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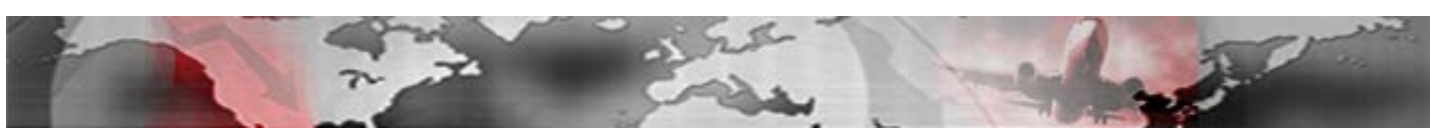


Re-Configuring an Industry “Too Big”

William S. Swelbar, Research Engineer, MIT

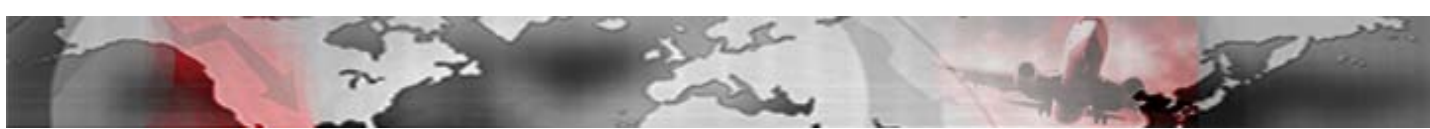
ACI-NA Airport Economics and Finance Conference

April 2009



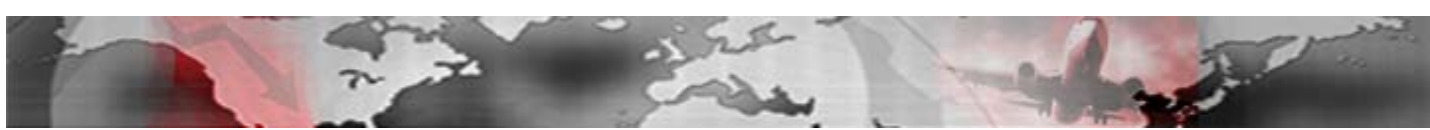
1978 - 2007

- **Barriers to entry for new and existing carriers were removed**
 - If one had a dollar, an airplane and a certificate: an airline was born
- **Barriers to exit for inefficient carriers were about to be erected**
 - Bankruptcy, government, labor as an internal source of capital
 - Inefficient providers remained in the market
- **Has the competition been healthy or unhealthy?**
- **Boom and bust cycles describe the industry**
 - And they really are no good for any stakeholder group

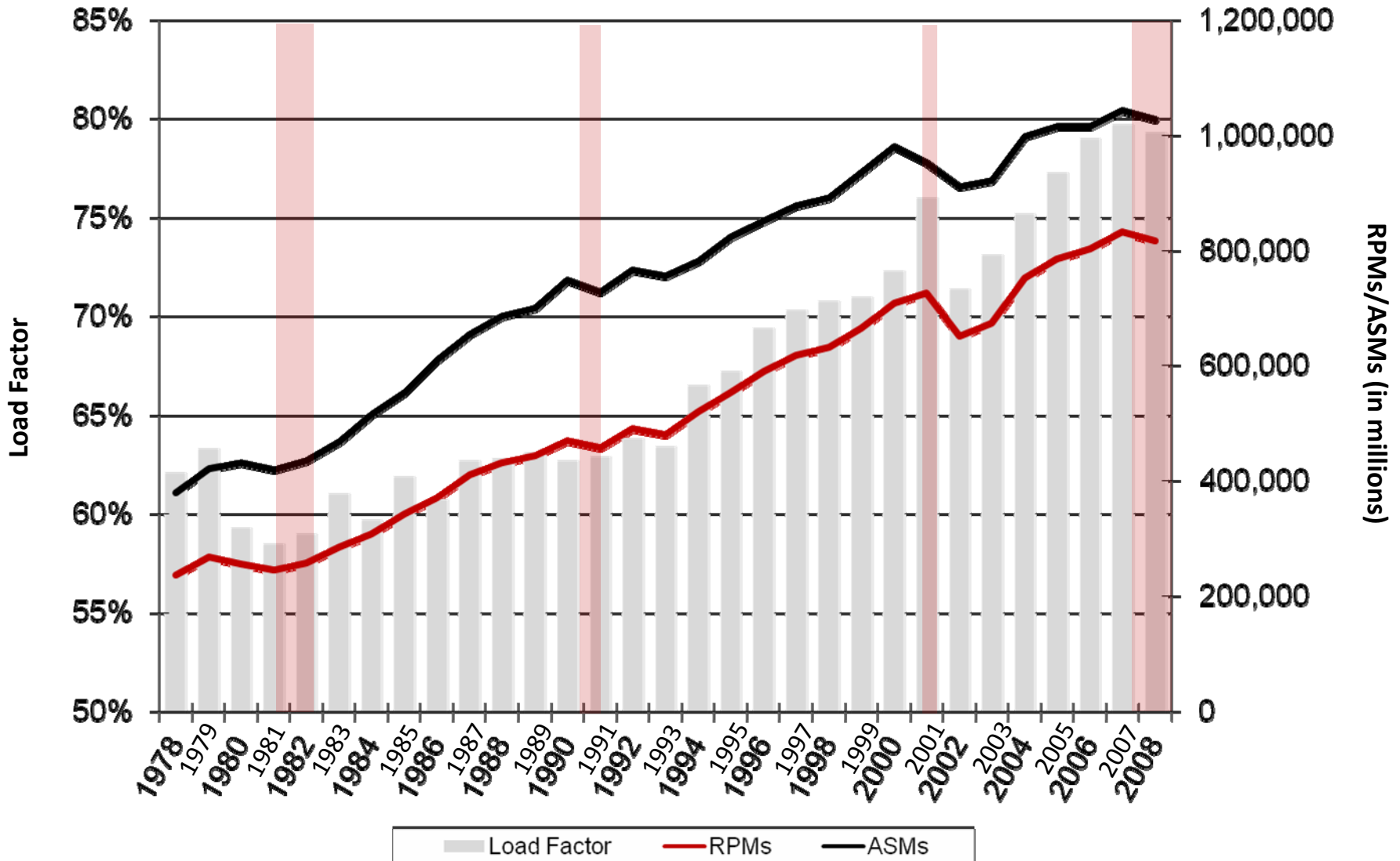


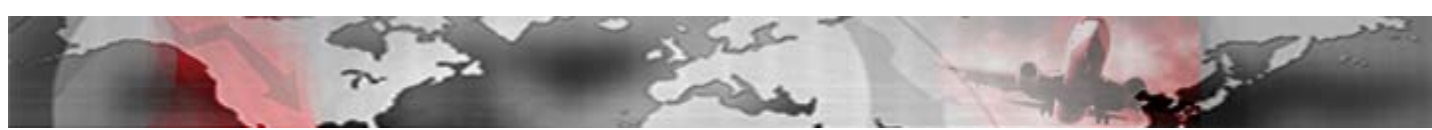
2008 - ???

