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Note on the Global Airline Industry in 2020

Professor Benjamin Gomes-Casseres and Jacob Judd wrote this note solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In 2019, the global airline industry generated revenues of over US$880 billion.[[1]](#endnote-1) One year later, as the COVID-19 pandemic raged, demand had fallen to half of its previous level and airlines faced tough challenges.[[2]](#endnote-2) The COVID-19 pandemic was a new and severe crisis. The responses of airlines and their alliances depended on the fundamental economics and structure of the industry. To devise new strategies for their futures, global airlines had to consider the economics and market structure of their industry. Would the fundamental economics of the airline industry be forever affected? Would the industry return to a “new normal” at some point?

The GLOBAL AIRLINE INDUSTRY

The global airline business had historically been highly regulated and safeguarded by domestic governments who saw airlines as national entities. In the 1970s and 1980s, a wave of deregulation paved the way for increased consolidation and the formation of airline alliances, known in the industry as “constellations.”[[3]](#endnote-3) Three such alliances connected their members across the globe: Star Alliance, Oneworld, and SkyTeam. Member airlines of these constellations shared passengers with each other when making connections across different countries. This connection was part of a hub-and-spoke system, in which major airports served as hubs connecting the localities around them.

Economics of Airlines

The profitability of an airline typically depended upon a small number of key cost and revenue drivers, which the industry used specific formulas to track (see Exhibit 1). The key revenue drivers were capacity, load factor, and passenger yield. The unit of analysis for measuring capacity of a given flight was referred to as seat kilometres, which calculated the number of seats multiplied by the distance flown.

Available seat kilometres (ASK) on a flight represented the number of total seats. Revenue passenger kilometres (RPK) represented seats filled with paying passengers. The ratio of RPK over ASK determined the load factor of the flight, which referred to the capacity use for a particular flight. When aggregated over time and across the flights of an airline, these measurements allowed industry analysts to calculate the overall size and load of an airline company’s business. A high load factor in an airline’s traffic performance was usually correlated with higher operating margins and returns on sales (see Exhibit 2).

Airlines had to balance capacity and load factor in the deployment of their fleet and pricing of their flights. In 2018, American Airlines Inc. (American) flew 454 billion ASKs. In comparison, Delta Air Lines Inc. (Delta) flew only 424 billion ASKs. However, Delta had a load factor of 86 per cent, compared to American’s load factor of only 82 per cent. Therefore, Delta recorded a net profit of $3.9 billion, compared to American’s net profit of only $1.4 billion.[[4]](#endnote-4)

To maintain a high load factor, Delta often decreased capacity. In 2012, Delta’s chief executive officer declared that “capacity discipline is our key lever.” That year, Delta cut capacity by 7 per cent on its North Atlantic routes. As a result, its load factor improved and its unit revenues increased by 9 per cent.[[5]](#endnote-5)

The final main driver of revenue for an airline was passenger yield. This yield was measured as the revenue per passenger per kilometre. Passenger yield was strongly determined by the route being flown. Airlines competed heavily for the most profitable routes, most notably flights between Western Europe and North America, which were popular with business travellers.[[6]](#endnote-6)

In addition, each route had varying levels of competition, which would affect pricing. In 2019, the airline constellation Oneworld controlled 71 per cent of the flights from London’s Heathrow Airport to New York’s John F. Kennedy International Airport, mainly due to British Airways controlling many of the slots available for flights to and from London. Similarly, the airline constellation SkyTeam had a large market share in the airline route from Paris, France to New York, United States, whereas Star Alliance controlled the route from Frankfurt, Germany to New York, United States. In each case, these routes served as cross-Atlantic pipelines that funneled traffic from destinations that lay behind or beyond one of the hubs.[[7]](#endnote-7)

The key cost drivers for airlines were labour, fuel, and advertising. The largest cost that airlines typically faced was labour, which accounted for approximately 40 per cent of total costs in 2018. In years where prices were particularly high, fuel could overtake labour cost as the largest unit expense. In 2018, fuel accounted for 24 per cent of total costs.[[8]](#endnote-8) The volatility of fuel prices led to large differences year-to-year in overall cost structures (see Exhibit 3). Ticketing and promotion also represented a large share of costs. Major airlines were dedicated to reducing marketing costs by cutting commissions, introducing online booking, and establishing their own online reservation systems. With widespread use of the Internet for booking air travel, airlines were devoting larger amounts to advertising online in an attempt to increase their load factor.[[9]](#endnote-9)

One notable example of a global airline’s financial information was United Airlines—the largest member airline in the Star Alliance constellation. In 2018, the airline earned over $2 billion in net income (see Exhibit 4) and recorded over $44 billion in total assets (see Exhibit 5).

