Outline

A. Introduction to airline finance
B. Industry financial performance
C. Sources of finance
D. Settlement
A. Introduction to airline finance
Key financial elements of the airline industry

- Capital intensive industry,
  - with long lived assets
- Significant use of leasing
- High operating leverage
  - despite high capital costs
- Pro-cyclical industry
- Foreign exchange
- Government limits on equity financing from foreign sources
Capital expenditures

• The airline industry has high capital needs to finance aircraft and other assets
  • Capital costs represent over 15% of total operating costs
  • double the requirements of the manufacturing sector

• Capital expenditures include:
  • Aircraft purchase
  • Aircraft maintenance and refurbishment
  • Lease of airport facilities
  • Significant IT investments
  • Ground property & equipment at 100+ spokes

Source: Morrell (2007)
Planning horizon

The airline industry has long planning cycles

- **Airline capital assets have long lives**
- **Adding an aircraft type to the fleet**
  - 3+ years to make a decision
  - initial aircraft purchased have life of 20+ years
  - airline will continue to purchase that aircraft type for another 10-15 years
  - total life cycle can be up to 40 years
- **Boeing 747 planning decisions began in the 1960s still in fleets of many carriers**
Aircraft price

• Bombardier Q400
• 68-80 seats
• range up to 2500 km
• Unit price $27m
Aircraft price

- Boeing 787 Dreamliner
  - 250-290 seats
  - range up to 15700 km
  - $160-200m depending on modification

- Airbus A380
  - 525-853 seats
  - range up to 15400 km
  - $350-390m depending on specifications
Aircraft orders and delivery

• There is a lag between aircraft orders and deliveries.
  • Delivery may occur during an economic downturn, negative profits and declining cash
  • With no traffic growth to absorb capacity

• Aircraft orders depends on:
  • projections for economic and traffic growth
    • decline in income-traffic growth multiplier
    • the real cost of air travel
  • expectations of aircraft shortage
  • Cash and financing availability
Aircraft orders and delivery

Source: Gallagher, 1995. “Aircraft finance and airline financial analysis in the fifth cycle of the jet age”
High operating leverage

• **Industry capacity is “lumpy”**
  - i.e., you can’t fly 45% of a plane

• **Fixed costs constitute a high proportion costs.**
  - In the short run, flight costs are relatively invariant to actual passenger/cargo loads.

• **Thus incremental revenues can dramatically increase bottom line contribution**
Pro-cyclical industry

- Income elasticity is 1.5 to 2.0
- This implies that as economy cycles, air transport will cycle up (or down) at almost double the rate

Source: InterVISTAS (2010)
Foreign exchange

• Major airlines sell tickets in many markets in many currencies.

• Costs are typically not balanced with revenues in a particular currency.

• Currency fluctuations are important as many costs are in the US currency (or Euros):
  • Aircraft purchased in US (a/c are #2 US export)
  • Fuel markets tend to be in US dollars
  • US financial markets among the largest sources of airline and aircraft finance
Limits of foreign equity

- Governments may restrict foreign ownership in certain industries
  - broadcasting
  - telecom
  - inner and coastal water transport
  - nuclear power
  - etc.

- Airline must be predominantly domestically owned and controlled.
- This forces airlines to raise equity in domestic markets, potentially at a higher cost than could be obtained in other financial markets.
Poor financial performance…

• The airline industry faces challenges in attracting investors to finance extensive capital requirements.

• Main challenges:
  • poor financial performance
    • intense competition
    • economic recessions, terrorist attacks, natural disasters, epidemics, etc.
  • High operating leverage
  • most airlines are rated as non-investment grade (“junk bonds”) => high cost of borrowing
Profitability in the global airline industry

Inflation Adjusted Annual Net Profit

Airline corporate credit rating

Operating ratio in air transportation

- Operating Ratio
  \[\text{Operating Ratio} = \frac{\text{operating expense}}{\text{operating revenue}}\]

- 1960-1977:
  US average OR of 94.2

- 1978-1995:
  US average OR of 98.3

- 1977-1992:
  global revenue $2 trillion
  operating profit 2%
  net profit 0.6%

Source: Gritta and Seal (2009); Dempsey (2006)
Challenges in airline finance

• Gerard J. Aprey (American Airlines):

  • “WANTED: Airline industry seeks investors willing to finance billions of dollars of aircraft deliveries and other capital improvements…”

  • “…Will offer choice of junk bonds, stocks consistently underperforming the S&P 500, and uncertain aircraft residual values to those who apply.”
Sources of finance
Sources of finance

- Equity financing
- Debt financing
- Third-party financing
  - aircraft manufacturers
  - engine manufacturers
- Leasing
- Internal financing
  - Retained earnings equity
Equity financing

An airline can raise capital by issuing shares.

