
**The Troubled
Airline Industry**
Its Impact on Aircraft
Manufacturers
and the U.S. Economy

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.

By Robert D. Shriner, Ph.D.
Shriner-Midland Company

A Publication of the
Aerospace Research Center
Virginia C. Lopez, Executive Director

Aerospace Industries Association of America, Inc.
1250 Eye Street, N.W.
Washington, D.C. 20005

June 1993

The Troubled Airline Industry

Its Impact on Aircraft Manufacturers and the U.S. Economy

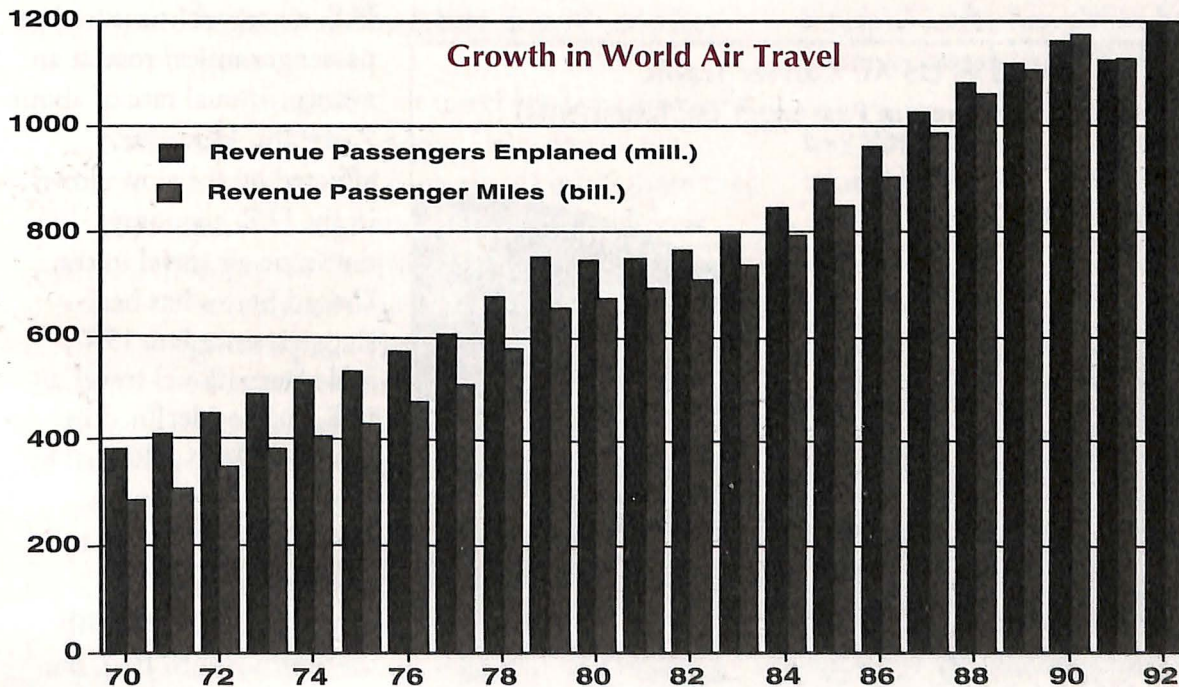
Projections for continued long-term growth in world passenger traffic promise strong prospects for airlines and aircraft manufacturers. But recent changes in the growth rate, profitability, and structure of the world's airlines cloud the near-term outlook. Tightening credit terms and reduced military purchases around the world add to the problem. That is unwelcome news for the U.S. economy. In addition to its direct impact on workers and communities, the situation complicates efforts to bring the trade deficit into balance, since transport aircraft used by

non-U.S. airlines have long been the leading U.S.-manufactured export. A close look into the situation by the Clinton Administration is needed to make sure government decisions help rather than hurt U.S. competitiveness. Further cuts in U.S. Export-Import Bank credits or in defense and space programs could worsen the trade deficit, weaken American firms, and raise unemployment.

World Growth in Air Travel — Long Term and Recent Trends

Since 1970 the number of passengers handled by the world's airlines has risen more than three-fold, from 383 million in 1970 to more than 1.2 billion in 1992. When the length of each trip is taken into account the growth in passenger miles flown has been even greater, rising from 286 billion in 1970 to more than 1,200 billion in 1992, a four-fold increase.

To meet this growing volume of air travel, airlines added to their fleets of planes and increased the average size and



usage of their planes. Available seat-miles rose from 522 billion in 1970 to over 1,700 billion in 1991, a three-fold increase, while the average occupancy rate or "load factor" for all airlines rose from 55 percent in 1970 to 68 percent in 1991.

Not surprisingly, the rate and nature of this growth has not been uniform everywhere in the world. The United States, which has the largest and most established air travel system, has grown somewhat less rapidly than areas which have until recently had less-developed air travel systems or have had above-average economic growth, such as Europe and Asia.

Other areas, with relatively slower economic growth, have also had less rapid growth in their volume of air travel.

