Air Transportation Management,  
M.Sc. Programme  
Air Law, Regulation and  
Compliance Management

Course material:  
Introduction to Contemporary Issues in Aviation  
Module 1

Excerpt from:  
CHAPTER 1

INTRODUCTION TO THE AIRLINE INDUSTRY

Science, freedom, beauty, adventure: What more could you ask of life? Aviation combined all the elements I loved.¹

Charles A. Lindbergh, Jr.
Aviator

INTRODUCTION

The airline industry is a house divided, with passengers on the one side and air cargo on the other. Most airlines are first and foremost passenger carriers, but cargo is a secondary market where airlines can earn incidental revenue from freight, mail and express (or small packages). Irrespective, there are airlines that carry cargo exclusively. Although the focus of the industry is on the passenger side of the house, as Des Vertannes of the International Air Transport Association (IATA) says, "...we in the industry need to boost cargo's profile."² The economic impact of carrying cargo by air cannot be overstated. Measured by value, aviation transports 40% of all commodities.³

This book is about airline management in general, but the emphasis remains on the passenger side of the house. Unquestionably, the air freight business has its challenges, but far more challenging is the

passenger component. Among the primary reasons these two businesses differ in difficulty is that cargo must be moved to market; passengers are self-handling. And although cargo must be handled, the airlines have significant control over its movement. Conversely, passengers move themselves, thereby leaving airline management with less control over their movement. Air freight is relatively homogeneous, while much of the passenger side (the leisure market) is varied and characterized by highly fickle demand. Another difference is that cargo is generally oblivious to circuitry or inconvenience so long as it arrives when scheduled, whereas passengers are more sensitive to the quality of the product offered and the provision of direct service.

The airline industry is a tough, tough business. Profit margins are thin, fixed costs are high, variable costs are volatile, capital expenditures are large, government regulation has been unstable, and taxation is unmerciful. Demand can be chilled by an outbreak of disease, recession, war or terrorism. Costs can be magnified by fuel spikes, labor strikes or inclement weather. Yet, the airline industry is also a glamorous business. Its technology is breathtaking! The defiance of gravity, the allure of exotic destinations or primordial geographic domination has drawn investment and managerial talent into the industry at a level surpassing what dispassionate financial analysis seemingly would warrant.

With historically higher cost structures and operational complexity, a number of established network “legacy” airlines concluded that their business models were broken as Low Cost Carriers [LCCs] had eroded their market shares. Yet, low-fare airlines are recasting their initial model as well, seeking to broaden their presence in higher yield markets. Internet distribution has empowered consumers with transparent and instantaneous fares. As service levels have deteriorated, price has become the product differentiator in an increasingly commoditized business, where the one who has the lowest cost will survive longest. Alternatively, one who can make cake from wheat will de-commoditize his product, and earn a revenue premium for the innovation. Those that have not learned to adapt to a rapidly changing marketplace (including such institutions as Pan Am, TWA, Eastern, Sabena and Swissair) have had their bones bleached in the mastodons’ graveyard of the behemoths that once ruled heaven and earth.

This chapter introduces three subjects that will be explored in greater detail throughout the book:

- The importance of the airline industry to the financial, economic, social and cultural development and growth of national, regional and global economies;
- Internal and external factors influencing airline operations and profitability; and
- The identity, and brief history, of the world’s major airlines, the global alliances, and the LCCs.

The ensuing chapters describe the essential components of both the airline industry, and the airline business.

THE IMPORTANCE OF AIR TRANSPORT

There was a time when a person’s entire universe was within about a 15 mile radius from home, clan, or tribe. Each generation of technology has expanded that radius, from footpaths to the horse and wagon, to the railroad, the automobile, the airplane, the jet, and now spacecraft. Today, the universe is global. By shrinking the planet, aviation is a principal means of intermingling and integrating disparate economies and cultures, stimulating social and cultural cross-fertilization, economic growth and diversity in an increasingly interdependent global environment. Trade and tourism are heavily reliant on this most modern means of transportation. Whole economic sectors (e.g., hotels, automobile rental firms, convention business, and tourist destinations) depend on safe, secure, dependable, efficient and reasonably priced commercial air transportation. Just-in-Time [JIT] inventory has moved to a global scale with the expeditious movement of cargo by air. The economic ripple effect throughout industrial and commercial sectors and geographic regions is endless.

Air transportation facilitates the efficiency of business and government transactions, enabling a larger variety of relationships which, under the law of comparative advantage, stimulate broader economic growth. “Transportation is a fundamental component of economic growth. It is the infrastructure foundation upon which the rest of the

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economy is built.” As President John F. Kennedy observed, “A rising tide lifts all boats.” “Transportation has had a profound effect upon the collective economic growth and intellectual development of man.” Aviation is among the most profound of man’s technological accomplishments. Like no other invention, it collapses the time-space continuum. Aviation shrinks the planet, intermingling the world’s cultures and economies. It is an integral part of the infrastructure essential to commerce, and national defense. Aviation is mobility for the human race, facilitating travel and tourism, arguably the world’s largest single industry. As Thomas Petzinger put it, “Like bees, airlines pollinate the world’s financial system with capital. They create, mobilize, and transport wealth in proportions vastly exceeding the fares paid by the passengers.”

As a fundamental component of the infrastructure upon which economic growth is built—the veins and arteries of commerce, communications, and national defense—a healthy transportation system offering reasonable prices and ubiquitous service to the public is vitally important to the health of the nation it serves. No nation can participate in the global economy without safe and dependable airline service. For that reason, throughout history, governments the world over have promoted and encouraged its development by providing infrastructure, research and development, protective regulation, subsidies, and outright ownership of airlines. Yet by the closing decades of the 20th century, governmental paternalism was subsiding, giving way to deregulation, liberalization and market Darwinism. This has created new challenges and opportunities for airline management.

THE SIZE AND SCOPE OF AIR TRANSPORTATION

At the dawn of the 21st century, more than 1,000 scheduled airlines operate more than 15,000 aircraft. The commercial airline industry carries more than 2 billion passengers and 40 plus million tons of cargo annually. In the U.S. alone, some two million passengers fly every day, while 50,000 tons of cargo and more than a million pieces of luggage move on board 25,000 flights. Worldwide, civil aviation accounts for employment of more than 30 million people. Globally, the airline industry accounts for $1.2 trillion in economic activity, direct, indirect or induced. If the industry were a nation, it would rank seventh in the world in economic production, just ahead of Canada. In the United States alone, commercial aviation employs more than half a million employees directly, and contributes more than $730 billion to the U.S. Gross Domestic Product (GDP).

Air transportation is an integral part of tourism and travel, arguably the world’s largest single industry, which accounts for about 5.5% of the world’s GDP. The tour and travel industry employs “...one out of every 15 workers. It accounts for 12.9% of consumer spending and provides 7.2% of worldwide capital investment...” In the U.S., tourism-intensive industries accounted for 9.8% of all jobs in 1995, up from 6.9% two decades earlier; tourism-intensive industries’ share of GDP grew from 4.1% in 1975 to 5.8% in 1995. A weak dollar improved the attractiveness of the United States as a vacation destination. In 1995, foreign visitors poured $80 billion into the U.S. economy, more than twice what they spent in 1986. By 2003, the amount foreign visitors spent traveling to and in the United States remained at $80.2 billion, compared to $77.6 billion spent by Americans traveling abroad, a net travel trade surplus of $2.6 billion. But in the post-9/11 environment, visa issuance to foreigners visiting the United States has been constricted, thereby depressing tourism.

Since the first commercial flights of the 1920s, growth in air transport has been nothing short of spectacular! In 1945, nine million people traveled on scheduled airlines; by the mid-1990s, more than

17 Id.
18 Julius Maldonis, Industry Investment Requirements—Looking Beyond 2000, address before the 7th IATA High-Level Aviation Symposium, Cairo, Egypt (Sept 6-7, 1993).
1.25 billion people flew annually, representing about 25% of the world’s population. Early in the 21st century, nearly 2 billion passengers—equivalent to a third of the world’s population—flew annually.

In 1938, the year Congress regulated the airline industry, U.S. carriers transported 1.5 million passengers. Within a decade, passenger demand had grown 867% (to 14.5 million passengers). The second decade of economic regulation (1948-1958) saw passenger traffic increase 238% (to 49 million passengers). Between 1958 and 1968, traffic grew 206% (to 150 million passengers). In the last decade of regulation, traffic grew 83% (to 275 million passengers). Congress deregulated the U.S. airline industry in 1978, and in the first decade of deregulation (1978-1988) traffic grew by only 65% (to 455 million passengers). In the second decade following deregulation (1988-1998) traffic grew just 14% to 613 million passengers but continued to climb until the terrorist attacks of September 11, 2001, following which airline traffic dropped precipitously. There were 671 million enplanements in the United States in 2002 (see Figure 1.1, “Passengers Carried by U.S. Airlines”).

Figure 1.1—PASSENGERS CARRIED BY U.S. AIRLINES

[Graph showing passenger traffic increase over years]

Source: Air Transport Association.

Subsequently, traffic returned, and by 2007, U.S. airlines carried a peak of nearly 836 million passengers. But unfortunately, there came the global economic downturn of the so-called Great Recession, which took nearly 67 million passengers out of system over the ensuing two years. In 2008, U.S. enplanements dropped to just over 809 million, and in 2009 there were but 767 million. By 2010, there was an upturn in traffic and by year’s end traffic was back up to nearly 783 million enplaning U.S. passengers.

Another (perhaps better) measure of traffic growth is Revenue Passenger Kilometers [RPKs] or in the U.S., Revenue Passenger Miles [RPMs], which are the number of fare paying passengers multiplied by the kilometers/miles they traveled. In 1948, U.S. airlines flew nearly 6 million domestic RPMs. Within a decade, that number had increased 423% (to 25.4 million RPMs). By 1968, traffic grew 344% (to 87.5 million RPMs). During the last decade of economic regulation (1968-1978), RPMs grew 190% (to 182.7 million RPMs). In the first decade of deregulation (1978-1988), traffic growth increased only 180% (to 329.3 million RPMs). By 1994, U.S. airlines flew 378.8 million domestic RPMs, and by 2003, they were flying nearly half a billion RPMs. By 2007, U.S. RPMs peaked at nearly 1.09 billion. Following the economic slump of 2008-2009, in 2010, U.S. airlines were back up to 1.05 billion revenue passenger miles.

It might be noted that the increase in air traffic had nothing to do with deregulatory policy. Both of these measures (decade-by-decade growth rates in passengers enplaned and domestic RPMs) belie the wide-spread allegation that deregulation stimulated significant growth in the number of passengers flown. Much of the growth touted as the result of deregulation seemingly would have occurred irrespective of deregulatory policy. Note that Federal Aviation Administration [FAA] forecasts for 1977 to 1988 and 1979 to 1990—both published before deregulation—predicted the growth that became reality. Moreover, under deregulation, more passengers are connected through hubs, resulting in double-counting of enplanements, and increased flight circuitry with artificially larger RPMs and RPKs.

