16.71J/1.232J/15.054J/ESD217J The Airline Industry – FALL 2010

Prereq: --
G (Fall)
3-0-9
MW 1-230 Room 33-419

Overview of the global airline industry, focusing on recent industry performance, current issues and challenges for the future. Fundamentals of airline industry structure, airline economics, operations planning, safety, labor relations, airports and air traffic control, marketing, distribution, and competitive strategies, with an emphasis on the interrelationships among major industry stakeholders. Recent research findings of the MIT Global Airline Industry Program are showcased, including the effects of bankruptcies and legacy carrier restructuring, fuel cost and profitability issues, impacts of congestion and delays on airlines and passengers, changing human resource management practices, and competitive effects of low-cost carriers (LCCs). This subject is taught by faculty participants of the Global Airline Industry Program (web.mit.edu/airlines).

INSTRUCTORS

	MIT Office	Phone	E-mail
Dr. Peter Belobaba (coordinator)	33-318	3-7573	belobaba@mit.edu
Prof. Arnold Barnett	E53-379	3-2670	abarnett@mit.edu
Prof. Cynthia Barnhart	1-206	3-3815	cbarnhar@mit.edu
Prof. R. John Hansman	33-303	3-2271	rjhans@mit.edu
Prof. Tom Kochan	E52-583	3-6689	tkochan@mit.edu
Prof. Amedeo Odoni	33-219	3-7439	odoni@mit.edu
Prof. Jody Hoffer Gittell	E62-434	617-697-5065	jhoffer@mit.edu
Prof. Nancy Rose	E52-280B	3-8956	nrose@mit.edu
Mr. William Swelbar	33-318	3-6948	swelbar@mit.edu

REQUIRED TEXTBOOK

Belobaba, P., Odoni, A., and Barnhart, C., (eds.), The Global Airline Industry, John Wiley & Sons Publishers, 2009.

Additional readings, data and materials will be posted to the class Stellar web site.

ASSIGNMENTS AND FINAL PROJECT

Throughout the course, students will complete assignments (both individually and in groups) and, ultimately, a final group project. Individual assignments will enable students to analyze available data and other information relevant to existing airlines and their performance, while the final project will take the form of a complete "business plan" for a new entrant airline developed by each student group.

Wed. 9/08 Introduction: Airline Industry Overview – Belobaba
Airline terminology; overview of world airlines, including statistics on industry's size; numbers and types of US airlines by category; recent performance; Airline deregulation and impacts on competition; Current industry challenges and evolution since 2000.

Mon. 9/13 Recent Trends in the Airline Industry – Hansman
Review of US airline industry conditions before 9/11; Operational impacts of 9/11 events and changes to industry environment; Major trends and forces affecting the global airline industry; Changing roles of principal stakeholders; New developments, opportunities and constraints.

TEXTBOOK: Chapter 1

Wed. 9/15 Institutional, Regulatory and Statutory Environment – Odoni
Survey of the US and international regulatory environments; international aviation agreements, bilaterals and multilaterals; institutional and regulatory status of airports in the US and overseas; major aviation organizations and their roles.

TEXTBOOK: Chapter 2

Mon. 9/20 Fundamentals of Airline Markets and Competition -- Belobaba
Basic airline profit equation; Spatial definitions of origin-destination markets; Price, frequency, and service quality impacts on air travel demand; Market share and frequency share models.

TEXTBOOK: Chapter 3

ASSIGNMENT #1 (Belobaba): Analysis of traffic and financial performance data; Market share model; Differential pricing; Traffic and fares in domestic origin-destination markets.

Wed. 9/22 Introduction to Pricing and Revenue Management – Belobaba
Overview of airline differential pricing practices; Price discrimination vs product differentiation; Use of RM systems to maximize revenues; Recent changes in the airline pricing environment.

TEXTBOOK: Chapter 4

Mon. 9/27 Airline Operating Costs and Productivity – Belobaba
Components of Airline Costs; Flight Operating Costs -- fuel, crew, maintenance, ownership; Comparisons among airlines; Total costs vs. unit costs; Measures of airline productivity.

TEXTBOOK: Chapter 5

Wed. 9/29 Airline Pricing Strategies and Competitive Impacts – Rose
Review of economic studies of airline pricing strategies, including fare dispersion in individual O-D markets, evidence of hub premiums in monopoly markets, and potential for predatory or collusive pricing.

TEXTBOOK: Chapter 4

Mon. 10/04 Legacy vs. LCC Airlines: Cost and Productivity Convergence – Swelbar
Growth of low-fare airlines and prospects for future expansion; Re-structuring by legacy carriers and challenges for low-fare airlines; Evidence of convergence of costs and productivity.

TEXTBOOK: Chapter 5

ASSIGNMENT #1 DUE

Wed. 10/06 Fleet Planning and Aircraft Acquisition – Belobaba
Airline fleet procurement and acquisition process; Overview of current aircraft products and orders; Aircraft characteristics/selection criteria for airlines; Comparison of airline fleets.

TEXTBOOK: Chapter 6

ASSIGNMENT #2 (Belobaba): Airline operating costs and productivity measures; Route profit evaluation; Fleet composition and network strategies of US airlines.

Mon. 10/11 NO CLASS -- Columbus Day Holiday

Wed. 10/13 Route Planning and Schedule Development – Belobaba
Economics of hub operations vs. point-to-point services; Route profitability evaluation; Steps in schedule development process – frequency, timetable, fleet assignment.

TEXTBOOK: Chapter 6

Mon. 10/18 Evolution of US Airline Networks – Swelbar
Recent developments in US airline network strategies; Emphasis by legacy carriers on hubs, regional jets, international growth; Impacts of LCCs on networks and competition.

Wed. 10/20 IT in Distribution and Passenger Processing – Belobaba
Computer reservations and distribution systems; Effects of e-commerce on distribution, costs, and revenues; Impacts of internet channels on fares and passenger choice; Innovations in passenger processing and airport customer services.

TEXTBOOK: Chapter 15

ASSIGNMENT #2 DUE

Mon. 10/25 Airline Operations (I) – Hansman
Overview of the major operational functions at an airline; maintenance planning, system operations control center.

TEXTBOOK: Chapter 8

Wed. 10/27 Airline Operations (II) – Hansman
Day of departure activities; dispatch, load planning; airport departure/arrival and ramp operations; irregular operations.

TEXTBOOK: Chapter 8

Mon. 11/01 ***MID-TERM EXAM***

Wed. 11/03 **"Five Reasons Why the Airline Industry Will Never Be Profitable"**
Guest Lecture: Montie Brewer, Former President and CEO, Air Canada

Mon. 11/08 **Human Resource Management in Airlines** – Gittell
Different approaches to HRM in the industry – hiring, outsourcing, seniority, employee empowerment, teamwork and coordination, and performance measurement. Examples include Southwest and JetBlue, with comparisons to conventional industry HRM approaches.

TEXTBOOK: Chapter 10

ASSIGNMENT #3 (Gittell): Exploration of labor and human resource management issues specific to individual airlines -- History of union representation; Employment and wage trends; Recommendations for labor and HR strategy.

Wed. 11/10 **Airline Labor Relations** – Kochan
History of major unions and relationships with carriers; Role of RLA and NMB for regulating labor actions; Impacts of deregulation on employment and wage trends; Alternative models of labor-management relations; Recent empirical research into effects of unionization on stakeholder outcomes.

TEXTBOOK: Chapter 10

Mon. 11/15 **Aviation Safety and Security I: How Safe?** – Barnett
Estimating the mortality risk of commercial air travel; Public perceptions about aviation risk; The effect of such perceptions on flying behavior.

TEXTBOOK: Chapter 11

Wed. 11/17 **Aviation Safety and Security II: Specific Hazards** – Barnett
Collision risks, both on the ground and in the air; Terrorism.

TEXTBOOK: Chapter 11

ASSIGNMENT #3 DUE

ASSIGNMENT #4 (Barnett): Exploration of safety/security issues from perspective of individual airlines.

Mon. 11/22 **Airport Characteristics, Capacity and Congestion** – Odoni
Physical characteristics of major airports; runway capacity and delays; alternative terminal building configurations; access by airlines to congested airports: slot coordination and other demand management approaches.

TEXTBOOK: Chapter 12

Wed. 11/24 Overview of Air Traffic Control – Hansman
Description of current system in US; processing of a typical IFR flight; diversity of ATC systems around the world; navigation, surveillance and communications technologies in use; opportunities for additional automation and likely future advances in traffic flow management.

TEXTBOOK: Chapter 13

Mon. 11/29 Airline Responses to Congestion Issues – Barnhart
Response to infrastructure limitations; impacts on airline performance of network structures and schedule robustness, recovery strategies/ policies and effects of delays on passengers.

TEXTBOOK: Chapter 9

ASSIGNMENT #4 DUE

Wed 12/01 Looking Back and Ahead: Prospects for US Airlines – Swelbar
Impacts of deregulation, 30 years later; Principal drivers of industry change; Current industry transformation and potential outcomes; Changing roles for US carriers in the global aviation arena.

TEXTBOOK: Chapter 16

Mon. 12/06 Team Presentations

Wed. 12/08 Team Presentations

FINAL REPORT DUE: FRIDAY 10 DECEMBER

GRADING

Assignment #1 – Airline Overview and Market Characteristics (Individual)		15%
Assignment #2 – Fleets and Operating Costs (Indiv idual)		15%
MID TERM EXAM (Individual)		25%
Assignment #3 – Labor Relations (Group)		10%
Assignment #4 – Safety/Security (Individual)		10%
TEAM PROJECT:	In-Class Presentation (Group)	10%
	Written Report (Group)	10%
Class Attendance and Participation		5%

MIT International Center for Air Transportation

Introduction: Airline Industry Overview

Dr. Peter P. Belobaba

16.71J/1.232J/15.054J/ESD217J

The Airline Industry

September 8, 2010

Introduction: Airline Industry Overview

- **World Airline Industry Statistics**
  - Historical Trends in Traffic, Capacity and Profits
- **Airline Terminology and Measures**
- **US Airlines by Category**
  - Traffic, capacity, load factors and yield
- **Deregulation and Liberalization**
  - US Deregulation Experience
- **US Airline Performance Update**
  - Industry Challenges Since 2000 and Current Outlook

World Airline Industry Statistics 2009

	US Airlines	World (IATA)
Certificated airlines	100	1 700
Commercial aircraft	7 132	27 000
Scheduled departures	10.1 million	28.6 million
Employees	536 000	2 500 000
Passengers enplaned	704 million	2.2 billion
Passenger Traffic Growth	-5.3%	-2.1%
Cargo Traffic Growth	-11.9%	-9.8%
Operating Revenues (USD)	$155 billion	$483 billion
Operating Profit (USD)	$2.4 billion	-$1.2 billion
Net Profit (USD)	-$2.5 billion	-9.9 billion

Airline Terminology and Measures

- **Airline Demand**
  - RPM = Revenue Passenger Mile
    - → One paying passenger transported 1 mile
  - Yield = Revenue per RPM
    - → Average fare paid by passengers, per mile flown
- **Airline Supply**
  - ASM = Available Seat Mile
    - → One aircraft seat flown 1 mile
  - Unit Cost = Operating Expense per ASM ("CASM")
    - → Average operating cost per unit of output
- **Load Factor = RPM / ASM**
- **Unit Revenue = Revenue/ASM ("RASM")**

Example: Airline Measures

- **A 200-seat aircraft flies 1000 miles, with 140 passengers:**

  RPM = 140 passengers X 1000 miles = 140,000
  ASM = 200 seats X 1000 miles = 200,000

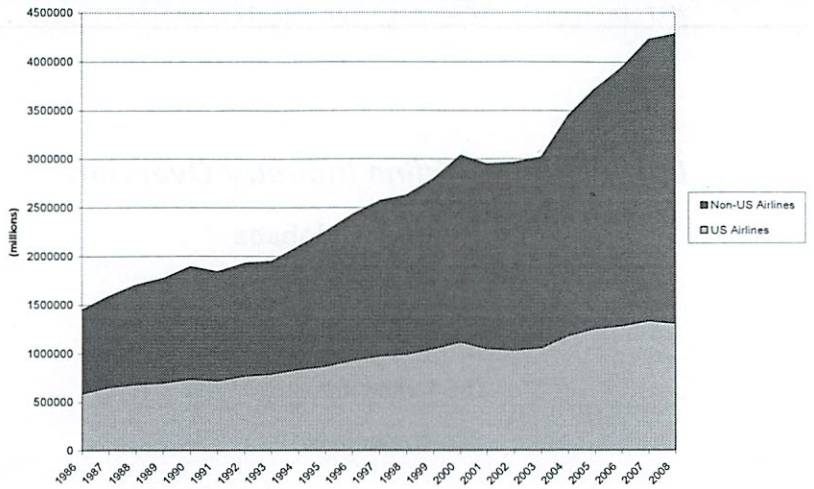
- **Assume total revenue = $16,000; total operating expense = $15,000:**

  Yield = $16,000 / 140,000 RPM = $0.114 per RPM
  Unit Cost = $15,000 / 200,000 ASM = $0.075 per ASM
  Unit Revenue = $16,000 / 200,000 ASM = $0.080 per ASM

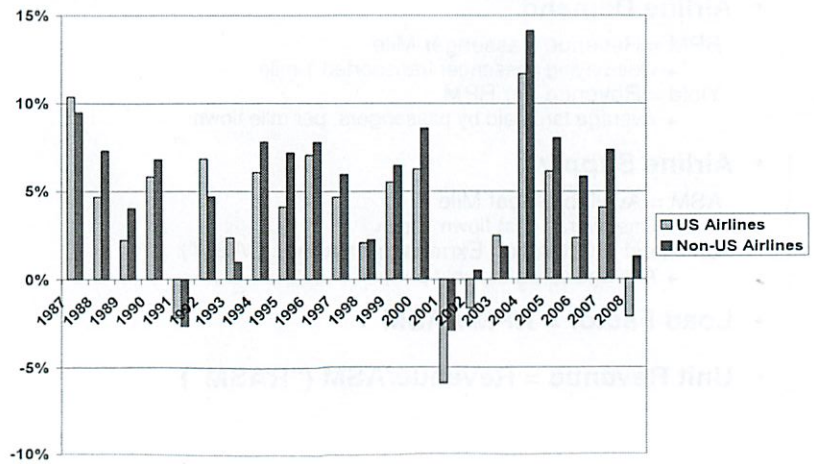
- **Load Factor = RPM / ASM**

  LF = 140,000 / 200,000 = 70.0%
  → For single flight, also defined as passengers / seats

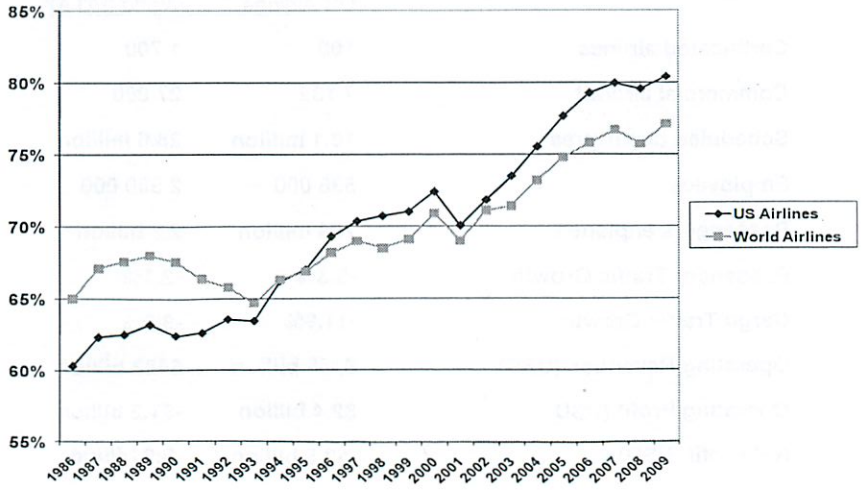
Airline Traffic (RPK) Growth 1986-2008



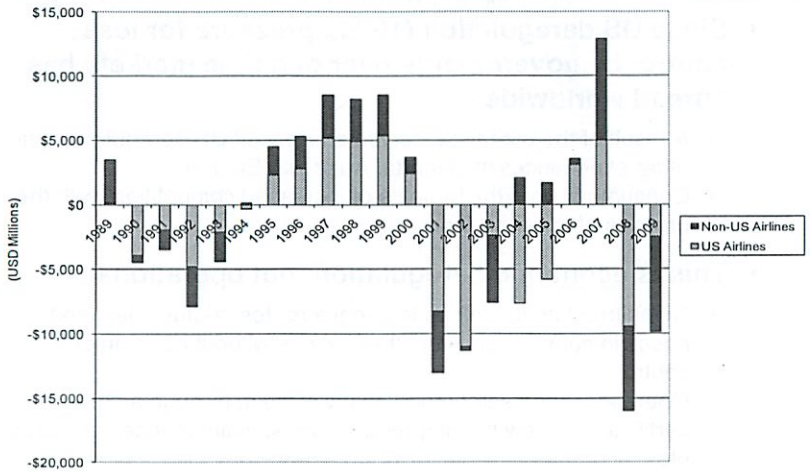
Annual % RPK Growth 1987-2008



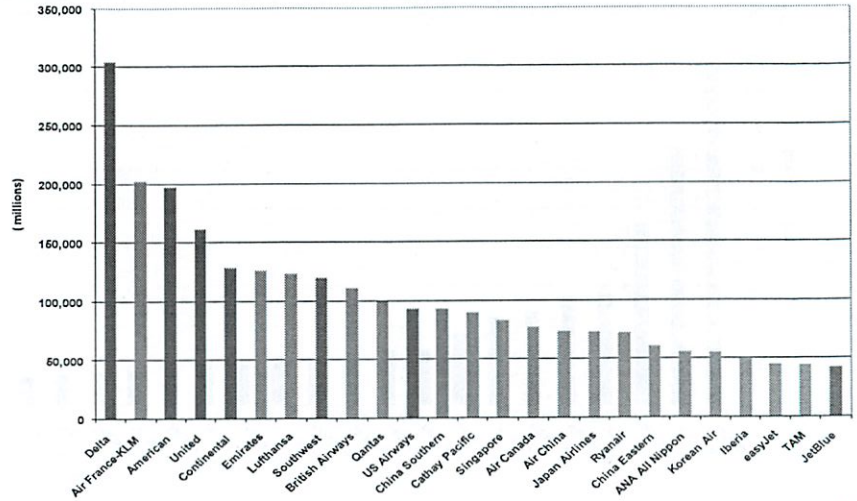
Average Load Factors 1986-2009



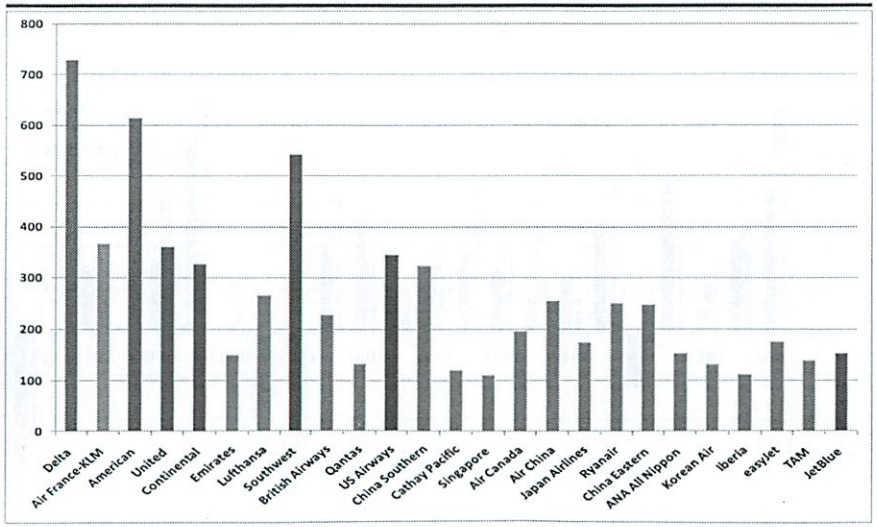
World Airline Net Profits 1989-2009



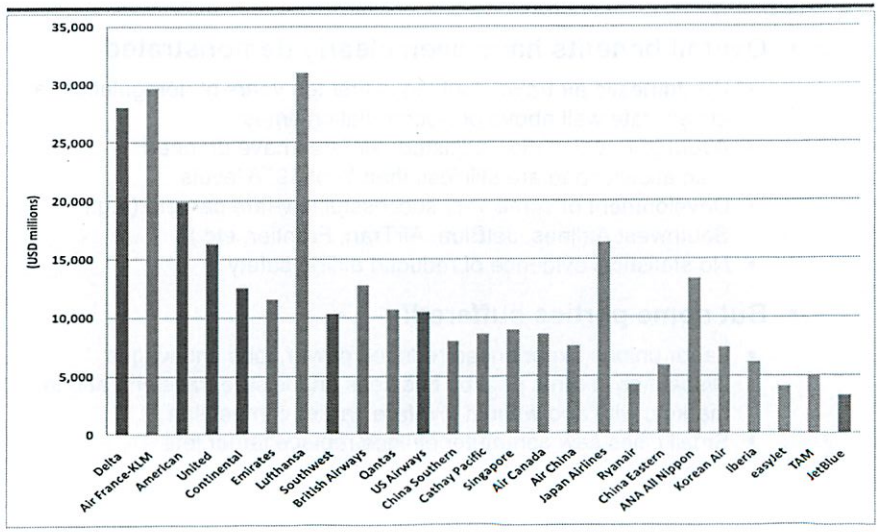
Top 25 World Airlines – Ranked by Passenger Traffic (RPK) 2009



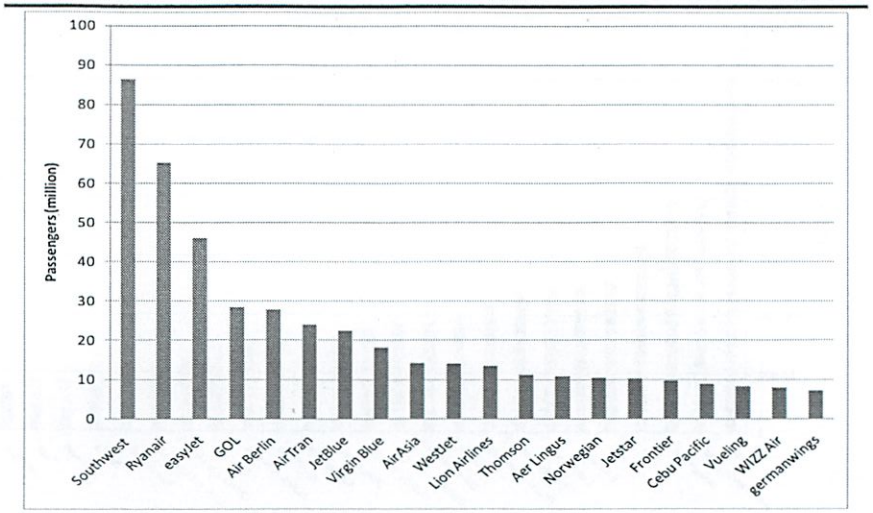
Airline Fleets 2009 – US Airline Fleets are Substantially Larger



Top 25 World Airline Groups – Total Operating Revenues 2009



World LCC Rank by Passengers Carried 2009



Source: Airline Business Database, May 2010

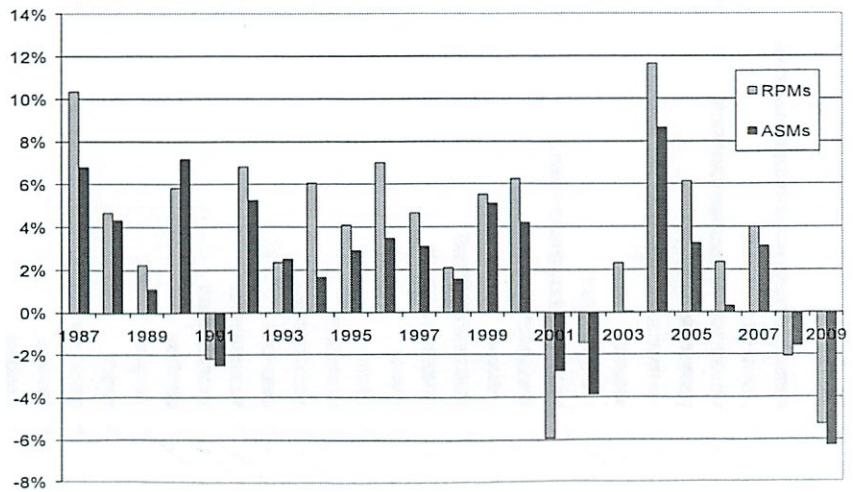
Deregulation and Liberalization

- **Since US deregulation (1978), pressure for less control by governments over of airline markets has spread worldwide:**
  - A result of the overall perceived success of US deregulation and other experiences in Canada, Australia, Europe
  - Consumers want the benefits of increased competition, with the promise of lower air fares
- **This is economic deregulation, not operational:**
  - Gives freedom to airlines to choose routes, frequencies, and prices in competition with other airlines without government control
  - Operational and safety regulations remain, through airline certification, crew training requirements, maintenance standards, etc.

US Deregulation Experience

- **Overall benefits have been clearly demonstrated:**
  - US domestic air travel doubled in first ten years of deregulation, a growth rate well above pre-deregulation times
  - Average real (inflation adjusted) air fares have dropped dramatically, and are still less than ½ of 1978 levels
  - Development of some very successful low-fare carriers (e.g., Southwest Airlines, JetBlue, AirTran, Frontier, etc.)
  - No statistical evidence of reduced airline safety
- **But some parties suffered:**
  - Labor unions experienced reduced power, jobs and wages
  - Disparities in fares paid by business and leisure travelers, and in markets with and without low-fare carrier competition
  - Small cities saw commuter airlines replace larger jets

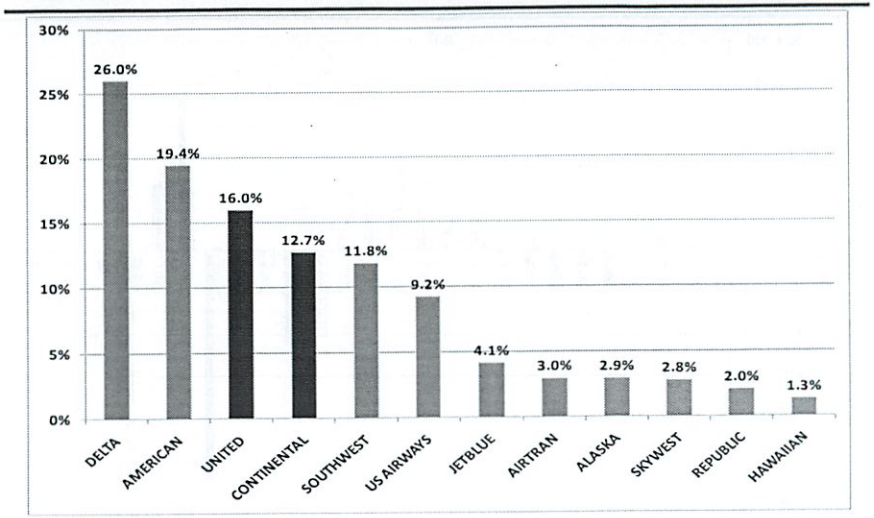
US Airlines Annual RPM and ASM Growth



US Airlines by DOT Category – 2009

- **"Major" carriers with annual revenues > $1 billion**
  - By RPM Rank: Delta, American, United, Continental, Southwest, US Airways, JetBlue, AirTran, Alaska, SkyWest, Republic/Frontier, Hawaiian, American Eagle
  - Account for 96% of total passenger traffic carried by US airlines
- **"National" carriers with annual revenues between $100 million and $1 billion**
  - Largest include ExpressJet, Mesa, Spirit, Atlantic Southeast, Pinnacle, Comair, Midwest, Allegiant, Horizon, Virgin America
- **"Regional" carriers with annual revenues < $100 million**
  - Primarily commuter and smaller carriers such as Sun Country, Colgan, Great Lakes …

US Carrier RPM Traffic Share 2009



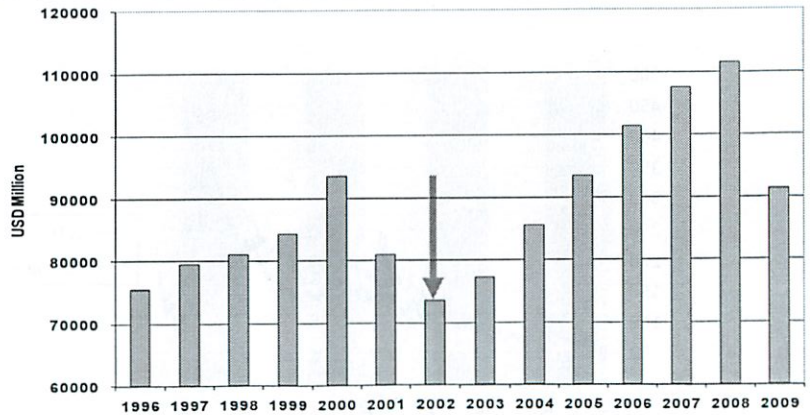
Source: Aviation Daily, 1/21/2010

US Legacy and Low Cost Airlines

Network Legacy Carriers	Low Cost Carriers
AA – American Airlines	WN – Southwest Airlines
UA – United Air Lines	B6 – JetBlue Airways
DL – Delta Air Lines (incl. NW)	FL – AirTran Airways
CO – Continental Airlines	F9 – Frontier Airlines
US – US Airways (incl. HP)	VX – Virgin America

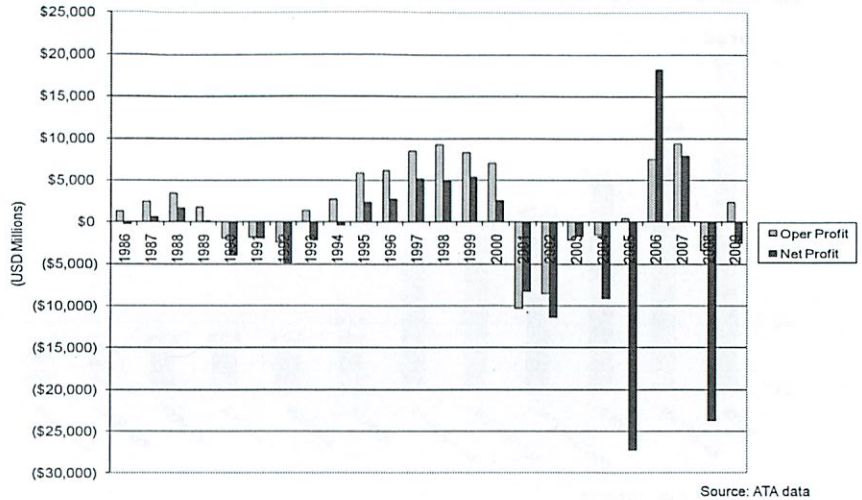
- **Legacy group carried 67% of total US airline traffic in 2009.**
- **These airlines carried another 17% of total US traffic (RPMs).**

US Airline Passenger Revenues



Total industry revenues dropped by 20% and only returned to 2000 levels in 2006, dropped again in 2009.

US Industry Profits in 2006-2007 after $40B of Losses 2001-2005; Losses in 2008

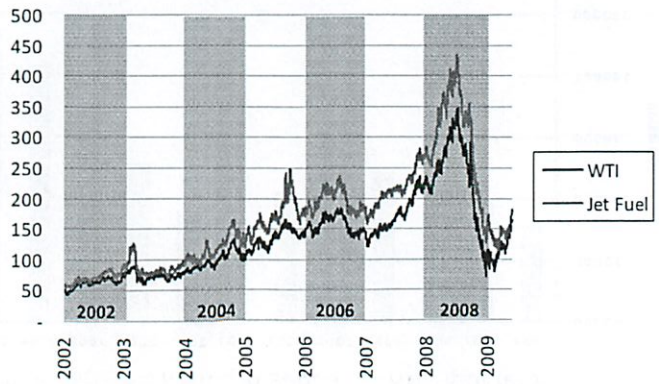


Source: ATA data

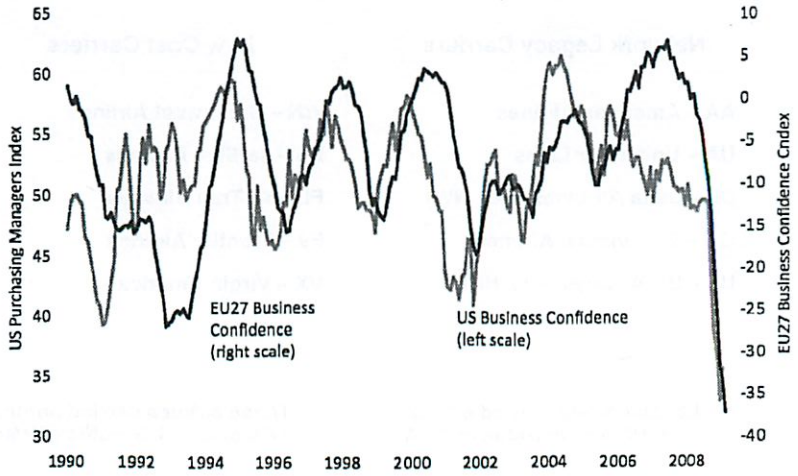
US Airlines and the 2008-09 Recession

- **After $40 billion in losses 2001-2005, US airlines returned to profitability in 2006 and 2007**
  - Bankruptcies at legacy carriers, dramatic cost reductions and productivity improvements
  - Significant narrowing of the unit cost gap between legacy airlines and low-cost carriers (LCCs)
  - Strong demand and increasing costs at maturing LCCs allowed both sectors to raise fares and generate modest profits
- **This brief industry "recovery" stalled abruptly**
  - Fuel prices soared to historic levels, more than doubling in 2008
  - Financial meltdown in fall 2008 led to a 30% decrease in business travel
  - Capacity cuts have maintained load factors, but at much lower yields and total revenues

Fuel Prices Soared to Record Levels in 2008

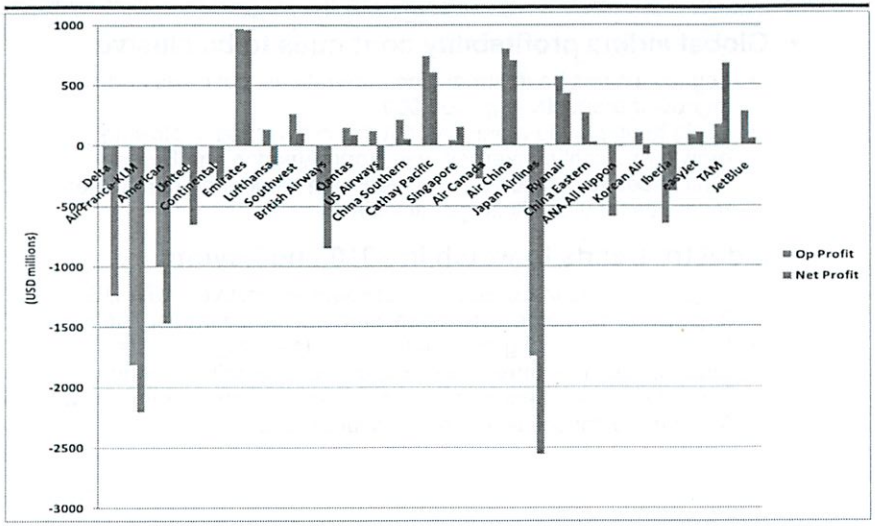


Business Confidence Reached New Lows Both in the US and Europe

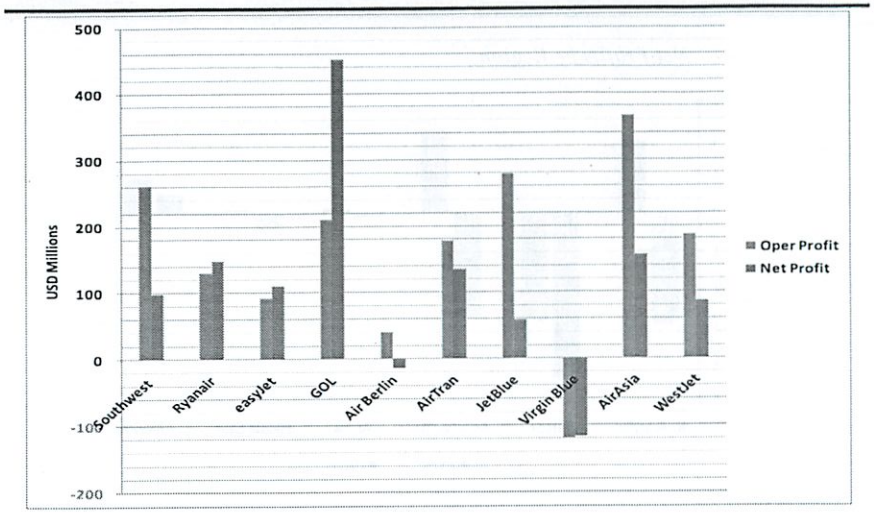


Source: Haver

Operating and Net Profit 2009 – Few Large Airlines Posted Profits



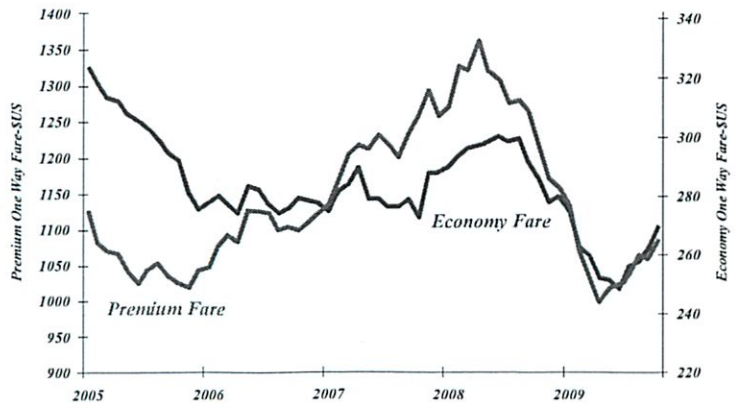
Most of the Largest World LCCs Remained Profitable in 2009



Source: Airline Business Database, May 2010

Outlook: Global Passenger Fares Are Starting to Rebound

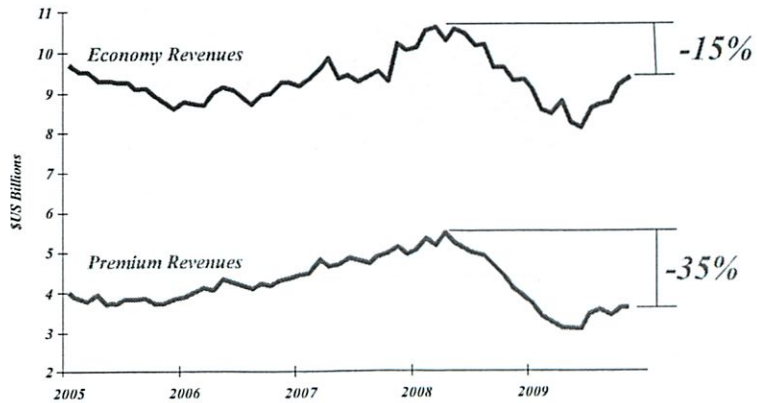
Average International Fares – Excluding Taxes and Surcharges



Source: IATA

But Global Revenues Still Have a Long Way to Recover

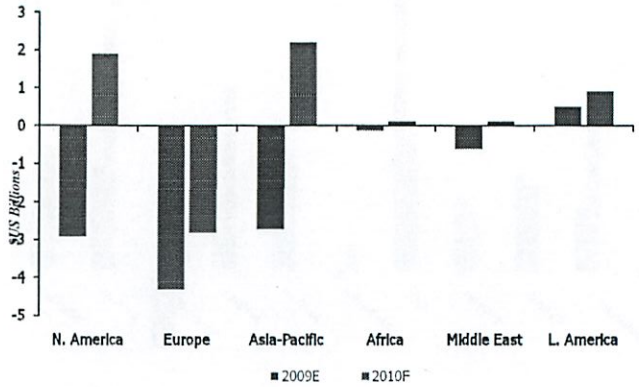
Revenues on International Markets by Seat Class



Source: IATA

Very Different 2010 Results Are Expected by World Region: Aggregate Profit $2.5 Billion

Net Profits by Region



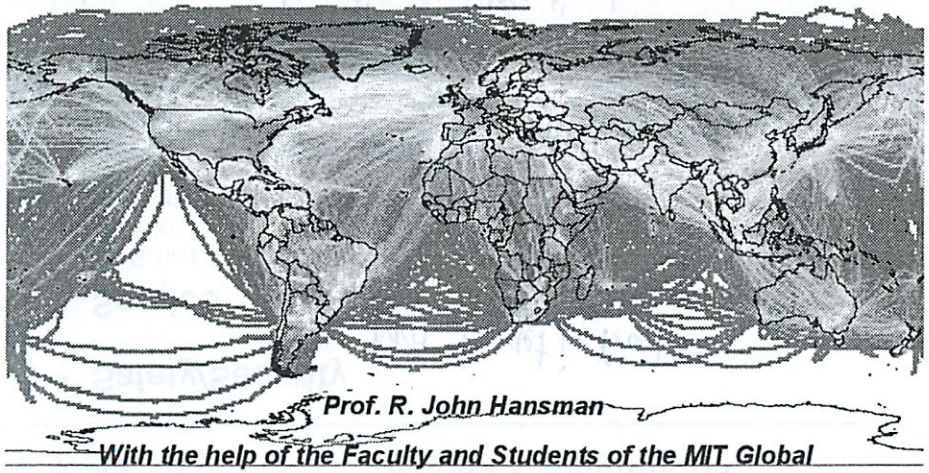
Source: IATA Update June 2010

Summary: Prospects and Challenges

- **Global airline profitability continues to be elusive**
  - Legacy airlines have streamlined operations, cut costs and improved productivity since 2000
  - LCCs have played a big role, but much evidence of slowing growth and cost convergence in North America and Europe
  - Fuel prices raised costs while recession dampened demand and revenues for virtually all global airlines
- **Industry trends to watch in 2010 and beyond**
  - Legacy carriers in Europe still not cost competitive – with US legacies or with emerging global carriers like Emirates, Turkish
  - LCCs will run out of growth markets and face higher costs
  - Labor issues and unrest affecting all types of airlines worldwide
  - Profitability tied to economic recovery and business traffic growth
  - Much more consolidation, more failures to come

9/13

Overview of Recent Forces & Trends in the Airline Industry



Prof. R. John Hansman

With the help of the Faculty and Students of the MIT Global Industry Study

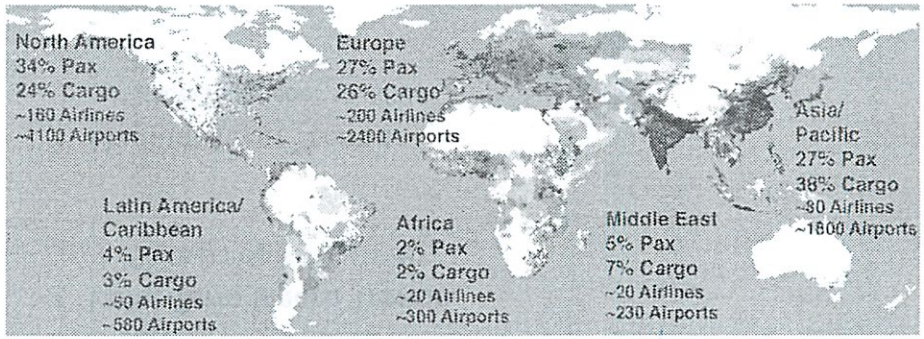
Traffic Source: Sage Analysis courtesy Prof Ian Waitz

rjhans@mit.edu

Color is better

24 hrs

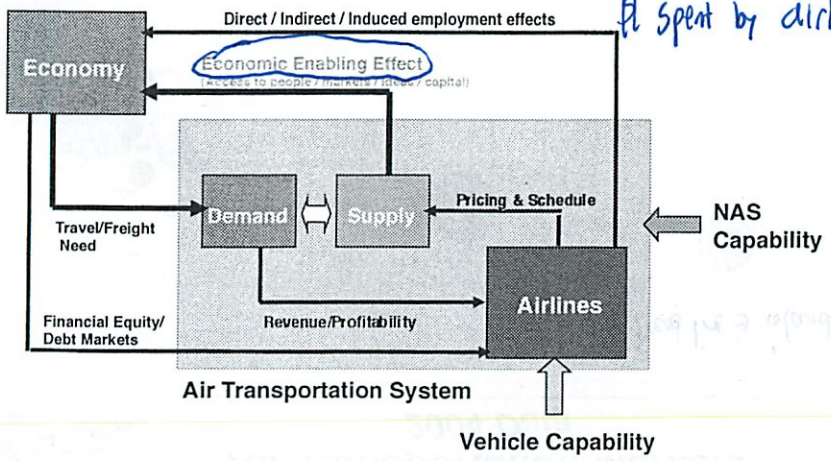
World Population Distribution & Air Transportation Activity



(prob close to economic activity)