- **Barriers to entry for new and existing carriers were erected**
 - Oil
 - Credit
 - Demand
- **Barriers to exit for inefficient carriers remain, but are fewer**
 - Bankruptcy will **likely** mean liquidation
 - Labor will likely not be a source of capital
- **The search continues for a sustainable model**
 - Even the industry's most profitable airline required financial engineering
 - Capacity cuts
 - Ancillary revenue
 - Consolidation
- **It used to be: "When the US caught a cold, the world sneezed"**
 - Not this time



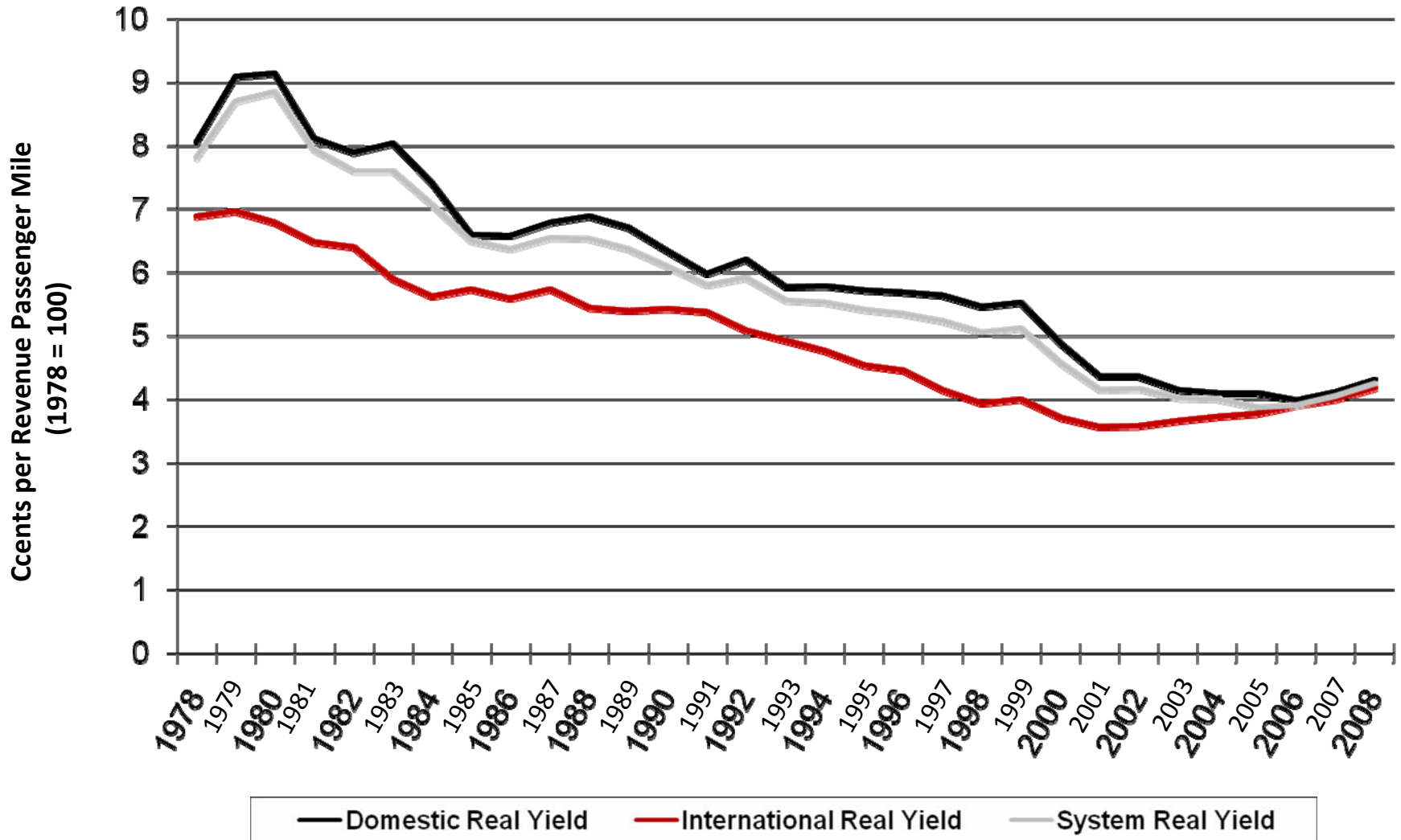
Cheap Fuel and Readily Available Credit Built An Industry Too Big Traffic, Capacity and Load Factors for US Airlines

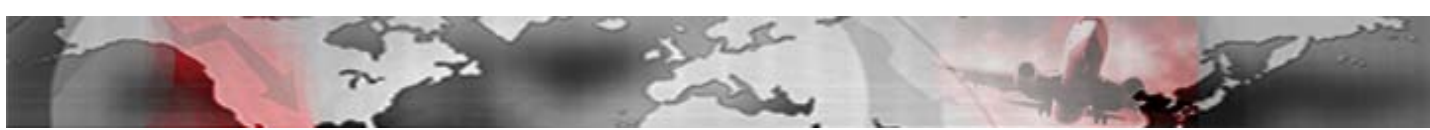




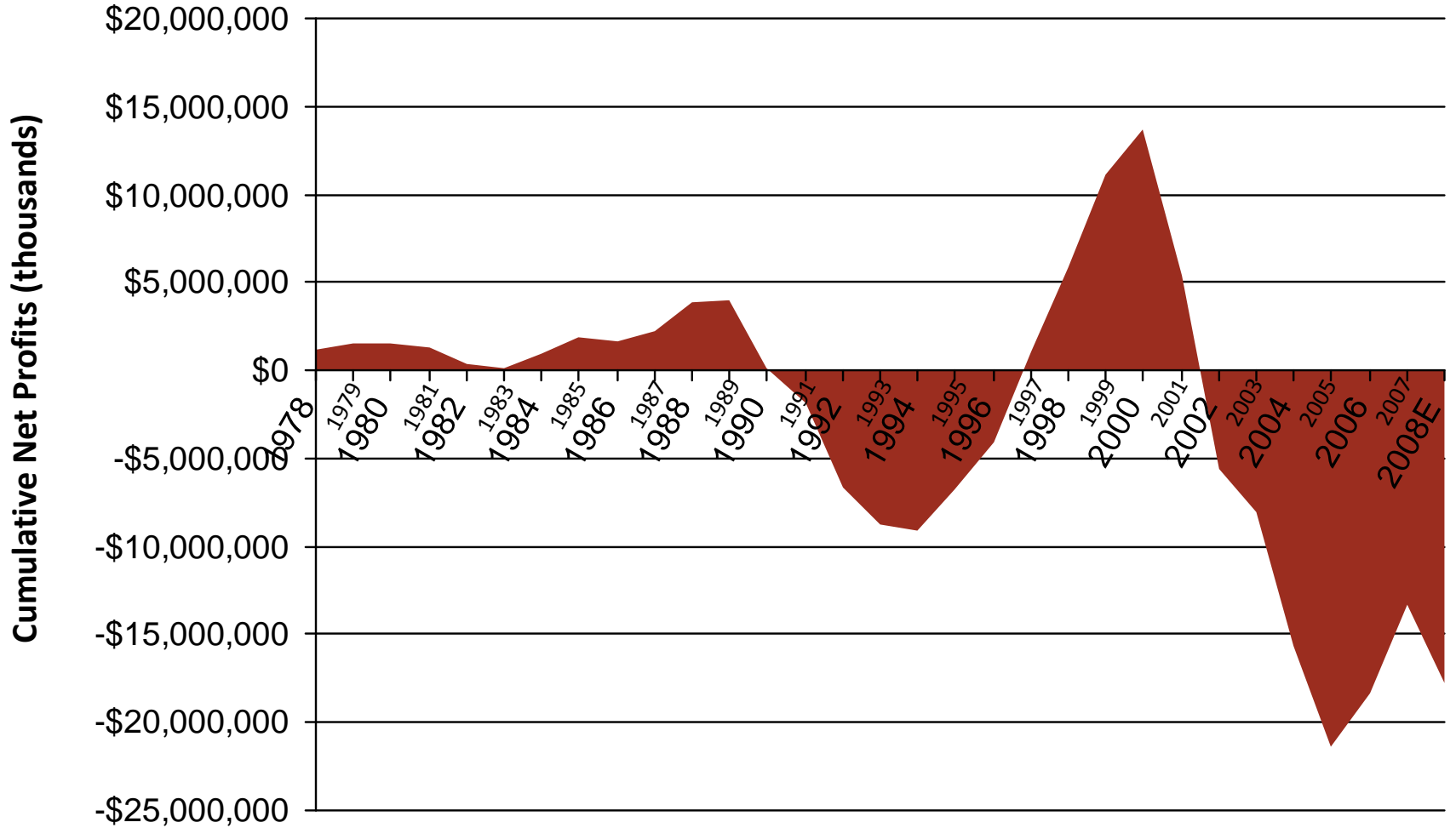
Decreasing Real Fares Became the “Great Enabler”

