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The Economics of Flying: How Competitive Are the Friendly Skies?

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> "If the Wright brothers were alive today, Wilbur would have to fire Orville to reduce costs."
> —Herb Kelleher, Co-Founder, Chairman Emeritus and former CEO of Southwest Airlines[1]

Introduction

If you've ever traveled by plane, you know how stressful flying can be. Between the long lines and crowded flights, air travel is something most of us endure for business, family, or vacation. Several decades ago, however, the experience was quite different and even considered luxurious by some.[2] Flyers usually received complimentary meals, whereas flyers today receive complimentary peanuts or pretzels at best. Passengers also previously enjoyed more legroom and had a wider choice of seats, unlike today's crowded flights.[3] What changed?

Luxurious to No Frills

Prior to 1978, a government agency called the Civil Aeronautics Board regulated how much airlines charged and where they flew.[4] Because prices were regulated, airlines had to use **non-price competition** strategies to attract customers, including more frequent flights and higher quality meals.[5] While these amenities resulted in a more pleasant flying experience for those who could afford it, flights were rarely full since the high cost deterred potential customers.

In the late 1970s, Alfred Kahn, an economist who chaired the Civil Aeronautics Board, led the effort to deregulate the airline industry. He recognized that the lack of price competition prevented the market from operating efficiently because higher prices resulted in fewer people flying.[6] Kahn thought deregulation would introduce price flexibility and make tickets more affordable—benefitting consumers and filling more empty seats.[7] However, Kahn also believed that the airline industry would still need strong **antitrust laws** to "preserve the benefits of competition that deregulation was supposed to produce."[8]

Spurred by Kahn and other advocates of deregulation, Congress developed the Airline Deregulation Act. After passing with bipartisan support, President Jimmy Carter signed the act into law on October 24, 1978.[9] Along with the freedom to choose their own routes, the law allowed airlines to

GLOSSARY

Antitrust laws: Legislation that prohibits practices that restrain trade, such as price fixing and business arrangements designed to achieve monopoly power.

Barriers to entry: Anything that prevents the entry of firms into an industry.

Economies of scale: Factors that cause a producer's average cost per unit to fall as output rises.

Law of demand: As the price of a good or service rises, the quantity demanded of that good or service falls. Likewise, as the price of a good or service falls, the quantity demanded of that good or service rises.

Market power: The power to set prices; in other words, the ability to raise prices without losing all customers. Firms that are monopolistically competitive, oligopolistic, or monopolistic have market power, while perfectly competitive firms do not.

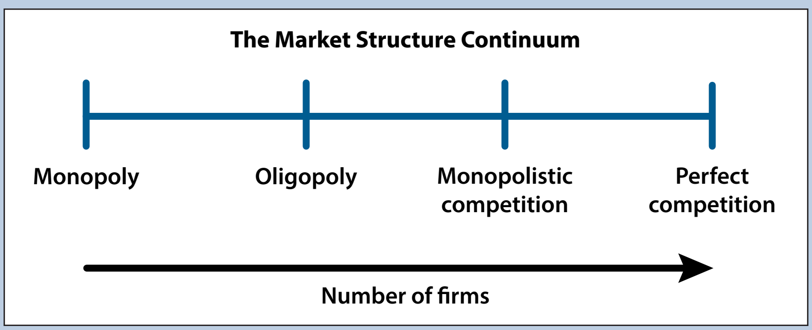
Non-price competition: Competition based on distinguishing a product by means of product differentiation, such as product quality or superior after-market service.

Oligopoly: A market structure with significant barriers to entry in which a few firms offer similar or identical products.

Unintended consequences: The unexpected and unplanned results of a decision or action.

