

Chapter 1

The Airline Industry

Background

1.01 The United States first began promoting the airline industry through the adoption of the Air Mail Acts of 1925 and 1926, which transferred the carriage of mail from the U.S. Post Office to private carriers. Previously, although there had been interest in the development of military aircraft, private carriers had been unable to generate profits in substantially cargo-related efforts. After passage of the Air Mail Acts, growing demand created by a small but competitive airline industry stimulated the production of aircraft specifically designed for passenger and cargo service.

1.02 The airline industry continued to grow despite the depression of the 1930s. Technological developments and a new network of lighted airports with reliable communication equipment created the environment for industrial growth. In 1938, the Civil Aeronautics Act provided government regulation of market entry and exit, air safety, and rates.

1.03 World War II stymied airline industry growth because military demands limited the amount of equipment and service that was available for civilian passenger service. However, military developments in aviation produced many improvements that would result in more efficient and affordable service.

1.04 Jet service was introduced in the late 1950s. The Federal Aviation Act was passed in 1958, creating the Federal Aviation Administration (FAA), which developed the air traffic control system. Subsequent technological advances and improvements resulted in dramatic increases in property and equipment investment by U.S. scheduled airlines throughout the last half of the century.

1.05 The 1970s saw dramatic increases in costs, particularly increases in fuel prices. In 1978, the Airline Deregulation Act (ADA) amended the Civil Aeronautics Act of 1938 to promote competition in the airline industry while maintaining high standards for safety. After deregulation, many changes occurred in the industry, including a proliferation of smaller regional airlines and low-cost carriers and an increase in mergers and airline bankruptcy filings. This is demonstrated by the fact that 128 airlines filed for bankruptcy in the 18 years following deregulation.

1.06 One of the arguments against deregulation was that some smaller communities would be denied commercial air services. In response, the U.S. Department of Transportation (DOT) implemented the essential air services program. Participating airlines enter into a two-year contract with the DOT, which subsidizes flights and imposes requirements on the number of seats and flights that must be offered and their destinations.

1.07 As previously discussed, many low-cost carriers were founded due to deregulation during the 1970s and continued to expand rapidly through the early 2000s. Low-cost carriers are classified as such due to some of the following cost structures that are different from those of traditional (sometimes also referred to as *legacy*) airlines: simplified fleets, which reduce maintenance costs; a more flexible labor agreement, which results in a more productive

workforce and greater flexibility in establishing work rules; and limited pension and postretirement benefits, which have become a significant cost for traditional carriers. Although the low-cost carriers' markets have not historically been as extensive as those of traditional airlines, extreme pricing pressure was placed on important routes. Additionally, with the expansion of the Internet in the 1990s, passengers had greater ability to find the lowest fare in booking travel.

1.08 In the 1990s, airlines experienced a strong period of growth, and air travel demand continued to increase. As a result, airlines responded with increased capacity, lower fares, and expansion into more markets.

1.09 Beginning in late 1999 and early 2000, the economy suffered, which resulted in a significant decrease in demand for air travel. The depressed demand for business travel was compounded by the terrorist attacks on September 11, 2001, which had a dramatic effect on the airline industry. Immediately following these tragic events, U.S. airlines experienced numerous difficulties, including a significant drop in demand for air travel, reduced traffic and yields, increased insurance and security costs, and liquidity concerns. In response, the federal government provided assistance to airlines, making federal grants and conditional loan guarantees available. The government also provided relief from increased war risk insurance premiums and limited liability for terrorist attacks. Heightened security concerns resulted in the formation of a new governmental agency, the Transportation Security Administration (TSA), which is responsible for all aviation security. New TSA requirements were the primary factors that contributed to increased security costs covering passenger screening and additional security requirements for aircraft. The airline industry responded with significant cost restructurings, including labor concessions, reductions in force, reductions in capacity via aircraft groundings and scheduling modifications, and bankruptcy filings.

1.10 The years following the events of September 11, 2001, continued to be financially difficult, specifically for the traditional carriers. Compared with historical periods, yields continued to be depressed due to the strong competition from low-cost carriers and reduced demand for air travel. Therefore, the traditional carriers continued various cost-cutting initiatives, which, in addition to reductions in force and labor concessions, included efforts to reduce or eliminate pension and postretirement benefits that constitute a significant component of certain airlines' cost structure. Many of the traditional carriers continued to be highly leveraged, which resulted in additional carriers filing for bankruptcy protection. During this period, the industry also experienced some of the highest prices of fuel, which led to further financial deterioration of many carriers. The high cost of fuel affected both traditional and low-cost carriers; however, due to poor credit ratings, many of the traditional carriers were unable to hedge fuel, which resulted in continued significant operating losses.

