



MIT International Center for Air Transportation

***WHAT'S WRONG WITH (SOME) US AIRLINES?
Recent Airline Industry Challenges***

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Recent Airline Industry Challenges

- **US Airline Industry Since 2000**
 - 9/11 Attacks and Subsequent Events
 - Impacts on Capacity, Traffic and Profits
- **Pricing and Revenue Challenges**
 - Lower Total Industry Revenues
 - Growth of Low-fare Carriers
 - Fare Simplification
- **Cost and Productivity Challenges**
 - Unit Cost Comparisons
 - Stage Length and Aircraft Utilization
 - Shifts in Operating Cost Categories
- **Key Questions for the Future**



US Airline Industry Before 9/11

- **Current industry “crisis” began before 9/11:**
 - Dot.com bubble burst, stock market slide, and softening economy led to unprecedented decreases in yields and business traffic by mid-2001
 - Industry losses forecast for 2001 even before 9/11 attacks
- **Other airline industry concerns at the time:**
 - Air transportation system capacity constraints led to record flight delays in 2000
 - Consumer perceptions of poor service and airline indifference, exacerbated by delays
 - Dominance of large network airlines, accusations of anti-competitive actions vs. new entrants
 - Difficult labor/management relations, with labor demanding a share of 1990s airline profits



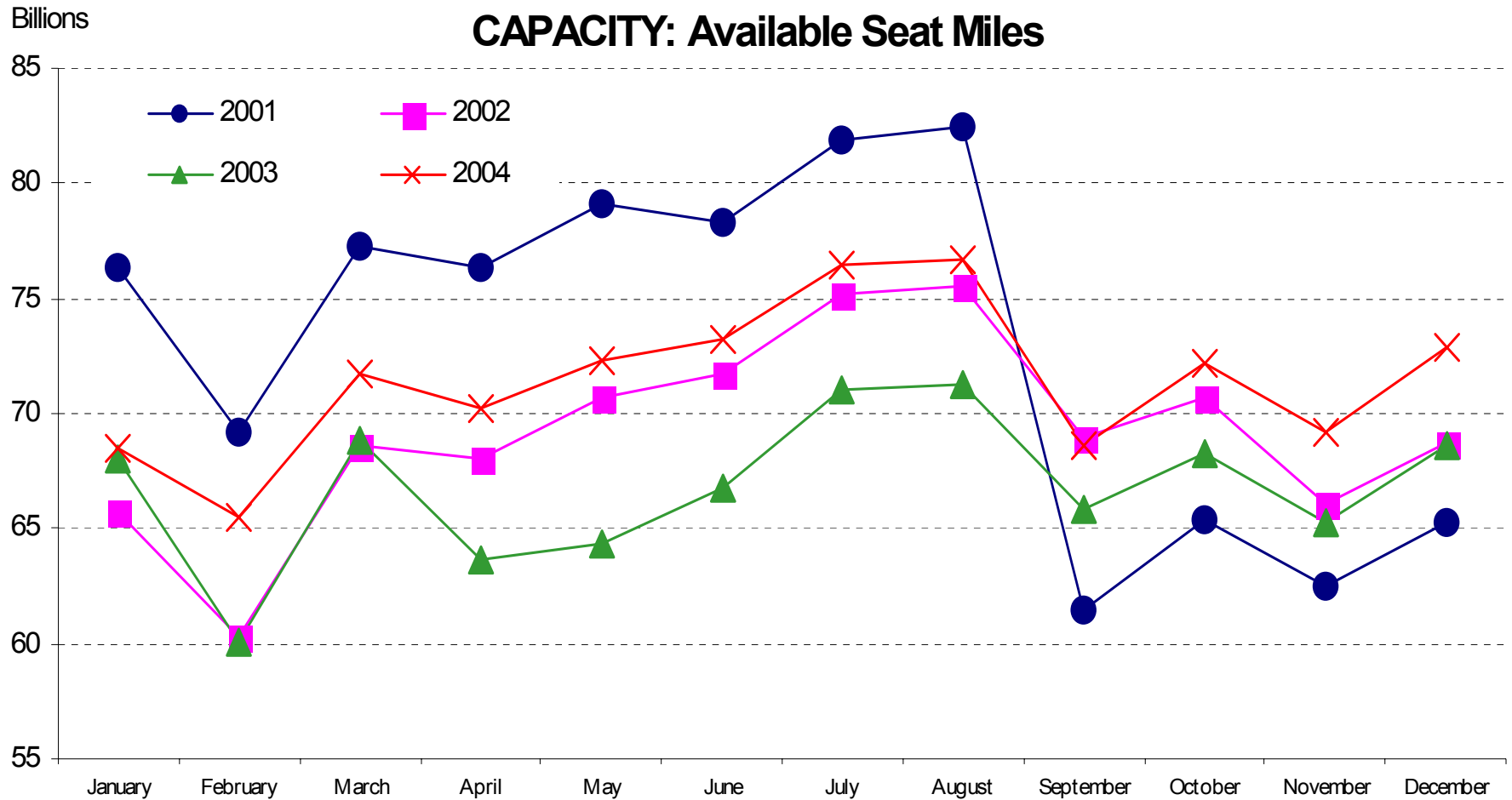
Impacts of 9/11 Attacks and More

- **Most airlines reduced operations almost immediately after 9/11:**
 - 80,000 layoffs by US airlines alone, many more since then
 - US airline capacity (ASMs) cut by 25%, hundreds of aircraft retired/parked
 - US airline traffic (RPMs) initially dropped by 45% due to passenger fears, security hassles
- **Post-9/11 setbacks haven't helped:**
 - Invasion of Afghanistan (October 01)
 - Iraq War (March 02)
 - SARS epidemic (March 03)
 - Airline fuel prices increased 60% in 2004
 - US Terror Alerts keep security concerns in passengers' minds



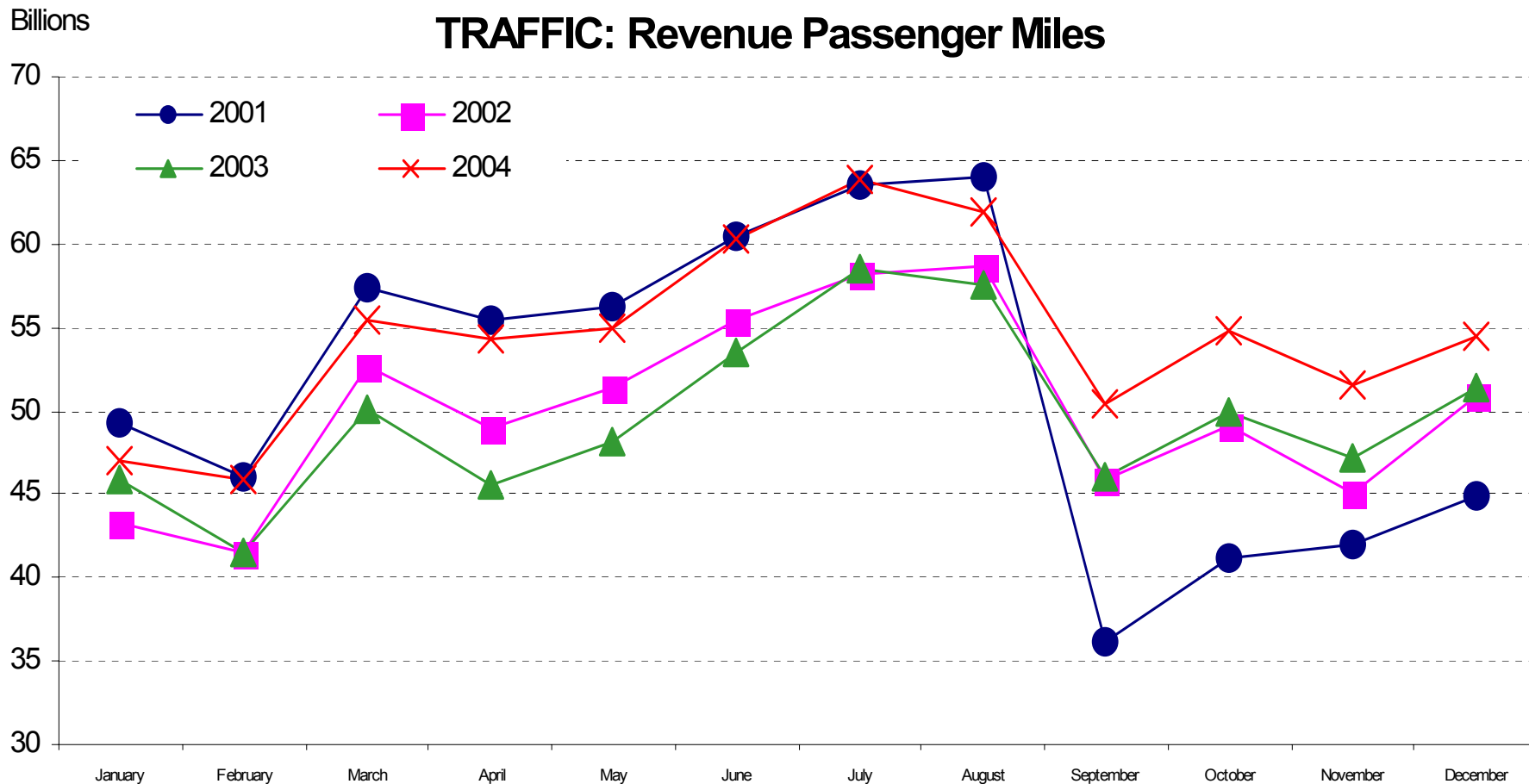
3 Years Later, Traffic Has Recovered

- **US airline RPMs returned to 2001 levels in mid-2004**
 - But August 2004 US airline capacity 7% lower than August 2001
 - Average load factors in 2004 are now above pre-9/11 levels – 83.5% ALF in July 2004 is highest month on record
- **Almost no expectation of US industry profits in 2005:**
 - Revenue mix of traffic is extremely weak, despite recovery of traffic and load factors
 - Average fare (yield) is still running about 14% lower than in 2000
- **US airline bankruptcies**
 - United, Hawaiian in Chapter 11
 - American threatens, but achieves cost reductions
 - US Airways emerges, but files for 2nd time
 - Delta on the brink