The Four Market Structures

- **Perfect (pure) competition:** A very large number of firms sell an identical (homogeneous) product. In this structure, **barriers to entry** are nearly absent: When profits exist, new firms can enter the industry. In this case, no single producer has control over prices. Perfect competition is a theoretical market structure that is used to help understand existing market structures. U.S. markets that function close to perfect competition are wholesale markets for agricultural products. For example, thousands of U.S. farms produce corn and a given grade of corn is nearly identical regardless of who produces it.
- **Monopolistic competition:** Many firms produce similar but not identical products. While the products are very similar, firms use product differentiation, a strategy to distinguish their product from the competition. As such, there is some control over price and considerable non-price competition. There are weak barriers to entry, ensuring that new firms can enter the industry when profits exist. Examples include retail clothing stores, where each store carries a different line of products and caters to a specific type of consumer, and hair salons, where several firms compete on factors such as location, style, and level of service.
- **Oligopoly:** Few firms offer similar or identical products. Because only a few firms dominate the market, they have considerable **market power**. While new firms would like to enter the market to compete, there are often strong barriers to entry, including high startup costs and **economies of scale**, which allow larger businesses to produce more output at lower average costs. Firms sometimes collude (act together) to maintain high prices. In addition to the commercial aircraft industry, another common example of an oligopoly is the breakfast cereal industry: The four largest firms produce 78 percent of all breakfast cereal in the United States.*
- **(Pure) Monopoly:** There is a single seller of a good, service, or resource. A monopoly can determine the price of its product without the threat of competition. Firms are blocked from entering the industry. As such, monopolistic firms are often regulated to ensure they don't take advantage of their monopoly status. Like perfect competition, pure monopolies are a theoretical market structure. Utilities, such as providers of water and electricity, often function as monopolies. In this case, if the government doesn't provide the service, it usually grants one firm the rights to a specific market and then regulates the firm's actions.



While it might be tempting to categorize industries into one of the four market structure categories, in reality, industries lie on a continuum.

* McConnell, Campbell and Brue, Stanley. *Economics: Principles, Problems, and Policies*. McGraw-Hill/Irwin, 2012, p. 225.

set their own airfares.[10] While you might suspect that this freedom led to higher prices, the law actually checked price hikes by introducing competition in the airline industry, encouraging airlines to lower their airfares to attract customers. Existing airlines added flights and routes, and new airlines entered the market to compete for the best routes at the cheapest rates.[11] As a result, once adjusted for inflation, airfares declined by 30 percent between 1976 and 1990.[12]

Following the **law of demand**, as the price of airline tickets fell, consumers increased the quantity of airline tickets they demanded. By offering discounted airfares, airlines were able to fill more seats, which improved the efficiency of the industry by better utilizing available aircrafts.[13] However, one **unintended consequence** of the lower airfares and corresponding increase in consumer demand was a decline in the quality of the flying experience. To accommodate passengers who wanted a flying experience similar to the pre-deregulation years, airlines started offering business class seats for a premium. In addition to costing a few hundred dollars more than standard airfares, these seats include more space and inflight services. While airlines have the freedom to raise service quality and charge higher prices, consumers typically prefer lower airfares despite the lower-quality flying experience. This preference incentivizes airlines to adjust their flights to the average flyer, making business class the exception rather than the norm.[14]

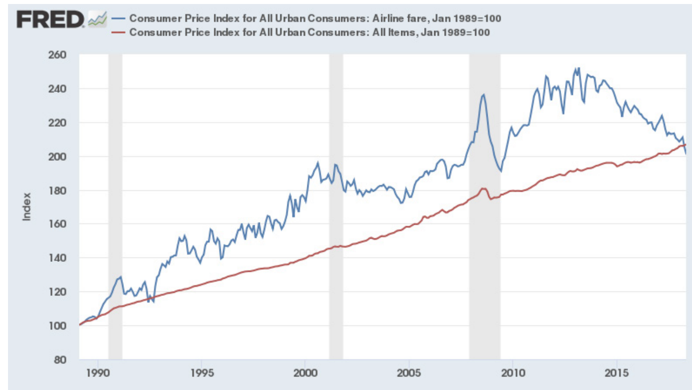
Is the Airline Industry an Oligopoly?