1.11 The accounting considerations associated with various airline industry practices summarized in this chapter are discussed further in chapter 3, "Marketing, Selling, and Providing Transportation," through chapter 9, "Regional Airlines."

History of Regulation

1.12 The airline industry has been regulated in three major areas: market entry and exit, rates, and air safety. All three areas of regulatory responsibility

came into existence with the Civil Aeronautics Act of 1938. The act created the Civil Aeronautics Board (CAB), whose primary duty, until amended by the ADA, was to promote and regulate the airline industry. The board's mandate was twofold: to maintain the highest priority for safety and to encourage competition in the airline industry. The key elements of deregulation were freedom of market entry and exit and freedom of pricing. A third element was protection of service to small communities.

1.13 The ADA terminated the CAB's authority over rates and route access on January 1, 1983. In addition to liberalizing the general provisions for awarding certificates to new airlines, the ADA established new provisions for automatic market entry and issuance of experimental certificates on a temporary basis. Other provisions eased restrictions on suspension and reduction of service and expedited market entry and exit. As a result, the ADA has enabled many new entrants to gain access to domestic markets and has allowed the legacy carriers to expand and otherwise alter their service patterns. Airlines are now classified as certificated scheduled (route) airlines, certificated non-scheduled (charter) airlines, air cargo airlines, and intrastate airlines. Within the route airline classification, airlines are now identified as major, national, regional, and air-taxi operators.

U.S. Government Regulation ¹

Department of Transportation

1.14 The ADA transferred responsibility for overseeing airline operations to the DOT when it was passed in 1978. The DOT is the primary agency that oversees national transportation policy. This includes negotiation of international transportation agreements, preparing transportation legislation, and ensuring the general fitness of U.S. airlines. The DOT is also responsible for approving merger proposals and sales of international airline routes. The secretary of transportation, who is nominated by the president of the United States, heads the DOT.

1.15 The DOT has authority to issue certificates of public convenience and necessity required for airlines to provide domestic air transportation. An airline that the DOT deems fit to operate is given unrestricted authority to operate domestic air transportation, including the carriage of passengers and cargo. Except for constraints imposed by Essential Air Service regulations, which are applicable to certain small communities, airlines may initiate and terminate service to a city without restriction.

1.16 The DOT has jurisdiction over certain economic and consumer protection matters such as unfair or deceptive practices or methods of competition, advertising, denied boarding compensation, baggage liability, and disabled passenger transportation. The DOT also has authority to review certain joint venture agreements between major airlines.

1.17 Authority to operate international routes and international code-sharing arrangements is regulated by the DOT and by the foreign governments involved. International route authorities are also subject to the approval of the president of the United States for conformance with national defense and foreign policy objectives.

¹ This guide does not describe government regulations in countries other than the United States.

1.18 Under federal law and DOT regulations, airlines must be controlled by U.S. citizens. The president of the airline and two-thirds of the board of directors must be U.S. citizens, and not more than 25 percent of outstanding common stock may be voted by non-U.S. citizens. Foreign ownership must be less than 50 percent.

Federal Aviation Administration

1.19 The FAA is a component of the DOT with primary responsibility for the safety of the U.S. air system. The FAA has primary responsibility for matters relating to airline flight operations, including airline operating certificates, control of navigable air space, flight personnel, aircraft certification and maintenance, and other matters affecting air safety. The agency is also responsible for research and development as it pertains to improving our National Airspace System.

1.20 FAA requirements cover security measures, issuance of airworthiness directives, collision avoidance systems, airborne wind-shear avoidance systems, noise abatement and other environmental concerns, commuter aircraft safety, and increased inspections and maintenance procedures to be conducted on older aircraft. The FAA monitors compliance with regulations and may assess fines for noncompliance.

Department of Homeland Security

1.21 Established on March 1, 2003, the Department of Homeland Security (DHS) is responsible for protecting the movement of international trade across U.S. borders, maximizing the security of the international supply chain, and engaging foreign governments and trading partners in programs designed to identify and eliminate security threats before they arrive at U.S. ports and borders.