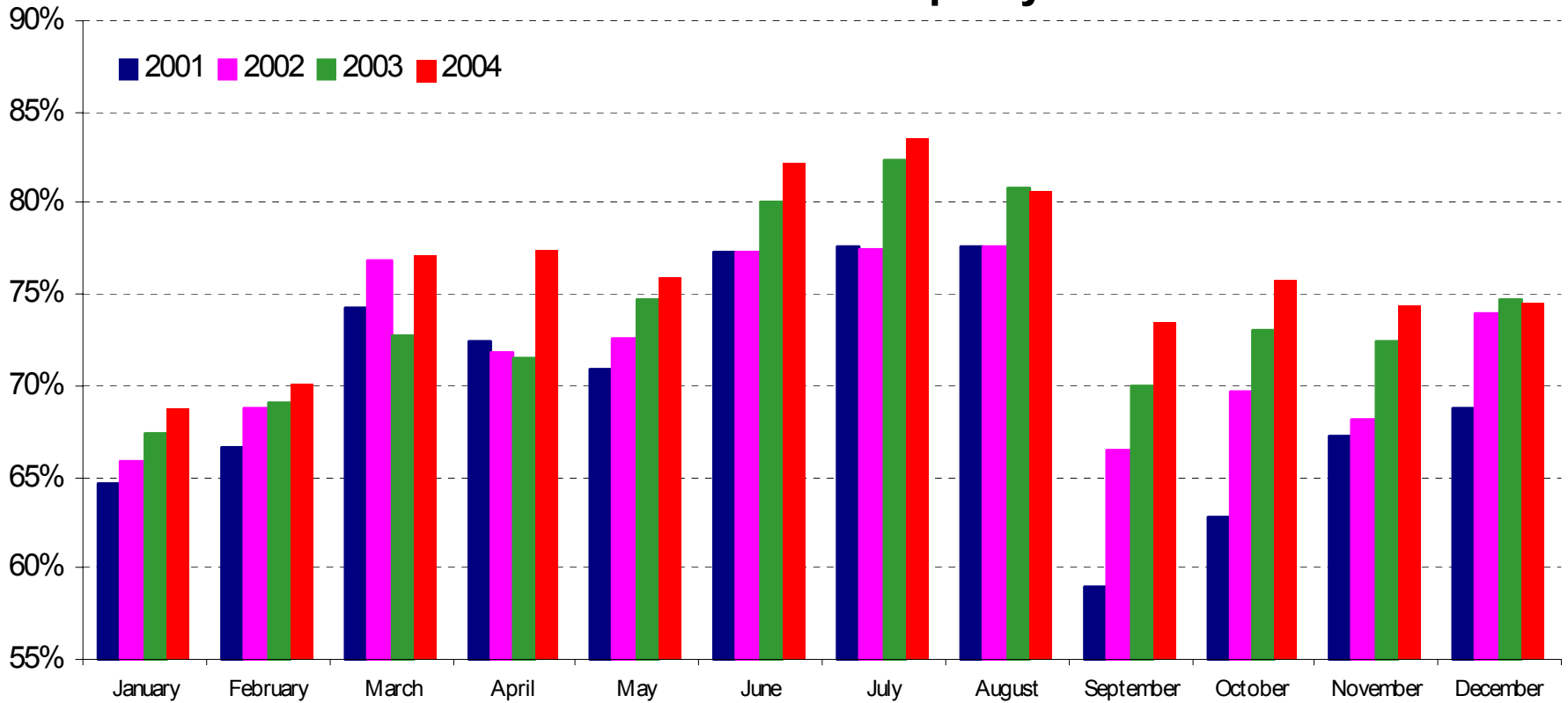
Source: ATA data

Domestic Traffic Now Back to 2001 Levels



Source: ATA data

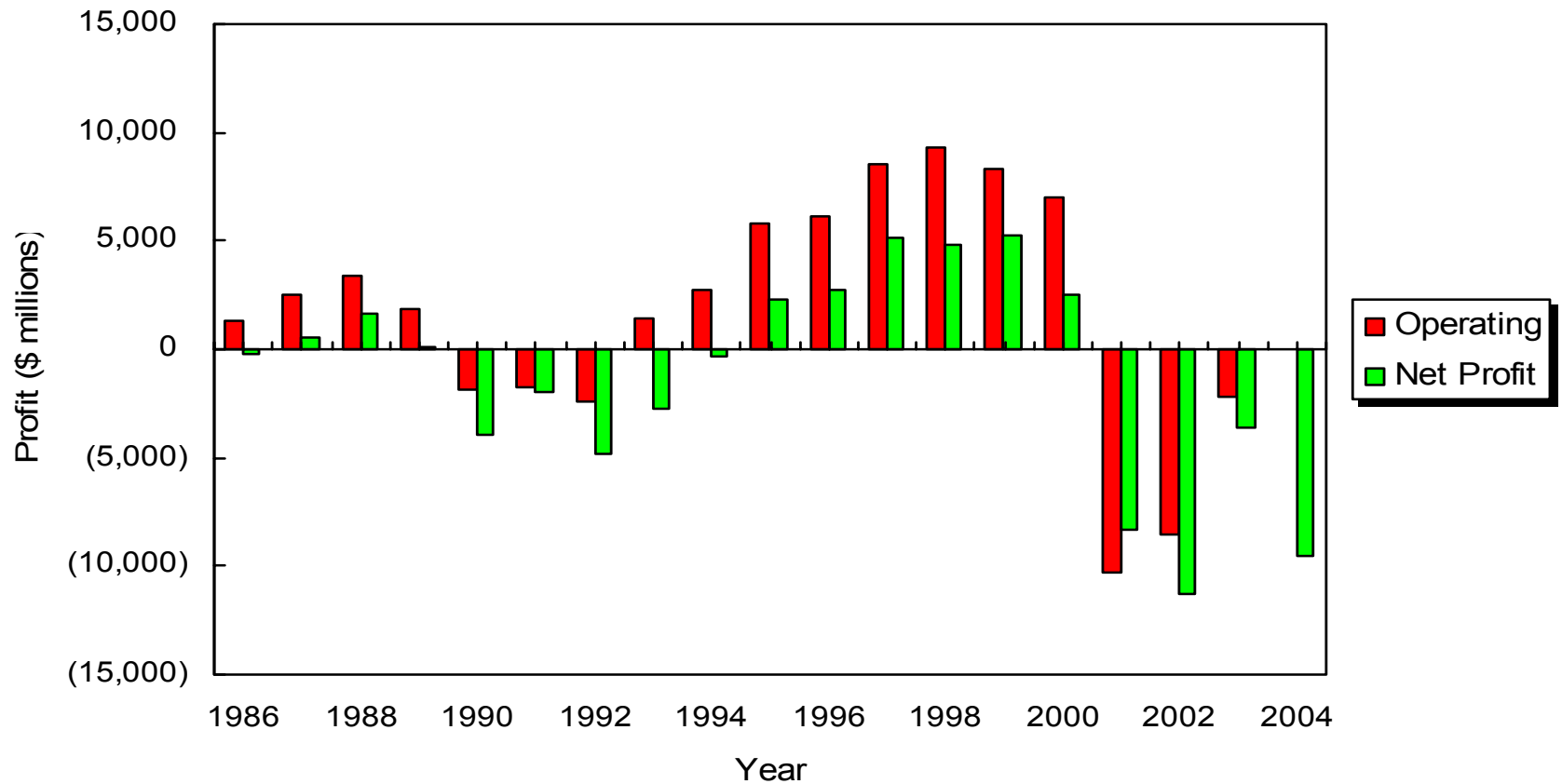
LOAD FACTOR: Percent of Capacity Utilized*



Source: ATA data

US Industry Losses Over \$30 Billion Since 2000

US Airlines Operating and Net Profit

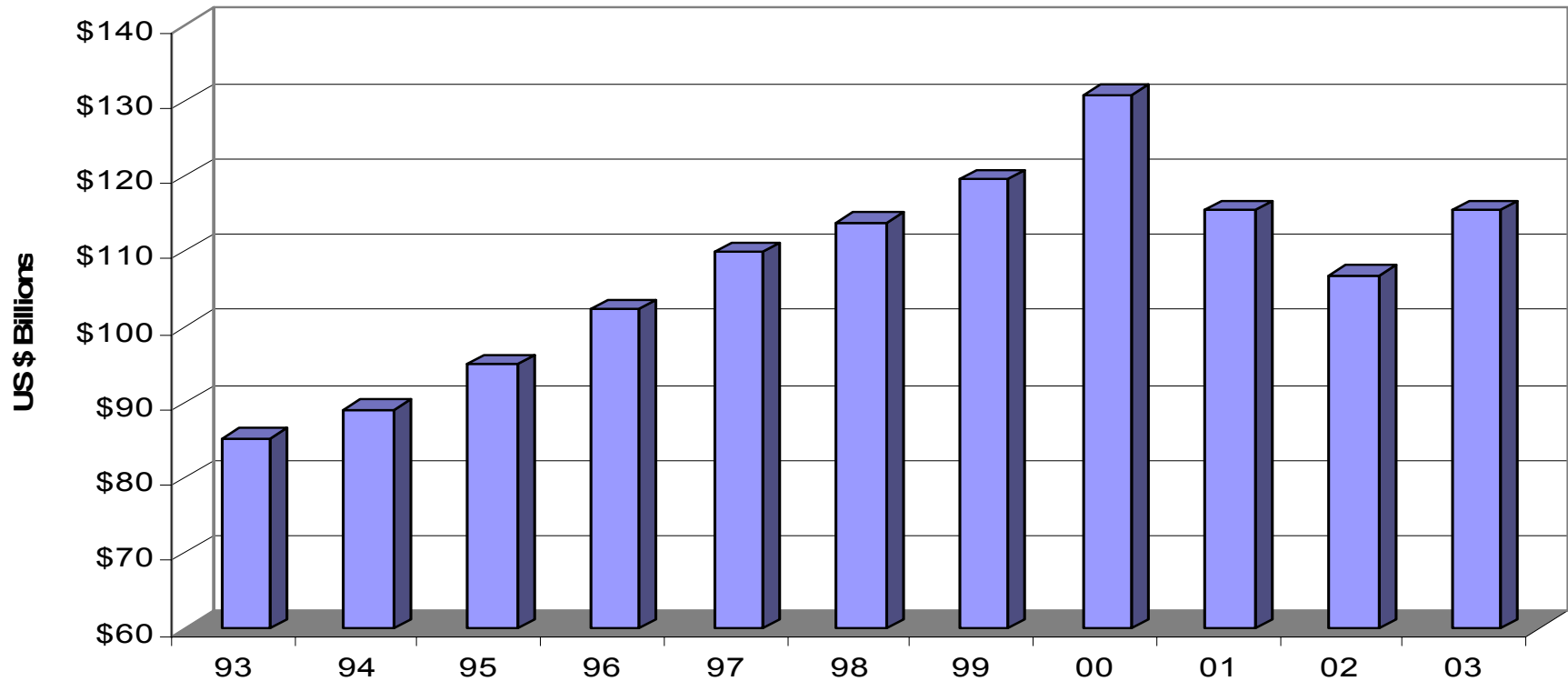




Pricing and Revenue Challenges

- **Industry profits in late 1990s driven by improved revenue generation through pricing and distribution:**
 - Multiple price levels, restrictions and effective revenue management of low fares led to higher load factors and unit revenues (\$/ASM)
- **Revenue power of legacy airlines has virtually disintegrated, with little relation to 9/11:**
 - Business passengers no longer willing to pay 5 to 8 times the lowest available fare
 - Internet distribution channels give more passengers more information about air travel options
 - Cutbacks have reduced service quality differences between network and low-cost carriers

US Airline Industry Revenues



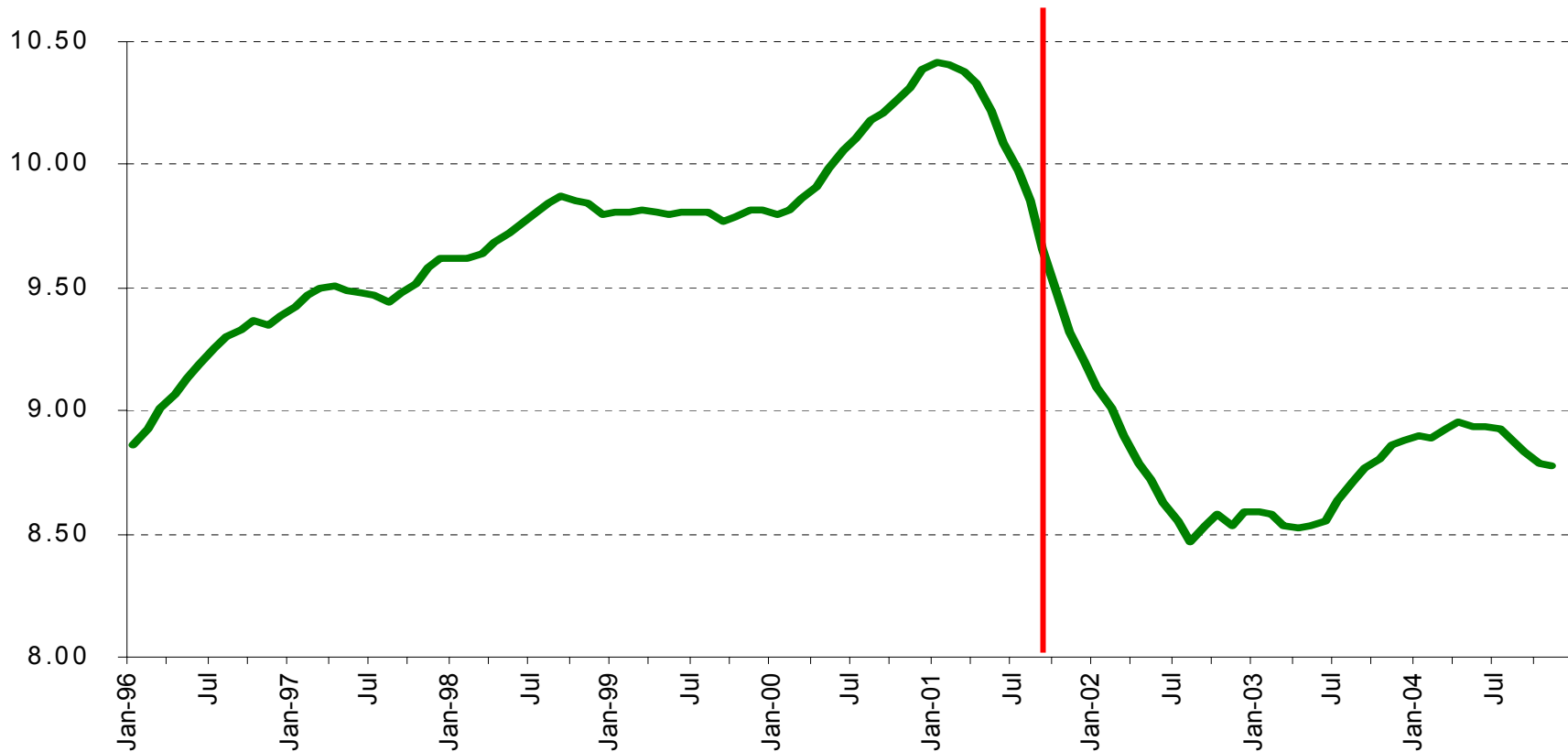
Source: Air Transport Association

Total industry revenues dropped by almost 20% and are still 12% lower than in 2000



Domestic Unit Revenues Are Down 15%

RASM -- Mainline Domestic 12 Months Ended



Source: ATA data



Growth of Low Fare Carriers in US

- **Recent conditions favorable for low-fare airlines:**
 - Less business travel overall, reduced willingness to pay for premium services
 - More stable demand for price-sensitive leisure travel
 - Leisure travel demand less affected by post 9/11 “hassle factor”
- **Low-fare carriers threaten the viability of Majors:**
 - Share of domestic passengers flown by low-fare carriers increased to almost 25% in 2004, from 16% in 2000 and only 5.5% in 1990
 - Largest low-fare carriers continue to increase both capacity and traffic, in sharp contrast to most Majors
 - Major airlines are looking for new “business models” to respond to changed environment and to compete with low-fare airlines



Legacy and Low Fare Airlines

LEGACY AIRLINES

AA – American Airlines

UA – United Air Lines

DL – Delta Air Lines

NW – Northwest Airlines

CO – Continental Airlines

US – US Airways

- Legacy group carried 73% of US passenger RPMs in 2003.