Although a healthy level of competition is important to maintain the best services for the lowest possible prices, competition does not always ensure the stability of an industry. Airlines have high fixed costs, which are costs that do not vary with the level of output in the short run; for airlines, fixed costs include buying and maintaining aircraft fleets. Conversely, variable costs fluctuate with the level of output. For airlines, these costs include fuel and salaries. Variable costs tend to be relatively low, although they can be volatile (e.g., fuel prices). Firms with a combination of high fixed cost and relatively low variable costs often attempt to spread their fixed costs across many units of output (e.g., airline tickets). For airlines, this combination creates economic incentives to grow very large. Economists explain this combination of factors as **economies of scale**, and it often results in a handful of very large companies dominating an industry.

How did this play out for airlines? After deregulation, competition pushed fares so low that, for many airlines, only variable costs were covered. Airlines won't typically lower prices below variable costs because then it would be cheaper for them to not fly at all. But keep in mind that covering only variable costs means that fixed costs haven't been accounted for. After deregulation, many airlines weren't covering the full cost of running the company. Predictably, this situation makes airlines susceptible (in the long run) to bankruptcy and mergers. Indeed, the more competitive environment caused the industry to take sustained losses between 1977 and 2009, particularly around 9/11 and at the onset of the Great Recession. As a result, the airline industry underwent a series of mergers between 2005 and 2015, decreasing from nine major airlines to just four: American, United, Delta, and Southwest. Combined, these airlines controlled 80 percent of the U.S. market in 2015,[15] making the U.S. airline industry arguably an **oligopoly**.[16] (See the boxed insert.)

Since the mergers helped bring struggling airlines out of bankruptcy, why should the oligopolistic nature of the industry cause concern? An oligopoly can introduce complications for consumers in a number of ways. For one, a smaller number of firms (less competition) means that firms can raise prices more easily without the threat of losing large numbers of customers. In addition, although new entrants have greater potential gains from entering a less-competitive market, it can be difficult to enter an oligopolistic industry because of high barriers to entry. For the airline industry, barriers to entry include high startup costs (e.g., a new Boeing 737 airplane can cost $80 to $116 million[17]), competition for airport gates, and large economies of scale.

Figure 1
The Rise and Fall of Airfares



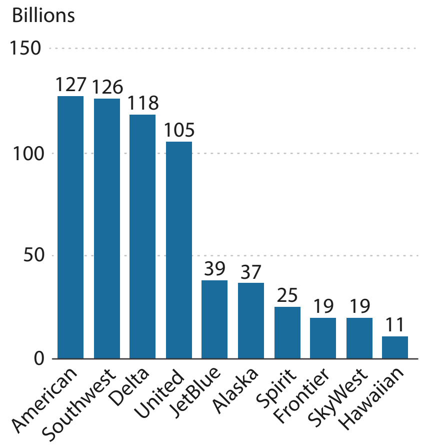
SOURCE: FRED®, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CUSR0000SETG01, accessed June 13, 2018.

Low-Cost Carriers: Reintroducing Competition

Airfares rose in the wake of the mergers, particularly since some airlines were attempting to pull themselves out of bankruptcy. However, airfares began to drop several years ago (Figure 1). If oligopolies have an increased level of **market power**, or the power to set prices, what has caused this recent decrease in airfares? Once again, a shift in the structure of the airline industry might help explain the shift in prices.

A number of low-cost carriers began expanding their routes in 2016, including Spirit Airlines and Frontier Airlines (Figure 2). Such carriers increase competition in the market by catering to price-sensitive fliers. The average one-way fare between Detroit and Philadelphia was over $300 prior to the expansion of Spirit Airlines; afterward, the fare decreased to roughly $183.[18] Southwest, well-known for its low-cost flights, also causes airfares to decrease when it adds routes. In fact, the phenomenon has been named the "Southwest Effect."[19]

Figure 2
Domestic Revenue Passenger Miles



NOTE: Data are for June 2017 to July 2018. Figures on bars are rounded. Revenue passenger miles are a measure of the volume of air passenger transportation. A revenue passenger mile is equal to one paying passenger carried one mile.