Mileage Loyalty Programs

To promote customer loyalty and develop future business, airlines used mileage programs, in which passengers could accumulate points toward future travel. Over time, the airlines began selling some of their mileage points to credit card companies, which in turn offered them as promotion to their customers. Consumers could earn travel miles by using the credit cards and use them toward the purchase of flight tickets. Recurring customers and business travellers could benefit from their loyalty status by receiving lounge access and free upgrades. Each airline had its own type of frequent flyer program. Within an alliance, use of these programs was often shared by the member airlines, who would accept each other’s travel miles.

The economic benefit of mileage loyalty programs depended on two key factors. First, loyalty programs provided airlines with a way to connect with and retain their most loyal customer base. Second, loyalty programs provided a source of liquidity that could be used during times of uncertainty. Each credit card company paid the airlines for the miles accumulated by customers using their card. In return, airlines accumulated liabilities in the form of unclaimed miles. Most accumulated travel miles were claimed within two years but redemption was largely unpredictable, which added a layer of risk to loyalty programs.[[10]](#endnote-10)

The form and operation of loyalty programs varied considerably. However, the traditional form was best exemplified by the partnership between the airline Delta and the American Express credit card. The partnership began in 1996 and was extended for 11 years in 2019. The main benefit of the partnership was renewed investment in Delta’s SkyMiles credit card.[[11]](#endnote-11) In 2018, Delta estimated the annual benefit from its partnership with American Express at $3.4 billion. With the new deal, this annual benefit was expected to increase to approximately $7 billion by 2023.[[12]](#endnote-12)

In contrast to the traditional partnership of Delta and American Express, Air Canada took a novel approach by spinning off its loyalty program Aeroplan into a separate corporation. The newly independent company went public in 2005, under the name Groupe Aeroplan. In 2008, the company was renamed Aimia and began investing in the loyalty programs of other airlines, including Aerovías de México, S.A. de C.V. (commonly known as Aeroméxico) and AirAsia Berhad. However, after 13 years of separation from its own loyalty program, Air Canada decided to repurchase the Aeroplan business from the independent company Aimia in 2018 (see Exhibit 6).[[13]](#endnote-13)

Regulated Competition in the Global Airline Industry

Air travel was a huge industry operating on a global scale. In 2019, the 290 member airlines in the International Air Transport Association together transported over 4.5 billion passengers and had total operating revenues of $838 billion. At that time, revenues had been growing at 3.2 per cent per year and projections were for more of the same.[[14]](#endnote-14) Company performance in the airline industry was cyclical, based on changing consumer demand and the price of inputs, particularly labour and fuel.

Soaring fuel prices in the early 1990s, during the Gulf War, caused many airline companies to suffer considerable losses. Overall, the industry lost $16 billion from 1990 to 1993. However, the next five years were profitable. Similarly, the industry experienced a downturn after the 9/11 terrorist attacks on the World Trade Center, but consolidation and higher passenger yields again led to robust profitability by the 2010s. Airlines introduced a slew of fees for services and often made millions of dollars in profit on just ticket change fees. Another industry boon in the late 2010s was a decline in fuel prices.[[15]](#endnote-15) By 2019, the future of the global airline industry seemed strong, although a down cycle was looming as the economic expansion that was evident in those years began to slow.

Regulation and Deregulation[[16]](#endnote-16)

Since its birth in the mid-20th century, the commercial airline industry had been regulated by national governments in a multitude of ways. For the most part, routes had to be approved and licensed by government agencies, prices were set by negotiation between governments and by national authorities, foreign ownership was restricted in national airlines, and airlines were restricted to flying only to and from their home countries. International rules such as *cabotage*, restricted airlines from operating domestic flights in countries other than their home base. In other words, a German airliner was allowed to fly from Germany to the United States and back, picking up passengers at each end-point, but was not allowed to fly passengers between two cities in the United States.

Starting in the United States in 1978 and spreading to the European Union (EU) in 1993, a wave of deregulation and liberalization loosened restrictions on pricing and routes. With the creation of a single European aviation market, EU airlines were permitted to fly to and from all international destinations within the EU region. However, travel to and from non-EU countries was still subject to bilateral negotiations between individual European countries and the non-EU country. The rules of cabotage remained in effect for the important trans-Atlantic and Asian routes.