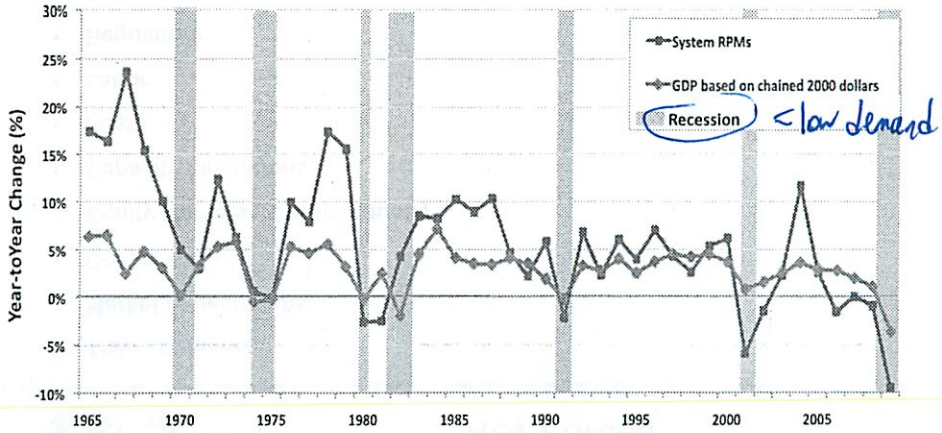
Data source: Population: [URL:http://www.ciesin.org/datasets/gpw/globldem.doc.html]
Air Transport: ICAO, R. Schild/Airbus
Passenger and freight traffic represent 2007 RPK and FTK share estimates from ICAO & IATA data

Relationship Between Economy and Air Transportation



$ spent by airlines

Correlation Between US GDP and Passenger Traffic

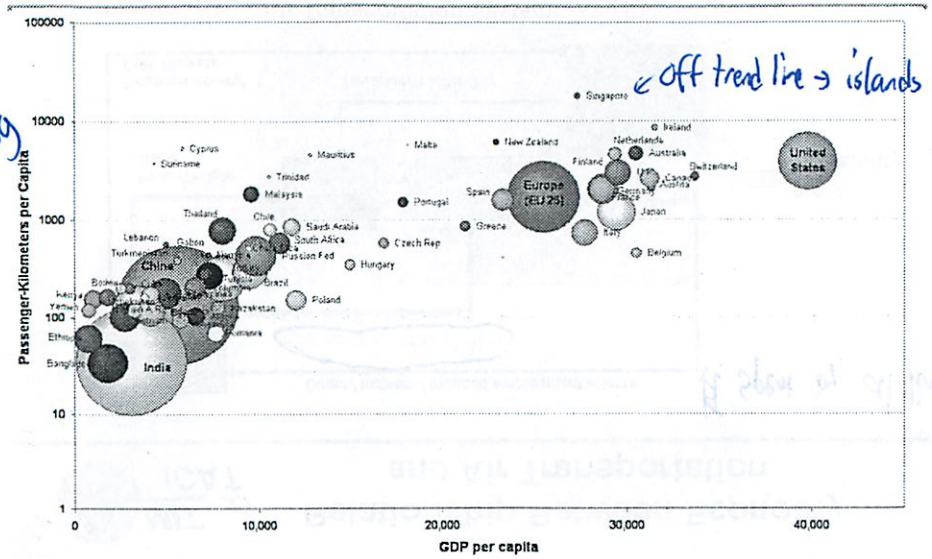


< low demand

Data source: RPMs: Bureau of Transportation Statistics, (BTS) for 1965 to 2008 and May 2009-May 2008 year-over-year data for 2009 (source: Dallas News)
GDP: US Bureau of Economic Analysis through Q1 2009
Recession data: National Bureau of Economic Research

9/16

Air Transportation Markets
2004 Data



log

< off trend line → islands

→

Key Forces

- Travel Demand
- Market Expectations
- Competition
- Equity Markets - Cyclic Industry
- Capacity Limitations
- Fuel
- Labor
- Regulatory
- Environmental
- Information Technology
- Media
- Security Requirements

Market Expectations

- **Safety/Security** hard to get in front
- **Service**
  - Schedule
  - Price
  - Frequent flyer / loyalty programs
  - Reliability
  - On-time performance / not many people look at
  - Service

order ↓

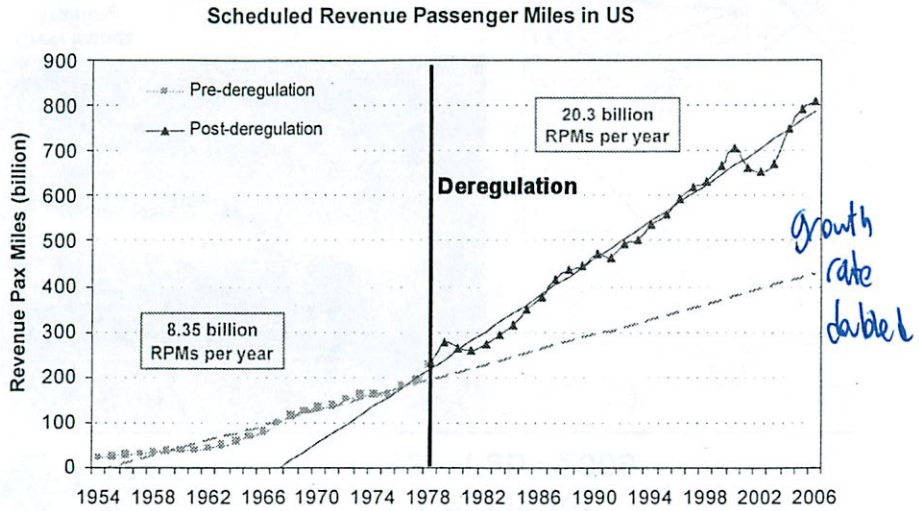
different
domestic vs international

→

Trend Time Scales

- **Long Term Macro Trends**
  - Since Deregulation (1978)
- **Medium Term Trends**
  - Since September 11, 2001

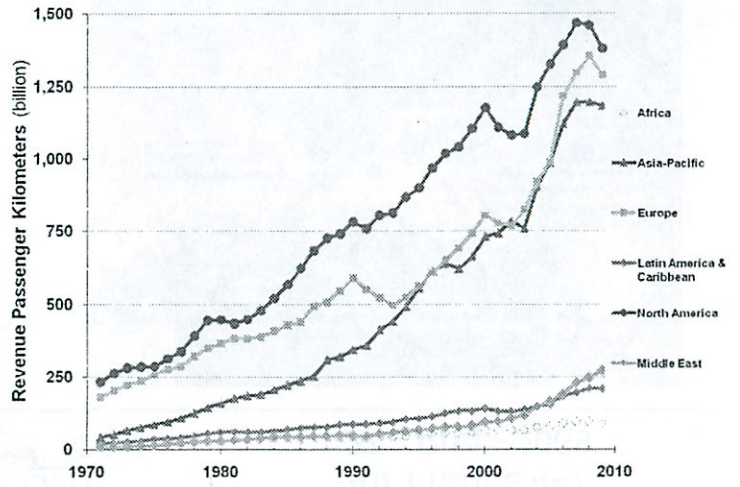
US Passenger Growth Trends
Effect of De-Regulation



growth rate doubled

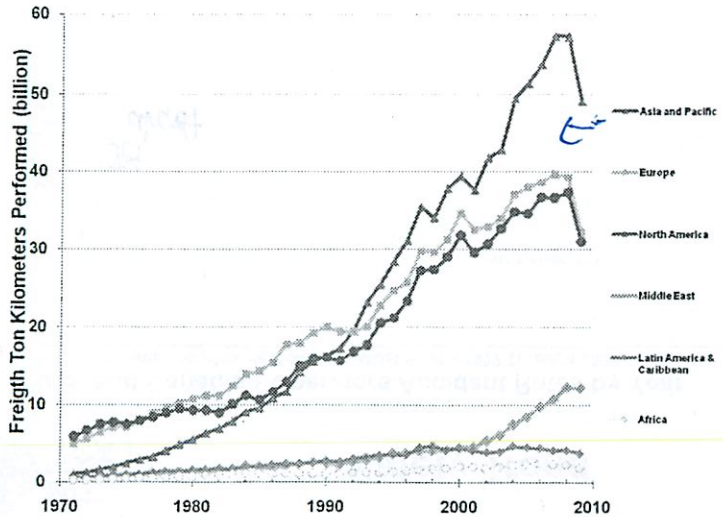
Data source: Bureau of Transportation Statistics

Revenue Passenger Kilometers (RPK)
by World Region



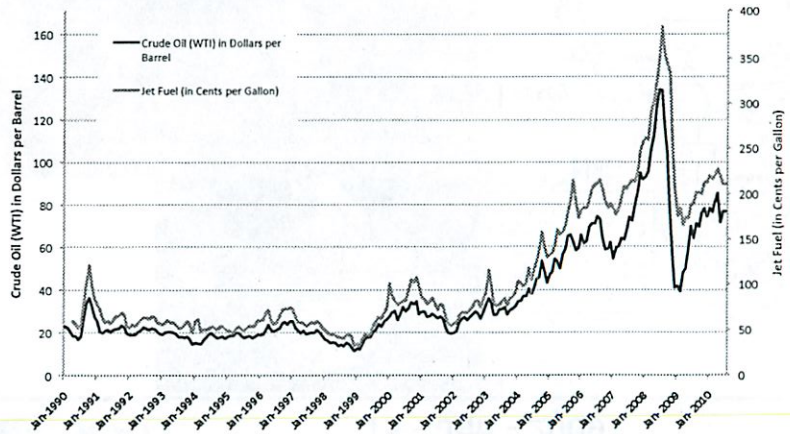
Data source: ICAO for 1970 to 2009

Freight Tonne Kilometers (FTK)
by World Region



Data source: ICAO for 1970 to 2009

Trends in Crude Oil and Jet Fuel Price



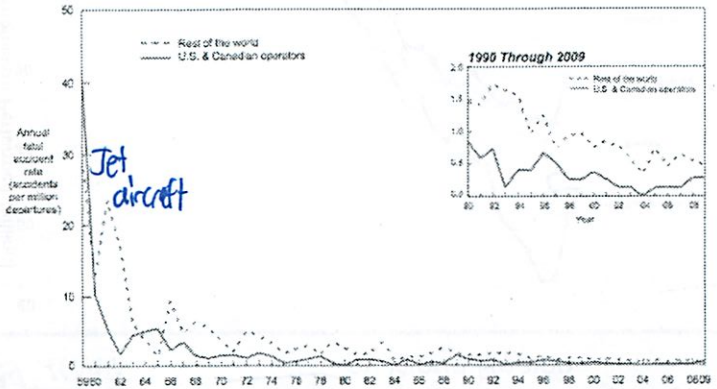
Operating cost Fuel 25%
labor 25%

Data sources: ATA Fuel Cost and Consumption (through Jul. 2010)

Safety Trend

U.S. and Canadian Operators Accident Rates by Year

Fatal Accidents – Worldwide Commercial Jet Fleet – 1959 Through 2009

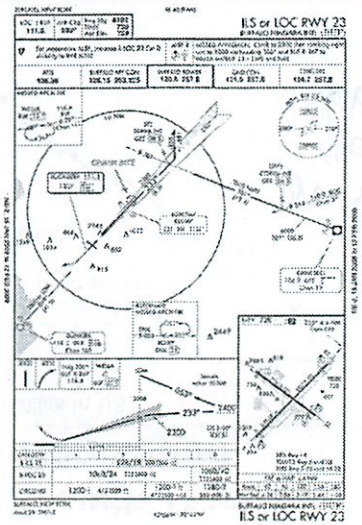


BOEING

19

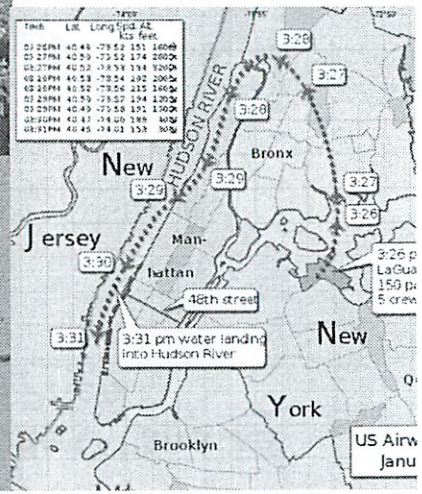
Rest of world getting new aircraft
Worldwide standards improving

Colgan Air
12 – Feb - 2009

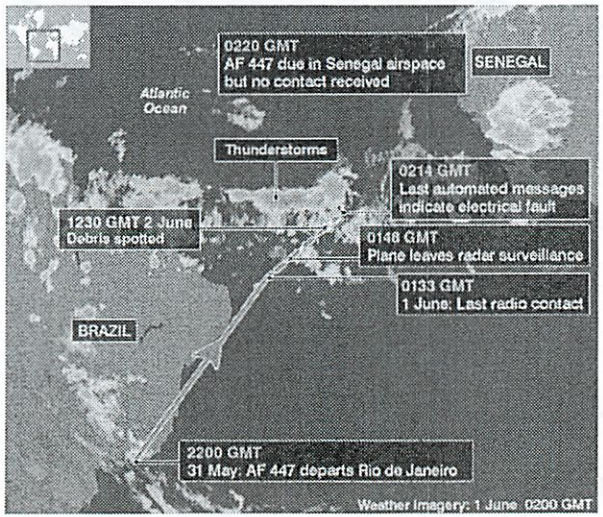


Crew Issues
- Training
- Commuting and Fatigue
- Compensation ($16K - $20K)
- Professionalism

USAir 1549
15 - Jan - 2009



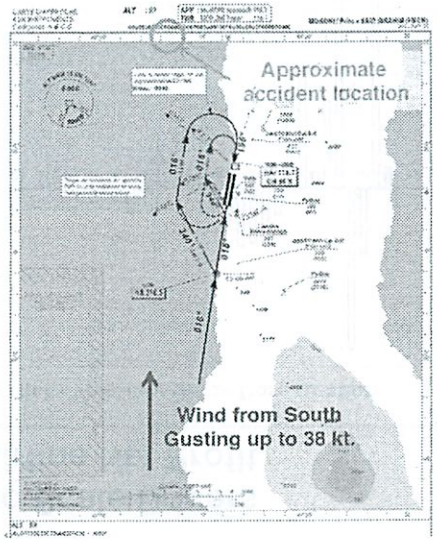
Air France 447
27 - Aug - 2009



Source: BBC

Yemenia 626
30 – June - 2009

- **Airbus A310-300**
  - 19 year old airframe
- **152 Fatalities, 1 Survivor**
- **Night approach to runway 20**
  - Good visibility
- **Complex "circling" approach**



Ethiopian Airlines 409
25 - Jan - 2010

- **90 fatalities**
- **Boeing 737-800**
  - 8 year old airframe
- **Contact lost at 9000ft, shortly after departure from Beirut International Airport**
- **Thunderstorm activity in the area**

all fairly new aircraft

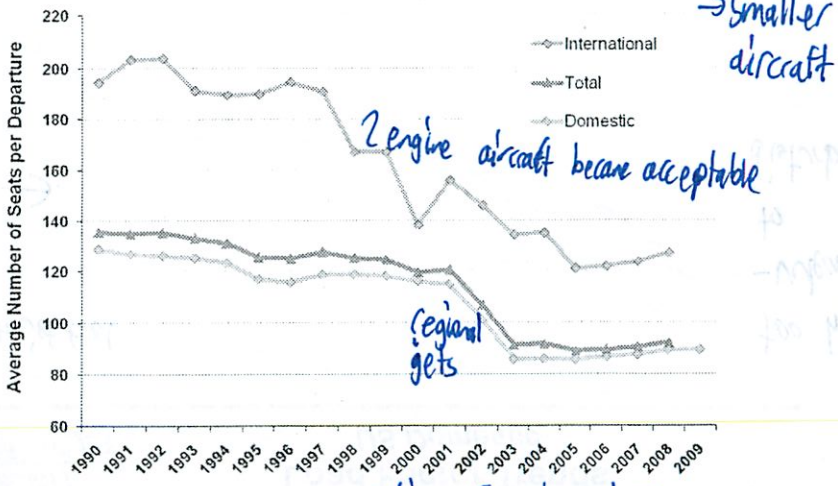
training / operational issues

Afriqiyah Airways 771
12 - May - 2010

- **103 fatalities, 1 survivor**
- **A330-200**
  - Airframe < 1year old
- **Crashed on approach to Tripoli international airport**
- **Poor visibility (dust/mist) on approach?**

Trends in Aircraft Size
U.S. Airlines

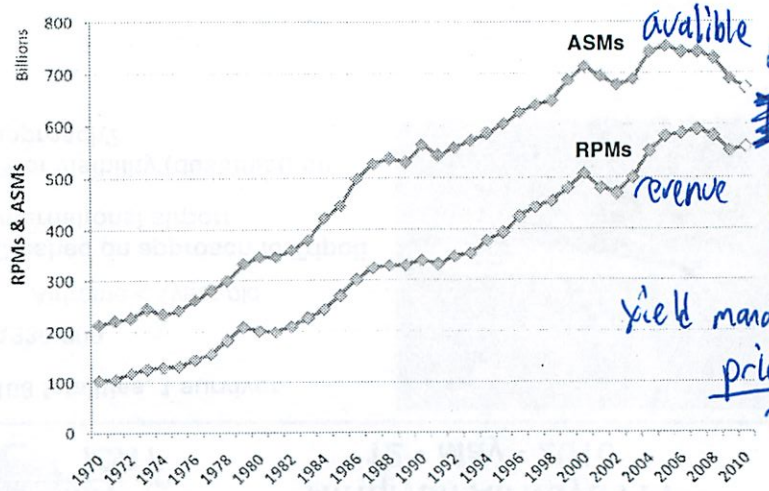
more people flying → smaller aircraft



competition for departures
= schedule

Data source: Form 41 Traffic data from Bureau of Transportation Statistics (US carriers)

U.S. Domestic ASMs and RPMs

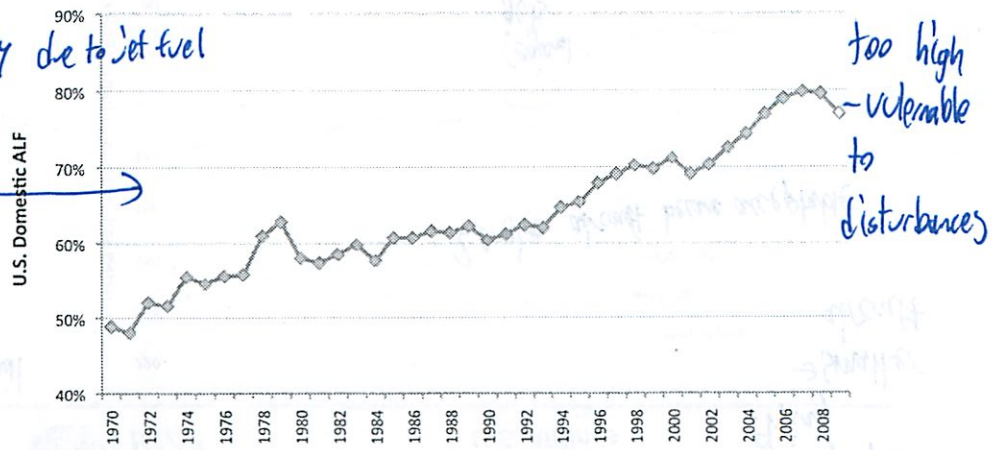


Note: Data for 2010 - Jan to Feb. - from DOT Form 41 available from BTS – Projected to full year 2010 based on Jan-Feb. data

Data source: ATA for 1970-2009, "U.S. Airlines" defined as U.S. Department of Transportation (DOT) in Form 41 Financial and Traffic Reports (total of 89 airlines).

Load Factor Trends

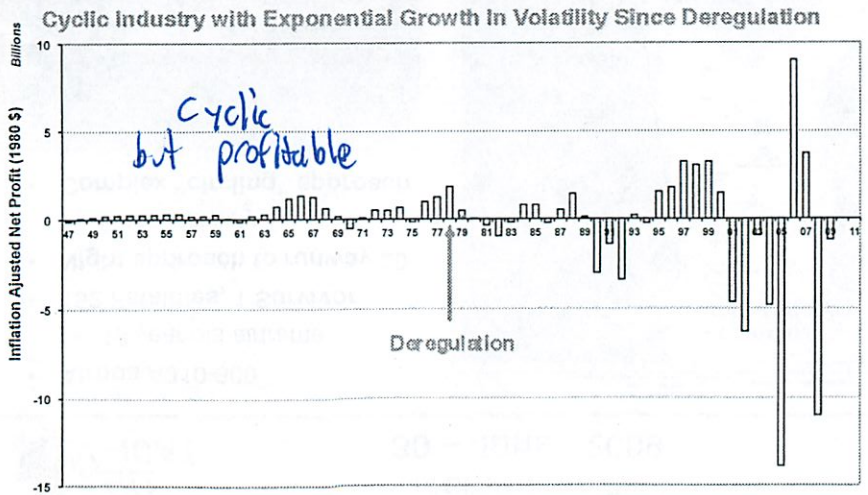
US Domestic



Note: Data for 2009 - Jan to May - from DOT Form 41 available from BTS

Data source: ATA for 1970-2008, "U.S. Airlines" defined as U.S. Department of Transportation (DOT) in Form 41 Financial and Traffic Reports (total of 89 airlines).

Macro Scale Drivers US Airline Net Profit

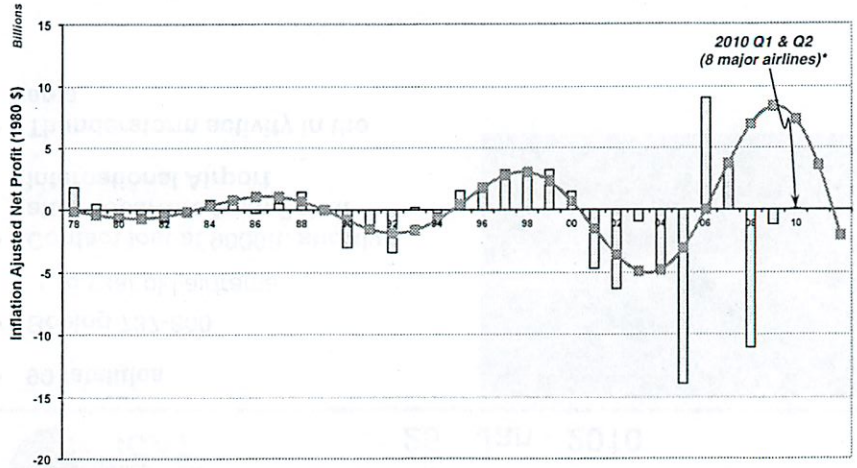


Data source: ATA Annual Revenue and Earnings - Net Profit and Loss

US Airlines Net Profit

Best Fit of Undamped Oscillation

Cycle Period = 11.3 yr eFolding Time = 7.9 yr

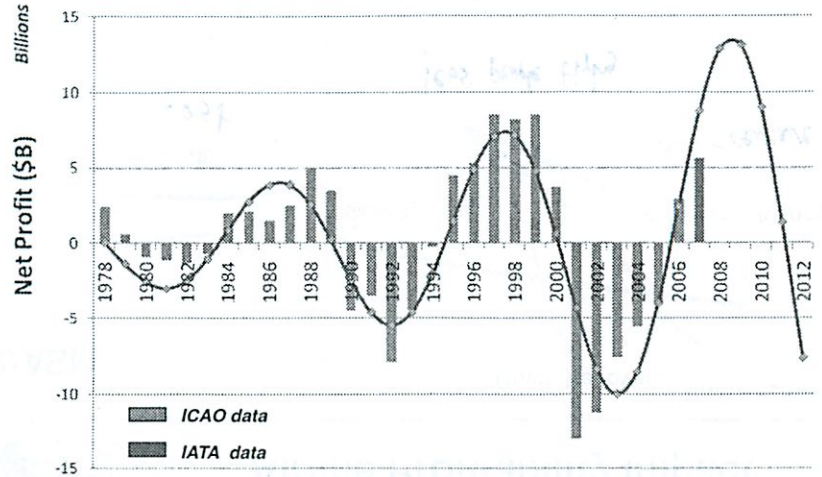


Data source: ATA - available at: www.airlines.org & Airline Quarterly Reports

** Note: 2010 data airlines include: American Airlines, United Air Lines, Delta Air Lines, Continental Airlines, US Airways, Southwest Airlines, JetBlue Airways, Alaska Airlines*

World Airlines Net Profit

historical data between 1978 to 2007 – with projection to 2012

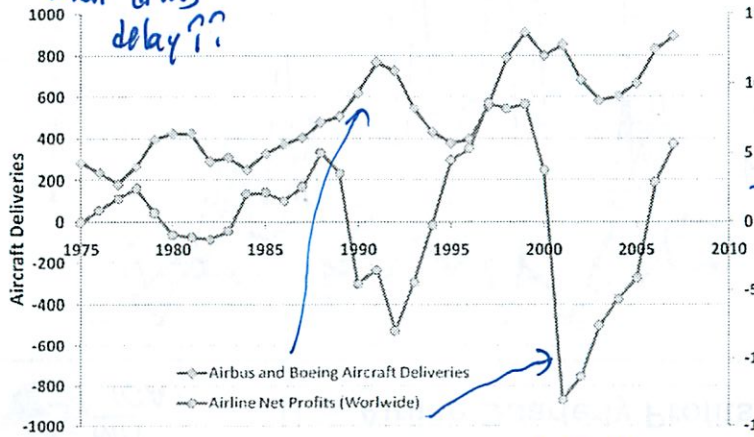


Data source: ICAO data (1978 to 2006) and IATA (2007)

Note: IATA represents 250 airlines comprising 94% of the international scheduled air traffic

Net Profit and Aircraft Deliveries

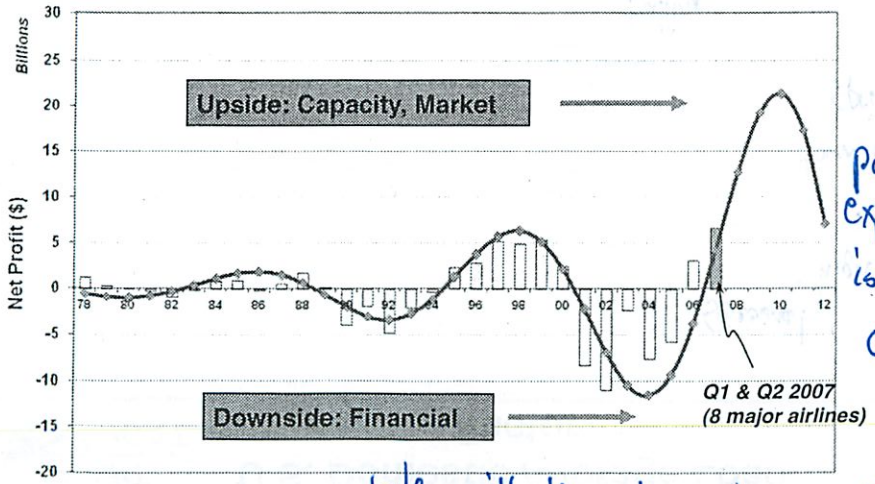
Hypothesize that instability driven by capacity response phase lag



Data source: ICAO data (Profit) and SpeedNews data (Aircraft deliveries)

Growth Limits

Constraints vs Damping

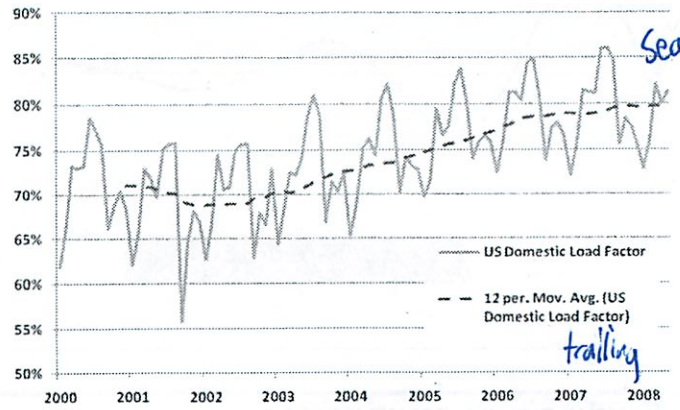


Data source: ATA - available at: www.airlines.org & Airline Quarterly Reports

Medium Term Trends

- Trends since Sept 11
- Economic Down Cycle
- Recovery
- Fuel Crisis
- IT Effects
- Low Cost Carrier Effects
- Bankruptcies & Mergers
- Labor Reductions and Givebacks

U.S. Domestic Average Load Factor



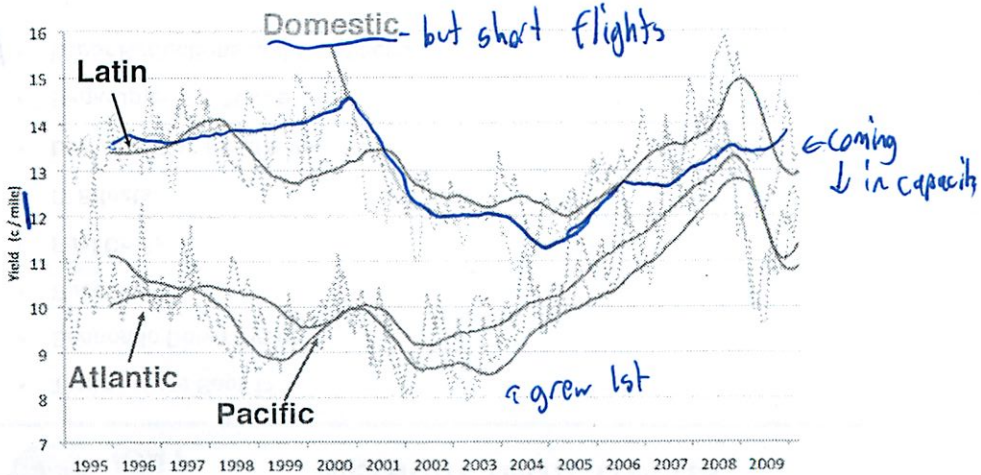
Seasonal
- high in summer + winter
down in fall + spring

trailing

Capacity only varies somewhat

Data source: DOT BTS Form 41 data

Historic Yield by Region



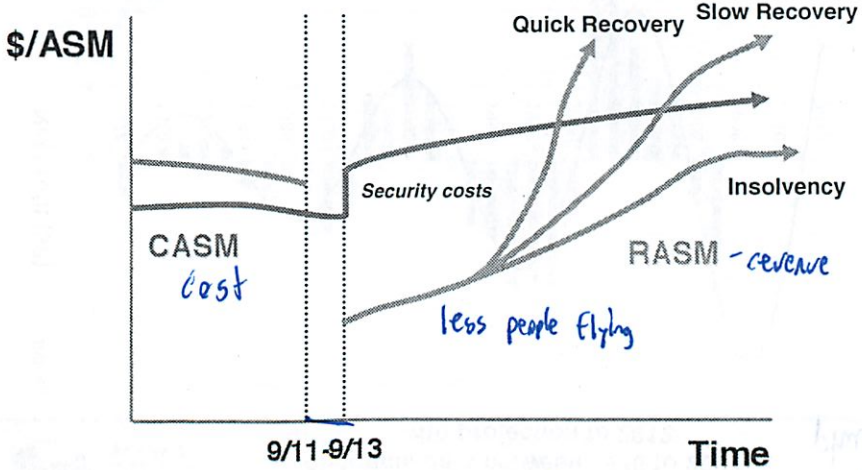
- but short flights

← coming ↓ in capacity

↑ grew 1st

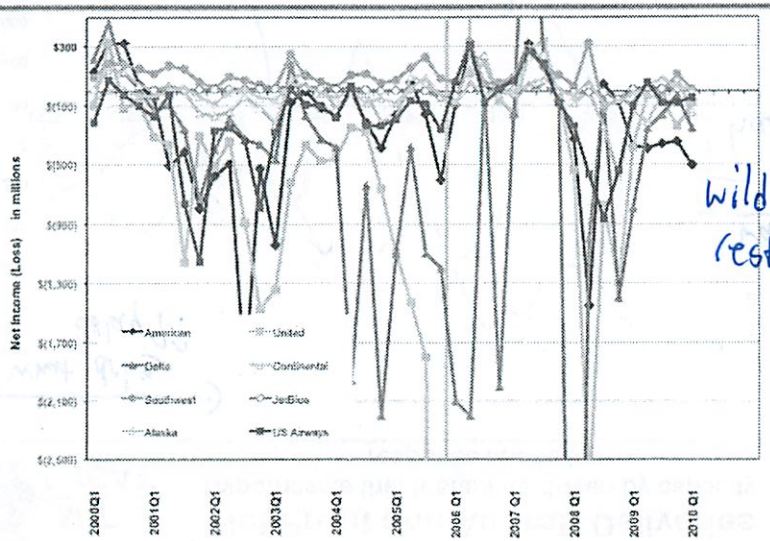
Data source: ATA Passenger Yield Report. Data through March 2010

Airline Profitability Impact



Gov → paid $5 billion, US + given loans → industry lowered price → now we are stuck on low prices

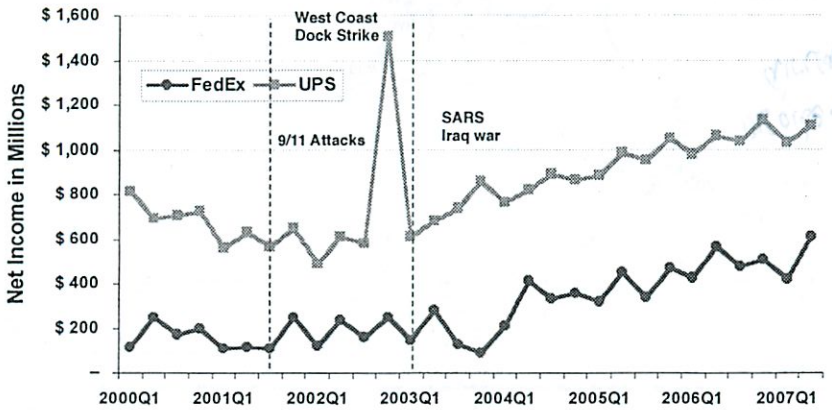
U.S. Airline Quarterly Profits



Wild swings = restructuring

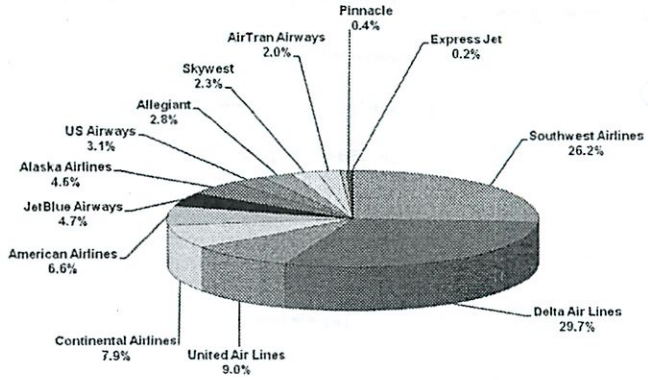
Data sources: Airline Quarterly Reports (Net Profits and Losses Include Special Items)

Cargo Operations Profitable



Data source: Companies' annual reports

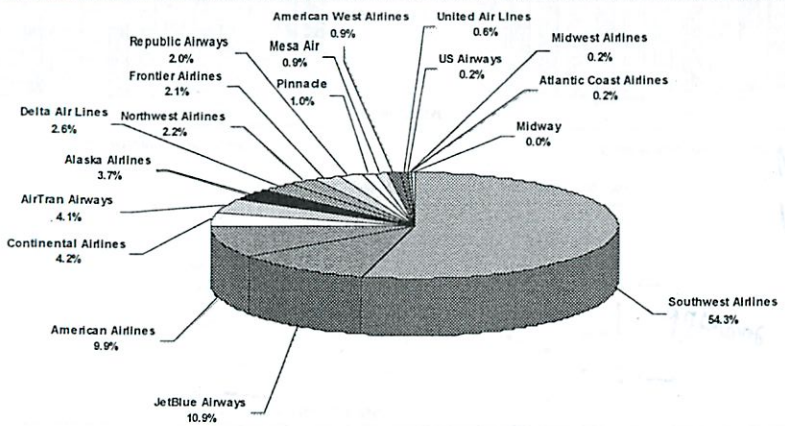
Market Cap: US Majors May 18th 2010



Total Market Cap: $ 36 billion

Data source: Google Finance.

Market Cap: US Majors 26-May-2005



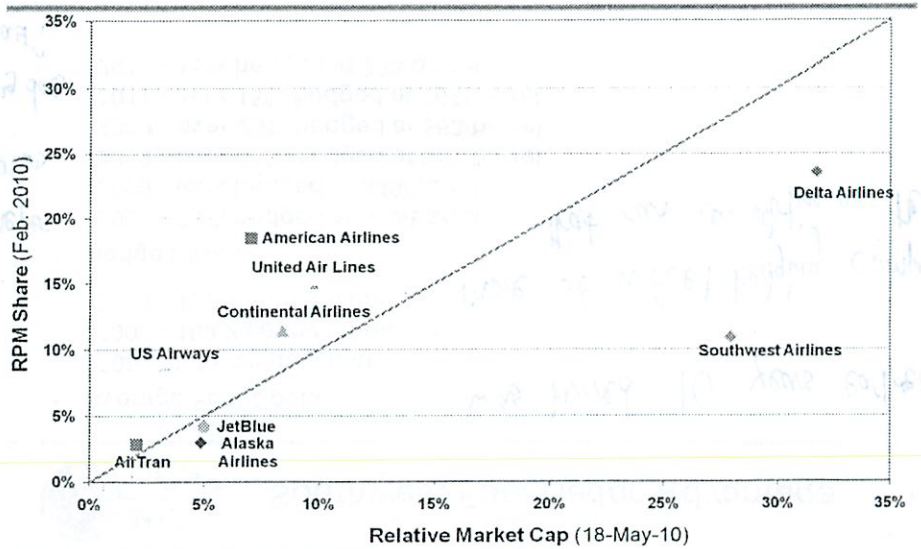
Total Market Cap: $21.2 billion

Data source: Yahoo Finance.

2003 : Southwest 75%

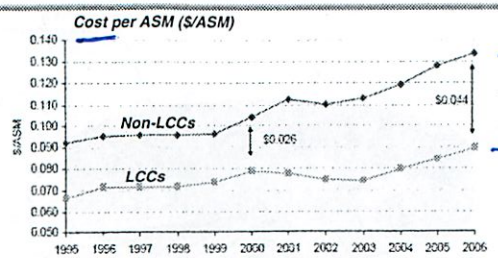
RPM Share vs. Market Cap

(RPMs: Feb. 2010 - Market Cap: May 18th 2010)

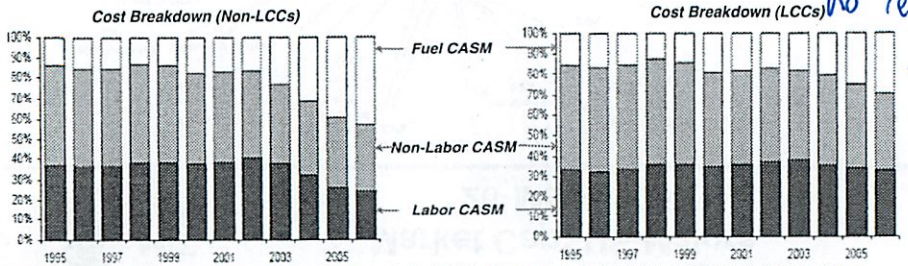


Source: Google Finance for Market Cap data and Bureau of Transportation Statistics for RPM data

CASM and Cost Breakdown ofLow-Cost Carriers



difference



Source: Tsoukalas G., Belobaba P., Swelbar W., "Cost Convergence in the US Airline Industry: An Analysis of Unit Costs 1995-2006", MIT Global Airline Industry Program, 2007

new planes cheaper
no retirement plans
how long does that last?