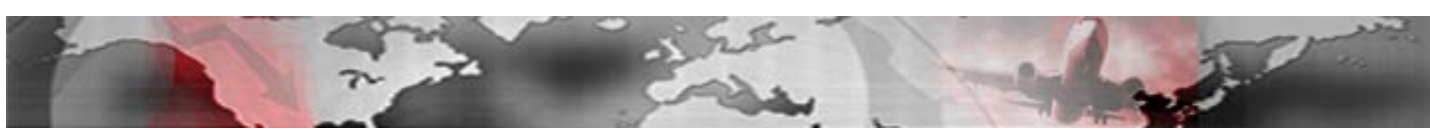
Expectations for Industry Stakeholders Not Based in Long-Term Reality





Cumulative US Airline Industry Net Profits 1978 – 2008E

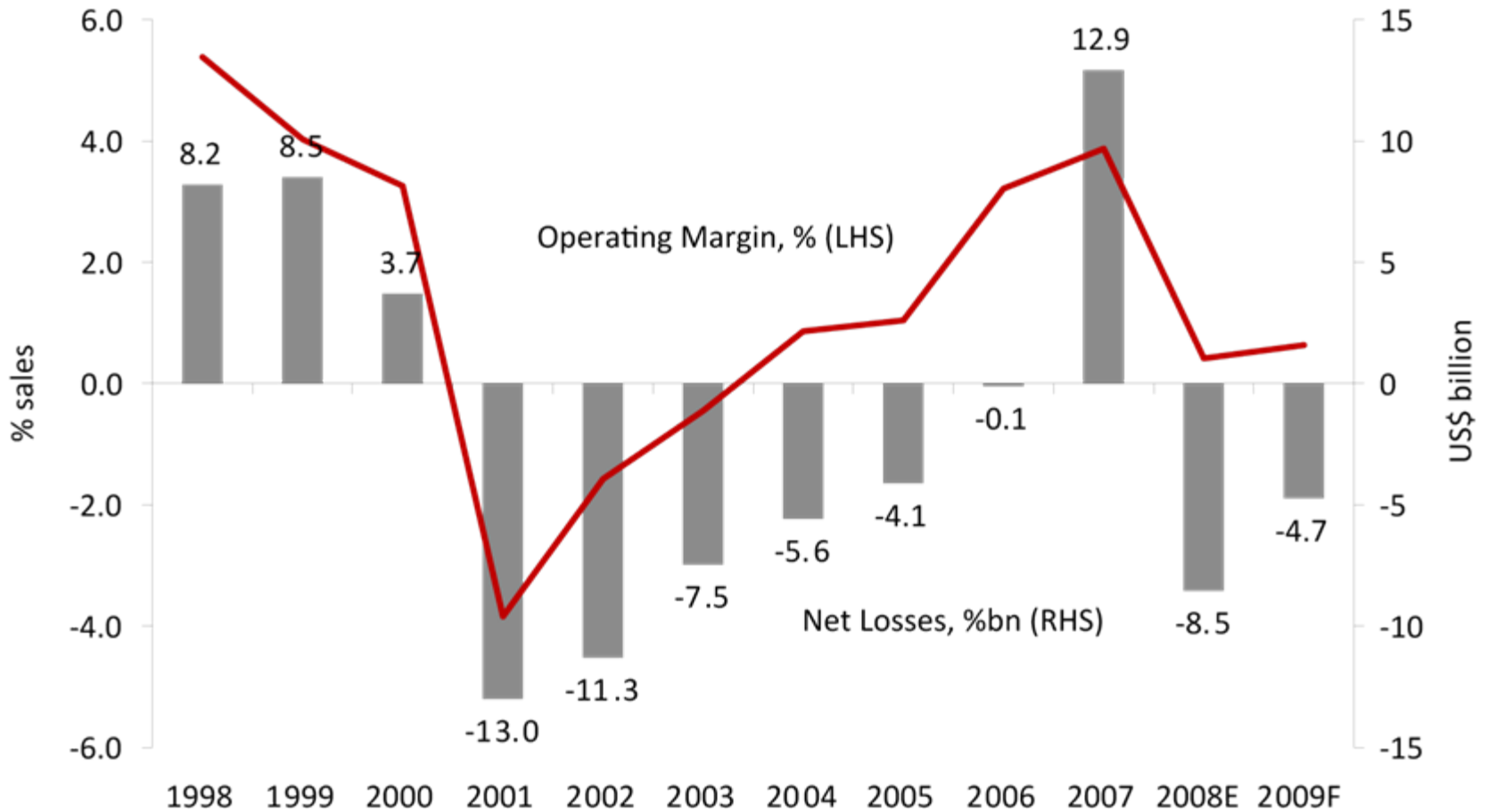


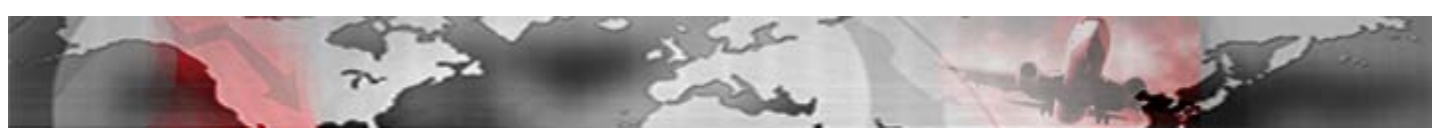


2009 Net Loss of \$4.7B Forecast for Global Industry

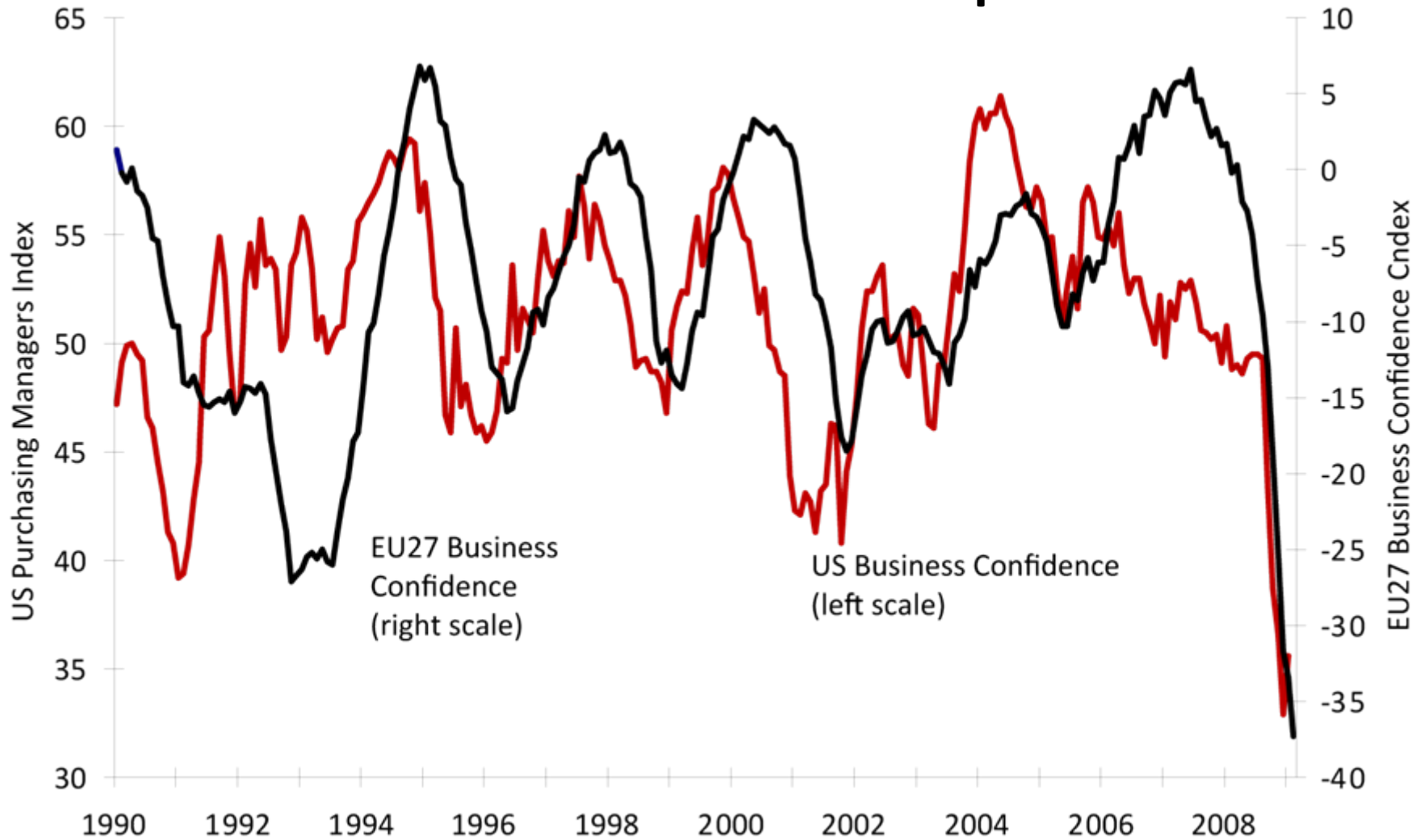
Only This Time It Is Not the US

