subsequent years reflect the airline's acquisition of Western on December 18, 1986.

^gNWA, Inc., was acquired by Wings Acquisition, Inc., on August 4, 1989. Consequently, company reports for NWA, Inc., are not available for 1989 and subsequent years. NWA's data for 1986 and subsequent years reflect the airline's acquisition of Republic on August 12, 1986.

APPENDIX IV

APPENDIX IV

Industry average data include data for Ozark, People Express, Piedmont, Republic, and Western until their respective mergers.

Source: Julius Maldutis, The Financial Condition of the U.S. Airline Industry to Year-End 1990, Salomon Brothers (New York: June 1991), p.8, fig. 10. Data are drawn from company reports.

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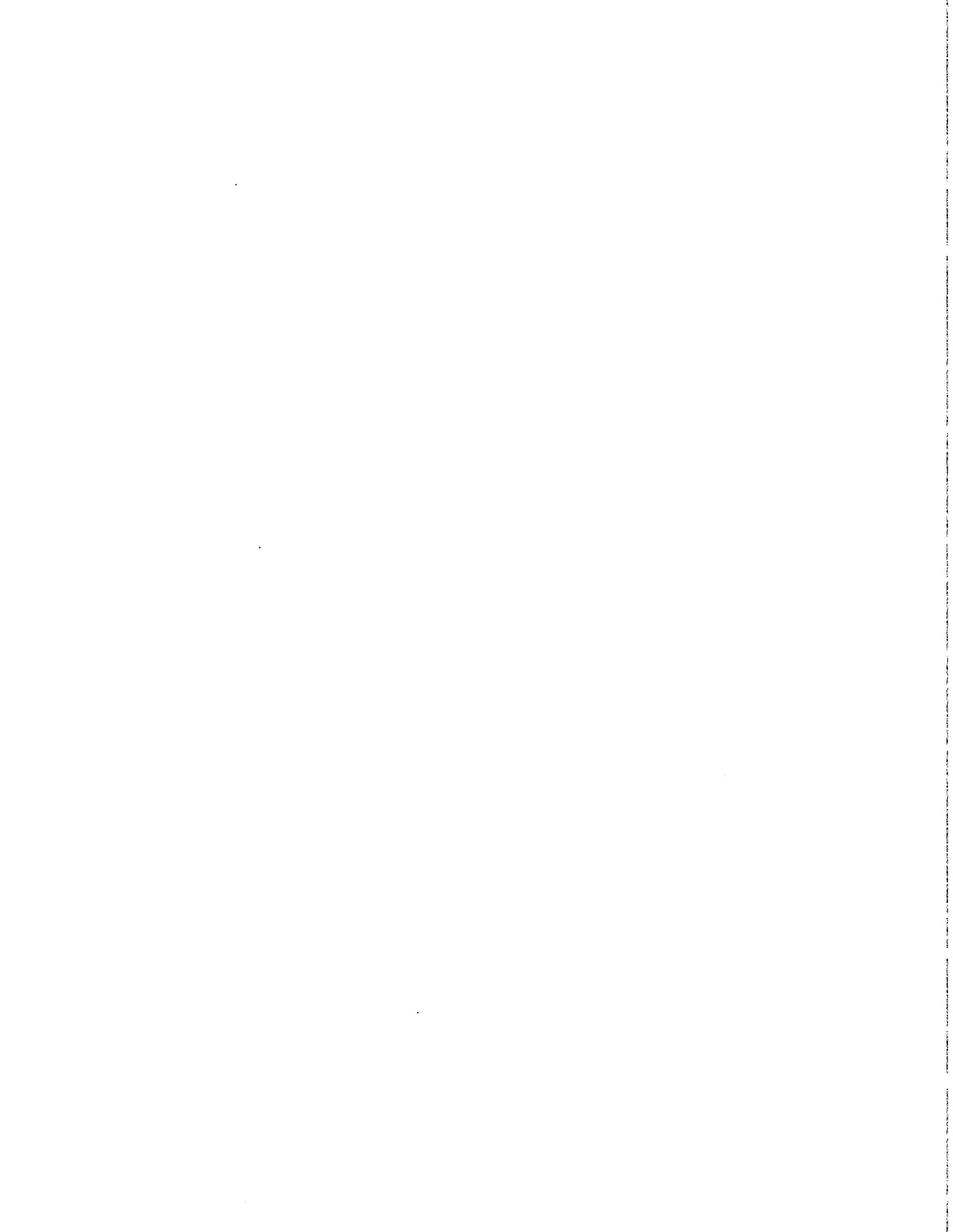
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APPENDIX V

APPENDIX V

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