Essential Question: 10 February 2021

What are the economic principles that drive the way airlines operate?

<table>
<tr><th>Questions/Key Points</th><th>Notes</th></tr>
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Since the Airline Industry was deregulated, almost all decisions and operations are made based on well-calculated economics.
As with many things, the airline industry is primarily affected by supply and demand.
Most decisions about pricing and scheduling are done automatically by computers and sometimes AI.
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Supply/Demand

https://www.mcgill.ca/iasl/files/iasl/airline_economics_psd.pdf
https://catsr.vse.gmu.edu/SYST660/LectureNotes_AirlineEconomics.pdf
https://web.archive.org/web/20070616175821/http://www.zinnov.com/presentation/Global_Aviation-Markets-An_Ananlysis.pdf
Supply - number of flights, availability of fuel, number of seats per flight, etc

It's not like an airline can adjust the size of an airplane to accommodate the number of people on that flight
There's often an oversupply of seats in the industry

Whenever airlines go bankrupt they don't just disappear; it usually gets absorbed into other airlines, or at least the assets do (like aircraft)
Airlines are seen as "too big to fail" so they often are one of the first companies to get bailed out by the government when they're in trouble. This also allows them to be somewhat reckless with their money (buybacks, etc.)

Demand - who wants to fly? How much are people willing to spend on a flight?

Airline industry is highly cyclical
Demand typically increases during summer months by quite a lot and drops during the winter; also changes by the day
Economic recessions also decrease demand
Airlines often struggle to cover all their costs, leading to cost-cutting, esp. In terms of service.
Types of airline passengers:

Business traveler - low flexibility in dates; willing to pay a higher price; books at the last minute; price starts lower and increases rapidly
Leisure traveler - highly flexible dates, wants to find the lowest cost possible. Usually books much earlier; the price starts higher

How do airlines price flights?

https://www.cnbc.com/2018/08/03/how-do-airlines-price-seat-tickets.html
Airlines often sell tickets at prices lower than the cost to break even

If the flight is too expensive, most people can choose to just not go and the airline will lose even more money

Airfares used to be calculated based on distance, but deregulation created a fiercely competitive industry and pricing became based on passenger demand. Prices dropped, but it made the industry very cutthroat. Certain airlines had an inherent advantage because they already held much of the market share.
Now, the price is calculated using ARM (airline revenue management). Computer algorithms determine the optimal price based on a number of factors, including overall demand, booking rates, and more complex considerations, such as connecting flights

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<td>The second most important factor when choosing a flight is the total travel time. Schedules are often based on this.

Frequent Flyer Programs started as a way to gain loyalty, but actually turned into a profitable business in itself.</td>
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- How do airlines schedule flights?
    - https://www0.gsb.columbia.edu/mygsb/faculty/research/pubfiles/546/546.pdf
    - https://www.popularmechanics.com/flight/airlines/a27588/heres-how-airlines-schedule-their-flights/
    - https://www.youtube.com/watch/dGXahSnA_oA
    - Passengers care about their connection time almost as much as the price of the flight
    - Banked hubs - many flights arrive/depart around the same time so that passengers minimize their connection time. More resource intensive, greater likelihood of delays
    - Rolling hubs - flights arrive and depart uniformly throughout the day; less resource intensive, longer connection times, good for LCCs b/c passengers are less fussy about the service
- FFPs
    - https://www.forbes.com/sites/advisor/2020/07/15/how-airlines-make-billions-from-monetizing-frequent-flyer-programs/?sh=1c98c77b14e9
    - Frequent Flyer Programs
    - Incentivises passengers to stay with a certain airline, esp b/c of fierce competition
    - Aimed towards business travelers or other passengers who otherwise fly often
    - If airlines can get passengers to always take flights on their airline, then they will make more money
    - Airline alliances are ways for multiple airlines to pool the benefits, while also making it more desirable for consumers to join FFPs with a certain alliance
    - Airlines also make money from this through contracts with banks and credit card companies
    - Airline miles actually act like their own form of currency, in a way
        - When you get a welcome bonus, the bank/cc has to buy the miles from the airline to give to you
        - When you redeem airline miles for a flight, it's not really a free flight. You've paid for it, but not upfront
- Geopolitical factors
    - Qatar/Saudi Arabia conflict; Saudi Arabia prevented Qatari flights from flying over their airspace for some time, increasing flight times by several hours b/c they had to fly around rather than directly in their airspace

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Summary

The commercial aviation industry is driven first and foremost by economics. Supply and demand rules over almost all the decisions airlines make and the way they do things. The airline industry is highly cyclical because demand is not steady throughout a given year or time period. This also means that the industry is highly sensitive to major events (9/11, COVID-19).