Transportation Security Administration

1.22 In November 2001, the Aviation and Transportation Security Act (ATSA) was enacted. The ATSA created a new government agency, the TSA, which later became a part of the DHS, which is responsible for aviation security. The ATSA mandates that the TSA provide for the screening of all passengers and property, including U.S. mail, cargo, carry-on and checked baggage, and other articles that will be carried aboard a passenger aircraft. The ATSA also provides for increased security in cockpits of aircraft and requires federal air marshals to be present on certain flights. The operations of the TSA are funded primarily through a passenger security fee, which is a flat fee charged per ticket that the airlines collect and remit to the TSA. Since 2002, the TSA has also imposed an aviation security infrastructure fee on all airlines to assist in the cost of providing aviation security.

Environmental Protection Agency

1.23 The Environmental Protection Agency (EPA) regulates certain aspects of operations, including airline operations, in the United States. Among other things, airlines are subject to the following federal environmental protection laws:

- *Clean Air Act.* The Clean Air Act is the federal law passed in 1970, which, as amended, forms the basis for the national air pollution control effort. Basic elements of the act include national ambient

air quality standards for major air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. Aircraft engine emissions can affect local air quality as well as create global atmospheric concerns.

- *Clean Water Act.* Growing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act. The act established the basic structure for regulating discharges of pollutants into the waters of the United States. It gave the EPA the authority to implement pollution control programs such as setting wastewater standards for industry. The Clean Water Act also continued requirements to set water quality standards for all contaminants in surface waters. Jet fuel spills, leaks from underground storage tanks or pipelines used to transport and store jet fuel, and solvents used by aircraft maintenance facilities frequently contaminate water sources.
- *Airport Noise and Capacity Act of 1990.* The Airport Noise and Capacity Act of 1990 recognizes the right of airport operators with special noise problems to implement local noise abatement procedures as long as those procedures do not interfere unreasonably with the interstate and foreign commerce of the national air transportation system. As a result of litigation and pressure from airport area residents, airport operators have taken local actions over the years to reduce aircraft noise. These actions include restrictions on night operations, restrictions on frequency of aircraft operations, and various operational procedures for noise abatement.

Occupational Safety and Health Administration

1.24 The Occupational Safety and Health Administration (OSHA) was created in 1971 with a mission to ensure a safe and healthful workplace in the United States. OSHA sets and enforces standards; provides training, outreach, and education; establishes partnerships; and encourages continuous improvement in workplace safety and health. It intends to act as a leader in joining other health and safety communities in prioritizing health and safety issues and setting a clear agenda for safety consciousness.

Other

1.25 The U.S. Department of Justice has jurisdiction over airline competition matters. The U.S. Postal Service has authority over certain aspects of the transportation of mail. The Railway Labor Act generally governs labor relations in the airline industry.

International Air Transportation

1.26 Airline operations between countries continue to be governed by specific bilateral agreements between the countries. The access of U.S. airlines to routes between the United States and other countries requires the approval of the respective countries for landing rights at specified airports and frequency of flights.

The International Air Transport Association

1.27 The International Air Transport Association (IATA), a voluntary organization of international airlines, was established in 1946 to negotiate international airfares, cargo rates, conditions of service, and ancillary matters. The Federal Aviation Act required U.S. airlines participating in such an organization to obtain approval from the CAB. In 1946, the CAB granted U.S. airlines immunity from antitrust laws, permitting them to participate in IATA conferences for the purpose of establishing fares and rates. Agreements reached by the airlines at those meetings are subject to the approval of the respective governments.

1.28 In anticipation of deregulation in the United States, IATA established two types of airline participation. One deals with facilitation matters and is mandatory for all members; the other sets fares and rates for air transportation. Participation in the latter is optional, but a member choosing to participate in fare and rate conferences must do so for all areas served.

Open Skies or Route Authorities

1.29 The availability of international routes to U.S. airlines is regulated by treaties and related agreements between the United States and foreign governments. The United States typically follows the practice of encouraging foreign governments to accept multiple airline designation on foreign routes, although certain countries have sought to limit the number of airlines allowed to fly these routes to protect their national "flag" airlines. Certain foreign governments impose limitations on the ability of airlines to serve a particular city or airport within their country from the United States. For a U.S. airline to fly to any such international destination, it must first obtain approval from both the United States and the foreign country where the destination is located, which is referred to as a *foreign route authority*. Studies have shown that international routes for which there is a limit to the number of airlines or frequency of flights (such as Heathrow Airport in London) have more value than those without restrictions. Route authorities to some international destinations can be sold between airlines, and their value can vary because of limits on accessibility. To the extent foreign countries adopt "open skies" policies (meaning all airlines have access to the destination), liberalizing or eliminating restrictions on international routes would increase competition and potentially decrease the value of a route authority, subject to airport availability. Please refer to chapter 6, "Other Accounting Considerations," for further discussion of international route authorities and related accounting considerations.