U.S. passenger growth

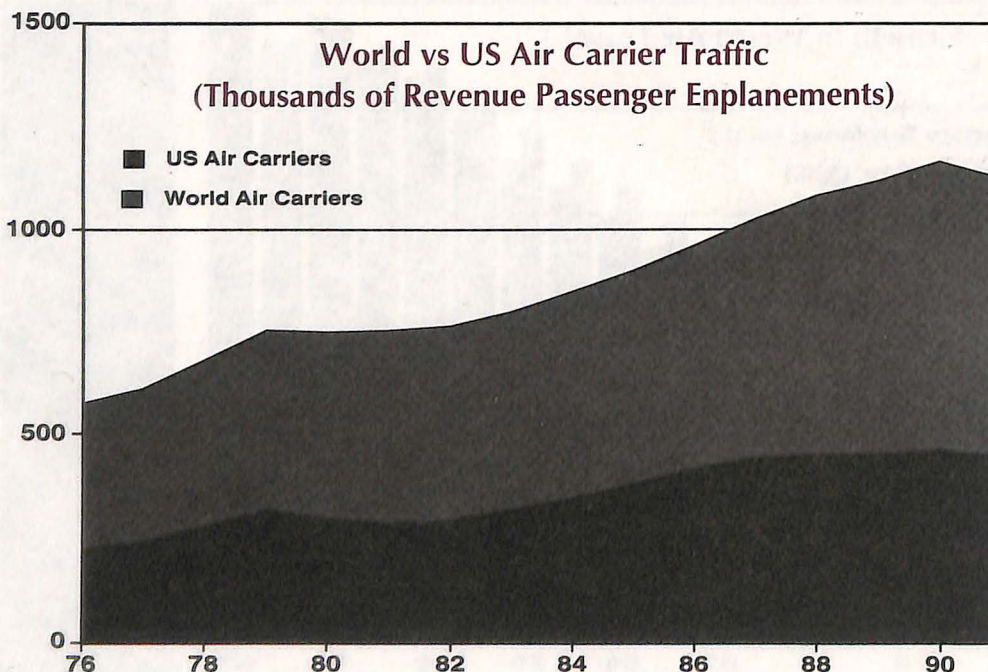
The size and prosperity of the United States, along with its pioneering role in air travel and aircraft manufacturing, have led to its position as the world leader in air travel, with much greater shares of world air travel than of either world gross national

product or population. Its leading airlines, American, United, and Delta, are among the largest and financially strongest in the world. The largest U.S. airline, American, has as many planes (about 660) as the three largest European airlines — Lufthansa, British Air, and Air France — combined.

According to data compiled by the International Air Transport Association (IATA), U.S. airlines accounted for approximately 37 percent of world air passenger travel in 1991, little changed from the 38 percent they accounted for in 1970. Domestic air travel within the United States accounted for about 35 percent of total world air travel in both 1970 and 1991. The remaining 2-3 percent of the U.S. share is due to U.S. airlines' international routes. Some estimates show an even larger share for U.S. airlines.

Improved efficiency, service, and economies of scale, along with deregulation of domestic air fares and a growing U.S. economy, helped reduce the cost and increase the volume of air travel within the United States during most of the 1980s.

Between 1980 and 1990, U.S. air travel (measured in passenger miles) rose at an average annual rate of about 7 percent. However, affected by the slow-down in the U.S. economy, domestic air travel in the United States has been sluggish since late 1987; and international travel on U.S. airlines declined in 1990 and 1991, affected by economic slow-downs around the world and by heightened security concerns associated with the conflict with Iraq, but began to recover in 1992.



Passenger growth in Europe, Asia, elsewhere

Europe ranks next after the United States as a major air travel market, accounting for about one-fourth the world total in 1990, followed by Asia (including China, India, and Japan) with roughly 15 percent. From 1970 to 1990, passenger-miles on European airlines grew at an average annual rate of about 8 percent, as did those on Japanese airlines, reflecting the strong growth of the major economies of Europe and Japan. However, several areas with lower initial levels of air travel grew even more rapidly during the same period. Airlines in China and the rest of Asia excluding India grew at an annual rate of roughly 20 percent, while airlines in the Middle East grew an estimated 11 percent, and those in Latin America and India grew about 9 percent each.

Non-U.S. airlines have been affected by the Persian Gulf conflict and by the world-wide economic slow-down in 1991 and 1992, similar to the effects felt by U.S. airlines.

Projections for future growth and key areas

Historically, air travel has been adversely affected by economic slow-downs as businesses and consumers both tighten their purse-strings until economic conditions improve. The pace of air travel then resumes once the economy returns to its normal growth path. Estimates differ about how soon and how much economic conditions in various countries will improve. However, most analysts generally agree that growth in world-wide air travel averages somewhere in the neighborhood of 2-1/2 to 3 percent above the average rate of economic growth. Thus, if the average economic growth rate in the 1990s is on the order of 2 to 2-1/2

percent, the average growth in air travel will be somewhere in the vicinity of 4 to 5 percent. That would be slower than the average rate between 1970 and 1990 but still substantial, requiring more and larger aircraft to be put in service as the decade proceeds.

The greatest increase in air travel is predicted for the Asian region and for air routes linking Asia with Europe and the United States. Air travel in or linked to Asia is projected to grow an average of 12 percent or more annually in the 1990s and beyond. Transatlantic air travel between North America and Europe is projected to grow on average about 8 percent annually during the same period, while domestic air travel growth within the countries of North America and Europe is projected to be near the world average of 4-5 percent. Air travel growth in Latin America and Africa are similarly linked to economic growth rates in those regions.

The current slowdown and the prospects for future growth create a "Good news - Bad news" situation for airlines and aircraft manufacturers alike. How to pay for needed future aircraft when airline books are currently awash in red ink?

Key Position of U.S. Manufacturers in World Market

The U.S. aircraft industry is the leading international supplier of commercial transport aircraft, and has been since the emergence of commercial air travel in the 1930s. In the first three years of the 1990s, U.S. manufacturers Boeing and McDonnell Douglas have built 71 percent of the commercial jet transports delivered to world airlines. Airbus, the European aircraft consortium, built most of the remaining jet transports. A small percentage were built by other aircraft manufacturers in Europe and

Asia. Just over 75 percent of U.S.-made jet transports are sold to non-U.S. airlines, with the balance sold within the United States. U.S. airlines purchased about 12 percent of the planes built by Airbus and other non-U.S. builders.

U.S. manufacturers of jet engines similarly lead the world in providing state-of-the-art powerplants which produce increased fuel efficiency and lower noise levels. More than 60 percent of the jet engines produced in the first three years of the 1990s were built by U.S. manufacturers or a consortium in which a U.S. firm plays a leading role.

Jet transports, engines, and parts are the leading manufactured exports of the United States, totalling \$34 billion in 1992, nearly 10 percent of U.S. manufactured exports. Net exports of jet transports and engines, after subtracting all non-U.S.-made parts and imported transports and engines, totalled \$17 billion. Jet transport- and engine-manufacturers in 1992 directly employed approximately 296,000 U.S. workers, plus thousands of additional workers employed by vendors

and subcontractors throughout the United States.