LOWFARE AIRLINES

WN – Southwest Airlines

HP – America West Airlines

AS – Alaska Airlines

TZ – American Trans Air (ATA)

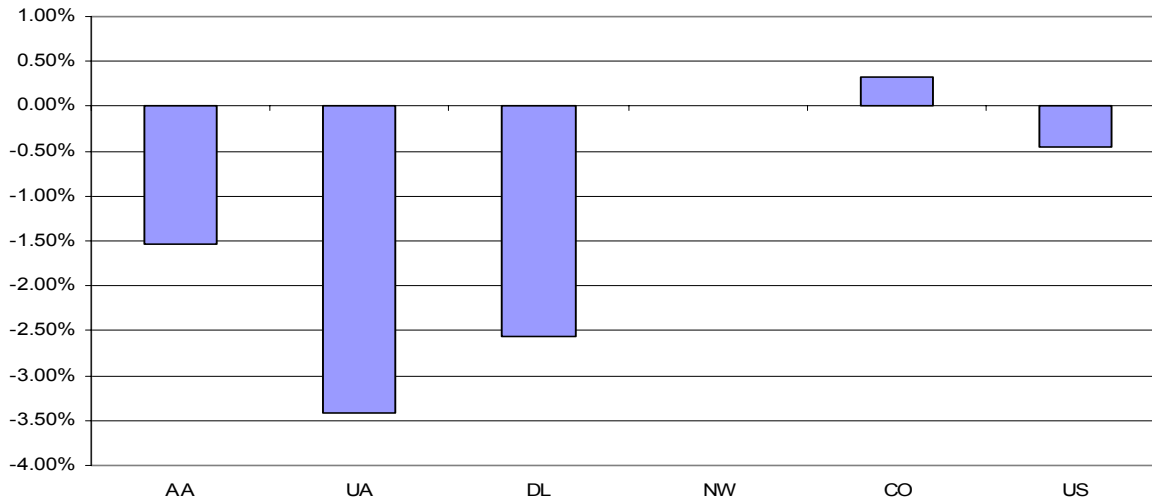
B6 – JetBlue Airways

FL – AirTran Airways

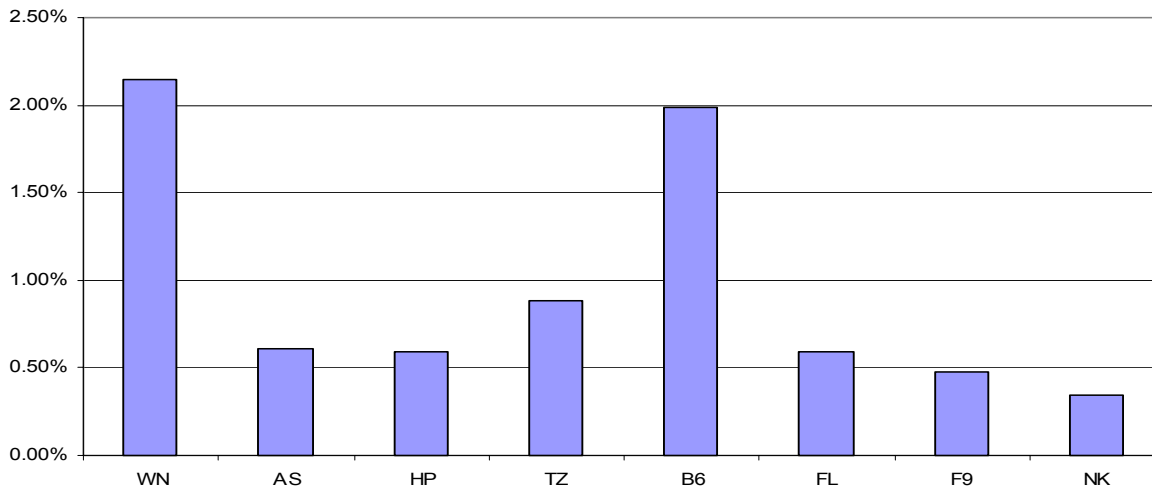
- These airlines carried another 18% of US traffic.

Changes in Market Share by Carrier

Change in % Market Share from 1st Qtr 99 to 3rd Qtr 03

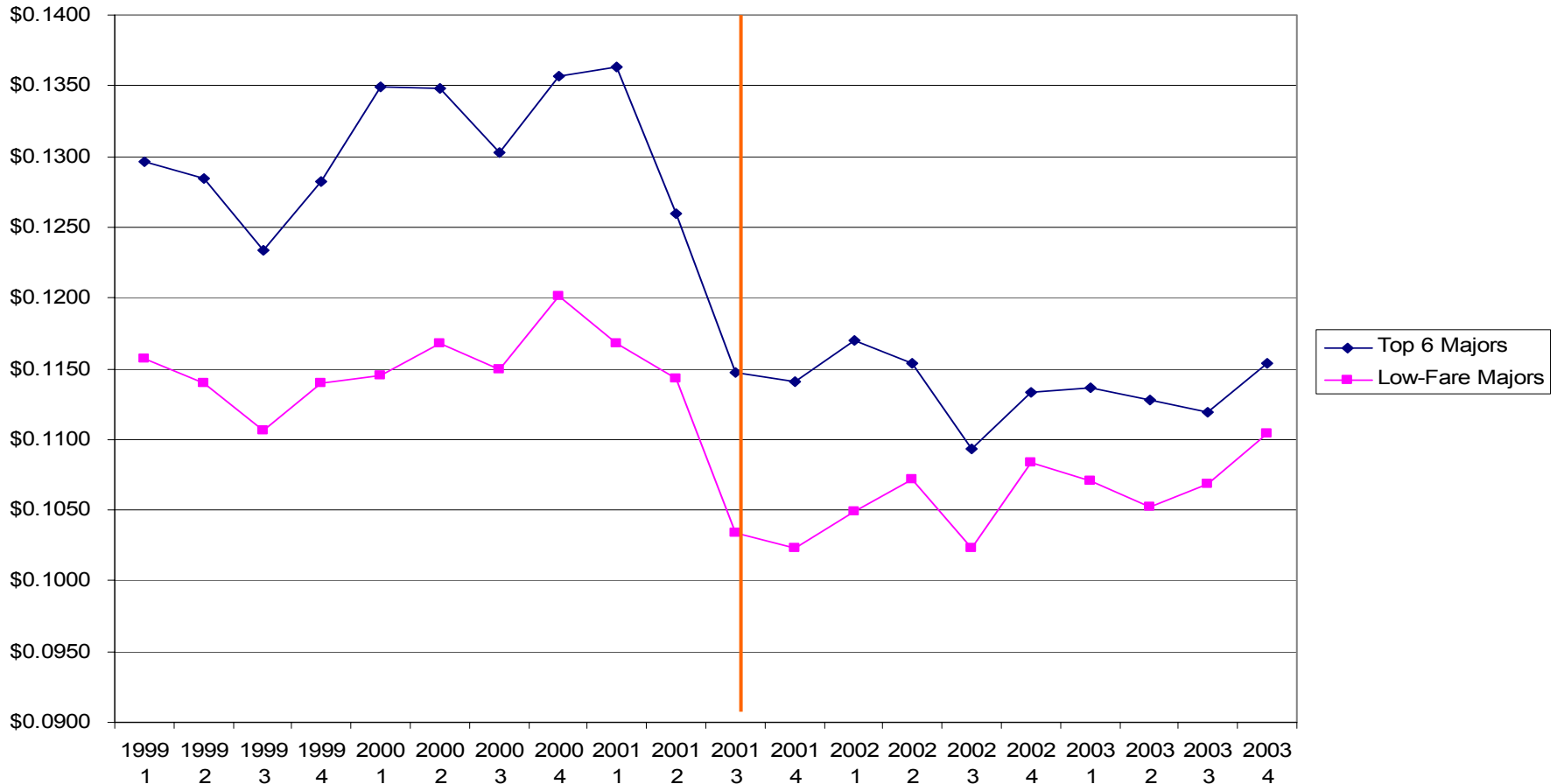


Change in % Market Share from 1st Qtr 99 to 3rd Qtr 03



While 4 out of 6 network carriers have lost market share since 1999, all low-fare airlines gained market share during this period, led by Southwest and Jetblue

US Airline Yields (Revenue/RPM)

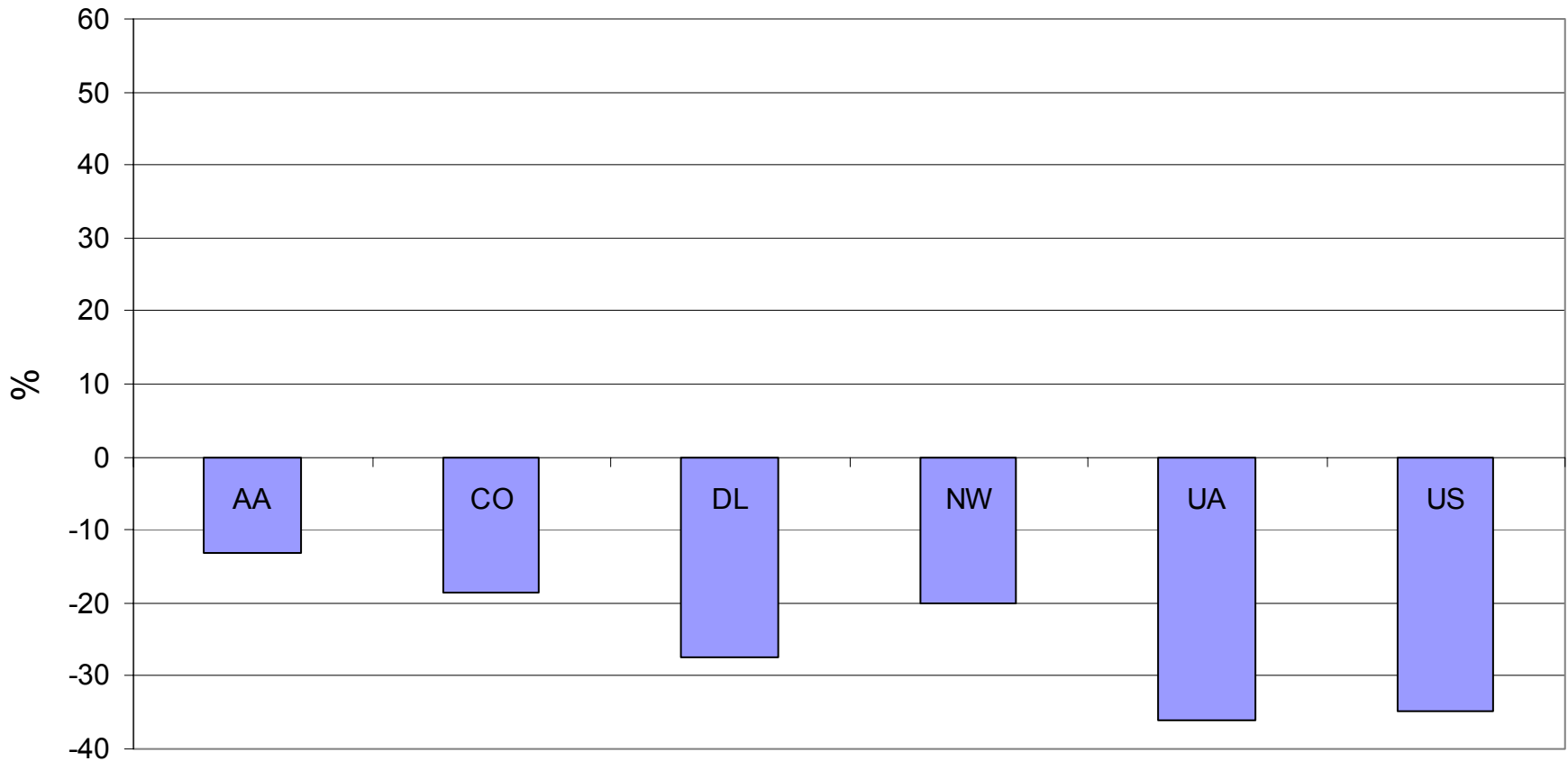


Yields began decreasing prior to 9/11 and have shown little sign of recovery



All Legacy carriers have lost revenues; UA and US revenues have dropped by over 30%

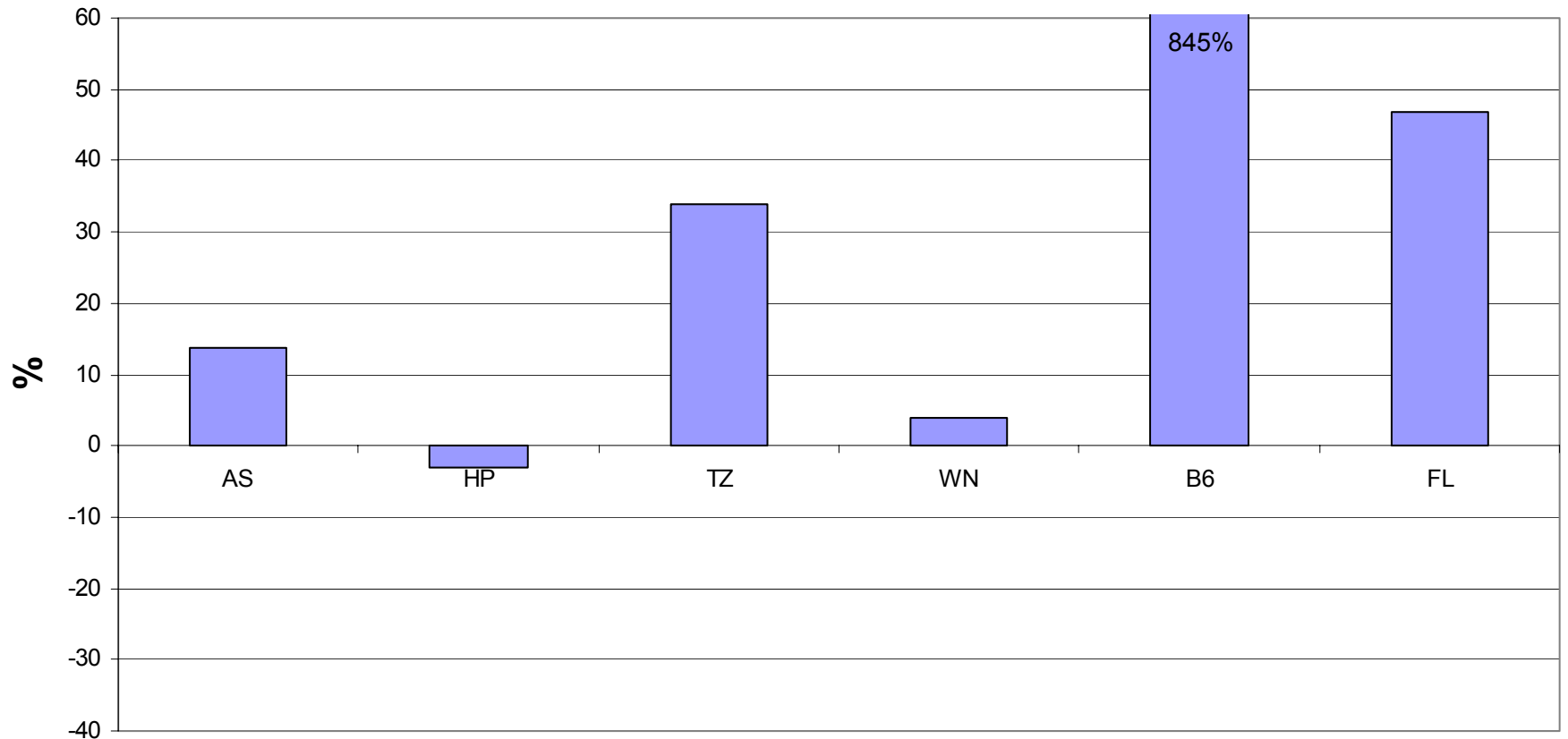
**Change in Passenger Revenues -- Legacy Carriers
2003 vs 2000**