Air Transport Association of America

1.30 Founded in 1936, the Air Transport Association of America (ATA) is a trade and service organization representing member U.S. scheduled airlines. The joint interests of the airlines as an industry are expressed through a system of councils and related committees on which airline and ATA representatives work together.

1.31 Because travel agent sales, including Internet travel agencies, constitute a significant portion of the airline business, the ATA designed the Area Settlement Plan (ASP), which is operated by the Airlines Reporting Corporation. The plan enables each travel agent to submit one sales report to an area processing center that then distributes the agent's sales and receivables

transactions to the respective airlines. Because the dollar volumes involved and competitive needs for sales information are substantial, the ASP program requires continuous monitoring and updating. The ATA provides this service to the airlines and travel agents. A number of low-cost carriers have discontinued using travel agencies in lieu of direct Internet sales, which contributes another factor to their lower cost structure.

1.32 Other plans, called bank settlement plans (BSPs), have been established and are now available in most countries around the world except for certain lesser-developed countries. The BSPs, although not identical to the ASP, contain many of the same features.

Regional Airline Association

1.33 The Regional Airline Association, formerly the Commuter Airline Association, is the national association of member airlines engaged in scheduled air transportation of passengers and cargo in local, feeder, and short-haul markets throughout the United States and its territories. In addition, the association's finance and accounting committee has developed a uniform system of accounts for regional airline use.

Characteristics of the Industry

Operating Environment

Economy

1.34 Airline profitability is highly sensitive to economic factors, including the ability to attract and retain business and leisure passengers; the effects of any hostilities, acts of war, or terrorist attacks; disease and epidemics; the cost and availability of aircraft insurance; volatility in the cost of aviation fuel; competitive pressures on pricing; and government regulation.

Competition

1.35 The airline industry is highly competitive. Airline profits are sensitive to adverse changes in fuel costs, average fare levels, and passenger demand. Since deregulation, passenger demand and fare levels have been influenced by, among other things, the general state of the economy, international events, industry capacity, and pricing actions taken by other airlines. The principal competitive factors in the airline industry are fare pricing, customer service, routes served, flight schedules, types of aircraft, safety record and reputation, code-sharing relationships, in-flight entertainment systems, and frequent flyer programs.

1.36 International marketing alliances formed by domestic and foreign airlines have increased competition significantly in international markets. Through marketing and code-sharing arrangements with U.S. airlines, foreign airlines have obtained access to domestic U.S. routes. Similarly, U.S. airlines have increased their ability to sell international transportation such as transatlantic services to and beyond European cities.

Seasonality

1.37 In general, demand for passenger air travel in the United States is higher in the June and September quarters because there is more vacation

travel during those periods than during the remainder of the year. Demand for air travel is also affected by factors such as economic conditions, war or the threat of war, fare levels, and weather conditions. In addition, demand for air travel at particular airlines may be affected from time to time by, among other things, actual or threatened disruptions to operations due to labor issues.

Airline Classifications

1.38 The DOT classifies U.S. airlines primarily by operating revenue and aircraft size using the following definitions, which are used by the DOT for statistical reporting purposes:

- *Major airline.* A major airline is one that generates more than \$1 billion in annual operating revenue. Major airlines often have international operations. Major airlines are also categorized as traditional carriers or low-cost carriers. Many of the low-cost carriers that have grown from the 1970s to the 2000s serve primarily domestic markets.
- *National airline.* A national airline is one that generates between \$100 million and \$1 billion in annual operating revenue. National airlines operate primarily in the United States.
- *Regional airline.* A regional airline is one that generates less than \$100 million in annual operating revenue. Regional airlines are characterized by having a predominantly regional aircraft fleet (fewer than 100 seats per plane) and typically fly within clear geographic boundaries, providing feed and supplementary service to major airlines. The regional airline typically provides such supplementary service to one or two major airlines under a capacity purchase agreement.
- *Air cargo carrier.* Air cargo carriers specialize in the transportation of mail, parcels, and freight.

1.39 The DOT specifies these definitions. Industry participants, however, frequently refer to the airlines based on the following criteria (the operating models referred to in this section are defined in paragraphs 1.40–.42):

- *Network or major carrier* generally refers to legacy carriers that existed before airline deregulation and have traditionally operated under a hub-and-spoke system.
- *Low-cost carrier* generally refers to carriers established after deregulation that focus on point-to-point operations and generally have only one class of service.
- *Regional carrier* refers to carriers that generally provide either contract flying or connecting service for a network carrier.