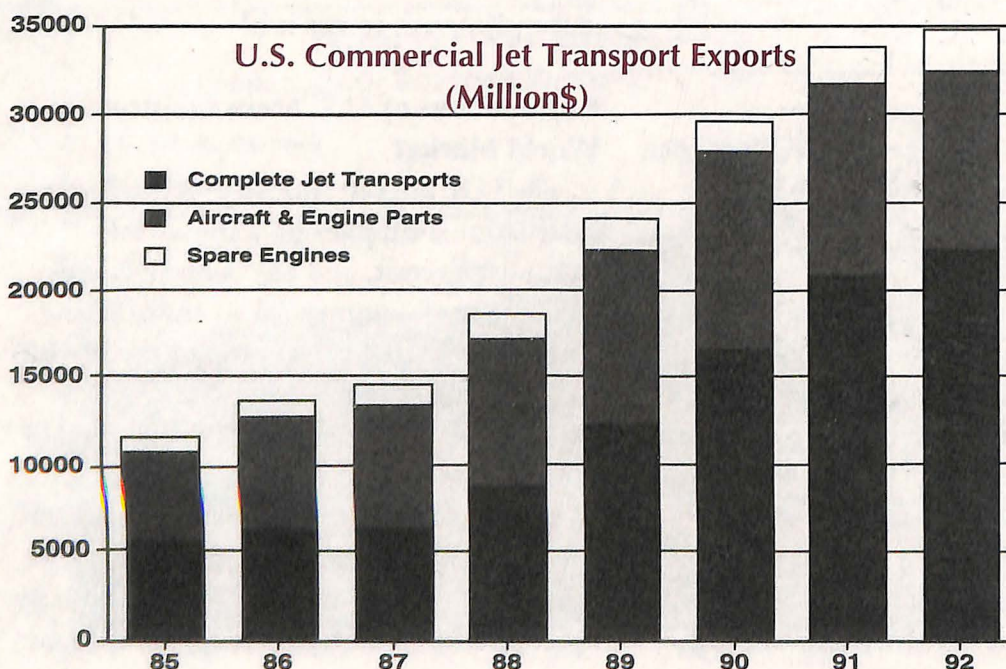
The projected growth in air travel in Asia and other areas outside the United States suggests that an increasing share of U.S. jet transport sales will be aimed at routes outside the United States, whether served by U.S.-based or non-U.S.-based airlines. However, the airline industry is currently going through a global structural transition as well as the current economic slow-down, both of which affect the pace of aircraft purchases and production.

Transition to Global Airline Industry

The world's airline industry includes both privately-owned and state-owned carriers. U.S. carriers are privately-owned but most non-U.S. carriers are owned and controlled by their national governments. International flights and passengers are subject to a complex network of agreements between national governments, intended to provide uniform standards for international air travel and to protect national interests.

Deregulation, competition, and capacity

In the United States, airlines have always been privately-owned and operated. Until 1979 federal regulation controlled their schedules, routes, and prices, as well as various aspects of aircraft and crew safety, flight operations, licensing, and other forms of passenger protection. The deregulation of U.S. carriers in 1979 discontinued federal control



over routes, schedules, and prices, and eliminated federal subsidies for service to smaller airports. The result has been a dramatic increase in price- and schedule-driven competition among U.S. air carriers on both domestic and international routes. Price competition has benefited passengers with generally lower air fares but has also created serious financial strains on many U.S. airlines.

A number of new carriers were started in the 1980s, offering significantly lower fares (and often, reduced amenities) than the established airlines. To preserve their markets, the established carriers had to reduce their fares. The result of these fare wars, in combination with market fluctuations in fuel costs, has been a drop in airline profits and a high rate of attrition among both the start-ups and the established airlines. Few of the start-ups have managed to survive, and all but a handful of the largest existing U.S. airlines have been consolidated into larger carriers, have ceased operations, or have sought Chapter 11 bankruptcy protection.

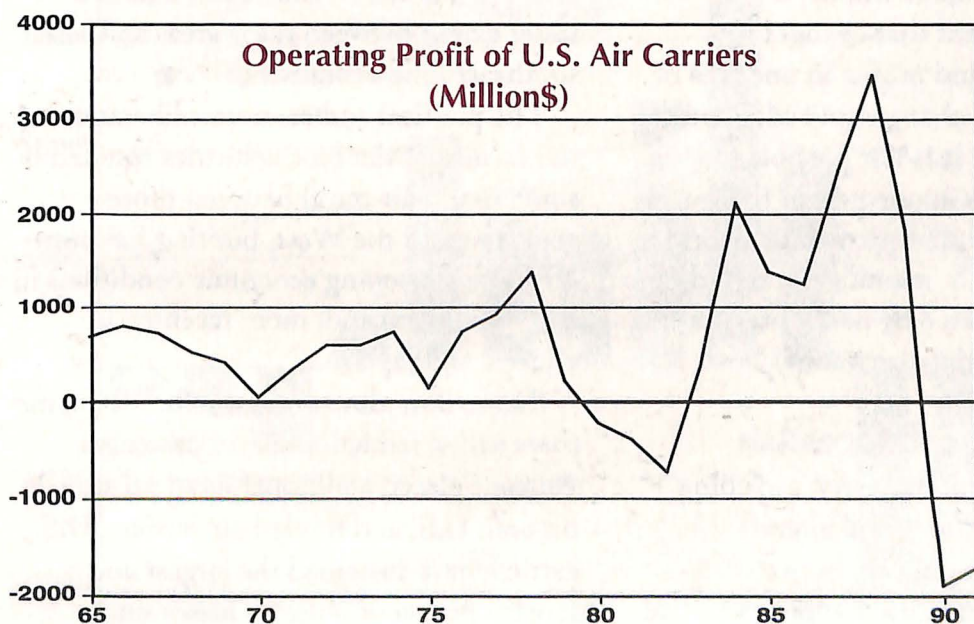
Manufacturers have responded to these changes by designing and building a new

generation of jet transports offering greater fuel efficiency, reduced maintenance, larger capacity, and other improvements to lower operating costs, reduce noise and pollution, and improve safety.