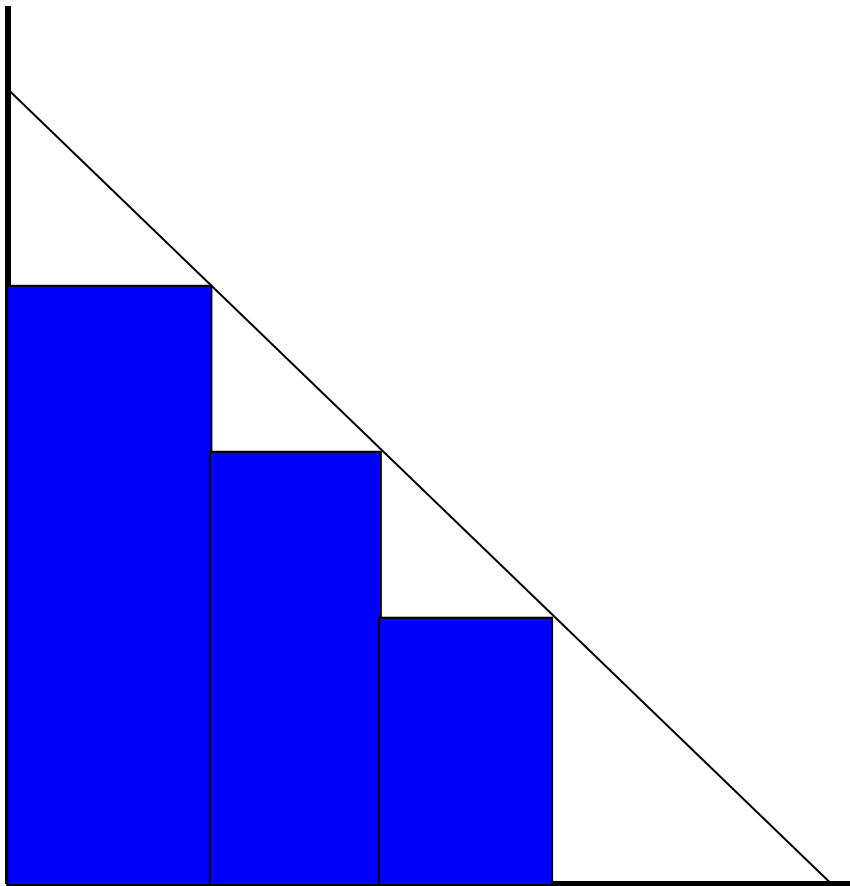


Lowfare group maintained or increased revenues – biggest % gains at JetBlue, AirTran

Change in Passenger Revenues -- Lowfare Carriers
2003 vs 2000



Differential Pricing Theory (circa 2000)



- Market segments with different “willingness to pay” for air travel
- Different “fare products” offered to business versus leisure travelers
- Prevent diversion by setting restrictions on lower fare products and limiting seats available
- Increased revenues and higher load factors than any single fare strategy



Differential Pricing and Airline Fare Structures

- **Differential pricing was embraced by all airlines:**
 - Charge more for flexibility and highest-demand flights while selling off “excess” seats at lower but more restricted fares
 - Even low-fare carriers offer differentiated price levels and practice some form of revenue management/seat inventory control
 - Difference with traditional airlines is that their differentiated prices are both less restricted and closer in ratio of fare levels
- **Example of a “traditional” fare structure shown on following slide for Boston-Seattle market (2001):**
 - Highest unrestricted economy fare (Y) is 5 times that of lowest discount fare with restrictions
 - All fares with any meaningful discount from the unrestricted fare require advance purchase and a Saturday night stay



BOS-SEA Fare Structure

American Airlines, October 1, 2001

Roundtrip Fare (\$)	Cls	Advance Purchase	Minimum Stay	Change Fee?	Comment
458	N	21 days	Sat. Night	Yes	Tue/Wed/Sat
707	M	21 days	Sat. Night	Yes	Tue/Wed
760	M	21 days	Sat. Night	Yes	Thu-Mon
927	H	14 days	Sat. Night	Yes	Tue/Wed
1001	H	14 days	Sat. Night	Yes	Thu-Mon
2083	B	3 days	none	No	2 X OW Fare
2262	Y	none	none	No	2 X OW Fare
2783	F	none	none	No	First Class



Fare Simplification: Less Restricted and Lower Fares

- **Recent trend toward “simplified” fares – compressed fare structures with fewer restrictions**
 - Initiated by some LFAs and America West, followed by Alaska
 - Most recently, implemented in all US domestic markets by Delta, matched selectively by legacy competitors
- **Simplified fare structures characterized by:**
 - No Saturday night stay restrictions, but advance purchase and non-refundable/change fees
 - Revenue management systems still control number of seats sold at each fare level
- **PODS simulations of impacts show traffic mix and revenue impacts of simplified fares:**
 - Revenue impacts of “simplified” fare structures



BOS-SEA Simplified Fare Structure

Alaska Airlines and American, May 1, 2004

Roundtrip Fare (\$)	Cls	Advance Purchase	Minimum Stay	Change Fee?	Comment
374	V	21 days	1 day	Yes	Non-refundable
456	L	14 days	1 day	Yes	Non-refundable
559	Q	14 days	1 day	Yes	Non-refundable
683	H	7 days	1 day	Yes	Non-refundable
827	B	3 days	none	No	2 X OW Fare
929	Y	none	none	No	2 X OW Fare
1135	F	none	none	No	First Class



PODS Simulation Results: Traditional “Restricted” Fare Structure

- **5:1 fare ratio; all fare classes below “full fare” have Sat. night stay and 7/14/21 day AP restrictions**
 - 74.6% load factor; total flight revenue \$64,716
 - 5% revenue gains from use of RM booking limit controls

Loads by Fare Class

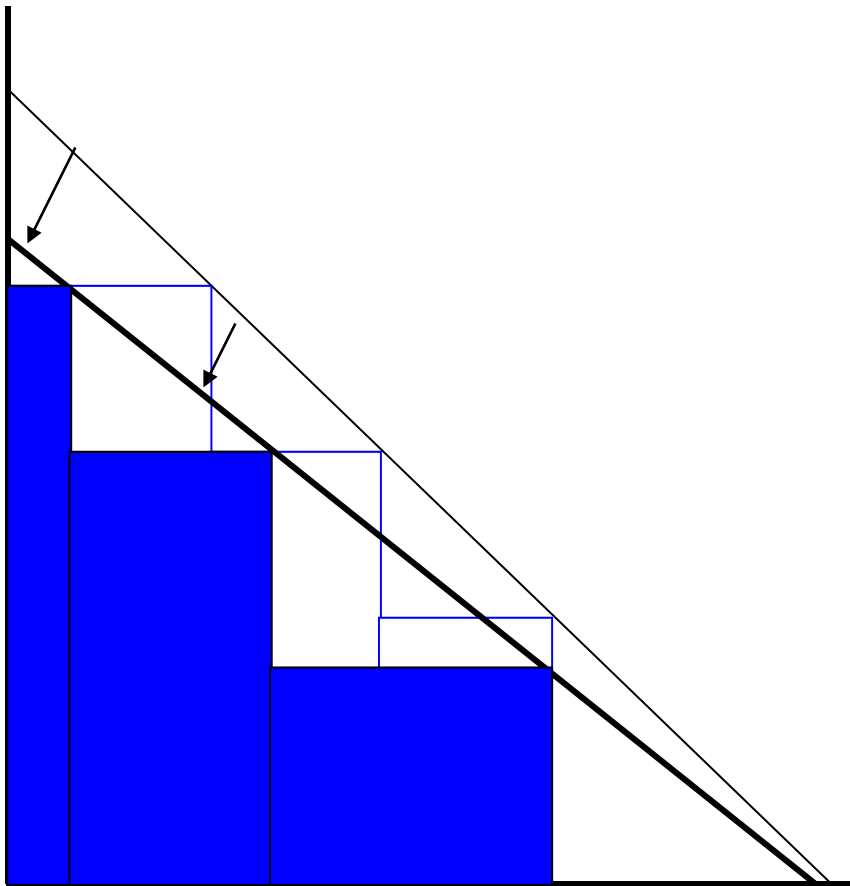


- **Fare ratio compressed to 3.5:1; Sat. night stay restriction removed from all but lowest fare class; advance purchase restrictions retained**
 - Load factor increases to 77.8%; but total revenues drop by 15% to \$55,221
 - % Revenue impact of RM controls increases to over 8%

Loads by Fare Class



Impacts on Differential Pricing Model



- Drop in business demand and willingness to pay highest fares
- Greater willingness to accept restrictions on lower fares
- Reduction in lowest fares to stimulate traffic and respond to LCCs
- Result is lower total revenue and unit RASM despite stable load factors



Summary: Revenue Challenges

- **Pricing actions by traditional airlines have increased unit revenues, but not to previous levels:**
 - Price cuts to stimulate leisure demand and reduce restrictions on business fares returned load factors to 75%, but did not improve revenue quality
 - Recent experiments to decrease unrestricted fares have likely succeeded in re-attracting some business passengers
 - But, fare simplification still leaves unit revenues 10-15% below levels of 2000
- **Conclusion: Pricing actions alone cannot return the network airlines to profitability**

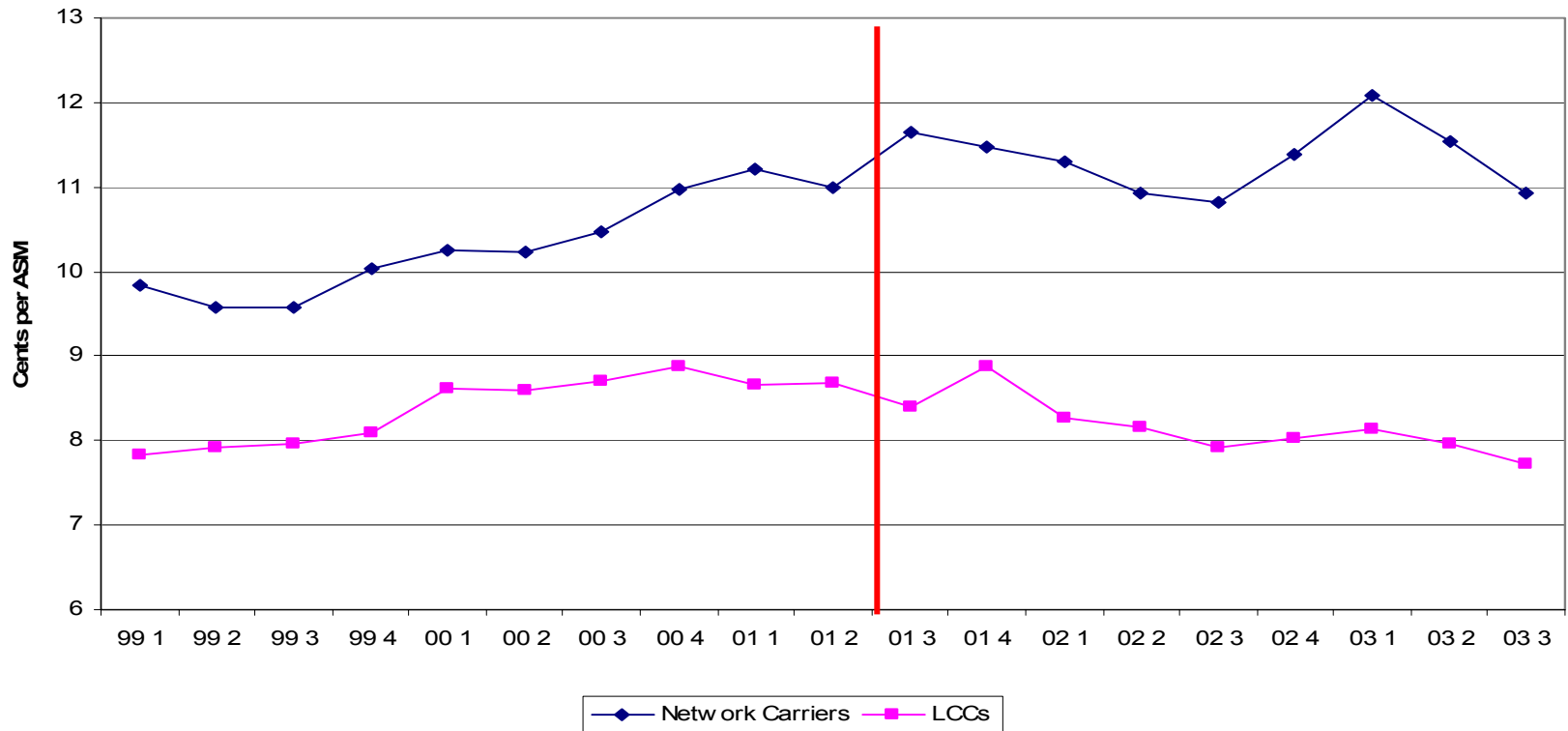


Cost and Productivity Challenges

- **Post 9/11 operating costs increased substantially:**
 - Lower aircraft utilization due to schedule cuts affected productivity and increased unit costs
 - Added security requirements and associated delays
 - Security fees and higher insurance costs
 - Fuel prices in Q1 2004 were 50%+ higher than in 2001
- **Given 15% shortfall in unit revenues, legacy airlines must cut costs and increase productivity:**
 - Low-cost carriers often used as “benchmark” for unit costs
 - Changing work rules, reducing workforce and cutting wage rates are all options for reducing labor unit costs (\$ per ASM)
 - But, unit cost differences are also due to aircraft productivity, as determined by configuration and pattern of operations