Beginning in 1992, the governments of the United States and the Netherlands signed an Open Skies bilateral air treaty that allowed US airlines to fly without restrictions to Dutch cities, and the reverse. The treaty also granted KLM Royal Dutch Airlines and Northwest Airlines Corp. full antitrust immunity to pursue an alliance although they were not allowed to merge ownership. By 2016, the United States had made similar agreements with 120 other countries. Among the benefits that countries received in signing an agreement with the United States was permission for US national airlines to set their own routes and pricing between countries.

But US airlines still could not fly within the EU or within any other countries. An Open Skies agreement still did not grant US carriers the right to cabotage in the foreign country’s domestic market. However, by forming an alliance with a domestic partner in the EU or any country, a US carrier could connect more effectively to the domestic route structure operated by the foreign airline.

National Ownership and Antitrust

The traditional form of alliance in the industry had been one of loose ties between two partners, with no equity cross-participation. There were a few exceptions, such as British Airways and Delta, which were likely to take an equity interest in their partners.[[17]](#endnote-17) One of the important features of these alliances was that they enabled the partners to overcome some of the restrictions imposed by national regulations.

Although many industries had seen the decline or elimination of so-called “national champions” in the 1980s and 1990s, this did not happen to the same extent with airlines. In many countries, national airline companies were either state-owned or protected by the government. In Europe, even after the creation of the single European market in 1992, the rule was generally that no foreign investor was allowed to own more than 49.9 per cent of the capital in a national airline. In the United States, the threshold was even lower—no more than 25 per cent foreign participation.[[18]](#endnote-18) Airlines were widely regarded as national assets.

Starting in the 1990s, pairs or small groups of airlines were able to form joint ventures (JV), which differed from typical JVs in other industries that involved joint equity ownership. In an airline JV, the partners would be given antitrust immunity by the two governments, allowing them to coordinate prices and capacity on a specific route, and share profits. The structure thus acted like a typical JV but was purely a contractual arrangement, with the all-important antitrust immunity at its root. Outside of those JVs, the partners were still expected and required to compete with each other.[[19]](#endnote-19)

The three major global airline constellations—Star Alliance, Oneworld, and SkyTeam—did not implement this degree of coordination, and therefore did not need formal antitrust immunity. However, the alliance members were careful to follow antitrust regulations. On major routes, the alliance groups could conceivably be anti-competitive and would then be subject to being blocked by antitrust authorities. For example, in 2019, the partnership of Delta and Air France controlled 93 per cent of the Paris, France to New York, United States routes; the partnership of Deutsche Lufthansa AG and Singapore Airlines controlled 83 per cent of the flights from Frankfurt, Germany to New York, United States.[[20]](#endnote-20)

Even without directly seeking antitrust immunity, like other airline JVs, the three major alliances still had to deal with many regulatory barriers. For example, Oneworld had to satisfy the US Federal Aviation Administration before formalizing the alliance between American and British Airways. Originally, the two airlines were forced to keep their mileage programs separate for North Atlantic routes. Additionally, the authorities demanded that the partners give up 267 of their slots at congested Heathrow Airport, a condition which they were not ready to accept.[[21]](#endnote-21)

On routes requiring a connection, alliances appeared more likely to be pro-competitive. Alliances had the potential to offer more frequent flights and shorter connections for secondary destinations at a reasonable price. A study conducted in 2000 by the University of Chicago concluded that average fares on international routes on non-aligned airlines were 25 per cent higher than fares on airlines that were allied.[[22]](#endnote-22) A more recent study by the International Air Transport Association in 2012 also confirmed the price advantages of increased airline co-operation for consumers on certain routes.[[23]](#endnote-23)

Rising Competition from the Middle East

In the 2010s, several state-supported airlines based in the Middle East emerged in the industry. Etihad Airways (based in Abu Dhabi), Emirates (based in Dubai), and Qatar Airways Company (based in Doha) soon became competitors to the major global airlines. State subsidies allowed the Middle Eastern airlines to purchase planes and increase capacity at an unprecedented rate. These carriers also had access to cheap fuel and their home base was strategically located between the United States, Europe, and Asia. They specialized in long flights between the regions, with a stop in the Middle East. Personnel stationed in these home countries benefitted from low personal income taxes. Etihad Airways and Emirates were two of the fastest-growing network airlines in the world. In 2011, Emirates passed United Airlines as the largest global airline, based on capacity. Qatar Airways Company and Etihad Airways were ranked 10th and 13th in size, respectively, in the world in 2014.[[24]](#endnote-24)