Ripple effects of deregulation

Increased competition among U.S. carriers and technical progress in jet transports is creating ripple effects around the world. State-owned "flag" or "sovereign" carriers are increasingly pressed to reduce costs and fares and upgrade aircraft to satisfy rising passenger expectations and technical requirements for improved safety, noise, and pollution controls. At the same time, they are often held back by policies and traditions that treat employment with the national airline as a guaranteed life-time government job, and by rising government deficits. Maintaining a world-class national airline has also been seen by many countries as an essential element in demonstrating their "membership" in the modern industrial world. The larger international carriers, using the advantages of economies of scale and bargaining power based on their size, are able to achieve lower costs than are smaller carriers, including many flag carriers from smaller or less developed nations.

Faced with rising operating deficits and capital investment requirements to maintain the competitiveness of their flag carriers, a growing number of nations are reducing their airline operations or privatizing all or part of their airlines. This has led to numerous mergers and changes in ownership.



For example, the Australian government recently sold a major share of its Qantas Airlines to British Airways, and Sabena, the Belgian flag carrier, sold a major interest to Air France. The Argentine government earlier sold a major share of its Aerolineas Argentinas to Iberia, the Spanish carrier.

Similar consolidations and strategic alliances involving privately-owned carriers are also occurring in the drive to cut costs and raise load factors. For example, American Airlines recently announced it will provide administrative operations for Canadian Air and buy one-third of its stock, and British Airways recently received U.S. government approval for purchase of one-fourth of the stock of USAir and limited sharing of flights. Air Canada has been exploring various potential teaming arrangements with U.S. and European carriers to help fund its recent losses and provide better future revenues.

The results of all this restructuring include an increase in the global nature of international air carriers and a reduction in the total number of carriers. Though it is far from clear exactly what the new industry structure will ultimately be, or who the future industry leaders will be, it is increasingly evident that changes in markets, prices, and profits in one area of the world lead to changes and adjustments on a global basis. It is not possible today to isolate air carriers in one part of the world from changes in other parts of the world and, similarly, U.S. manufacturers and their suppliers are affected by developments throughout this global economy.

Impact of Global Recession

The civil aviation industry, including both airline operations and aircraft manufacturing, has always been characterized by rapidly changing

technology and markets, huge financial risks, and the need for continuing large investments to keep pace with market growth and change. Today, the rate of passenger growth depends on the amount of consumers' discretionary income and on the airlines' ability to lower fares to attract passengers while producing enough revenue to repay investors.

Since 1987 the world economy has been affected by a series of major changes that have reduced output and employment in several key regions, with corresponding adverse impacts on air travel, airline economics, and aircraft sales.

Slow-down in passenger growth

In the United States, an extended period of slow growth and economic restructuring has caused businesses and consumers to reduce both domestic and international air travel. Increasing taxes on airlines and air travelers put upward pressure on operating costs and fares, further dampening travel growth. In addition, in 1990-91, fear of terrorism associated with the conflict with Iraq prompted a virtual halt in international air travel between the United States, Europe, and the Middle East, and to a lesser extent between these areas and some southeast Asian countries.

The political and economic liberation of the former Soviet bloc countries resulted in some rise in air travel between those countries and the West, but that has been offset by worsening economic conditions in those countries and, more recently, in Europe and Japan.

These slow-downs in growth — in some cases actual reductions — in passenger demand placed additional financial stresses on both U.S. and foreign air carriers. U.S. carriers have sustained the largest and longest period of industry losses since

World War II. Pan Am and Eastern, long-time major U.S. carriers, closed their doors after making major efforts to restructure. TWA and Continental, also long-time and well-known U.S. carriers, have operated under Chapter 11 bankruptcy protection, struggling to restructure and survive. Continental recently emerged from its Chapter 11 status.

Scramble to protect market share, unit cost, and cash

In a weak market, financial difficulties are contagious. Per unit costs and cash flow depend on passenger volume, which depends largely on price. Weaker carriers try to protect their short-term cash flow and volume by setting their fares below their competitors, even if the fares do not fully cover their overhead costs. To protect their share of passenger volume, other carriers respond with fare cuts, which in turn weakens *their* profitability and cash position. As a result, losses of U.S. air carriers since 1990 have totalled over \$10 billion, and

bond ratings for even the leading carriers have recently been down-graded, further raising their costs of borrowing.