Operating Models

1.40 Airlines typically operate using the hub-and-spoke model or the point-to-point model, but some airlines use a combination of both models.

1.41 The hub-and-spoke system concentrates most of an airline's operations in a limited number of hub cities, serving most other destinations in the system by providing one-stop or connecting service through the hub between destinations on the spokes. Such an arrangement permits travelers to fly from a point of origin to more destinations without switching airlines. Hub airports

permit airlines to transport passengers between large numbers of destinations with substantially more frequent service than if each route were served directly.

1.42 The point-to-point model spreads the airline's resources over a number of cities and focuses on providing high frequency, point-to-point service (flying from one city to another without stopping in a connecting city). This typically results in higher aircraft utilization and allows fixed costs to be spread over more hours of flying.

Other

1.43 Many airlines offer charter service to the public. In addition, many airlines participate in the Civil Reserve Air Fleet (CRAF) program. In time of war or during an unlimited national emergency or civil defense emergency, airlines can be required to provide airlift services to the Air Mobility Command under the CRAF program. Both mandatory and voluntary missions are a part of this program.

1.44 Many major airlines offer both domestic and international cargo, freight, and mail shipping services.

Fuel

1.45 Fuel costs constitute a significant portion of operating expenses for all airlines. The effect of fuel price changes on an individual airline depends upon various factors, including the airline's hedging strategy.

1.46 In the event there is an outbreak of hostilities or other conflicts in oil-producing areas of the world, there could be reductions in the production or importation of crude oil or significant increases in the cost of fuel. If there were major reductions in the availability of jet fuel or significant increases in its cost, the entire airline industry would be adversely affected.

1.47 Since the mid-2000s, the fuel prices have been historically high and extremely volatile. Given the significance of fuel costs to airline operations and the volatility of fuel prices, airlines typically engage in hedging programs to mitigate price risk. However, after September 11, 2001, the low-cost carriers typically have been the primary carriers able to initiate substantial hedging programs due to the significant decline in the creditworthiness of the traditional carriers. Please refer to chapter 6 for further discussion of fuel hedging.

Taxes and Fees

1.48 The U.S. airline industry is one of the most heavily taxed of all industries. Taxes and fees represent approximately 25 percent of the price of an average airline ticket, including customs and excise tax, foreign departure taxes, fuel taxes, security fees, and airport passenger facility charges. These taxes and fees have increased significantly in the past decade, most recently with the introduction of a security fee imposed on each passenger flight segment, which is being collected by the airlines and submitted to the government to pay for enhanced security measures after September 11, 2001. Security fees have been assessed by the government based on the airline's historical passenger screening costs but may also be assessed based on the airline's market share or on some other basis as determined by the government. A myriad of international taxes exist that are as varied as the countries assessing them, such as stamp taxes, departure taxes, and value-added taxes. Many of these

taxes are collected at the time of sale but remitted at departure based on the number of passengers boarded. Please refer to chapter 3 for further discussion of taxes and fees and related accounting considerations.

Insurance

1.49 Airlines carry insurance to cover public liability, passenger liability, property damage, war risk, and all-risk damage to their aircraft. As a result of the events on September 11, 2001, aviation insurers have significantly reduced the amount of insurance coverage available to commercial airlines for liability to persons other than employees or passengers for claims resulting from acts of terrorism, war, or similar events (war-risk coverage). At the same time, they significantly increased the premiums for such coverage as well as for aviation insurance in general. Accordingly, such coverage is periodically supplemented by the U.S. government. Please refer to the "Insurance" section in this chapter for an in-depth discussion of airline insurance programs.

Maintenance

1.50 Maintenance costs represent a significant portion of the combined operating expenses of airlines. To make maintenance more efficient, some airlines have entered into pooling agreements. Pools of materials and parts are maintained separately by the individual airlines and made available to other airlines as required. Benefits result from reduced inventory requirements.

1.51 In recent years, in an effort to reduce maintenance costs, many airlines have resorted to having maintenance performed by independent maintenance providers. As a result, a number of new developments have occurred in the maintenance and engineering arena. Those developments include (a) power-by-the-hour contracts with independent maintenance and repair entities, wherein the airline pays the service provider a fixed amount per flight hour in exchange for maintenance and repairs, or other agreements with payments based on actual time and materials costs and (b) maintenance joint ventures between an airline and an independent maintenance and repair entity to perform maintenance and repairs primarily on the airline's airframes and engines and perhaps those of other airlines as well. In addition, many lease agreements now include various provisions for maintenance. Please refer to maintenance accounting considerations discussed in chapter 4, "Acquiring and Maintaining Property and Equipment."