Southwest Fuel Hedge Advantage

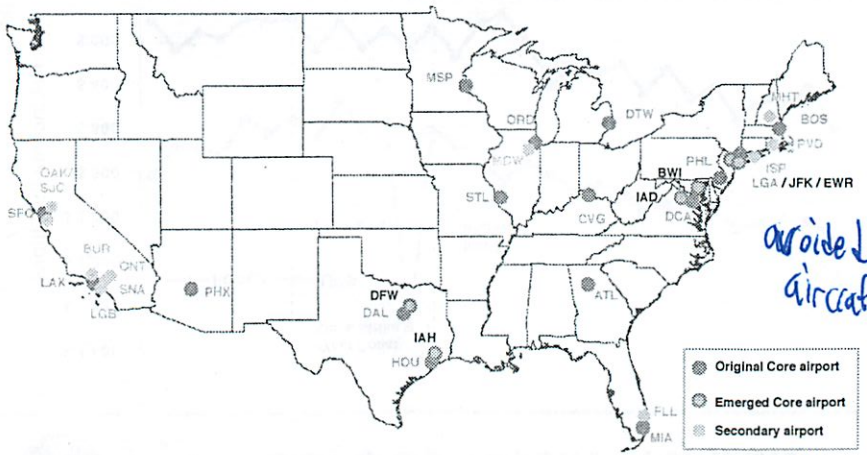
- Average Fuel Costs
  - 2004 - 82.8 cents/gallon
  - 2005 - 103.3 cents/gallon
  - 2006 - 153.0 cents/gallon
- Hedge Levels
  - 2007 - 95% hedged at $50/barrel
  - 2008 - 65% hedged at $49/barrel
  - 2009 - over 50% hedged at $51/barrel
  - 2010 - over 25% hedged at $63/barrel
  - 2011 - over 15% hedged at $64/barrel
  - 2012 - 15% hedged at $63/barrel

Was buried 10 years earlier

more of a fuel hedging company that ran an airline on the side

Sources: SWA 2006 annual report and Wikipedia

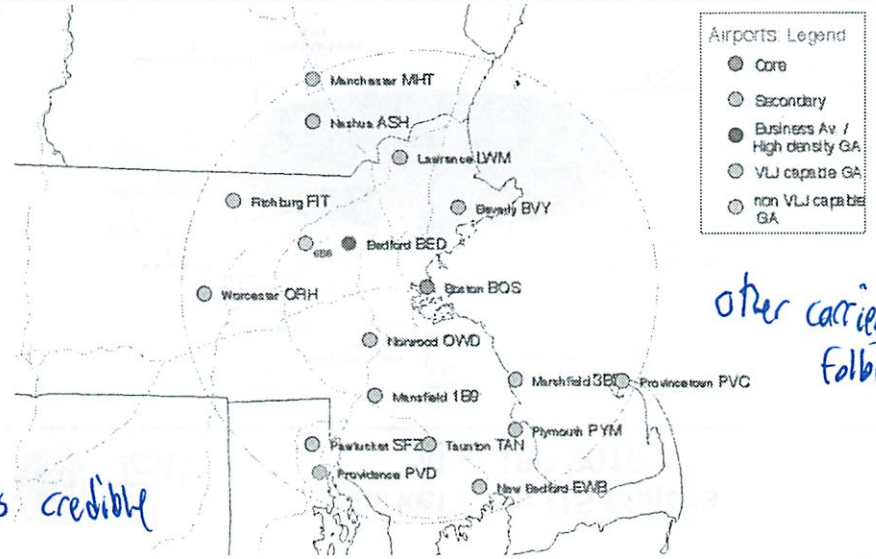
Emergence of Secondary Airports
"Southwest Effect"



avoided Full aircraft

made new aircrafts credible

High Density Airport Systems
Boston Region



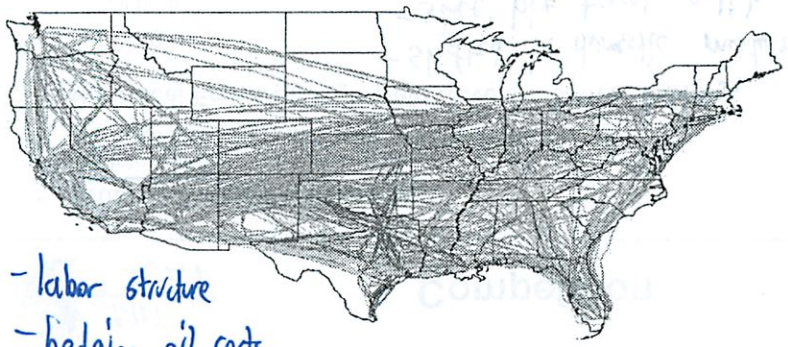
other carriers follow

Southwest moving away from strategy

Southwest SWA Flights (8/7/02)

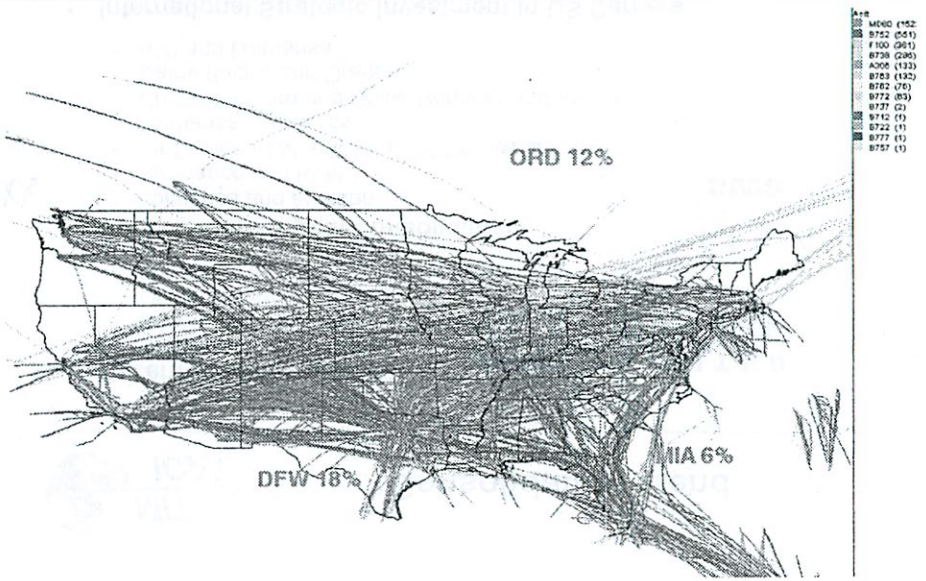
- only 1 aircraft but 4 types
- point to point
- can only book w/ them

do hub + spoke + don't sell it



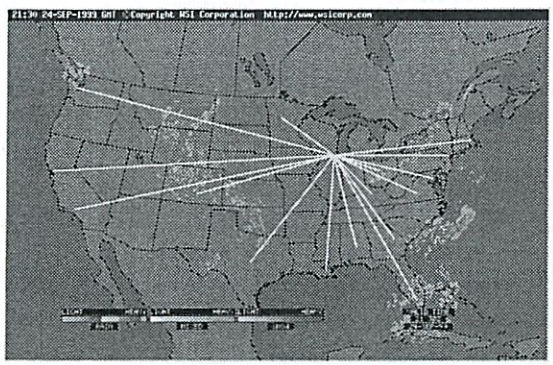
- labor structure
- hedging oil costs

American AAL Flights (8/7/02)



Hub and Spoke vs Direct Networks

everyone does it

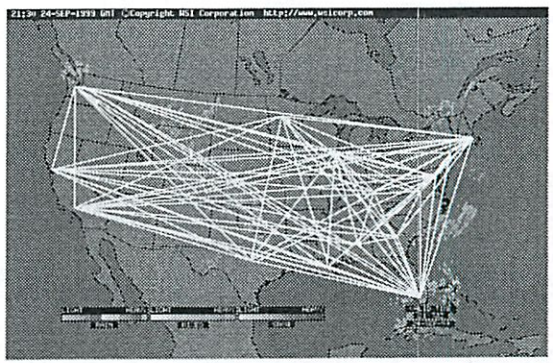


Very efficient

Completely Connected Network = 2(N-1) Flights
(eg., 50 Airports, 98 Flights)

Crews must live somewhere
Centralize maintance

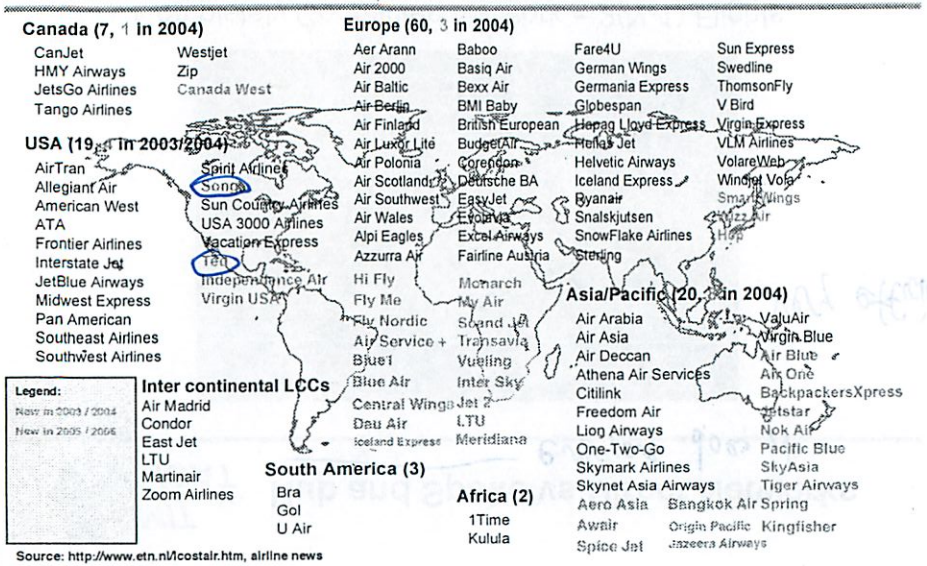
Fully Connected Network



Completely Connected Network = N(N-1)
(eg., 50 Airports, 2450 Flights)

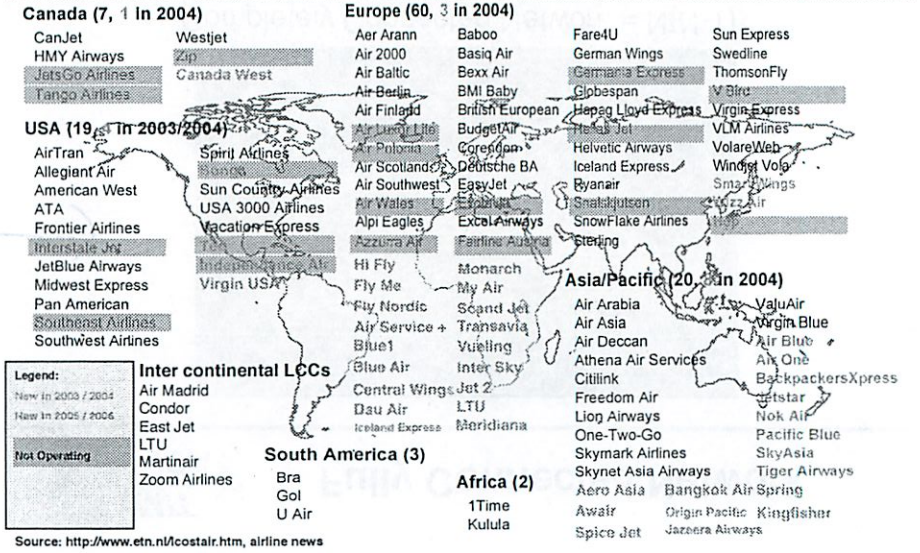
many will be empty

Low-Cost Carrier Envy
Emergence of LCCs



Source: http://www.etn.nl/lcostair.htm, airline news

Low-Cost Carrier Envy (or not)
Emergence of LCCs



Source: http://www.etn.nl/lcostair.htm, airline news

Competition

- **Brutally Competitive Business**
  - Inter-Airline
  - Automobile and other Surface Modes
- **Historical Focus on high yield travelers shifted** business
  - shifted in domestic market
  - since biz travel policies changed 2000s
- **Gaming**
  - Schedule
  - Performance Index Gaming
- **Alliances**
  - Code Share Based
  - Network power
  - Virtual mergers to overcome international restrictions
  - Operating Benefits (not yet realized)
  - Anti-Trust Immunity – can't share operations, just sell tickets
  - Varying Commitments

#1 not really helps but at bottom hurts

Consolidation Trend

- **Recent US Consolidation** markets like it
  - United and Continental (pending)
  - Delta and Northwest (Oct 09)
  - USAir and America West
  - Potential for Additional Reactionary Moves
- **Recent International Consolidation**
  - Lufthansa and Austrian
  - Air France and KLM
  - Air France/KLM and Alitalia (25% ownership)
  - Lufthansa and Swiss
  - China Southern and China Northern and Xingiang
  - Cathy Pacific and Dragon
  - BMI and Lufthansa
- **International Strategic Investment in US Carriers**
  - Lufthansa and JetBlue
  - Virgin and Virgin America

EU-US Open Skies Agreement

- **On April 30, 2007 E.U. and U.S. signed a preliminary Open Skies accord**
  - Allows EU airlines to operate direct flights between U.S. and any EU country (and some others)
  - Allows U.S. airlines reciprocal right, and ability to fly between EU city-pairs
  - Agreement will replace 22 bilateral air service agreements currently in place between the U.S. and the Member States
  - Implications for Alliance Anti-Trust Immunity Only allow it for countries w/ ~~that~~ Open Skys
  - In effect March 30, 2008
- **E.U. has made liberalized foreign control a prerequisite for a permanent agreement**
  - U.S. domestic market lucrative as standalone and hub-feeder
    - Cabotage rights only granted to U.S. Incorporated airlines
    - U.S. incorporation requires meeting ownership caps
    - Without control, network composition cannot be shaped
  - Match EU's 49% foreign control restriction

Airline Alliances
US DOT Antitrust Immunity

Star Alliance
- **Adria Airways (JP)**
- Air Canada (AC)
- **Air New Zealand (NZ)**
- **ANA (NH)**
- **Asiana Airlines (OZ)**
- Austrian Airlines (OS)
- **Blue1 (KF)**
- bmi (BD)
- Continental (CO) NEW
- **Croatia Airlines (OU)**
- LOT Polish Airlines (LO)
- Lufthansa (LH)
- SAS (SK)
- **Singapore Airlines (SQ)**
- **South African (SA)**
- **Spanair (JK)**
- Swiss Intl Air Lines (LX)
- TAP Portugal (TP)
- **Thai Airways Intl (TG)**
- **Turkish Airlines (TK)**
- United (UA)
- **US Airways (US)**

Oneworld
- American Airlines (AA)
- British Airways (BA)
- **Cathay Pacific (CX)**
- Finnair (AY)
- Iberia (IB)
- **Japan Airlines (JL)**
- LAN (LA)
- **Malév (MA)**
- **Qantas (QF)**
- Royal Jordanian (RJ)

SkyTeam
- **Aeroflot (SU)**
- **Aeroméxico (AM)**
- Air France (AF)
- Alitalia (AZ)
- Czech Airlines (OK)
- Delta (DL)
- KLM (KL)
- **Korean Air (KE)**
- Northwest (NW)

1st that made a difference

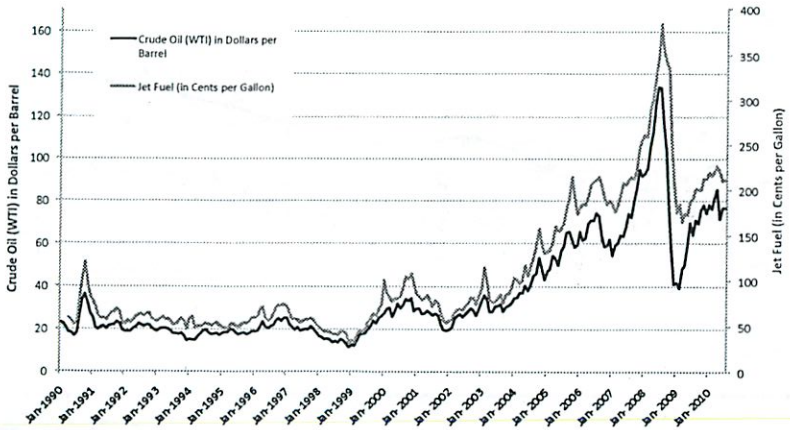
Prior Immunity

Immunity Application In Progress or Recently Approved Changed recently

Source: Wikipedia, BTN Online

(still ownership restrictions kinda - like EU trains)

Trends in Crude Oil and Jet Fuel Price



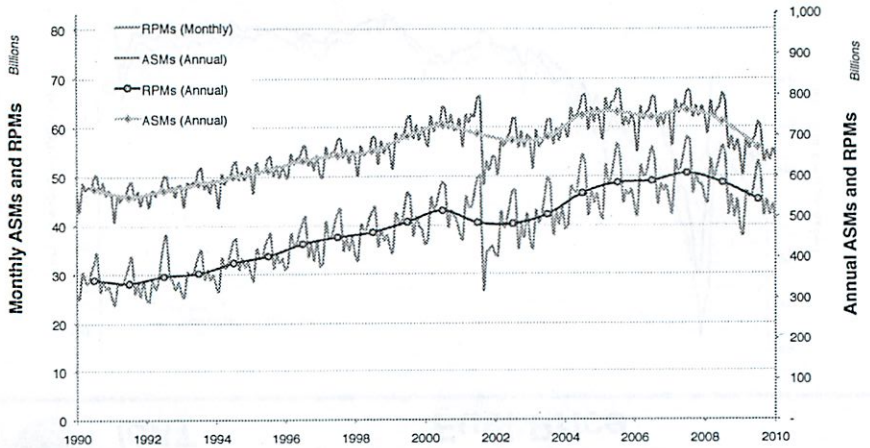
Data sources: ATA Fuel Cost and Consumption (through Jul. 2010)

Capacity Reductions

- **American**
  - *Domestic Reductions 11% to 12% after summer*
  - *Retiring 45-50 aircraft (MD-80) on mainline*
  - *Retiring 30-35 on American Eagle*
- **United**
  - *Domestic Mainline -14% in 2008 and -11% in 2009*
  - *International -5%*
  - *Retiring 100 aircraft (94 737s, 6 747s)*
  - *Terminating TED and using A320s on mainline*
- **Delta**
  - *Domestic 10%, increasing international 15%*
  - *Parking 15-20 mainline aircraft and 20-25 RJs*
- **Continental**
  - *Domestic -11%, increasing international*
  - *Dropping MDW and 6 other cities*
  - *Parking 73 aircraft*

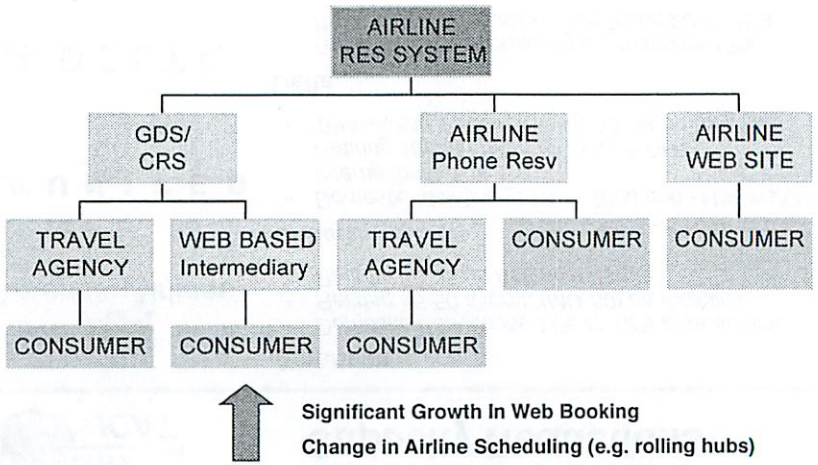
Sources: Boston Globe 6/4/08-6/5/08, CNN

U.S. Domestic ASMs and RPMs



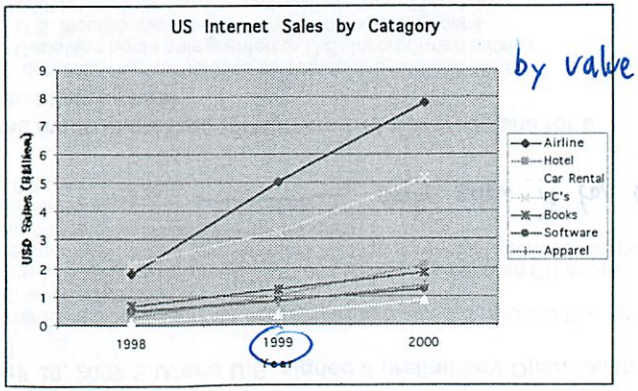
Data sources: BTS Form 41 US Domestic, Last data point: May 2010

Principal Airline Distribution Channels



- Significant Growth In Web Booking
- Change in Airline Scheduling (e.g. rolling hubs)
- IATA Push for 100% electronic tickets

Distribution



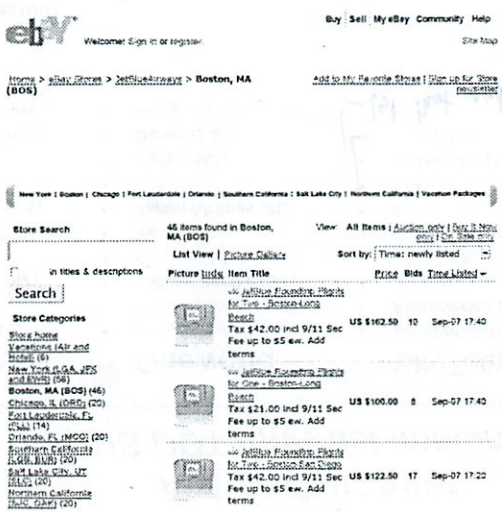
by value

You go to point of delivery

- - Reduction in commissions to travel agents
- - Shift to e-tickets (additional charges for paper tickets)
- - Increased restrictions on low fares (USAir charges)

Source: 2000 US Statistical Abstract

JetBlue ebay Distribution

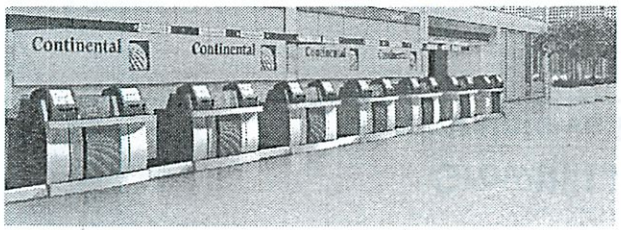


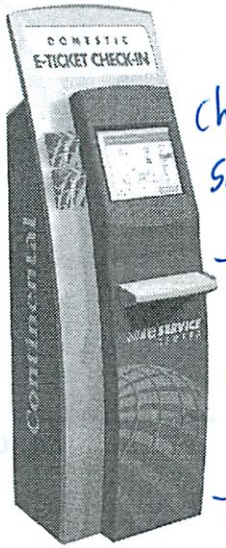
Electronic Distribution and Processing

- **Airline Tickets #1 Web Product by Value**
  - Browser 1st page effect on marketing
- **Increase in e-Tickets**
  - Cost Savings
  - Charge for Paper Tickets
  - Interlining of e-Tickets
  - Domestic 40% in 2005 to 97% in 2008
- **IATA**
  - Only e-tickets after June 1 2008
  - 94% of Intl Passengers
- **CAPPS II**

99% electronic

Some parts of world





Charged

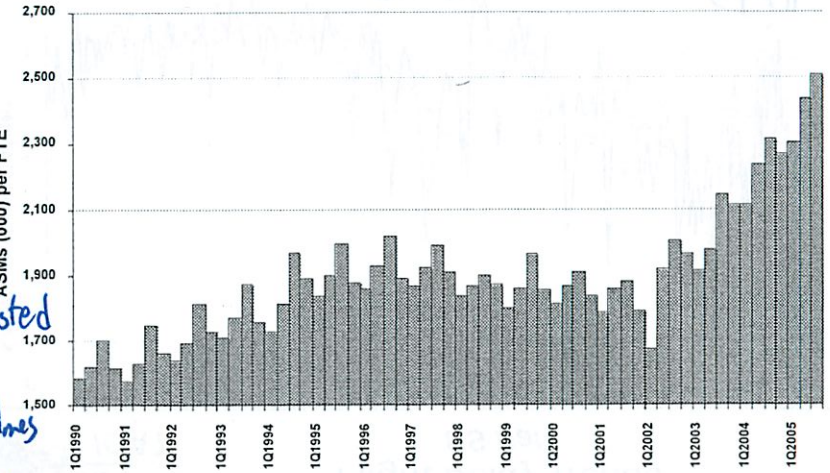
Scheduling

-traditional screens listed flights by elapsed times

-directly online now by price

Productivity Improvements Driving Cost Relief

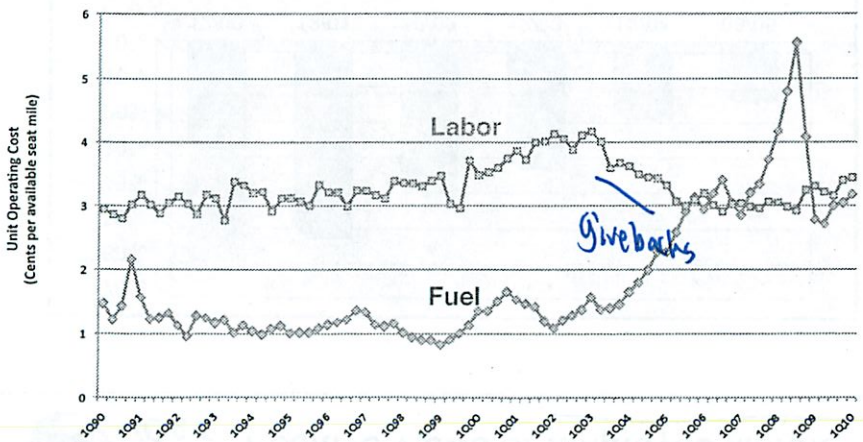
Network Restructuring, Work Rules, Human Capital, Outsourcing, Technology



Source: ATA US Airline Cost Index: Major & National Passenger Carriers, Q3 2005

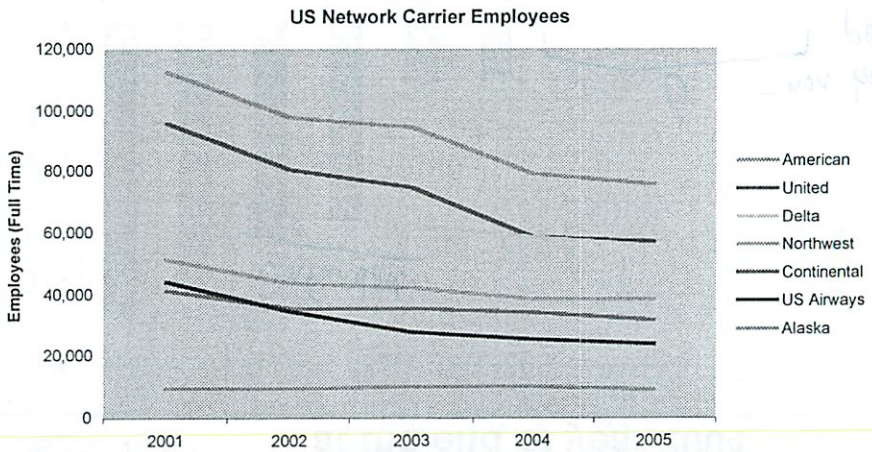
So interesting! DB does time leaving - smart move - never thought it would matter

Fuel and Labor Costs: Largest Cost Items for Airlines



Data source: ATA U.S. Airline Cost Index,

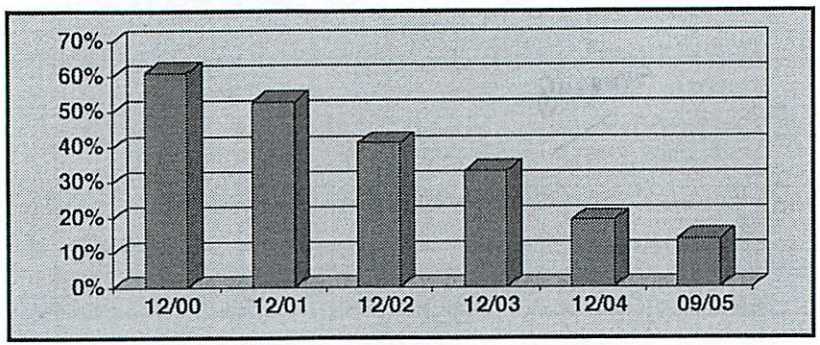
Employees Full Time: US Network Carriers 2001-2005



Job cuts continue: United announced 1000 last week 6/15/06

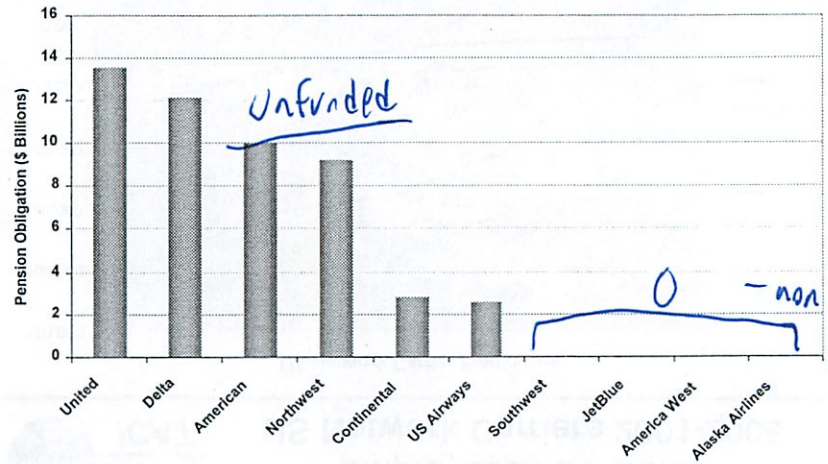
Source: US DOT

Positive Views of Employee Morale



Source: The Wilson Center for Public Research, Inc. – based on 150,674 interviews conducted with pilots or flight attendants from 1/1/2001 to 9/20/2005

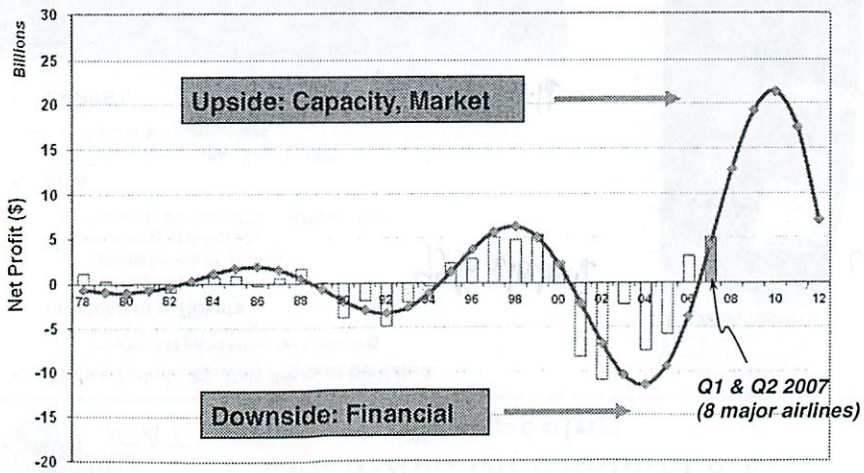
Pension Obligations at the end of year 2004



non traditional pensions

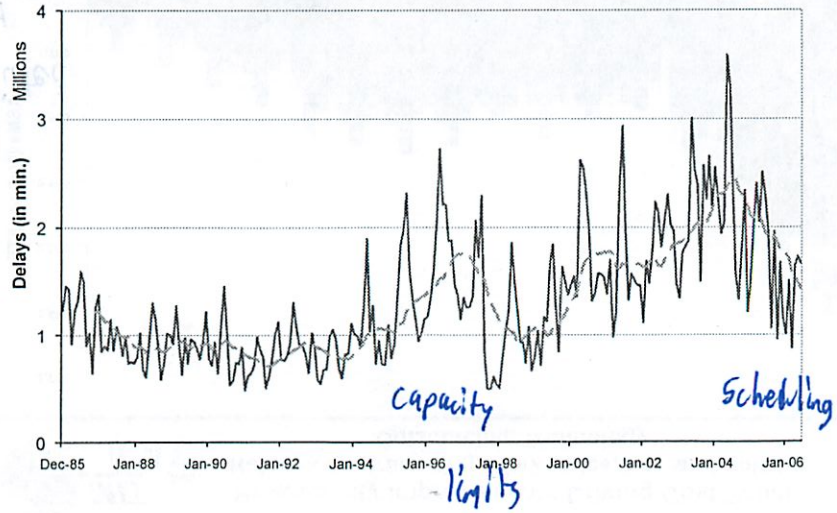
Source: Airlines Annual Financial Reports (US airways (successor company) figure corresponds to year 2003)

Growth Limits
Constraints vs Damping



Data source: ATA - available at: www.airlines.org & Airline Quarterly Reports

Flight Delay Trends
US Data

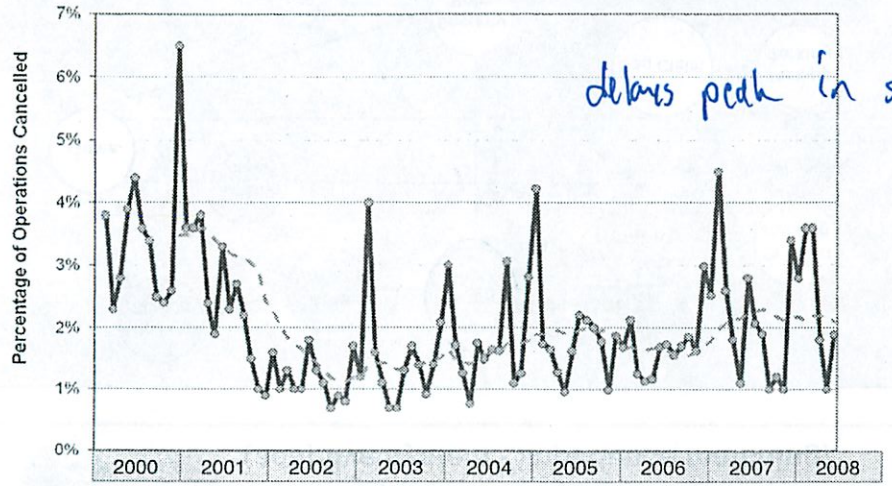


Data source: FAA Operational Network (OPSNET)

Flight Cancellations from 2000 to 2008 (by month)

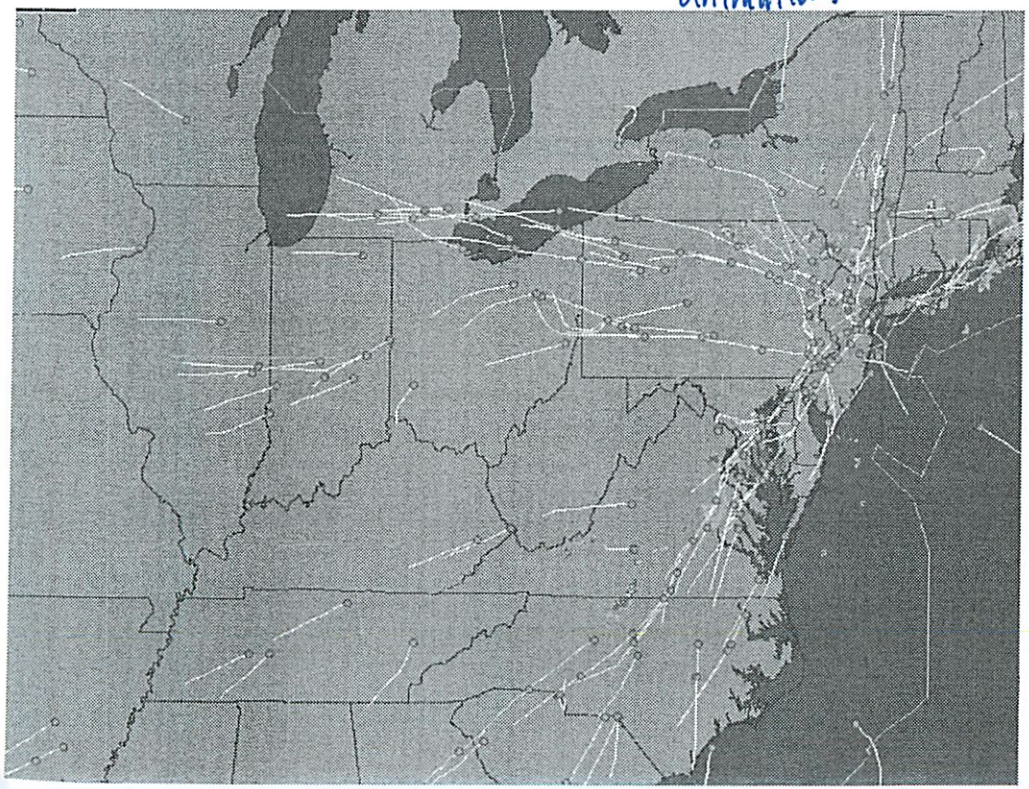
peak in winter

delays peak in summer



Source: DOT, Air Travel Consumer Report, [illegible] & BTS On Time Performance data
(top 11 airlines from 2000 to 2002, top 20 airlines from 2003 to 2007)

animations

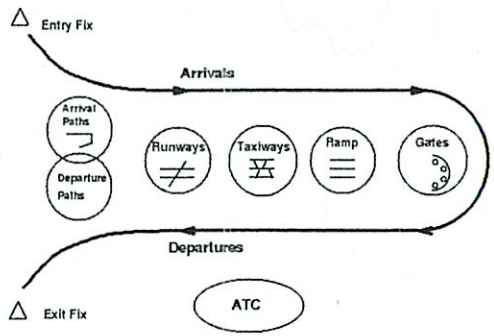


Capacity Limit Factors

- **Airport Capacity**
  - Runways
  - Gates
  - Landside Limits (including Security)
  - Weather
- **Airspace Capacity**
  - Airspace Design
  - Controller Workload
  - Balkanization
- **Demand**
  - Peak Demand
  - Hub & Spoke Networks
- **Environmental Limits**
  - Noise (relates to Airport)
  - Emissions (local, Ozone, NOX, CO2)

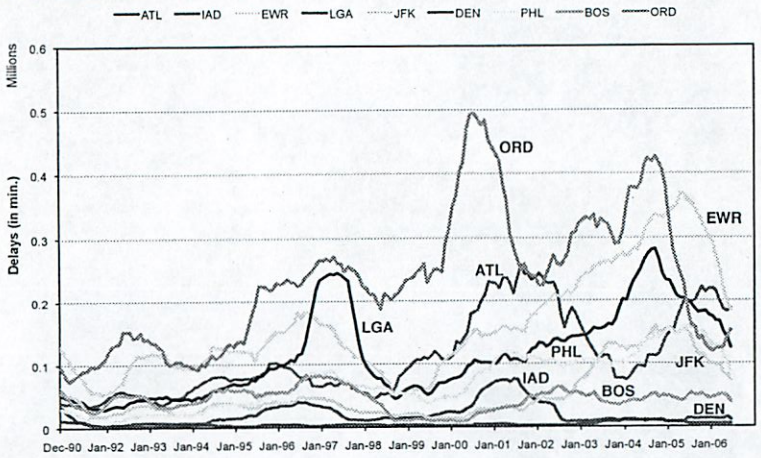
Airport System Capacity Limit Factors

- Runways
- **Weather**
  - Capacity Variability
  - Convective Weather
- **Landside Limits**
  - Gates
  - Terminals & Security
  - Road Access
- **Downstream Constraints**
- **Controller Workload**
- **Environmental**
  - Community Noise
  - Emissions
- **Safety**



Flight Delays*
(9 US airports) from 1995 to 2010

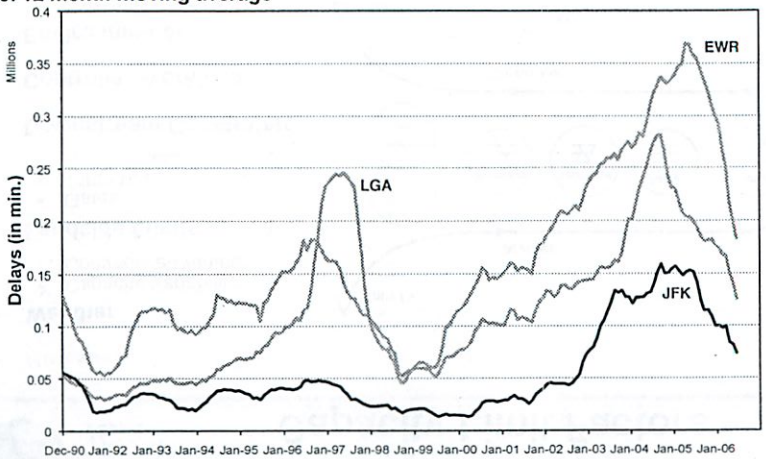
* Note: 12 month moving average



Data source: FAA Operational Network (OPSNET)

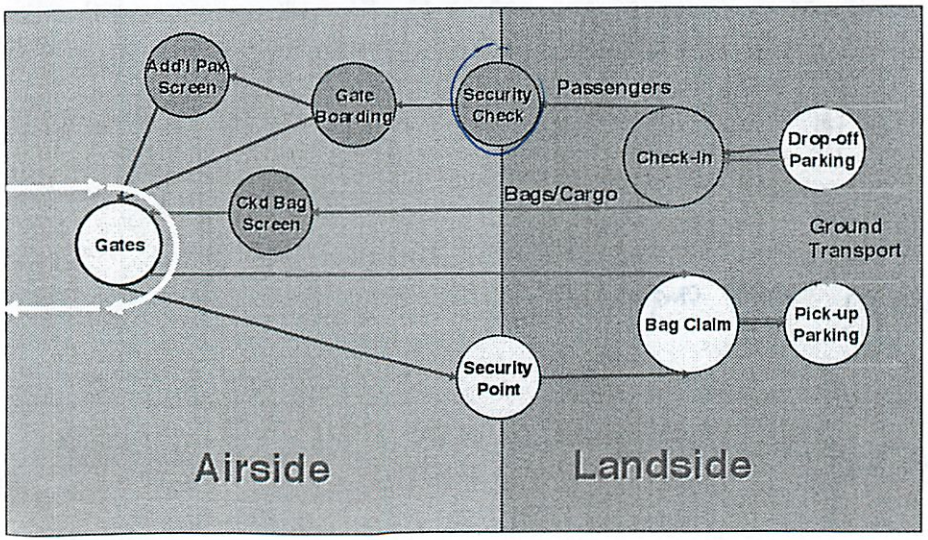
New York Airport Flight Delays*
~~from 1995~~ to 2009

* Note: 12 month moving average

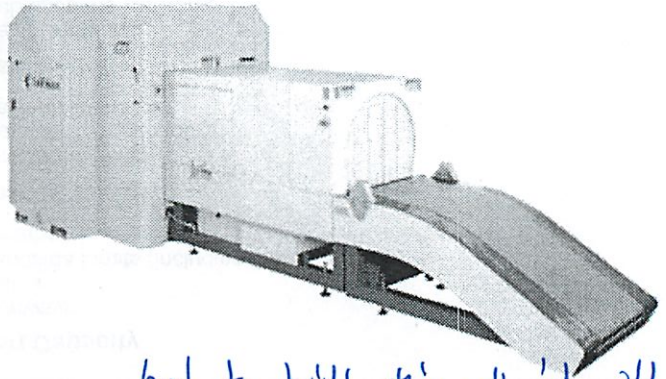


Data source: FAA Operational Network (OPSNET)

Key Terminal System Flows
(adaptive system - impedance matching)



CTX 9000 Explosive Detector



500 Bags/hr

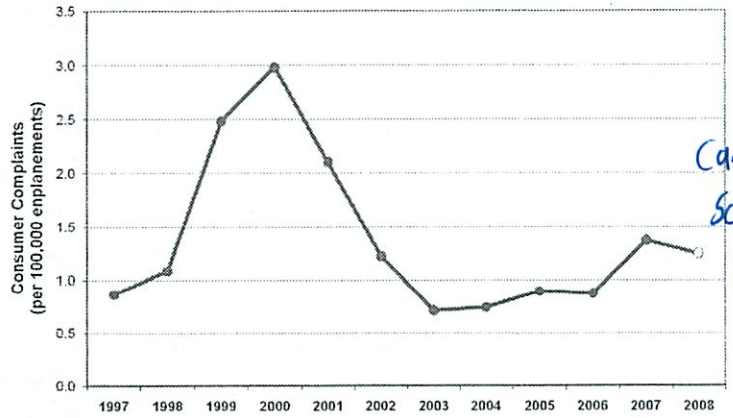
had to build this all into old system in old building

false alarm rate = 20%

Aviation Remains Perceived Target
Expanding Security Burden

NO LIQUIDS OR GELS OF ANY KIND WILL BE PERMITTED IN CARRY-ON BAGGAGE. THESE ITEMS MUST BE IN CHECKED BAGGAGE. This includes all beverages, shampoo, suntan lotion, creams, tooth paste, hair gel, and other items of similar consistency. Read our Permitted and Prohibited Items list for more information.

Consumer Complaints
from 1997 to 2008



Can't yell + scream – get arrested

Note: 2008 data point = average (Jan. & Jul. 2008)

Data source: DOT Aviation Consumer Protection Division, available at: http://airconsumer.ost.dot.gov/

employees making half what they used to

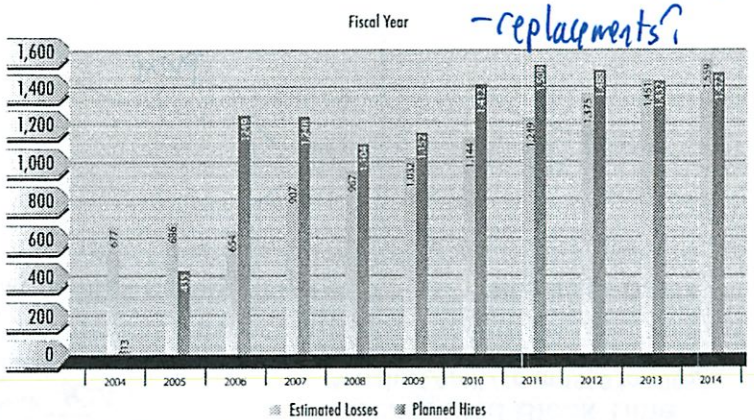
Other Threats
Portable SAMs

Surface to Air Missile

Air Traffic Controller Staffing

ATO Hiring Forecast vs. Losses

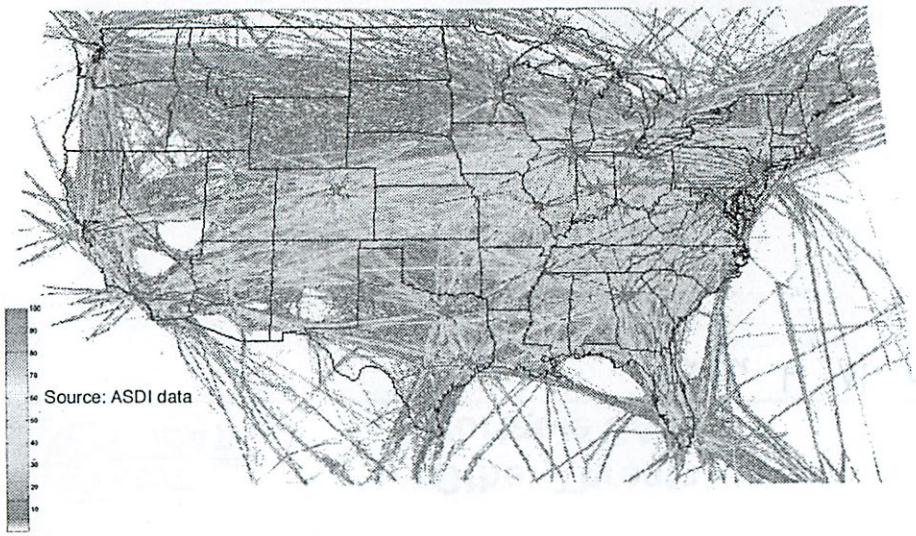
all hired in 1972 – replacements?