21 See Bureau of Transportation Statistics, Passengers, [Website] (visited Apr. 5, 2011). See also Dan Reed, Airline Passengers, Revenue Slid Sharply in 2009, USA Today (Mar. 30, 2010).
22 Air Transport Association. Data for years preceding 1945 not reported.
23 Air Transport Association.
On the occasion of its 50th birthday (in 1994), the International Civil Aviation Organization (ICAO) reported that over the previous half century, 25 billion passengers had flown aboard commercial aircraft, the equivalent of nearly five times the world's then current population; 350 million tons of freight had been carried by air, the equivalent of one million fully laden Boeing 747s. The world's airlines had flown 36 trillion passenger kilometers during that past half century, the equivalent of about 120,000 round-trips to the Sun. In the 15 years subsequent to that report in 1994, the world's airlines flew an additional 29 million passengers and 457 million tons of cargo. Many analysts project commercial air transportation will double over the next 10-15 years, growing faster in underdeveloped nations than developed nations. The history of air freight follows a pattern similar to that of passenger traffic. Look, for example, at the 24-year period between 1970 and 1994. Air cargo in the U.S. enjoyed robust growth, from 2.2 million domestic tons carried in 1970 to 5.9 million by 1994, or more than two and a half times (see Figure 1.2—Cargo Ton Miles Flown). International cargo grew six-fold during this same (1970-1994) period from 1.3 million tons to 7.8 million in 1994.

![Figure 1.2—CARGO TON MILES FLOWN](image)

Source: Air Transport Association.

The same year (1994), the world’s airlines carried a total of just over 6 million tons of cargo. The tonnage increased every subsequent year until the economic slowdown in 2008-2009. In 2007, tonnage peaked at 41.8 million then receded to 40.5 million tons in 2008. The decline continued with a 13% drop in 2009, but a turnaround came in 2010 when tonnage carried increased by roughly 18% or an estimated 42 million tons worldwide. However, as of this writing in 2011, cargo growth turned listless, load factors went down, and there was concern about “yield-damaging overcapacity.”

**INTERNAL AND EXTERNAL FACTORS INFLUENCING MANAGEMENT**

In order to develop strategic vision for an airline, management must assess the internal and external factors which determine the potential opportunities to be seized and the problems or difficulties to be avoided or arrested. Among external factors are cyclical demand, terrorist events, fuel price fluctuations, and government regulatory and tax policies. Among internal factors affecting the well-being of an existing airline, new management will have inherited a fleet of equipment, an experienced core of operational and clerical staff and management with a unique set of skills, corporate culture and labor agreements, a route structure, airport leases, maintenance facilities, market identity, consumer affinity, and a mix of debt and equity. That, over which management has some measure of influence, is often thwarted by those forces beyond the control of management.

Sometimes companies reflect the intellectual and psychological strengths and weaknesses of their leaders (their depth of knowledge or analytical ability, their self-confidence or insecurity, as well as their temperament, benign or predatory, and ability to handle stress), or the dehumanized impersonal atmosphere of large bureaucracies.

Rakesh Gangwal, then senior vice president of United Airlines, observed, “You have to play the cards you are dealt.” The first task of

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26 ICAO, Civil Aviation Org., Information Kit for ICAO’s 50th Anniversary (1994). Ninety-three million miles separates the Earth from the Sun.
28 Air Transport Association. Data prior to 1970 not reported.
management is to carefully assess the cards in its hand, and determine which are worth keeping, and which should be discarded; i.e., what are the airline’s most significant strengths and weaknesses? How can it build on its strengths, and overcome its weaknesses? Can it improve its hand? Tactical and strategic planning can be important tools in helping it achieve desired objectives.

Management in a new airline faces a somewhat different set of problems and opportunities in picking up a fresh hand of cards, including a few of its own choosing. Its financial strength and liquidity will significantly influence management’s ability to control its own destiny. A well capitalized start-up will be less prone to the predatory practices of its established competitors, for its threshold for pain will be higher than that of an undercapitalized new entrant. To build an airline from scratch requires putting into place the financing, aircraft, maintenance, routes, schedule, gates, marketing, advertising, ticketing, catering, baggage handling, managerial and operational staff and their training, and satisfying legal and regulatory hurdles necessary to begin service. Its managers must develop a marketing plan and strategic vision to identify a market niche likely to satisfy consumer needs and generate sufficient revenue to cover costs and produce a profit. Management must be sufficiently flexible to shift course should unanticipated problems arise—for inevitably they will.

Management (in new or existing airlines) must make a careful assessment of external factors likely to contribute to the firm’s health:

- Management must size up its competitors and its markets, as well as their strengths and weaknesses;
- The market cycle (inflation or recession) can profoundly influence demand and revenue for air transportation services;
- Fluctuations in fuel prices can have profound impacts on costs and revenue, and are largely beyond control of management;
- Terrorist events, aircraft crashes, communicable disease outbreaks, and war can dampen travel demand generally, or for particular airlines;
- The legal, regulatory and political regime—safety, antitrust, tax, labor, environmental, and international policies, for example—may influence an airline’s destiny;
- Management must also come to grips with the broader economic characteristics of air travel, including such concepts as derived demand, cyclical demand, price elasticity of demand, and the "S" curve relationship between capacity and frequency, on the one hand, and revenue and yield on the other; and
- Technology also plays an important role in determining the cost and operational characteristics of the essential engines of production, including aircraft, and the electronic sales portals through which air travel is distributed.

France’s Institute of Air Transport has summarized the factors which exert a strong influence on air transportation, in perceived order of importance:

- World economy (gross domestic product, international trade);
- World-wide geopolitics;
- Oil prices;
- Environmental concerns (e.g., ecology, noise, air quality);
- Regional development policies;
- Impact of new communication technologies;
- Technical aerospace developments;
- Air transport organization and policy (deregulation, industry structure);
- Air space congestion;
- Competition from high-speed trains;
- Mobility, management of time, and organization of production; and
- Marketing innovations (e.g., computer reservation systems, e-tickets, and other uses of computer technology).

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33 See id., Ch. 2.
The initial hurdle is acquiring the salient information essential for analysis. The second is assessing it objectively. The third task is devising an appropriate strategic plan designed to achieve both short-term and long-term objectives. Unfortunately, the market volatility unleashed by deregulation led management at many airlines to focus myopically on the short-term. Since deregulation, fluctuations between profits and losses have been far more volatile and reached somewhat higher highs, much lower lows, and at a steeper slope before deregulation. When government managed competition, volatility in financial performance was far more circumscribed. Moreover, change is perhaps the only constant in the dynamic airline industry. Management must be sufficiently flexible and adaptable to deal with unforeseen events. Contingency planning is crucial.38

The primary goal of any airline is its moral and ethical, as well as legal and regulatory responsibility to fly passengers safely. A companion obsession must be to achieve profitability, for without it no company can survive in the long-term. Of course, giving consumers a combination of price and service options they prefer is the principal means of achieving profitability. But the real question is often how well management can “weather the storm” in the sense that external factors (particularly the market cycle and fuel costs) are so profoundly influential. Sometimes, the best management can do during deep recession and a spike in the price of fuel is to apply tourniquets to reduce the company’s economic hemorrhage.

Charles Banfe insists, “The best indicator of a management’s success is a profitable airline.”39 While easy to measure, profitability is one-dimensional and is not always an appropriate measure of the quality and skills of management. Certainly, an airline must be profitable in the long-term or it is doomed to bankruptcy. Thus, a balance sheet falling from black to red will send off alarms in corporate board rooms. Nonetheless, management at airlines which earn tens (or hundreds) of millions of dollars of profit in a given year may be perceived as excellent; but what if truly proficient management had been in place, and earned much more? Conversely, in years when airlines lose millions of dollars, management may be perceived as poor; yet, losses may have been far worse under truly deficient management.

Thus, the zero base line of red or black ink as the perceptual measure of performance, relied upon so heavily by shareholders and their Boards of Directors, may be a false reference point, particularly in an industry which is so heavily influenced by external factors, outside the control of management. Economic regulation was designed to temper the impact of such external factors; but for better or worse, that is now gone. Thus, management must attempt to swim in the sometimes stormy seas of market Darwinism without a life preserver.

Stephen Shaw insists that, “successful airlines are marketing-oriented airlines.” They invest heavily in identifying their customers and their customers’ requirements, and satisfying them, at a profit.37

“It is a basic rule of airline marketing that the best airlines are those that are run in order to make the best returns for their shareholders.”38 That, of course, is true of all companies. Successful major network passenger airline characteristics in the post-deregulation era include:

- A strategically located hub-and-spoke system;
- Sophisticated revenue/yield management;
- Low debt;
- Low wages/flexible work rules;39
- User-friendly direct distribution internet vehicle, or access to a computer reservations system;
- Sophisticated information technology;
- An attractive frequent flyer program;
- Superior service provided by friendly, service-oriented employees;
- A uniform fleet of young, fuel-efficient and compatible equipment;40
- International routes and/or alliances;
- Regional carrier network feed;
- Development of air freight; and
- A conservative growth strategy.41

38 Id. at 130.
40 See id. Ch. 2.
41 Airline Economics originally developed such a list in the 1980s. But it has been modified and supplemented by the authors’ assessment of the industry.

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39 Id. at 69
The above characteristics are neither listed in order of importance, nor are they of equal value. But the more of them a carrier possesses, the better are its chances for survival and growth. Certainly too, an exemplary record for safety, punctuality, and courtesy are important contributors to success.

Network carriers are those that focus predominantly on relatively long-haul, connecting traffic, in both dense and thin markets, many of whose passengers have complicated itineraries. However, some very successful airlines do not possess several of these characteristics. For example, cargo carriers have no need for meals or any other in-flight amenities. Moreover, the most profitable U.S. carrier (consistently in the black for more than three decades) is Southwest Airlines. It generally does not hub (instead operating a linear-route system focused on dense, short-haul markets), and has never held an equity interest in a major computer reservations system (and except for limited participation in Sabre, shuns them as a distribution vehicle).

Southwest Airlines has developed a model quite different from the network carriers, and has identified six strategies for success:

- **Stick to what you're good at.** From inception, Southwest has offered single-class service in a short- to medium-haul, high-frequency, high-density, low-fare, point-to-point market niche;
- **Keep it simple.** Southwest offers no assigned seats or meals, and shuns interlining with other carriers. It offers only one class of seating. Traditionally, Southwest focused on the short-haul point-to-point traveler. Southwest flies only one type of aircraft—the Boeing 737—which vastly simplifies scheduling, maintenance, flight operations and activities. It was the first airline to introduce ticket-less (or e-ticket) travel;
- **Keep fares low, costs lower.** Southwest touts itself as “THE Low Fare Airline every day, everywhere we fly.” Southwest is able to offer low fares because it enjoys the highest asset utilization and employee productivity of any major airline. Using a single aircraft type in a linear-route system also increases productivity and lowers costs. Shunning most computer reservations systems saves more;
- **Treat customers like guests.** Southwest has won the annual Triple Crown repeatedly—highest customer satisfaction, best on-time record, and best baggage handling. Southwest asserts, “We provide affordable, safe air travel, and Positively Outrageous Service”;
- **Never stand still.** Southwest responded swiftly and aggressively to the efforts of the majors to replicate its model (e.g., Continental Lite and United Shuttle); and
- **Hire great people.** Southwest spends significant time hiring, training and retraining its employees, who are encouraged to be creative and have fun on the job.\(^{43}\)

But even Southwest has amended its model. For decades, it focused on short-haul, high-frequency, point to point service in the Sunbelt. But in the 1990s, it intruded into the northeastern sanctuaries of US Airways, running them out of Baltimore, and then cornering them in Philadelphia. In 2005, it moved higher up the food chain, to assault United Airlines at its Denver hub. And along the way, Southwest entered many long-haul markets. Its strategic model depends on growth, yet the number of markets suitable for short-haul, point-to-point service is dwindling. Were it not for astute fuel hedge decisions made earlier, Southwest may not have been profitable in some years.