Other than Qatar Airways Company, which joined the Oneworld constellation in 2013, none of the major Middle Eastern airlines were members of alliances. Etihad Airways and Emirates did form other types of partnerships—they made minority investments in various airlines to create their own constellation. By 2015, Etihad Airways Partners included six airlines: Etihad Airways, Alitalia SpA, Air Berlin PLC, Air Serbia, Air Seychelles, Jet Airways Ltd, and Darwin Airline SA.[[25]](#endnote-25) In theory, these investment partnerships could include airlines that were already members of the alliance constellations. However, Star Alliance regulated this feature through change-of-control clauses in its governance policies, which did not permit members to become part of an investment partnership.

The Future of the Airline Industry

Industry Consolidation[[26]](#endnote-26)

Despite a complex web of regulations, the global airline industry had steadily moved toward long-term consolidation. In the 2000s and early 2010s, consolidation was apparent both in Europe and in North America. In the United States, Delta merged with Northwest Airlines Corp., United Airlines merged with Continental Airlines, and US Airways merged with American. In Europe, British Airways merged with Iberia, Air France merged with KLM Royal Dutch Airlines, and Deutsche Lufthansa AG acquired controlling shares in Swiss International Air Lines AG, Austrian Airlines AG, and Brussels Airlines. Sometimes, these mergers affected the membership of their respective alliances. For example, Continental Airlines left the SkyTeam constellation and joined Star Alliance after the merger between Delta and Northwest Airlines Corp., while Continental Airlines completed its own merger with United Airlines.

Airline constellations also continued expansion by adding members to their alliances. As additional airlines joined existing constellations, overlap increased in route structures of members, which affected how incumbent members perceived the application of new members to their alliance. For example, when Singapore Airlines entered Star Alliance, the financial consultants of Thai Airways International Public Co. Ltd. wondered about the effect of its current role as the Star Alliance airline that connected European hubs with Southeast Asia. The consultants estimated that Singapore Airlines being added to the group could cost their airline $10 million annually in lost revenues from code sharing in flights with Deutsche Lufthansa AG. In addition, Singapore Airlines was the most powerful regional rival in Southeast Asia. Nevertheless, the membership was approved by the group and the rival airlines continued to operate as partners.

Entry and exit from airline constellations was governed by terms of their membership. For example, to be accepted for entry in Star Alliance, an airline had to demonstrate its ability to meet the alliance’s standards. Existing members voted on new memberships, just like they did on other major strategic issues. Originally, Star Alliance had operated under a one-airline, one-vote rule; however, as membership grew, the organization introduced tiered voting. In 2019, voting shares of members in Star Alliance depended on the size of their business. By 2020, the structure of the airline industry had stabilized, after decades of reorganization. Star Alliance had become a mature alliance organization, with a stable membership and a well-developed set of rules and processes, and was the largest of the three major airline constellations, which followed similar strategies and comparable structures. The market shares of these groups were similar, and mergers between domestic airliners seemed to have reached a point beyond which further consolidation would be barred by antitrust regulations.

Potential Changes in the Hub-and-Spoke Model

Since its inception, Star Alliance had made it its main focus to optimize the hub-and-spoke network of the airline industry, which it saw as a key benefit. However, beginning in 2015, point-to-point flights became increasingly popular, especially ultra long-haul flights (LHFs). By definition, ultra LHFs referred to flights that travelled over 14.5 hours without connections. These point-to-point flights reduced total travel time significantly compared to the hub-and-spoke system, but they also resulted in cost savings for both travellers and airlines. Due to their higher ticket prices, LHFs were less attractive to personal passengers but more popular for corporate travel. By 2019, Qantas Airways Limited’s flight from Perth, Australia to London, United Kingdom claimed an average load factor above 90 per cent.[[27]](#endnote-27)

With the outbreak of the COVID-19 pandemic, the advantages of LHFs became increasingly evident for two reasons. First, unlike with the hub-and-spoke system, point-to-point networks allowed airlines the choice of flying only the most economically viable routes, without health and safety concerns from layovers. This had been the strategy of low-cost airlines such as Southwest Airlines Co in domestic markets. Internationally, however, a trip to the other side of the globe required a stop to refuel. Intermediate stops were also hubs, and flights could connect with other incoming flights at those hubs. Second, by the late 2010s, new planes were being developed for non-stop ultra LHFs. For example, the Boeing 787-9[[28]](#endnote-28) and the Airbus A350-900[[29]](#endnote-29) aircraft were particularly fuel efficient, and therefore made LHFs more commercially viable than ever before.