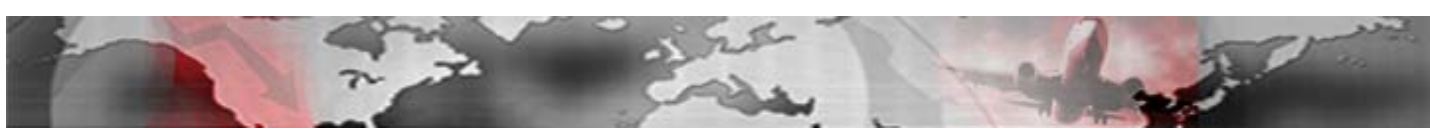
Global Commercial Airlines





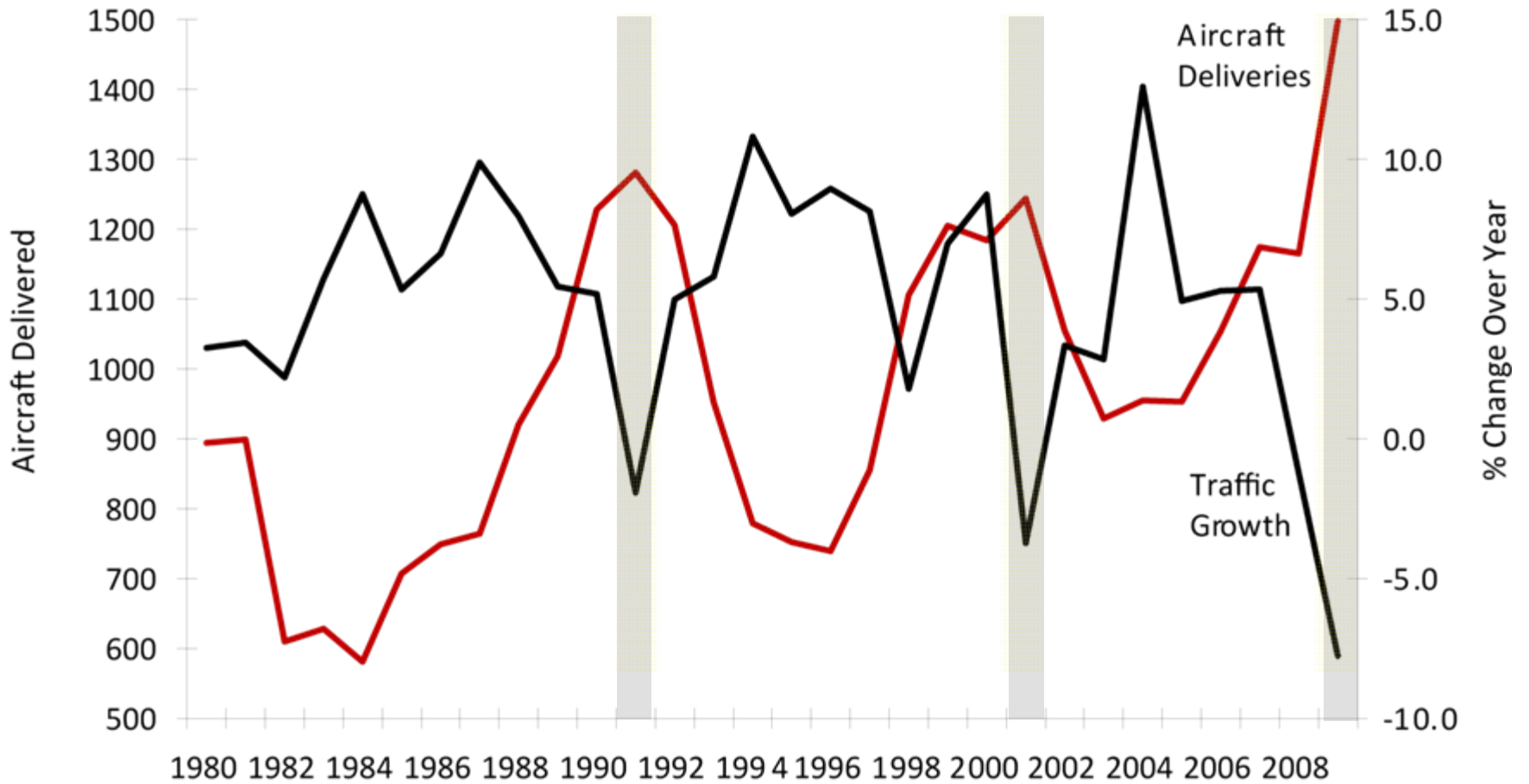
Business Confidence At New Lows Both in the US and Europe

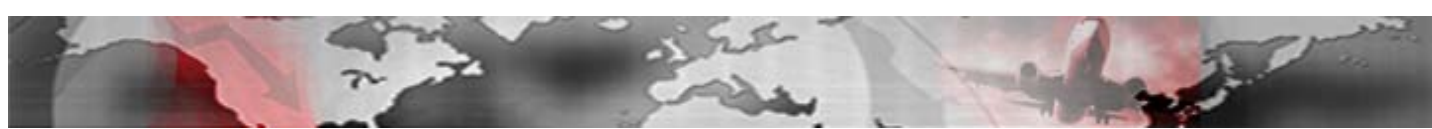




History Repeats Itself Yet Again

Aircraft Deliveries Growth in TKPs





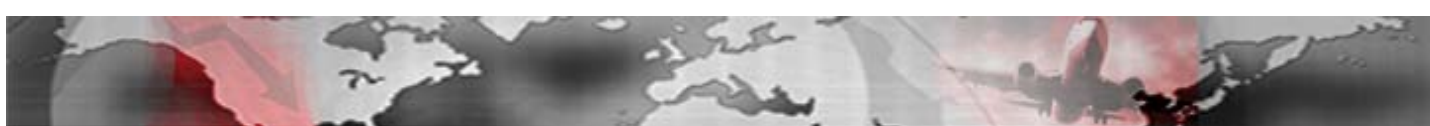
A Simplified US Network Carrier Income Statement