Time to CPC (Certified Professional Controller)
Terminal: 8 - 24 months
Enroute: 36 - 60

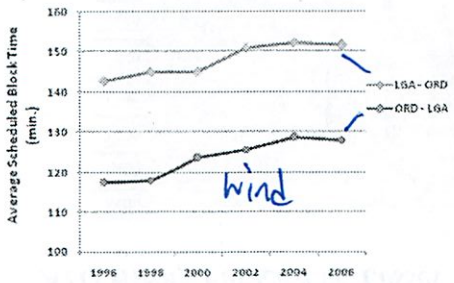
Source: Air Traffic Controller Workforce Plan - 2004

Congestion Driven Schedule Creep

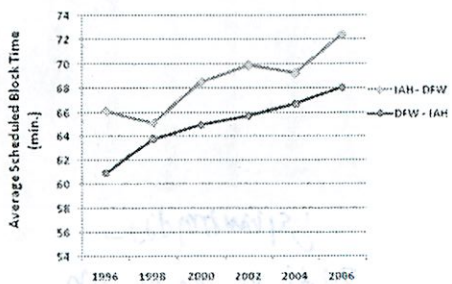


Historical Evolution of Scheduled Block Time
(Month of April / from 1996 to 2006)

NY La Guardia – Chicago O'Hare



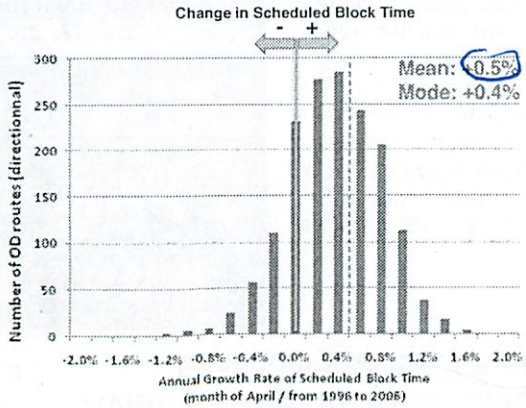
Houston – Dallas



Data source: Department of Transportation, Bureau of Transportation Statistics

Annual Growth Rate of Scheduled Block Time
(top 1950 OD routes)

- Analysis based on top 3000 OD routes (US Domestic – by US carriers)
- Filtered down to 1950 OD routes with uninterrupted service between 1996 and 2006 (April)
- OD routes covering 76% of total passengers in the U.S. in 2006

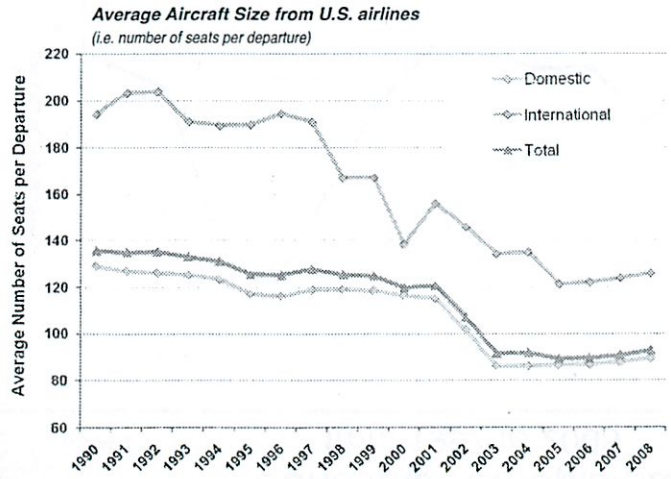


in scheduled time

same airplanes ATC delays

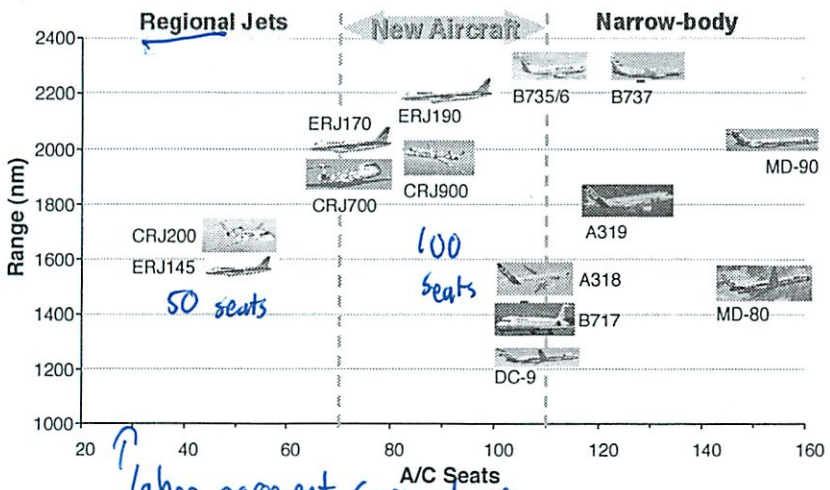
Data source: Department of Transportation, Bureau of Transportation Statistics

Trends in Aircraft Size



Data source: Form 41 Traffic data from Bureau of Transportation Statistics (US carriers)

RJ-NB Boundary Blurred



labor agreement scope clause

Source: based on manufactures' a/c specifications. Full pax range of standard version

need some way to distinguish pay clause

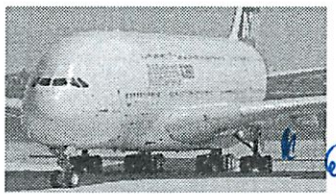
after 9/11 this disappeared – so can't give them away now

New Aircraft Types

Embrear EMB-190

300

Boeing B-787



600-750 Seats

Airbus A-380

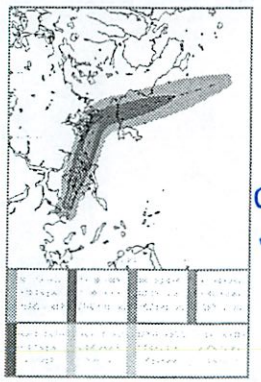
if you can fill it

300

Airbus A-350

Environmental Issues

Noise



always there

- ❑Stage 4 (Equipment)
- ❑Airports (Capacity)

adding airport capacity

Emissions

Intergovernmental Panel on Climate Change

changing

lots of emmissions 2.5-3% total

and high to atmosphere

very hard to transition

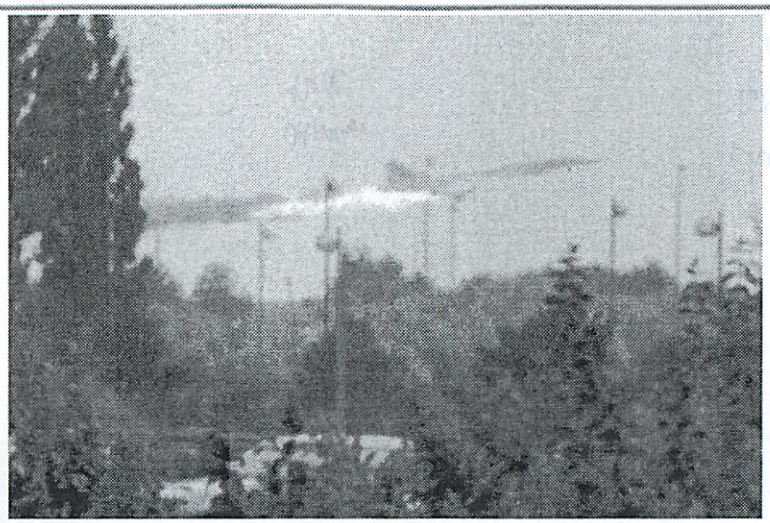
Media

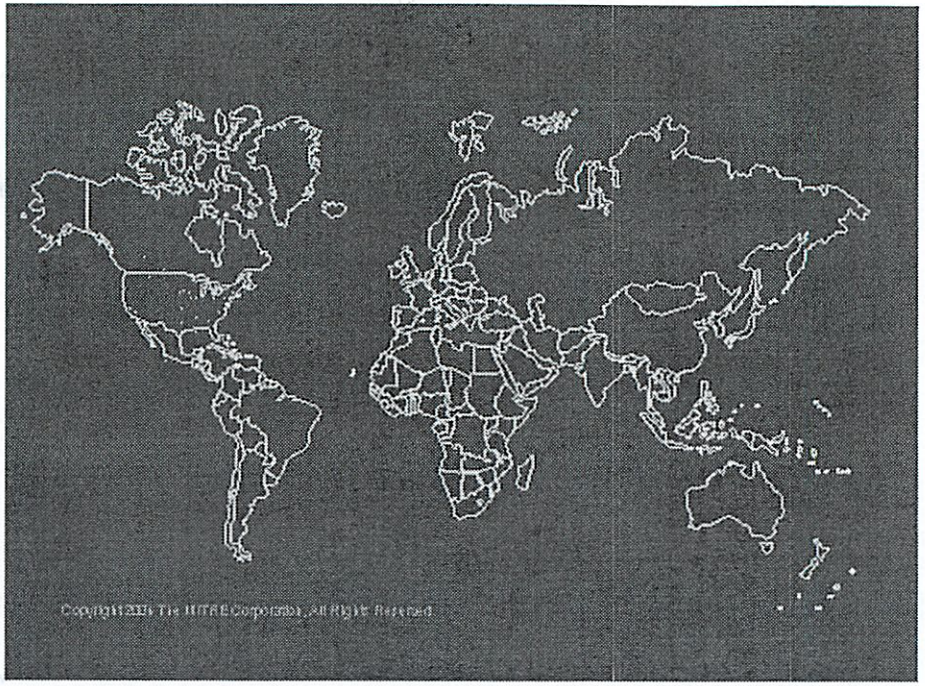
- **Drives Public Perception**
  - Risk
  - Delays
  - Expectations

very media friendly

- **Drives Public Policy**
  - Congress - FAA - NTSB
- **Shorter Reaction Timescale**
  - CNN, Web
  - Proliferation of Digital Cameras and Distribution
    - eg Concorde Photographs

Concorde Accident





9/15

1.232/15.05/16.71/ESD.217 The Global Airline Industry

The International Institutional and Regulatory Environment

Amedeo R. Odoni

September 15, 2010

Some References

Chapter 2 in The Global Airline Industry, Belobaba, Odoni, Barnhart, eds., Wiley (2009).

Czerny, A.I. et al (2008) *Airport Slots*, Ashgate, Hampshire, UK

Chang, Y-C and G. Williams (2001) "Changing the rules – amending the nationality clauses in air services agreements", *Journal of Air Transport Management, 7,* pp. 207-216.

de Neufville, R. and A. Odoni (2003) *Airport Systems: Planning, Design and Management,* McGraw-Hill, New York.

Doganis, Rigas (2001) *The airline business in the 21st century"*, Routledge, London and New York.

European Union Commission, "Open Skies: EU Welcomes Draft Aviation Agreement", March 2, 2007. http://www.eurunion.org/news/press/2007/2007020.htm

Findlay, C. (2003) "Plurilateral agreements on trade in air transport services", *Journal of Air Transport Management, 9,* pp. 211-220.

Some References [2]

Forsyth, P. et al (2010) *Airport Competition: The European Experience,* Ashgate, Hampshire, UK.

GAO – Government Accountability Office(2004) *Transatlantic Aviation: Effects of Easing Restrictions on U.S.-European Markets*, Report GAO-04-835, Washington, DC.

GAO – Government Accountability Office (2005) *Air Traffic Control: Characteristics and Performance of Selected International Air Navigation Service Providers and Lessons Learned from Their Commercialization*, Report GAO-05-769, Washington, DC.

Shane, Jeffrey N., *Air Transport Liberalization: Ideal and Ordeal*, Second Annual Assad Kotaite Lecture, Royal Aeronautical Society, Montreal Branch, Montreal, Canada, December 8, 2005. (www.dot.gov/affairs/briefing.htm)

huge topic → army of lawyers

Outline

- ❑ Background for understanding international *economic* regulatory environment
- ❑ Gradual evolution toward liberalization on an international scale
- ❑ Principal issues in assessing the level of deregulation of international airline markets
- ❑ Airport constraints as a restraint on competition
- ❑ Privatization of airports and "corporatization" of air traffic control services
- ❑ Some key organizations and their role

9/15

Background on International Regulatory Environment

- "Chicago Convention" ("Convention on International Civil Aviation", 1944, 54 nations; ratified 1947) provided the initial *conceptual* framework for the evolution of the international regulatory environment for commercial air transportation
- US position: liberal, multilateral arrangements, including open competition, unrestricted operating rights, and market-driven frequencies and tariffs
- Position of other nations, led by UK: protectionist.
- Concerns: US dominance; national security; airspace sovereignty; nascent industry ← *use of landing rights as bargaining tool*
- Failure to reach agreement on commercial traffic rights
- "Bilateral air services agreements" (ASA) emerged as the basic regulatory framework, fixed market access and entry, capacity and tariffs

Page 5

"open skies"

replicates debates taking place today

US would take over

every pair of countries negotiated

Contributions of the Chicago Convention

- "Recognition" of air transport as a global industry and activity
- Need for commonality in airport and air traffic control facilities, equipment and procedures
- Framework for the provision of ATC services on a global scale
- International Civil Aviation Organization (ICAO): Technical standards and recommended practices for airports and air traffic control; global seat of documentation on ASA, national practices, etc.
- Identification of alternative "models" for international regulatory environment for commercial air transport
- Definition of first five "Freedoms of the Air"

Page 6

"Freedoms" of the Air

(With reference to airline X, certificated in State A)

- First: The right to fly over another State without landing.
- Second: The right to land in another State for technical reasons (e.g., re-fueling) without picking up or setting down revenue traffic.

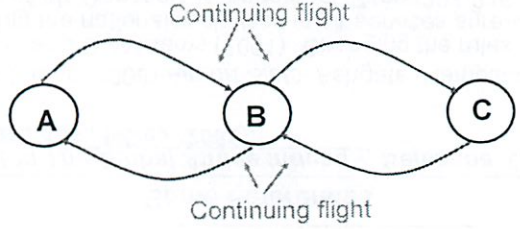
(In a bilateral agreement between States A and B)

- Third: The right to carry traffic from own State (A) to the State (B) of the treaty partner.
- Fourth: The right to carry traffic from treaty partner (B) to own State (A).

Page 7

"Freedoms" of the Air (2)

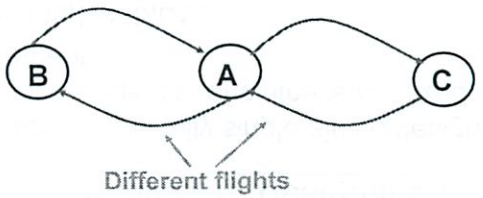
- Fifth: The right of an airline of State A to carry revenue traffic between the treaty partner (B) and another State, C, on services starting or ending in own State A. (Note that State C must also agree!)



Page 8

"Freedoms" of the Air (3)

- Sixth: The use by an airline of State A of two sets of Third and Fourth Freedom rights to carry traffic between two other countries, by using an airport in A as a transit point.



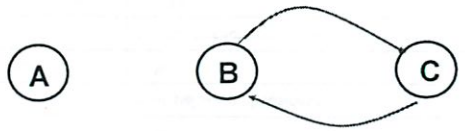
[Rarely specified explicitly in ASAs.]

Page 9

discovered along the way
KLM: Israel → NY by doing tekAir → Amsterdam, New York
how to stop them?

"Freedoms" of the Air (4)

- Seventh: The right of an airline of State A to carry revenue traffic between airports in two States B and C on services which lie entirely outside State A.

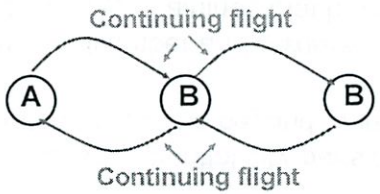


Page 10

"Freedoms" of the Air (5)

- Eighth ("consecutive" or "fill-up" cabotage): The right of an airline of State A to carry revenue traffic between two points in State B *on a service originating or terminating in State A*.

domestic traffic in foreign country



- Ninth ("pure" or "full" cabotage): Same as eighth, but no requirement to originate or terminate in A.

Page 11

negotiate which ones to have

Bilateral Agreements

- United States has played a central role in promoting the gradual liberalization of bilateral international air transportation agreements
- Evolution:
  - 1946 +: "traditional" (either "restrictive" or "liberal"/Bermuda)
  - 1978 +: "open market" (e.g., US-Netherlands, US-Singapore, UK-Netherlands)
  - 1992 +: "open skies" (e.g., US-Netherlands, US-Singapore, New Zealand-Chile, EU-US)
- Caution: Most existing agreements worldwide (but not those of US) are still of the "traditional" type.

started w/ mostly 1 airport country then pressured other countries

2/3 of the 4,000 ASAs

Page 12

Elements of Bilateral Agreements

- Market Access: Potential city-pairs to be served; any granted Freedoms beyond Third, Fourth and Sixth.
- Designation: Number *and ownership requirements* (but *not* identity) of airlines that have the right to service each city-pair. 1 US airline
- Capacity: Frequency and number of seats that can be offered on each service.
- Tariffs: Determination of passenger fares and cargo rates on services offered.

Page 13

Evolution: Market Access

- Traditional: Only a specified set of city-pairs can be operated by each airline; number of city-pairs is typically small; practically no Fifth Freedom rights; no charter traffic rights included.
- Open Market: Largely open access; US bilaterals limit access by foreign airlines to only limited number of US airports; specified Fifth Freedom; unlimited charter rights.
- Open Skies: Unlimited access at both ends, including charter rights; unlimited Fifth Freedom; no Seventh (with a few exceptions), Eighth or Ninth freedom.

Page 14

Evolution: Designation

- Traditional: Typically single airline designation; a few double; identity of airline is *not fixed* in the agreement.
- Open Market: Multiple.
- Open Skies: Any eligible.

- *The constant: "Substantial ownership and effective control by nationals of designating state."*

Page 15

Foreign Ownership Restrictions

Australia	49% international (25% per single investor); 100% for domestic
Canada	25%
China	35%
Chile	Principal place of business
European Union	49%
India	49% (but no foreign airline may own a part of an Indian airline)
Japan	33.33%
Korea	49%
Malaysia	45%
New Zealand	49% international; 100% for domestic
Singapore	27.51%
Taiwan	33.33%
Thailand	30%
United States	25%; one-third of board at maximum; cannot be Chairman of Board

Can be 100% foreign owned

very restrictive

Source: Updated from Chang and Williams (2001)

Page 16

The Major Anomaly: Ownership and Management

- Unlike most international industries, "substantial ownership and effective control by nationals of the designating State" is still the basis for licensing of an airline in a country and for its designation in ASA
- Increasing number of exceptions (examples):
  - multiple-state airlines (SAS, Gulf Air)
  - Aerolineas Argentinas
  - Chile, Australia
- EU Third Package Agreement: EU "Community Carriers" (25 States)

just have to be in EU
don't like at specific ownership

Page 17

Evolution: Capacity

- Traditional: Strict frequency and capacity control; typically 50-50; interline revenue pooling and sharing is often required. (Under "liberal" version, no capacity control but with possibility of review to protect airlines at a "disadvantage".)
- Open Market: No frequency or capacity control; change of aircraft type on Fifth Freedom flights permitted.
- Open Skies: No frequency or capacity control; code sharing permitted; change of aircraft on Fifth Freedom flights permitted.

Page 18

Evolution: Tariffs

- Traditional: Prices based on "cost + profit" formulae; *double approval* by governments involved; use of IATA tariff-setting procedures encouraged.
- Open Market: *Double disapproval* or (rarely) country of origin rules.
- Open Skies: Free pricing.

Page 19

Multilateral Open Skies Agreement: APEC

- May 2001: USA and five APEC countries (Singapore, Brunei Darussalam, Chile, New Zealand, Peru). [Bilaterals merged into single agreement]
- First through sixth freedoms: yes
- Seventh freedom: cargo only
- Eighth and ninth freedoms: no
- Each State designates any number of airlines having principal place of business in that State; each State can have more restrictive requirement re the airlines it designates
- No approval requirements for fares
- Code sharing permitted
- Each party to the agreement is free to negotiate independent agreements with third parties
- Other States can be invited in

Page 20

Deregulation in the European Union

-The regulatory environment of the air transport market within the EU has been greatly liberalized as of January 1, 1993.

-A breakthrough in multilateral deregulation

-Phased change:

- ❑ Civil Aviation Memorandum No. 2 (1987)
- ❑ EEC Package on Air Transport (1990)
- ❑ EEC Package on Air Transport (1992)

-1992 Package ("Third Package") largely deregulates the airline industry on an EU-wide basis (27 countries, ~500 million people)

Page 21

EU Third Package (1/1/93)

- ❑ Community Carrier: Any carrier registered in an EU Member State.
- ❑ Ownership of Carriers: Any group of nationals of an EU Member State may apply for the establishment of an airline in any EU Member State. Approval will be given as long as the technical and ownership requirements specified by the EU are satisfied.
- ❑ Access to Markets: Full seventh (and fifth) freedom rights *within EU* for community carriers. Cabotage permitted on continuation of intra-EU international flights for only up to 50% of the aircraft's capacity. Full cabotage (ninth freedom) rights for community carriers after April 1, 1997.

Page 22

EU Third Package (1/1/93) [cont'd]

- ❑ Capacity Offered: No restrictions.
- ❑ International Fares: Proposed fares can be rejected only if it is judged by one of the States involved to constitute a case of monopolistic or of predatory pricing; EU Commission is the ultimate arbiter of fare disputes.
- ❑ Earlier Provisions: "Strict enforcement" against: fare fixing (bilateral or through cartels); capacity fixing; anti-competitive joint ventures; discrimination in CRS; predatory pricing; anti-competitive mergers or takeovers; *Government subsidies to airlines.*

Page 23

most liberal agreement

A Landmark Judicial Case

- ❑ November 5, 2002: European Court of Justice finds nationality clauses in bilateral Open Skies agreements between EU Member States and the US violate EU legislation re. equal rights for all Community air carriers; authorizes EU Commission to negotiate an agreement with US on behalf of all EU Member States
- ❑ 11 of (then) 15 EU nations had Open Skies agreements with US; declared invalid but continued temporarily
- ❑ Negotiations began October 2003; concluded in March 2007 with path-breaking *provisional* EU-U.S. agreement that took effect in March 2008
- ❑ Extremely complex negotiations; highly politicized environment in Washington

Page 24

since ownership

EU as a whole

The EU-US Open Skies Agreement (2007)

- Any US airline and any EU airline ("Community air carrier") can serve any city-pair between the US and the EU
- Fifth Freedom rights granted to both sides
- Community air carriers receive Seventh Freedom rights for service between cities in the US and certain non-EU European States
- All-cargo flights by Community air carriers receive Seventh Freedom rights for flights between US and third countries; similarly for certain all-cargo flights between EU and third countries by US carriers
- Facilitation of alliances through provision of broad anti-trust immunity to alliance partners (but must be granted case-by-case)
- Numerous more technical provisions ("Fly America" program, regulatory convergence, Joint Committee, etc.)
- Still to negotiate (ongoing): US ownership restrictions, cabotage rights in US

'Congress dislikes' 'unions don't like' on both sides

March 2008 → provisional

Page 25

Implications of EU-US Open Skies Agreement

- Expected to stimulate competition on North Atlantic markets and lead to reduced fares
- Currently ~170 non-stop EU-US markets; one estimate (Boeing) expects up to 120 additional markets, also stimulated by new generation of medium-size long-haul aircraft (B787 and A350)
- May help emerging long-haul low-cost carriers
- All-cargo carriers move toward truly "global" status
- Airport slots on EU side will be of critical importance
- Some forecasts re passenger growth and gains may have been exaggerated; financial crisis has slowed down any effects

Page 26

Airport-Related Impediments to Opening Air Transport Markets

- Availability of airport slots become stumbling block - new tool of regulation
- Other government regulation at airports (e.g., legal and administrative arrangements, curfews, customs/currency restrictions, etc.)
- Pricing and services at airports (e.g., excessive landing fees, excessive fuel prices, maintenance and technical support)
- Ground handling services and costs
- Local marketing and ticket distribution

Page 27

Limited Airport Access Impedes Competition

- Constraints on access at 'fully coordinated airports" are increasingly restraining competition on an international scale
- "Slot" (= a time interval available for scheduling an arrival or departure)
- Each airport has a *declared number* of slots per hour; this number is determined by the capacity of the most restricting element of airport – runway 99% cases
- Declared capacities are determined at local level
- Administrative slot control (i.e., allocation of slots without recourse to market-based mechanisms) is widely practiced worldwide
- Allocation of slots is carried out at IATA's "Schedule Coordination Conferences"

Page 28

IATA Schedule Coordination Process

- Level 1 ("non-coordinated")
- Level 2 ("schedules facilitated") *(~ 75 airports)*
- Level 3 ("fully coordinated")
  - ~ 140 international airports (practically all busiest ones outside US)
  - Coordinator appointed by appropriate authority, usually assisted by a coordination committee
  - IATA Schedule Coordination Conferences (SCC); in June and November for subsequent season
  - Attended by hundreds of air carriers, airport reps, airport coordinators, etc.

Page 29

IATA Schedule Coordination Process [2]

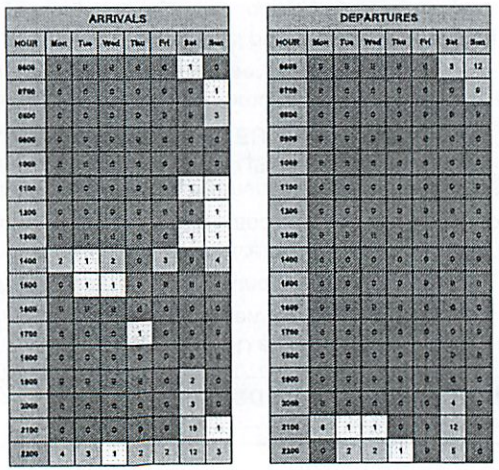
- Air carriers submit slot requests 27 days before SCC
- During SCC and post -SCC, coordinators resolve conflicts, finalize schedules
- *Historical precedent is the overriding slot allocation criterion* ("grandfather rights")
- Carriers may exchange slots
- Use-it-or-lose-it clause (80% use required)
- New entrants obtain up to 50% of "free" slots
- *Highly restrictive clauses re. new entrants*
- Other allocation criteria: scheduled services, size and type of market, length of period of operation, curfews…

propagates status quo

-or capacity increases

Page 30

Slot Availability at LHR



Source: Manager, Slot Coordination, UK, for Summer, 2001

0 = sold out due to grandfather rights

Page 31

Potential Remedies

- Modify IATA rules to reduce reliance on "grandfather rights" and increase the fraction of slots that change hands from season to season
- Increased reliance on "market-based mechanisms"
  - Congestion pricing (or "peak-period pricing")
  - Slot auctions
  - Secondary slot market
- *Despite extensive analysis and discussion, little progress has been made toward implementation of any of these approaches; a very few airports have some form of congestion pricing or a (formal) secondary slot market*

Page 32

new runway = more slots

LH does not want new runway - threaten their monopoly

so only 5 slots/year - so 6 years till used

only NY + DC's Reagan have limits on slots

Airport Ownership and Management

- Airports, in the past were government-owned (national, regional or local) and managed by either government organizations or by independent Airport Authorities
- Often heavily subsidized by national governments (especially w.r.t. capital costs)
- Essentially not-for-profit organizations, with principal aim to provide infrastructure for air travel
- Change began in the mid-1980s

Page 33

Airport Privatization Trend

- Growing private participation in airport ownership
- Equally important, private-sector management practices are replacing traditional government-style management in an environment demanding economic self-sufficiency
- Trend toward "outsourcing" of airport activities, lean airport organizations ("US model")

- *Accompanied by improved understanding of need for regulatory safeguards to protect public interest and prevent monopolistic practices*

Page 34

Commercialization and Away-from-Home Ventures

- Fast-growing non-aeronautical revenues as a result of emphasis on commercial activities and other landside services (due to growing traffic and to numbers and longer dwell times of connecting and departing passengers)
- Ventures away from home, sometimes in activities not directly related to airports (e.g., real estate)
- Evolving organizational structures reflecting these trends

Page 35

Airport "Privatization" (USA)

- All major airports in the US are owned by state or local government [FAA "pilot program"]
- US Airports among the most "privatized" in the world: outsourcing most financing, planning, and operating activities to private companies.
- Recently some have also privatized management
- 2009: Chicago Midway(!?) [99-year lease, $2.5 billion deal collapses; 17 mio pax, 2008]

Page 36

Economic Regulation of Airports

- Airports, with a few exceptions, are natural monopolies for O/D traffic
- Widespread concern about potential abuses in pricing airport facilities and services, especially in light of growing privatization
- Increasingly sophisticated regulation (UK in lead):
  - target rates of return on investment;
  - caps on price increases; often tied to inflation rates and/or to traffic growth
- Fundamental issue: treatment of revenues from non-aeronautical activities
- "Single-till" vs. "dual-till" controversy (or airline vs. airport)

Page 37

"Corporatization" of Air Traffic Control Services

- "Corporatization" (or "commercialization"): placing of a government service into a corporate structure that operates along private sector lines.
- Switzerland (1991); Germany (1992); Netherlands (1993); Ireland (1994); Australia and South Africa (1995); UK, Czech Republic, Canada (1996); Latvia (1997).....
- NAV Canada (1996) is first privately-owned ATM corporation; owned by stakeholders (airlines, g.a., unions); surplus revenues retained by NAV Canada to finance investments
- NATS UK (2001) operates along similar lines with NAV Canada; 49% government ownership
- Single European Sky Agreement (2004): choice of ATC service provider; can consolidate providers

Page 38

International Civil Aviation Organization (ICAO)

- Established in 1947 as a result of Chicago Convention ("specialized agency of UN"); Montreal headquarters; regional offices
- 190 Member States; Assembly meets every 3 years
- 36-member Council; 3-year term; some permanent members
- Secretariat with large staff
- Primarily technical regulation: International standards and recommended practices (18 Annexes)
- Occasional conferences on economics, regulation and policies
- Bilateral ASA must be registered with ICAO (more than 4000 exist!)

Page 39

International Air Transport Association (IATA)

- Trade association of most of the international airlines in the world (~230 member airlines, 125 countries, carry 93% of international ASK in 2009); Geneva and Montreal headquarters; founded in 1945.
- "Two-tier" operation since 1978:

1. Trade association (legal and technical services): "conditions of carriage"; "interline" trips; passenger and cargo services; dangerous goods regulations; airport and ATC facilities; airport "schedule coordination"; monitoring of airport and ATC user charges
2. "Tariff coordination" in some markets (~80 airline participants, no US airlines, violates US and EU statutes)

Page 40

Other International NGOs

- Airports Council International (ACI): increasingly active trade association of airport operators with several strong regional offices
- International Federation of Airline Pilots Associations (IFALPA)
- International Council of Aircraft Owners and Pilot Associations (ICAOPA)
- Various regional airline associations and passenger rights associations

A new major international player:

- EU Commission: Directorate General – Transportation and Energy (DG – TREN)

Page 41

Federal Aviation Administration (FAA)

- Established in 1958; part of US Dept. of Transportation
- 42,000 employees, ~14,000 air traffic controllers, many regional offices, European office
- ~$16 billion budget in FY2010 (~$9.4 billion for operations, 3.5 billion airport improvement grants)
- Six lines of activity
  - Regulation and Certification
  - Research and Acquisitions
  - Airports
  - Administration
  - Commercial Space Transportation
  - Air Traffic Services

Page 42

Other US government and NGOs

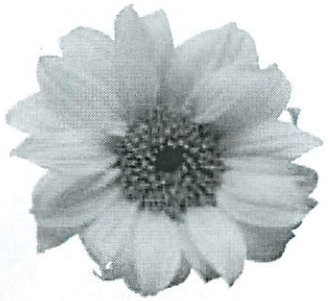
- National Transportation Safety Board (NTSB): Independent government agency charged with investigating every civil aviation accident in the US and all other major transportation accidents, and with making recommendations on improving safety
- US Department of Transportation: Under-Secretary for Policy and Assistant Secretary for Aviation and International Affairs
- US Dept of State: bilateral + multilateral agreements
- US Dept of Justice: anti-trust enforcement
- NGOs: ATA, RAA, ACI-North America, AOPA, ALPA and other unions

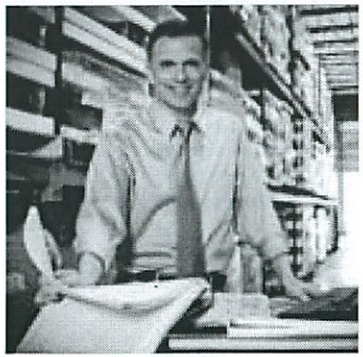
Page 43

Principal Points

- Internationally, the airline industry operates in regulatory environments that range from highly restricted and protectionist to almost fully deregulated.
- National ownership requirements are among the principal obstacles to a full "globalization" of markets in developed countries.
- The trend toward privatization and private-sector-style management is spreading to airports and air traffic control services.
- Airport capacity constraints are increasingly restraining competition in the industry.
- The international diversity of regulatory, institutional, cultural and technical contexts is always a critical consideration.

Page 44





When america flies, it works

2010 Economic Report

AIR TRANSPORT ASSOCIATION

Contents

Charts

Tables

U.S. Airlines by Aircraft Departures Performed – 2009

At Least 100,000

AirTran Airways
Air Wisconsin Airlines
Alaska Airlines
American Airlines
American Eagle Airlines
Atlantic Southeast Airlines
Cape Air
Chautauqua Airlines
Colgan Air
Comair
Continental Airlines
Delta Air Lines
ExpressJet Airlines
FedEx Express
Horizon Air
JetBlue Airways
Mesa Airlines
Mesaba Airlines
Piedmont Airlines
Pinnacle Airlines
PSA Airlines
Republic Airlines
Shuttle America
SkyWest Airlines
Southwest Airlines
United Airlines
UPS Airlines
US Airways

¿who

10,000 to 99,999

ABX Air
Allegiant Air
Arctic Transportation
Atlas Air
Bering Air
Capital Cargo International
Commutair
Compass Airlines
Continental Micronesia
Empire Airlines
Era Aviation
Executive Airlines
Freedom Air
Freedom Airlines
Frontier Airlines
Frontier Flying Service
GoJet Airlines
Grant Aviation
Great Lakes Airlines
Gulfstream International Airlines
Hageland Aviation Service
Hawaiian Airlines
Homer Air
Island Air Hawaii
Kenmore Air Harbor
Lynx Aviation
Pacific Wings Airlines
Peninsula Airways
PM Air
Scenic Airlines
Seaborne Aviation
Spirit Airlines
Sun Country Airlines
Trans States Airlines
Virgin America
Warbelow's Air Ventures
West Isle Air
Wings of Alaska
World Airways
Wright Air Service
Yute Air Alaska

1,000 to 9,999

Air Choice One
Air Transport International
Alaska Central Express
Alaska Seaplane Service
Aloha Air Cargo
Amerijet International
Arctic Circle Air Service
Arrow Air
ASTAR Air Cargo
Casino Express
Centurion Cargo
Evergreen International Airlines
Florida West Airlines
Gulf and Caribbean Cargo
Iliamna Air Taxi
Inland Aviation Services
Island Air Service
Kalitta Air
Katmai Air
Lynden Air Cargo Airlines
Miami Air International
Murray Air
New England Airlines
North American Airlines
Northern Air Cargo
Omni Air Express
Pace Airlines
Pacific Airways
Polar Air Cargo
Ryan International Airlines
Servant Air
Sky King
Smokey Bay Air
Southern Air
Spernak Airways
Tanana Air Service
Taquan Air Service
Tatonduk Flying Service
Tradewind Aviation
USA Jet Airlines
USA 3000 Airlines
US Helicopter
Vieques Air Link
Vision Airlines

Fewer Than 1,000

Aerodynamics
Air Excursions
Ameristar Air Cargo
Asia Pacific Airlines
Avjet
Bemidji Airlines
Ellis Air Taxi
Falcon Air Express
40-Mile Air
Harris Air Services
Kalitta Charters II
NetJets
Sierra Pacific Airlines
Swift Air
Tradewinds Airlines
Ward Air
Wings Air

■ Member, Air Transport Association of America, Inc. (as of July 2010)

Report Content

Unless otherwise noted, the data provided in this report reflects the worldwide operations of the 130 U.S. passenger and cargo airlines shown above, as recorded by the Bureau of Transportation Statistics (BTS) in 2009, under Chapter 411 of Title 49 of the U.S. Code. Data for Delta Air Lines reflects the combined results of Delta and Northwest. Data for Republic Airlines reflects the combined results of Republic and Midwest. Due to rounding, in some cases, the sum of numbers in this report may not match the printed total. Also, certain historical data has been restated to reflect the most current information available. For a glossary of terms and other information regarding this report and previous editions, visit www.airlines.org.

Why are the others not members?

Founded in 1936, the Air Transport Association of America, Inc. (ATA) is the nation's oldest and largest airline trade association. The association's fundamental purpose is to foster a business and regulatory environment that ensures safe and secure air transportation and enables U.S. airlines to flourish, stimulating economic growth locally, nationally and internationally. By working with its members in the technical, legal and political arenas, ATA leads industry efforts to fashion crucial aviation policy and supports measures that enhance aviation safety, security and well-being. During its nearly 75-year history, ATA has seen the airline industry grow from the small, pioneering companies of the 1930s into indispensable facilitators of the global economy. ATA and its members continue to play a vital role in shaping the future of air transportation.

about ata

Mission

Consistent with its founding principles, the Air Transport Association serves its member airlines and their customers by:

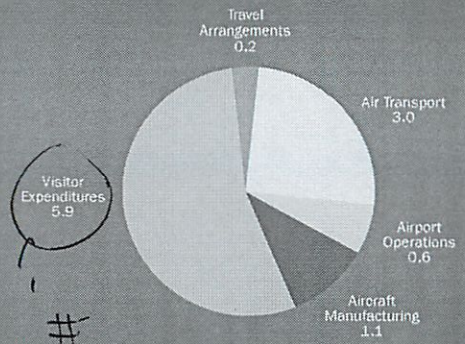
- Assisting the airline industry in continuing to provide the world's safest system of transportation
- Transmitting technical expertise and operational knowledge to improve safety, service and efficiency
- Advocating fair airline taxation and regulation worldwide to foster a healthy, competitive industry
- Developing and coordinating industry actions that are environmentally beneficial, economically reasonable and technologically feasible
- Championing the world's safest transportation system
- Protecting airline passengers, crew members, aircraft and cargo, working collaboratively with the Department of Homeland Security (DHS) and the Transportation Security Administration (TSA)
- Modernizing the U.S. air traffic management system via the Federal Aviation Administration (FAA)
- Challenging government policies that impose unwise regulatory burdens or impinge on marketplace freedoms
- Reducing the disproportionate share of taxes and fees paid by airlines and their customers
- Improving the industry's ability to attract the capital necessary to meet future demands
- Shaping international aviation policy to ensure that U.S. and foreign carriers can compete on equal terms

Annual U.S. GDP Contribution of Commercial Aviation

$731.5 Billion

U.S. Job Impact by Commercial Aviation Activity

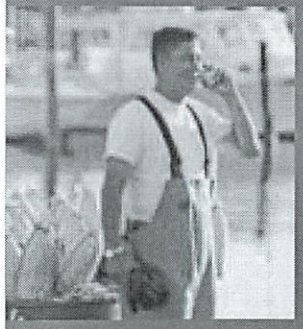
In Millions



really ? - inflating #

Total: 10.9 Million U.S. Jobs

Source: Federal Aviation Administration, "The Economic Impact of Civil Aviation on the U.S. Economy," (December 2009)



highlights

Highlights

	2008	2009	Change (#)	Change (%)
Traffic and Capacity (Millions)[1]				
Passengers Enplaned	743.3	**703.9**	(39.4)	(5.3)
Revenue Passenger Miles (RPMs)	812,360	**769,485**	(42,875)	(5.3)
Cargo Revenue Ton Miles (RTMs)	28,375	**25,002**	(3,373)	(11.9)
Aircraft Departures	10.9	**10.1**	(0.8)	(7.0)
Aircraft Miles	7,889	**7,317**	(573)	(7.3)
Aircraft Hours	18.9	**17.5**	(1.4)	(7.5)
Available Seat Miles (ASMs)	1,021,348	**957,198**	(64,150)	(6.3)
Operating Statistics[1]				
Passenger Load Factor (%)	79.5	**80.4**	0.9	nm
On-Flight Trip Length (Miles)	1,093	**1,093**	0	0.0
Flight Stage Length (Miles)	724	**722**	(2)	(0.3)
Income Statement (Billions)				
Operating Revenues	$186.1	**$154.7**	($31.4)	(16.9)
Operating Expenses	189.5	**152.3**	(37.2)	(19.6)
Operating Profit (Loss)	(3.3)	**2.4**	5.8	nm
Net Profit (Loss)	(23.7)	**(2.5)**	21.2	nm
Financial Ratios				
Passenger Yield (¢/RPM)[1]	13.73	**11.87**	(1.86)	(13.6)
Passenger Unit Revenue (¢/ASM)[1]	10.92	**9.54**	(1.38)	(12.6)
Cargo Yield (¢/RTM)[1]	102.88	**91.65**	(11.23)	(10.9)
Net Profit Margin (%)	(12.8)	**(1.6)**	11.1	nm

drop

1 Scheduled service only.
nm = not meaningful

Source: ATA and Bureau of Transportation Statistics

When America Flies, It Works

The theme for this year's economic report – When America Flies, It Works – was chosen to communicate the critical role that commercial aviation plays in virtually every facet of our economy and our daily lives. As the national and world economies begin to recover from the serious turmoil of the recent past, it is a particularly opportune time to focus on the contributions that a strong commercial aviation sector has, can and will make to a revitalized job market and a brighter future for everyone.

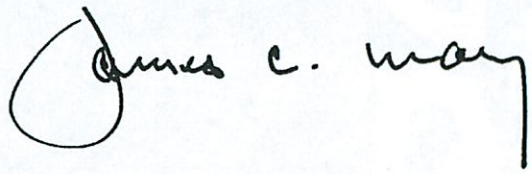
Some of the most recent government data tells us that commercial aviation helps generate more than $1.2 trillion in economic activity and almost 11 million U.S. jobs. Remarkable, but like a lot of statistics, the raw data does not always connect us to the real story – the faces and families that numbers can never fully capture.

The story is not just about the important business trip, the quick family vacation or the more than half a million jobs in the airline industry. Nor is it just about the travel and entertainment industry jobs or the jobs in the emerging market for sustainable alternative aviation fuels, which the airlines are leaders in pursuing, or the more than a million other jobs of every description that are generated with every aviation job. It is not just about the farm worker in California producing fresh lettuce for the New York market or the Alaskan boat captain delivering tomorrow's salmon for the Florida restaurant trade. It is not just about the Internet-enabled catalog business that delivers products and supplies across the country with the click of a mouse – or the job multiplier that this economic activity produces. It is, in fact, about all of these and millions upon millions more jobs – and the faces and families they represent – that are created, fostered and powered by commercial aviation.

As we all work toward a stronger economic future, it is indeed an opportune time to focus on the importance of what *The Economist* recently described so well as, "the silver needles that sew the world together." Those silver needles not only enable us to stay close to family and friends across the country and around the world – they also help us secure the fabric of our economy and our lives.

In 2010 and beyond, it is more important than ever for both the airline industry and those in government to make the right choices to foster prudent investment in commercial aviation. Just as important will be the decisions to finance and develop the national infrastructure essential to enhancing aviation efficiency while optimizing environmental performance.

We are pledged and honored to do our part.



Officers

James C. May
President and Chief Executive Officer

John M. Meenan
Executive Vice President
and Chief Operating Officer

Paul R. Archambeault
Vice President, Chief Financial Officer
and Treasurer

David A. Berg
Vice President, General Counsel
and Secretary

James L. Casey
Vice President, Industry Services
and Deputy General Counsel

David A. Castelveter
Vice President, Communications

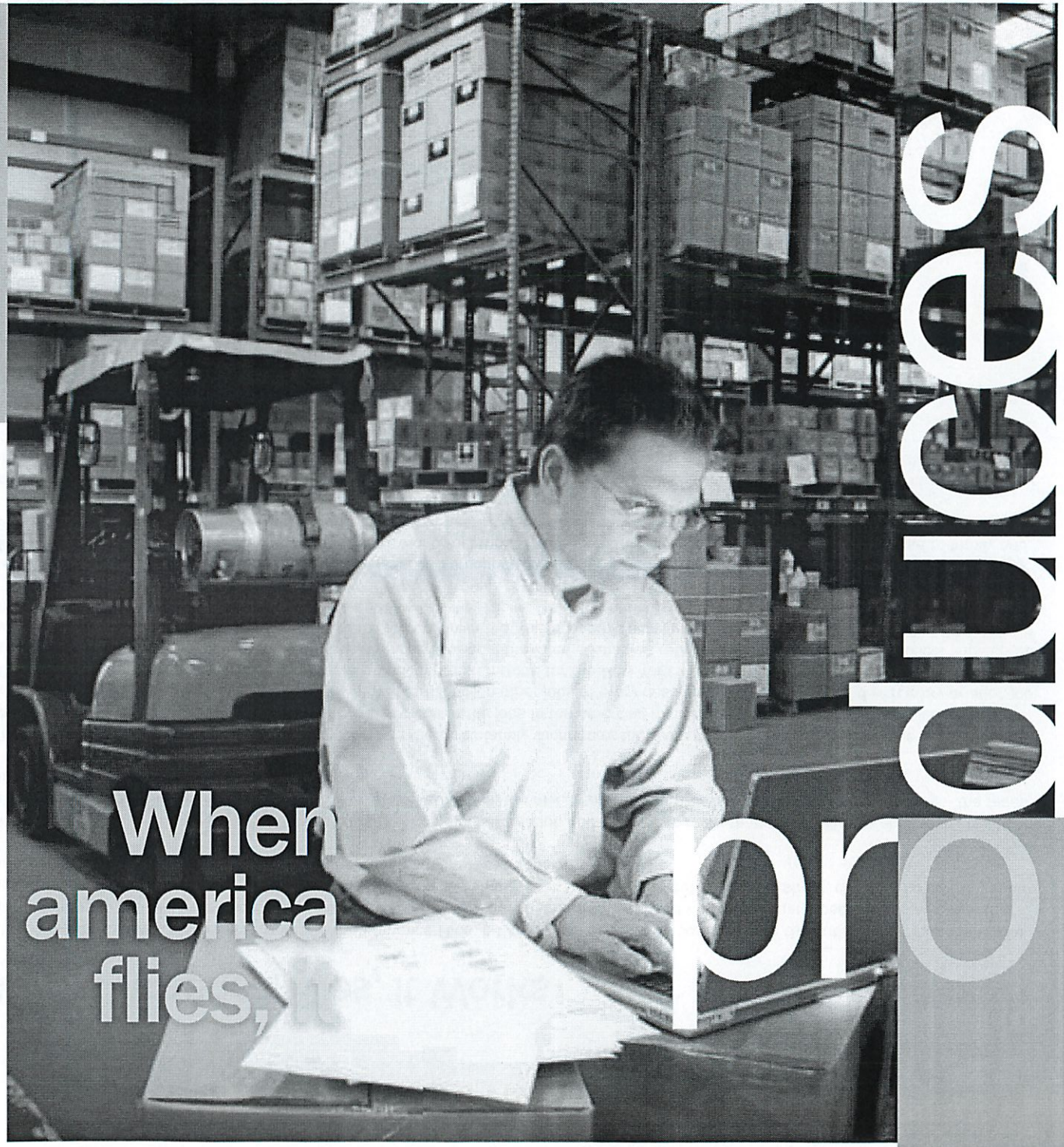
John P. Heimlich
Vice President and Chief Economist

Thomas L. Hendricks
Vice President, Operations and Safety

Patricia G. Higginbotham
Vice President, Policy and Chief of Staff

Sharon L. Pinkerton
Vice President, Government Affairs

Nancy N. Young
Vice President, Environmental Affairs



When america flies, it produces

Commercial Aviation Contribution to U.S. Economy

	Aviation Impact
U.S. Economic Output	$1.225 trillion/year
Contribution to U.S. GDP	$731.5 billion/year
Share of U.S. GDP	5.2 percent
U.S. Job Impact	10.88 million

Source: Federal Aviation Administration, "The Economic Impact of Civil Aviation on the U.S. Economy," (December 2009)

Employment – 2009

U.S. Airlines – Average Full-Time Equivalents
(In thousands)

Pilots and Other Flight Personnel	74.8
Flight Attendants	93.1
Maintenance and Engineering	50.4
Aircraft and Traffic Handling	252.2
Office Employees	24.9
All Other	40.8
Total	**536.2**

Source: Bureau of Transportation Statistics

Air transportation lies at the heart of modern, globalized economies: Approximately 2.5 billion passengers and 50 million tons of freight are flown worldwide annually. In the United States, every 100 aviation jobs yield some 330 jobs in other industries – from taxi drivers, waiters and retailers to construction workers, bellhops and bankers. For every dollar invested in business travel, the National Business Travel Association estimates that U.S. companies realize $12.50 in incremental revenue – offering consumers a true product of value. Ultimately,

even greater ~~Good~~ stretch than before

Civil Aviation[1] Job Impact by Industry

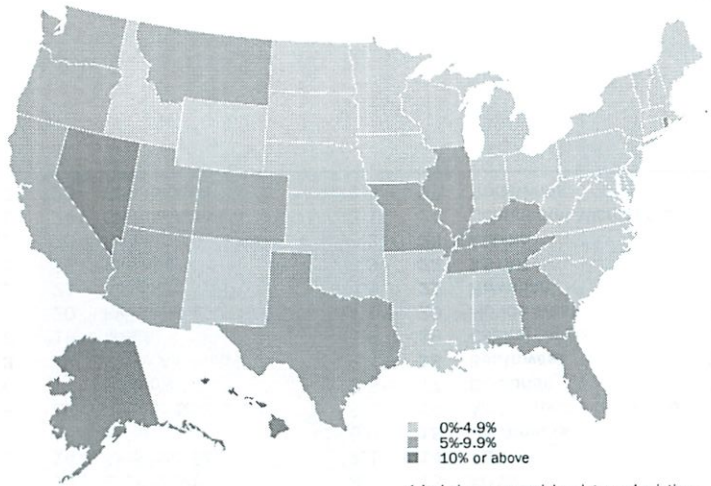
	Thousands
Accommodation and food services	3,753
Transportation and warehousing	1,667
Administrative, waste and support services	896
Manufacturing	871
Health care and social assistance	781
Retail trade	780
Professional, scientific and technical services	450
Finance and insurance	400
Real estate and rental/leasing	265
Wholesale trade	254
Information	183
Educational services	182
Arts, entertainment and recreation	180
Agriculture, forestry, fishing and hunting	147
Management of companies and enterprises	126
Construction	71
Utilities	38
Mining, quarrying and oil/gas extraction	30
Other services	438
Total	**11,512**

1 Includes commercial and general aviation.

Source: Federal Aviation Administration, "The Economic Impact of Civil Aviation on the U.S. Economy," (December 2009)

Civil Aviation[1] Job Impact by State

Aviation-Related Percent of State Employment



1 Includes commercial and general aviation.

Source: Federal Aviation Administration, "The Economic Impact of Civil Aviation on the U.S. Economy," (December 2009)

When America flies, it cares

Every day, airlines and their employees work together to assist those in need, quickly delivering emergency supplies, medical devices, pharmaceuticals and blood products where they are needed most.

commercial aviation drives nearly 11 million jobs and $1.2 trillion in annual economic activity. According to "Aviation: The Real World Wide Web," if aviation were a country, it would rank as the world's 21st largest economy – eighth if factoring in its supply-chain contribution to tourism and employee spending.