However, despite these advantages, LHFs still had two major limitations. First, due to the long-distance nature of their routes, the profitability for airlines was even more vulnerable to extreme fuel prices fluctuations. Second, fatigue posed a serious health threat to passengers, flight crews, and pilots on these routes.

Challenges Ahead

By 2020, the global airline industry was at a pivotal point in its history. The rise of powerful airline constellations created a dominant hub-and-spoke system that connected member airlines across the world. However, as the world was hit by the novel COVID-19 virus, these very connections were being threatened and the industry was once again forced to adapt. Would the airline business return to normal after a few years? Would LHFs replace the hub-and-spoke system? How large would the business travel segment be in the future? Would industry consolidation continue to take place or would national governments take back more control over their domestic airline carriers?

Many of these questions were heightened by the COVID-19 pandemic, which was expected to decrease revenue by 50 per cent and net profits by $84 billion in 2020 (see Exhibit 7). By the end of 2020, the airline industry was in a critical juncture in its short history. An industry once dominated by heavy regulation and complex global constellations was now scrambling to readjust to rapidly changing consumer demand.

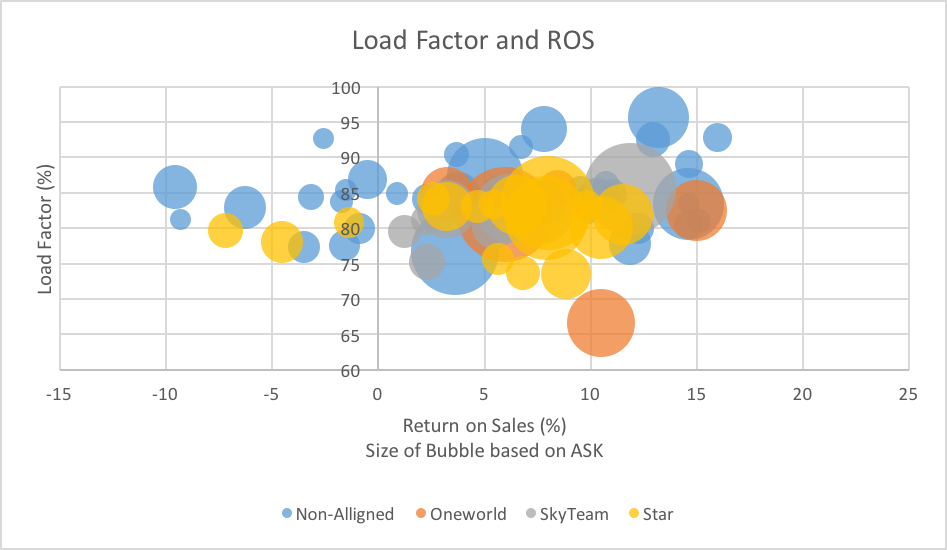
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Exhibit 1: Formulas for Analyzing Airline Economics

Note: ASK = available seat kilometres (calculated as flight kilometres × number of total seats); RPK = revenue passenger kilometres (calculated as flight kilometres × number of occupied seats); load factor = ratio of RPK to ASK; PASK = passenger revenue per ASK; CASK = unit cost per ASK; unit operating income = operating income per ASK; unit net income = unit operating income minus taxes and interest.

Source: Tom Stalnaker, Khalid Usman, Aaron Taylor, and Grant Alport, *Airline Economic Analysis: 2017–2018 Edition,* Oliver Wyman: Marsh & McLennan Companies, 2018, accessed December 14, 2020, www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2018/January/Airline\_Economic\_Analysis\_AEA\_2017-18\_web\_FF.pdf.

Exhibit 2: Load Factor, Return on Sales, and Capacity of Global Airlines, 2018



Note: ASK = available seat kilometres; return on sales measured as operating income ÷ revenue.

Source: Prepared by the case authors with data from “World Airline Rankings 2018,” Flight Airline Business, 2018, accessed December 14, 2020, www.sipotra.it/old/wp-content/uploads/2018/11/World-airline-rankings-2018.pdf.