SOURCE: U.S. Department of Transportation, TranStats; https://www.transtats.bts.gov/, accessed September 28, 2018.

Larger airlines such as United and American tend to attract business travelers who want to enjoy amenities not provided by low-cost carriers. "Economy class" fliers, however, comprise the majority of travelers, making it imperative for the larger airlines to consider ways to attract them.[20] Thus, low-cost carriers pressure larger airlines to offer "basic economy" fares. As a result, airfares today are much more competitive across all airlines, regardless of whether the airline has traditionally been considered "low cost."

Conclusion

The proliferation of low-cost flights in recent years has pushed the airline industry, which was arguably an oligopoly, toward monopolistic competition. Like the airline industry, most other industries do not fall neatly into one of the four standard market structure classifications. In fact, market structures could be thought of as a continuum from pure monopoly to perfect competition. (See the boxed insert.) Although the lines between market structures are not always clear, market structures can help explain how firms might behave based on the number of buyers and sellers. They can also help explain how the prices of goods and services are determined.

The airline industry has undergone a number of major shifts, starting with the deregulation of the industry in 1978. The most recent shift, the expansion of low-cost flights, suggests that consumers prefer lower prices over higher-quality service. And it is possible that another structural shift could cause the airline industry to look very different from the way it looks today. ■

Notes

[1] B.R. "Our Favourite Air Lines." *Economist*, December 22, 2011; https://www.economist.com/gulliver/2011/12/22/our-favourite-air-lines.

[2] Collins, Mike. "Airline Deregulation and the Beleaguered Traveler." *Forbes*, May 5, 2015; https://www.forbes.com/sites/mikecollins/2015/05/05/airline-deregulation-and-the-beleaguered-traveler/#b3a7cad235ba.

[3] Collins (2015).

[4] Gowrisankaran, Gautam. "Competition and Regulation in the Airline Industry." Federal Reserve Bank of San Francisco *Economic Letter*, January 18, 2002; https://www.frbsf.org/economic-research/publications/economic-letter/2002/january/competition-and-regulation-in-the-airline-industry/.

[5] Chmura, Christine. "The Effects of Airline Regulation." Foundation for Economic Education, August 1, 1984; https://fee.org/articles/the-effects-of-airline-regulation/.

[6] Hershey, Robert D. Jr. "Alfred E. Kahn Dies at 93; Prime Mover of Airline Deregulation." *New York Times*, December 28, 2010; https://www.nytimes.com/2010/12/29/business/29kahn.html?mtrref=www.bing.com&gwh=D6FD8AE0980CC9852CF74BAE2AF42907&gwt=pay.

[7] Lang, Susan S. "Economist Alfred Kahn, 'Father of Airline Deregulation' and Former Presidential Adviser, Dies at 93." *Cornell Chronicle*, December 27, 2010; http://news.cornell.edu/stories/2010/12/alfred-kahn-father-airline-deregulation-dies-93.

[8] Elliott, Justin. "The American Way." *ProPublica*, October 11, 2016; https://www.propublica.org/article/airline-consolidation-democratic-lobbying-antitrust.

[9] Smithsonian National Air and Space Museum. "Deregulation: A Watershed Event." 2007; https://airandspace.si.edu/exhibitions/america-by-air/online/jetage/jetage08.cfm.

[10] Gowrisankaran (2002).

[11] Smithsonian National Air and Space Museum (2007).

[12] Kahn, Alfred. "Airline Deregulation." *Concise Encyclopedia of Economics*; http://www.econlib.org/library/Enc1/AirlineDeregulation.html, accessed September 4, 2018.

[13] Smithsonian National Air and Space Museum (2007).

[14] Russell, Karl. "Why We Feel So Squeezed When We Fly." *New York Times*, May 2, 2017, update; https://www.nytimes.com/interactive/2017/04/17/business/how-flying-changed.html.