Charter carriers are still another model that relies on a low-cost/low-price relationship, flying either larger or older aircraft infrequently to attractive seasonal destinations. Tour operators contract with charter airlines, bundling air travel with accommodations and ground transfers. With astute yield management, network carriers have eroded this market, and seated the folks with palm trees on their shirts next to the ones wearing suits and ties. Thus, no single model is appropriate for every airline. Each must develop its market niche—a combination of price and service options designed to satiate the demands of at least some segment of the consuming public (though some carriers seek to provide alternative product lines to satisfy the needs of several segments of the public).

Managing an airline can be both profoundly rewarding and exciting, and well as deeply challenging and disappointing. If history is any indication, financial success can be an extremely elusive goal for


airlines, more difficult still under deregulation. The various chapters of this book assess these internal and external factors, as well as these survival characteristics, in an effort to stimulate managerial creativity in developing a strategic vision for success.

AIR TRANSPORTATION FRAMEWORK

Aviation is broadly divided into three categories—military, general, and commercial aviation. The emphasis of this book is on the latter category, which is sometimes referred to as “air transportation,” the carriage by aircraft of persons or property as a “common carrier” for compensation or hire (i.e., a transport company, which offers its services to the public generally). A company engaged in air transportation, either directly (i.e., operates its own aircraft) or indirectly (does not operate aircraft), is an “air carrier.” More commonly, air carriers are known as “airlines.” Commercial airlines may be scheduled, or non-scheduled (charter) carriers. They may be certificated by the Department of Transportation [DOT] or non-certificated as “commuters.” They may operate over local, regional, national or international routes. They may operate large aircraft (60 seats or more) or small (less than 60 seats) commuter aircraft. They may focus their businesses on passengers, cargo transportation, or both.

Numerous terms have been used to categorize airlines. The traditional airlines are referred to as “legacy carriers.” They have extensive ubiquitous domestic and international networks and are sometimes referred to as “network carriers,” or “mainline carriers.” These airlines are contrasted with the younger “Low Cost Carriers,” which typically fly fewer aircraft types than the network carriers, whose fleets comprise large wide-bodied, narrow-bodied, and regional jets. LCCs typically begin without unionized employees, which can give them a significant cost advantage in terms of wages and work rules. But over time, even the LCCs tend to become unionized, and their costs rise. The network carriers also are known as “full service airlines,” while the LCCs provide more Spartan service; yet increasingly this distinction is being blurred as the network carriers have begun charging for meals, pillows, reserved seats, and baggage, particularly on domestic flights—items formerly included in the ticket price.

Major airlines also have established LCC subsidiaries, referred to as an “airline within an airline.” Most have short-lived adventures, such as Continental’s CALite, USAirways’ MetroJet, Delta’s Song, British Airways’ Go, United’s Shuttle, and then (having learned nothing in its earlier failed attempt) United’s TED. In the Asia-Pacific region, we see other such efforts, including Singapore Airlines’ Tiger Airways and Qantas’ Jetstar. Leithen Francis notes that, “Asia’s legacy carriers are introducing a crop of airlines of various sizes.” Yet another category of airlines are “regional airlines,” sometimes referred to as “feeder carriers,” who fly smaller turboprops or Regional Jets [RJs].

The size of aircraft is driven by several factors: First, the size of the market dictates the aircraft flown. Smaller aircraft fly in thin markets. Second, mainline carriers have reduced operations and downsized aircraft, they have turned over many routes to the regional airlines on a “fee for departure” or “capacity purchase agreement” basis, under which the regional carrier is paid to provide the aircraft and crew (an arrangement known as a “wet lease”) and fly the route while the mainline carrier markets and sells the seats as its own. Often, the contracting carrier pays for fuel and other operating costs, and the regional airline paints the fuselage of the plane in mainline livery.

Though the cost per available seat mile is higher than in larger aircraft, preserving flight frequency can enhance revenue, as business travelers tend to gravitate to airlines offering the most frequencies in a market. Third, the mainline carrier’s pilot union’s “scope clause” in its Collective Bargaining Agreement [CBA] may dictate that its members have the monopoly on flying aircraft above a certain size. A scope clause limits the number and/or seating capacity of aircraft that may be flown by non-union pilots. For example, Continental Airlines was prohibited from contracting with regional carrier operations in aircraft smaller than 51 seats, while United’s outsourced regional airlines were capped at 75 seats. Hence, union agreements can re-

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44 For a glossary of air transportation terminology, see the companion to this volume, Laurence E. Geisel & Paul Stephen Dempsey, Air Transportation: Foundations for the 21st Century Ch. 18 (5th ed. 2010).

46 Doug Cameron, Delta Air Lines to Shrink Regional Unitie Comair, Wall St. J. (Sep. 1, 2010).
47 Doug Cameron, Continental, United Pilots Seek to End Outsourcing to Regional Airlines, Dow Jones Newswires (Aug. 29, 2010).
strict managerial flexibility in terms of types of aircraft flown by contracting feeder airlines.

Some network carriers own their own regional feeders as subsidiaries (Delta/Comair, American/American Eagle, Air Canada/Jazz), while others outsource feeder services. At one point, American found its feeder service so unreliable that it acquired regional jets and flew them as American Eagle. More recently, Delta sold regional carriers Mesaba and Compass. In 2010, Delta sold off its Mesaba and Compass regional subsidiaries, and placed Comair on the block as well.\(^\text{48}\) Outsourcing to a regional carrier usually can be done at lower costs than if the mainline carrier flew the same sized aircraft with its unionized pilots. Moreover, the division between mainline and regional carriers is becoming blurred. By 2009, Republic Airways was flying 212 regional jets to 105 destinations for network carriers such as American, United, US Airways, Delta and Continental Airlines. Then it acquired two mainline carriers: Midwest Airlines (hubbed in Milwaukee) and Frontier Airlines (hubbed in Denver). Republic could then feed the larger Midwest and Frontier aircraft with its RJs.

### U.S. Carriers

Prior to deregulation in 1978, 99% of the U.S. scheduled traffic was carried by the 19 domestic trunk-line and local service carriers:

- Allegheny
- American
- Braniff
- Continental
- Delta
- Eastern
- Frontier
- Hughes Airwest
- National
- North Central
- Northwest
- Piedmont
- Southern
- Texas International
- Trans World Airways
- United
- Pan American
- Western

The list does not include the charter, or supplemental carriers, which had a significant share of the discretionary market before deregulation, and have been largely eradicated under deregulation. Nor does it include all-cargo carriers.

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\(^{48}\) Doug Cameron, *Delta Air Lines to Shrink Regional Unite Comair*, Wall St. J. (Sept. 1, 2010).

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In little more than three decades after deregulation, liquidations and acquisitions had reduced this list to four: American, Delta, United and US Airways (formerly Allegheny Airlines). In 1978 (the year deregulation began), the eight largest airlines had a market share of 80%. However, as Table 1.1, "U.S. Airline Market Shares," reveals, the market share of the eight largest airlines exceeded 90% in the 1990s, a level unprecedented in the history of U.S. aviation. Paradoxically, under economic regulation the industry was becoming less concentrated, with the "big four" having 82% of the market in 1938, dropping to 68% in 1950, 66% in 1960, and 59% in 1978.\(^{49}\) Table 1.1 reveals how the nine largest U.S. airlines in 1978 have fared since the industry was deregulated. By the mid-1990s, the four largest U.S. airlines controlled 68% of the market.\(^{50}\)

### Table 1.1—U.S. AIRLINE MARKET SHARES

(% revenue passenger miles)

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<td>United</td>
<td>17.4</td>
<td>12.5</td>
<td>16.7</td>
<td>21.0</td>
<td>18.5</td>
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<td>American</td>
<td>12.8</td>
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<td>17.0</td>
<td>19.3</td>
<td>16.5</td>
<td>13.7</td>
</tr>
<tr>
<td>TWA</td>
<td>11.9</td>
<td>9.6</td>
<td>7.5</td>
<td>4.7</td>
<td>3.7</td>
<td>0</td>
</tr>
<tr>
<td>Eastern</td>
<td>11.1</td>
<td>10.0</td>
<td>3.7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Delta</td>
<td>10.3</td>
<td>9.0</td>
<td>13.0</td>
<td>16.0</td>
<td>14.7</td>
<td>15.8</td>
</tr>
<tr>
<td>Pan Am</td>
<td>9.3</td>
<td>8.1</td>
<td>6.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Continental</td>
<td>3.8</td>
<td>4.9</td>
<td>8.6</td>
<td>7.5</td>
<td>9.3</td>
<td>0</td>
</tr>
<tr>
<td>Northwest</td>
<td>3.1</td>
<td>6.7</td>
<td>11.3</td>
<td>11.7</td>
<td>11.1</td>
<td>0</td>
</tr>
<tr>
<td>US Airways</td>
<td>1.8</td>
<td>2.9</td>
<td>7.8</td>
<td>7.2</td>
<td>7.1</td>
<td>7.9</td>
</tr>
<tr>
<td>Southwest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14.0</td>
</tr>
</tbody>
</table>

A doubling of an airline’s market share on a particular route translates into a price increase of almost 9%. In 1990, 76% of all passengers in domestic markets flew on routes served by three or fewer airlines; 45% flew on routes served by only one or two carriers.\(^{51}\)

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\(^{50}\) See *American Captures Nearly 21 Percent of Major's RPMs*, Aviation Daily (Feb. 19, 1992), at 301.