Exhibit 3: Cost Structure of Major Global Airlines (in US$)

Average Costs per Flight

| **Item** | **Cost** |
| --- | --- |
| Aircraft (per month) | $340,000 |
| Fuel (per hour) | $1,150 |
| Maintenance (per hour) | $700 |
| *Cockpit crew (per year):* |  |
| Salary | $120,000 |
| Training | $15,000 |
| *Cabin crew (per year):* |  |
| Salary | $50,000 |
| *Airport fees:* |  |
| Aircraft (per turn) | $2,500 |
| Aircraft (per leg) | $750 |
| Handling (per passenger) | $5 |
| Number of seats | 156 |
| **Cost per ASK** | **$8.19** |

Average Pricing per Flight for Select Routes

| **Route** | **Average Ticket Price** | **Distance (in km)** |
| --- | --- | --- |
| Paris, France to New York, United States | $509 | 5,849 |
| Frankfurt, Germany to New York, United States | $629 | 6,191 |
| London, United Kingdom to New York, United States | $452 | 5,541 |

Note: ASK = available seat kilometres; km = kilometres.

Source: Steve Saxon and Mathieu Weber, “A Better Approach to Airline Costs,” McKinsey & Company, July 13, 2017, accessed December 14, 2020, www.mckinsey.com/industries/travel-logistics-and-transport-infrastructure/our-insights/a-better-approach-to-airline-costs#; Flight Airline Business, *World Airline Rankings 2018*, 2018, accessed July 14, 2020, www.sipotra.it/old/wp-content/uploads/2018/11/World-airline-rankings-2018.pdf; prepared by case authors searching with the “Origins and Destinations” function for final data on routing shown on tickets for flights from Jan 1, 2019 to Dec 31, 2019 between JFK and CDG, GRA, and LHR from the “Market Intelligence,” Sabre, accessed July 14, 2020, [www.sabre.com/search/origins+and+destinations/](http://www.sabre.com/search/origins+and+destinations/). [Tables show tickets sold by Delta Air Lines Inc., Deutsche Lufthansa AG, and Singapore Airlines].

Exhibit 4: Income Statement of United Continental Holdings, 2017–2018   
(in Million US$, except per share data)

| **Statement of Consolidated Operations (Full Year Ended December 31)** | | |
| --- | --- | --- |
|  | **2018** | **2017** |
| *Operating revenue:* |  |  |
| Passenger | 37,706 | 34,460 |
| Cargo | 1,237 | 1,114 |
| Other operating revenue | 2,360 | 2,210 |
| Total operating revenue | 41,303 | 37,784 |
|  |  |  |
| *Operating expense:* |  |  |
| Salaries and related costs | 11,458 | 10,941 |
| Aircraft fuel | 9,307 | 6,912 |
| Regional capacity purchase | 2,610 | 2,232 |
| Landing fees and other rent | 2,359 | 2,240 |
| Depreciation and amortization | 2,240 | 2,149 |
| Aircraft maintenance materials and outside repairs | 1,767 | 1,856 |
| Distribution expenses | 1,558 | 1,435 |
| Aircraft rent | 433 | 621 |
| Special charges | 487 | 176 |
| Other operating expenses | 5,801 | 5,550 |
| Total operating expense | 38,011 | 34,113 |
|  |  |  |
| Operating income | 3,292 | 3,671 |
| Operating margin | 0 | 0 |
|  |  |  |
| *Non-operating income (expense):* |  |  |
| Interest expense | (729) | (671) |
| Interest capitalized | 70 | 84 |
| Interest income | 101 | 57 |
| Miscellaneous, net | (76) | (101) |
| Total non-operating expense | (634) | (631) |
|  |  |  |
| Income before income taxes | 2,658 | 3,040 |
| Pre-tax margin | 0 | 0 |
| Income tax expense | 529 | 896 |
| Net Income | 2,129 | 2,144 |
|  |  |  |
| Diluted earnings per share | 8 | 7 |
| Diluted weighted average shares | 277 | 304 |

Source: United Airlines Inc., “Form10-K: For the Fiscal Year Ended December 31, 2017*,”* United States Securities and Exchange Commission, accessed December 14, 2020, https://ir.united.com/node/6146/html; United Airlines Inc., “Form 10-K: For the Fiscal Year Ended December 31, 2018,“ United States Securities and Exchange Commission, accessed December 14, 2020, www.sec.gov/Archives/edgar/data/100517/000010051719000009/ual\_201810k.htm.