US Airline Unit Costs (per ASM)

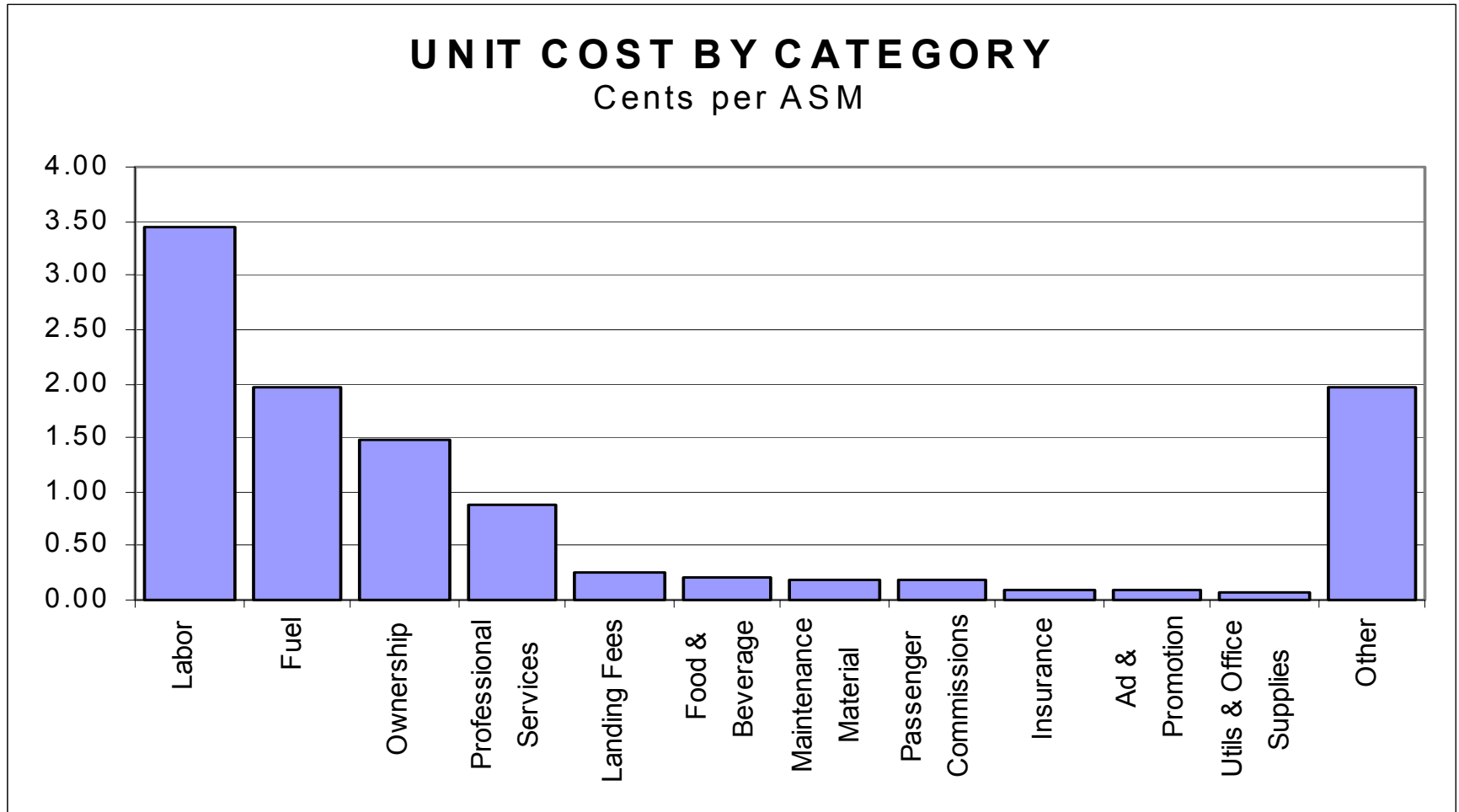
Cost per Available Seat Mile (CASM)



Unit Costs differences between network carriers and LCCs have continued to increase despite cost-cutting efforts