- **Common shares**
  - full voting shares with no restrictions.
    - Shareholders are owners
    - Right to vote at shareholder meetings
    - Right to receive dividends
    - Right to receive the value of liquidated assets

- **Preferred shares**
  - a special class of shares with preferential rights.
    - E.g., payment of dividends prior to other shareholders
    - Repayment of liquidated value prior to other shareholders
    - Sometimes can be converted into common shares
    - Trade off between voting rights and better privileges
Trends in equity financing

- **Privatisation**
  - Privatisation has been major user of equity markets
  - Previously, only US had major private airlines and hence few countries had developed airline equity markets and support institutions

- **IPO**
  - Launch of new air carriers, IPO of government airline
  - Often, new carriers launched by private placement, with subsequent IPO

- **Airline stocks are viewed as “traders”**
  - Often viewed as trading stocks, not long-term investments
Debt financing

- Debt financing
  - Banks
  - Insurance companies, super-annuity funds, etc.
    - Long life assets of airlines match long life liabilities of insurance/annuities
  - Loans in the form of a bond, debenture or note
    - Typically provides a fixed rate of return to investors
    - Some debentures may enable investors to tap into profits (e.g. income debentures, participating debentures)
    - Income and participating debentures have advantage over preferred shares
      - No board approval is required to pay dividends
      - Repayable at a fixed time
Third-party financing

• **Airframe manufacturers**
  • becoming an increasing source of finance for new aircraft purchases
  • sometimes will agree to acquire an airline’s old equipment

• **Engine manufacturers**
  • a large component of total aircraft price
  • on some aircraft models, very intense competition between engine manufacturers
Lease

- **Operating lease**
  - The asset is not fully amortized over the lease term
  - The lessee does not acquire title to the asset
  - Annual lease payment appears as expense item on income statement (tax advantages)

- **Capital lease**
  - The asset is fully amortized over a fixed lease term
  - Lease payments cover capital costs + lessor’s profit
  - The lessee may acquire asset at the end of the term (purchase option)
Increase in operating leases

Source: Historical data ACAS; forecast AVITAS
Lease classification

- **Dry lease**
  - Lease of aircraft, but not aircrew

- **Wet lease**
  - Lease of aircraft and aircrew

- **Damp lease**
  - Part of the crew is provided by the lessee and part by the lessor (e.g., Air France lease to Air Seychelles)

- **Swap lease**
  - Airlines swap aircraft depending on high/low season

- **Cross-border lease**
  - Double-dip lease, Irish lease, Samurai lease
Lease

• **Advantages of leasing**
  • A lessor retains title to the aircraft
    • The provides protection of lessor against insolvent debtors
  • A lessee benefits from tax incentives
  • Leasing can lower equipment costs compared to other sources

• **Problems with leasing**
  • Withholding of taxes
  • Double sales tax
    • (e.g., sale-and-leaseback in certain provinces in Canada)

Internal financing

- Internally generated cash from operations
  - Retained earnings
  - As fleets are depreciated, airlines become strong cash generators
  - May be cheaper than borrowing
  - Avoids cash flow drain of interest payments on debt
  - But requires sufficient retained earnings

- Converting existing assets into cash
  - Sale of aircraft and other equipment
  - Sale and leaseback of equipment
  - Sale of residual value of leased aircraft
Other forms of finance

- **Enhanced equipment trust certificates (EETC)**
  - an airline may issue bonds to pay for the acquisition of aircraft
  - a special purpose vehicle (SPV) is a company set up to raise cash and purchase aircraft
  - the airline makes lease payments to SPV which are remitted to the bond holders in the form of interest payments
IATA settlement systems

• IATA maintains financial settlement systems for transactions between airlines and other parties (forwarders, travel agents) in air cargo and passenger markets.

• In 2012, IATA financial systems processed transactions worth $367 billion
  
  • IATA Clearing House (ICH) - $52 billion
  • IATA Currency Clearing Service - $36 billion
  • Billing and Settlement Plan (BSP) - $252 billion
  • Cargo Account Settlement Systems (CASS) - $31.7 billion

Source: IATA Fact Sheets
IATA settlements - passengers

- **IATA’s Billing and Settlement Plan (BSP)**
  - A system designed to facilitate airline ticket sales and remittances between travel agents and airlines
    - Used by IATA accredited travel agents
    - TAs get access to more than 240 IATA airline members
  - BSP is closely linked to IATA Agency Program

Source: IATA Fact Sheets
IATA settlements - cargo

• IATA’s Cargo Accounts Settlement Systems (CASS)
  • A system designed to facilitate sales and settlement of accounts between airlines and freight forwarders
    • Used by IATA accredited forwarders at no cost
    • Non-accredited forwarders may access for a fee
    • Member and non-member airlines pay a fee to participate
      • $2,500 for members and $3,500 for non-members
  • In 2012, CASS processed $32 billion in transactions

Source: IATA Fact Sheets
IATA settlements - banker

- **IATA’s CASS and BSP programs make IATA a banker**
  - IATA BSP/CASS has fiduciary responsibility to protect the payments due to airlines
  - It continually monitors financial health of airlines and agents/forwarders
  - If necessary, IATA can terminate access to BSP/CASS or initiate bankruptcy proceedings against an airline/agent/forwarder

Source: IATA Fact Sheets
Thank You!

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