\$ per Enplaned Passenger

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1st 9 Mos. 2008
Passenger Revenue	\$ 180.28	\$ 177.35	\$ 189.52	\$ 180.15	\$ 153.17	\$ 160.15	\$ 163.54	\$ 168.93	\$ 181.70	\$ 184.17	\$ 199.99
Labor Expense	\$ 59.34	\$ 61.91	\$ 65.91	\$ 76.15	\$ 76.81	\$ 72.34	\$ 66.09	\$ 57.62	\$ 56.46	\$ 57.24	\$ 58.44
Fuel Expense	\$ 15.39	\$ 15.77	\$ 23.67	\$ 24.50	\$ 20.99	\$ 24.33	\$ 33.57	\$ 48.20	\$ 56.81	\$ 59.86	\$ 93.64
Maintenance Expense	\$ 17.03	\$ 17.34	\$ 18.38	\$ 20.53	\$ 19.75	\$ 17.99	\$ 17.21	\$ 17.28	\$ 18.67	\$ 19.85	\$ 21.30
Outsourced Maintenance Expense	\$ 4.32	\$ 4.76	\$ 4.91	\$ 5.56	\$ 5.13	\$ 5.20	\$ 5.60	\$ 7.06	\$ 8.18	\$ 8.82	\$ 9.29
All Other Expense per Enplaned Passenger	\$ 54.21	\$ 55.01	\$ 54.24	\$ 62.44	\$ 55.49	\$ 52.72	\$ 51.56	\$ 51.06	\$ 50.58	\$ 50.28	\$ 61.61
Total Operating Expenses	\$ 150.28	\$ 154.80	\$ 167.11	\$ 189.18	\$ 178.16	\$ 172.57	\$ 174.02	\$ 181.21	\$ 190.71	\$ 196.05	\$ 244.28
Profit based on Passenger Revenue Only	\$29.99	\$22.55	\$22.41	(\$9.03)	(\$24.99)	(\$12.42)	(\$10.49)	(\$12.28)	(\$9.00)	(\$11.88)	(\$44.29)

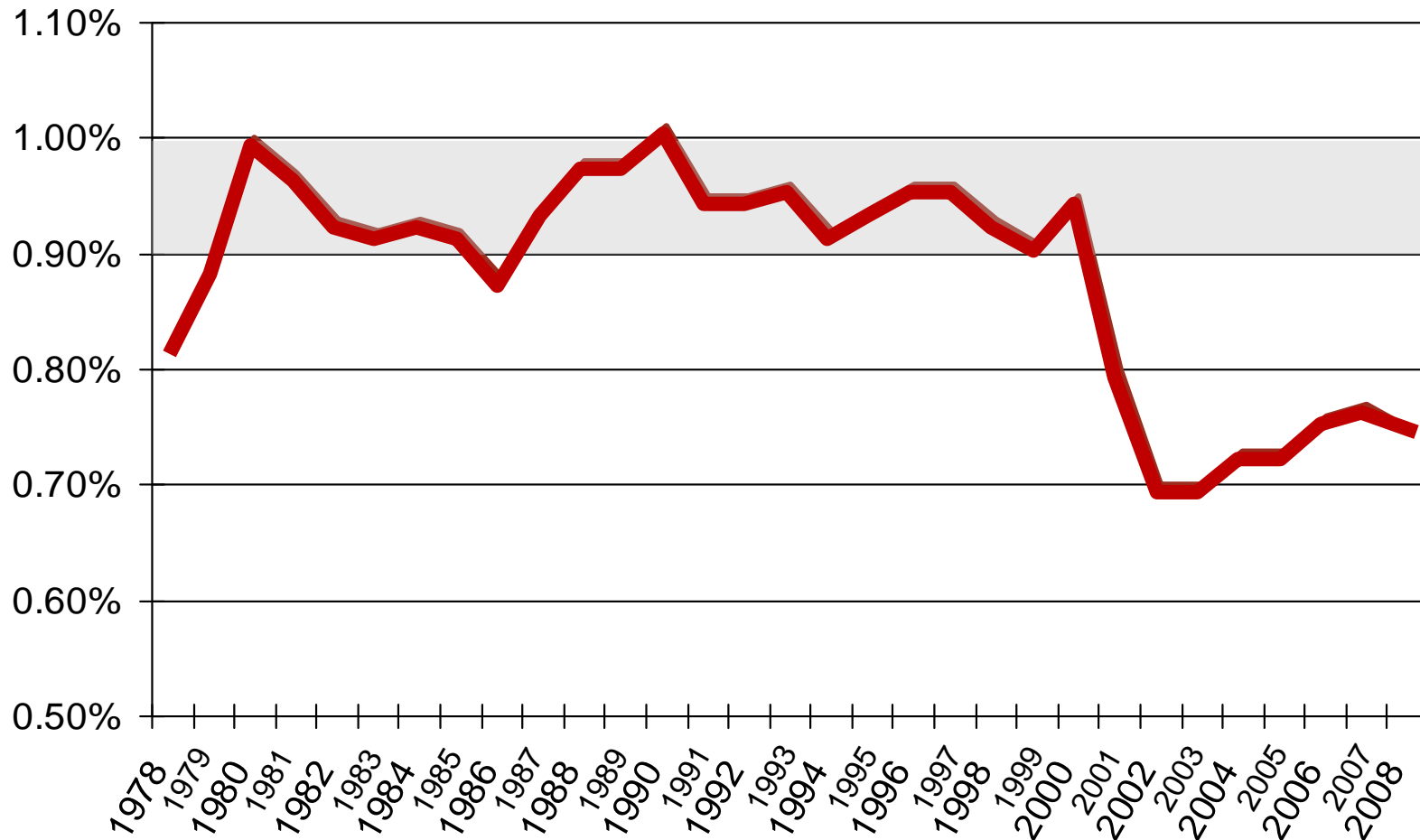
Source: MIT Airline Data Project

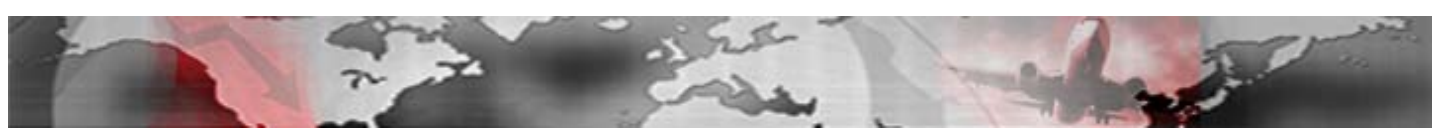
Note: Certain expense items associated with other revenue included.



Passenger Revenue as a Percent of GDP

Now \$2 Trillion Less in GDP





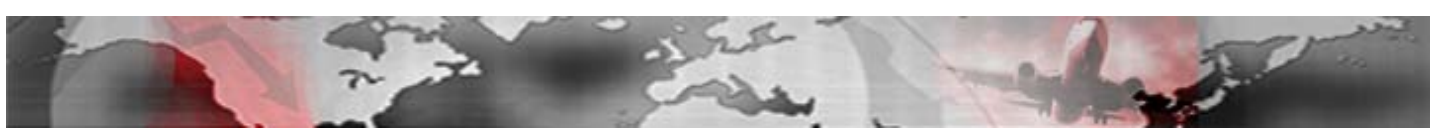
A Simplified US Low Cost Carrier Income Statement

\$ per Enplaned Passenger

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1st 9 Mos. 2008
Passenger Revenue	\$ 69.99	\$ 73.55	\$ 80.25	\$ 77.73	\$ 77.82	\$ 81.68	\$ 81.66	\$ 86.94	\$ 94.85	\$ 95.17	\$ 104.35
Labor Expense	\$ 24.31	\$ 24.84	\$ 26.08	\$ 28.22	\$ 29.92	\$ 31.32	\$ 31.62	\$ 31.66	\$ 32.09	\$ 31.00	\$ 30.43
Fuel Expense	\$ 8.43	\$ 9.35	\$ 14.32	\$ 13.89	\$ 13.29	\$ 14.48	\$ 17.01	\$ 22.11	\$ 27.70	\$ 29.48	\$ 41.07
Maintenance Expense	\$ 8.18	\$ 9.35	\$ 9.05	\$ 8.91	\$ 8.32	\$ 8.77	\$ 8.84	\$ 8.32	\$ 8.25	\$ 8.69	\$ 9.22
Outsourced Maintenance Expense	\$ 4.74	\$ 4.93	\$ 4.82	\$ 4.79	\$ 4.27	\$ 4.39	\$ 4.40	\$ 4.18	\$ 4.52	\$ 5.09	\$ 5.56
All Other Expense per Enplaned Passenger	\$ 21.92	\$ 20.27	\$ 19.96	\$ 22.03	\$ 24.56	\$ 22.90	\$ 26.32	\$ 25.44	\$ 23.12	\$ 22.10	\$ 22.10
Total Operating Expenses	\$ 67.58	\$ 68.75	\$ 74.23	\$ 77.83	\$ 80.36	\$ 81.86	\$ 88.19	\$ 91.70	\$ 95.68	\$ 96.36	\$ 108.38
Profit based on Passenger Revenue Only	\$ 2.41	\$ 4.80	\$ 6.02	(\$ 0.10)	(\$ 2.53)	(\$ 0.18)	(\$ 6.53)	(\$ 4.76)	(\$ 0.82)	(\$ 1.18)	(\$ 4.03)