UNIT COST BY CATEGORY

Cents per ASM

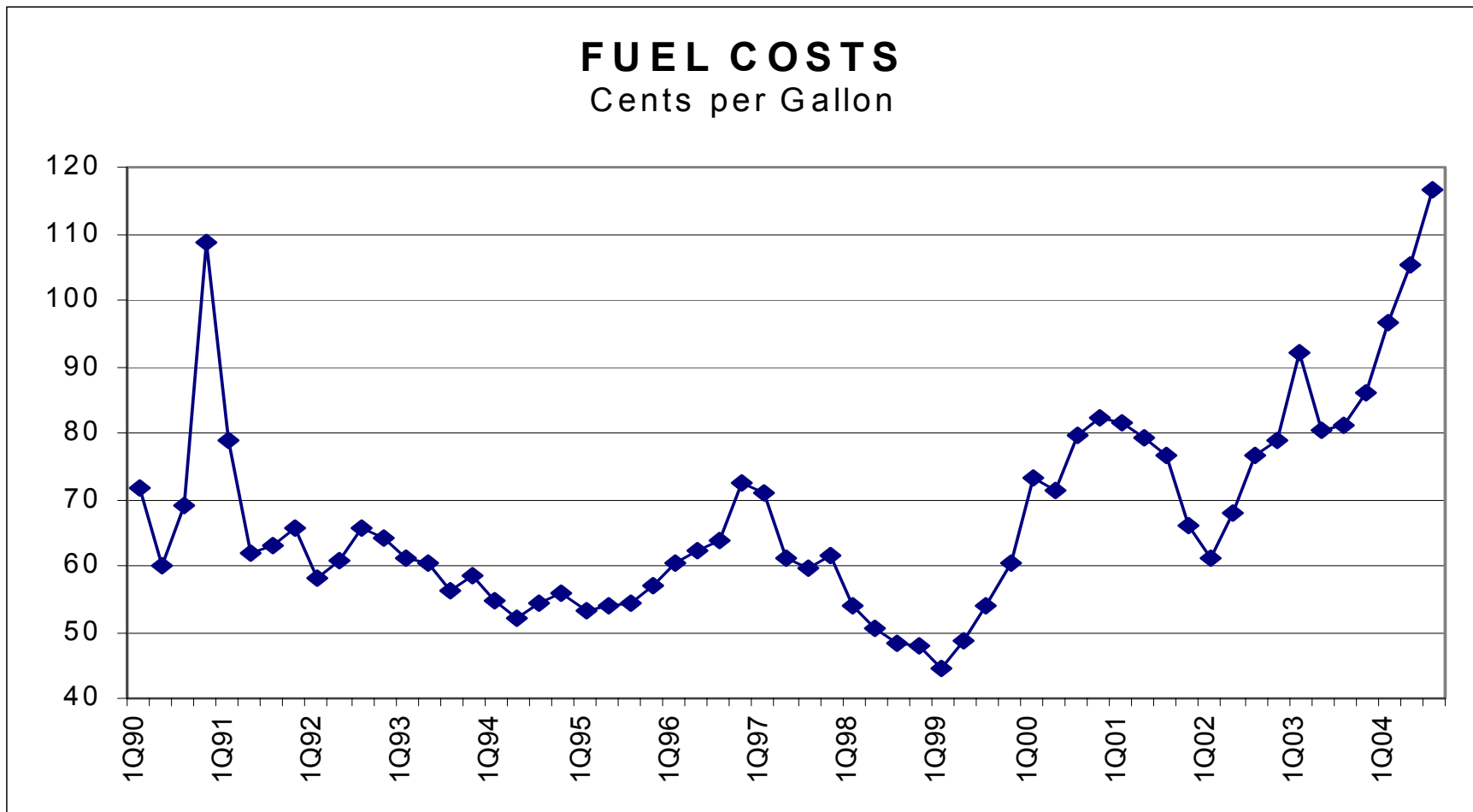


Source: ATA data

Fuel Prices Up 90% Since Q1 2002

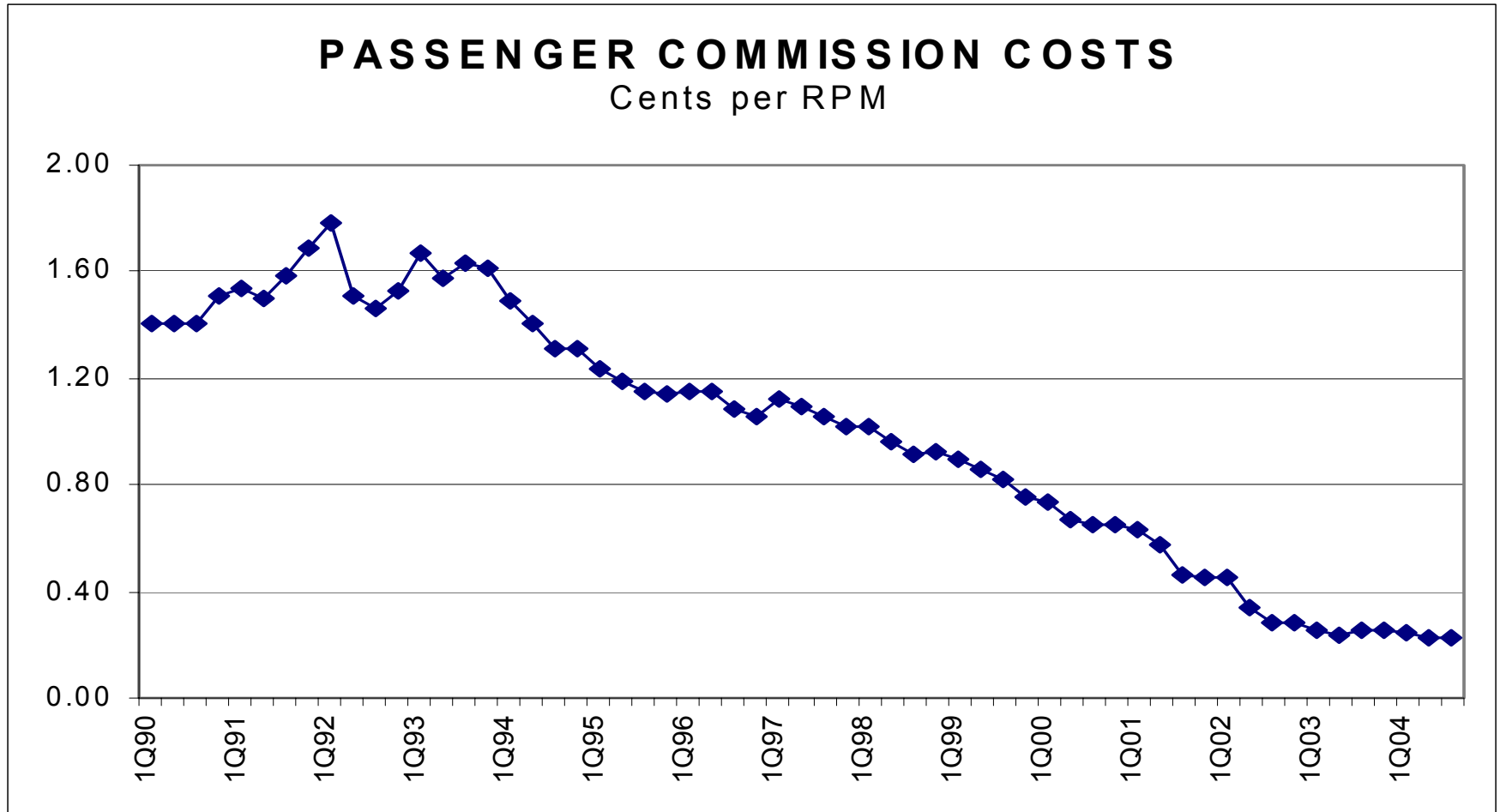
FUEL COSTS

Cents per Gallon



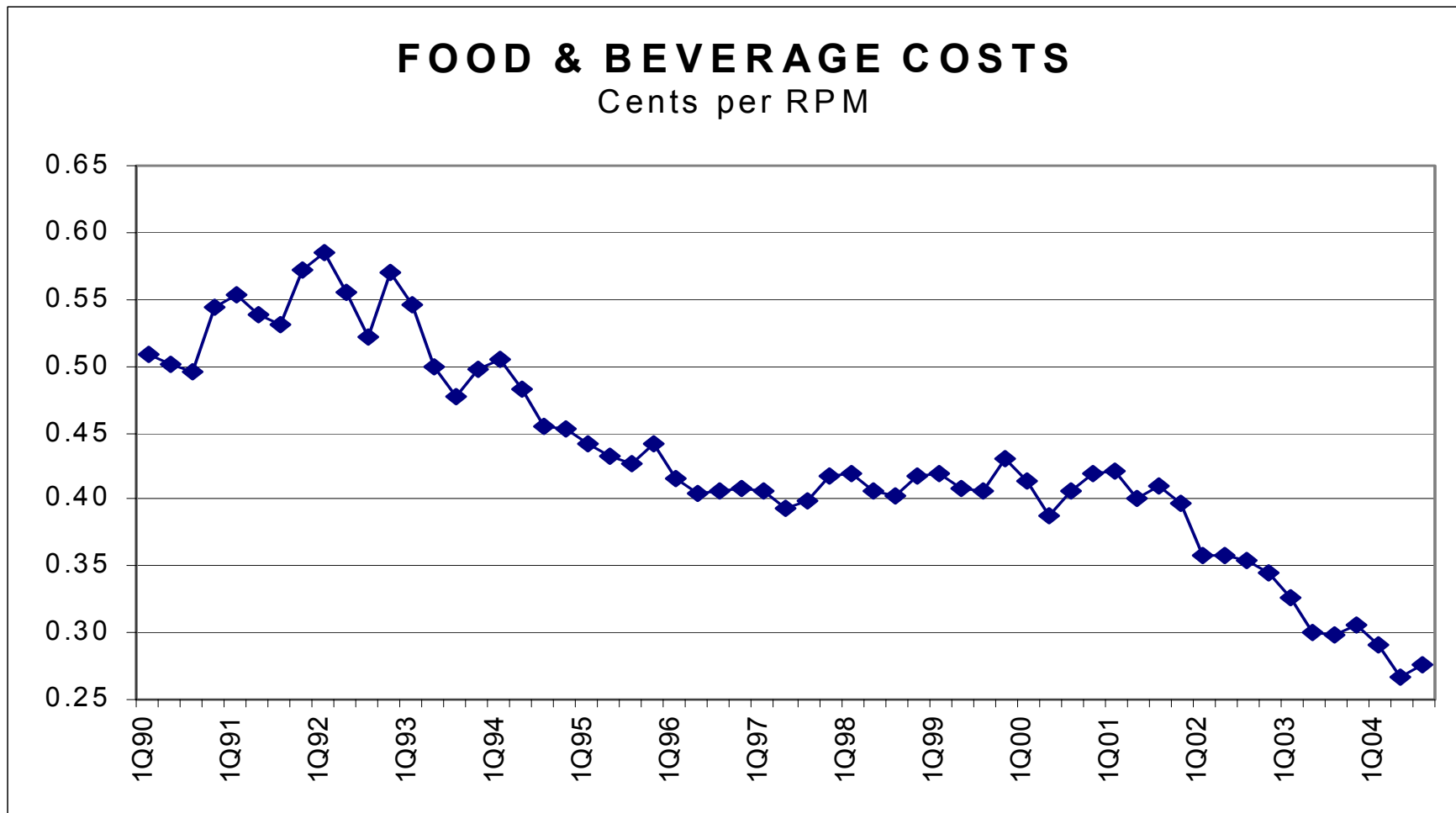
Source: ATA data

Travel Agency Commissions All But Eliminated – Down 85% Since 1994



Source: ATA data

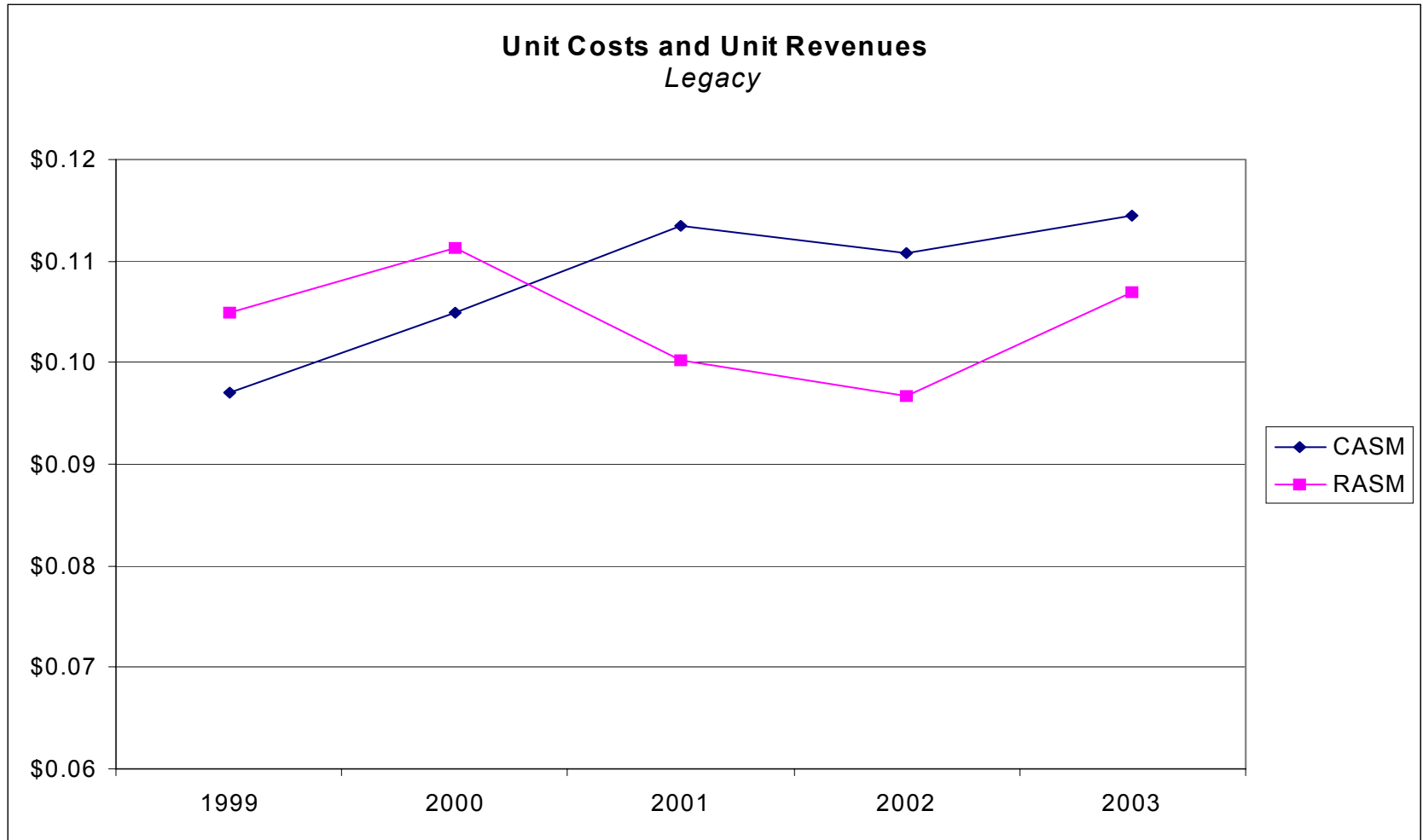
Food and Beverage Costs Cut in Half



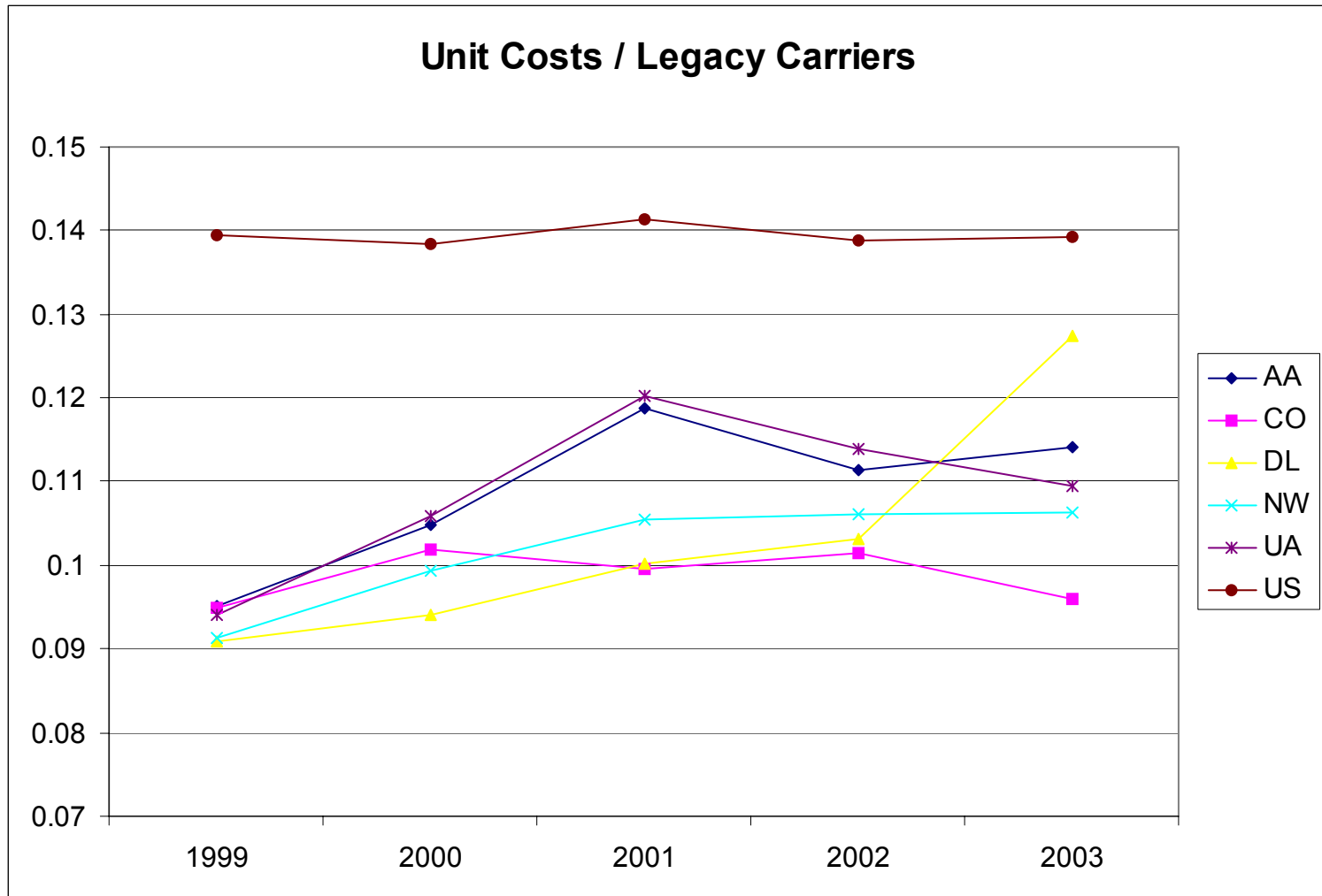
Source: ATA data



Unit revenues dropped below unit costs in 2001 for legacy carriers

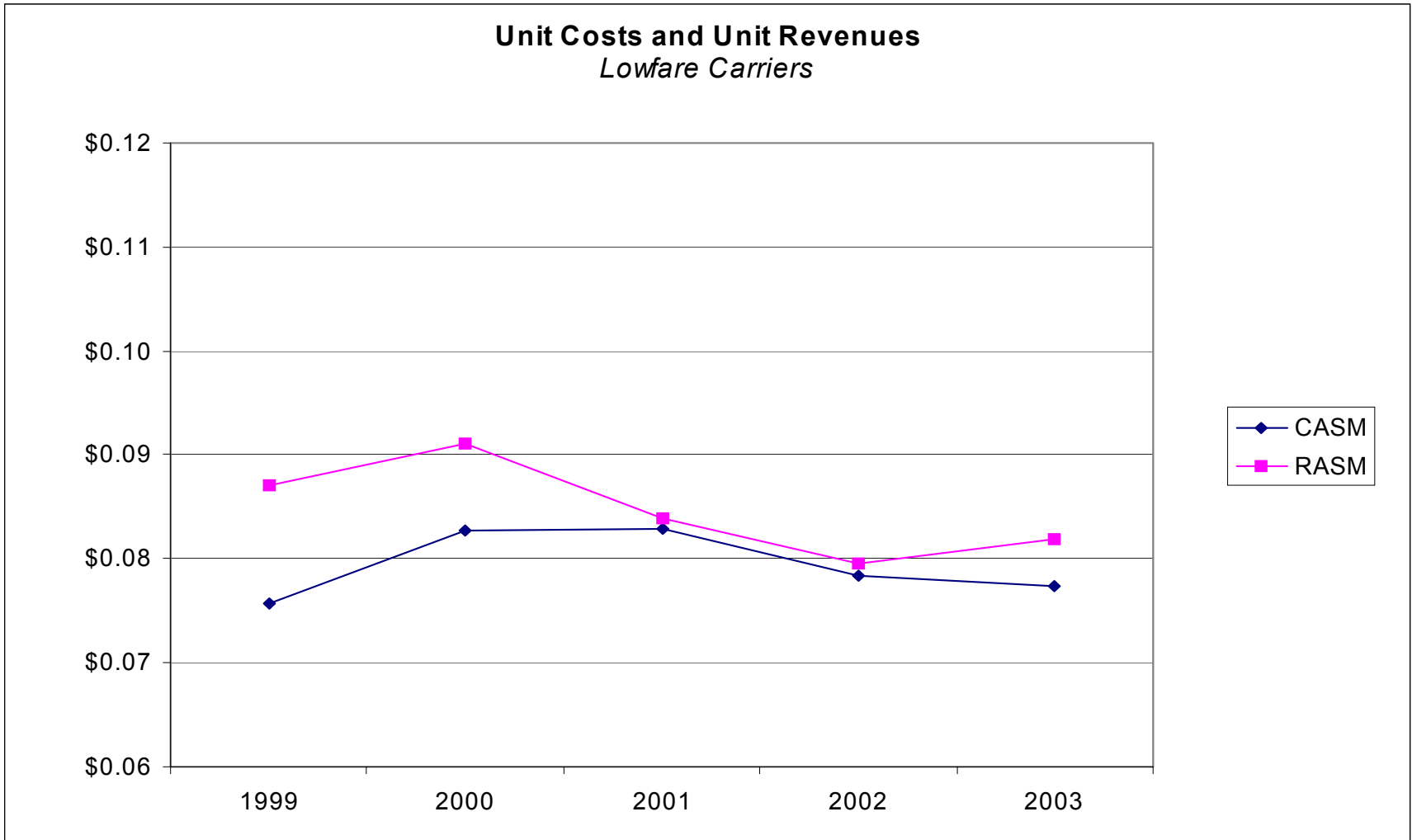


AA and UA have made biggest unit cost cuts, DL unit costs surged in 2003

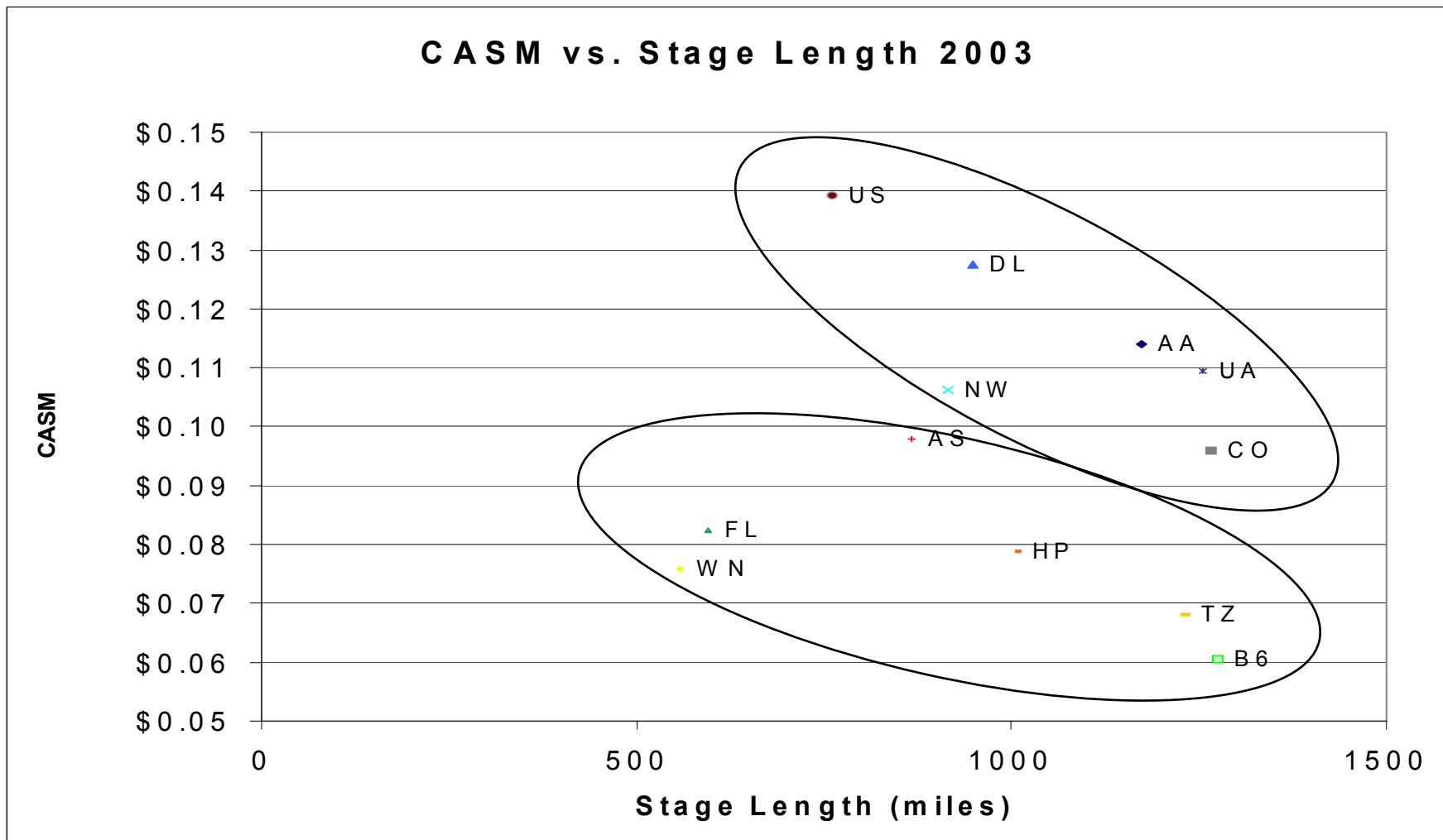




Lowfare carriers RASM also down, but lower CASM continues to decrease



Lowfare carriers have lowest CASM across all average stage lengths

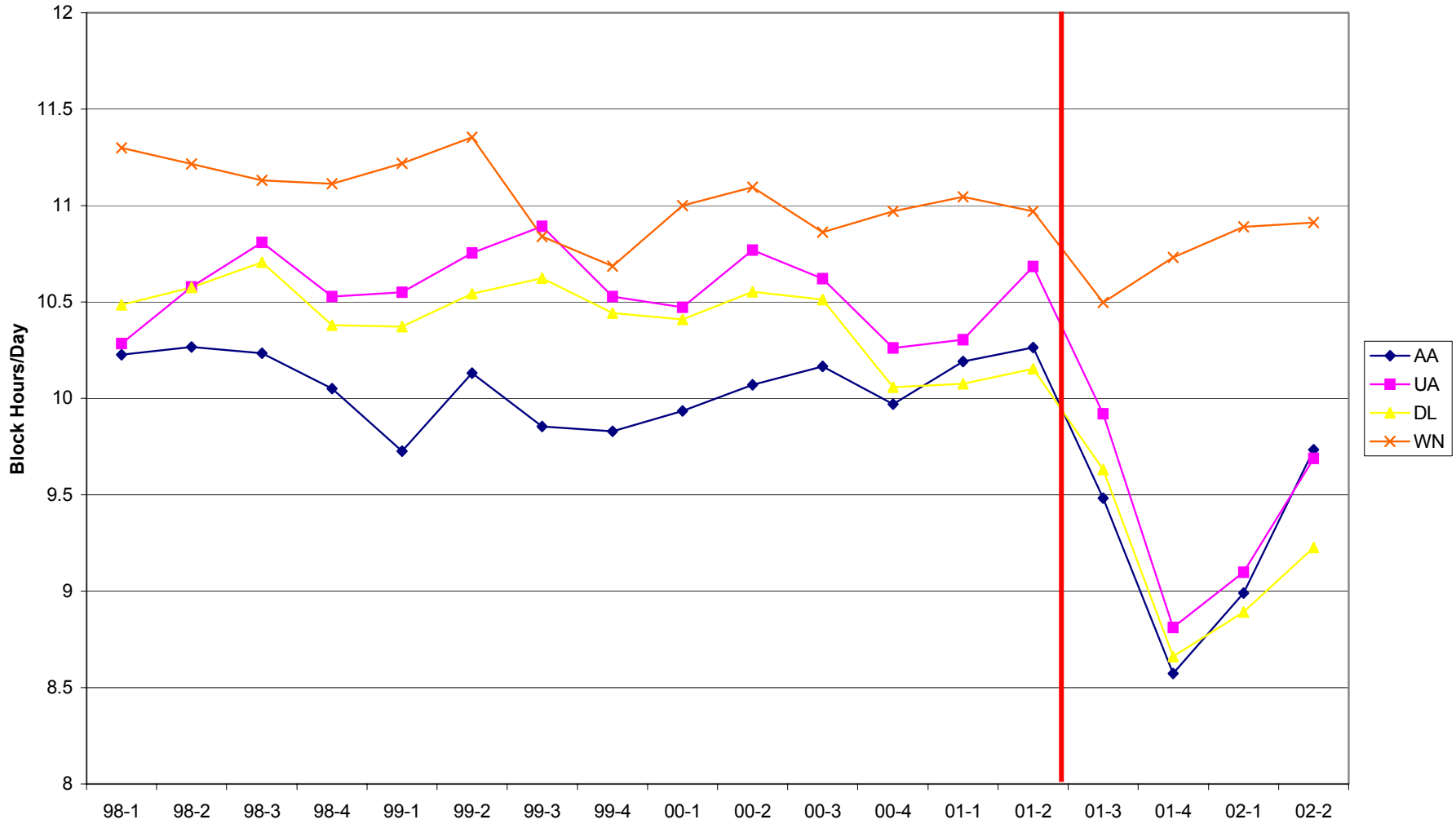




Aircraft Utilization and Productivity