Airlines are critical to the stability of our local, national and global economies and our 21st century way of life, quickly spanning great distances and safely carrying people and products to and from every corner of the world. Integrated airline networks facilitate trade – for fishermen, farmers and florists, as well as for contractors, consultants and chief executives – enabling businesses of every size and shape to distribute their products and services to a greatly expanded marketplace. Airlines use those networks to extend next-day markets to remote and rural communities, and to enhance inventory-management practices for organizations worldwide. In 2009, the value of U.S. exports transported by air was 145 times the value of exports transported by sea – a reflection of the critical importance of moving high-value, time-sensitive goods by air.

Maintaining a safe, secure, sustainable and competitive U.S. airline industry is vital to facilitate commerce and to create jobs and, with those jobs, the economic stability and prosperity of our local, national and global economies.

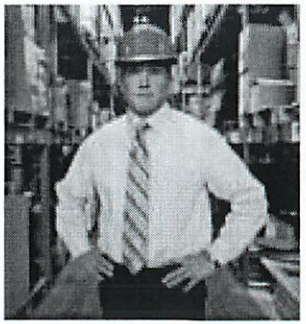
When America Produces, It Flies.
When America Flies, It Produces.

Top 25 U.S. Airlines – 2009

	Aircraft Departures[1]	Thousands		Passengers Enplaned[2]	Millions		Revenue Passenger Miles[2]	Billions		Cargo Revenue Ton Miles[1]	Millions		Operating Revenues[1]	Millions
1	**Southwest**	**1,126**	**1**	**Delta**	**108.6**	**1**	**Delta**	**162.8**	**1**	**FedEx**	**9,685**	**1**	**Delta**	**$28,910**
2	**Delta**	**849**	**2**	**Southwest**	**101.3**	**2**	**American**	**122.4**	**2**	**UPS**	**6,457**	**2**	**FedEx**	**19,963**
3	**American**	**683**	**3**	**American**	**85.7**	**3**	**United**	**100.3**	**3**	**Atlas**	**2,381**	**3**	**American**	**19,898**
4	SkyWest	571	**4**	**United**	**56.0**	**4**	**Continental**	**77.7**	**4**	**Delta**	**2,287**	**4**	**United**	**16,359**
5	American Eagle	461	**5**	**US Airways**	**51.0**	**5**	**Southwest**	**74.5**	**5**	**American**	**1,664**	**5**	**Continental**	**12,361**
6	**US Airways**	**461**	**6**	**Continental**	**43.9**	**6**	**US Airways**	**57.9**	**6**	**United**	**1,603**	**6**	**US Airways**	**10,781**
7	**United**	**435**	**7**	**AirTran**	**24.0**	**7**	**JetBlue**	**25.9**	7	Polar	1,215	**7**	**Southwest**	**10,350**
8	ExpressJet	361	**8**	**JetBlue**	**22.4**	**8**	**AirTran**	**18.5**	8	Southern	1,019	**8**	**UPS**	**4,421**
9	**Continental**	**346**	9	SkyWest	21.2	**9**	**Alaska**	**18.3**	9	Kalitta	945	**9**	**JetBlue**	**3,287**
10	**FedEx**	**334**	10	American Eagle	16.0	10	SkyWest	11.7	**10**	**Continental**	**901**	**10**	**Alaska**	**3,006**
11	Atlantic Southeast	303	**11**	**Alaska**	**15.5**	11	Frontier	8.9	11	World	635	**11**	**AirTran**	**2,341**
12	Pinnacle	271	12	ExpressJet	13.3	**12**	**Hawaiian**	**8.1**	**12**	**Evergreen International**	**631**	12	American Eagle	1,846
13	**AirTran**	**252**	13	Atlantic Southeast	13.2	13	ExpressJet	8.0	13	Arrow	443	13	SkyWest	1,731
14	Mesa	243	14	Mesa	11.0	14	American Eagle	7.1	**14**	**ABX**	**361**	**14**	**Hawaiian**	**1,184**
15	**JetBlue**	**216**	15	Pinnacle	10.7	15	Spirit	5.9	**15**	**US Airways**	**269**	15	Frontier	1,113
16	Mesaba	200	16	Frontier	9.8	16	Atlantic Southeast	5.8	16	Air Transport International	185	**16**	**Atlas**	**980**
17	Chautauqua	169	17	Republic	9.6	17	Republic	5.5	17	Centurion	181	17	Atlantic Southeast	883
18	Air Wisconsin	157	**18**	**Hawaiian**	**8.3**	18	Virgin America	5.4	**18**	**Southwest**	**110**	18	Comair	861
19	Republic	157	19	Horizon	6.8	19	Mesa	4.8	19	Capital Cargo	102	19	Mesa	833
20	Comair	156	20	Mesaba	6.7	20	Pinnacle	4.6	20	Florida West	100	20	Spirit	699
21	**Alaska**	**151**	21	Comair	6.3	21	Allegiant	4.5	**21**	**Hawaiian**	**75**	**21**	**ABX**	**697**
22	**UPS**	**137**	22	Spirit	6.1	22	Mesaba	3.3	**22**	**ASTAR**	**72**	22	ExpressJet	682
23	Horizon	137	23	Chautauqua	6.0	23	Comair	3.2	**23**	**Alaska**	**58**	23	World	658
24	Cape	131	24	Air Wisconsin	5.6	24	Shuttle America	3.1	24	Continental Micronesia	49	24	Horizon	654
25	Piedmont	127	25	Shuttle America	5.2	25	Chautauqua	2.5	25	Tradewinds	48	25	Kalitta	644

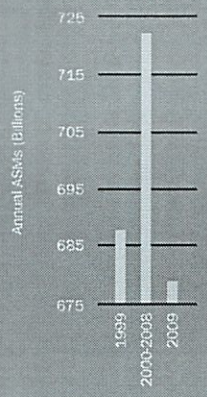
1 All services.
2 Scheduled service only.

Source: Bureau of Transportation Statistics
■ Member, Air Transport Association of America, Inc. (as of July 2010)



2009 Industry review

Domestic Capacity Trend



Source: ATA and Bureau of Transportation Statistics

2009 Industry Review

2009 was a story of recession – the worst global recession, in fact, since the 1930s. With the United States, Japan and Europe concurrently in recession for the first time since World War II, it came as little surprise that U.S. airlines saw operating revenues plunge 17 percent, leading to the deepest two-year contraction in the industry's history, and extending industry losses to $58 billion over a nine-year period beginning in 2001. The 2009 loss of $2.5 billion further reduced airline creditworthiness, heightening the urgency of carrier efforts to restore balance sheets to enable reinvestment in the years ahead.

Traffic and Operations

Passenger traffic, as measured in system-wide revenue passenger miles (RPMs), fell in every month of 2009 except September and November. The full-year decline of 5.3 percent resulted in the lowest RPM total in five years. Seating capacity, measured in available seat miles (ASMs), fell in all 12 months, down 6.3 percent on a full-year basis. Notably, the 7 percent drop in domestic ASMs was the sharpest year-over-year decline in 67 years. Moreover, the years 2008-2009 joined war years 1942-1943 and post-9/11 years 2001-2002 as the only periods in which U.S. airline seating capacity dropped two years consecutively. The depths of the 2008 and 2009 cuts effectively erased 10 years of industry growth, leaving domestic ASMs 1.3 percent below 1999 levels.

With carriers quick to cut capacity as fuel prices spiked in 2008, and reluctant to return seats to the skies as 2009 revenues sank precipitously, the 2009 industry load factor exceeded 80 percent for the first time in history, averaging 80.4 percent for the year. Meanwhile, air cargo traffic, as measured in revenue ton miles (RTMs), decreased 12 percent – the largest ever year-over-year drop and the most substantial since the 11 percent decline from 1973 to 1974. Cargo movements fell in each of the first 10 months of 2009 but crossed into positive territory in November as the economy began to recover.

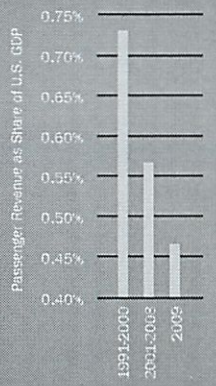
With respect to operations, the industry posted an on-time arrival rate of 79.5 percent despite persistent challenges in the National Airspace System (NAS). Given the substantial number of flights that intersect New York airspace, it is notable that, according to Federal Aviation Administration (FAA) data, only 56 percent of departures left New York-area airports on time in 2009 versus 73 percent at the other major U.S. airports. Unfortunately, delays in the New York area have grown disproportionately in recent times, rising from 36 percent of major-airport delay minutes in 2005 to 51 percent in 2009.

The New York metropolitan area was included in nine of the 10 most traveled domestic city pairs, led by New York-Los Angeles, which averaged 4,106 local passengers per day, each way. For 2009 activity at U.S. airports, Hartsfield-Jackson Atlanta International topped the list with 42.2 million passenger enplanements and 970,258 aircraft takeoffs and landings. Chicago's O'Hare International Airport ranked second in both categories, with 31.1 million passengers and 827,899 takeoffs and landings. Memphis International Airport, home to FedEx Express, remained the busiest air cargo facility, enplaning 2.0 million tons of freight and mail, followed by Louisville Standiford Field, home to UPS Airlines, which enplaned 1.1 million tons of cargo.

Revenues

With simultaneous declines in passenger and cargo traffic and yield, 2009 industry operating revenues sank 16.9 percent to $155 billion on a $6.3 billion drop in passenger revenue and a $20.2 billion drop in cargo revenue. Cargo sales, which

Domestic Demand Trend



Source: ATA and Bureau of Economic Analysis

accounted for 15 percent of 2009 total industry revenues, fell 21.5 percent on an unprecedented slowdown in global demand. The average cargo yield dropped 11 percent to 92 cents per ton per mile, compounding the 12 percent drop in RTMs.

Passenger revenue fell 18.1 percent as a 13.6 percent drop in the average price paid (excluding taxes) to fly one mile exacerbated a 5.3 percent decline in miles flown by paying passengers. Unfortunately, relative to the size of the U.S. economy, domestic passenger revenue shrank for the third consecutive year. Accounting for 46.5 cents of every $100 of U.S. GDP, it stood 26.3 cents below the 1991-2000 average, translating in historical terms to a staggering $37.5 billion revenue shortfall for the industry in 2009. Along with a steady climb in jet-fuel prices, which ranged from $1.13 per gallon to $2.13 per gallon – the equivalent of a $42-per-barrel difference within the year – the deepening of the recession compelled most carriers to further trim their published schedules and broaden the implementation of ancillary revenue programs.

In stark contrast to 2008, the industry experienced declines in both domestic and international yields, which translated into a systemwide drop of 13.6 percent, easily outpacing the 0.4 percent decline in the U.S. Consumer Price Index (CPI). Meanwhile, according to the Bureau of Transportation Statistics (BTS) National-Level Average Fare Series, from the fourth quarter of 2000 to the fourth quarter of 2009, airfares declined 6.1 percent whereas the CPI rose 24.1 percent.

Relative to 1978, when domestic air service was deregulated, passenger yield rose just 42 percent domestically and 52 percent internationally, significantly trailing the 229 percent increase in the CPI. Consequently, inflation-adjusted passenger yield for U.S. airlines fell 57 percent domestically and 54 percent internationally from 1978 to 2009.

Expenses

With so little positive financial news in 2009, it bears noting that industry operating expenses, down 19.6 percent from 2008, fell even more sharply than operating revenues, helping put the industry back in the black on an operating basis. Flying operations, which constituted 35 percent of industry costs, declined 33 percent on a $26 billion year-over-year drop in fuel expense to $32 billion. The average price paid for a gallon of jet fuel sank to $1.90 from the 2008 all-time high of $3.07. Transport-related expense, the industry's second-largest cost center, was reduced 16 percent to $26 billion. General and administrative costs fell 17 percent on cuts in management staffing and corporate overhead while promotion and sales costs fell 11 percent. Outlays for aircraft and traffic servicing, maintenance, passenger service, and aircraft and other ownership costs also declined.

For U.S. passenger airlines, the average cost of employing a full-time worker rose $5,000 from 2008 to 2009, exceeding $80,000 for the first time. The increase stemmed from an 11.5 percent increase in benefits and pension expense, which more than offset reductions in wages and payroll taxes. Factoring in the 6 percent reduction in capacity, the average cost of labor per ASM rose from 3.01 cents to 3.24 cents.

Earnings

On May 19, 2010, longtime equity analyst Michael Derchin observed the following in a CRT Capital research note: "Everyone knows that the airline industry is fundamentally challenged…Yet, in the last downturn, arguably the worst in history with a trifecta of troubles – recession, credit shutdown and volatile oil prices – operating losses were

2009

marginal and no major bankruptcies occurred. What happened? Managements had already restructured in previous downturns, opted to build cash war chests instead of ordering new aircraft, and quickly grounded inefficient fleets and cut marginal flying at the first signs of trouble. It was not easy but the airlines survived."

The 2009 recession followed a 2008 fuel-price roller coaster in which crude oil costs ranged from $147 per barrel to $33 per barrel within five months' time. Despite closing the gap between revenues and expenses relative to 2008 and, after factoring in $4.3 billion in interest expense and a variety of additional nonoperating items, U.S. airlines reported an aggregate net loss of $2.5 billion.

From 2001 through 2009, U.S. passenger and cargo airlines reported a cumulative deficit of $58 billion, culminating in deep cuts in capacity across most large and medium U.S. hub airports and many smaller communities. From the May 2001 all-time peak to the end of 2009, U.S. passenger airlines shed 165,000 full-time-equivalent jobs.

Financial Condition

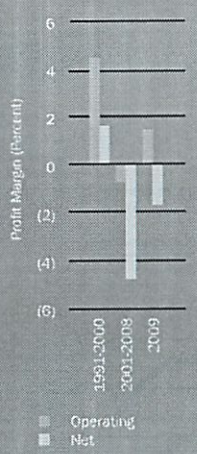
At the time of publication, not a single U.S. passenger airline holds a Standard and Poor's corporate credit rating of BBB-plus or better; only one holds an investment-grade rating. Meanwhile, the equity market capitalization of oil giant ExxonMobil was eight times that of the entire U.S. passenger airline industry. Similarly, the market value of Goldman Sachs was more than double that of the U.S. airlines. As Fitch Ratings Analyst William Warlick noted in his April 2010 *Airline Credit Navigator*, "Given the urgent need for balance sheet deleveraging through the next industry demand cycle as the key to ratings improvement, Fitch will be focused first and foremost on the free cash flow generation performance of U.S. carriers as the recovery takes hold in 2010…"

Put simply, the U.S. airline industry continues to be confronted by a systemic inability to cover its cost of investor capital or, for that matter, to exceed break-even profitability on a sustainable basis. Reduced access to affordable capital directly hinders the airlines' ability to acquire new aircraft and ground equipment, to deploy and upgrade passenger amenities, to provide optimal service and, ultimately, to compete effectively in the increasingly global aviation marketplace.

The United States needs a healthy aviation sector to help reestablish and enable a thriving national economy. If the industry is to do more for all of its constituents – passengers, shippers, communities, airports, employees, investors, governments and everyone else who enjoys the benefits of commercial air transportation – we must find a way to enable its investments in the future – in people, planes and products. Particularly for the nearly 11 million Americans whose jobs are integrally linked to a thriving commercial aviation sector, "When America Flies, It Works" is more than a catch phrase, it is their job.

As the airline industry moves into 2010, it is proud of its survival skills but wary of a regulatory climate that too often imposes new, unnecessary and ill-timed costs on a financially fragile sector that is central to economic and employment growth. It is indeed an era of volatility – of demand for the industry's product and of the magnitude of its largest cost: fuel. Can a labor-intensive, capital-intensive industry conduct multiyear planning amid such economic and regulatory uncertainty? What is needed is greater certainty and truly enlightened regulation focused on competitiveness and job creation.

Profitability



Source: Bureau of Transportation Statistics

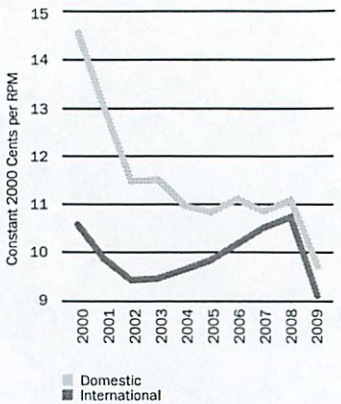
When america flies, it moves

America and its people are a nation on the move, and America's airlines make that possible.

Every day, two million people, 50,000 tons of cargo and more than one million bags travel onboard 25,000 flights to destinations near and far; the reasons are as varied as the passengers who board our flights. Many are traveling for business: sales calls, meetings, conventions, continuing education, commuting between job sites or relocation. Others are traveling for leisure: weekend getaways, weddings, family gatherings and reunions, honeymoons, spring breaks, travel tours or sport, recreational and cultural pursuits of every variety. Still others are patients seeking medical care, students flying to or from college or performers traveling between venues.

Regardless of where or why they are flying, today's affordable, reliable and convenient air service safely links both business and

Passenger Yield Trend



Source: ATA and Bureau of Transportation Statistics

city pairs

Top 40 U.S. City Pairs – 2009

	Origin-Destination Market[1]	Daily Passengers Average, Each Way	Average One-Way Ticket Price 2008	2009	Change (%)
1	Los Angeles-New York	4,106	$278.73	$233.50	(16.2)
2	Fort Lauderdale-New York	4,093	124.41	121.14	(2.6)
3	Chicago-New York	3,914	164.53	139.23	(15.4)
4	New York-Orlando	3,675	123.60	118.12	(4.4)
5	New York-San Francisco	3,140	277.60	236.38	(14.8)
6	New York-Atlanta	3,086	140.79	134.17	(4.7)
7	Los Angeles-San Francisco	2,564	85.71	69.69	(18.7)
8	Miami-New York	2,225	144.64	136.83	(5.4)
9	Las Vegas-New York	2,186	203.76	174.34	(14.4)
10	New York-West Palm Beach	1,951	134.42	131.49	(2.2)
11	New York-Tampa	1,815	125.53	123.31	(1.8)
12	Chicago-Los Angeles	1,784	188.83	171.71	(9.1)
13	Boston-New York	1,751	164.30	133.12	(19.0)
14	Las Vegas-San Francisco	1,727	85.92	74.81	(12.9)
15	Orlando-Philadelphia	1,708	105.41	94.57	(10.3)
16	Chicago-Orlando	1,703	125.64	108.70	(13.5)
17	Dallas/Fort Worth-Houston	1,694	99.32	99.73	0.4
18	Dallas/Fort Worth-New York	1,684	251.37	226.73	(9.8)
19	Chicago-Las Vegas	1,674	152.41	144.87	(4.9)
20	Chicago-Washington	1,664	156.10	134.51	(13.8)
21	New York-San Juan	1,577	171.45	162.70	(5.1)
22	Los Angeles-Washington	1,550	223.59	195.91	(12.4)
23	Atlanta-Washington	1,544	149.29	131.44	(12.0)
24	Chicago-Phoenix	1,520	151.75	141.26	(6.9)
25	Las Vegas-Seattle	1,514	120.56	105.79	(12.3)
26	Chicago-Minneapolis/St. Paul	1,513	157.07	92.51	(41.1)
27	Boston-Washington	1,484	164.00	152.98	(6.7)
28	Atlanta-Chicago	1,480	135.55	109.63	(19.1)
29	New York-Washington	1,476	144.72	119.69	(17.3)
30	Los Angeles-Honolulu	1,446	231.83	214.69	(7.4)
31	Chicago-Denver	1,444	127.67	128.72	0.8
32	Charlotte-New York	1,418	130.13	112.74	(13.4)
33	Houston-New York	1,362	240.87	220.25	(8.6)
34	Denver-New York	1,343	191.97	169.29	(11.8)
35	Detroit-New York	1,335	141.02	127.32	(9.7)
36	Denver-Phoenix	1,328	100.20	83.31	(16.9)
37	Las Vegas-Los Angeles	1,321	89.99	83.87	(6.8)
38	Chicago-Dallas/Fort Worth	1,319	160.92	159.97	(0.6)
39	Denver-Los Angeles	1,293	127.33	112.65	(11.5)
40	Chicago-Philadelphia	1,267	137.07	122.62	(10.5)
	Composite	**76,678**	**$158.87**	**$142.12**	**(10.5)**

1 Chicago (MDW/ORD), Dallas (DAL/DFW), Houston (HOU/IAH), New York (EWR/JFK/LGA), Tampa (PIE/TPA) and Washington (DCA/IAD) include multiple airports.

Source: Bureau of Transportation Statistics

Passenger Yield Analysis

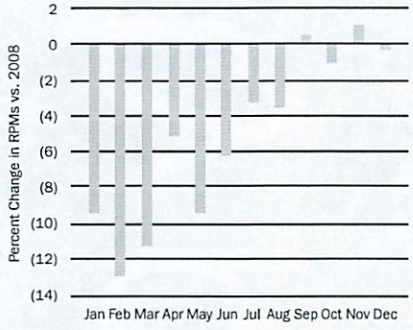
U.S. Airlines

		1978[1]	2008	2009	2009 vs. 1978 (%)	2009 vs. 2008 (%)
Current Yield	Domestic	8.49	13.84	**12.07**	42.2	**(12.8)**
	International	7.49	13.46	**11.37**	51.7	**(15.5)**
	Total	8.29	13.73	**11.87**	43.2	**(13.6)**
U.S. CPI	**1982-84 = 100**	65.2	215.3	**214.5**	229.0	**(0.4)**
Constant Yield (2009 Cents)	Domestic	27.94	13.79	**12.07**	(56.8)	**(12.5)**
	International	24.65	13.41	**11.37**	(53.9)	**(15.2)**
	Total	27.28	13.68	**11.87**	(56.5)	**(13.2)**

1 Congress enacted legislation deregulating domestic airline passenger service in October 1978.

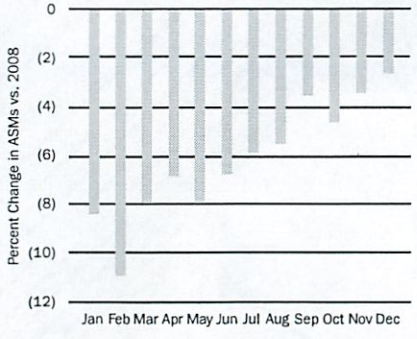
Note: Yield is measured in cents paid by an airline passenger, excluding taxes, to fly one mile.
Source: ATA, Bureau of Transportation Statistics and Bureau of Labor Statistics

Passenger Traffic – 2009



Source: Bureau of Transportation Statistics

Seating Capacity – 2009



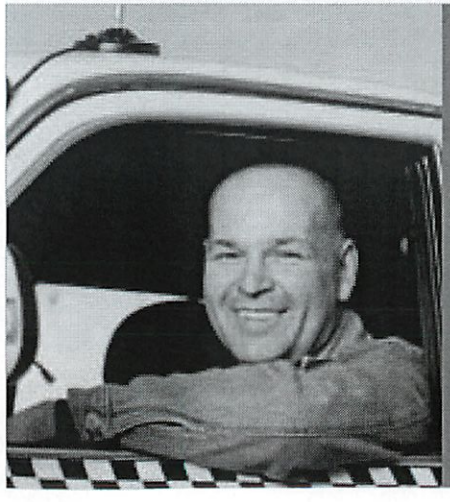
Source: Bureau of Transportation Statistics

Price of Air Travel vs. Other U.S. Goods and Services

Product (Unit)	1978	2009	% Change
College Tuition – Public (Year)[1]	$688	$7,020	920
College Tuition – Private (Year)[1]	$2,958	$26,273	788
Prescription Drugs (Index)[2]	61.6	391.1	535
New Vehicle[3]	$6,470	$28,966	348
New Single-Family Home[4]	$55,700	$216,700	289
Unleaded Gasoline (Gallon)[5]	$0.67	$2.35	251
CPI (All Items)[2]	**65.2**	**214.5**	**229**
Movie Ticket[6]	$2.34	$7.50	221
First-Class Domestic Stamp[7]	$0.15	$0.44	193
Whole Milk (Index)[2]	81.0	183.2	126
Grade-A Large Eggs (Dozen)[2]	$0.82	$1.66	103
Air Travel – International (Mile)[8]	**7.49¢**	**11.37¢**	**52**
Air Travel – Domestic (Mile)[8]	**8.49¢**	**12.07¢**	**42**
Television (Index)[2]	101.8	10.6	(90)

low cost

1 The College Board (based on beginning of academic year).
2 Bureau of Labor Statistics (includes hedonic "quality-change" adjustments).
3 National Automobile Dealers Association – www.nada.org (average retail selling price).
4 Census Bureau – www.census.gov/const/uspriceann.pdf (median).
5 Department of Energy – www.eia.doe.gov/emeu/mer/pdf/mer.pdf, Table 9.4.
6 National Association of Theatre Owners – www.natoonline.org (average U.S. ticket prices).
7 Postal Service – www.usps.com/postalhistory/welcome.htm, Publication 100.
8 ATA via Bureau of Transportation Statistics – www.airlines.org.



leisure passengers through a remarkably complex yet highly accessible travel network to communities large and small – around the country and across the globe.

When being there really matters, we all count on America's airlines. You've got things to do and places to go, and our airlines and their employees are working hard to move you and your products via the world's safest and most efficient mode of transportation. Airlines are working tirelessly to deploy more sophisticated technologies that will help to further minimize hassles for leisure travelers and enable business travelers to maximize their productivity while staying close to their customers.

When America Moves, It Flies.
When America Flies, It Moves.

When America flies, it

cares

The men and women in our armed forces serve our country every day, none more selflessly or with more valor than those who have received the Congressional Medal of Honor. For decades, our airlines have been proud to provide travel support to these American heroes.

Yeah need to fix atc

NextGen/NowGen

"NextGen lays a foundation that will continually improve and accommodate future needs of air travel while strengthening the economy with one seamless global sky."

"Why NextGen Matters," www.faa.gov

Our industry is poised for the greatest infrastructure transformation of the last half century. ATA airlines are aggressively engaged in helping shape this critical vision of the future.

Clearly, there is a strong consensus around the basics – new technology and procedures are badly needed to add system capacity and reduce the unacceptable level of delays while improving the customer experience. Those delays will surely return and worsen as the level of operations increases. There is consensus too about the environmental and economic benefits to be had from optimized routings and, again, reduced delays and greater efficiency. There is even consensus concerning the basic system components, though more work remains in deciding exactly how to optimize the investment cycle and sequencing of projects.

It is on that final point that consensus – and forward progress – begins to stall slightly. As the airline industry continues to struggle to establish firm financial footing, it is absolutely essential that any investment of industry resources in NextGen/NowGen equipage be based on a demonstrable, benefit-to-cost-justified return on that investment. The business case must be clear, concise and subject to independent validation. To the extent the government fails to base any industry equipage requirements on that type of solid foundation, it will inevitably result in unnecessary resistance and program delay and, if investments are not cost-justified, further contraction of both air service and employment – results that no one wants to see. Again, consensus but not the positive variety.

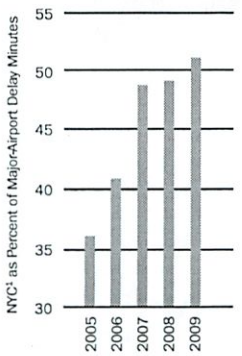
Do they not want it?

Fortunately, there appears to be widespread agreement for recognizing the absolute linkage between the industry's economic viability and securing stable and sufficient funding for future aviation systems. Indeed, these joined goals are identified as two of the top priorities to be advanced by the Department of Transportation's ongoing Future of Aviation Advisory Committee. We applaud that work and stand ready to assist and advise in any way that might prove helpful.

Going forward, there is an absolute imperative for strong leadership to deliver the funding, the technology and the all-essential procedural changes that enable the realization of economic benefits in real time. We need leadership that "connects the dots" between an economically vibrant airline industry; strong, growing international competition; long-term rewarding airline jobs; extensive domestic and international air service; optimized environmental performance; and, ultimately, deployment of a NextGen/NowGen air traffic management system.

We have the elements of consensus – now we need decisive leadership to get things accomplished.

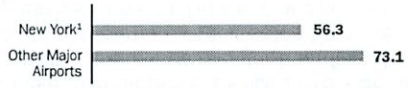
Airport Delay Rates



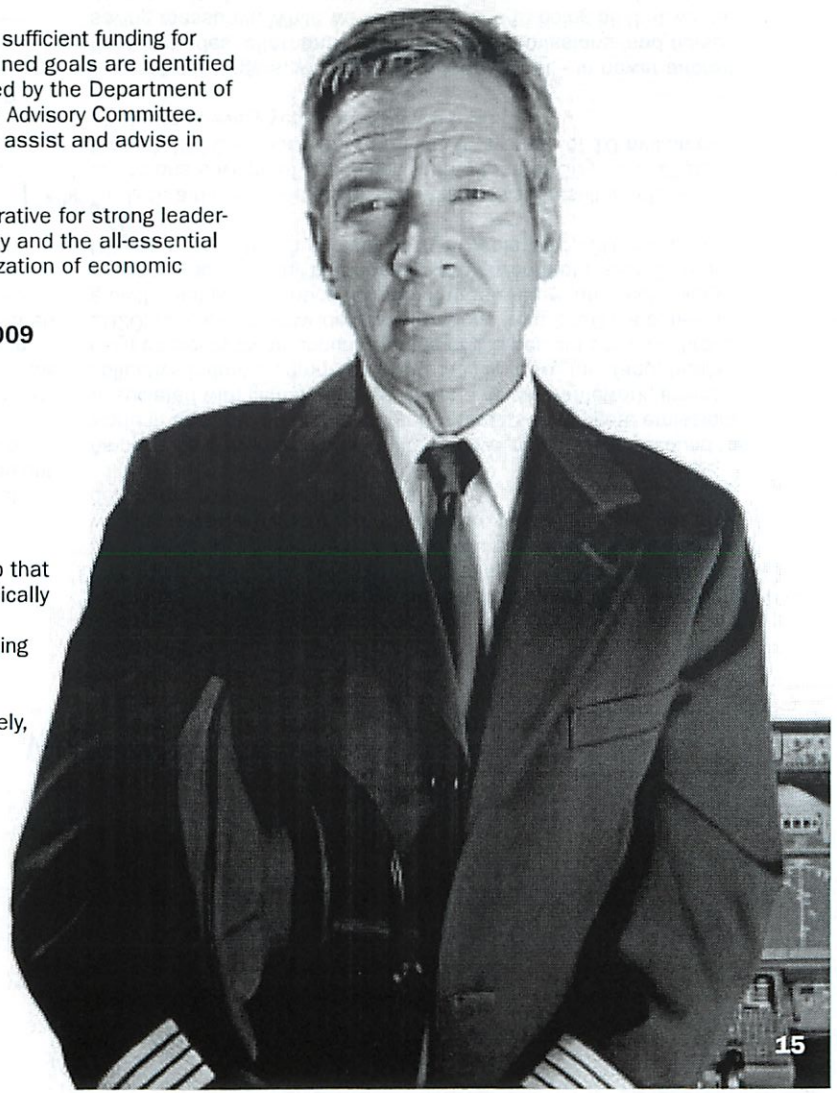
1 EWR, JFK, LGA and PHL.
Source: FAA OPSNET for OEP 35 airports

On-Time Performance by Region – 2009

On-Time Airport Departure Rate (Percent)



1 EWR, JFK, LGA and PHL.
Source: ATA and FAA

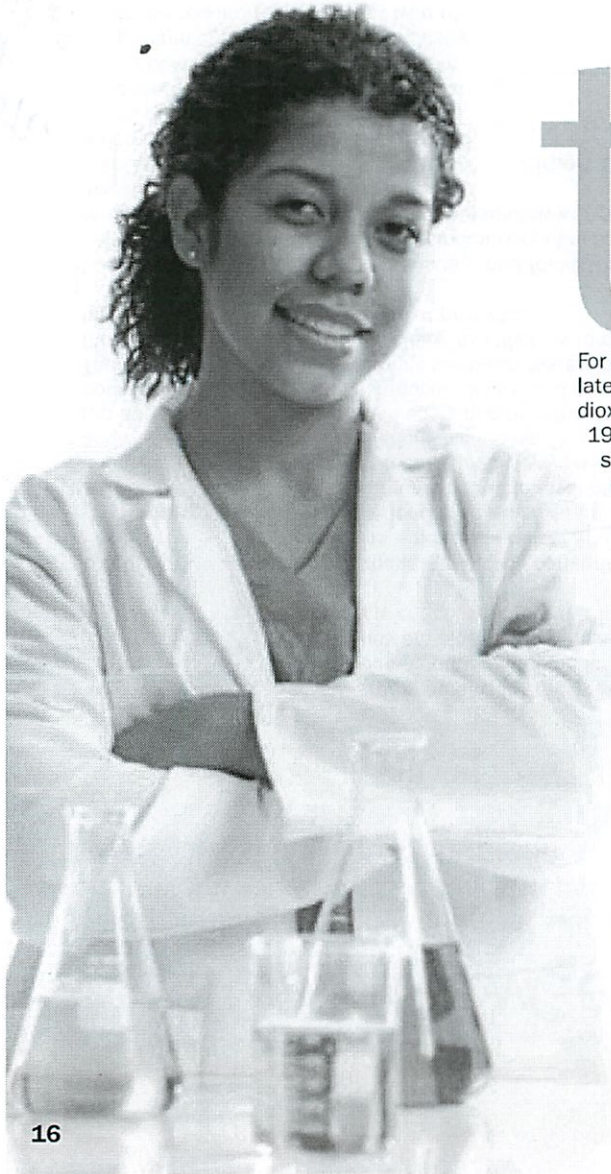


Environment

"We are America's airlines – *Connecting and Protecting Our Planet.®*"

Air Transport Association

total green washing

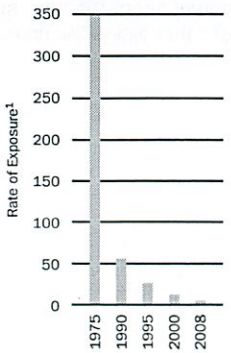


These words are part of our covenant with those who fly – and our impressive record demonstrates this unfailing commitment. Federal Aviation Administration (FAA) confirms that the number of people in the United States affected by aircraft noise has diminished yet again, by more than 94 percent since 1975 – 56 percent just since 2000 – though passenger boardings have increased almost fourfold. At the same time, we've flown progressively more fuel-efficient and cleaner aircraft. For example, we've improved our fuel efficiency 110 percent since the late 1970s – saving more than 2.9 billion metric tons of carbon dioxide (CO_2). These savings are equivalent to taking approximately 19 million cars off the road each of those years – fairly remarkable since Environmental Protection Agency data confirms that commercial aviation accounts for only 2 percent of the nation's greenhouse gas emissions.

Way more than other transport

But we are not resting on our record; we are committed to continuing to do more to protect our planet. To do so, we are driving technology, operations and infrastructure toward further noise and emissions savings. In technology, ATA continues its role as a founding and leading member of the Commercial Aviation Alternative Fuels Initiative (CAAFI), a consortium of airlines, manufacturers, airports, energy producers, researchers and government agencies dedicated to the development and deployment of environmentally friendly alternative fuels. In addition to a string of successful test flights with alternative fuels, in 2009 CAAFI ushered in a new jet-fuel specification for such fuels, which ensures that tomorrow's fuels will be as safe as today's. In operations, we continue to implement innovative flight procedures within the limits of the existing air traffic management (ATM) system to further reduce noise and emissions. And we are working toward a modernized ATM system that will reduce not only delays but also undue emissions.

Noise Reduction



1 Number of U.S. residents exposed to significant noise levels per 10,000 passengers enplaned on U.S. airlines.

Source: ATA and FAA

As part of our overall commitment, we have joined airlines around the world in adopting an ambitious set of targets to mitigate emissions associated with climate change under a global framework, including collective industry commitments to: (1) improve fuel (and, hence, CO_2) efficiency by an annual average of 1.5 percent per year through 2020; (2) cap industrywide CO_2 emissions from 2020 (carbon-neutral growth), subject to critical aviation infrastructure and technology advances achieved by the industry and government; and (3) reduce CO_2 emissions by 50 percent by 2050, relative to 2005 levels.

For U.S. airlines alone, these commitments will result in additional emissions savings of 1.1 billion metric tons of CO_2 from 2010 through 2030 – equivalent to taking an average of 10 million cars off the road every year during that period.

To meet our targets, we must be able to invest – in newer aircraft, fleet upgrades, alternative fuels and other emissions- and noise-saving measures. While we are committed to doing all that we can, government also has a role to play. First, it must not add to the already significant tax burden of the airline industry through emissions taxes or cap-and-trade requirements, which siphon away the very funds we need to continue to improve. Second, government must do its part by reinstating funding in aviation research and development programs and by making necessary ATM infrastructure investments on the ground and in the air.

Gov should pay

We want to continue to connect people in America with the rest of the world and vice versa while transporting goods critical to the American economy. To do this, we must continue to act responsibly – protecting our planet.

Safety & Security

"Aviation is proof that given the will, we have the capacity to achieve the impossible."

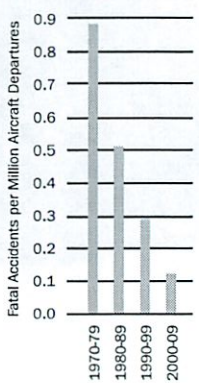
Eddie Rickenbacker, World War I Flying Ace

Nothing is more important to the airline industry than safety of flight. That is not just a rote recitation but, rather, a code of conduct "built into the DNA" of the airlines from their earliest days.

The facts speak clearly to the nature of the airlines' commitment to safety – and to improving on their already remarkable safety record. The National Transportation Safety Board tells us that from 2000 to 2009, it was more than twice as safe to fly as it was in the preceding decade – and more than seven times safer than in the 1970s.

That record is a result of constant commitment, hard work and the prudent application of resources. At the core of improvements in safety performance is a recognition that data and trend analysis – looking for any possible accident precursors well before they can actually cause any problems – is critical.

Safety Trend



Source: NTSB

Working cooperatively with the Federal Aviation Administration and our labor partners, ATA airlines have worked aggressively to develop Aviation Safety Action Programs (ASAPs) to provide actionable information based on voluntary reports of observed safety concerns by employees. This type of "reporting culture" is an invaluable tool for revealing possible safety problems that would otherwise remain unknown until they caused a problem.

Another example of the core safety-analysis programs so important to continuing safety improvements are Flight Operational Quality Assurance (FOQA) programs, which collect hundreds of flight parameters, including speed, altitude, rate of climb/descent and engine performance, as often as eight times per second for every flight, looking for any possible signs of trouble. On the pilot front, a variety of sophisticated training and awareness programs are deployed to identify and trap errors before they become a risk. Recently, the ATA Board of Directors publicly endorsed expanding these types of programs across the industry, including to the regional airlines.

On the security front, the airlines' commitment is just as strong and forward-looking. In working with security experts in the Department of Homeland Security (DHS), the Transportation Security Administration (TSA) and Customs and Border Protection (CBP), two important developments slated for 2010 provide prime examples of a continually transforming suite of security protocols, and of close government/industry partnership and cooperation:

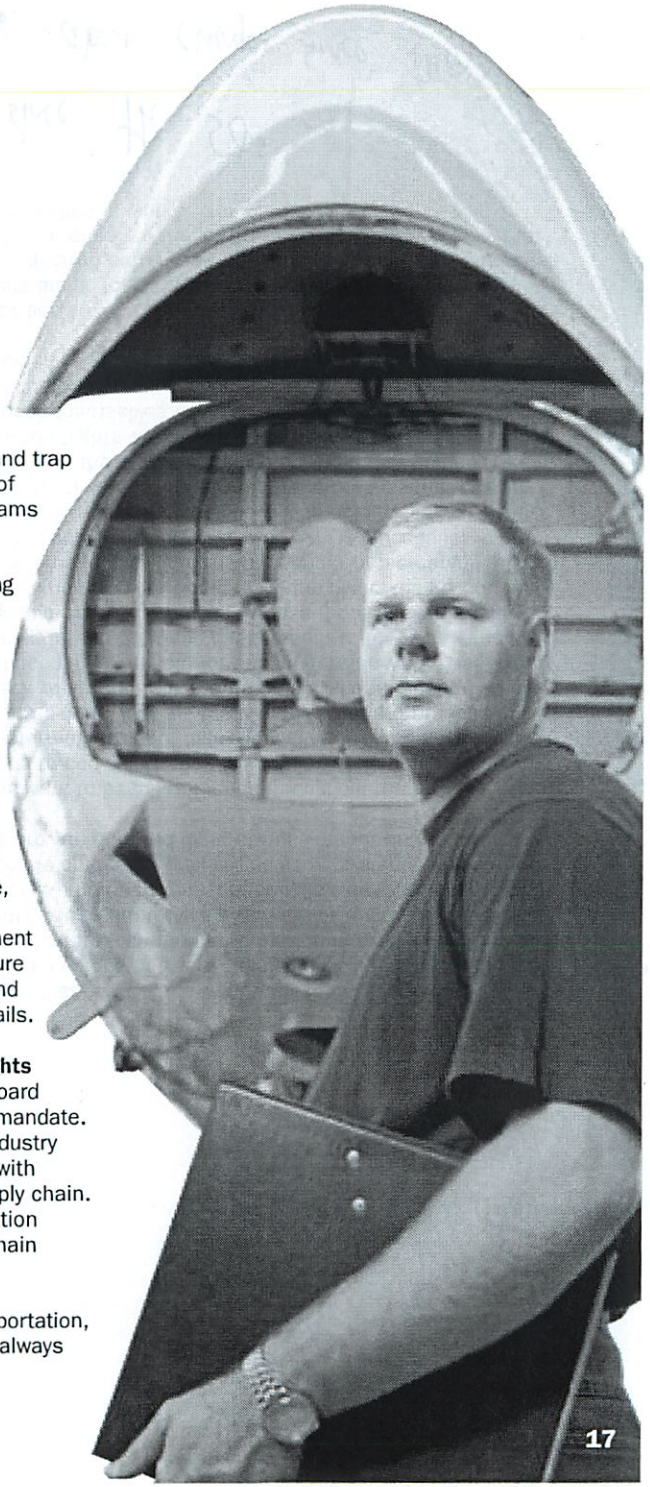
Secure Flight

Under this important program, DHS, including components of both TSA and CBP, has assumed full responsibility for the preflight vetting of all passengers against its various selectee, no-fly and related lists. In moving to maximize security with minimum passenger inconvenience, a tremendous development effort between government and industry is ongoing to assure appropriate data collection, provide system performance and reliability assurances, and resolve a vast array of critical details.