Unionization

1.52 Labor relations are a significant factor in the airline industry. The existence of several unions per airline means that contract negotiations may be in progress constantly. Airline industry employee unions are governed by the Railway Labor Act of 1926, which permits Congress to intervene in the negotiation or settlement of strikes that create a national emergency by threatening to cripple the transportation industry. The Railway Labor Act and the associated accounting considerations are discussed further in chapter 5, "Employee-Related Costs."

1.53 Labor unionization makes restructuring efforts by traditional carriers difficult given the work rules established in contracts, the seniority pay systems, and the substantial retirement benefits.

Marketing Strategy

Distribution Channels

1.54 Most airlines sell tickets through Global Distribution Systems (GDSs), including Amadeus, Galileo, Sabre, SystemOne, and WorldSpan. These systems provide flight schedules and pricing information and allow travel agents to process a flight reservation electronically without contacting an airline's reservations facility. Travel agents' reliance on GDSs has, from time to time, significantly increased the cost of making reservations, which is borne primarily by airlines that subscribe to the GDS. Airlines historically also paid commissions to travel agencies, but, with the growth of Internet travel websites, most domestic commissions have been eliminated. Many travel agencies now assess a separate fee on customers.

1.55 Most airlines also have a direct reservation option, either through call centers or their website. To attract customers to their websites, the airlines provide discounts to customers who book reservations on their websites.

1.56 There has also been a significant increase in Internet travel websites, including Priceline®, Orbitz®, Expedia®, and Hotwire®. The advent of these websites has not only resulted in significant distribution cost savings for airlines but has also had a negative effect on airline revenue. Having access to "perfect pricing information," air travel consumers have become more efficient at finding lower fare alternatives than in the past. The increased price consciousness of travelers, as well as the growth in distribution channels, has further motivated airlines to price aggressively to gain fare advantages through certain channels. Airlines' distribution channels are further discussed in the "Sales Reporting" section of chapter 3.

Airline Alliances

1.57 Several types of arrangements allow two or more airlines to coordinate services to their customers. A code-sharing arrangement enables a ticketing airline to issue tickets on the operating airline and to use that operating airline's two-letter code when doing so in computer reservation systems. Such alliances also usually tie in each airline's marketing and frequent flyer programs and provide for schedule coordination for convenient connections between airlines. Please refer to chapter 3 for further discussion of airline alliances and related accounting considerations.

1.58 In addition, major airlines have agreements with regional airlines that permit the major airlines to expand their overall network and maximize their existing route structure by providing a greater number of travel options to customers. Under traditional revenue sharing agreements, regional airlines generally received a prorated portion of the passenger ticket revenue plus an incentive to connect the passengers to the longer segment, flown by the major airline. However, with the advent of regional jets, a number of the arrangements with the regional airlines were changed to capacity purchase agreements. Under these arrangements, the major airline purchases the entire capacity of the aircraft at a specified cost. The major airline generally pays the regional airline a rate based on certain flying statistics, such as block hour, with additional incentives and penalties based on such factors as completion of flights, on-time performance, and satisfactory baggage handling. The major airline is responsible for scheduling the regional airline's flights, determining pricing, and selling the tickets. The major airline retains the revenue pricing

risk and bears the risk of changes in the price of fuel, which, in turn, shelters the regional to some degree from many of the elements that cause volatility in airline earnings. Major airlines use capacity purchase agreements because these agreements allow them to expand their operations at lower fixed costs, thereby enabling them to serve strategic routes that otherwise might be uneconomical. Major airline alliances with regional carriers are further discussed in chapter 3 (from the major airline's perspective) and chapter 9 (from the regional airline's perspective).

Frequent Flyer Programs

1.59 Frequent flyer programs, which began in the 1980s to encourage travel and promote customer loyalty to a respective airline, have resulted in significant revenue from other entities that pay for access to airline customer lists and trade names and who provide frequent flyer miles to their customers in exchange for various purchases. Those entities include cooperative partners, which are primarily credit card companies, hotels, and other travel service providers. Additionally, through the code-share arrangements previously discussed, airlines have entered into frequent flyer arrangements with certain code-share partners and issue miles for travel on each other's airlines. Please refer to chapter 3 for further discussion of frequent flyer programs and related accounting considerations.