- **Aircraft “utilization” measured in block-hours/day:**
 - Southwest historically achieved system-wide utilization rates 5-10% higher than other Majors, despite flying shorter stage lengths
 - Post-9/11 cutbacks reduced aircraft utilization at Top 3 Majors more dramatically than at Southwest
- **Aircraft “productivity” measured in ASMs generated per aircraft per day:**
 - = (# departures) X (average stage length) X (# seats)
- **Example: B737-500 aircraft operated by CO, UA, WN:**
 - Each WN aircraft generates 37% - 51% more ASMs per day, with more seats per aircraft, more departures, and more block-hours

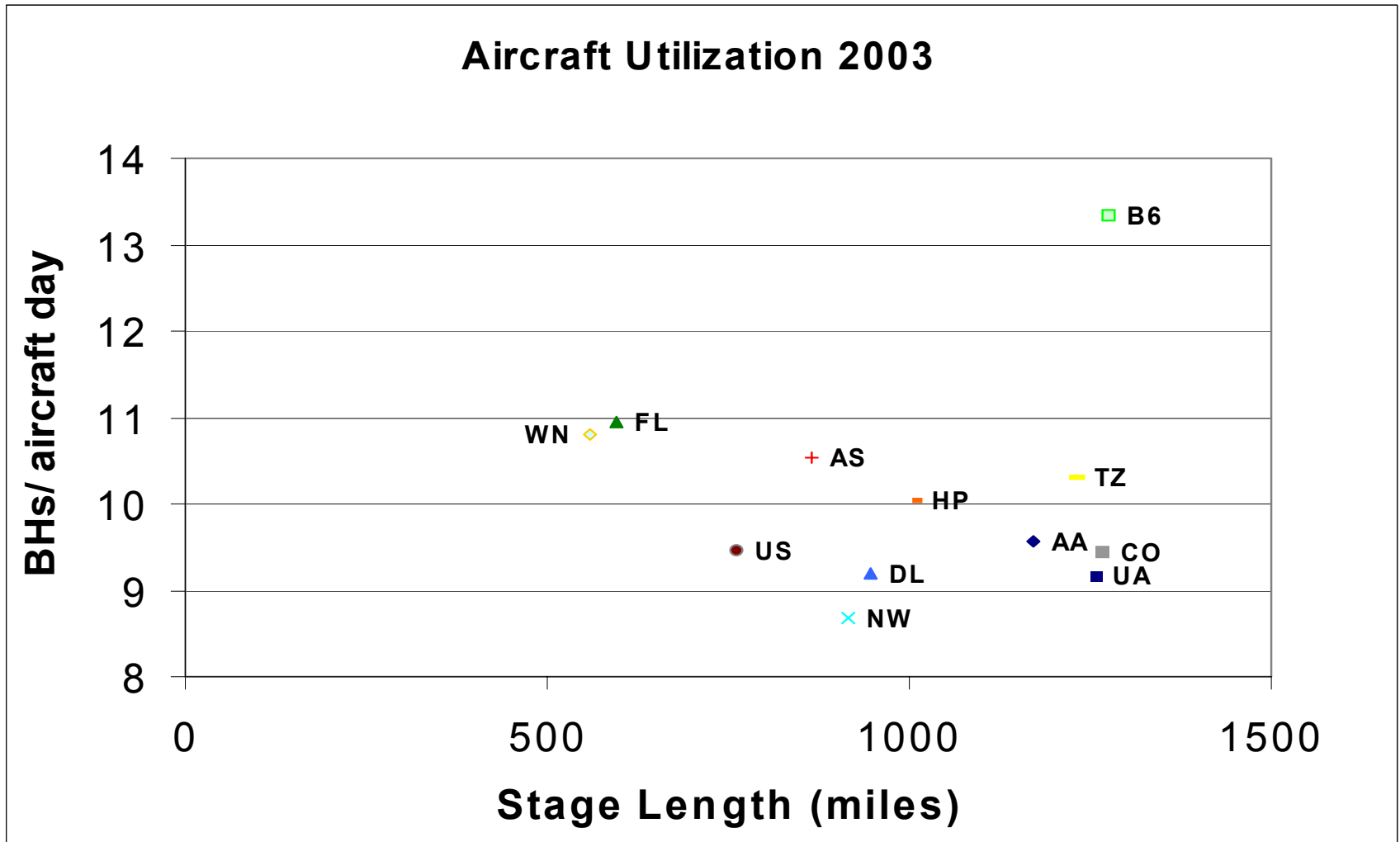
Daily Aircraft Utilization by Legacy Carriers Plunged After 9/11 (not for Southwest)



Boeing 737-500 Productivity (2nd Quarter 2002)

Airline	Daily Block Hours	Flights per Day	Avg. Stage Length	Seats	ASMs per Day
Continental	8.3	3.9	719	104	291,626
United	7.5	4.3	564	109	264,347
Southwest	10.2	8.2	400	122	400,160