One Hundred Percent Cargo Screening for Passenger Flights

Effective August 2010, 100 percent of all cargo carried onboard any passenger aircraft must meet the TSA cargo screening mandate. Work is well advanced through close cooperation between industry and security authorities to meet this challenging deadline with procedures and technology deployed across the cargo supply chain. This effort has involved an unprecedented level of cooperation between cargo shippers, freight forwarders, cargo supply-chain experts, the entire airline industry and the government.

In the end, it is all about the safety and security of air transportation, and the well-being of our passengers and crews. That has always been and remains our highest priority.



Innovation

"Heavier than air flying machines are impossible."

Lord Kelvin, president, Royal Society, 1895

Thank goodness the Wright Brothers ignored Lord Kelvin's proclamation. It is hard to imagine our lives today without safe, efficient and affordable air transportation connecting thousands of communities around the world. We've come a long way in the first century of powered flight, and when technological advances and innovations are coupled with dedicated airline employees, there is no limit to how far air travel can evolve in the future.

On those early commercial flights, nervous passengers flew with their parasols, opened windows to avoid the smell of hot oil and hoped strong winds wouldn't divert the flights – amazed at the wonder of being able to travel from New York to Chicago in less than a day. Today, passengers travel from New York to Singapore in less than a day, enjoying the latest personal entertainment communications and game systems – little noticing the decades of innovation and hard work that made their journey possible.

And that's just the way it should be.

Safety, of course, is our number one priority. Our highly qualified workforce and sophisticated technologies have produced a safety record that is the gold standard for the world. Airlines also want passengers and shippers to have as seamless an experience as possible. What was impossible yesterday is commonplace today, and we are already looking beyond today's amenities to innovations that will make the journey even more pleasant in the future.

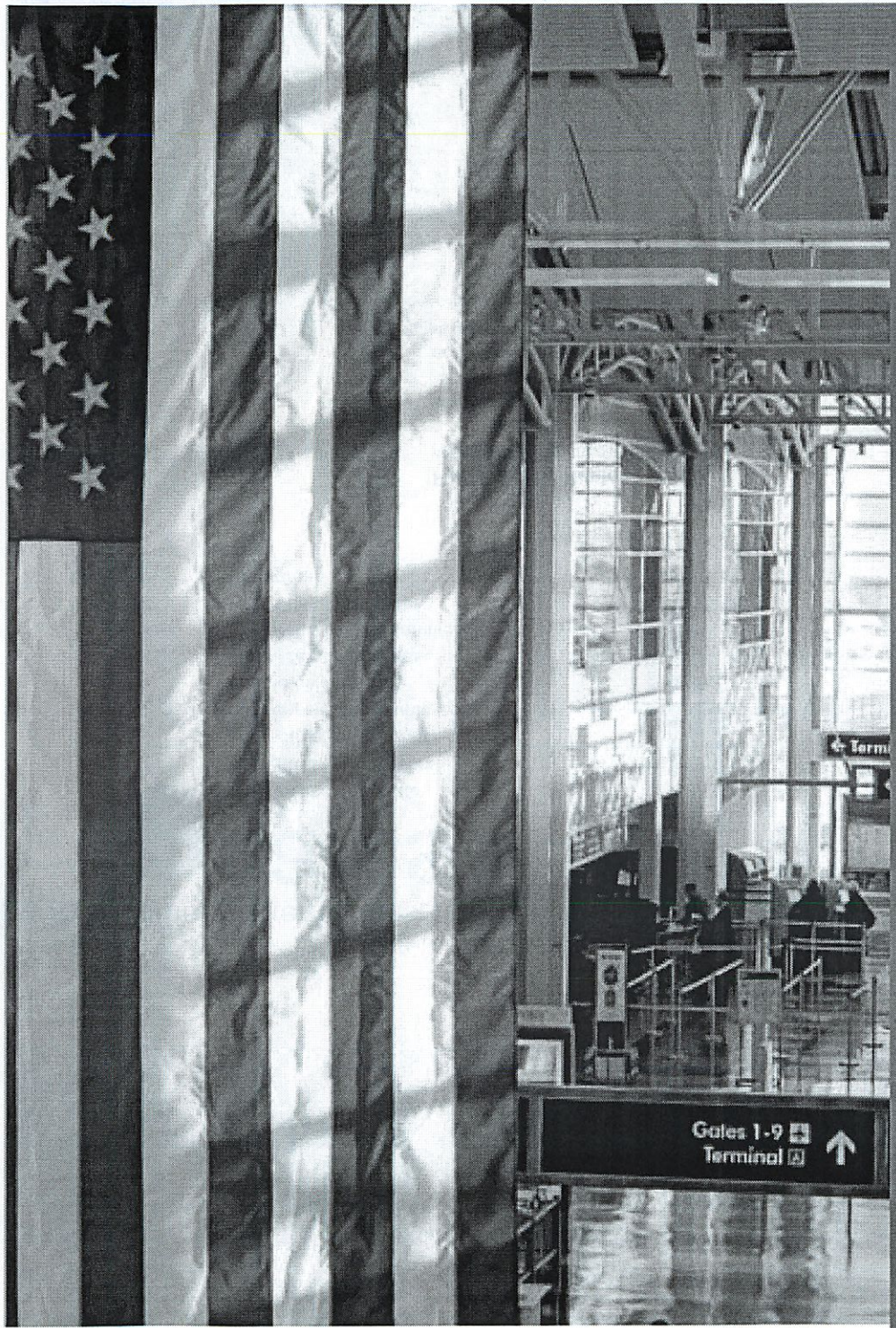
Airlines know that passengers want transparency for fares, fees and services, and are constantly upgrading technologies to ensure that the most up-to-date, complete information is available online and through airline representatives – and airline systems are getting smarter. For example, if a passenger calls from a number in his personal profile on the day of his flight, some systems are now smart enough to provide updated flight status without prompting.

thats a start

Passengers want to be fully informed throughout the process – from reservations to check-in to baggage claim. Today, airlines provide real-time information about flight cancellations or delays via text messages or e-mail. Just as it is already standard practice to be able to track your cargo shipments online, those types of innovations are becoming available for passengers as well. Passengers are beginning to use boarding passes sent to them via e-mail or text and displayed on their PDAs to pass more easily through security checkpoints. With Secure Flight in place, the government has assumed responsibility for all passenger prescreening, further integrating the booking, check-in and screening processes. To further reduce wait times, passengers soon will be able to file lost-luggage reports on airport kiosks, initiate the trace process immediately and easily check the status, rather than waiting at baggage claim. Similarly, when flights are cancelled or delayed, passengers will be able to rebook themselves using convenient airport kiosks. No more waiting in line at customer-service desks and returning through security screening.

The possibilities are endless and, in spite of the fact that passengers and shippers are no longer amazed by the wonder of air travel, airlines and their dedicated employees will continue to innovate and push the envelope to enhance the journey even further. We know that when America flies, it works...for everyone.

Speed has not improved since the 50's
- notice they don't talk about changes since then



Income Statement

U.S. Airlines (In millions, except as noted)

	2008	2009	Change (%)	Share (%)
Operating Revenues				
Passenger	$111,542	**$91,331**	(18.1)	**59.0**
Cargo	29,192	**22,914**	(21.5)	**14.8**
Charter (Passenger and Property)	4,338	**3,709**	(14.5)	**2.4**
Reservation Cancellation Fees	1,669	**2,371**	42.1	**1.5**
Transport Related	35,893	**31,006**	(13.6)	**20.0**
Other	3,485	**3,388**	(2.8)	**2.2**
Total Operating Revenues	186,119	**154,719**	(16.9)	**100.0**
Operating Expenses				
Flying Operations	$79,678	**$53,260**	(33.2)	**35.0**
Maintenance	17,016	**16,094**	(5.4)	**10.6**
Passenger Service	9,017	**8,853**	(1.8)	**5.8**
Aircraft and Traffic Servicing	22,669	**21,421**	(5.5)	**14.1**
Promotion and Sales	8,514	**7,556**	(11.2)	**5.0**
General and Administrative	13,657	**11,301**	(17.3)	**7.4**
Depreciation and Amortization	7,641	**7,537**	(1.4)	**4.9**
Transport Related	31,276	**26,289**	(15.9)	**17.3**
Total Operating Expenses	189,466	**152,310**	(19.6)	**100.0**
Operating Profit (Loss)	(3,348)	**2,409**	nm	**nm**
Interest Income (Expense)	(3,769)	**(4,267)**	nm	**nm**
Foreign Exchange Gains (Losses)	(183)	**(121)**	nm	**nm**
Capital Gains (Losses)	(3,323)	**(819)**	nm	**nm**
Other	(13,859)	**(59)**	nm	**nm**
Total Nonoperating Income (Expenses)	(21,135)	**(5,267)**	nm	**nm**
Pretax Profit (Loss)	(24,483)	**(2,858)**	nm	**nm**
Income Tax Credit (Provision)	878	**442**	nm	**nm**
Other Income (Expense)	(143)	**(112)**	nm	**nm**
Net Profit (Loss)	($23,747)	**($2,528)**	nm	**nm**

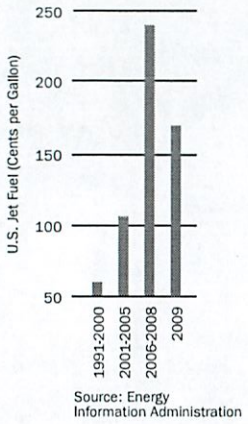
nm = not meaningful

Source: Bureau of Transportation Statistics

When America flies, it cares

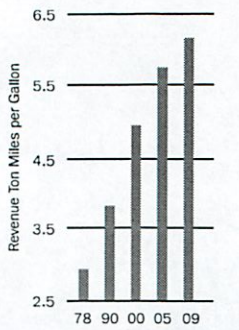
Airlines, in cooperation with other organizations and supported by their passengers and employees, enable children with life-threatening illnesses to travel with their families to the destinations of their dreams.

Fuel Price Trend



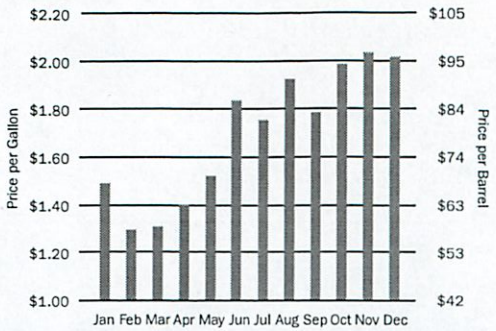
Source: Energy Information Administration

Fuel Efficiency



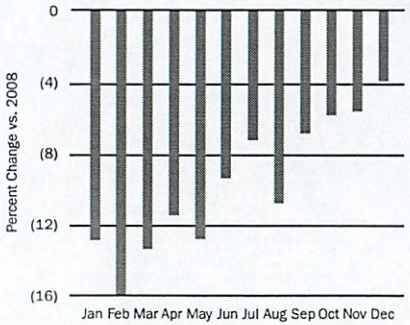
Source: ATA and Bureau of Transportation Statistics

Fuel Price by Month – 2009



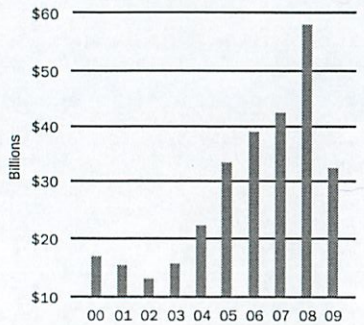
Source: Bureau of Transportation Statistics

Fuel Use by Month – 2009



Source: Bureau of Transportation Statistics

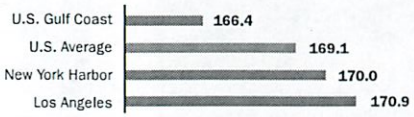
Fuel Expense



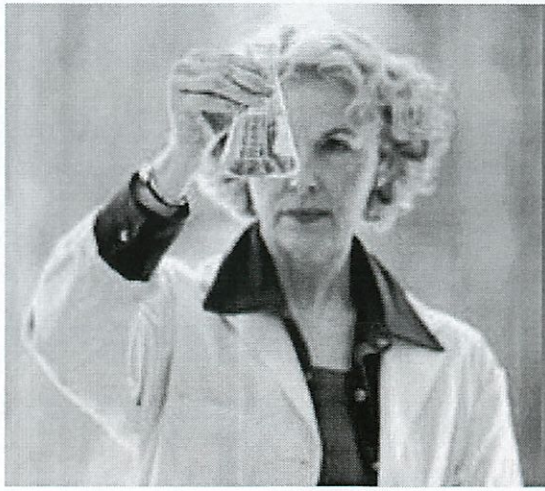
Source: Bureau of Transportation Statistics

Fuel Price by Region – 2009

Average Cents per Gallon



Source: Energy Information Administration



Imagination and innovation enable all of us to reach beyond our daily lives – to dream impossible dreams and create a limitless future where anything is possible.

When America's airlines and our aviation partners dream, we see a future of even quieter, cleaner airplanes – smarter airplanes that fly our passengers and their products safely and more efficiently than today. One of the great things about the airline industry is its ability to transform yesterday's dreams into tomorrow's reality. To make those dreams a reality, a cadre of talented and

dedicated aviation and engineering professionals are working on breakthrough technologies, undertaking innovative research and implementing cutting-edge development – with a shared goal of aviation excellence for generations to come.

Driving our investment in aircraft and engines has been the airlines' steadfast commitment to the environment and, specifically, to improving fuel efficiency and reducing noise. Over the past three decades, U.S. airlines have increased their fuel efficiency by more than 110 percent while shrinking the population exposed to high noise levels by 94 percent. Our commitment to continuous improvement is also driving investment in the development and deployment of environmentally friendly, operationally reliable, economically viable alternative fuels to enhance the security of our energy supply and reduce emissions associated with petroleum.

But preparing to meet tomorrow's aviation demand also requires government action to deliver a satellite-oriented, digitally enabled, next-generation ATM system that maximizes the efficient movement of aircraft – not in 20 years, but now. ATA is committed to advancing the necessary government-industry partnership to accelerate the delivery of this critical investment on a solid business basis – and, with it, enhanced safety, job creation and an improved future for all of us.

When America Dreams, It Flies.
When America Flies, It Dreams.

Operating Fleets of Selected U.S. Airlines – 2009

	A300	A310	A318	A319	A320	A321	A330	B-717	B-727	B-737	B-747	B-757	B-767	B-777	DC-8	DC-9	MD-10	MD-11	MD-80	MD-90	E190	Total 2009	Total 2008
AirTran								86		52												**138**	136
Alaska										115												**115**	110
Allegiant																			46			**46**	38
American										107		124	73	47					257			**608**	625
Continental										232		59	26	20								**337**	350
Delta[1]				57	69		31			81	16	181	91	16		66			116	16		**740**	755
Frontier			9	38	4																	**51**	52
Hawaiian								15					18									**33**	32
JetBlue					110																41	**151**	142
Southwest										537												**537**	537
Spirit				26		2																**28**	28
United				55	97						25	96	35	52								**360**	409
US Airways				93	70	51	14			64		28	10								19	**349**	354
Virgin America				10	18																	**28**	28
Subtotal	**-**	**-**	**9**	**279**	**368**	**53**	**45**	**101**	**-**	**1,188**	**41**	**488**	**253**	**135**	**-**	**66**	**-**	**-**	**419**	**16**	**60**	**3,521**	**3,596**
ABX													27									**27**	57
ASTAR															8							**8**	44
Atlas[2]											28											**28**	27
Evergreen Int'l											12											**12**	12
FedEx Express	71	58							77			34		3			76	59				**378**	357
UPS	53										12	75	34					38				**212**	235
Subtotal	**124**	**58**	**-**	**-**	**-**	**-**	**-**	**-**	**77**	**-**	**52**	**109**	**61**	**3**	**8**	**-**	**76**	**97**	**-**	**-**	**-**	**665**	**732**
Grand Total	**124**	**58**	**9**	**279**	**368**	**53**	**45**	**101**	**77**	**1,188**	**93**	**597**	**314**	**138**	**8**	**66**	**76**	**97**	**419**	**16**	**60**	**4,186**	**4,328**

1 Includes data for Northwest Airlines.
2 Includes data for Polar Air Cargo.

Note: Values reflect year-end mainline aircraft counts.
Source: Company reports
■ Member, Air Transport Association of America, Inc. (as of July 2010)

U.S. Air Carrier Fleet – 2009

Operator	Narrowbody	Widebody	Other	Total
Mainline Passenger/Combination (Jet)	3,050	516	100	**3,666**
Regional Passenger (Jet)	-	-	1,710	**1,710**
Regional Passenger (Other)	-	-	902	**902**
All-Cargo	298	556	-	**854**
Total	**3,348**	**1,072**	**2,712**	**7,132**

Source: Federal Aviation Administration

Operating Statistics of Selected U.S. Airlines – 2009

	Operating Aircraft[1]	Employment (Thousand FTEs)	Aircraft Departures[2] (Thousands)	Passengers Enplaned[3] (Millions)	RPMs[3] (Billions)	ASMs[3] (Billions)	Load Factor[3] (Percent)	Cargo RTMs[2] (Millions)	Operating Revenues[2] (Billions)
AirTran	138	8.2	252	24.0	18.5	23.3	79.5	-	$2.3
Alaska	115	8.9	151	15.5	18.3	23.1	79.4	58	3.0
Allegiant	46	1.5	41	4.9	4.5	4.9	90.4	-	0.5
American	608	66.5	683	85.7	122.4	151.7	80.7	1,664	19.9
Continental	337	38.7	346	43.9	77.7	94.3	82.4	901	12.4
Delta	740	76.2	849	108.6	162.8	196.5	82.9	2,287	28.9
Frontier	51	4.8	95	9.8	8.9	11.0	80.8	7	1.1
Hawaiian	33	3.6	74	8.3	8.1	9.7	83.9	75	1.2
JetBlue	151	10.6	216	22.4	25.9	32.6	79.7	24	3.3
Southwest	537	34.9	1,126	101.3	74.5	98.0	76.0	110	10.4
Spirit	28	1.9	54	6.1	5.9	7.5	79.5	-	0.7
United	360	46.6	435	56.0	100.3	122.5	81.9	1,603	16.4
US Airways	349	31.3	461	51.0	57.9	70.7	81.8	269	10.8
Virgin America	28	1.4	34	3.6	5.4	6.5	82.8	-	0.5
Subtotal	**3,521**	**335.2**	**4,815**	**541.3**	**691.2**	**852.2**	**81.1**	**6,999**	**111.4**
ABX	27	1.4	17	-	-	-	-	361	0.7
ASTAR	8	0.6	6	-	-	-	-	72	0.3
Atlas[4]	28	1.4	16	-	-	-	-	3,596	1.4
Evergreen Int'l	12	0.4	4	-	-	-	-	631	0.5
FedEx Express	378	123.2	334	-	-	-	-	9,685	20.0
UPS	212	5.9	137	-	-	-	-	6,457	4.4
Subtotal	**665**	**132.9**	**514**	**-**	**-**	**-**	**-**	**20,803**	**27.3**
Other	**n/a**	**68.1**	**5,044**	**162.7**	**78.3**	**105.0**	**74.6**	**3,896**	**16.1**
Total Industry	**n/a**	**536.2**	**10,373**	**703.9**	**769.5**	**957.2**	**80.4**	**31,698**	**$154.7**

1 At end of fiscal year.
2 All services.
3 Scheduled service only.
4 Includes data for Polar Air Cargo.
n/a = not available

Source: ATA and Bureau of Transportation Statistics
■ Member, Air Transport Association of America, Inc. (as of July 2010)

When America flies, it cares

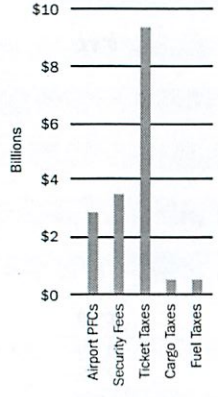
Not-for-profit organizations of every shape and size benefit from the generosity of America's airlines. Sponsored fundraisers, teams of employee volunteers and ticket donations are just a few of the ways that airlines are giving back to the communities that they serve.

Special Aviation Tax Rates – Jan. 1, 2010

Tax	Rate
Passenger Ticket Tax (Domestic)	7.5%
Flight Segment Tax (Domestic)	$3.70
Frequent Flyer Tax	7.5%
International Departure Tax	$16.10
International Arrival Tax	$16.10
Cargo Waybill Tax (Domestic)	6.25%
Commercial Jet-Fuel Tax (Domestic)	4.3¢
Noncommercial Jet-Fuel Tax (Domestic)	21.8¢
Noncommercial Avgas Tax (Domestic)	19.3¢
LUST Fuel Tax (Domestic)	0.1¢
Passenger Facility Charge (Maximum)	$4.50
September 11th Fee	$2.50
Aviation Security Infrastructure Fee	Varies
APHIS Passenger Fee	$5.00
APHIS Aircraft Fee	$70.50
Customs User Fee	$5.50
Immigration User Fee	$7.00

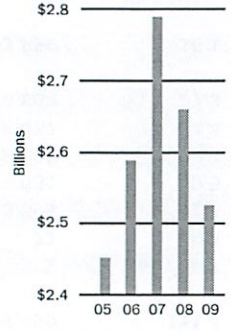
Source: Air Transport Association

Special Aviation Taxes – 2009



Source: Air Transport Association

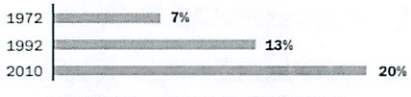
Airport Passenger Facility Charges



Source: Federal Aviation Administration

Ticket Tax Trend

Share of $300 Domestic Ticket[1]



1 Assumes one-stop domestic round trip with maximum passenger facility charge per airport.

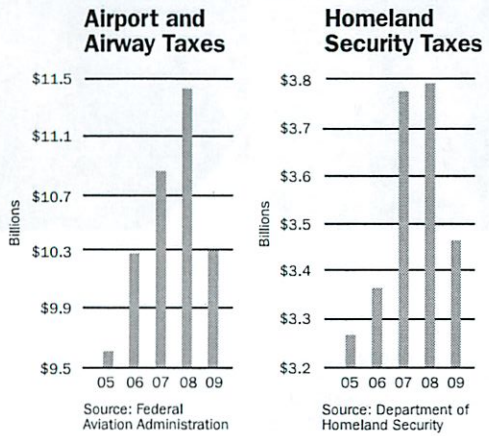
Source: Air Transport Association

Our nation's airlines power the economy and enable the movement of people and goods necessary to compete effectively in today's global marketplace. Unfortunately, the airlines' ability to operate efficiently is being stifled by outdated policies and practices that constrain competition and threaten the industry's financial viability. With nearly $60 billion in losses since 2000, more rational government policies would help airlines facilitate our nation's economic recovery.

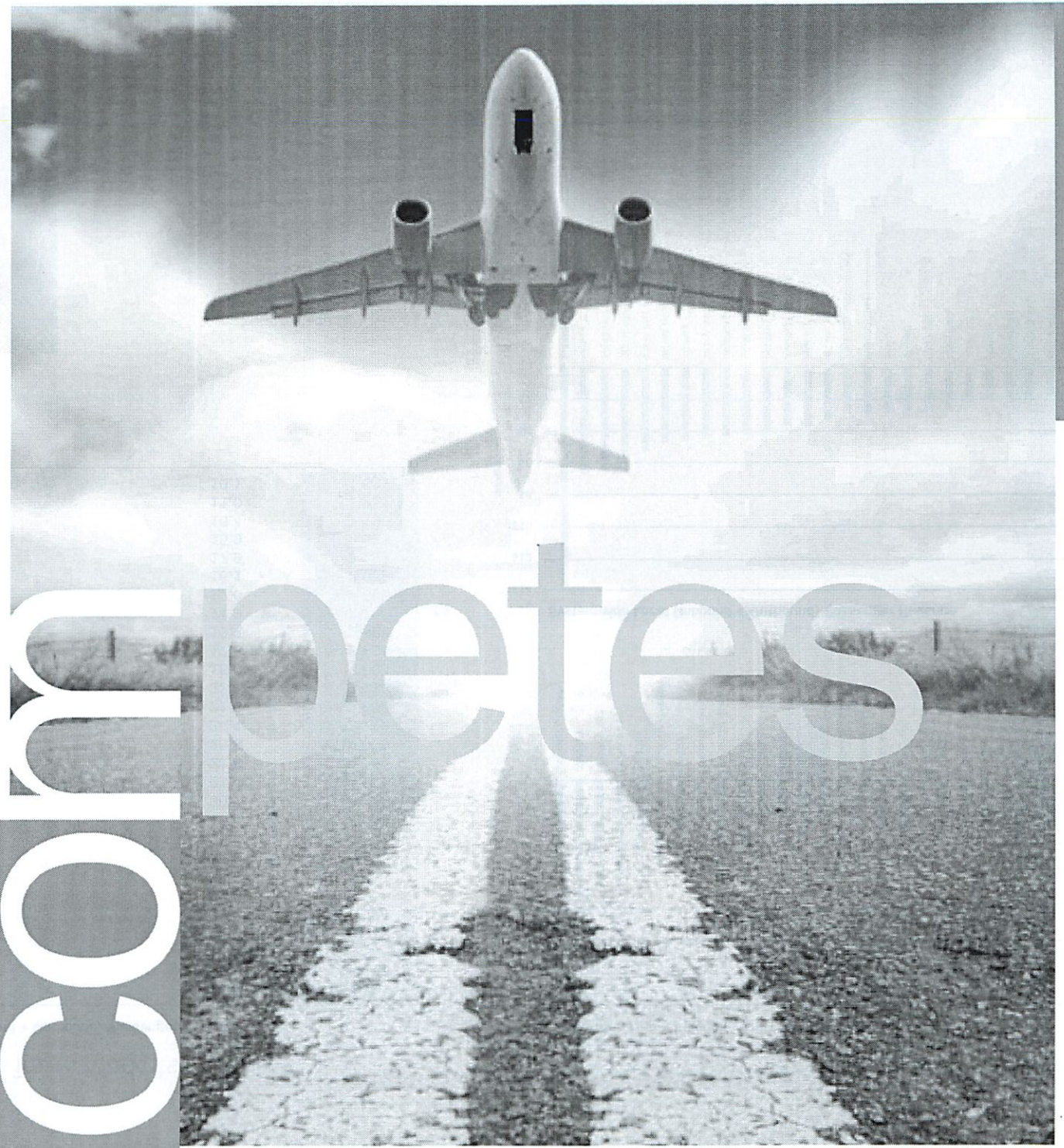
Today, U.S. airlines and their customers pay about $60 in taxes or 20 percent of the price of a typical $300 domestic round-trip ticket. That contributes to the $23 billion in taxes and fees paid annually to airports, FAA and the Department of Homeland Security. These excessive costs make travel and shipping less affordable and inhibit airlines from making needed investments in the future, ultimately harming the people and businesses that rely on air transportation.

This tremendous drag on profitability also harms our employees; airlines have lost 30 percent of their workforce since 2001. It harms the communities that have lost and continue to lose service; the companies that sell aviation equipment and technologies; and the travel and tourism sector that depends on robust air service. It harms U.S. global competitiveness and threatens our longstanding position of aviation leadership. The industry's economic viability is closely tied to the nation's economic viability. The challenge is to achieve a tax structure that is fair yet allows the sustainable returns that are essential to future investments.

The removal of barriers – restrictive policies that perpetuate excessive taxation, outdated



When america flies, it competes



infrastructure and sometimes inefficient business arrangements – is critical to the long-term vitality and profitability of the industry, and in the best interest of our nation's economic recovery and global competitiveness. The government must adopt a more disciplined "do no harm" approach that sustains a vibrant, globally competitive airline industry and the nearly 11 million jobs that rely on its economic well-being.

When America Competes, It Flies.
When America Flies, It Competes.

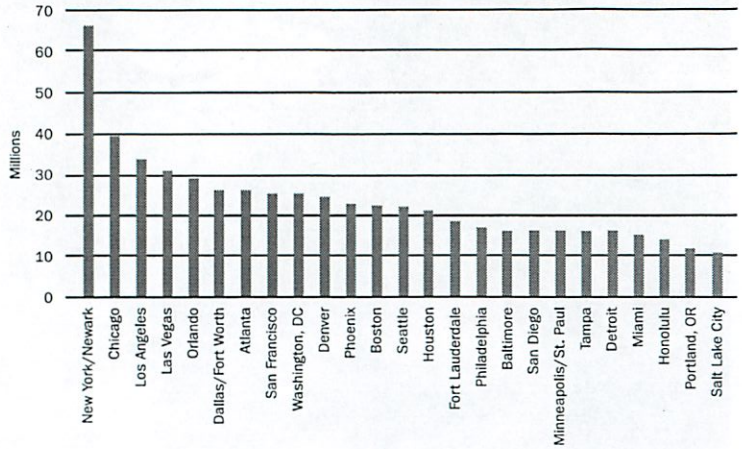
Top 25 U.S. Air Travel Markets – 2009

Systemwide Local (Inbound + Outbound) Passenger Revenue

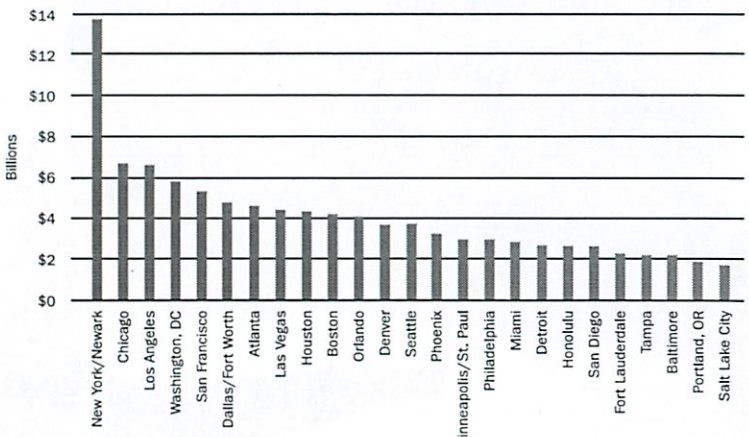
City	Passengers (Millions)	Revenue (Millions)
New York/Newark	66.2	$13,636
Chicago	39.3	6,726
Los Angeles	33.7	6,609
Washington, DC	24.9	5,760
San Francisco	25.0	5,335
Dallas/Fort Worth	26.4	4,773
Atlanta	26.4	4,649
Las Vegas	30.7	4,445
Houston	21.4	4,241
Boston	21.8	4,192
Orlando	28.8	4,070
Denver	24.4	3,712
Seattle	21.6	3,696
Phoenix	22.1	3,288
Minneapolis/St. Paul	16.0	3,004
Philadelphia	17.3	2,936
Miami	13.2	2,895
Detroit	14.9	2,700
Honolulu	12.0	2,695
San Diego	16.1	2,669
Fort Lauderdale	17.9	2,297
Tampa	15.9	2,233
Baltimore	16.4	2,190
Portland, OR	11.0	1,911
Salt Lake City	10.1	1,689

Source: DOT O&D survey

Systemwide Local (Inbound + Outbound) Passengers



Systemwide Local (Inbound + Outbound) Passenger Revenue



Top 40 U.S. Airports – 2009

	Passengers Enplaned[1]		Thousands		Cargo Tons Enplaned[1]		Thousands		Aircraft Takeoffs/Landings[1,2]		Thousands
1	ATL	Hartsfield-Jackson Atlanta Int'l	42,180	1	MEM	Memphis Int'l	2,045	1	ATL	Hartsfield-Jackson Atlanta Int'l	970
2	ORD	Chicago O'Hare Int'l	31,135	2	SDF	Louisville Standiford Field	1,116	2	ORD	Chicago O'Hare Int'l	828
3	LAX	Los Angeles Int'l	27,449	3	MIA	Miami Int'l	798	3	DFW	Dallas/Fort Worth Int'l	639
4	DFW	Dallas/Fort Worth Int'l	26,616	4	LAX	Los Angeles Int'l	782	4	DEN	Denver Int'l	612
5	DEN	Denver Int'l	23,969	5	ANC	Ted Stevens Anchorage Int'l	748	5	LAX	Los Angeles Int'l	545
6	JFK	John F. Kennedy Int'l	22,710	6	ORD	Chicago O'Hare Int'l	583	6	IAH	George Bush Intercontinental	539
7	LAS	Las Vegas McCarran Int'l	19,294	7	JFK	John F. Kennedy Int'l	576	7	LAS	Las Vegas McCarran Int'l	511
8	IAH	George Bush Intercontinental	19,289	8	IND	Indianapolis Int'l	501	8	CLT	Charlotte Douglas Int'l	509
9	PHX	Phoenix Sky Harbor Int'l	18,569	9	EWR	Newark Liberty Int'l	397	9	PHL	Philadelphia Int'l	473
10	SFO	San Francisco Int'l	18,462	10	DFW	Dallas/Fort Worth Int'l	310	10	PHX	Phoenix Sky Harbor Int'l	457
11	CLT	Charlotte Douglas Int'l	17,165	11	ATL	Hartsfield-Jackson Atlanta Int'l	308	11	MSP	Minneapolis-Saint Paul Int'l	433
12	EWR	Newark Liberty Int'l	16,659	12	OAK	Metropolitan Oakland Int'l	274	12	DTW	Detroit Metropolitan Wayne County	433
13	MCO	Orlando Int'l	16,379	13	PHL	Philadelphia Int'l	262	13	JFK	John F. Kennedy Int'l	422
14	MIA	Miami Int'l	16,188	14	ONT	Ontario Int'l	231	14	EWR	Newark Liberty Int'l	415
15	MSP	Minneapolis-Saint Paul Int'l	15,542	15	SFO	San Francisco Int'l	230	15	DVT	Phoenix Deer Valley	402
16	SEA	Seattle-Tacoma Int'l	15,257	16	IAH	George Bush Intercontinental	218	16	SFO	San Francisco Int'l	380
17	DTW	Detroit Metropolitan Wayne County	15,196	17	HNL	Honolulu Int'l	206	17	SLC	Salt Lake City Int'l	373
18	PHL	Philadelphia Int'l	15,004	18	SEA	Seattle-Tacoma Int'l	158	18	IAD	Washington Dulles Int'l	366
19	BOS	Boston Logan Int'l	12,582	19	IAD	Washington Dulles Int'l	141	19	BOS	Boston Logan Int'l	361
20	IAD	Washington Dulles Int'l	11,130	20	BOS	Boston Logan Int'l	133	20	LGA	LaGuardia	357
21	LGA	LaGuardia	11,111	21	PHX	Phoenix Sky Harbor Int'l	122	21	MIA	Miami Int'l	351
22	BWI	Baltimore/Washington Int'l	10,296	22	DEN	Denver Int'l	119	22	VNY	Van Nuys	351
23	FLL	Fort Lauderdale-Hollywood Int'l	10,235	23	MSP	Minneapolis-Saint Paul Int'l	110	23	GFK	Grand Forks	346
24	SLC	Salt Lake City Int'l	9,901	24	TOL	Toledo Express	108	24	MEM	Memphis Int'l	339
25	HNL	Honolulu Int'l	8,713	25	RFD	Chicago/Rockford Int'l	107	25	SEA	Seattle-Tacoma Int'l	318
26	DCA	Ronald Reagan Washington Nat'l	8,516	26	PDX	Portland Int'l	99	26	DAB	Daytona Beach Int'l	312
27	SAN	San Diego Int'l	8,449	27	CVG	Cincinnati/Northern Kentucky	89	27	MCO	Orlando Int'l	306
28	TPA	Tampa Int'l	8,269	28	ILN	Wilmington Clinton Field	84	28	LGB	Long Beach	297
29	MDW	Chicago Midway	8,252	29	SLC	Salt Lake City Int'l	81	29	SNA	John Wayne (Orange County)	296
30	PDX	Portland Int'l	6,427	30	DTW	Detroit Metropolitan Wayne County	76	30	HNL	Honolulu Int'l	275
31	STL	St. Louis Lambert Int'l	6,082	31	SJU	San Juan Luis Muñoz Marín Int'l	76	31	DCA	Ronald Reagan Washington Nat'l	274
32	CVG	Cincinnati/Northern Kentucky	5,194	32	MCO	Orlando Int'l	71	32	BWI	Baltimore/Washington Int'l	268
33	MEM	Memphis Int'l	5,054	33	SAN	San Diego Int'l	64	33	FLL	Fort Lauderdale-Hollywood Int'l	267
34	MCI	Kansas City Int'l	4,938	34	BDL	Hartford Bradley Int'l	63	34	BFI	Boeing Field/King County Int'l	266
35	CLE	Cleveland Hopkins Int'l	4,704	35	CLT	Charlotte Douglas Int'l	57	35	APA	Denver Centennial	263
36	OAK	Metropolitan Oakland Int'l	4,611	36	AFW	Forth Worth Alliance	57	36	ANC	Ted Stevens Anchorage Int'l	257
37	SMF	Sacramento Int'l	4,461	37	BFI	Boeing Field/King County Int'l	55	37	FFZ	Mesa Falcon Field	255
38	RDU	Raleigh-Durham Int'l	4,435	38	SAT	San Antonio Int'l	54	38	MDW	Chicago Midway	245
39	BNA	Nashville Int'l	4,384	39	CAE	Columbia Metropolitan	50	39	RVS	Tulsa R. Lloyd Jones	245
40	SNA	John Wayne (Orange County)	4,311	40	FLL	Fort Lauderdale-Hollywood Int'l	50	40	PRC	Prescott (Earnest A. Love Field)	240

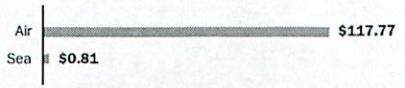
1 All services (scheduled and nonscheduled) by U.S. and non-U.S. airlines.
2 Includes military and general aviation.

Source: Bureau of Transportation Statistics and Federal Aviation Administration

When america flies, it delivers

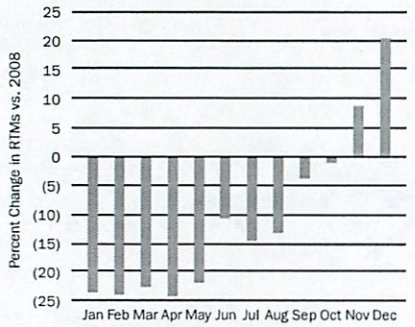
U.S. Export Value by Transport Mode

Dollars per Kilogram



Source: ATA and Census Bureau

Cargo Traffic – 2009



Source: Bureau of Transportation Statistics

So many of the products and processes that contribute to our quality of life are the result of innovations like just-in-time delivery and advanced logistics. In our time-sensitive lives, it has become standard practice to overnight important documents for a meeting, to receive a morning delivery of fresh seafood and flowers from a distant location for an afternoon wedding or to take delivery of critical parts or electronics to keep the machinery of modern life operating smoothly.

These marvelous innovations have become so much a part of the fabric of our lives that

U.S. Exports by Air – Top Commodities by Value

Commodity	$ Billions
Electric machinery, sound and television equipment	71.1
Boilers, machinery and parts, and nuclear reactors	54.0
Optic, photo, medical and surgical instruments	47.8
Aircraft, spacecraft and parts thereof	44.3
Precious metals, pearls, stones and coins	35.4
Pharmaceutical products	32.4
Organic chemicals	7.0
Works of art, collectors' pieces and antiques	6.1
Miscellaneous chemical products	5.0
Plastics and articles thereof	3.1
Other	28.1
Total	**334.4**

Source: Census Bureau

U.S. Exports by Air – Top Destinations by Value

Destination	$ Billions
United Kingdom	29.2
Germany	24.1
Japan	22.8
China	19.6
France	17.0
The Netherlands	16.6
Canada	15.8
Switzerland	15.7
Hong Kong	13.0
Singapore	12.0
Other	148.8
Total	**334.4**

Source: Census Bureau

U.S. Imports by Air – Top Commodities by Value

Commodity	$ Billions
Electric machinery, sound and television equipment	93.4
Boilers, machinery and parts, and nuclear reactors	79.1
Pharmaceutical products	34.8
Precious metals, pearls, stones and coins	32.0
Optic, photo, medical and surgical instruments	30.1
Organic chemicals	28.2
Special classification provisions	22.7
Aircraft, spacecraft and parts thereof	5.1
Works of art, collectors' pieces and antiques	5.0
Apparel articles and accessories, knit or crochet	4.3
Other	32.1
Total	**366.9**

Source: Census Bureau

U.S. Imports by Air – Top Origins by Value

Origin	$ Billions
China	73.4
Japan	26.0
United Kingdom	25.7
Germany	24.2
Ireland	22.1
France	16.1
South Korea	14.9
Malaysia	13.7
Israel	13.5
Switzerland	11.9
Other	125.5
Total	**366.9**

Source: Census Bureau

When America flies, it cares

When disaster strikes, such as the 2009 earthquake in Haiti, America's airlines and their employees spring into action, delivering relief supplies, cash and in-kind donations, transportation and other life-saving aid.

it is easy to forget that the overnight shipping and advanced transportation and logistics industries that make them possible were created by the airline industry not that long ago. The result? Virtually any business located anywhere in the world can actively participate in the global economy and routinely deliver products to customers half a world away...tomorrow!

Sophisticated inventory-management practices that have become central to a vibrant economy, just like the availability of fresh seafood and produce, gourmet foods, exotic flowers and ever expanding product offerings, as well as mission-critical business documents and materials, are made possible because of these airline innovations. Lifesaving medical, pharmaceutical and laboratory products and services, previously unavailable to distant locations, can now quickly reach those who need them most, exactly when they are needed.

Airlines are the heart of our just-in-time global economy – quite literally its circulatory system – making millions of time-sensitive deliveries of an increasingly diverse range of documents, products and supplies to locations across the country and around the globe. Our lives, our economy and our future are all strengthened and enriched as a result, with the promise of still better things ahead.

When America Delivers, It Flies.
When America Flies. It Delivers.

Eleven-Year Summary

U.S. Airlines

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Traffic and Capacity[1]											
Passengers Enplaned (Thousands)	635,959	666,149	622,129	614,338	647,470	703,692	738,628	744,728	769,622	743,306	**703,944**
Revenue Passenger Miles (Millions)	652,047	692,757	651,700	642,374	657,290	733,956	779,014	797,414	829,422	812,360	**769,485**
Cargo Revenue Ton Miles (Millions)	21,613	23,888	24,569	26,510	26,735	27,978	28,037	29,339	29,570	28,375	**25,002**
Aircraft Departures (Thousands)	8,627	9,035	8,888	9,307	10,896	11,429	11,564	11,268	11,399	10,896	**10,132**
Aircraft Miles (Millions)	6,168	6,574	6,597	6,626	7,090	7,668	7,920	7,923	8,116	7,889	**7,317**
Aircraft Hours (Thousands)	14,698	15,680	15,592	15,787	17,305	18,550	19,114	19,027	19,436	18,904	**17,490**
Available Seat Miles (Millions)	918,419	956,950	930,511	894,455	894,555	971,935	1,003,334	1,006,324	1,037,667	1,021,348	**957,198**
Operating Statistics											
Passenger Load Factor (%)[1]	71.0	72.4	70.0	71.8	73.5	75.5	77.6	79.2	79.9	79.5	**80.4**
On-Flight Trip Length (Miles)[1]	1,025	1,040	1,048	1,046	1,015	1,043	1,055	1,071	1,078	1,093	**1,093**
Flight Stage Length (Miles)[1]	715	728	742	712	651	671	685	703	712	724	**722**
Gallons Consumed (Millions)	20,061	20,974	20,120	18,154	17,806	19,782	20,185	19,978	20,131	19,378	**17,711**
Income Statement (Millions)											
Operating Revenues	$118,892	$130,248	$115,227	$107,125	$117,768	$134,660	$151,544	$165,532	$174,696	$186,119	**$154,719**
Operating Expenses	110,489	123,234	125,546	115,690	119,861	136,150	151,097	157,892	165,353	189,466	**152,310**
Operating Profit (Loss)	8,403	7,014	(10,319)	(8,566)	(2,093)	(1,490)	448	7,640	9,344	(3,348)	**2,409**
Other Income (Expense)	(3,042)	(4,481)	2,052	(2,800)	377	(7,615)	(27,668)	10,546	(1,652)	(20,399)	**(4,937)**
Net Profit (Loss)	5,361	2,533	(8,267)	(11,365)	(1,715)	(9,104)	(27,220)	18,186	7,691	(23,747)	**(2,528)**
Financial Ratios											
Passenger Yield (¢/RPM)[1]	12.93	13.52	12.42	11.42	11.77	11.68	12.02	12.79	12.98	13.73	**11.87**
Passenger Unit Revenue (¢/ASM)[1]	9.18	9.79	8.70	8.20	8.65	8.82	9.33	10.13	10.38	10.92	**9.54**
Cargo Yield (¢/RTM)[1]	53.54	53.03	49.69	49.14	53.81	59.93	71.77	74.69	81.17	102.88	**91.65**
Net Profit Margin (%)	4.5	1.9	(7.2)	(10.6)	(1.5)	(6.8)	(18.0)	11.0	4.4	(12.8)	**(1.6)**
Employment (Thousand FTEs)											
Total Industry	651.5	679.7	639.7	604.1	588.4	585.2	576.2	565.0	576.0	559.6	**536.2**
Scheduled Passenger Airlines	479.7	520.6	520.1	471.6	444.7	441.4	421.6	405.4	414.0	407.8	**386.1**
Other Airlines	171.8	159.1	119.6	132.6	143.7	143.8	154.6	159.6	162.0	151.8	**150.2**
Safety[1,2]											
Accidents (Total/Fatal)	40/2	49/2	41/6	34/0	51/2	23/1	34/3	26/2	26/0	20/0	**26/1**
Fatal Accidents per 100,000 Departures[3]	0.018	0.018	0.019	-	0.020	0.009	0.027	0.019	-	-	**0.010**
Fatalities (Total/Aboard)	12/11	89/89	531/525	0/0	22/21	13/13	22/20	50/49	0/0	0/0	**50/49**

1 Scheduled service only.
2 Data from the National Transportation Safety Board reflecting scheduled operations under 14 CFR 121.
3 Excludes incidents resulting from illegal acts.