Airline Investments

Aircraft Fleet

1.60 The airline industry is characterized by substantial aircraft investment. Because of traffic projections and lengthy production schedules, most airlines acquire aircraft fleets over a number of years. The large manufacturers typically require progress payments (purchase deposits) during the manufacturing period, with balloon payments upon delivery. New fleet acquisitions also require a significant capital outlay for spare parts to support the aircraft. The rapid development of technological advances and substantial plant and equipment investment needs have created large capital requirements, which cannot be met by internal funding alone. Cyclical earnings also hamper the ability of some airlines to raise money through equity and unsecured debt issues. This has increased reliance on secured debt, leasing, and other similar forms of financing. The large financing requirements that are characteristic of the industry make ownership costs (depreciation, interest, and rent expense) a major component of an airline's fixed costs.

1.61 The number of aircraft types in a fleet can affect many aspects of an airline's operating expenses. A simplified fleet can help an airline save on maintenance and training costs because mechanics and flight crews need to be knowledgeable on fewer aircraft types. In addition, spare parts inventory requirements are reduced because the airline needs to hold parts for fewer aircraft types.

1.62 The age of the aircraft is also important because a younger fleet tends to be more fuel efficient and requires less maintenance than an older model aircraft. Please refer to chapter 4 for further discussion of airline fleet and related accounting considerations.

Airport Facilities

1.63 Local governments play a major role in air transportation by financing, owning, and operating terminal facilities necessary for air travel. Generally, the cost of terminal facilities and their maintenance are reimbursed by the airlines through landing fees, charges for terminal facility rentals, and passenger facility charges (PFCs). Please refer to chapter 10, "Special Reports and Example Reporting," for further discussion of PFCs and related reporting requirements.

1.64 In some cases, airlines initially fund construction and modifications and are later reimbursed from proceeds of bond issues, rental credits, or both. Municipalities, through airport authorities, often finance the acquisition and construction of various facilities and equipment by issuing special facility revenue bonds. An airline will often guarantee these bonds and enter into a special facility lease agreement as the lessee to use the facilities and equipment constructed with the proceeds of the bonds. Please refer to chapter 6 for further discussion of airport financings and related accounting considerations.

1.65 Ground handling services typically can be categorized as follows: public contact, under-wing ground handling, and complete ground handling. Public contact services involve meeting, greeting, and serving customers at the check-in counter, gate, and baggage claim area. Under-wing ground handling services include marshaling the aircraft into and out of the gate, baggage and mail loading and unloading, lavatory and water servicing, de-icing, and certain other services. Complete ground handling consists of public contact and under-wing services combined.

Fuel Facilities

1.66 Airlines usually participate in numerous fuel consortiums with other carriers at major airports to reduce the costs of fuel distribution and storage. Agreements govern the rights and responsibilities of the consortium members and provide for the allocation of the overall costs to operate the consortium based on usage. The consortiums (and in limited cases, the participating airlines) have entered into long-term agreements to lease certain airport fuel storage and distribution facilities that are typically financed through tax-exempt bonds (either special facilities lease revenue bonds or general airport revenue bonds) issued by various local municipalities. Please refer to chapter 6 for further discussion of fuel facilities and related accounting considerations.

Routes, Slots, and Gates

1.67 Certain very high density airports have a fixed number of takeoff and landing times (slots) available, as designated by the U.S. government to avoid excessive congestion. The rights to these slots may be sold or traded by the airline that owns the rights to the slots. These transactions generally include the sale of a gate or access to gates. Slots and gates, particularly those in high demand, have value and represent intangible assets.

1.68 Intangible assets also typically include international route authorities. Traditionally, foreign countries limited access to routes from the United States to protect their national airlines from too much competition. International route authorities and access to the airports by U.S. carriers are governed by bilateral aviation agreements that can limit the number of airlines that may provide service to certain airports and can restrict service by aircraft types,

frequency, or destination. Please refer to chapter 6 for further discussion of routes, slots, and gates and related accounting considerations.

Insurance

1.69 Insurance programs for airlines normally include aviation, hull, and terrorism insurance; building and contents; executive protection programs; fiduciary liability; home, kidnap, and ransom insurance; directors' and officers' liability; group and workmen's compensation insurance; and other typical insurance programs. Although most of these programs are comparable to the insurance programs of other industries, there are several unique insurance programs directly related to the airline industry, including aviation, hull, and terrorism insurance, that are discussed in the following sections.

Aviation Insurance

1.70 Aviation insurance for passenger liability relates to the coverage of risks associated with providing air transportation services to passengers and residual risks to people and property on the ground. This includes catastrophic accidents as well as routine passenger-related claims. Environmental coverage within aviation is typically extremely limited.