Part 241 of the Code of Federal Regulations [C.F.R.] defines Group 1 carriers as "Regional carriers," which earn less than $100 million per year. There are three sub-groupings of so-called "Regional carriers." "Large Regional" airlines have annual revenues of more than $20 million, but less than $100 million. "Medium Regional" have earnings up to $20 million.\textsuperscript{32} Commuters or "Small Regional," irrespective of annual revenues, operate aircraft having less than 60 seats and/or 18,000 pounds internal load capacity and are exempt under 14 C.F.R. Part 298 from the reporting requirements of carriers otherwise certificated under Public Convenience and Necessity [PC&N]. Group 2 carriers are "Nationals," earning more than $100 million but less than $1 billion. "Majors" are in Group 3, and earn more than $1 billion.\textsuperscript{33}

Inasmuch as grouping is predicated upon gross annual earnings, identity changes as carriers’ shares of industry earnings shift. Table 1.2, “Medium Regional Airlines,” Table 1.3, “Large Regional Airlines,” Table 1.4, “National Airlines,” and Table 1.5, “Major Airlines,” identify air carriers in the various groupings as of the beginning of 2010. Of the 148 new carriers reporting financial data to the DOT in 1978, by 1991, only 44 remained.\textsuperscript{34} In 1978, 210 commuter airlines offered passenger service; by 1991, there were but 176, and the largest 50 carried 92% of all commuter passengers.\textsuperscript{35} In 2005, there were 17 Group 3 (Major) carriers, 31 Group 2 (National) carriers, 24 Group 1 (Large Regional) carriers, and 13 Group 1 (Medium Regional) carriers as listed above.\textsuperscript{36}

**Table 1.2—MEDIUM REGIONAL AIRLINES (2010)**

(annual operating revenues <$19,999,999)

<table>
<thead>
<tr>
<th>Carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ameristar Air Cargo</td>
</tr>
<tr>
<td>Asia Pacific</td>
</tr>
<tr>
<td>Falcon Air</td>
</tr>
<tr>
<td>Kalitta Air Charters</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murray Air</td>
</tr>
<tr>
<td>Prescott</td>
</tr>
<tr>
<td>Sierra Pacific</td>
</tr>
<tr>
<td>Victory Air</td>
</tr>
</tbody>
</table>

\textsuperscript{32} 14 C.F.R. 241§04, Uniform System of Accounts and Reports for Large Certified Air Carriers.

\textsuperscript{33} 14 C.F.R. 135.


\textsuperscript{35} Id.

\textsuperscript{36} Id.


**Table 1.3—LARGE REGIONAL AIRLINES (2010)**

($20,000,000 to $99,000,000)

<table>
<thead>
<tr>
<th>Carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerodynamics</td>
</tr>
<tr>
<td>Aloha Air Cargo</td>
</tr>
<tr>
<td>Capital Cargo Int'l</td>
</tr>
<tr>
<td>Casino Express</td>
</tr>
<tr>
<td>Compass</td>
</tr>
<tr>
<td>Florida West Airlines</td>
</tr>
<tr>
<td>Gulf &amp; Caribbean</td>
</tr>
<tr>
<td>Lynden Air Cargo</td>
</tr>
<tr>
<td>Lynx</td>
</tr>
<tr>
<td>Northern Air Cargo</td>
</tr>
<tr>
<td>Tatondu</td>
</tr>
<tr>
<td>Tradewinds</td>
</tr>
<tr>
<td>USA Jet Airlines</td>
</tr>
</tbody>
</table>

**Table 1.4—NATIONAL AIRLINES (2010)**

($100,000,000 to $1,000,000,000)

<table>
<thead>
<tr>
<th>Carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Wisconsin</td>
</tr>
<tr>
<td>Allegiant</td>
</tr>
<tr>
<td>Continental Micronesia</td>
</tr>
<tr>
<td>Executive Airlines</td>
</tr>
<tr>
<td>ExpressJet</td>
</tr>
<tr>
<td>Hawaiian Airlines</td>
</tr>
<tr>
<td>Horizon Air</td>
</tr>
<tr>
<td>Mesa Airlines</td>
</tr>
<tr>
<td>Mesaba Airlines</td>
</tr>
<tr>
<td>North American Airlines</td>
</tr>
<tr>
<td>Pinnacle</td>
</tr>
<tr>
<td>PSA</td>
</tr>
<tr>
<td>Republic Airlines</td>
</tr>
<tr>
<td>Spirit Air Lines</td>
</tr>
<tr>
<td>Sun Country</td>
</tr>
<tr>
<td>USA 3000</td>
</tr>
<tr>
<td>USA Jet Airlines</td>
</tr>
</tbody>
</table>

**Table 1.5—MAJOR AIRLINES (2010)**

(annual operating revenues >$1,000,000,000)

<table>
<thead>
<tr>
<th>Carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>AirTran</td>
</tr>
<tr>
<td>Alaska</td>
</tr>
<tr>
<td>American Airlines</td>
</tr>
<tr>
<td>American Eagle Airlines</td>
</tr>
<tr>
<td>Atlantic Southeast</td>
</tr>
<tr>
<td>Comair</td>
</tr>
<tr>
<td>Continental</td>
</tr>
<tr>
<td>Delta Airlines</td>
</tr>
<tr>
<td>Federal Express</td>
</tr>
<tr>
<td>Frontier</td>
</tr>
<tr>
<td>Jet Blue</td>
</tr>
<tr>
<td>Northwest Airlines</td>
</tr>
<tr>
<td>Skywest</td>
</tr>
<tr>
<td>Southwest</td>
</tr>
<tr>
<td>United Airlines</td>
</tr>
<tr>
<td>United Parcel Service</td>
</tr>
<tr>
<td>US Airways</td>
</tr>
</tbody>
</table>
MOST VISIBLE AIRLINES

Following is a brief examination of the principal characteristics of some of the most visible airlines in the world:

AIR CANADA

Air Canada is Canada’s largest airline, and 11th in the world.57 In 1937, Canada passed the Trans-Canada Airlines Act,58 establishing Trans-Canada Airlines as a wholly-owned entity of the Canadian National Railway, itself wholly owned by the Canadian government. As the “preferred vehicle” of national air transport policy, and Canada’s “chosen instrument” in the field of civil aviation,59 Trans Canada Airlines [TCA] was to link the vast country together by providing transcontinental services and those deemed to be of national importance.60

From the first half century of its existence, Trans-Canada Airlines (renamed Air Canada in 1964) was a wholly owned Crown corporation. In August 1988, the Canadian government announced its intention to sell 45% of Air Canada to the public. Privatization of Air Canada was completed by the fall of 1989. From the days of the two railroad policy, Canada had long embraced a two major airline policy. To ensure that two airlines survived, the Canadian government engaged in various forms of corporate welfare, including debt forgiveness, tax rebates, loan guarantees, and allocation of lucrative route authority.61

Following deregulation of the Canadian airline industry, scheduled air service in Canada was dominated by the two major airlines (Air Canada and Canadian Airlines) competing for market share on every major route. Cutthroat competition compromised the both airlines. In the 1990s, the financial difficulties of Canadian Airlines became so grave that the Government of Canada bent its antitrust laws to allow for merger. On January 4, 2000, Air Canada completed its acquisition of Canadian Airlines, Canada’s second largest airline. Air Canada also consumed several smaller Canadian airlines, including Wardair and Roots.62 It launched low-fare no-frills Tango Airlines in 2001.

Air Canada stumbled into bankruptcy on April 1, 2003, and emerged reorganized in October 2004.63 Some commentators, and a string of government ministers, have praised the impact of deregulation and privatization on Canada’s airlines.64 Others have been more critical. Toronto Star columnist Dalton Camp wrote, “As for the cult of privatization, and the culture of deregulation, the result over all has been chaos, bankruptcies and, according to some experts, increased risk to the life and limb of the traveling public.”65 A book written by Wayne Skene accused deregulation of destroying Canada’s airlines.66

AIR FRANCE

Founded in 1933, Air France was nationalized in 1946. It began flying jet aircraft in the 1950s, and in 1976, became one of only two carriers (the other being British Airways) to fly the Concorde Supersonic Transport [SST] in regular scheduled service, until 2003, when all of the Concorde aircraft were retired. In the 1990s, Air France began to establish a global network, and by the mid-1990s the Air France Group held an equity position in a number of airlines.67 By the beginning of the 21st century, Air France had franchised several airlines to operate some of its domestic and European services.68 It also concluded code-sharing agreements with a number of airlines.69

57 Portions of this section are derived from Paul Stephen Dempsey, Maria Buzdugan & Yaw Nyampong, The Evolution of Canadian Air Transport Policy, in McGill/Concordia Report on International Aviation Policy for Canada (Paul Dempsey ed. 2005).
59 Legal, Economic and Socio-Political Implications of Canadian Air Transport.
64 See Dennis Foerster, Caged Birds in Open Skies: Comments on the Emergence of a Dominant Carrier, 1 Asper Rev. Int’l Bus. & Trade L. (2001), at 171.
65 Dalton Camp, Airport Cost Savings Need to Be Brought Back to Earth, Toronto Star (Dec. 24, 1997), at A23.
67 Air France, Aeropostale, Air Afrique, Air Austral, Air Caledonie, Air Charter, Air Comores, Air Gabon, Air Inter, Air Madagascar, Air Mauritius, Air Tahiti, Air Tchad, Austrian Airlines, Cameroon Airlines, Middle East Airlines, Royal Air Maroc, Sabena and Tunisair.
68 Brit Air, British-European, Cityjet, Corse Mediterranee, Gill Airways, Proteus and Regional Airlines.
Air France merged with UTA and integrated domestic service though Air Inter, allowing it to dominate the hub at Charles de Gaulle Airport in Paris. It invested equity in Sabena (Air France and other private investors bought 37.5%), and CSA Czech Airlines (among the more promising of the eastern European carriers), and entered into marketing agreements with Air Canada, Aeromexico and Vietnam Airlines. As well, Air France sold its Meridien Hotel group. Air France entered into an agreement with Delta and Continental Airlines for cooperative sales, Computer Reservations System [CRS] and passenger handling, and joined the Skyteam Alliance. In 2003, Air France acquired KLM Royal Dutch Airlines, the flag carrier of the Netherlands and the longest continuously operating airline in the world. KLM had long-standing alliance with Northwest Airlines. After Air France acquired KLM, Air France’s Skyteam partner Delta acquired Northwest. That gave the combined alliance carriers enormous market share across the Atlantic.

In 2009, Air France purchased 25% of Alitalia for €322 million, with an option to purchase the remaining 75% by 2013. By 2010, Air France flew 245 aircraft, 1,800 flights a day to approximately 200 destinations in 91 countries around the world.

ALASKA AIRLINES

Though not a major carrier on the world stage, Alaska Airlines is a major carrier in the U.S. market. Before deregulation in 1978, Alaska Airlines served primarily as a territorial carrier for the Alaska interior, but with a route segment connecting Anchorage with Seattle in the lower 48 states. Following deregulation, Alaska Airlines established its presence as an interstate and international carrier. In 1985 the Alaska Air Group was created as a holding company. Its principal wholly-owned subsidiaries are Alaska Airlines and Horizon Air.

Alaska Airlines provides scheduled service throughout the western United States, and into Mexico, and Russia. Many of its smaller communities are served through code share agreements with local

carriers, including Horizon Air. Horizon itself serves numerous cities in the U.S. and Canada. By the mid-1990s Alaska Airlines had become one of ten major airlines in the U.S. From a marketing perspective, this airline is said to “own” the Pacific Northwest.