Tighter Credit for Lease/Purchase of Aircraft

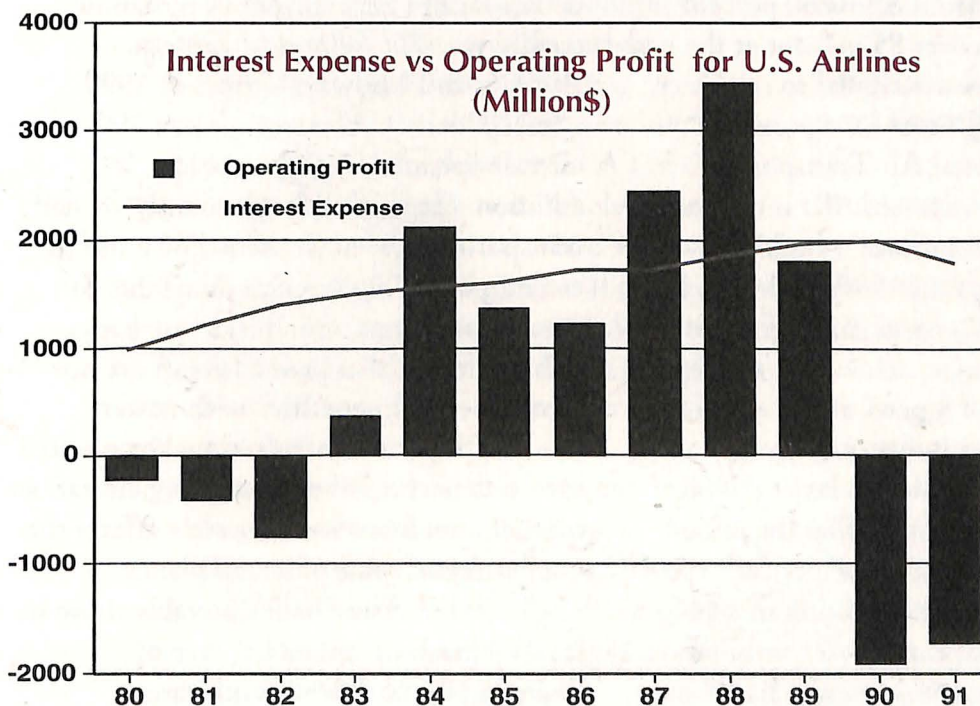
Historical perspective on use of credit

The slow-down in airline industry growth comes at the same time that financial institutions are undergoing their own readjustments. World money center banks, which have been major lenders to airlines and leasing organizations, have tightened their purses as a result of major losses in real estate and other assets. Although loans for jet transports have traditionally been among the most solid financial investments, weakening airline profitability and the failure of several weak carriers have caused banks and other large investors to look more skeptically at new aircraft financing deals.

Credit has played a key role in the growth of the airlines and, consequently, in the sale of jet transports. Banks, lessors, aircraft

manufacturers, and investors have used a wide range of innovative methods for meeting the needs of the airline industry, including various kinds of leases, equipment trust arrangements, manufacturer financing, foreign sales corporations, government export credit, and bank debt.

Financially stronger airlines rely more on bank borrowing and equipment trust arrangements, where they can generally obtain funds more advantageously because of their stronger credit rating. Smaller



airlines, and those with less strong financial positions, generally must rely more on operating leases, which are more expensive than debt arrangements but do not appear as long-term debt on the firm's balance sheet. Government export credit, and credit provided by aircraft manufacturers, are parts of virtually every international plane sale, often playing a decisive competitive role in determining which manufacturer gets the order. Purchase and lease deals are typically complex, custom-tailored combinations of bank debt, manufacturer credit, third party investors, lessors, and other elements included to minimize taxes and borrowing costs.

The increase in jet transport orders and deliveries in recent years has been accompanied by a corresponding rise in the debt and lease service level of the air carriers. The mix of borrowing and leasing makes it difficult to measure the actual level at any point in time, especially for non-U.S. carriers. However, industry analysts note that for U.S. carriers, which are among the world's strongest, the ratio of total debt to total capital rose from below 60 percent in the mid 1980s to over 85 percent at the end of 1990, and it has continued to rise since then as operating losses have grown.

The International Air Transport Association has estimated that interest charges of all airlines have more than doubled since the mid 1980s and total \$3.4 billion in 1992. To cover this amount of interest, carriers must achieve an average operating profit of 4 percent, far above the recent level. Other industry analysts estimate airlines' capital outlays totalled more than \$190 billion during the period from 1980-90 while airlines' net cash flow was nearer \$75 billion, resulting in a \$115 billion gap covered through a combination of debt and lease arrangements. Based on

current projections for world passenger growth from 1991-99, some analysts project airlines' capital needs in excess of \$460 billion compared to projected net cash flow of roughly \$200 billion during the period, leaving a funding gap on the order of \$260 billion.

It is not necessary to accept the accuracy of these estimates to recognize that airlines will have to overcome serious financial hurdles if they are to position themselves to survive and compete effectively in the world travel markets of the 1990s.

Reduced credit availability

While the capital and credit needs of the air carriers continue to rise, the sources which principally satisfied those needs in recent years offer dimmer prospects for the future. Major world money center banks, many of which actively supported aircraft deals in the 1980s, are contending with their own needs to increase capital to satisfy rising regulatory standards. Some have also been stung by losses tied to airline failures, aircraft lease cancellations, real estate deflation, and generally weak economic conditions. The failures of Eastern, PanAm, and Midway Airlines in 1990 affected loans and leases on some 390 aircraft operated by those carriers. In addition, the market for previously-owned transports has been weakened by a rise in the number of aircraft side-lined due to age, obsolescence, or industry cut-backs. While most of these used aircraft are not economically competitive with newer models, their existence does make potential investors nervous about accepting aircraft as collateral on loans and adversely affects the market rental value of leased planes.

The major Asian banks, notably those in Japan, have been a major source of financing for both loans and leases.

However, Japanese banks have been especially hard hit by losses related to the rapid decline in real estate values in that country, and the prospects of their continuing as major participants in aircraft finance for non-Japanese firms are greatly curtailed for the next several years.

The attractiveness of investments in aircraft leasing has also been diminished by the recent highly publicized financial difficulties of GPA Group, the leading international lessor, based in Ireland. GPA and other aircraft lessors supply planes to carriers who would probably not be able to obtain them otherwise. In early 1992 its fleet included 400 aircraft leased to carriers around the world and its debt reportedly totalled \$2.7 billion, spread among some 100 banks and numerous other major investors. Its orders with U.S. and foreign manufacturers for planes to be delivered later on this decade total some 300 units, worth \$12 billion more — roughly 10 percent of projected total world output — plus options for over 200 more. The firm has been seeking funding to fuel its growth from a number of sources. In May 1993, GPA was working out a financing agreement with General Electric Company's GE Capital Corporation. The arrangement depended on GPA's raising additional equity from shareholders and lenders, but GE's participation was expected to assure this. Although several other major aircraft leasing organizations have not had similar problems — for example, another leading lessor, ILFC, is apparently doing well and recently placed sizable orders for new planes from Boeing and Airbus — the large number of airlines, financial institutions, and investors affected by GPA's difficulties has added yet another cloud to the financial horizon for airlines and aircraft manufacturers.