Lowfare carriers lead in aircraft utilization at all average stage lengths





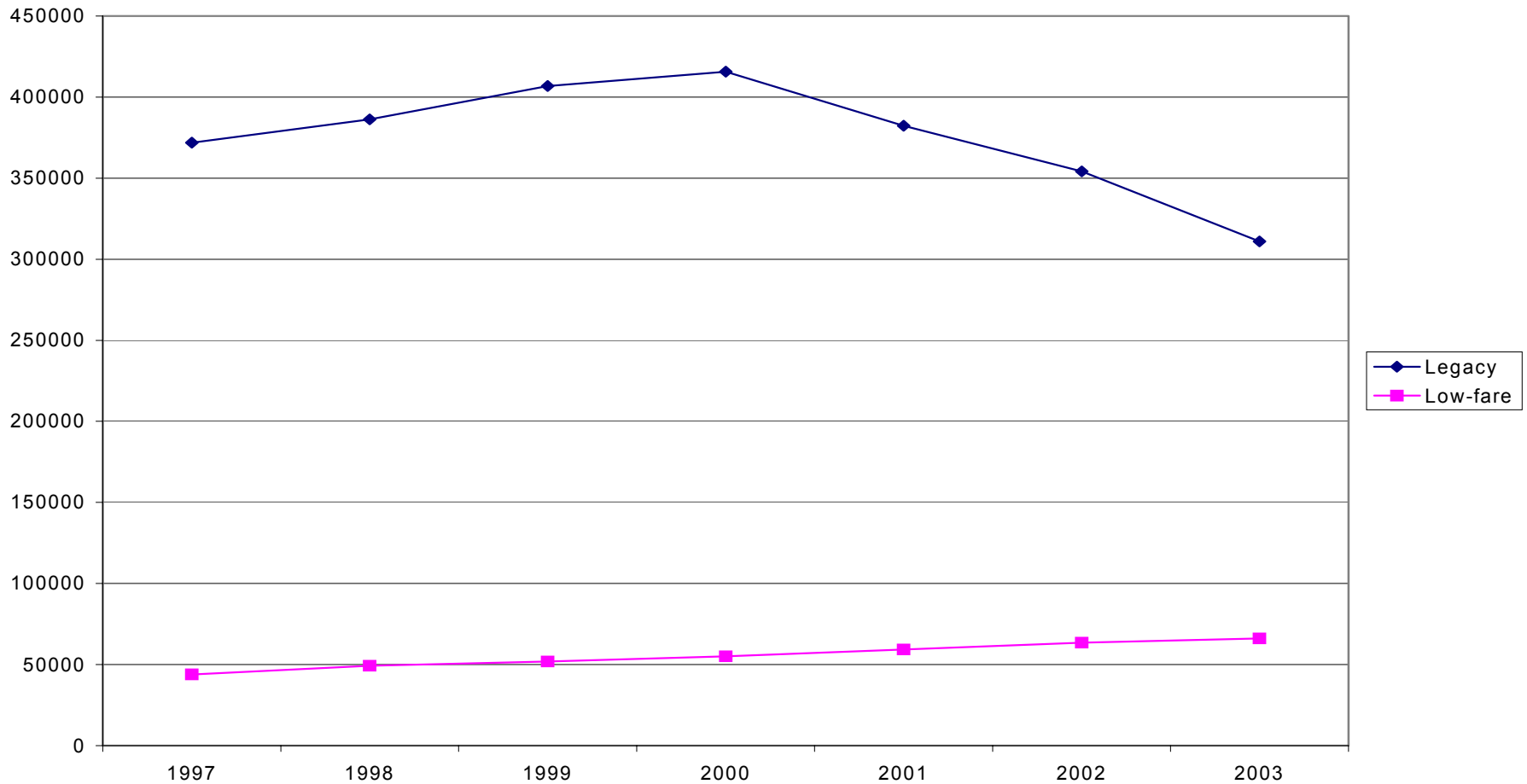
Labor Costs: A Big Part of the Problem

- **Labor costs account for 1/3 of airline expenses**
- **Real unit labor costs 21% lower today than 1980**
 - But RASM are 32% lower than 1982—costs exceed revenues
- **Unit labor costs of low cost airlines about 50% below top carriers**
- **Wage movements out of synch with revenue movements**
 - Past labor cost reductions provided short term relief but not long term improvements in operational performance (productivity or service)



Legacy carrier employment down by 25% since 2000, a loss of over 100,000 jobs

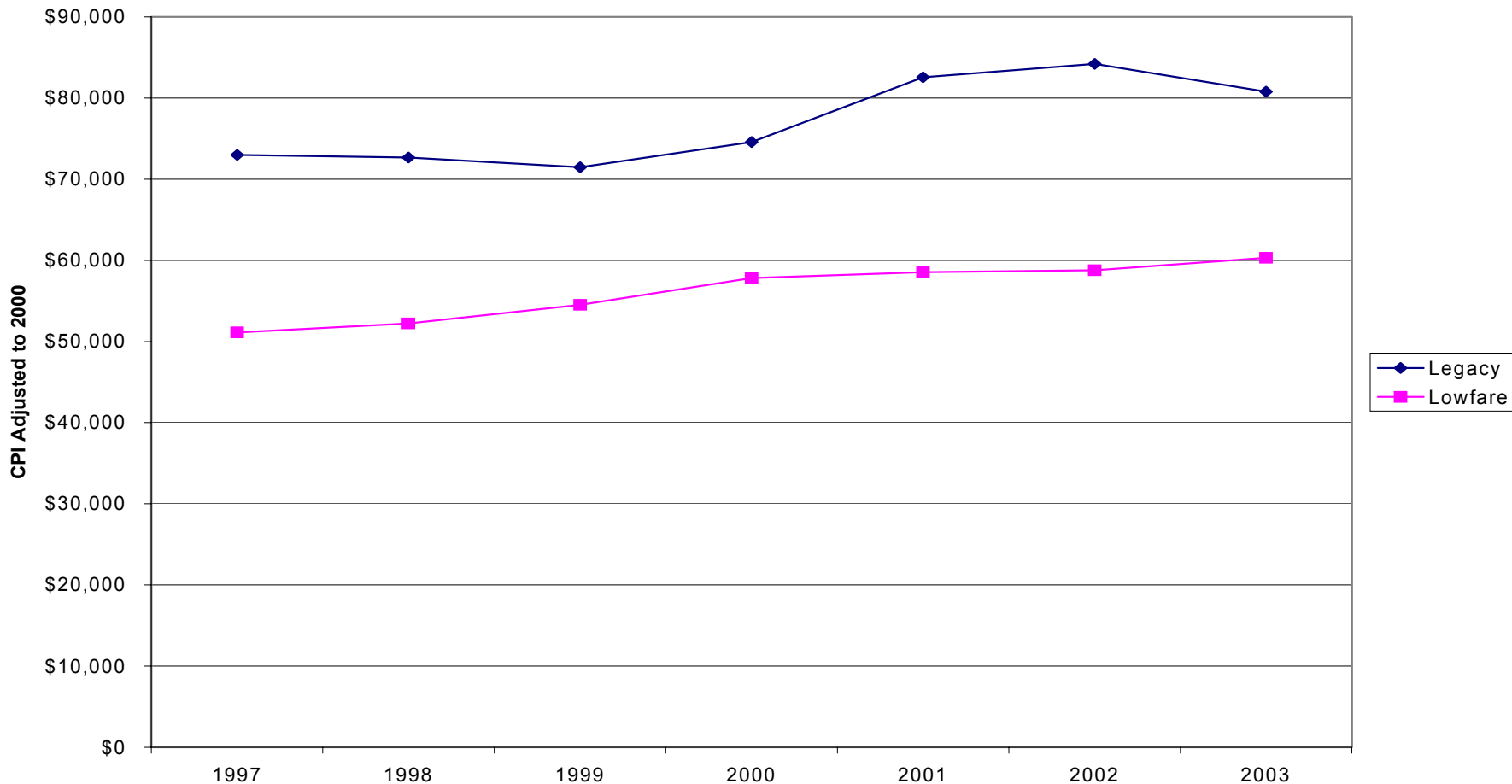
Airline Employment 1997-2003



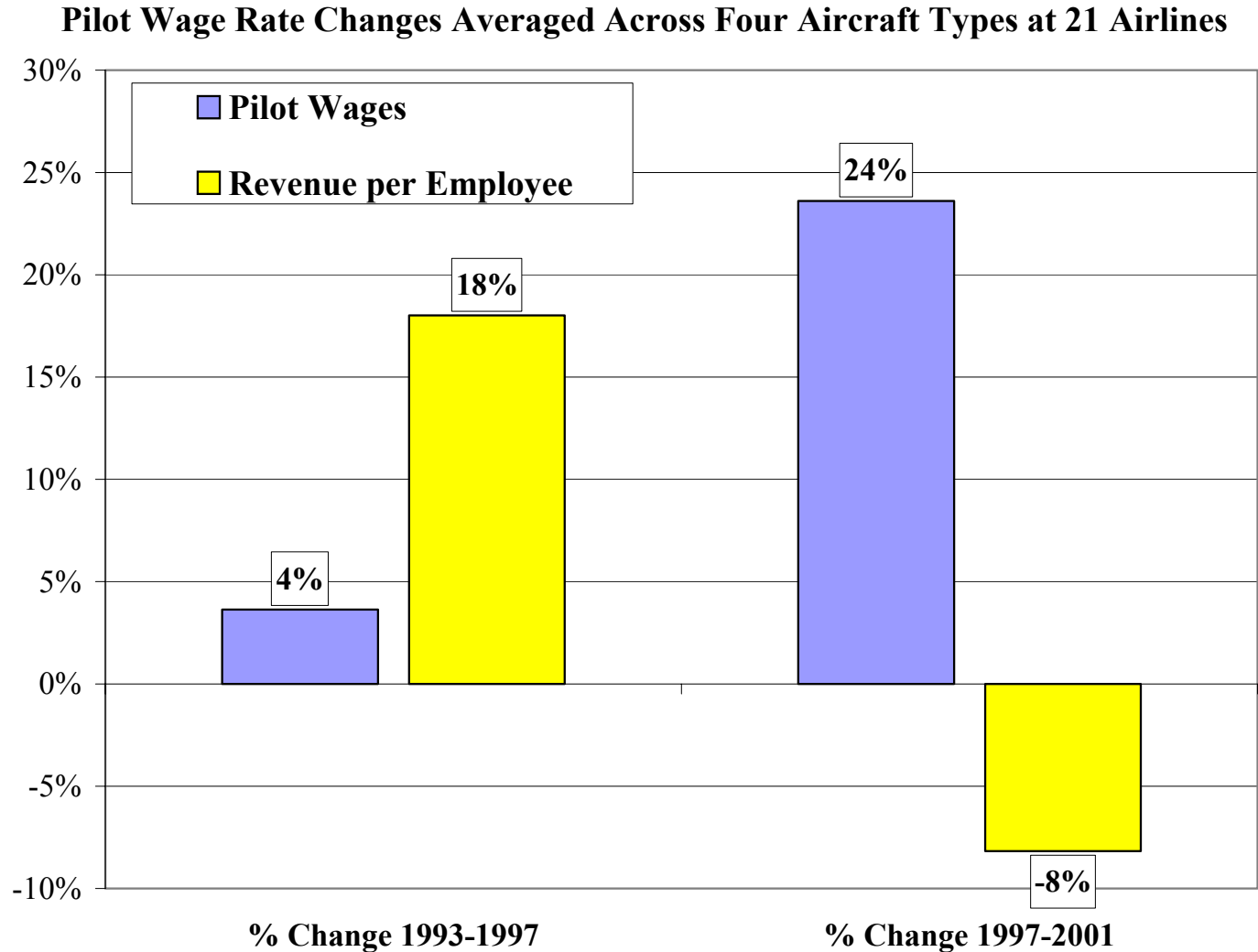


Lowfare carrier salaries/benefits per employee 25% lower than legacy carriers

Salaries and Benefits per Employee



Growth in Pilot Wage Rates vs. Growth in Revenue per Employee: 1993-1997 vs. 1997-2001



- **Unit cost differences not entirely due to labor costs:**
 - Differences in aircraft productivity can account for up to one half of difference in aircraft operating expenses per ASM
 - Translates into about 25% of total unit cost difference between traditional carriers and LCCs
- **Network carriers are exploring alternatives for increasing aircraft productivity to reduce unit costs:**
 - Continuous connecting banks to reduce ground times at hubs
 - Higher density seating options (e.g. removal of First Class)
 - More “point-to-point” flying to increase aircraft utilization
- **Successful new “business models” will depend on reducing both aircraft and labor unit costs**
 - In addition to fine-tuning fare structures to maximize unit revenues



US Airline Performance Since 2000

- **US airline industry is in the midst of its greatest transition in history**
 - Fundamental shifts in airline business models
 - More efficient new entrants with much lower costs
 - Changes envisioned by architects of deregulation more than 25 years ago
- **9/11 was not the primary cause of this “crisis”**
 - It did lead to increased operating costs
 - Other unfortunate events have not helped
 - But new competition is transforming the industry



Key Questions for the Future

- **What industry structure will emerge from this crisis?**
 - Will (most) network carriers be able to adapt and survive?
 - Or, will several network carriers have to cease operations, leaving LCCs as domestic carriers, and only a few international hub airlines?
- **What are the new revenue/operating paradigms for network carriers?**
 - Are LCC pricing and operating models broadly applicable?
 - Can network carriers reduce operating costs to competitive levels?
- **What will be the impact on small markets?**
 - Most domestic O-D pairs can only be served with a hub network
- **Should the government intervene?**
 - Stability and sustainability of air transportation system; vs.
 - Disruption of “re-structuring” process spurred by market forces