Source: ATA, Bureau of Transportation Statistics and National Transportation Safety Board

Members

ABX Air, Inc.
Joseph C. Hete*
CEO
www.abxair.com

AirTran Airways, Inc.
Robert L. Fornaro*
Chairman, President and CEO
www.airtran.com

Alaska Airlines, Inc.
William S. Ayer*
Chairman and CEO
www.alaskaair.com

American Airlines, Inc.
Gerard J. Arpey*
Chairman and CEO
AMR Corp./American Airlines, Inc.
www.aa.com

ASTAR Air Cargo, Inc.
John H. Dasburg*
Chairman and CEO
www.astaraircargo.us

Atlas Air, Inc.
William J. Flynn*
President and CEO
Atlas Air Worldwide Holdings, Inc.
www.atlasair.com

Continental Airlines, Inc.
Jeffery A. Smisek*
Chairman, President and CEO
www.continental.com

Delta Air Lines, Inc.
Richard H. Anderson*
CEO
www.delta.com

Evergreen International Airlines, Inc.
Timothy G. Wahlberg*
President
www.evergreenaviation.com

Federal Express Corporation
David J. Bronczek*
President and CEO
FedEx Express
www.fedex.com

Hawaiian Airlines, Inc.
Mark B. Dunkerley*
President and CEO
www.hawaiianairlines.com

JetBlue Airways Corporation
Dave Barger*
President and CEO
www.jetblue.com

Southwest Airlines Co.
Gary C. Kelly*
Chairman, President and CEO
www.southwest.com

United Airlines, Inc.
Glenn F. Tilton*
Chairman and CEO
www.united.com
Chairman, ATA Board of Directors

UPS Airlines
David Abney*
Chief Operating Officer
UPS
www.ups.com

US Airways, Inc.
W. Douglas Parker*
Chairman and CEO
US Airways Group, Inc.
www.usairways.com

Note: Current as of July 2010. Visit www.airlines.org for a description of ATA membership categories.
* Member, Air Transport Association of America, Inc. Board of Directors

Associate Members

Air Canada
Calin Rovinescu
President and CEO
www.aircanada.com

Air Jamaica, Ltd.
Howard Hall
General Manager
www.airjamaica.com

Mexicana
Manuel Borja Chico
CEO
www.mexicana.com

Industry Partners

Airbus
Boeing Commercial Airplanes
Honeywell Aerospace
Pratt & Whitney

Industry Members

Aero Instruments & Avionics, Inc.
AirCell
Aircraft Inventory Management & Services
Air Technik
Amadeus
American Express Company
Arch Insurance
Arcplan, Inc.
ARINC
ATR Aircraft
BAE Systems
Bombardier Commercial Aircraft
CAE
Cooper Gay
Critical Technologies, Inc.
Duty Free World
EmpowerMX
ENSCO, Inc.
Gate Gourmet
HEICO Corporation
IBM Global Travel & Transportation
IPC (USA), Inc.
ITT Corporation
Liberty Mutual Insurance
L3 Communications Aviation Products Group
Metron Aviation
Priceline.com
RK Harrison Insurance Brokers Ltd.
RLG International
The Royal Bank of Scotland, plc
Sensis Corporation
Shanghai Aircraft Customer Service Co., Ltd.
SITA
SolArc
Star Navigation Systems Group, Ltd.
SuperJet International
TDG Aerospace
TIMCO Aviation Services
TravelPort
UGS PLM (Siemens)
Unisys Global Transportation
Universal Air Travel Plan (UATP)
USI Insurance
VISA

AIR TRANSPORT ASSOCIATION

Air Transport Association of America, Inc.
1301 Pennsylvania Avenue, NW – Suite 1100 Washington, DC 20004-1707 USA
202-626-4000 www.airlines.org

10843H

United States Government Accountability Office

GAO

Report to Congressional Committees

June 2006

AIRLINE DEREGULATION

Reregulating the Airline Industry Would Likely Reverse Consumer Benefits and Not Save Airline Pensions

GAO
Accountability * Integrity * Reliability

GAO-06-630

GAO
Accountability · Integrity · Reliability

Highlights

Highlights of GAO-06-630, a report to congressional committees

Why GAO Did This Study

The Airline Deregulation Act of 1978 phased out the government's control over fares and service and allowed market forces to determine the price and level of domestic airline service in the United States. The intent was to increase competition and thereby lead to lower fares and improved service. In 2005, GAO reported on the tenuous finances of some airlines that have led to bankruptcy and pension terminations, in particular among those airlines that predated deregulation (referred to as legacy airlines). The House Report accompanying the 2006 Department of Transportation (DOT) Appropriation Act expressed concern about airline pension defaults and charged GAO with analyzing the impact of reregulating the airline industry on reducing potential pension defaults by airlines. GAO subsequently agreed to address the pension issue within a broad assessment of the airline industry since deregulation. Specifically, GAO is reporting on, among other things, (1) broad airline industry changes since deregulation, (2) fare and service changes since deregulation, and (3) whether there is evidence that reregulation of entry and fares would benefit consumers or the airline industry, or save airline pensions.

DOT agreed with the conclusions in this report. GAO is making no recommendations in this report.

www.gao.gov/cgi-bin/getrpt?GAO-06-630.

To view the full product, including the scope and methodology, click on the link above. For more information, contact JayEtta Z. Hecker at (202) 512-2834 or heckerj@gao.gov.

June 2006

AIRLINE DEREGULATION

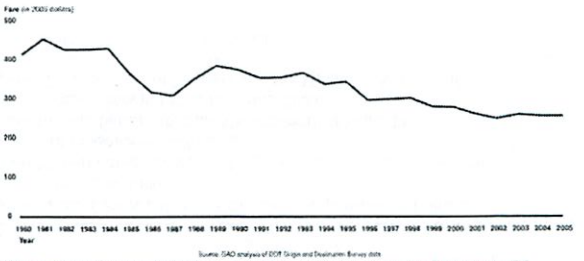
Reregulating the Airline Industry Would Likely Reverse Consumer Benefits and Not Save Airline Pensions

What GAO Found

The airline industry has undergone significant change since the late 1970s. Industry capacity and passenger traffic have tripled. At the same time, the industry's profitability has become more cyclical, and the financial health of large legacy airlines has become more precarious. Legacy airlines emerged from a regulated environment with relatively high structural costs, driven in part by labor costs, including defined benefit pension plan costs. Over the last few years, facing intense cost pressures from growing low-cost airlines like Southwest, both United and US Airways entered bankruptcy, voided labor contracts, and terminated their pension plans costing the Pension Benefit Guaranty Corporation, the federal government insurer of defined benefit plans, $10 billion and beneficiaries more than $5 billion. In 2005, two other legacy airlines entered bankruptcy leaving their pension plans in doubt. Only two airlines still have active defined benefit pension plans.

Airfares have fallen in real terms over time while service—as measured by industry connectivity and competitiveness—has improved slightly. Overall, the median fare has declined almost 40 percent since 1980 as measured in 2005 dollars (see fig. below). However, fares in shorter-distance and less-traveled markets have not fallen as much as fares in long-distance and heavily trafficked markets. Since 1980, markets have generally become more competitive; with the average number of competitors increasing from 2.2 per market in 1980 to 3.5 in 2005.

Median Fare, 1980-2005



Source: GAO analysis of DOT Origin and Destination Survey data

The evidence suggests that reregulation of airline entry and fares would likely reverse much of the benefits that consumers have gained and would not save airline pensions. The change in fares and service since deregulation provides evidence that the vast majority of consumers have benefited, though not all to the same degree. Although a number of airlines have failed and some have terminated their pension plans, those changes resulted from the entry of more efficient competitors, poor business decisions, and inadequate pension funding rules. GAO has previously recommended that broad pension reform is needed.

United States Government Accountability Office

Contents

Figures

Abbreviations

ASM	available seat miles
CAB	Civil Aeronautics Board
DOT	Department of Transportation
DPFI	Domestic Passenger Fare Investigation
EAS	Essential Air Service
EPP	Employee Protection Program
FAA	Federal Aviation Administration
FTE	full-time equivalent
PBGC	Pension Benefit Guaranty Corporation
RPM	revenue passenger miles
SIFL	Standard Industry Fare Level

GAO
Accountability • Integrity • Reliability

United States Government Accountability Office
Washington, DC 20548

June 9, 2006

The Honorable Jerry Lewis
Chairman
The Honorable David R. Obey
Ranking Minority Member
Committee on Appropriations
United States House of Representatives

The Honorable Thad Cochran
Chairman
The Honorable Robert C. Byrd
Ranking Minority Member
Committee on Appropriations
United States Senate

In 1978, Congress deregulated the airline industry. The Airline Deregulation Act of 1978 phased out the government's control over fares and service and allowed market forces to determine the price and level of domestic airline service in the United States. We have previously reported that overall fares have declined and service has increased since deregulation, but that these benefits have not been evenly distributed throughout all markets. More recently, we reported on the tenuous finances of some airlines that have led to bankruptcy and pension terminations,[1] in particular among those airlines whose operations predated deregulation, referred to as legacy airlines. Critics of deregulation, including some academics and some in Congress, have pointed to industry instability that has resulted in industry layoffs and pension terminations along with declining service and high fares for some communities as evidence of negative effects of deregulation.

The House report accompanying the 2006 Department of Transportation (DOT) appropriations legislation expressed concern about airline pension defaults and charged us with analyzing the impact of reregulating the airline industry on reducing potential pension defaults by airlines.[2] In subsequent discussion with House appropriations offices, following our in-depth report on airline pensions and bankruptcy, we agreed to more broadly assess the airline industry since deregulation. Specifically, we agreed to report on (1) the original rationale for deregulating the airline industry in 1978, (2) broad airline industry changes since deregulation, (3) fare and service changes since deregulation, and (4) whether there is evidence that reregulation of airline entry and rates would benefit consumers and the airline industry, or save airline pensions.

To address these objectives, we relied on historical documents, our past studies, and our analysis of DOT passenger ticket data. To assess the original intent of Congress in passing the Airline Deregulation Act, we reviewed the act and accompanying legislative materials and various other documents and studies. To evaluate past changes in the airline industry, we reviewed our past studies, reviewed DOT studies, analyzed financial and operational data, and interviewed industry experts. To analyze fare and service changes since deregulation, we used the DOT's Origin and Destination Survey, a database containing information on every tenth airline ticket sold. The survey includes the fare paid (including taxes) and itinerary, including flight segments. The survey does not provide information on frequency, type of aircraft, or operational performance. We excluded tickets with international, Hawaiian, or Alaskan destinations or origins so that we could examine changes within continental U.S. domestic markets. To simplify the analysis, we examined only tickets for flights during the second quarter of each year—generally considered neither the busiest nor the slowest quarter of the year. We limited our analysis of service measures to only those city-pairs with at least thirteen passengers in our sample (or about 130 actual flying passengers) in every quarter in order to ensure that the changes in service we observed in our sample reflected actual flow routes and were not due to sampling or data error. Even so, the vast majority of passengers were included in our analysis—for example, in 2005, excluding city-pair markets with less than 13 passengers per quarter excluded only one percent of passengers. In addition, for our analysis of competition in city pairs, to ensure the sampling confidence in each competitor airline, we limited our analysis to city pairs with at least 118 passengers in the sample (or about 1180 actual

[1]GAO, *Commercial Aviation: Bankruptcy and Pension Problems Are Symptoms of Underlying Structural Issues*, GAO-05-945 (Washington, D.C.: Sept. 30, 2005).

[2]House Report 109-153 accompanying P.L. 109-115, Departments of Transportation, Treasury, and Housing and Urban Development, The Judiciary, District of Columbia, and Independent Agencies Appropriations Act, 2006.

flying passengers) per quarter. No minimum passenger levels were imposed for our analysis of fares. Because the survey does not identify the destination airport, to ensure city-pair accuracy, we eliminated nonsymmetrical roundtrip tickets. We reviewed our methods and results with DOT and academic experts from the Massachusetts Institute of Technology's Global Airline Industry Program. To determine whether there is sufficient evidence to reregulate the airline industry, we considered our findings under the prior questions of this report, especially the changes in fares and service since deregulation. We also considered the findings of our earlier reports, especially those relating to small community air service and defined benefit pension terminations and regulation. We performed our work between September 2005 and May 2006 in accordance with generally accepted government auditing standards.

Results in Brief

Airline deregulation was premised on an expectation that an unregulated industry would attract new airlines and increase competition, thereby benefiting consumers with lower fares and improved service. The intent of Congress was to allow new and existing airlines to enter and serve any market they wanted (and provide service at whatever price they wanted) in order to boost competition, thereby lowering fares and expanding service. The framers of the act recognized that this approach could cause some airlines to fail and could lead to some communities losing some levels of service. As a result, the act created the Essential Air Service (EAS) program which subsidizes air service to small communities. The act also established the Employee Protection Program (EPP), which was ultimately repealed and never provided any assistance, but was intended to provide displaced airline employees with compensation and the right to be rehired by airlines before any other potential applicants. Even with deregulation, the federal government continues to play a role in air commerce in a variety of other ways—from the Federal Aviation Administration (FAA), which oversees air navigation, safety, and airport investment; to the Department of Homeland Security, which oversees passenger security; to DOT, which oversees international agreements and has a mandate to protect consumers from unfair and deceptive practices in air transportation and its sale.

The airline industry has undergone significant change since the late 1970s. Passenger traffic and, with it, industry revenues, have expanded. However, expenses have grown just as fast and profits have become increasingly cyclical. Airlines that predated deregulation, called legacy airlines, emerged from regulation with significant structural costs, including labor

contracts that funded defined benefit pension plans. Legacy airlines dominated the industry during the 1980s and 1990s because of their size and a variety of business practices that made it difficult for new entrant airlines to compete. Industry employment, compensation, and efficiency have all grown since deregulation. However, with the major industry downturn that began in 2000, new entrant airlines—unburdened by many of the structural costs of legacy airlines—were better able to compete for passengers with low fares and have gained market share. By 2003, we found that low-cost airlines served 2,304 out of the top 5,000 city-pair domestic markets, representing a presence in markets available to almost 85 percent of all passengers. In response to sizeable financial losses after 2000, both United and US Airways entered bankruptcy and terminated their pension plans, costing the Pension Benefit Guaranty Corporation (PBGC) nearly $10 billion and beneficiaries more than $5 billion. In 2005, two other legacy airlines entered bankruptcy, leaving their pension plans in doubt. Only two airlines, American and Continental, still have active defined benefit pension plans in place.

As predicted by the framers of deregulation, airline markets have become more competitive and fares have fallen since deregulation. For consumers, airfares have fallen in real terms since 1980 while service has generally improved. Overall, median fares have declined in real terms by nearly 40 percent since 1980. However, fares in shorter-distance and less-traveled city-pair markets (e.g., those between smaller cities) have not fallen as much as fares in longer-distance and heavily-trafficked markets. While the competition brought about by deregulation likely played a significant role in bringing down fares, the extent to which these changes are directly attributable to deregulation as opposed to other factors, such as advances in technology or economic factors, is difficult to isolate. Various studies have attributed substantial consumer benefits to deregulation, but estimating the size of this benefit requires making several assumptions about what fares would be if they were still regulated. Furthermore, our analysis of airline service indicates that more passengers are flying between more city-pair markets, but that, on average, passengers are making more connections to reach their destinations. Service improvements have not been as evident in smaller markets as in larger ones. Since 1980, city-pair markets have generally become more competitive even while passenger traffic became more concentrated. Longer-distance and more heavily traveled markets in particular have become more competitive, with the average number of competitors growing from 2.2 per market in 1980 to 3.5 in 2005. Some DOT indicators of other aspects of service quality, such as rates of on-time arrival or lost luggage, suggest that service quality may have eroded somewhat over the

past few years; however, we did not evaluate these measures or other indicators of service quality, such as flight frequency, type of aircraft used, or in-flight amenities.

The evidence suggests that reregulation of airline entry and fares would likely reverse much of the benefits that consumers have gained and would not save airline pensions. Our analysis of fares and service since deregulation provides evidence that consumers have benefited from lower fares since the airlines were deregulated. Since deregulation, competition has generally increased, traffic has expanded, and fares have declined. The primary dislocations that have occurred since deregulation—loss of service to some communities and the decline of legacy airlines' finances and pensions—are the result of competitive market forces. Therefore, attempting to resolve the dislocations that have occurred for some small communities or the loss of pension benefits for some airline workers by restraining these same forces could reverse some of the gains that have accrued. If Congress determines that service to small communities is inadequate, then direct subsidies—such as the Essential Air Service program provides—might be a more efficient solution than reregulating the industry and diminishing the benefits gained by a majority of consumers. The financial distress of some legacy airlines, while regrettable (especially for airline employees), was not unanticipated, and is evidence of a functioning market in which lower-cost airlines have emerged, generally benefiting consumers with lower fares. These financial problems also caused several legacy airlines to freeze or terminate their defined benefit pension plans, leaving only two airlines with active plans. The airlines' pension problems are no different from the pension problems occurring throughout the economy and, as we previously reported,[3] can be traced to broad economic factors, poor management decisions, and inadequate pension regulation. Therefore, broad pension reform that is comprehensive in scope and balanced in effect, such as we previously recommended, would more logically address problems with airline pensions than more sweeping airline industry regulation, which could undo the benefits that deregulation has achieved. DOT generally agreed with this report's facts and conclusions, but did not provide written comments. DOT provided technical comments and suggestions that we incorporated as appropriate.

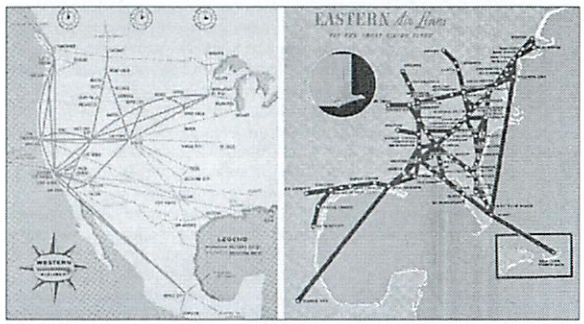
[3]GAO-05-945.

Background

Industrywide regulation of the U.S. airline industry began in 1938 in response to congressional concern over safety, airlines' financial health, and perceived inequities between airlines and other regulated forms of transportation. The Civil Aeronautics Act of 1938 (P.L. 706) applied to interstate operations of U.S. airlines and gave the Civil Aeronautics Authority, redesignated as the Civil Aeronautics Board (CAB) in 1940, authority to regulate which airlines operated on each route and what fares they could charge. Airlines could not add or abandon routes or change fares without CAB approval.

CAB also limited the number of airlines in the industry. In 1938, the interstate U.S. airline industry consisted of 16 "trunk" airlines, but this number contracted to 10 by 1974, despite 79 applications from new airlines to initiate service. Competition was limited on a route to one airline unless the CAB determined that demand was sufficient to support an additional airline. Airfares were based on a complex cost-based formula used by the CAB, though the exact formulas and process varied over the life of the CAB. Generally, though, airlines during this time had little incentive to reduce costs, since each was assured a fixed rate of return. As a result, the competition that existed among airlines was largely based on the quality of service. Airlines operated largely a point-to-point system, more similar to railroads than the airline networks that we know today. For example, as shown in figure 1, the route-maps of Eastern Airlines (1948) and Western Airlines (1962) show a system vastly different from today's hub-and-spoke networks.

Figure 1: Western Airlines (1962) and Eastern Airlines (1948) Route Map



Source: Western Airlines and Eastern Airlines.

Airlines have traditionally relied on union labor, and labor relations have been covered by the Railway Labor Act since 1936. The union bargaining structure that developed within the airline industry has been highly decentralized and separated by craft (e.g., pilots, mechanics, etc.). Before deregulation, unions and airline management engaged in carrier-by-carrier bargaining whereby the last contract signed by one carrier generally served as the starting point for the next airline (known as "pattern bargaining"). During regulation, labor relations were generally good because CAB's fare-setting allowed airlines to pass increased labor costs on to passengers. Airlines' bargaining power was enhanced by the Mutual Aid Pact, a strike insurance plan created in 1958, through which a struck airline was compensated by nonstruck airlines based on increases in traffic the latter received during a strike. The Mutual Aid Pact was eliminated with deregulation, thereby enhancing airline labor's power in contract negotiations.

Airline Deregulation Was Originally Intended to Encourage Competition, Thereby Lowering Fares and Improving Service

The Airline Deregulation Act phased out federal control over airline pricing and routes. Airline deregulation was premised on an expectation that an unregulated industry would attract entry and increase competition among airlines, thereby benefiting consumers with lower fares and improved service. The experience of unregulated (i.e., state-regulated) intrastate service in Texas and California provided support for this expectation. Moreover, prior to deregulation, industry analysts—on the basis of conventional economic reasoning—expected that opportunities for increased competition would increase the number of airlines operating in many markets, thereby lowering fares and expanding service.

The Airline Deregulation Act established specific goals of encouraging competition by attracting new entrant airlines and allowing existing airlines to expand. According to the act, competition was expected to lower fares and expand service, the chief aims of deregulation.[4] At the same time, Congress recognized that deregulation could lead to economic dislocations for some communities and workers as service patterns adjusted and airlines entered and exited markets and the industry overall. As a result, the EAS program and the EPP were established.

- The EAS program was put into place to guarantee that small communities served by commercial airlines before deregulation would maintain a minimal level of scheduled air service. DOT currently subsidizes commuter airlines to serve approximately 150 rural communities across the country that otherwise would not receive any scheduled air service. According to DOT, EAS subsidizes 39 communities in Alaska and 115 more in the rest of the United States. The EAS budget ranged from about $100 million early in the program down to about $25 million, before rising in recent years to $100 million. In Fiscal Year 2006, EAS was funded at $109 million.
- EPP was created, first, to compensate airline workers who lost their jobs or received lower pay as a result of bankruptcies or major contractions whose major cause was airline deregulation and, second, to grant such workers first-hire rights. However, the Department of Labor delayed the

[4]Along with the airline industry, Congress deregulated rail, trucking, and telecommunications. Overseas, similar efforts to deregulate major industries have taken place in the world's major market economies. Generally, the intent in each case has been similar—to induce competition and thereby lower fares. In only a few cases, and in fairly narrow circumstances, has a deregulated industry been reregulated. For example, following cable television's deregulation, Congress established rate ceilings in cities that lacked sufficient competition.

establishment of regulations to administer these rights, Congress did not appropriate funds to compensate displaced employees, and airlines fought the requirements in court. On August 7, 1998, the statute authorizing the EPP was repealed.[5] No compensation was ever provided to displaced employees, and the first-hire right was never enforced.

While the practice of setting of airline entry and rates was deregulated, the federal government is still involved in many facets of the airline industry, including many aspects that affect the economics of the industry. For example, the federal government still influences financing and investment decisions affecting the nation's aviation infrastructure, including airports and air navigation systems. In addition to the various taxes and user fees on commercial airline tickets, which averaged 15.5 percent of the base fare in 2002, the federal government also provides support from its general fund for FAA operations.[6] In 2007, the Airport and Airways Trust Fund, which finances the nation's aviation infrastructure, will be up for renewal. The federal government also provided commercial airlines with $7.4 billion in financial assistance and $1.6 billion in loan guarantees for six airlines as a result of the September 11, 2001, terrorist attacks. Finally, PBGC has assumed almost $12 billion in net airline pension obligations since 1991.[7]

The Airline Industry Has Undergone Significant Change since Deregulation

The airline industry has undergone significant change since the late 1970s. Air travel, and along with it industry revenues and expenses, have tripled since 1978. However, industry profits have become increasingly cyclic with the most recent downturn leading to almost $28 billion in operating losses since 2001. Airline employee compensation grew following deregulation, even though many studies have found that employees earned a premium under regulation. Nevertheless, employee compensation as a share of total expenses has declined, especially in recent years. During

[5]Section 199(a)(6) of the Workforce Investment Act of 1998, P.L. 105-220, 112 Stat. 1059.

[6]GAO, *Summary Analysis of Federal Commercial Aviation Taxes and Fees*, GAO-04-406R (Washington, D.C.: March 12, 2004).

[7]PBGC was established to encourage the continuation and maintenance of voluntary private pension plans and to insure the benefits of workers and retirees in defined benefit plans should plan sponsors fail to pay benefits. However, if a pension plan's assets are insufficient to pay accrued benefits, the plan can be terminated under certain conditions, and PBGC then assumes responsibility for paying retiree pensions. Airlines have used provisions of chapter 11 of the bankruptcy code to terminate labor contracts, including their defined benefit pension plans.

airlines should not complain about taxes w/ their tons of fees

20% today

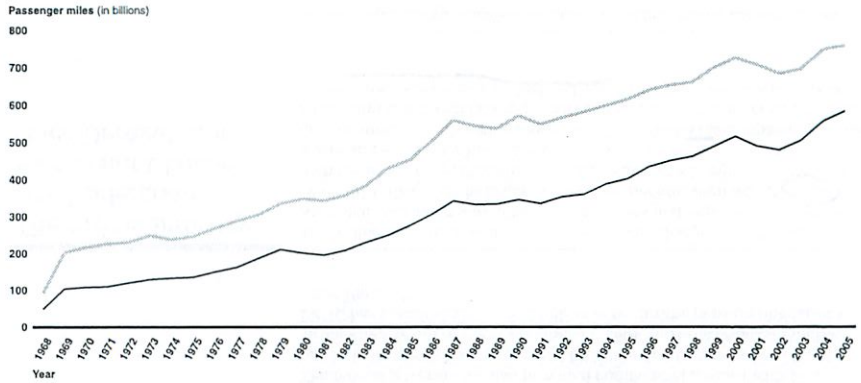
regulation, airlines operated almost as regulated monopolies, encountering little competition and facing little pressure to restrain costs because fares were based on the airlines' costs plus a fixed rate of return. Following deregulation, legacy airlines were able to stave off new entrant competition through various operating barriers, such as FAA-imposed take-off and landing times at congested airports (slot controls), perimeter rules at Washington Reagan National Airport, and airlines' exclusive-use control of gate leases; and business practices, such as frequent flyer programs and ticket distribution systems. The market downturn that began in 2000 exposed legacy airlines' precarious financial condition, allowing low-cost airlines the opportunity to compete more aggressively. Owing to financial instability since deregulation, airlines operating in bankruptcy have become more common, but we found that bankruptcy protection has not adversely affected nonbankrupt airlines. More troubling has been the use of bankruptcy to terminate defined-benefit pension plans, costing the PBGC and airline employees billions of dollars. Only two airlines still offer defined benefit pension plans.

The U.S. Airline Industry Has Expanded since Deregulation

The U.S. airline industry has expanded threefold since deregulation. Figure 2 shows that the consumption of airline travel as measured by revenue passenger miles (RPM) grew from 188 billion RPMs in 1978 to 584 billion RPMs in 2005, while airline capacity grew at a similar pace—from 306 billion available seat miles (ASM) in 1978 to 758 billion ASMs in 2005. Over the same period, revenue passenger enplanements[8] increased from 254 million in 1978 to 670 million in 2005.

[8]"Enplanement" is defined as one fare-paying passenger—originating or connecting—boarding an aircraft with a unique flight coupon.

Figure 2: Air Travel Capacity and Consumption, ASM and RPM growth 1968–2005



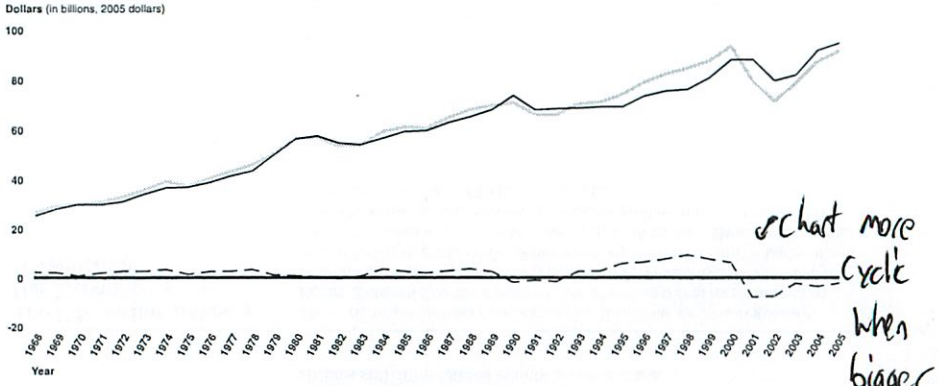
Source: GAO analysis of DOT Form 41 data.

Note: U.S. domestic airlines, excluding cargo.

Owing to the growth of air travel, U.S. airlines' revenues grew almost fourfold in real terms (see fig. 3). However, expenses also grew at a similar pace, sometimes outpacing industry revenues. While profits were relatively stable under regulation, earnings have been increasingly cyclical since deregulation. One explanation for this cyclicality is that, with revenues closely tied to the business cycle, high fixed costs for aircraft, and a rigid and costly labor structure, outside shocks—such as the September 11, 2001, attacks or high fuel prices—make it difficult for the industry to adjust its capacity. The industry has incurred operating losses of nearly $28 billion since 2001, most of this by legacy airlines.[8] These airlines have compensated by taking on additional debt, using all (or nearly all) of their assets as collateral and limiting future access to capital.

[8]Legacy airlines are generally considered to be those that predated deregulation, while low-cost airlines generally entered interstate service following deregulation.

Figure 3: U.S. Airline Operating Revenue, Expenses, and Profits, 1968–2005



Source: GAO analysis of DOT Form 41 data.

Note: U.S. domestic airlines, excluding cargo.

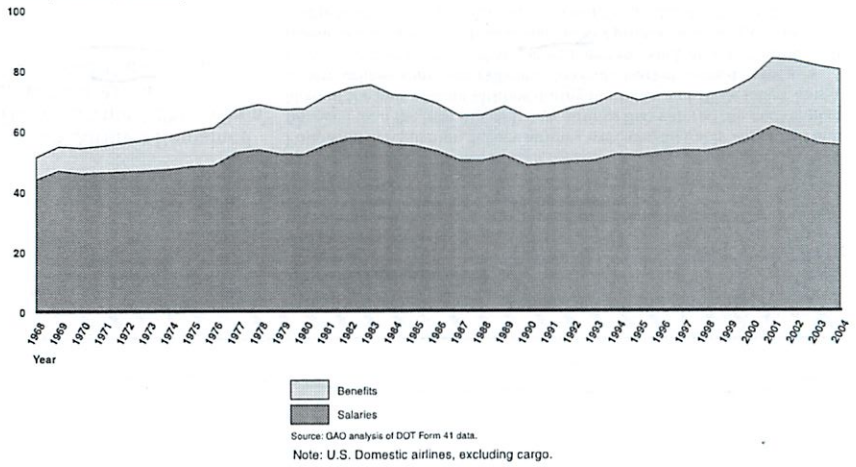
Airline Salaries, Compensation, and Efficiency Have Grown since Deregulation

There have been significant changes to airline employee compensation, employment, and productivity since deregulation. Prior to deregulation, labor was highly unionized and wage demands were typically met. Regulation allowed for increases in labor costs to be passed on to consumers through the regulated fare system. Several studies have estimated that airline wages were greater under regulation than they

would have been in a competitive deregulated market.[10] Even so, industry growth, barriers to entry, and union bargaining strength allowed labor to protect its compensation following deregulation. Since 1978, airline industry salaries and total compensation experienced real increases, though with some decline since 2002 (see fig. 4). Inflation-adjusted benefits per employee grew on average from $14,703 in 1979 to $24,852 in 2004, a real increase of almost 70 percent. Meanwhile, inflation-adjusted salaries per employee grew from $52,295 in 1979 to $54,848 in 2004 on average, a real increase of less than 5 percent. Despite this increase in compensation costs, employee compensation as a share of total operating costs has declined since deregulation, especially since 2002 (see fig. 5). This decline in compensation costs as a share of total operating expense is attributable to falling employment levels, to large increases in capacity, and increases in other costs (especially for fuel). Employment began to decline with the industry downturn that began in 2000. As a result, measures of overall industry efficiency (as illustrated by available seat miles per employee in fig. 6) increased significantly. This is attributable to efficiency gains by legacy airlines during and under the threat of bankruptcy, and to more efficient low-cost carriers providing more capacity than previously.

[10]For example, David Card estimated that relative wages in the airline industry fell 10 percent following deregulation. See "Deregulation and Labor Earnings in the Airline Industry" *NBER Working Paper 5687*, July 1996. Pierre-Yves Crémieux estimated that flight attendants' earnings were at least 12 percent lower by 1985 and 39 percent lower by 1992 than if deregulation had not occurred, and that the corresponding shortfalls for pilots were 12 percent and 22 percent. See "The Effect of Deregulation on Employee Earnings: Pilots, Flight Attendants, and Mechanics, 1959-1992" *Industrial and Labor Relations Review*, Vol. 49, No. 2 (January 1996). Hirsch and Macpherson also estimated that airline wages decreased markedly during the later 1980s and early 1990s, despite continued union bargaining power. See "Earnings, Rents, and Competition in the Airline Labor Market" *Journal of Labor Economics*, Vol. 18, No. 1, January 2000, pp. 125-55.

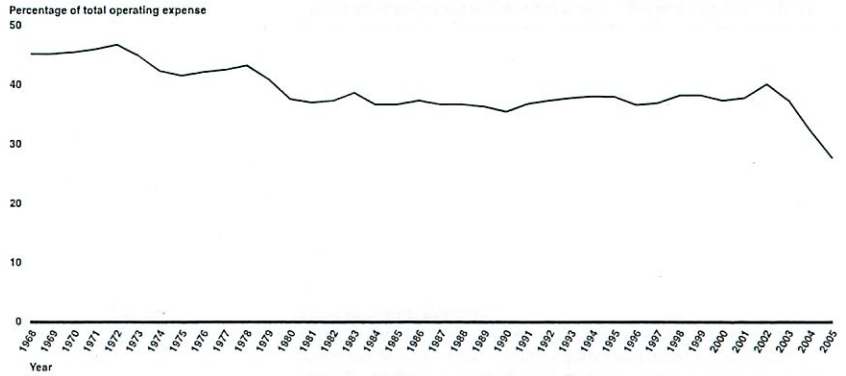
Figure 4: Airline Salaries and Benefits per Employee, 1968–2004



Source: GAO analysis of DOT Form 41 data.

Note: U.S. Domestic airlines, excluding cargo.

Figure 5: Airline Employee Compensation as a Share of Total Operating Expenses, 1968–2005

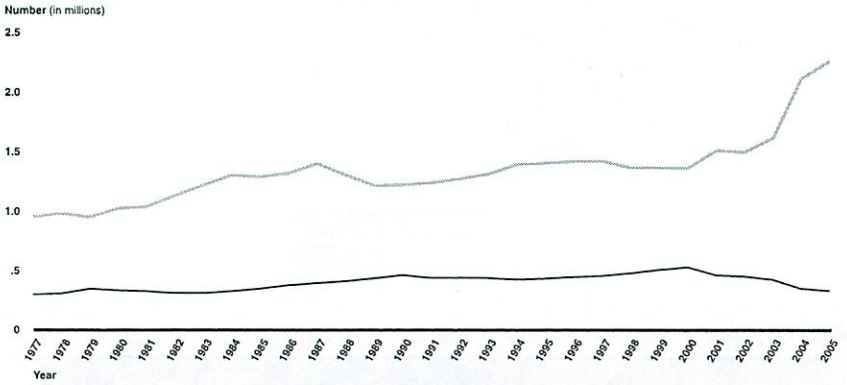


Source: GAO analysis of DOT Form 41 data.

Note: U.S. Domestic airlines, excluding cargo.

well oil has grown rapidly

Figure 6: Airline Industry Employment and Capacity (ASM) Per Employee, 1977–2005



Source: GAO analysis of DOT Form 41 data.

Note: Domestic airlines, excluding cargo. The total for full-time equivalencies (FTE) are the sum of all full-time employees and one-half of all part-time employees.

Legacy Airlines Remained Dominant until 2000, When Low-Cost Airlines Increased Market Share

here is where compensation fell

Following deregulation, legacy airlines were considerably larger and better financed than the host of small new airlines that entered the market place. Most of the new entrant airlines during the 1980s and 1990s failed. Large legacy airlines were generally able to retain market share despite new entrant airlines because of operating barriers—such as slot controls—and business practices—such as frequent flyer programs—that gave them competitive advantages. Larger and better-capitalized legacy airlines seeking to increase market share acquired weaker airlines—for example, American Airlines' acquisition of Reno Air. Legacy airlines built up their hub-and-spoke networks, which allowed them to build their traffic flows and fend off potential competitors. We and others reported on the higher fares experienced by passengers that had to use these "fortress hubs." Legacy airlines also developed regional, national, and international code-sharing arrangements to extend their networks and compete for domestic and international passenger traffic. During the 1990s, we repeatedly

reported on these and other barriers to entry that limited competition in the U.S. airline industry.[11]

Since the industry downturn that began in 2000, there has been a shift in the airline industry: a weakening of the financial condition of legacy airlines and an increasing market share for low-cost carriers. The consequences of an overburdened cost structure for legacy airlines became apparent after 2000 when demand fell, especially demand from premium-fare business travelers. Low-cost airlines, which generally did not have these cost structures, have been able to increase their market share, while legacy airlines have struggled to bring their costs down. As we reported in 2004, low-cost airlines increased their presence in the top 5,000 domestic city-pair markets by 44.5 percent; from 1,594 markets in 1998 to 2,304 markets in 2003.[12] In 1998, low-cost airlines operated in 31.5 percent of markets served by legacy airlines, providing a low-cost airline alternative to 72.5 percent of passengers. By 2003, low-cost airlines competed directly with legacy airlines in 45.5 percent of markets served by legacy airlines, serving 84.6 percent of passengers in the top 5,000 markets. While legacy airlines began to reduce their operating costs starting in 2001, they did so through capacity reductions and were not able to reduce their unit costs vis-à-vis low-cost airlines that were adding capacity.[13] We warned that legacy airlines could not survive with continued losses. In 2005, two legacy airlines (Delta and Northwest) entered bankruptcy and are currently attempting to reorganize.

Bankruptcy Has Been Used to Terminate Defined Benefit Pension Plans

In 2005, we examined the issue of airline bankruptcy and, in particular, how some airlines were using bankruptcy to terminate their defined benefit pension plans. We found that bankruptcy has been endemic to the airline industry since deregulation, with 162 bankruptcy filings since 1978, owing to the fundamental financial weaknesses of the airline industry.

[11]GAO, *Airline Competition: Effects of Airline Market Concentration and Barriers to Entry on Airfares*, GAO/RCED-91-101 (Washington, D.C.: April 26, 1991); *Airline Competition: Higher Fares and Less Competition Continue at Concentrated Airports*, GAO/RCED-93-171 (Washington, D.C.: July 15, 1993); *Airline Deregulation: Changes in Airfares, Service Quality, and Barriers to Entry*, GAO/RCED-99-92 (Washington, D.C.: March 4, 1999).

[12]In 2003, the top 5,000 city-pair markets accounted for 92 percent of domestic passenger traffic.

[13]GAO, *Commercial Airlines: Legacy Airlines Must Further Reduce Costs to Restore Profitability*, GAO-04-836 (Washington, D.C.: Aug. 11, 2004).

Despite the prevalence of bankruptcy, however, we found no evidence that bankruptcy harmed the airline industry by contributing to overcapacity or by underpricing. Nevertheless, we expressed concern about the use of bankruptcy to terminate defined benefit pension plans because of the costs to the federal government as well as to employees and beneficiaries. USAirways and United, subjected to intense cost pressures from growing low-cost airlines like Southwest, entered bankruptcy and terminated their labor contracts and pension plans. The pension plan terminations cost PBGC nearly $10 billion and plan participants lost more than $5 billion in promised benefits that are not covered by PBGC.[14] If Delta and Northwest, which entered bankruptcy in 2005, similarly terminate their pension plans, the costs to PBGC and plan participants will be even greater. At present, only American Airlines and Continental have active defined benefit pension plans, while the remaining airline plans are either terminated or frozen.[15] In total, active and frozen airline plans were underfunded by almost $15 billion at the end of 2005, according to Securities and Exchange Commission filings.

Real Fares Have Declined and Service Has Expanded since 1980

Airfares have fallen in real terms over time, with round-trip median fares almost 40 percent lower since 1980.[16] However, fares in short-distance markets (less than 250 miles) and "thin" markets (the bottom 20 percent of passenger traffic) have not fallen as much as those for longer distances or in heavily traveled markets. Price dispersion—that is, the extent to which passengers in the same city-pair market pay different fares—has also declined since 2003, likely indicating consumers' unwillingness to pay the very high fares airlines were able to charge in the late 1990s. The extent to which these benefits are attributable to deregulation as opposed to other factors, such as advances in technology, is uncertain. Various studies have attributed significant consumer benefit to deregulation, but estimating this benefit depends on several major assumptions and is not free of controversy. The decline in fares coincided with a growth in passenger

[14]PBGC may pay only a portion of the benefits originally promised to employees and retirees. For 2006, the maximum statutory limit of annual benefits guaranteed by PBGC is $47,659.08, for retirement at age 65. The amount paid decreases at earlier retirement ages.

[15]Aloha, Alaska, Delta, Hawaiian, and Northwest airlines have frozen their defined benefit pension plans. Continental Airlines has frozen its pilots' plan. Freezing a plan means that no additional benefits accrue, but assets and liabilities (and, therefore, the plan's funded status) can change. USAirways and United's plans were terminated and the remaining assets and benefit obligations were assumed by PBGC.

[16]We analyzed changes in fares in constant 2005 dollars.

traffic and increased competition over the period. While large communities and markets have experienced large gains in the number of passengers and service, as well as increased competition, small communities and markets have experienced much smaller gains. On average, however, the number of competitors in city-pair markets grew from 2.2 in 1980 to 3.5 in 2005.

Real Fares Have Declined, but Declines Have Varied by Market

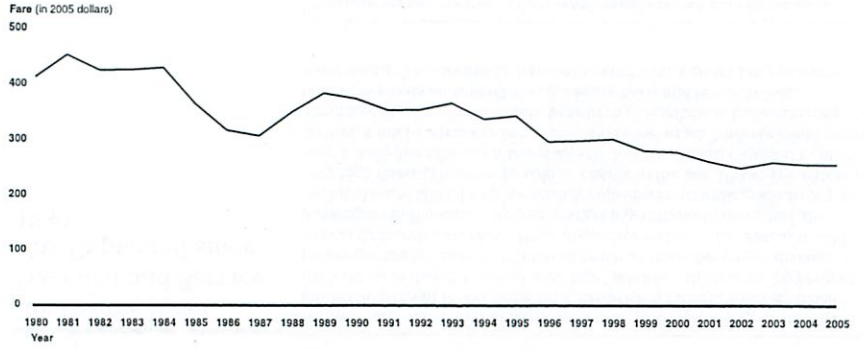
Our analysis of DOT's ticketing data from 1980 to 2005 shows substantial decreases in median fares since 1980, with an overall decrease of nearly 40 percent for median round-trip fares since that time. In addition, our analysis shows a convergence of fares across trip distances, although substantial differences in fares by trip length and by market size remain. In recent years, passengers flying long distances or in medium to large markets have paid much lower fares as compared with 1980 fares, while those flying in smaller markets or over shorter distances today have seen a smaller reduction in fares as compared with 1980 fares. Finally, the difference between the fares paid by customers flying within the same routes began to decline in 2003, after increasing in the years following deregulation.

Overall, median round-trip fares have declined 38 percent since 1980, falling from $414 to $256.[17] The largest decreases occurred in the late 1980s, but the overall trends have continued down in subsequent years.[18] Figure 7 provides information about median round-trip fares.

[17]We are reporting data for round-trip itineraries flown on domestic airlines as collected in DOT's Origin and Destination Survey. These data do not include information for tickets reported by Southwest Airlines before the third quarter of 1998, however. Until that time, the airline followed nonstandard reporting procedures and reported all itineraries as one-way trips. Thus, round-trip itineraries were reported as two separate one-way trips. Generally, median round-trip fares since 1999 have been between $17 and $25 lower with the inclusion of the Southwest Airlines fares than they would have been without the Southwest fares. For more information about the effects of Southwest's reporting process, see appendix I.

[18]Median round-trip fares per mile, or yields, also dropped substantially, decreasing over 50 percent in the same time period from 32 to 15 cents per mile.