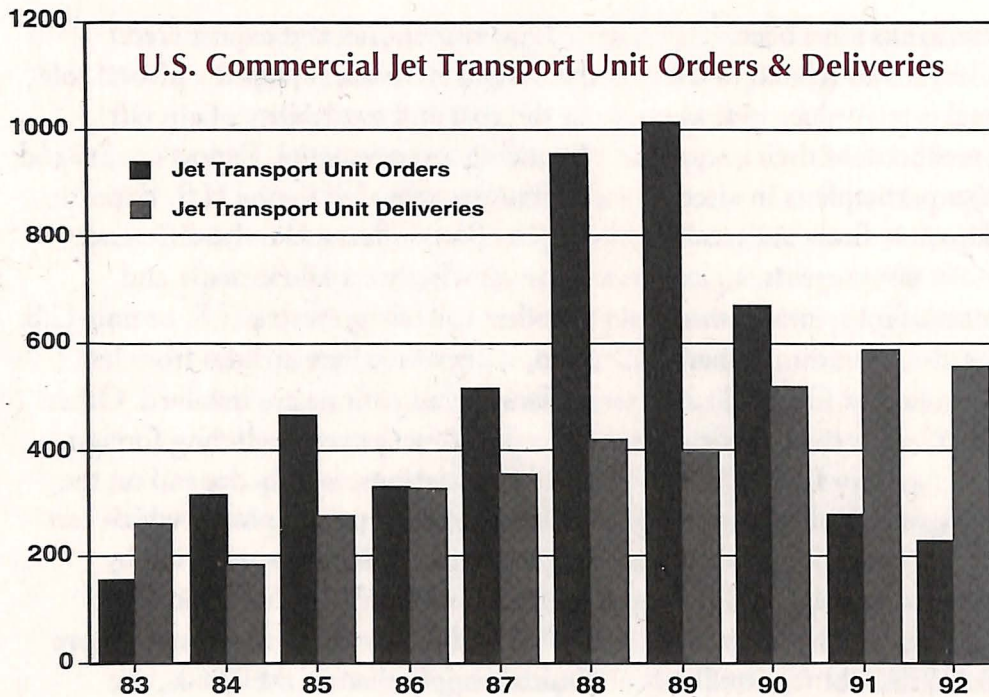
Government tax and export credit provisions have often played a pivotal role in the cost and availability of aircraft financing arrangements. Export credits and guarantees provided by the U.S. Export-Import Bank often make the difference between whether a sale is made and whether the sale goes to a U.S. or non-U.S. firm, especially where airlines from less industrialized nations are involved. Other tax-related incentives, including foreign sales corporations, largely depend on the availability of corporate profits which can be partially shielded from taxation by special handling. With both corporate profits and government revenues in more limited supply than in the 1980s, the financial significance of such provisions is likely to be reduced.

Financial assistance from U.S. and European manufacturers is also a critical competitive factor in deciding which builder makes a sale, but the slow-down in both commercial and military sales and the overall reduction in credit availability puts added constraints on manufacturers' ability to offer more credit.

Outlook for U.S. Manufacturers and Competitors

Reduced order and delivery schedules

Faced with sluggish passenger growth, continued losses, and tighter credit conditions, air carriers have cut all but immediately essential outlays. The result has been a decline in the number of orders for new planes placed in 1991 and 1992 and an increase in the number of delivery delays and deferrals negotiated on existing plane orders by both carriers and leasing firms. Sales of parts and spares have also declined sharply, especially impacting engine manufacturers. For the most part,



the delays on previously ordered U.S.-built planes affect deliveries planned in 1994 and future years. However, because of the impact on parts and spares consumption and the lead-time involved in producing large aircraft, the effects of the slow-down are already apparent in the form of reductions in production employment and orders from suppliers.

Though the pace of aircraft orders is affected by many factors, in this case by a weak economy and special factors in the airline and finance sectors, much of the current slowdown in new plane orders has been anticipated for several years by the manufacturers and by industry analysts. The jet aircraft business, like other capital goods businesses, has cyclical ups and downs. A similar cycle in commercial jet sales occurred in the early 1980s but was somewhat masked by a concurrent rise in military purchases. It was followed by a record-setting surge in jet transport sales and production in the late 1980s. The current cycle is occurring at a time when

military purchases are declining, so its effects on workers and suppliers are even more apparent.

Planes now being ordered will not be delivered until 1995 and beyond. As a result of this long lead-time required for building jet transports, a significant up-turn in jet transport production before 1996 seems unlikely at this point. If the global economy recovers soon with a strong surge in air travel, aircraft production should begin accelerating again by 1996. If the global economy

recovers more slowly, with slower growth in air travel, acceleration in aircraft production will take longer.

Impact on U.S. production workers and suppliers

The near future will require tight control and tough choices by U.S. manufacturers. Cut back too little and face serious losses now. Cut back too much and face higher future costs for rebuilding work force and supply lines when orders improve, plus raise the risk of missing future sales. Since early 1992 Boeing and McDonnell Douglas have made or announced significant cutbacks in production and employment, as have engine builders Pratt & Whitney and General Electric, amounting to over 40,000 production jobs. Further cutbacks may yet be required if the situation does not soon begin to improve.

Suppliers are widely spread throughout the economy and therefore their job losses are difficult to measure; however, based on industry data compiled by the Census

Bureau and the U.S. Department of Commerce, about 51 cents of every dollar from U.S. aircraft sales goes to pay outside suppliers and 39 cents goes to pay workers within the industry. Thus, job losses among suppliers probably equal or exceed job losses within the industry. Electronics, communications, instruments, and fabricated metals are the leading vendor-supplied hardware items, collectively accounting for about 20 percent of outlays to suppliers; however, business and professional services are the largest single vendor-supplied item, amounting to roughly 8 percent of total outlays to suppliers.

Impact on investors and creditors

The impact of airline losses and reduced aircraft orders have been reflected in the decline in share prices for airlines and manufacturers. As future prospects are constantly reevaluated by the market and by industry analysts, share prices will respond accordingly.