[15] Mutzabaugh, Ben. "Era of Airline Merger Mania Comes to a Close with Last US Airways Flight." *USA Today*, October 15, 2015; https://www.usatoday.com/story/travel/flights/todayinthesky/2015/10/15/airline-mergers-american-delta -united-southwest/73972928/.

[16] Sorkin, Andrew. "As Oil Prices Fall, Airfares Still Stay High." *New York Times*, March 23, 2015; https://www.nytimes.com/2015/03/24/business/dealbook/as-oil-prices-fall-air-fares-still-stay-high.html.

[17] Asick, Paul. "How Much Does a Boeing 737 Cost?" 24/7 Wall St., March 13, 2017; https://247wallst.com/aerospace-defense/2017/03/13/how-much-does-a-boeing-737-cost/.

[18] Maidenberg, Micah. "How Low-Cost Airlines Alter the Economics of Flying." *New York Times*, September 1, 2017; https://www.nytimes.com/2017/09/01/business/budget-airlines-ticket-prices.html.

[19] Tuttle, Brad. "Does the 'Southwest Effect' Still Save Fliers Money?" *Money*, June 13, 2014; http://time.com/money/2791479/southwest-effect-cheaper-air-fares/.

[20] Maidenberg (2017).

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Federal Reserve Bank of St. Louis *Page One Economics*®:

"The Economics of Flying: How Competitive Are the Friendly Skies?"

After reading the article, complete the following:

1. After the airline mergers, the four remaining airlines had an increased level of market power. For consumers, this meant that they had to pay
   a. higher prices, regardless of consumer demand.
   b. lower prices, regardless of consumer demand.
   c. the same price because airfares were not impacted by market power.
   d. higher prices, but only for business class travelers.

2. After the airline mergers, the four remaining airlines had an increased level of market power. For the airlines, this meant that the remaining airlines had
   a. the power to limit competition.
   b. the power to choose the best routes.
   c. the power to perfectly price discriminate.
   d. the power to set airfares without losing all customers.

3. Why is it more difficult for firms to enter an oligopolistic industry than a highly competitive one?
   a. The low initial profits in the industry act as a deterrent for firms looking to enter the market.
   b. There are significant barriers to entry, including high startup costs.
   c. The market power of existing firms in the industry acts as a barrier to entry.
   d. New firms have difficulty differentiating their product in significant ways from the products of existing firms.

4. The fast food industry, where there are many firms with slightly differentiated menus, is best categorized as
   a. an oligopoly.
   b. a pure monopoly.
   c. perfect competition.
   d. monopolistic competition.

5. How do low-cost carriers impact other airlines?
   a. They increase competition, incentivizing other airlines to offer cheaper flights.
   b. They prevent other airlines from occupying popular routes.
   c. They create an incentive for other airlines to increase the quality of the flying experience.
   d. They incentivize other airlines to increase airfares to differentiate their product.

6. Before deregulation, airlines relied on __________ strategies to attract customers, whereas airlines relied more on __________ after deregulation.
   a. non-price competition; price competition
   b. price competition; non-price competition
   c. antitrust laws; market power
   d. antitrust laws; non-price competition

7. If the government were to grant a single airline sole access to a route from St. Louis to Washington, D.C., it would be reasonable to predict that
   a. airfares on the route would decrease.
   b. airfares on the route would increase.

8. Airlines demonstrate economies of scale because they often have __________ startup costs from the cost of buying airplanes and relatively __________ marginal costs from operating and maintaining aircrafts.
   a. high; high
   b. low; increasing
   c. high; low
   d. low; decreasing

9. If the airline industry could function under perfect competition, then there would be __________ firms and flights would be __________.
   a. few; identical
   b. many; differentiated
   c. many; identical
   d. few; differentiated

10. The market structure most associated with the fast food industry is __________ because the firms in the industry produce products that are __________.
   a. monopoly; unique
   b. oligopoly; similar or identical
   c. monopolistic competition; similar but not identical
   d. perfect competition; identical