AMERICAN AIRLINES

Tracing its lineage back to 1926, American Airlines was formed from a conglomeration of numerous small airlines in 1934. Today, it is among the largest airlines in the world. American has been responsible for a disproportionate number of the industry’s innovations. It pioneered computer reservations systems, and developed the nation’s largest, Sabre. In 1981, it inaugurated frequent flyer programs. In 1984, American was the first airline to institute a two-tier wage structure, allowing it to expand at lower cost. It transformed yield management from an art form into a science.

In addition to expanding its Dallas/Ft. Worth operations into a major hub (to which it moved its corporate headquarters from New York in 1979), it established hubs at Chicago, San Jose, Nashville, and Raleigh/Durham, and international gateways at Miami and San Juan. Although it closed its hubs at San Jose, Nashville, St. Louis, and Raleigh/Durham, American is the dominant carrier at Dallas/Ft. Worth, Miami, and San Juan, and the second largest airline at Chicago O’Hare International Airport.

American invested more than $1 billion in overseas expansion in the 1990s, beginning with the purchase of Eastern’s Latin American routes (which Eastern had earlier bought from bankrupt Braniff). American also purchased several of Trans World Airlines’ [TWA] routes to London Heathrow Airport, and a Seattle-Tokyo route from Continental. Nonetheless, it still has a relatively weak presence in the Pacific Rim. After Chief Executive Officer [CEO] Bob Crandall retired, American made a number of blunders, including purchase of Reno Air, buy-back of more than a billion dollars in stock (cash it would dearly need after the tragedy of September 11, 2001), and a

Airways.


secret pension guarantee for management leading to major labor strife and the ouster of CEO Don Carty.

Though the acquisition of TWA in 2001 made it, for a time, the largest airline, American would subsequently abandon the St. Louis hub it inherited from TWA. Restrictions at London Heathrow Airport delayed antitrust immunity for the American/British Airways/Iberia alliance in one world until 2010. American was the only U.S. legacy carrier to avoid bankruptcy, but then it, too, filed for Chapter 11 protection in 2011.  

**BRITISH AIRWAYS**

British Airways [BA] was formed in 1973 through merger of state-owned British Overseas Airways Corporation [BOAC] and British European Airways. Long owned by the British government, it was privatized in 1987 during the Margaret Thatcher revolution, along with many other industries, including the London airports.

Geographically, British Airways is the world’s largest scheduled international passenger airline, serving more than 70 nations and 150 destinations and transporting more than 35 million passengers. Fully privatized in 1987, BA has been the leading carrier in the US-UK market, flying nearly 40% of seats (up to 29% in 1985).  

BA’s profitability has been attributed to: (1) its protected position under the US-UK bilateral; (2) its superior Origin and Destination [O&D] market, resulting in better yields; (3) its ubiquitous route structure; (4) pre-privatization write off of the Concorde; (5) its greater flexibility as a privatized company; (6) its culture of cost-consciousness; (7) enhanced labor and asset utilization; and (8) targeted marketing.  

Since the early 1990s, British Airways has been on a major expansion program, purchasing equity in a host of regional carriers around the world. BA spent $400 million for 24.6% voting stock in USAir, and began implementing code-sharing arrangements which gave it access to 65 U.S. destinations via 10 U.S. gateways. However, it declined to invest another $200 million in 1996 without U.S. approval for it to exert more control over USAir. Together, BA and USAir (since renamed US Airways) served 339 cities around the world. With wet leases between Baltimore, Charlotte and Pittsburgh on the one hand, and London (Gatwick) on the other, flights were operated with USAir-owned aircraft and BA codes, painted in BA livery, operated by USAir cabin and flight crews wearing BA uniforms. This was nearly as odd as the Continental/Alitalia alliance in which the livery on one side of the Newark-Rome aircraft was painted in Continental colors, with the other side painted in Alitalia colors. Some joked that the two carriers didn’t know whether they were coming or going. The BA/USAir alliance was estimated by BA to be worth 70 million Pounds Sterling in additional revenue in 1994 alone. One study estimated that the alliance’s benefit to BA was $27.2 million (U.S.), while the benefit to USAir was only $5.6 million. Another study estimated BA’s benefit to be $100 million.

In 1993, British Airways spent $666 million to acquire 24% of Qantas Airways (which absorbed Australian Airlines, and invested in Air New Zealand and Air Pacific). BA owned nearly half (with an option to buy the other half) of Transport Aérien Transrégional [TAT] (now TAT European Airlines), France’s largest independent airline, with 20% of the landing slots at Orly Airport, Paris’ principal domestic airport, and routes to 32 domestic and 4 international destinations. BA also acquired the assets of Dan-Air, based at London Gatwick Airport, and entered into a franchising agreement with CityFlyer Express, both of which would operate under the British Airways name. In 1992, BA acquired nearly half of Delta Air,

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79 Joint Application of American Airlines et al., DOT Order 2010-7-8.
80 Associated Press, American Airlines Parent Seeks Ch. 11 Protection (Nov. 29, 2011).
82 Id. at 9.
renamed Deutsche BA. In addition to the carrier's regional routes, it was given authority to fly from Berlin to Munich, Stuttgart, Cologne, Dusseldorf and Moscow. BA owned a third of Air Russia. As a Qantas executive observed, "You can expect us to hunt as a pack." The airlines combined business lounges and check-in counters.

BA has been described as having one of the best management teams in the airline industry: "Management can be characterized as aggressive and demanding. It will, however, be challenged to integrate its far-flung airline investments into a cohesive integrated operating entity." Another source observed, "The real test will be whether BA's internal cost discipline, and its competitive edge, will be transposed onto its partnerships."

Yet BA also inherited a route system from a paternalistic British government historically intent on protecting a state-owned BOAC which unified a far-flung colonial Empire. This includes a dominant position at London's slot-constrained Heathrow Airport, at which, for many decades, only two U.S. carriers were permitted entry. As Guy Kekwick observed, "The incumbents at Heathrow do enjoy near-monopoly profits from their positions at what is the leading international airport in Europe, if not the world."

In 1996, the British Airways' empire was further extended with an agreement to consummate an alliance with American Airlines. These two largest transatlantic airlines sought antitrust immunity to form a code-sharing and revenue pooling alliance. The alliance was predicted to generate as much as $4 billion in annual revenue. That caused a rift with BA's partner US Airways, which filed suit to block the BA/AA wedding, and announced its divorce from BA. Ultimately, BA walked away from the effort as U.S. regulators insisted on a surrender of Heathrow Airport slots that BA viewed too dear. Not until after the U.S. and European Union concluded an "open skies plus" multilateral air traffic services agreement, opening up any and all routes to "community carriers," and revoking the restriction of the U.S.-U.K. bilateral agreement to only two U.S. carriers, did the U.S. Department of Transportation grant the oneworld alliance antitrust immunity, in 2010, some 14 years after it granted antitrust immunity to the United/Lufthansa Star alliance. At this writing, BA continues to be a major partner with American Airlines in the oneworld alliance. In 1998, BA established a low-cost subsidiary named "Go," an airline that was soon spun off. After two years of negotiations, in 2010, BA signed a merger agreement with Spain's Iberia.

**CATHAY PACIFIC AIRLINES**

Cathay Pacific Airlines was founded in Shanghai, China, in 1946. With communist conquest of the mainland, the airline moved its base to the British colony of Hong Kong in 1948, where it grew robustly as a subsidiary of the Swire Group. It began by flying DC-3s, and graduated to Boeing 747s in 1979. Today, it carries a million passengers a month, and is one of the world's most profitable, and highest rated airlines in passenger surveys. Thirty percent of its revenue is derived from cargo. In January 1990, Cathay Pacific and its parent company, Swire Pacific, acquired a significant shareholding in Dragonair. Based in Hong Kong, Dragonair (now Cathay Pacific's wholly owned subsidiary) operates between 29 origin-destinations in the Asia-Pacific region. In 2009, together, Cathay Pacific and Dragonair completed 56,000 flights, carried 25 million passengers, and over 1.52 tons of cargo and mail.

**DELT AIR LINES**

Delta Air Lines began in 1924 as a crop-dusting operation in the Mississippi River Delta (hence the name "Delta") of Louisiana. It

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91 Id.
Inaugurated scheduled flights in 1929 between Dallas, Texas, and Jackson, Mississippi. In 1941, it moved its corporate headquarters from Monroe, Louisiana, to Atlanta, Georgia. Traditionally, Delta was regarded as providing among the highest levels of service in the industry and having the most loyal and best paid employees. It was also known as among the most conservative of airlines. Before it acquired Salt Lake City-hubbed Western Airlines in 1986, Delta had not acquired an airline since it purchased Northeast in 1972.\(^{100}\)

Delta established hubs in Atlanta, Cincinnati, and Salt Lake City, and operates a Washington-New York shuttle. In the late 1980s, Delta began expanding into Asia.\(^{101}\) In 1991, it purchased Pan Am’s major transatlantic and European services (except London Heathrow, which was sold to United Airlines).\(^{102}\) In order to build global alliances and avoid a takeover attempt, in the late 1980s Delta traded blocks of 5% of its stock with both Singapore Airlines and Swissair, two of the most highly regarded airlines in the world.\(^{103}\) In the 1990s, Delta began an alliance with Swissair, Sabena and Austrian Airlines. In 2000, Delta jettisoned those carriers and launched the Skyteam alliance with Air France and other airlines.

In the early 21st century, in response to severe financial losses, Delta: (1) launched a new low-cost carrier-within-a-carrier, Song, which began to go head-to-head competition with JetBlue out of New York Kennedy International Airport; (2) abandoned its Dallas/Ft. Worth hub; (3) began to de-hub its operations with a “rolling hub” approach to aircraft scheduling; (4) persuaded employees to surrender billions of dollars in concessions; and (5) copped business fares and eliminated Saturday-stay-over and round-trip purchase requirements.

In 2008, Northwest Airlines was merged into Delta. Northwest entered deregulation with perhaps the strongest balance sheet in the industry. Unfortunately, this would make it a prime candidate for a Leveraged Buy-Out [LBO], which turned one of the industry’s strongest balance sheets into one of the weakest. Until then, Northwest had produced 39 straight years of profitability, a record no other U.S. carrier could match.\(^{104}\) In 1986, Northwest acquired Republic Airlines for $884 million, itself a product of the mergers of North Central, Southern and Hughes Airwest. That gave Northwest significant domestic feed for its international routes, and control of the Minneapolis/St. Paul, Detroit, and Memphis hubs. Detroit is potentially the most important, with its huge Origin-and-Destination [O&D] base of five million people.