There is a widely-recognized tendency for investors to over-react to changes in

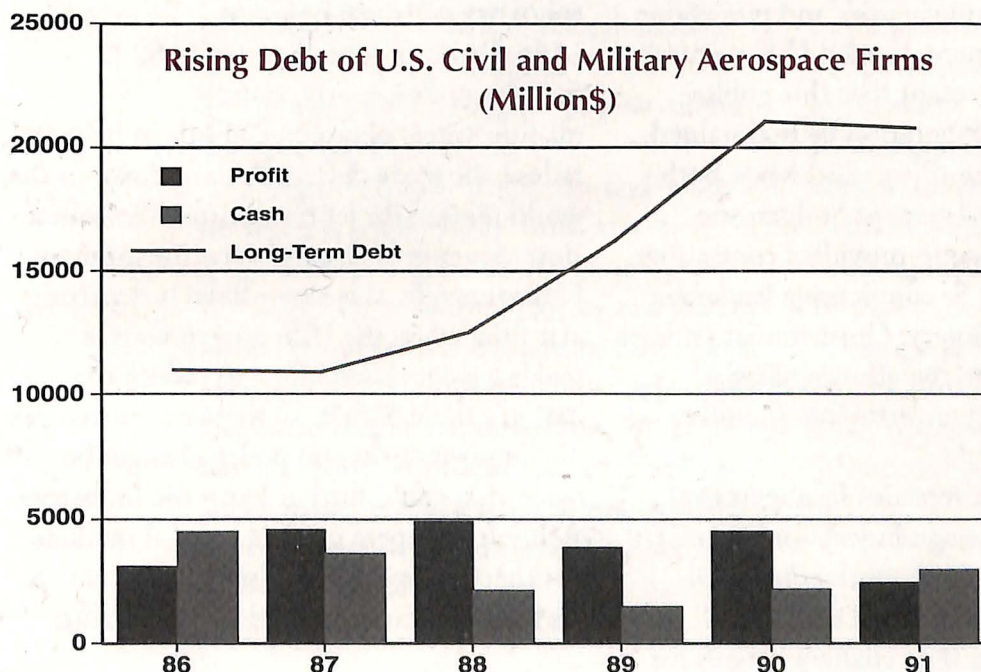
industry fundamentals, often turning overly pessimistic in a slow-down and overly optimistic in an upturn, and thus sometimes causing wider swings in an industry than would otherwise occur. While the current situation in the airline and aircraft industries requires changes in plans and adjustments in spending and employment, it is important to recognize that the longer-term outlook for world air travel, which undergirds them both, indicates continuing solid growth well into the next century.

Increased competition for sales, efficiency, productivity, and "participation"

The decline in aircraft orders further intensifies competitive pressures among manufacturers. Not only are price and financial terms key elements in the competition among manufacturers, but also technological and design enhancements that help raise the operating efficiency and productivity of the airlines which buy them. Among the most important design enhancements are those which lower fuel

consumption, reduce maintenance time and costs, and raise the productivity of air and ground personnel. The three leading producers — Boeing and McDonnell Douglas in the U.S. and Airbus in Europe — are continually seeking to develop new and improved design enhancements to strengthen their individual competitive positions.

International sales to government-owned airlines often depend in addition on the value of various "tie-in" arrangements of special



interest to the buyer-government and which the competing sellers may be encouraged to offer. These vary widely in nature, depending on the needs and interests of the buyers. Tie-ins that assist the government with its domestic economic development through the purchase of local products and services or through local investments are among those most frequently sought. However, regardless of their specific nature, these tie-ins reflect the intense level of competition for aircraft sales in the international marketplace.

Increased concern for strategic R&D and future competitive positioning

The competition for continuing technological improvements and design enhancements highlights the importance of strong, strategic, market-driven R&D in the jet aircraft industry. U.S. manufacturers have captured and held their present world leadership position in market share because they have continually maintained a high level of investment in strategic R&D. Corporate R&D has been bolstered — and sometimes preceded — by fundamental research at U.S. universities and pioneering R&D at government-funded U.S. research centers. It is important that this public-private R&D collaboration be maintained, particularly during this period when both corporate and government budgets are under severe stress, to provide a continuing foundation for U.S. competitive leadership in the aircraft industry. Government policies that help maintain the affordability of critical technology investments should be strongly supported.

U.S. manufacturers also face increased pressures from foreign buyers for substantial co-production and subcontracting arrangements, well beyond the level of traditional tie-ins. The challenge, both for

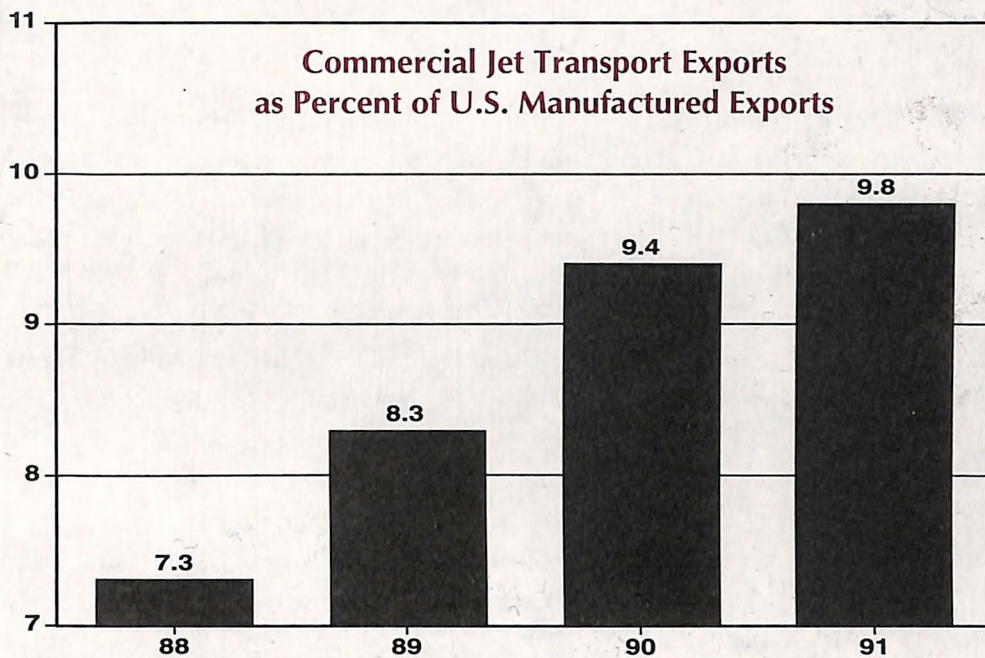
U.S. manufacturers and for U.S. policy makers, is to find and maintain the right balance between long-term technological and strategic advantage and shorter-term competitive and cooperative realities.