Exhibit 5: Balance Sheet of United Continental Holdings, 2017–2018 (in Million US$)

|  |  |  |
| --- | --- | --- |
| **Condensed Consolidated Balance Sheets (on December 31)** | | |
|  | **2018** | **2017** |
| ASSETS |  |  |
| *Current assets:* |  |  |
| Cash and cash equivalents | 1,694 | 1,482 |
| Short-term investments | 2,256 | 2,316 |
| Receivables, net | 1,346 | 1,340 |
| Aircraft fuel, spare parts and supplies, net | 985 | 924 |
| Prepaid expenses and other | 913 | 1,071 |
| Total current assets | 7,194 | 7,133 |
| Total operating property and equipment, net | 28,329 | 26,208 |
| *Other assets:* |  |  |
| Goodwill | 4,523 | 4,523 |
| Intangibles, net | 3,159 | 3,539 |
| Restricted cash | 105 | 91 |
| Loans to others, net | 496 | 46 |
| Investments in affiliates and other, net | 966 | 806 |
| Total other assets | 9,249 | 9,005 |
| Total assets | 44,772 | 42,346 |
| LIABILITIES AND STOCKHOLDER'S EQUITY |  |  |
| *Current liabilities:* |  |  |
| Advance ticket sales | 4,381 | 3,940 |
| Accounts payable | 2,363 | 2,196 |
| Frequent flyer deferred revenue | 2,286 | 2,192 |
| Accrued salaries and benefits | 2,184 | 2,166 |
| Current maturities of long-term debt and capital leases | 1,379 | 1,693 |
| Other | 600 | 576 |
| Total current liabilities | 13,193 | 12,763 |
| *Other liabilities and differed credits:* |  |  |
| Long-term debt and capital leases | 13,349 | 12,699 |
| Frequent flyer deferred revenue | 2,719 | 2,591 |
| Postretirement benefit liability | 1,295 | 1,602 |
| Pension liability | 1,576 | 1,921 |
| Deferred income taxes | 814 | 204 |
| Other | 1,831 | 1,832 |
| Total other liabilities and deferred credits | 21,584 | 20,849 |
| Stockholder's equity | 9,995 | 8,734 |
| Total liabilities and stocker holder’s equity | 44,772 | 42,346 |

Source: United Airlines Inc., “Form 10-K: For the Year Ended December 31, 2017,” United States Securities and Exchange Commission, accessed December 14, 2020, https://ir.united.com/node/6146/html; United Airlines Inc., “Form 10K: For the Year Ended December 31, 2018,” United States Securities and Exchange Commission, accessed December 14, 2020, www.sec.gov/Archives/edgar/data/100517/000010051719000009/ual\_201810k.htm.

Exhibit 6: Loyalty Program as an Independent Business: The Case of AIMIA

Aimia was the first ever airline loyalty program to function as its own independent, publicly traded, company. Before changing its name to Aimia in 2008, the company was known as Groupe Aeroplan, which was a spinoff from Air Canada created on May 5, 2005. The initial public offering raised approximately CAD$250 million for Air Canada and relieved the airline of all mileage liabilities. However, it also separated the company from its most loyal customers.

This was the first major instance of an airline separating itself from its loyalty program, and few companies have ever chosen to follow this model. From its inception, Aimia branded itself as a “loyalty and travel consolidator.” Although Air Canada’s loyalty program constituted a large portion of the company’s business, it did partner with and provide loyalty services to various other airlines. These airlines included Aerovías de México, S.A. de C.V. (Aeroméxico) and AirAsia Berhad. The services Aimia provided included loyalty program strategy, design, and operations consulting. These services were an attempt by the company to expand outside of simply being a holding company for Air Canada’s loyalty program, Aeroplan.

The strategy generally resulted in poor financial returns. Aimia’s median annual return on equity from 2005-2018 was –3.8 per cent. After 13 years of separation from its loyalty program, Air Canada decided to repurchase Aeroplan from Aimia in 2018.

The terms of the deal were complicated and involved several different parties. First, Air Canada agreed to pay Aimia CA$450 million in cash, which was used by Aimia mainly to repay outstanding debts. In return, by taking back its loyalty program, Air Canada assumed roughly CAD$1.9 billion in miles liability. Second, Air Canada received two payments, amounting to CAD$1.2 billion from Toronto Dominion Bank and Canadian Imperial Bank of Commerce. This money came in two forms: CAD$822 million was paid directly as cash and CAD$400 million was structured as pre-payments for future monthly miles payments. Third, Air Canada received an undisclosed payment from Visa Inc. along with a partnership commitment until 2030. In December 2018, Air Canada’s acquisition passed regulatory barriers and the airline was reunited with its loyalty program.