Source: MIT Airline Data Project

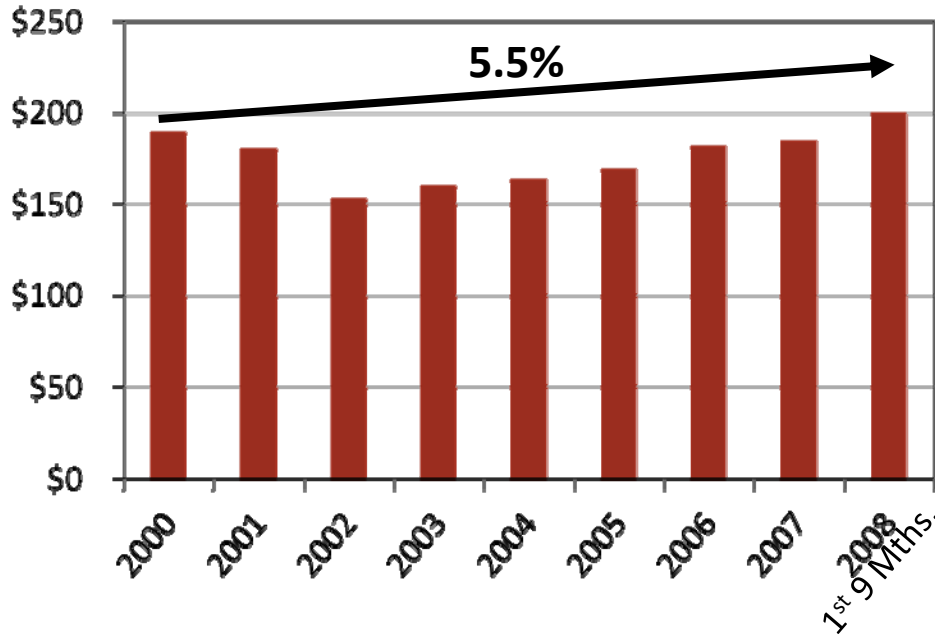
Note: Certain expense items associated with other revenue included.



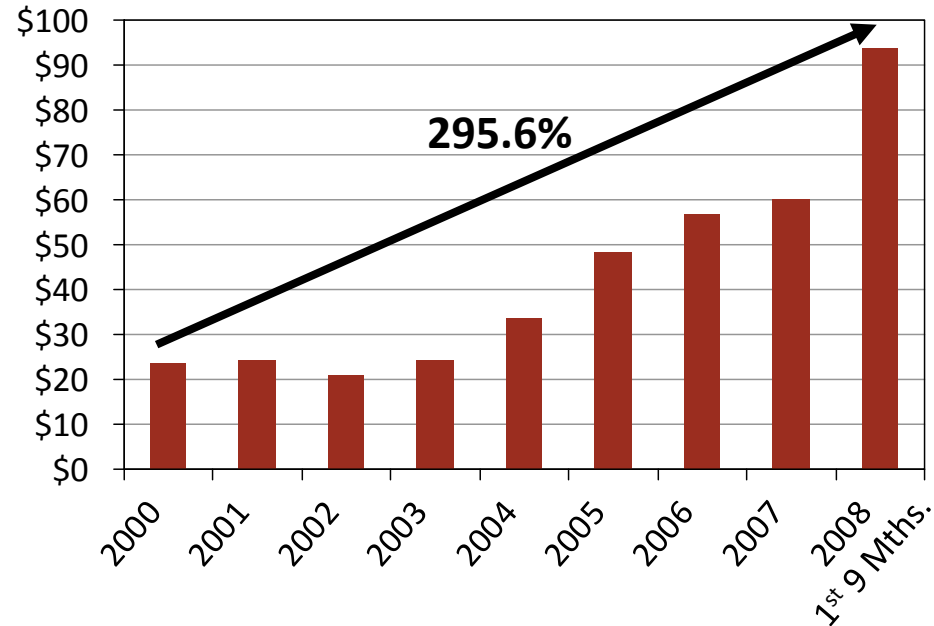
The Need for Ancillary Revenue

US Network Carriers

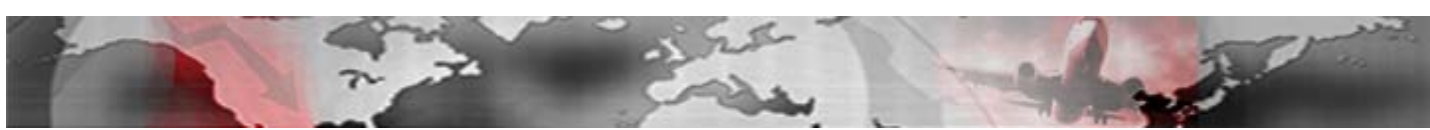
Passenger Revenue per Enplaned Passenger