U.S. Trade Balance & Other Policy Issues

U.S. manufacturers are responding to the challenges posed by changing world economic and financial conditions. However, the impact of changing world airline and aircraft markets also affect, and are in turn affected by, policy choices of the U.S. government. It is important to recognize and understand some of the most significant linkages in this relationship. The Clinton Administration should examine the problems of the airline industry very closely, to make sure the importance of the industry to U.S. aircraft manufacturers and the national economy is fully understood, before any actions are taken which might worsen the situation. Key areas of attention should include the following.

Decline in aircraft exports will hurt recovery of trade balance

As the leading producer of U.S. manufactured exports, aircraft manufacturers play a crucial role in helping reduce the trade deficit. A slow-down in the world market for jet transports will mean a slow-down in U.S. exports by the industry. Unfortunately, this slow-down is occurring at a time when the U.S. government is making a concerted effort to reduce the nation's trade deficit. In these circumstances it is important that no policy changes be made that could further harm the industry's ability to compete in international markets or otherwise worsen the impact on the U.S. trade balance and domestic employment.



Tighter international competition and credit makes Eximbank credit more important

Credit provided through the U.S. Export-Import Bank (Eximbank) plays a numerically small but strategically vital role in the financing of some international sales, especially when government-owned carriers in less industrialized nations are involved. In 1991 Eximbank loans and guarantees were approved for a total of 12 commercial

jets, down from a total of 27 approved in 1987.

With competition intensified between U.S. and foreign manufacturers, and with world air carriers facing increasingly tight credit conditions, government-provided credit facilities such as the U.S. Eximbank and its counterparts in other major industrial nations play an even more important role in international sales than in more prosperous times. Although there are continuing pressures to reduce U.S. government support and funding for the Eximbank, it is essential to the competitiveness of leading U.S. export industries and the U.S. trade balance that funding for Eximbank loans and guarantees be maintained. Steps should also be taken to expand and strengthen asset-based lending by the Eximbank and to provide appropriate asset maintenance guidelines to protect both public and private investors. ■

Larger cuts in defense and space programs would worsen the situation

Reduced tensions between the West and the former Soviet Union have resulted in large reductions in government defense outlays, including significant reductions in orders for military aircraft, missiles, and space vehicles produced by the U.S. aerospace industry and its far-flung network of suppliers. Since 1989, U.S. defense procurement and research, development, test and evaluation outlays have been cut by \$9 billion, and even further cuts are under consideration.

The sudden drop in defense and space outlays has forced many firms and their employees into difficult transitions, involving major financial losses and job cut-backs. Some are the same firms and people with specialized skills who must cope with cut-backs due to the slow-down in air travel and jet transport production. Further cut-backs in defense and space programs beyond those already in motion would make the present situation even worse and should therefore be avoided or delayed.

Figure Sources

Growth in World Air Travel - Aerospace Industries Association, *Aerospace Facts & Figures 1991/92* and *1992/93*, p. 79 from International Civil Aviation Organization (ICAO).

World vs. U.S. Air Carrier Traffic - *Facts & Figures, 91/92* and *92/93*, p. 79 and p. 85 from ICAO and Department of Transportation, Office of Aviation Statistics, *Air Carrier Traffic Statistics* (Monthly).

U.S. Commercial Jet Transport Exports - *Facts & Figures, 90/91* and *92/93*, p. 127 from Department of Commerce, International Trade Administration.

Operating Profit of U.S. Air Carriers - *Facts & Figures 92/93*, p. 80 from DOT, *Air Carrier Traffic Statistics*.

Interest Expense vs. Operating Profit for U.S. Airlines - *Facts & Figures, 92/93*, p. 80 from DOT, *Air Carrier Traffic Statistics*; and Air Transport Association Annual Reports.

U.S. Commercial Jet Transport Unit Orders and Deliveries - Aerospace Industries Association *Year-end Review and Forecast 1992* and Statistical Series 93-11 (*Net New Orders Booked for U.S. Civil Jet Transport Aircraft*), February 9, 1993.

Rising Debt of U.S. Civil and Military Firms - *Facts & Figures 90/91*, p. 158 and *92/93*, p. 158 from Bureau of the Census, *Quarterly Financial Report for Manufacturing, Mining and Trade Corporations* (Quarterly).

Commercial Jet Transport Exports as Percent of U.S. Manufactured Exports - *Facts & Figures 92/93*, p. 127 from Department of Commerce, Department of International Trade Administration (ITA); also ITA, *U.S. Manufactures Exports*, Series 102 - August 1989, June 1990, March 1992, December 1992.

About the Author

Dr. Robert Shriner is Managing Partner of Shriner-Midland Company, economics and management consultants, specializing in business and economic analysis and strategic planning related to changes in technology, market structure, international and domestic competition, and government policies. Earlier, he served as director of the Washington office of Chase Econometrics, as director of public management and economics for Booz Allen & Hamilton, Inc., and director of the Aerospace Research Applications Center at Indiana University. He has been an expert witness before U.S. House and Senate committee hearings, state and federal regulatory proceedings, and various legal proceedings. Dr. Shriner earned a dual Ph.D. in Business and Economics from Indiana University. He has conducted a number of previous studies for AIA.



**Aerospace
Industries
Association**

**Aerospace Industries Association of America, Inc.
1250 Eye Street, N.W.
Washington, D.C. 20005**