Figure 7: Median Round-Trip Fare, 1980–2005

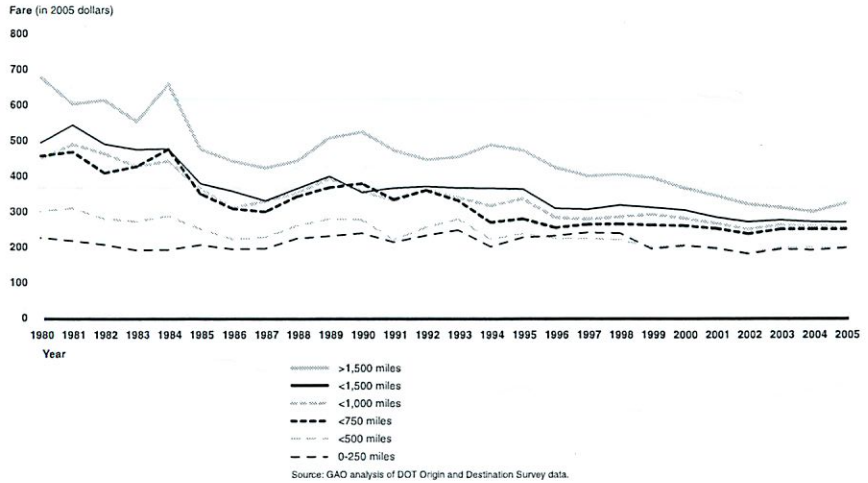


Source: GAO analysis of DOT Origin and Destination Survey data.

Median fares have converged when compared by the distance traveled since deregulation. In 1980, median fares ranged from $680 for trips longer than 1,500 miles to $230 for trips of 250 miles or less— reflecting the pricing structure in place under regulation, which linked fares to costs while subsidizing shorter routes.[19] Since that time, however, fares have converged toward the low end of this range, with the longest trips now averaging just $326, a drop of 52 percent. Median fares for the shortest trips, in contrast, have not fallen as much. For trips of 250 miles or less, median fares have fallen 13 percent to $201. Figure 8 provides information about median fares by distance categories.

[19]Under regulation, shorter trips were effectively subsidized by longer-haul routes, given that CAB set fares relatively lower in short-haul markets in the belief that passengers traveling shorter distances would not choose air travel if they had to pay the full cost of service.

Figure 8: Round-Trip Median Fares, 1980–2005



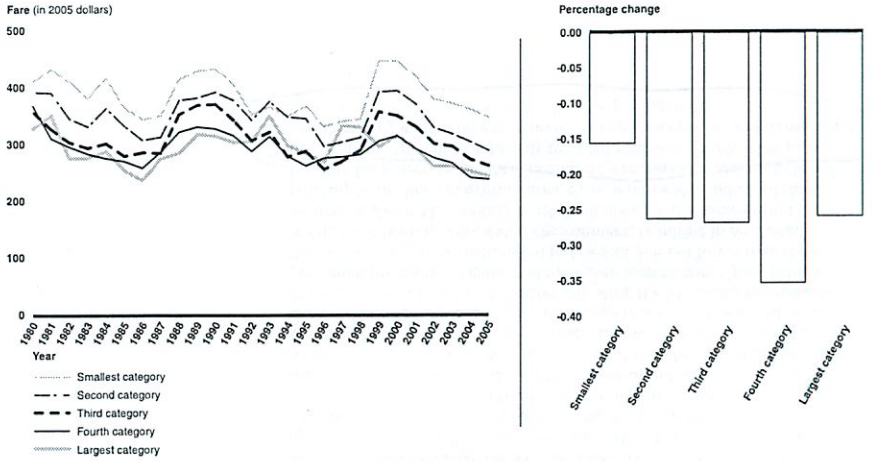
Source: GAO analysis of DOT Origin and Destination Survey data.

The size of the market has also affected how fares have changed since deregulation.[20] The smallest markets continue to have the highest average fares, and have seen the smallest reduction in these fares (see fig. 9). In 1980, passengers flying in the smallest markets paid $412 on average for their tickets, while those flying in the largest markets paid $329. By 2005 average fares in the smallest markets had fallen 16 percent to $348, while passengers in the other markets we analyzed saw their fares fall 26 percent or more on average. Examples of city pairs in the smallest-market category

[20]We divided city-pair markets into five categories based on the number of passengers in each with the number of passengers roughly equal in each category. In 1980, the quintiles averaged just over 452,000 passengers, and the smallest quintile accounted for 85 percent of the 7,739 markets included in our analysis. By 2005, the categories averaged just over 1.1 million passengers, and nearly 90 percent of the 12,090 markets were in the smallest quintile.

in both 1980 and 2005 include the Atlanta, Georgia–Joplin, Missouri route; and the Great Falls, Montana–Sacramento, California route. In contrast, the Boston, Massachusetts–New York, New York route; and the Chicago, Illinois–Los Angeles, California route, were in the largest-market category in both 1980 and 2005.

Figure 9: Mean Fares by Market Size, 1980–2005



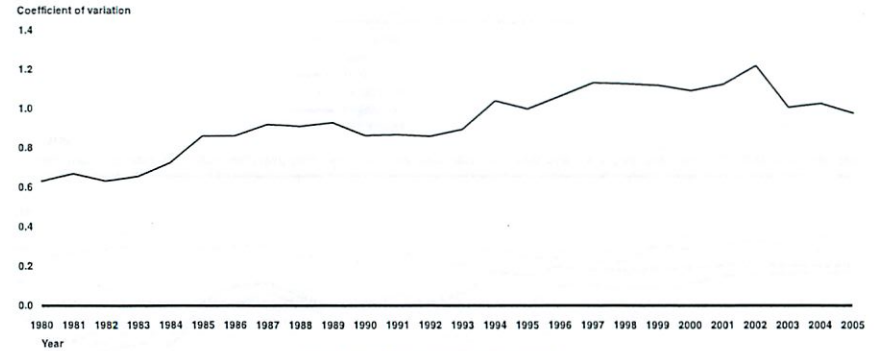
Source: GAO analysis of DOT Origin and Destination Survey data.

While median fares trended down steadily after deregulation, the differences in the prices paid by individual customers in the same city-pair market grew, most notably in the 1990s with the increased use of yield-management systems by airlines.[21] The dispersion of fares began to decline

[21]Yield management (also known as "revenue management" or "real-time pricing") is a pricing policy for optimizing profits generated by the sale of a product or service by segmenting markets, based on real-time modeling and forecasting of demand behavior per market micro-segment.

in 2003, however, when changes in the overall economy and a decline in the willingness of some passengers to pay higher fares for premium service—notably business passengers—likely combined with the increased use of the Internet for ticket purchases to reverse some of the prior increases in ticketing variation. Since then, the variability of fares has decreased, meaning that fares for most tickets sold are now generally more similar to average fares.[22] Figure 10 illustrates the coefficient of variation, or dispersion, of round-trip yields.[23]

Figure 10: Dispersion of Yields within Routes (Coefficient of Variation), 1980–2005



Source: GAO analysis of DOT Origin and Destination Survey Data.

Note: The coefficient of variation is the standard deviation divided by the mean.

[22]The dispersion or variability of fares is measured as the coefficient of variation, which is the standard deviation divided by the mean. It provides a measure of the difference from the mean—or average—fare. We examined the coefficient of variation within routes to account for variations in the price per mile paid by customers in the same city-pair markets.

[23]Price per mile, or yield, standardizes revenue by distance, allowing for the comparison of fares paid without regard to the length of trip.

Studies Have Found Fare Reductions but Vary in the Degree to Which They Credit Deregulation

Many studies have estimated that consumers have benefited from deregulation. Assessments of these benefits, however, vary substantially as have the methodologies used. One approach is to calculate the difference between actual fares and a benchmark proxy measure of what fares might have been had the industry remained regulated. Any differences are then attributed to the effects of deregulation. Some studies using this approach have used the Standard Industry Fare Level (SIFL) to approximate the regulated fare and concluded that consumers as a whole have benefited from lower fares resulting from deregulation.[24] For example, in 2005 Rose and Borenstein compared postderegulation fares to the SIFL and estimated that 2004 fares were about 30 percent lower than what the comparative regulated fares would have been, resulting in a $5 billion savings to passengers that year.[25] Likewise, Winston and Morrison used the same proxy in 1995 and estimated that real fares declined about 33 percent from 1976 to 1993. After adjusting the SIFL data to account for presumed productivity gains and increased load factors,[26] they estimated that, on average, deregulation led to fares 22 percent lower than they would have been in a regulated environment, resulting in an annual savings of about $12.4 billion in 1993 dollars over the same period.[27] While pointing to declines in overall fares, these studies also indicated that benefits have been unevenly distributed by market size and route length. In fact, those traveling on heavily traveled routes are likely to be paying less than they would have paid under a regulated system, and those flying on shorter-distance routes are likely to be paying more.

[24]SIFL fare data are available at approximately 6-month increments from the Office of Aviation Analysis. They are updated to reflect changes in airline operating costs per available seat-mile (ASM), and are intended to approximate unrestricted coach fares. They are used by the Internal Revenue Service to impute the value of free transportation provided on corporate aircraft.

[25]Severin Borenstein and Nancy Rose, "Regulatory Reform in the Airline Industry" (paper prepared for the National Bureau of Economic Research Conference on Regulation, Sept. 2005).

[26]Load factor is a measure of the percentage of seats filled. Load factor is calculated by dividing RPM by ASM.

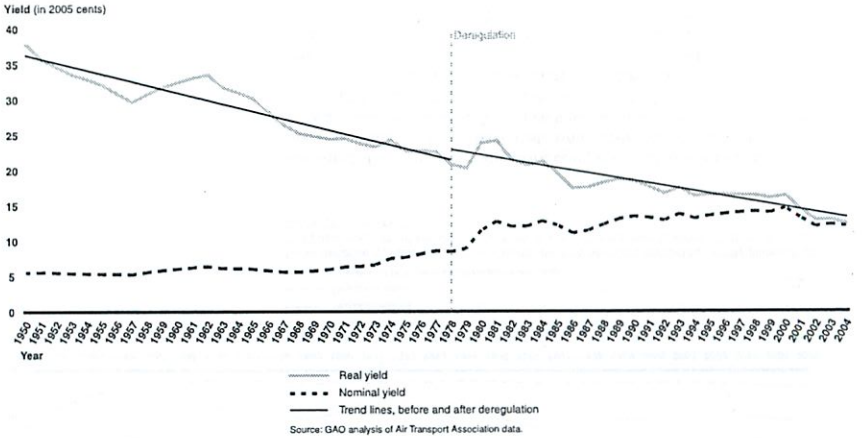
[27]Winston and Morrison adjusted the provided SIFL data by 1.2 percent, accounting for a 1.45 percent increase in costs from greater efficiency through 1983 and a 0.25 percent decrease for higher load factors. For more information, see Steven A. Morrison and Clifford Winston, *The Evolution of the Airline Industry*, first edition (Washington, D.C.: The Brookings Institution, 1995).

Some experts have questioned the extent to which deregulation can be credited for decreases in airfares since 1978, and draw attention to the difficulty in measuring impact. First, a former CAB and DOT official, who participated in CAB route awards and fare determinations and later calculated the SIFL for DOT, points out that the fare ceilings used by CAB under regulation—calculated as the Domestic Passenger Fare Investigation (DPFI)—were more complicated than their proxies. Rose and Borenstein also acknowledged that using the SIFL as a proxy for the CAB regulated fare may be increasingly implausible, given that it is unlikely that the same cost assumptions would have been used for the 27 years following deregulation. As a result, using the SIFL to approximate airline fares under regulation may overestimate the savings resulting from deregulation. For example, while the DPFI fare calculations took several factors into account, including depreciation and capacity, the SIFL calculations primarily consider airline costs.[28] The former DOT official further noted that the DPFI calculations allowed for discounted fares if load factors were increased to offset the fare reduction, something not reflected by the SIFL fare. Second, some experts have pointed out that fares were already declining before deregulation, thus making it difficult to attribute changes in the industry to deregulation rather than improvements in productivity and other factors.[29] In fact, real average fares paid per mile (yields) since 1962 do show a steady decline, reflecting both CAB fare setting flexibility and cost-savings following the introduction of jet service in the early 1960s, but without a sharp break in 1978 following the deregulation of the industry (see fig. 11).

[28]The DPFI fare calculations took several factors into account including revenue, expenses, depreciation, capacity, seating arrangement, equipment type, and load factors. They were based on reported traffic levels for any fare class accounting for at least 5 percent of revenue passenger miles. The DPFI fare served as a fare ceiling based on a 55-percent load factor and a standard seating adjustment.

[29]See Paul Stephen Dempsey, *Flying Blind: The Failure of Airline Deregulation.* (Washington, D.C.: Economic Policy Institute, 1990).

Figure 11: Real Yield Trends, 1950–2004



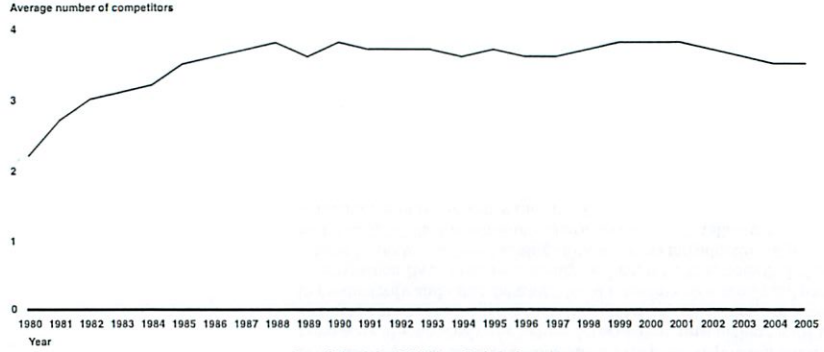
Source: GAO analysis of Air Transport Association data.

Airline Traffic Has Grown and Markets Are More Competitive, Though to a Lesser Degree in Small Markets

As predicted by deregulation, airline city-pair markets have become more competitive since deregulation. As shown in figure 12, the average number of effective competitors (any airline that carries at least 5 percent of the traffic in that market) in any city pair increased from 2.2 in 1980 to 3.5 in 2005.[30] By 2005, 76 percent of the city-pair markets we analyzed had three or more carriers compared with 34 percent of all city-pair markets in 1980 (see fig. 13). By contrast, the percentage of city-pair markets with only one carrier decreased from 20 percent in 1980 to 5 percent in 2005. As these two figures show, most of the increase in competition occurred during the 1980s, just after deregulation.

[30]Because of statistical sampling issues, we analyzed competition only in city pairs with at least 118 passengers in our sample in any given quarter. This equates to about 1,180 actual flying passengers.

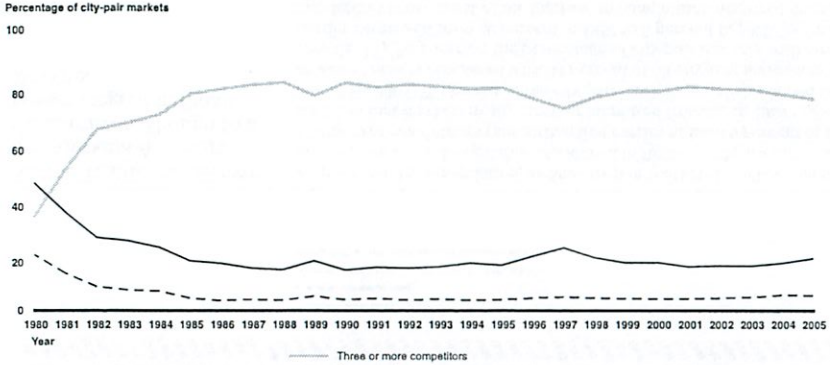
Figure 12: Average Number of Effective Competitors, 1980–2005



Source: GAO analysis of DOT Origin and Destination Survey data.

Note: Because of statistical sampling issues, we only analyzed competition in city pairs with at least 118 passengers in our sample in any given quarter. This equates to about 1,180 actual flying passengers per quarter.

Figure 13: Percentage of Markets by Number of Effective Competitors, 1980–2005

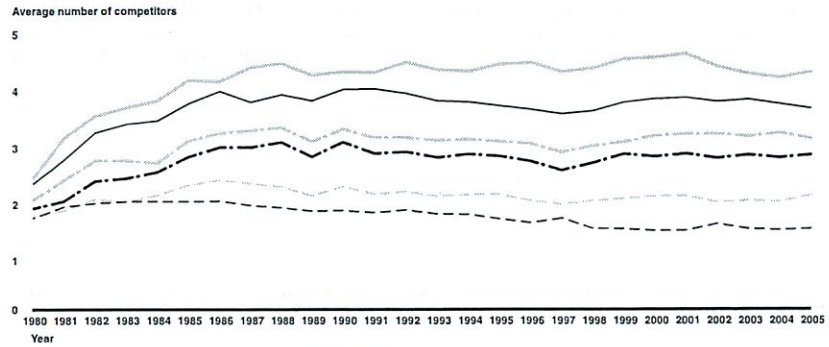


Source: GAO analysis of DOT Origin and Destination Survey data.

Note: Because of statistical sampling issues, we only analyzed competition in city pairs with at least 118 passengers in our sample in any given quarter. This equates to about 1,180 actual flying passengers per quarter.

Longer-distance markets are more competitive than shorter-distance markets, some of which have lost competitors since 1980. While city pairs with a distance of over 1,500 miles have seen an increase in the average number of carriers from 2.3 in 1980 to 4.2 in 2005, markets shorter than 250 miles have seen a decrease from 1.6 in 1980 to 1.4 in 2005 (see fig. 14). This difference exists in large part because longer-distance markets have more viable options for connecting over more hubs. For example, a passenger on a long-haul flight from Harrisburg, Pennsylvania, to Seattle, Washington (a distance of over 2,000 miles), would have options of connecting through six different hubs, including Cincinnati, Chicago, and Detroit. By comparison, a passenger from Harrisburg to Rochester, New York (a distance of just over 200 miles), has three viable connecting options.

Figure 14: Average Number of Effective Competitors by Distance Traveled, 1980–2005



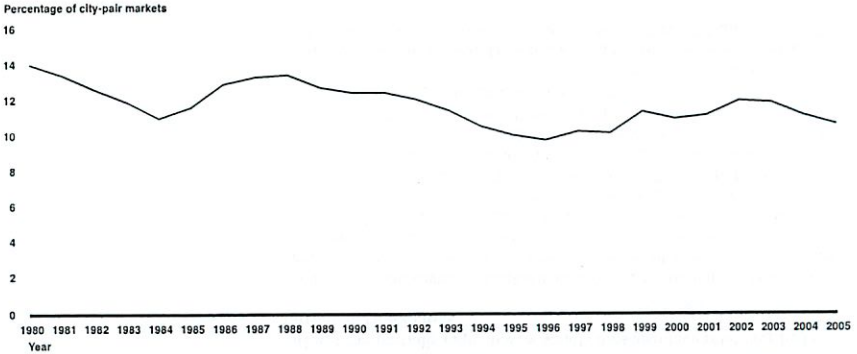
Source: GAO analysis of DOT Origin and Destination Survey data.

Note: Because of statistical sampling issues, we only analyzed competition in city pairs with at least 118 passengers in our sample in any given quarter. This equates to about 1,180 actual flying passengers per quarter.

Passenger Traffic Is More Concentrated despite Growth in the Number of City Pairs since 1980

Passenger traffic, already concentrated in relatively few city-pair markets in 1980, has become more concentrated. In 1980, 80 percent of passenger traffic occurred in the largest 14.1 percent of all city-pair markets, but by 2005, that same percentage of traffic occurred in the largest 10.7 percent of all city-pair markets (see fig. 15). While large markets have seen substantial gains in traffic, smaller markets have not, and in many cases have actually seen declines in traffic since deregulation. For example, while the number of passengers flying between Washington, D.C., and Los Angeles grew 327 percent between 1980 and 2005 in our sample, the number traveling between Boston and Cedar Rapids, Iowa, decreased 49 percent.

Figure 15: Percentage of Airline City-Pair Markets with 80 Percent of Passengers, 1980–2005



Source: GAO analysis of DOT Origin and Destination Survey data.

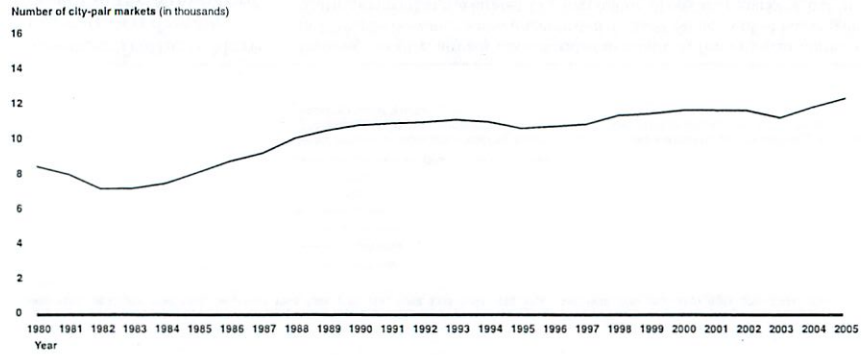
Note: Because of statistical sampling issues, we only analyzed service in city pairs with at least 13 passengers in our sample in any given quarter. This equates to about 130 actual flying passengers per quarter.

The number of city-pair markets has increased modestly since 1980. Largely owing to an overall growth in traffic, the number of city pairs with at least 13 passengers in the sample per quarter (which equates to about 130 actual passengers per quarter) increased by over 3,800 city-pair markets between 1980 and 2005, from about 8,500 to over 12,300 (see fig. 16).[31] However, few cities have gained air service since deregulation because the airport system was already largely developed at the time of deregulation, so the number of cities that could be connected would not be expected to have changed much since deregulation. Instead, many city-

[31]In analyzing service measures, we counted only city-pair markets with at least 13 passengers per quarter in our sample, which equates to about 130 actual flying passengers. This was to increase the probability that changes in service we observed in our sample reflected actual flow routes and was not due to sampling or data error. In 2005, 99 percent of passengers in our sample were in those city-pair markets with at least 13 passengers in the sample.

pair markets that could be connected did not have enough actual passengers reflected in the sample data to be counted.[32]

Figure 16: Number of City-Pair Markets with at Least 130 Passengers per Quarter, 1980–2005



Source: GAO analysis of DOT Origin and Destination Survey data.

Notes:

(1) Our analysis includes only one-way tickets with a maximum of three coupons and round-trip tickets with two, four, or six coupons. A coupon is issued for each segment of an itinerary so that a passenger connecting once on a one-way flight is issued two coupons.

(2) Because of statistical sampling issues, we only analyzed service in city pairs with at least 13 passengers in our sample in any given quarter. This equates to about 130 actual flying passengers per quarter.

Smaller Communities Have Not Experienced Comparable Benefits since Deregulation

Smaller communities, in general, have not experienced the same increases in traffic and air service as larger cities since deregulation—particularly in recent years, when many small cities lost service or experienced a decline in the number of departures. For example, we reported in 2005 that while large, medium, and small-hub airports have seen traffic rebound since

[32]For example, a passenger could fly between the two small EAS cities of Crescent City, California, and Presque Isle, Maine, with a sufficient number of connections, but it is unlikely that many passengers have done so or, if they have, that they would be in the sample.

Gao reports say the same thing over tover

September 11, 2001, nonhub airports had 17 percent fewer flights in July 2005 than in July 2000.[33] Additionally, we reported in 2002 that traffic at EAS communities decreased 20 percent from 1995 to 2002. However, lack of service for small communities is not solely a problem of the deregulated era. We reported in 1985 that in the 10 years leading up to deregulation, 137 small communities lost all commercial air service.

The primary reason for diminished service to smaller communities is the lack of a population base to support that service. Local air traffic is directly related to both local population and employment. For small communities located close to larger cities, these demand reductions are exacerbated because local passengers drive to airports in larger cities to access better service and lower fares. We reported in 2002 that some EAS airports serve only about 10 percent of the intercity traffic to and from their city because many travelers instead drive to alternative airports or to their destination. Small communities have not benefited from the service of low-cost carriers; as we reported in 2005 only 5 of over 500 nonhub airports received low-cost carrier service. Lack of service from low-cost airlines can partially explain why small cities also face relatively higher fares than larger cities do.

Similarly, longer-distance markets have seen greater gains in traffic than shorter-distance markets. Passengers on routes of 1,500 (or more) miles increased 312 percent between 1980 and 2005, while passengers on routes between 250 and 499 miles grew 68 percent in our sample. For example, while traffic between Dallas-Fort Worth, Texas, and Hartford, Connecticut—a distance of 1,470 miles—grew 477 percent between 1980 and 2005, traffic between New York and Raleigh-Durham, North Carolina—a distance of 427 miles—fell 19 percent in our sample. Short-distance markets lost a large share of their passengers after September 11, 2001, in part because the increased time required for security measures makes driving a more viable alternative. The frequency of short-haul flights has also decreased. DOT found that the number of scheduled flights under 250 miles decreased 26 percent between July 2000 and July 2005,

[33]The FAA classifies airports based on an airport's total enplanements as a percentage of the total in the United States in any year. Large hubs are those with at least 1 percent of total enplanements, medium hubs with between 0.25 percent and 1 percent of enplanements, small hubs with between 0.05 percent and 0.25 percent of enplanements, and nonhubs as those with less than 0.05 percent of total enplanements.

while the number of flights of over 1,000 miles increased by 15 percent during that time.[34]

The Average Number of Connections per City-Pair Market Has Increased Since Deregulation

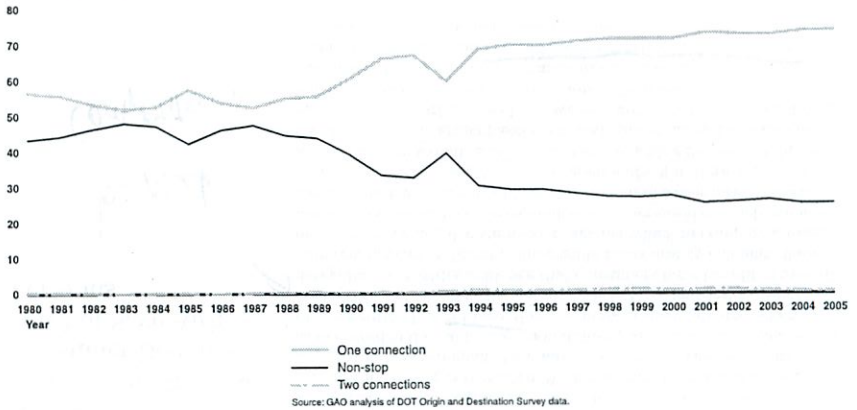
Our analysis indicates that the average number of connections needed, at a minimum, to connect any two cities has increased since 1980. Figure 17 shows the percentage of all city-pair markets in our sample with at least 13 passengers per quarter (or 130 actual passengers) that can be connected nonstop, with one connection, or with two connections.[35] Very few city-pair markets currently require two connections. The average number of connections needed to connect any two city-pair markets increased from 1.6 in 1980 to 1.7 in 2005, which is likely attributable to the development of hub-and-spoke networks to connect airline traffic. For some passengers this development has increased the number of connections needed. For example, in 1980, passengers traveling between Philadelphia, Pennsylvania, and Tulsa, Oklahoma, could fly nonstop, but by 2005 one connection was required. While there may have been declines in nonstop connectivity for many small city-pair markets, the overall ability of passengers to connect to wider markets through hubs has likely improved. The shift from shorter-range turboprop planes to longer-range regional jets has allowed cities that are too small to support mainline jet service, but too far from hubs for turboprop service, to be connected to hubs, increasing the number of one-connection city-pair opportunities.[36]

[34]DOT, *Aviation Industry Performance: Trends in Demand and Capacity, Aviation System Performance, Airline Finances, and Service to Small Airports*, CC-2005-057 (Washington, D.C.: June 30, 2005), p. 13.

[35]Our data counted the number of coupons, or "flight segments," per ticket. While a one-coupon trip would not require a passenger to connect between two different planes at an intermediate hub, it does not necessarily mean that the flight is nonstop. A passenger on a flight that makes a stop and then continues with the same flight number to a different destination would be considered as having been on a nonstop flight. There is no way to determine the number of passengers in our data sample that this scenario applies to.

[36]GAO, *Aviation Competition: Regional Jet Service Yet to Reach Many Small Communities*, GAO-01-344 (Washington, D.C.: Feb. 14, 2001). We reported in 2001 on airlines' use of regional jets to provide service in new markets that were more distant than previous markets served with shorter-range turbuprop service. For example, regional jet service was used by American Airlines in 1999 to directly connect Grand Rapids, Michigan, to Dallas, Texas, whereas previously American only served Grand Rapids with turboprop service to Chicago, Illinois. These new, longer, nonstop markets have increased the flight opportunities for many communities by connecting them directly with a greater number of hub airports.

Figure 17: Percentage of Markets and the Minimum Number of Connections, 1980–2005



Source: GAO analysis of DOT Origin and Destination Survey data.

Note: Because of statistical sampling issues, we only analyzed service in city pairs with at least 13 passengers in our sample in any given quarter. This equates to about 130 actual flying passengers.

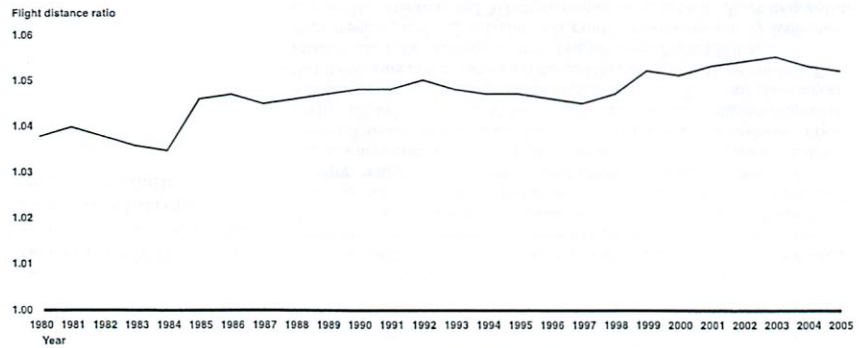
The largest markets are generally served by nonstop service. In 2005, 88 percent of passengers traveled in city-pair markets that included nonstop service and less than 1 percent of passengers traveled in city-pair markets that required two connections.[37] However, because many passengers in directly connected markets may choose to fly with a connection (e.g., in exchange for a lower fare), the actual number of passengers flying without a connection is lower. For example, while passengers flying between Seattle and Tampa, Florida, could fly nonstop in 2005 (and were able to in 1980), they could also choose to connect through a number of hubs,

[37]City pairs with under 13 passengers per quarter were not included in this analysis due to sampling issues. It is likely that many of those markets, due to their small size, require at least one connection.

including Chicago, Atlanta, and Denver, Colorado, for a number of reasons. Our data do not distinguish between passengers who flew with one or two connections out of necessity (e.g., because of no better option in their market) or voluntarily when a direct flight was available. Additionally, the development of hubs has helped bring about increases in flight frequencies, allowing some passengers taking connecting flights to benefit from better flight times and reduced connection times.

As another means of measuring changes to connectivity over time, we calculated a flight distance ratio. This ratio, also known as "circuity," measures the total miles flown on a trip (adding up the distance of all segments of a flight) divided by the distance between origin and destination. A nonstop flight would have a ratio of 1, and a ticket with at least one stop would have a higher ratio the farther out of the way the connections were between origin and destination. Figure 18 shows that, since 1980, the flight distance ratio has slowly risen. Much of this increase is likely due to the increased use of connecting flights.

Figure 18: Flight Distance Ratio, 1980–2005



Source: GAO analysis of DOT Origin and Destination Survey data.

By other measures of airline service—not covered by DOT's Origin and Destination Survey data such as flight frequencies, flight delays, and amenities—service has been mixed. For example, in 1999 we reported that

medium and large communities had significant improvements in their number of departures, nonstop destinations served, and use of jet service since deregulation.[38] However, by other measures, service has deteriorated, especially in recent years as traffic has rebounded. For example, DOT has reported that 77.4 percent of flights arrived ontime in 2005, compared with 82.1 percent in 2002 and 79.4 percent in 1990. Additionally, DOT reported that the agency received almost 7,000 consumer complaints in 2005, an increase of over 50 percent from 2003.[39]

Evidence Suggests That Reregulation of Airline Entry and Rates Would Reverse Consumer Benefits and Not Save Airline Pensions

According to our analysis of the evidence, reregulation of airline entry and rates would not benefit consumers and the airline industry. Although some aspects of customer service might improve, reregulation would likely reverse many of the gains made by consumers, especially lower fares. While numerous industries have been deregulated over the last 30 years, very few have been reregulated. We found that the few instances in which an industry was reregulated stemmed from inadequate competition, such as occurred in the cable television industry after it was deregulated. Lack of competition has not been the case in the airline industry, where competition has been keen. Our analysis of fares and service since deregulation provides evidence that consumers have benefited over the intervening years. While it is impossible to accurately calculate these gains because no regulated system exists against which to compare deregulated fares, deregulation has corresponded with increased competition in the airline industry, which has likely contributed to lower fares and a larger airline market than might have prevailed without it. Reregulating the airline industry would have ramifications reaching far beyond the fare and service effects on airline passengers and communities. For example, the higher fares for airline travel that would likely result from reregulating the industry could shift some of the nation's 670 million domestic airline passengers to other modes of transportation that are neither as safe nor efficient as air travel, and considerable infrastructure investment would be required to handle the increased demand.

too much competition?

Or just stricter pension laws if they wanted to do it politically

[38]This report defined large communities as those with metropolitan populations of over 1.5 million people, medium-large communities as those with metropolitan populations between 600,000 and 1.5 million people, medium communities as those with metropolitan populations between 300,001 and 600,000 people, and small communities as those with metropolitan populations of 300,000 or less.

[39]The number reported by DOT is based on formal complaints filed by consumers with the DOT.

Restoring service to some small communities is an insufficient reason to reregulate airline entry and rates. We previously reported that small communities face a range of fundamental economic challenges in attracting and retaining commercial air service. Among these challenges is the lack of a population base or economic activity that could generate sufficient passenger demand to make service profitable to airlines. Smaller communities located near larger airports may also face reduced demand because they do not have low-cost airlines or frequent service. Despite these challenges, smaller city-pair markets have generally experienced lower fares since deregulation—just not to the degree that the largest city-pair markets have. The smallest city-pair markets in our analysis have also experienced a net gain in the number of connections and in overall traffic since deregulation. If Congress determines that these markets are underserved, it might more directly address service to small communities through targeted legislation—such as increasing subsidies for EAS—than through wholesale reregulation.

Finally, reregulating the airline industry would not salvage airline pensions. Legacy airlines' financial problems are the result of the same competitive forces that contributed to lower fares for consumers. The demise of airlines since deregulation has been endemic to the airline industry, as more efficient airlines have taken market share from less efficient airlines. As we found in our 2005 report on airline bankruptcies and pension problems, pension losses were attributable to market forces, poor airline management and union decisions, and inadequate pension funding rules—including insufficient funding requirements and the inadequate relationship between premiums paid by plan sponsors and PBGC's exposure to financial risk. These factors also led to the termination of pensions in other industries with large legacy pension costs, such as steel. Increasing fares via government-imposed price floors similar to those that existed prior to 1978 would be an inefficient means of ensuring that airlines would generate sufficient revenues to adequately fund their pension plans, especially when most airlines no longer offer defined benefit plans. Congress is currently considering changes to defined benefit pension regulation, including specific provisions that would grant airlines additional time to fund frozen defined benefit plans and thereby avoid plan terminations. We have previously recommended that Congress consider broad pension reform that is comprehensive in scope and balanced in effect.

Agency Comments

We provided a draft of this report to DOT for its review and comment. DOT officials provided some clarifying and technical comments that we incorporated where appropriate.

We provided copies of this report to the Secretary of Transportation and other interested parties and will make copies available to others upon request. In addition, this report will be available at no charge on our Web site at http://www.gao.gov.

If you or your staff have any questions on matters discussed in this report, please contact me on (202) 512-2834 or at heckerj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report can be found in appendix II.

JayEtta Z. Hecker
Director, Physical Infrastrucutre

Appendix I: Scope and Methodology

To assess the original intent of Congress in passing the Airline Deregulation Act, we reviewed the act and accompanying legislative materials, and various other documents and studies. To ascertain the legislative intent of Congress in deregulating the airline industry, we reviewed the act, legislative reports, and floor debates. We also reviewed related court cases and studies and historical accounts of airline deregulation.

To evaluate past changes in the airline industry, we reviewed Department of Transportation (DOT) studies, our own studies, analyzed financial and operational data, and interviewed industry experts. We analyzed airline financial and operational data from DOT's Form 41 data set. We obtained these data from BACK Aviation Solutions, a private contractor that provides online access to U.S. airline financial, operational, and passenger data that are reported by airlines to DOT. To assess the reliability of these data, we reviewed the quality control procedures applied to the data by DOT and BACK Aviation Solutions and subsequently determined that the data were sufficiently reliable for our purposes.

To analyze changes to airline fares and service since deregulation, we used data from DOT's Origin and Destination Survey. Begun in 1979, the Survey captures airline-reported information about the full itinerary and fare paid from every tenth ticket to DOT. The survey does not include data on flight frequency, aircraft type, flight amenities, or other data that could be used to measure airline service. In the fourth quarter of 1998 DOT changed the name of the database from DB1A to DB1B and began collecting an additional data field to distinguish between the carrier that issued the ticket from the carrier that operated the flight (e.g., a flight operated by Air Wisconsin as a US Airways Express flight, connecting to a US Airways Express flight, connecting to a US Airways mainline flight—all issued by US Airways under the "US" code). To assess the reliability of these data, we reviewed the quality control procedures applied to the data by DOT and subsequently determined that the data were sufficiently reliable for our purposes.

We analyzed these data for the period from 1980 through the second quarter of 2005. We did not include 1979 data in our analysis because DOT staff reported that these data were not reliable, since many airlines had difficulties reporting data in the first full year of deregulation. We limited our analysis to data reported for the second quarter of every calendar year in order to avoid data reflecting increased summer travel or reduced winter travel. Furthermore, we limited our analysis to passenger itineraries wholly within the continental 48 states; thereby excluding

international itineraries and any travel to airports in Alaska, Hawaii, and U.S. dependencies. We excluded international fares and foreign carriers because international markets were not deregulated when domestic markets were. We excluded flights to or from Alaska, Hawaii and U.S. territories because of the long distances involved.

In general, we limited our analysis to a subset of round-trips and certain one-way trips between city pairs. We defined markets by city pairs rather than airport pairs. For cities served by multiple airports (e.g., the Dallas area includes both Dallas-Forth Worth International Airport and Dallas Love Field), we recoded all airports in the city to the one with the most enplanements. Thus, we identified round trips as those for which the final city on the ticket was the same as the originating city (even if the passenger record indicated, for example, that the trip originated at Dallas-Fort Worth and returned to Dallas Love Field). One-way trips were those in which no two cities in the ticket matched one another.

We included only round trips involving two, four, or six flight segments (coupons). These represent round trip itineraries that have no stops, one stop, or two stops in both directions. In counting the number of coupons used in each direction of a flight (i.e., outbound or return), we relied on the "trip break" codes that DOT assigns. These codes indicate the point in a passenger's itinerary at which the passenger begins the return trip. Because the data originally reported by the airlines do not unambiguously identify the point on a round trip at which the passenger begins the journey home, DOT applies an arithmetic algorithm that identifies the point in the itinerary farthest from the point of origination. However, because DOT's trip break codes may incorrectly identify the destination airport, we eliminated any tickets that had an unequal number of coupons before and after the DOT-assigned trip break. Thus, we eliminated all 3- and 5-coupon round trip tickets (e.g., one in which a passenger flies nonstop from Boston to Phoenix, Arizona, then to Denver, and back to Boston). On the other hand, we included records for roundtrips that had equal numbers of outbound and return coupons, but connected over different airports on the outbound and return segments (for example, New York to Los Angeles connecting in Chicago westbound and in Dallas-Fort Worth eastbound).

We analyzed changes in fares and yields in inflation-adjusted 2005 dollars, using the chain-weighted price index for gross domestic product. To compute the yield for every ticket, we divided the inflation-adjusted fare paid by the total distance between origin and destination for a one-way ticket or by double the distance between origin and destination for a

round-trip ticket. We excluded tickets with unusually high fares (i.e., those with yields in excess of $3 per mile in 2005 dollars), because according to industry researchers, these fares are likely to indicate data errors. We retained tickets in the analysis when the fare paid was $0, indicating trips "purchased" with frequent flyer rewards.

For our analyses of changes in fares and service, we divided city pairs into categories based on distance or passenger density. To determine the distance between city pairs, we calculated the distance between airports using the latitude and longitude of their locations. We then grouped all city pairs into 250-mile or 500-mile increments. We also determined the total number of sample passengers in each market. We then ranked, for each year, all markets by the number of passengers and grouped the markets into quintiles, in which each quintile had an even number of passengers.[1] Because the number of passengers in each market changed from year to year, the specific markets in each quintile also changed from year to year. Our analysis of service measures was conducted by only counting city-pair markets with at least 13 passengers per quarter in our sample, which equates to about 130 actual flying passengers. This was to increase the probability that changes in service we observed in our sample reflected actual flow routes and was not due to sampling or data error.

We defined "service" in terms of connectivity and the number of competitors in a market. We measured connectivity in two ways: the minimum number of flight segments available to connect two cities and the extent to which passengers needed to connect over distant hubs to reach their destination. We identified the minimum number of connections needed to connect any two cities and also determined whether that number changed over time. Additionally, because some passengers will choose to connect between two cities rather than take nonstop flights (e.g., because fares may be cheaper or the schedules may be more convenient), we weighted the coupons by passenger traffic to establish how most passengers traveled in the city pair. To determine whether passengers could fly more or less directly to their destinations, we calculated the distance between origin and destination along with the distance of every segment on the ticket. We then divided the sum of the segment distances by the distance between origin and destination (or

[1]Quintile breaks did not always result in quintiles that were exactly equal because, often, the smallest pair in the quintile had too many passengers to make the total for the quintile exact.

twice that distance if the flight was a round trip) to estimate how far out of the way the travelers went.

To analyze competition within markets and over time, for every city pair, we determined the market share for each reporting carrier, based on ticketed passengers, and counted only those carriers with at least 5 percent of the market as effective competitors. We excluded tickets with interlined flights in our analysis of city-pair competition. An "interlined flight" is one in which a passenger transfers from one to another unaffiliated carrier. That is, the passenger travels on at least two different reporting carriers. When analyzing city pairs for competition, we only analyzed those city pairs that, in any given quarter, had a minimum of 118 passengers in our sample (equaling a minimum of 1,180 real passengers in the market). This passenger minimum was derived to provide us an acceptably low probability of misclassifying carriers as effective competitors, that is, as having a 5 percent market share. For various scenarios, with this market size threshold, the probability of correctly classifying carriers was at least 95 percent.

We recognize that many other dimensions of service quality exist. In the past, we have reported changes in service quality in terms of available capacity out of particular cities, whether service was provided with jets or turboprop aircraft, and how many locations a passenger from a given city could reach on a nonstop basis. In addition, DOT collects other information on service quality, such as the percentage of on-time arrivals and departures and the number of consumer complaints about airlines. Because of time constraints on this engagement, we were unable to incorporate more of these dimensions in our analysis.

When DOT began requiring the survey data by airlines, Southwest Airlines received a waiver that allowed it to report data differently, because of its unique ticketing procedures, whereby it issued only one-way tickets. Under the waiver, Southwest reported its round trips to DOT as two separate trips, which were included in DOT's DB1A or DB1B databases. Southwest maintained this waiver until the third quarter of 1998, when it was required to report ticket data more accurately, including both directions of a ticket. During the period covered by the waiver, the number of one-way tickets in the sample was unnaturally high. Recognizing that the data could be biased as a result, we reanalyzed our sample data without the Southwest data and found that the results were only marginally different. Median round-trip fares since 1999 have been between $17 and $25 lower with the inclusion of the Southwest Airlines fares than they would have been without the Southwest fares. Therefore,

we did not exclude Southwest tickets after 1999 from our analysis of fares.[2]

To determine whether there is sufficient evidence to support reregulating the airline industry, we considered our findings under the prior questions and our earlier reports, especially those relating to pension regulation. We reviewed and updated the status of airline pension plans and assessed examples of deregulation and reregulation in other countries and in other industries. In addition, we reviewed our prior reports that have evaluated past problems in the airline industry, including small community service, barriers to entry, fare and service problems, and financial problems, including bankruptcy and pension issues. For this and the prior report questions, we reviewed our methods and results with DOT and academic experts from the Massachusetts Institute of Technology's Global Airline Industry Program.

We performed our work between September 2005 and May 2006 in accordance with generally accepted government auditing standards.

[2]Restrictions in place by the Wright Amendment still mean that Southwest passengers originating at Dallas Love Field and connecting in another airport must buy two separate tickets. As a result, tickets originating at Dallas Love Field will only indicate nonstop flights and may not always accurately reflect the true itineraries of travelers.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

JayEtta Z. Hecker (202) 512-2834 or heckerj@gao.gov

Acknowledgments

In addition to the contact named above, Steven C. Martin, Assistant Director; Paul Aussendorf; Jay Cherlow; David Hooper; Colin Fallon; Mitch Karpman; Molly Laster; Sara Ann Moessbauer; and Mathew Rosenberg made key contributions to this report.

(544116)