Fuel Expense per Enplaned Passenger



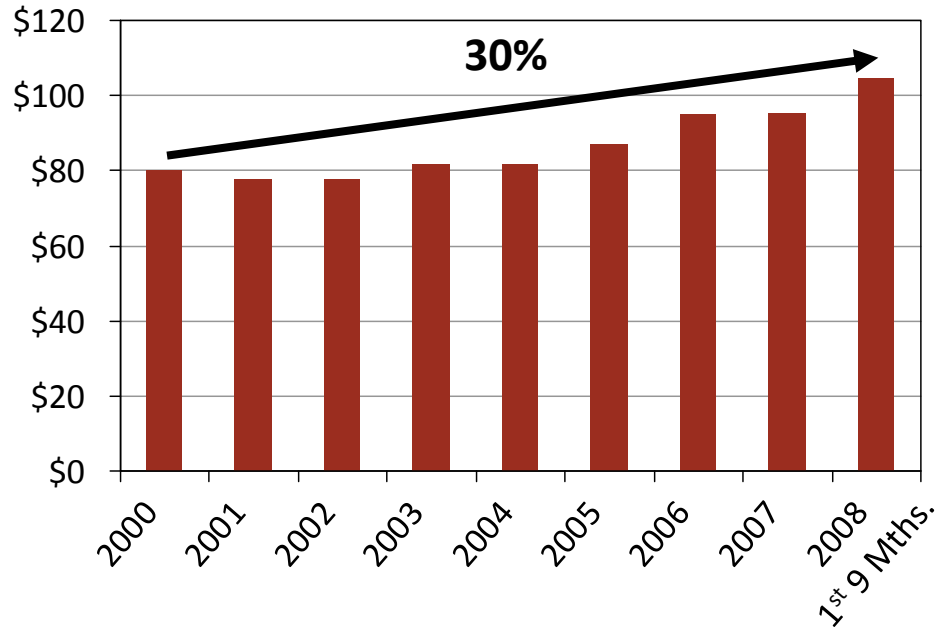
Source: MIT Airline Data Project



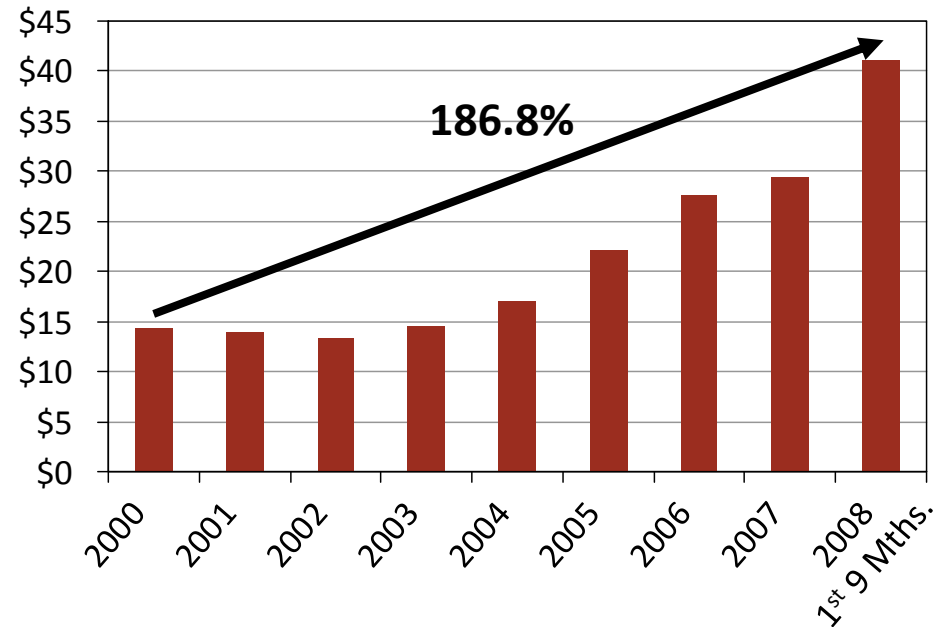
The Search for **New Revenue Sources**

Low Cost Carriers

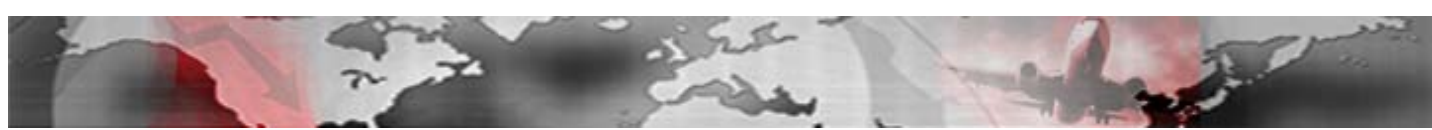
Passenger Revenue per Enplaned Passenger



Fuel Expense per Enplaned Passenger

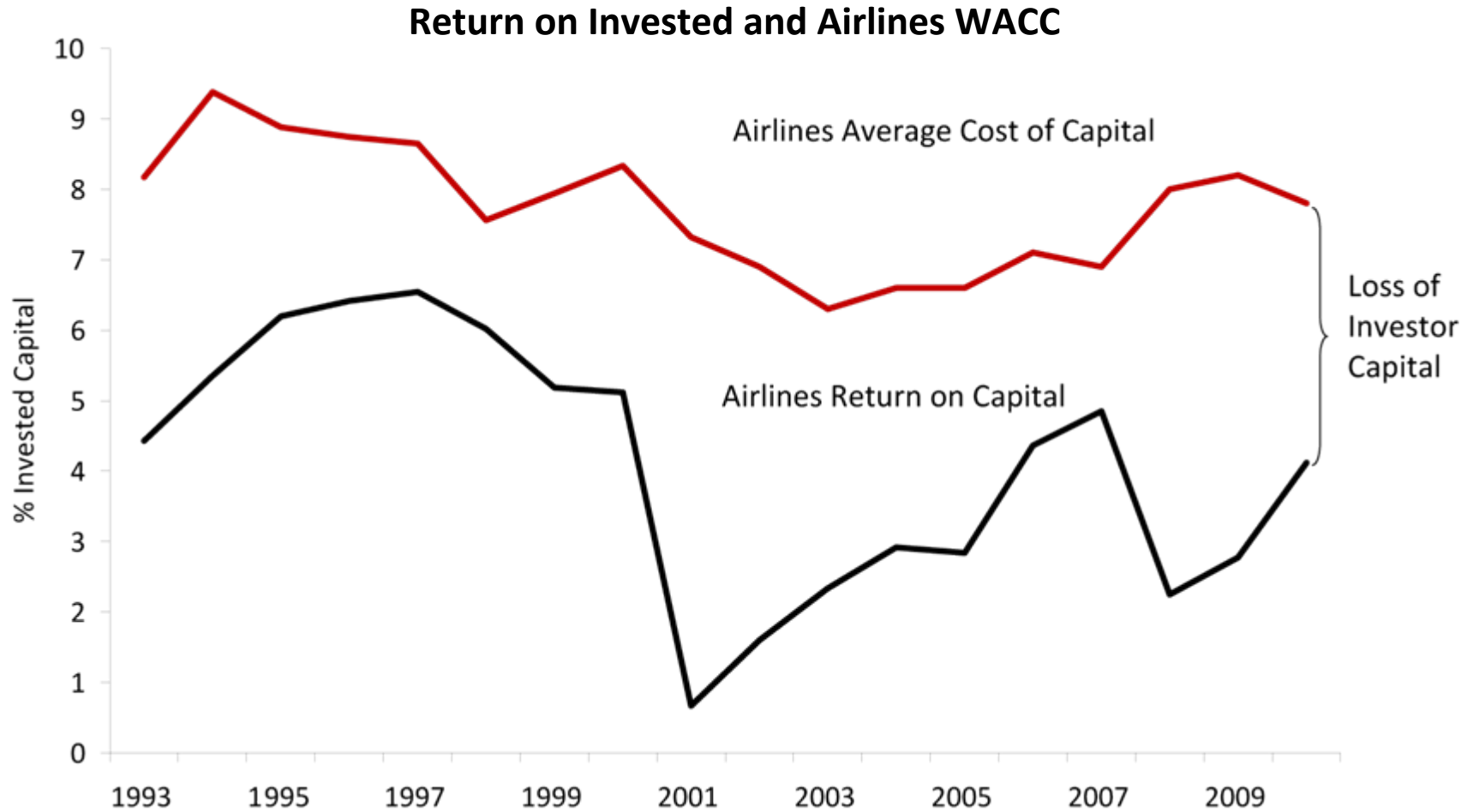


Source: MIT Airline Data Project



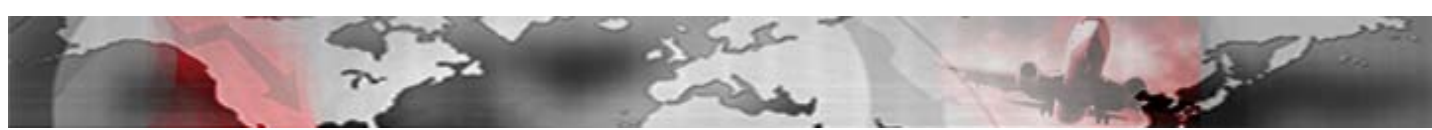
Airlines Unable to Return Cost of Capital