Northwest “Orient” Airlines was the first airline to provide scheduled service to Japan, and has a strong presence in the fast-growing trans-Pacific market.\(^{105}\) In the late 1980s, Northwest entered into a strategic equity and marketing alliance with Amsterdam-based KLM Royal Dutch Airlines. After KLM was purchased by Air France, Northwest was acquired by Delta. The acquisition gives Delta major hubs in Atlanta, Detroit and Minneapolis, and minor hubs in Cincinnati, Memphis and Salt Lake City. When Delta acquired Northwest in 2008, for a time it made Delta the largest airline in the world.\(^{106}\)

**EMIRATES AIRLINES**

Launched in 1985, and hubbed in Dubai, United Arab Emirates, Emirates Airlines is one of the fastest growing airlines in the world. Sitting at the crossroads between Asia, Europe and Africa, Emirates Airlines transports “sixth freedom” connecting passengers between some of the world’s fastest growing passenger and cargo markets. As of the economic bubble that burst in 2008, Emirates placed the launch order for more than 40 Airbus 380s, the world’s largest airliner. Dubai’s Gross Domestic Product grew at 16-24% a year, and its population was expected to reach between seven and ten million by 2015. Some 3.5 billion people are within an eight hour flight radius of Dubai. Emirates has persistently shunned alliances. According to its president, Tim Clark, “We are absolutely determined to shape our own destiny. We are going to grow at a pace decided by us and go to places decided by us. We will retain complete control over what we do.”\(^{107}\)

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\(^{100}\) *Delta to Buy Western Air for $600 Million, Wall St. J. (Sep 10, 1986), at 3.*

\(^{101}\) *Snapshot of the World’s Major International Airlines, Wall St. J. (Jan 14, 1992), at A8.*

\(^{102}\) *See Coleman Lollart, *Delta’s Wild Blue Yonder: Frequent Flyer* (Oct. 1991), at 8.*

\(^{103}\) *Delta Sued Again Over Pan Am Deal, Denver Post* (Mar. 13, 1992), at 2C.

\(^{104}\) *Smith Barney, Northwest Airlines Corp.* (Sep. 8, 1994).


**FEDERAL EXPRESS**

Fred Smith founded Federal Express [FedEx] in 1971. However, the genesis for Federal Express began while Smith was an undergraduate student.\(^{108}\) Seemingly, the Federal Express concept originated in a 1965 term paper Smith wrote for an economics class at Yale University. Envisioned was an overnight small package delivery system with a "hub-and-spoke" center in a middle-America location such as Little Rock or Memphis—with "spokes" radiating out to major cities around the nation. Ironically, Smith reportedly received a "C" for his visionary paper that would eventually evolve into the reality of a phenomenally successful enterprise.\(^{109}\) Like Southwest Airlines, FedEx is another post-deregulation phenomenon.

The creation of Federal Express as a small package, overnight carrier was, indeed, a brilliant inspiration. Air freight has been the fastest growing segment of the American cargo industry. The total amount of freight doubled from 1993 to 2002.\(^{110}\) FedEx did $10.3 billion worth of business in fiscal 1996 (a tripling of revenue over a decade).\(^{111}\) By 2002 it was doing $20.6 billion worth of business. By 2004, FedEx had grown into a $25 billion family of companies.\(^{112}\) By the end of that decade, revenue exceeded $30 billion annually.

**JAPAN AIRLINES**

Japan Airlines [JAL] is begun operations in 1951 with three Martin 202s flying from Tokyo to several other Japanese cities with crews leased from Northwest Orient Airlines. It inaugurated service to San Francisco in 1956, flying DC-6s, and soon transitioned to an all jet fleet. In 1960, it began flying jet aircraft with Douglas DC-8s. By 1970, JAL was flying Boeing 747s. By 2004, it was flying the largest fleet of 747s of any airline in the world.


\(^{109}\) Id. at 80-81 (1993); see also Robert Sigafoos & Roger Eason, *Absolutely Positively Overnight!* 31-34 (1983).


Originally, a governmentally-owned airline, JAL became completely privatized in 1987. In 2002, JAL merged with Japan Airlines System [JAS] (predominantly a domestic carrier) to form Asia's largest airline. The combined company carried more domestic traffic than Japan's then second largest carrier, All Nippon Airways [ANA], and is the dominant airline at Tokyo's Narita Airport.\(^{113}\) Through bankruptcy reorganization, and billions of dollars in debt forgiveness and a government bail-out in 2010, JAL was restructured into a smaller airline, shedding two-fifths of its aircraft, one-eighth of its overseas flights, and a quarter of its domestic routes.\(^{114}\) Though courted by other alliances, JAL remained wedded to British Airways and American Airlines in the oneworld alliance.

**LUFTHANSA GERMAN AIRLINES**

Lufthansa German Airlines [DLH] was founded in 1926, but following World War II service was interrupted and did not resume until 1955. Lufthansa has major hubs at Frankfurt and Munich, Germany. The word "Lufthansa" derives from the German word for air (Luft), and the ancient free-trading Hansaet League of northern Europe (Hansa). Prior to its privatization, Lufthansa's operating costs per kilometer were second only to Swissair's, a company that ultimately fell into bankruptcy.\(^{115}\) Lufthansa negotiated new contracts with its pilots in which they agreed to fly at least 75 hours a month (up from 53 hours previously), thereby significantly lowering Lufthansa's costs, in exchange for keeping jobs at its intra-German subsidiary, Lufthansa Express.\(^{116}\)

In 1993, Lufthansa worked out a code-sharing relationship with United to form the Star Alliance.\(^{117}\) In 1995, Lufthansa concluded an alliance with Scandinavian Airline Service [SAS] to coordinate flight schedules, merge frequent-flyer programs and combine check-in fa-


\(^{115}\) "Crash Marriage, The Economist (Oct. 9, yr. unk.) at 76.


cilities and other ground services. In 1996, the U.S. Department of Transportation [DOT] granted the alliance antitrust immunity. Lufthansa holds equity in a number of other airlines. In 2009, Lufthansa acquired Brussels Airlines, Austrian Airlines, and British Midland International [styled as bmi]. As of 2010, the Lufthansa Group consisted of the following carriers: Air Dolomiti, Austrian Airlines, Austrian Arrows, British Midland Airways, BMI baby, BMI Regional, Brussels Airlines, Eurowings, Germanwings, Korongo, Lauda Air, Lufthansa Cargo, Lufthansa CityLine, Lufthansa Regional, and Swiss European Air Lines.

**SINGAPORE AIRLINES**

Malayan Airways began service from a tiny dirt strip on the island of Singapore in 1947. A year after Singapore’s independence from Malaysia (in 1965) the company was re-named Malaysia-Singapore Airlines. In 1972, a year after flying its first transcontinental flight to London, the airline was divided into Singapore Airlines, and Malaysia Airline Systems (now Malaysian Airlines). Singapore Airlines offers one of the most highly regarded business class products in the world. Singapore Airlines’ CEO Chew Choon Seng observed, “The reports of the death of luxury have been exaggerated. There will still be a segment of the market that is prepared to pay for space, comfort, privacy and attention, top drawer food and drinks, as well as top quality, high end fittings in terms of in-flight gizmos and so on.”

**SOUTHWEST AIRLINES**

Before deregulation, Southwest Airlines was an intrastate Texas carrier. Under maverick Herb Kelleher, Southwest became profitable by following a course alien to the other airlines. Instead of establishing a hub-and-spoke system, Southwest flew a linear route system focused on frequent, short flights with low-cost no-frills service ex-

clusively in Boeing 737s, predominantly between smaller airports not generally served by the mega carriers. “We have sort of lived off the scraps of the table of the mega-carriers,” said Kelleher. “But I know lots of fat little puppies that have lived off table scraps.”

Southwest began service in 1971 flying Boeing 737s between Houston, Dallas and San Antonio. The Wright Amendment restricts service at Dallas Love Airport to airlines flying from states contiguous to Texas. This enabled Southwest to maintain a virtual monopoly at Love—the world’s only airport monopoly of consequence. Southwest also flies 78% of the passengers at Houston Hobby Airport. It has enjoyed generally higher levels of profitability than any other major airline, though in some years, its profitability has been attributable to astutely placed fuel hedges rather than passenger operations.

**UNITED AIRLINES**

Varney Air Service, predecessor of United Air Lines [UAL], launched service under an air mail contract between Pasco, Washington, and Elko, Nevada, on April 6, 1926. Thus began commercial air service in the U.S. Another predecessor of United was Boeing Air Transport, founded by the aircraft manufacturer. Under the terms of the Air Mail Act of 1934, the ownership of airlines by manufacturers was no longer allowed. As a result, Boeing Aircraft had to divest itself of its interest in the airline, and it emerged as United Air Lines.

United was the only major airline to support deregulation, paradoxically, a path that would lead it to bankruptcy a quarter of a century later. As the nation’s largest carrier in the late 1970s, with 17% of the passenger market, United thought itself better able to grow without the benevolent presence of the Civil Aeronautics Board [CAB]. But under Richard Ferris, it blundered almost immediately, by pulling out of short haul markets (and selling off scores of Boeing 737s), and concentrating on long-haul traffic. United soon learned that the smaller airlines were not content to feed it, inaugurating their own long-

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118 B. Coleman, Lufthansa, SAS Unveil Plans for an Alliance, Wall St. J. (May 12, 1995), at HSB.
119 Lufthansa Sees BMI, Austrian 2010 Losses Offset, Reuters (Jul. 29, 2010).
123 American Trying to Cope With Low-Cost Success Southwest, Aviation Daily (Feb. 18, 1992), at 287.
124 Id.
haul routes. In response, United reversed course, repurchased smaller aircraft, and established hub-and-spoke systems.

United also strayed off course by buying related travel companies—it added Hertz Rent-a-Car and Hilton International Hotels to its existing Westin Hotel chain under a holding company awkwardly named Allegis. Whatever the potential value of creating a one-stop travel conglomerate, United failed to integrate the system. The corporate raiders began to circle, and United reversed course again, spinning off the non-airline properties, and dropping the Allegis label. In the meantime, United’s market share had slipped significantly. It was not able to achieve its pre-deregulation market share until 1991, by which time American had surpassed it as the nation’s largest airline.

But United did several things quite right. It established hub systems radiating from Chicago and Denver, and international gateways at San Francisco and Washington (Dulles International Airport), covering both coasts and the interior with hubs spread about quarter way across the continent. United also seized many of the primary international routes of a disintegrating Pan Am. United purchased Pan Am’s transpacific operations for $715 million; its London Heathrow and fifth-freedom beyond rights for $400 million; and its Latin American operations for $135 million.123 These were some of the best investments made in airline history. United’s Apollo became one of the world’s two strongest computer reservations systems.

In 1990, United placed the largest order in history for new aircraft—some $22 billion. Yet, United lost $94.5 million in 1990 and a record $331.9 million in 1991.126 As a consequence of United’s unprecedented losses, it cut capital spending by $6.7 billion, or 35%, between 1993 and 1995.127 CEO Stephen Wolf departed as its 55,000 employees assumed seats for labor representatives on the Board of Directors and a controlling interest in the largest Employee Stock Ownership Plan [ESOP] ever consummated in any U.S. industry. With Lufthansa, it formed the Star Alliance in the 1990s, yet spent much of the late-1990s focused on a potential acquisition of US Airways, and signed new labor contracts drastically increasing its costs, which became a major factor in its filing for Chapter 11 reorganiza-

124 United Lays Off 534, Warns of More Cuts, Denver Post (Feb. 22, 1992), at 1C.
125 Id.
significant market share at its two hubs—Phoenix and Las Vegas. After a period of rapid and optimistic expansion, in 1991 it stumbled into Chapter 11 bankruptcy where it languished for four years. America West was extricated from bankruptcy by the Bonderman group, which at one time had also taken control of Continental.