1.71 Aviation insurance, in general, is provided by a front, or lead insurer, that provides claim handling services and administrative support. In some cases, lead insurers are paid a fee for services rendered in addition to their syndicated share of insurance premiums. Additional insurers subscribe to this lead policy to complete the overall offering of insurance to spread the catastrophic risk of accidents over a larger capital base, much like banks syndicate significant loans to limit default exposure. A major airline may have 10 to 20 insurers subscribing to a lead policy, providing varying levels (1 percent to 20 percent) of financial capacity in support of the overall insurance limit. The limit of insurance offered collectively by the syndicate ranges from \$500 million per accident or incident for smaller regional airlines to well in excess of \$1 billion for major U.S. airlines. All airline aviation insurance is purchased through insurance brokers, which are typically compensated either on a commission basis on premiums paid or on a fee basis directly from the airline.

1.72 Premiums are normally determined on the basis of a rate per passenger mile or departure flown. The insurance rate charged is normally fixed, whereas the exposure basis, such as passenger miles flown, departures, cargo ton miles, passenger enplanements, or other measure of flying activity, is variable. Aviation insurance premiums are typically established as a deposit premium at the beginning of the policy year based on management's projections of flying activity and are adjusted at policy year end based on the actual flying activity, with a resulting refund or additional premium due.

Hull Insurance

1.73 Hull insurance covers damage to flight equipment, spare parts, and aircraft in the airline's care, custody, and control (including when the airline provides maintenance for fee to other airlines) while in the air or on the ground. Hull insurance rates are normally based on dollar value of insured equipment. The insured value of equipment may be determined in several ways: net book value, replacement cost, estimated fair value, or as contractually defined in operating or financing leases (in the event of total loss). The rate applicable

to insured value of equipment is normally fixed; however, premiums are also adjusted at year end based on actual values insured during the course of the year to reflect deliveries of new aircraft, sales, or material adjustment in asset valuation (such as what occurred following the events of September 11, 2001, in terms of significant reduction of aircraft values industry wide). Typically, there is a reduced premium rate for "grounded" or excess aircraft not in use.

Terrorism Insurance

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Terrorism insurance for airline hull and liability (also referred to as war risk insurance) was a relatively inexpensive coverage prior to September 11, 2001. For major U.S. airlines, the total cost of war risk for hull and liability was 2 to 4 cents per passenger, or perhaps \$30 to \$50 million for the U.S. airline industry in total. It was sold as a stand-alone insurance program for hull war risk, and on the liability side, as an endorsement to an airline "all risk" policy. Both coverages contained a 7 day notice of cancellation, typically used to re-price the coverage, or restrict coverage for certain geographic hot spots.

The week after the terrorist attacks of September 11, 2001, aviation insurers worldwide issued notice of cancellation to all commercial airlines. Insurers offered reinstatement terms, but at dramatically higher prices (i.e., \$1.25 per passenger, or approximately \$750 million premium annualized for all U.S. airlines), plus reduction of limits to a standard \$50 million as respects damage to people and property on the ground to reduce future exposures to mass ground casualties. Due to the contractual obligations of the airlines, as well as insurance limit requirements imposed for flying into certain countries, the insurance limits offered by the market were not sufficient for airlines to fly, in effect grounding airlines worldwide.

Various countries responded to this crisis in different ways. In some countries, the government provided indemnification for non-passenger losses. In others, particularly smaller countries whose indemnification would not be considered sufficient financial security, the government forced the airlines to purchase what limited excess insurance was offered, adding yet another extreme cost to the airline. Other countries, including the United States, enacted legislation to provide insurance to close the gap, charging a premium for this coverage. The Airline Stabilization Act of (September) 2001 authorized the Federal Aviation Administration (FAA) to provide excess insurance above the \$50 million commercially provided limit, which allowed U.S. airlines to continue to operate. The Act also capped third party liability claims brought in the U.S. to \$100 million for a terrorist event.

For U.S. air carriers, this system stayed in place until December of 2002, when the Homeland Security Act authorized the FAA to broaden its coverage beyond third party liability to provide hull, passenger and

third party war risk insurance for the airlines for a defined premium, along with reauthorizing the \$100 million cap.

1.75 The Homeland Security Act of 2002 required the FAA to provide war risk hull loss and passenger, crew, and third-party liability insurance through August 31, 2003. Coverage under this Act has subsequently been extended several times. Although the price of commercial insurance has declined since the premium increases immediately after the events of September 11, 2001, if the U.S. government does not continue to extend its insurance policy it will have a significant effect on the airlines.

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