In April 2020, following the sale of its Aeroplan business, Aimia underwent a corporate transformation, rebranding itself as an investment holding company. In July 2020, several years after Air Canada’s acquisition of Aeroplan, Aimia remained a publicly listed company on the Toronto Stock Exchange. The company had a market capitalization of approximately CAD$300 million and 95 million shares outstanding. The company’s main assets comprised a 49 per cent stake in the loyalty program consulting service Kognitiv, a 49 per cent stake in Aeroméxico’s loyalty program, and a 20 per cent stake in AirAsia Berhad’s loyalty program. In April 2020, Aimia was also considering the acquisition of Mittleman Brothers LLC, a mutual fund with US$317 million in assets under management. Well into 2020, the corporate strategy of Aimia and the future of its 450 employees remained uncertain.

Source: Rajeshni Naidu-Ghelani, “How Aimia and Air Canada Got Here: A Timeline,” BNN Bloomberg, July 30, 2018, accessed December 14, 2020, www.bnnbloomberg.ca/aeroplan-timeline-1.1116041.

Exhibit 7: Actual (2015–2019) and Forecast (2020–2021) Revenues and Costs of Global Airlines

|  | **2015** | **2016** | **2017** | **2018** | **2019** | **2020F** | **2021F** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Revenue** | **721** | **709** | **755** | **812** | **838** | **419** | **598** |
| Change (in %) | –6.1 | –1.6 | 6.5 | 7.6 | 3.2 | –50 | 42.6 |
| Passengers (in billion) | 545 | 545 | 584 | 610 | 612 | 241 | 389 |
| Traffic volumes |  |  |  |  |  |  |  |
| Passenger growth, RPK (in %) | 7.4 | 7.4 | 8.1 | 7.4 | 4.2 | –54.7 | 55.2 |
| Scheduled passengers (in million) | 3,569 | 3,817 | 4,095 | 4,378 | 4,543 | 2,246 | 3,384 |
| Passenger yield (in %) | –10.3 | –7 | –0.9 | 2.6 | –3 | –18 | 4 |
|  |  |  |  |  |  |  |  |
| **Expenses** | **659** | **649** | **698** | **766** | **795** | **517** | **623** |
| Change (in %) | –10 | –1.5 | 7.6 | 9.7 | 3.7 | –34.9 | 20.5 |
| Fuel (in US$ billion) | 175 | 135 | 149 | 180 | 188 | 78 | 85 |
| Percentage of expenses (in %) | 26.5 | 20.9 | 21.4 | 23.5 | 23.7 | 15 | 13.6 |
| Brent crude oil price (in US$ per barrel) | 53.9 | 44.6 | 54.9 | 71.6 | 65 | 35 | 45 |
| Jet kerosene price (in US$ per barrel) | 66.7 | 52.1 | 66.7 | 86.1 | 77 | 36.8 | 51.8 |
| Fuel consumption (in billion gallons) | 81 | 85 | 90 | 95 | 96 | 60 | 78 |
| CO2 emissions (in million tons) | 774 | 812 | 860 | 905 | 914 | 574 | 748 |
| Non-fuel (in US$ billion) | 484 | 513 | 549 | 586 | 607 | 440 | 539 |
| Passenger load factor achieved (in %) | 80.5 | 80.4 | 81.5 | 81.9 | 82.5 | 62.7 | 73.8 |
|  |  |  |  |  |  |  |  |
| **Operating Profit** | **62** | **60.1** | **56.6** | **45.9** | **43.2** | **–98** | **–25.2** |
| Margin (in %) | 8.6 | 8.5 | 7.5 | 5.2 | –23.4 | –4.2 | –4.2 |
| **Net Profit** | **36** | **34.2** | **37.6** | **27.3** | **26.4** | **–84.3** | **–15.8** |
| Margin (in %) | 5 | 4.8 | 5 | 3.4 | 3.1 | –20.1 | –2.6 |
| Per departing passenger (in US$) | 10.1 | 9 | 9.2 | 6.2 | 5.8 | –37.5 | –4.7 |
| **Return on Invested Capital (in %)** | **7.9** | **7.2** | **6.8** | **6.5** | **5.8** | **–16.9** | **–4.9** |

Note: RPK = revenue passenger kilometre; CO2 = carbon dioxide.

Source: *“*Industry Statistics: Fact Sheet,” IATA [International Air Transport Association], June 2020, accessed December 14, 2020, www.iata.org/en/iata-repository/publications/economic-reports/airline-industry-economic-performance-june-2020-data-tables.

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