In 2002, America West slashed one-way fares and eliminated Saturday-night-stay requirements, and in 2003 it began offering food for sale on board. Those elements of product differentiation, coupled with its first class section and its airport clubs, helped distinguish it from its major rival at Phoenix and Las Vegas—Southwest Airlines.132

In 1987, USAir (formerly Allegheny Airlines and now US Airways) purchased Pacific Southwest Airlines [PDA] for $400 million and Piedmont for $1.56 billion. In 1989, USAir merged operations with Piedmont, although it had considerable difficulty digesting that acquisition, with both service and profitability turning south.133 USAir suffered a record net loss of $454 million in 1990, and $305 million in 1991.134 In order to cut costs, USAir pulled out of the competitive California markets it entered with the PSA purchase, laid off 7,000 employees, and asked the rest for 20% wage concessions.135 Until the mid-1990s, USAir had a relatively weak presence internationally, which it attempted to expand by purchasing TWA’s authority to London from Philadelphia and Boston for $50 million.136 It also entered into an equity and marketing alliance with British Airways whereby USAir provided domestic feeder service into BA’s long-haul wide-bodied international system.

As US Airways, the carrier dominates Pittsburgh and Charlotte (though Southwest Airlines forced it to abandon its Baltimore hub), and with the demise of Eastern and Midway has significant market share in Philadelphia. It has dismantled the once-profitable Dayton hub inherited from Piedmont. US Airways solidified its east coast operations with the purchase of Continental’s LaGuardia terminal and landing slots for $61 million, and the purchase of the Trump Shuttle, which flies between New York’s LaGuardia, Boston’s Logan, and Washington’s National Airports.137 US Airways holds 168 jet slots and 28 commuter slots at LaGuardia, and 150 jet slots and 148 commuter slots at Washington National Airport.138 It entered bankruptcy twice in the first decade of the 21st century, narrowly avoiding liquidation with its acquisition by America West. America West acquired US Airways in 2005, and the name of America West was dropped.

KING OF THE HILL

Which airline is largest? The answer depends, of course, on what you measure, for different carriers excel in terms of the numbers of passengers moved, or the number moved the longest distance (RPKs or RPKs). Still others dominate in less operational, and more financial ways, such as in gross revenue, or more importantly, net profit.

As shown in Table 1.6, “Revenue Passenger Kilometers,” at this writing, American and United are largest among the world’s airlines in terms of passengers flown the greatest aggregate distance. British Airways, Japan Airlines, Lufthansa and Air France are the largest non-U.S. carriers. Another measure of size is number of passengers flown. Past the over decade, Delta Air Lines has been the world’s largest airline by this measure (see Table 1.7, “Passengers Flown”). These data reveal that airlines with relatively short average stage lengths (e.g., Southwest, US Airways, and All Nippon Airways), tend to rank higher under this measure, for they schedule their aircraft for more city-pair segments per day.

Note that certain carriers, such as Southwest, do well flying lots of passengers, while others, such as US Airways, do not. But a more important measure than distance and passengers is revenue. As measured by gross revenue, American is the world’s largest airline (see Table 1.8, “Gross Revenue”). As can be seen, the rankings have changed a bit over this decade, with American dropping from first to fifth and United falling from third to sixth. Perhaps the most important ingredient of all in measuring performance (although at times appearing elusive to airline management) is profit. Airline profita

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132 David Field, A Mainline Road Model, Airline Bus. (Nov. 2004), at 37.

137 Paul Takemoto, Go East, Frequent Flyer (Mar. 1992), at 8.
138 Continental Selling LaGuardia Assets to USAir, Aviation Daily (Nov. 19, 1991), at 298.
ity is highly volatile, and any snap-shot of profitability for one year may not depict the same relative performance in another. Carriers which have been consistently profitable over a long period of time include Southwest Airlines, Singapore Airlines, and Cathay Pacific.

Table 1.6—REVENUE PASSENGER KILOMETERS
(billions)

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>American</td>
<td>153</td>
<td>166</td>
<td>181</td>
<td>212</td>
</tr>
<tr>
<td>Air France*</td>
<td>63</td>
<td>52</td>
<td>82</td>
<td>208</td>
</tr>
<tr>
<td>Delta</td>
<td>138</td>
<td>139</td>
<td>173</td>
<td>198</td>
</tr>
<tr>
<td>United</td>
<td>174</td>
<td>180</td>
<td>204</td>
<td>177</td>
</tr>
<tr>
<td>Continental</td>
<td>67</td>
<td>64</td>
<td>103</td>
<td>149</td>
</tr>
<tr>
<td>Northwest</td>
<td>94</td>
<td>97</td>
<td>127</td>
<td>127</td>
</tr>
<tr>
<td>Lufthansa</td>
<td>73</td>
<td>72</td>
<td>89</td>
<td>126</td>
</tr>
<tr>
<td>British Airways</td>
<td>96</td>
<td>96</td>
<td>117</td>
<td>114</td>
</tr>
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</table>

* Includes KLM after 2003.

Table 1.7—PASSENGERS FLOWN
(millions)

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<tr>
<th></th>
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<tr>
<td>Delta</td>
<td>89.1</td>
<td>88.9</td>
<td>104.5</td>
<td>106.1</td>
</tr>
<tr>
<td>American</td>
<td>81.1</td>
<td>79.8</td>
<td>88.8</td>
<td>92.8</td>
</tr>
<tr>
<td>Southwest</td>
<td>42.7</td>
<td>44.8</td>
<td>65.7</td>
<td>88.5</td>
</tr>
<tr>
<td>Air France*</td>
<td>42.2</td>
<td>37.6</td>
<td>43.7</td>
<td>73.8</td>
</tr>
<tr>
<td>Continental</td>
<td>45.6</td>
<td>49.3</td>
<td>51.9</td>
<td>65.5</td>
</tr>
<tr>
<td>Northwest</td>
<td>74.0</td>
<td>79.0</td>
<td>66.2</td>
<td>63.1</td>
</tr>
<tr>
<td>United</td>
<td>37.7</td>
<td>40.7</td>
<td>45.4</td>
<td>57.2</td>
</tr>
<tr>
<td>Lufthansa</td>
<td>35.8</td>
<td>37.6</td>
<td>48.1</td>
<td>57.1</td>
</tr>
<tr>
<td>All Nippon</td>
<td>59.5</td>
<td>56.7</td>
<td>41.3</td>
<td>54.8</td>
</tr>
<tr>
<td>US Airways</td>
<td>58.2</td>
<td>52.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>British Airways</td>
<td>35.6</td>
<td>32.3</td>
<td>36.1</td>
<td>33.1</td>
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*Includes KLM after 2003.

Table 1.8—GROSS REVENUE
(U.S. $billions)

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<tr>
<th>Carrier</th>
<th>1994</th>
<th>2004</th>
<th>2008</th>
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<tr>
<td>Lufthansa Group</td>
<td>11.6</td>
<td>21.1</td>
<td>36.5</td>
</tr>
<tr>
<td>Air France*</td>
<td>10.1</td>
<td>24.1</td>
<td>33.7</td>
</tr>
<tr>
<td>AMR (American)</td>
<td>16.1</td>
<td>18.6</td>
<td>23.8</td>
</tr>
<tr>
<td>Delta Air Lines</td>
<td>12.1</td>
<td>15.0</td>
<td>22.7</td>
</tr>
<tr>
<td>FedEx</td>
<td>9.4</td>
<td>19.5</td>
<td>22.4</td>
</tr>
<tr>
<td>United Air Lines</td>
<td>14.0</td>
<td>16.4</td>
<td>20.2</td>
</tr>
<tr>
<td>Japan Airlines</td>
<td>10.4</td>
<td>19.8</td>
<td>19.4</td>
</tr>
<tr>
<td>British Airways</td>
<td>11.2</td>
<td>14.4</td>
<td>15.0</td>
</tr>
<tr>
<td>ANA Group</td>
<td>9.2</td>
<td>12.0</td>
<td>13.8</td>
</tr>
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</table>

* Includes KLM after 2003.

Table 1.9, “Operating Profit,” reveals operating profits for the world’s airlines, of which FedEx has the largest operating profit. With the eradication of global trade barriers, and the development of Just-in-Time [JIT] inventory, air cargo has become among the fastest growing areas of air transportation (see Table 1.10, “Largest Cargo Carriers”).

Table 1.9—OPERATING PROFIT
(U.S. $millions)

<table>
<thead>
<tr>
<th>Carrier</th>
<th>1994</th>
<th>2004</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lufthansa</td>
<td></td>
<td>1249</td>
<td>2032</td>
</tr>
<tr>
<td>FedEx</td>
<td>591</td>
<td>1414</td>
<td>747</td>
</tr>
<tr>
<td>Qantas</td>
<td>582</td>
<td>782</td>
<td>1241</td>
</tr>
<tr>
<td>Emirates</td>
<td></td>
<td>764</td>
<td>828</td>
</tr>
<tr>
<td>Singapore</td>
<td>657</td>
<td>554</td>
<td>627</td>
</tr>
<tr>
<td>Southwest</td>
<td>456</td>
<td>554</td>
<td>449</td>
</tr>
<tr>
<td>All Nippon</td>
<td></td>
<td>725</td>
<td>75</td>
</tr>
<tr>
<td>Air France*</td>
<td></td>
<td>617</td>
<td>-182</td>
</tr>
<tr>
<td>Thai Airways</td>
<td>337</td>
<td>507</td>
<td>-208</td>
</tr>
<tr>
<td>British Airways</td>
<td>961</td>
<td>996</td>
<td>-367</td>
</tr>
<tr>
<td>Japan Airlines</td>
<td>523</td>
<td>507</td>
<td></td>
</tr>
<tr>
<td>Cathay Pacific</td>
<td>674</td>
<td>-959</td>
<td></td>
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</table>

* Includes KLM after 2003.
### Table 1.10—LARGEST CARGO CARRIERS
(millions of revenue ton kilometers)

<table>
<thead>
<tr>
<th>Carrier</th>
<th>1994</th>
<th>1995</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>FedEx</td>
<td>6,995</td>
<td>7,473</td>
<td>13,831</td>
</tr>
<tr>
<td>Lufthansa Group</td>
<td>5,688</td>
<td>6,235</td>
<td>7,089</td>
</tr>
<tr>
<td>Korean Air</td>
<td>4,030</td>
<td>4,418</td>
<td>7,062</td>
</tr>
<tr>
<td>Singapore Airlines Cargo</td>
<td>3,472</td>
<td>3,918</td>
<td>6,749</td>
</tr>
<tr>
<td>United Parcel Service</td>
<td>4,269</td>
<td>5,367</td>
<td>6,732</td>
</tr>
<tr>
<td>Air France</td>
<td>4,400</td>
<td>4,599</td>
<td>5,432</td>
</tr>
<tr>
<td>Cathay Pacific</td>
<td></td>
<td></td>
<td>5,229</td>
</tr>
<tr>
<td>EVA Air</td>
<td></td>
<td>4,913</td>
<td></td>
</tr>
<tr>
<td>China Airlines</td>
<td></td>
<td></td>
<td>4,822</td>
</tr>
<tr>
<td>Japan Airlines Group</td>
<td>3,884</td>
<td>3,798</td>
<td>4,749</td>
</tr>
<tr>
<td>British Airways</td>
<td>3,354</td>
<td>3,476</td>
<td>4,461</td>
</tr>
<tr>
<td>Cargolux Airlines</td>
<td></td>
<td></td>
<td>4,429</td>
</tr>
<tr>
<td>KLM</td>
<td>3,427</td>
<td>3,813</td>
<td>4,392</td>
</tr>
<tr>
<td>Northwest Airlines</td>
<td>3,401</td>
<td>3,615</td>
<td>3,189</td>
</tr>
</tbody>
</table>

### INTERCARRIER ALLIANCES

R. Hewitt Pate, then U.S. Deputy Assistant Attorney General for regulatory matters (with responsibility for airlines and other fields), described airline marketing alliances as "...essentially joint ventures between airlines. These alliances fall somewhere between an outright merger and a traditional arm's-length interline agreement. They come in all shapes and sizes. Some may involve simply sharing frequent flyer programs or airport lounges. Others may involve 'code-sharing,' in which each carrier uses its partner's two-letter airline designator code for listing its own flights in computer reservation systems, in which case the alliance probably includes some effort to coordinate travel logistics such as check-in and gate locations. Occasionally, an alliance is accompanied by a stock investment by one airline in its partner. Alliances can involve commuter carriers, domestic carriers, foreign carriers or a combination."

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At the dawn of the 21st century, nearly 200 airlines were engaged in some 500 intercarrier agreements, ranging from marketing agreements to joint ventures, strategic relationships and virtual marriages. These associations can be bilateral or multilateral, confined to city-pairs, or expanded in reach regionally or globally. Airline alliances have evolved through such areas as ticketing-and-baggage, joint fare, reciprocal airport service, joint sales and ticketing offices, frequent flyer program and e-commerce agreements, code-sharing and even equity ownership. Some intercarrier agreements have received antitrust immunity. By 20th century end, U.S. and foreign airlines were parties to more than a hundred code-sharing agreements covering thousands of international aviation markets. Global networks have been formed, skirting around foreign ownership and route restrictions. The number of such agreements has grown significantly in recent years. Although there were only 30 to 50 such accords concluded per year between 1993 and 1996, there were between 80 and 120 intercarrier agreements concluded yearly in 1999 and 2000. By 2004, airlines in major alliances accounted for 60% of global airline revenue. According to one source, "the rationale for large networks has been found in economies of scope, density and scale, while the volume synergy of expanding airline networks has been found to be exponential." Proliferation of city-pairs resulting from plugging networks together is indeed exponential.

Four factors appear to be motivating the creation of airline alliances: (1) the desire to achieve greater economies of scale, scope, and density; (2) the desire to reduce costs by consolidating redundant operations; (3) the need to improve revenue by reducing the level of

141 For a description of these restrictions, see Paul Dempsey, Law & Foreign Policy in International Aviation (1987), and Paul Dempsey, Robert Hardaway & William Thoms, Aviation Law & Regulation (1993).
competition wherever possible as markets are liberalized; and (4) the
desire to skirt around the nationality rules which prohibit multi-
national ownership and cabotage.\textsuperscript{146}

Table 1.11, “Early Global Alliances,” reveals that by the mid-
1990s, four major global airline systems had emerged. Nearly a
decade later, alliance membership had shifted significantly, and the
four major global alliances have been reduced to three, as shown on
Table 1.12, “Current Global Alliances.” The most significant change
in this latter period was the folding of the Wings alliance partners into
the Skyteam alliance after Air France acquired KLM.

Table 1.11—EARLY GLOBAL ALLIANCES (1995)

\textbf{THE UNITED/LUFTHANSA ALLIANCE}

Members: United Airlines, Atlantic Coast, Air Wisconsin, Lufthansa,
Lauda Air Luxair, South African Airways, SAS, British Midland,
Air Canada, Varig, Thai Airways

- Sales: $46 billion (U.S.)
- Fleet: 1522 aircraft
- Employees: 243,000
- RPKs: $377 billion (U.S.)
- Passengers: 189 million

\textbf{THE BA/AA ALLIANCE}

Members: American Airlines, British Airways, Canadian Airlines,
USAir, Qantas

- Sales: $44 billion (U.S.)
- Fleet: 1706 aircraft
- Employees: 252,000 aircraft
- RPKs: $399 billion (U.S.)
- Passengers: 195 million


\textbf{THE DELTA/DWARFS ALLIANCE}\textsuperscript{147}

Members: Delta Air Lines, Comair, Atlantic Southeast, Skywest,
Swissair, Sabena, Austrian, Virgin, Singapore

- Sales: $27 billion (U.S.)
- Fleet: 1004 aircraft
- Employees: 123,000
- RPKs: $227 billion (U.S.)
- Passengers: 127 million

\textbf{THE NORTHWEST/KLM ALLIANCE}

Members: Northwest, Mesaba, Express, KLM, Martinair-Holland,
Air UK, Kenya Airways

- Sales: $17 billion (U.S.)
- Fleet: 654 aircraft
- Employees: 80,000
- RPKs: $160 billion (U.S.)
- Passengers: 71 million\textsuperscript{148}

Table 1.12—CURRENT GLOBAL ALLIANCES (2010)

\textbf{STAR ALLIANCE}

Member Airlines: Adria Airways, Aegean Airlines, Air Canada,
Air China, Air New Zealand, ANA, Asiana Airlines, Austrian,
Blue 1, bmi, Brussels Airlines, Continental Airlines, Croatia Airlines,
EGYPTAIR, LOT Polish Airlines, Lufthansa, Scandinavian
Airlines, Singapore Airlines, South African Airways, Spanair,
SWISS, TAM Airlines, TAP Portugal, THAI,
Turkish Airlines, United, US Airways\textsuperscript{149}

\textsuperscript{147} The term “dwarfs” was coined by industry observers to describe the small nations with which
DOT Secretary Federico Pena concluded “open skies” bilateral air transport agreements. Many
of Delta’s early alliance partners flew the flags of these small European nations.

\textsuperscript{148} \textit{Emerging Mega-Alliances}, Airline Business (Sep. 1996), at 31

THE LOW COST CARRIERS

By 2005, half the capacity of the U.S. airline industry was in bankruptcy, and many blamed it on the emergence of the LCCs.\(^{152}\) In 1998, major airlines enjoyed a 34% yield premium over the LCCs. But by 2003, that premium had shrunk to 20%. Meanwhile, major carrier vis-à-vis LCC costs had increased 10 percentage points to 44% over that period.\(^{153}\) Table 1.13, “World’s Largest Low Cost Carriers,” lists the largest LCCs in 2005.

### Table 1.13—WORLD’S LARGEST LOW COST CARRIERS

<table>
<thead>
<tr>
<th>Carrier</th>
<th>Country</th>
<th>Year Launched</th>
<th>Passengers (000)</th>
<th>RPKs (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwest</td>
<td>USA</td>
<td>1971</td>
<td>70,909</td>
<td>85,950</td>
</tr>
<tr>
<td>Ryanair</td>
<td>Ireland</td>
<td>1991</td>
<td>27,594</td>
<td>20,055</td>
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<tr>
<td>easyJet</td>
<td>UK</td>
<td>1995</td>
<td>24,300</td>
<td>21,566</td>
</tr>
<tr>
<td>AirTran</td>
<td>USA</td>
<td>1993</td>
<td>13,179</td>
<td>13,643</td>
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<tr>
<td>Air Berlin</td>
<td>Germany</td>
<td>2002</td>
<td>12,037</td>
<td>17,274</td>
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<tr>
<td>Jet Blue</td>
<td>USA</td>
<td>2000</td>
<td>11,783</td>
<td>25,310</td>
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<tr>
<td>Virgin Blue</td>
<td>Australia</td>
<td>2000</td>
<td>9,537</td>
<td>11,283</td>
</tr>
<tr>
<td>Gol</td>
<td>Brazil</td>
<td>2001</td>
<td>9,204</td>
<td>6,095</td>
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<tr>
<td>Song</td>
<td>USA</td>
<td>2003</td>
<td>8,000</td>
<td>n.a</td>
</tr>
<tr>
<td>WesJet</td>
<td>Canada</td>
<td>1996</td>
<td>7,836</td>
<td>10,100</td>
</tr>
<tr>
<td>Independence</td>
<td>USA</td>
<td>2004</td>
<td>7,059</td>
<td>4,289</td>
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<tr>
<td>Frontier</td>
<td>USA</td>
<td>1994</td>
<td>6,420</td>
<td>10,118</td>
</tr>
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<td>Lion</td>
<td>Indonesia</td>
<td>2000</td>
<td>6,100</td>
<td>5,300</td>
</tr>
<tr>
<td>Ted</td>
<td>USA</td>
<td>2004</td>
<td>5,900</td>
<td>n.a</td>
</tr>
<tr>
<td>Spirit</td>
<td>USA</td>
<td>1993</td>
<td>4,777</td>
<td>1,848</td>
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Source: Colin Baker, Global Reach, Airline Bus. (May 2005), at 61

### SUMMARY

Transportation is a fundamental component of economic growth, and the social and economic importance of air transportation in particular cannot be overstated. It is vital to a global economy, and since

\(^{152}\) Cost Convergence, Airline Bus. (Sep. 2004), at 32.

the end of World War II, growth has been staggering. In 1945, roughly nine million people traveled on scheduled airlines, mostly in the U.S. By the time of this writing, more than 1,000 scheduled airlines all over the world were operating more than 15,000 aircraft and carrying more than 2 billion passengers and 40-plus million tons of cargo annually. Nevertheless, the industry is a tough business, where profit margins are thin, fixed costs are high, variable costs are volatile, capital expenditures are large, and government oversight can be overwhelming. Still, management of an industry driven by such extraordinary growth and technology can be exciting. In spite of its drawbacks and for reasons that defy economic rationale, people are drawn to its ranks. As Charles Lindbergh reminisced, “Science, freedom, beauty, adventure: What more could you ask of life? Aviation combined all the elements I loved.”

This book was written and dedicated to those people who love the industry for what it is. This beginning chapter introduced the reader to three subjects that will be explored in greater detail throughout the book, including: (1) a description of the importance of the airline industry to the financial, economic, social and cultural development and growth of national, regional and global economies; (2) internal and external factors that influence airline operations and profitability; and (3) gave a brief history of the world’s major airlines, the low cost carriers, and the global airline alliances. The ensuing chapters describe the essential components of both the airline industry and the airline business, starting with an overview of airline economics in Chapter 2.

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