Credit Crunch Will Facilitate the Need to Change

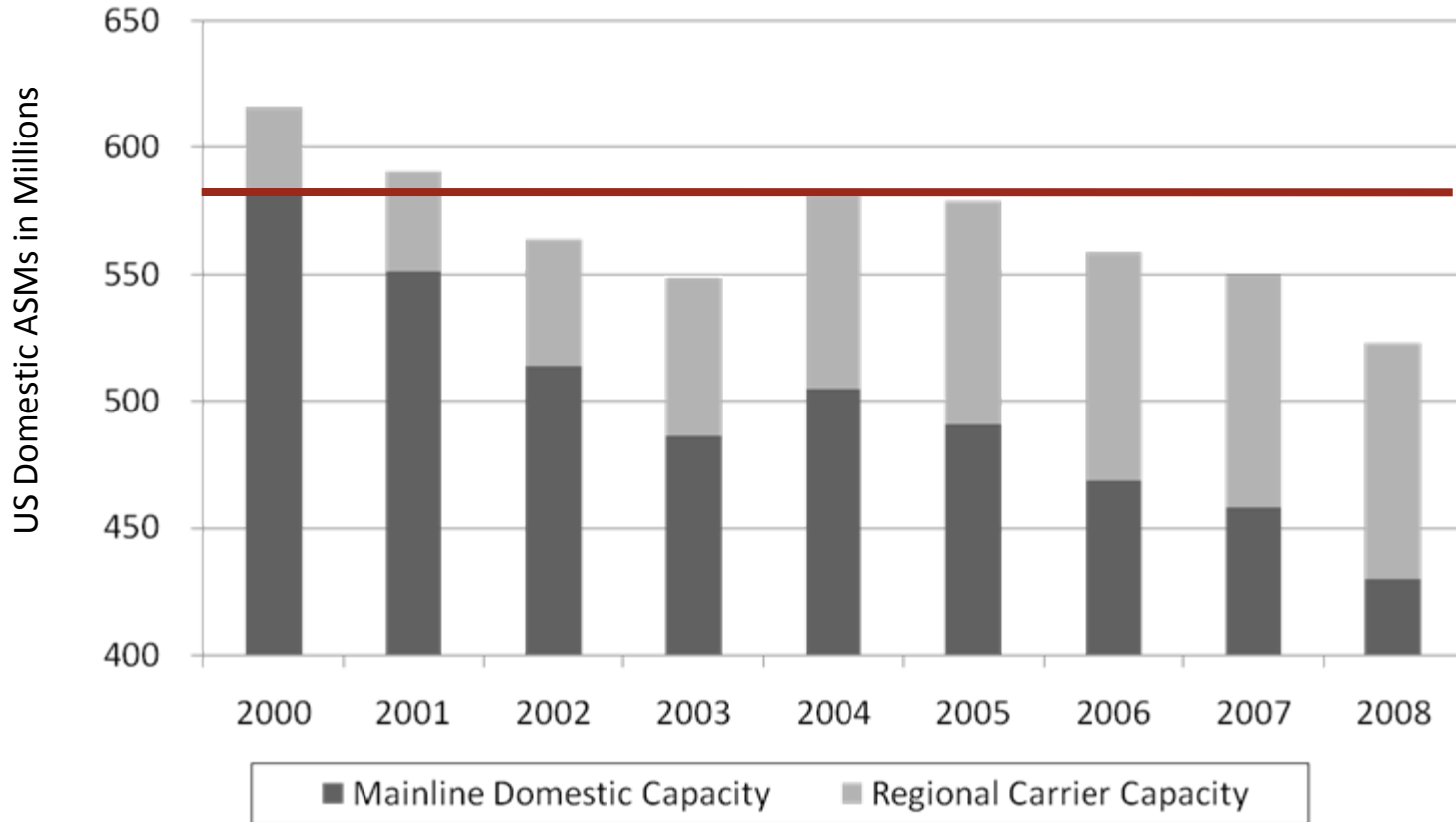


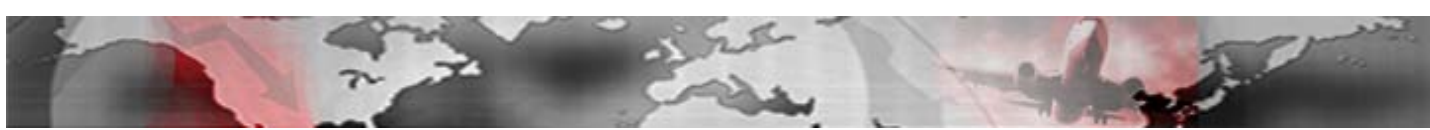
We Continue the Process of Reducing the Size of An Industry Too Big





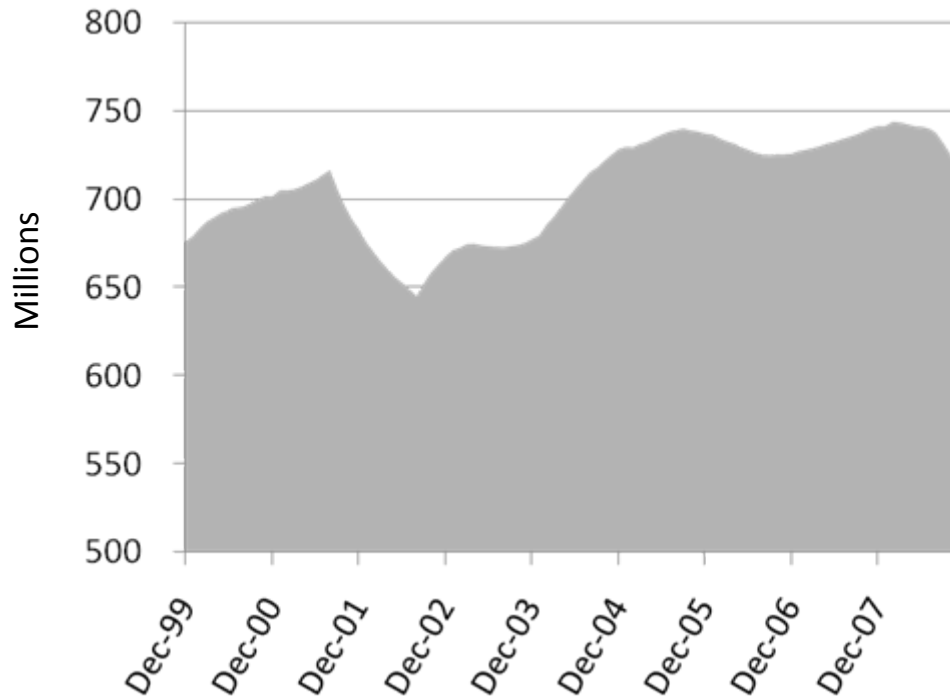
A Significant Pulldown in Domestic Capacity Has Occurred. Will the Historic Names Remain In the Domestic Space?



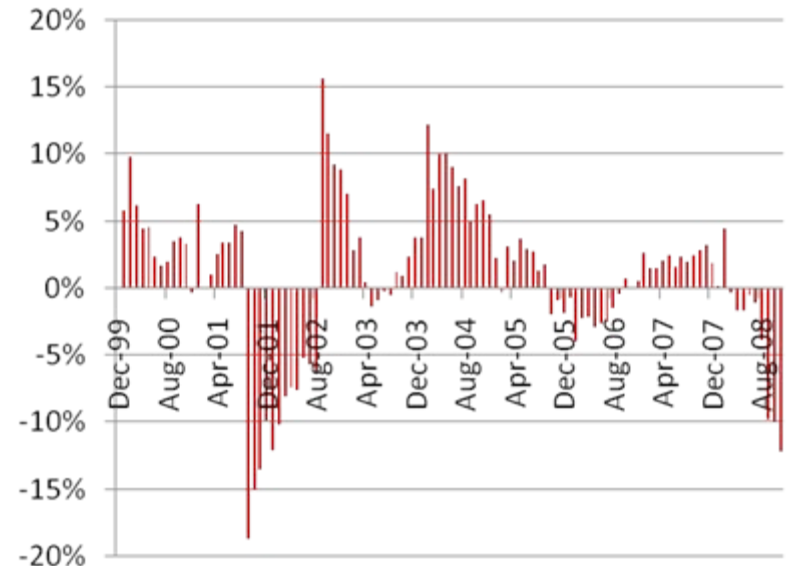


Actions Announced Last Summer Just Now Being Realized

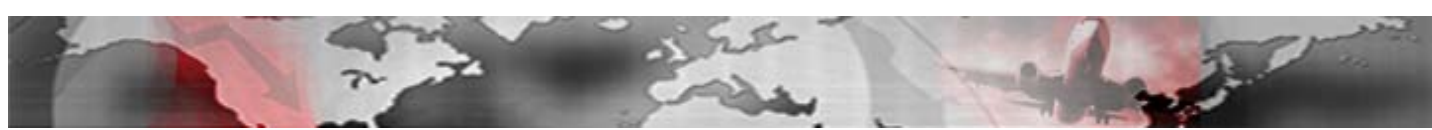
**Domestic Available Seat Miles
12 Month Moving Total**



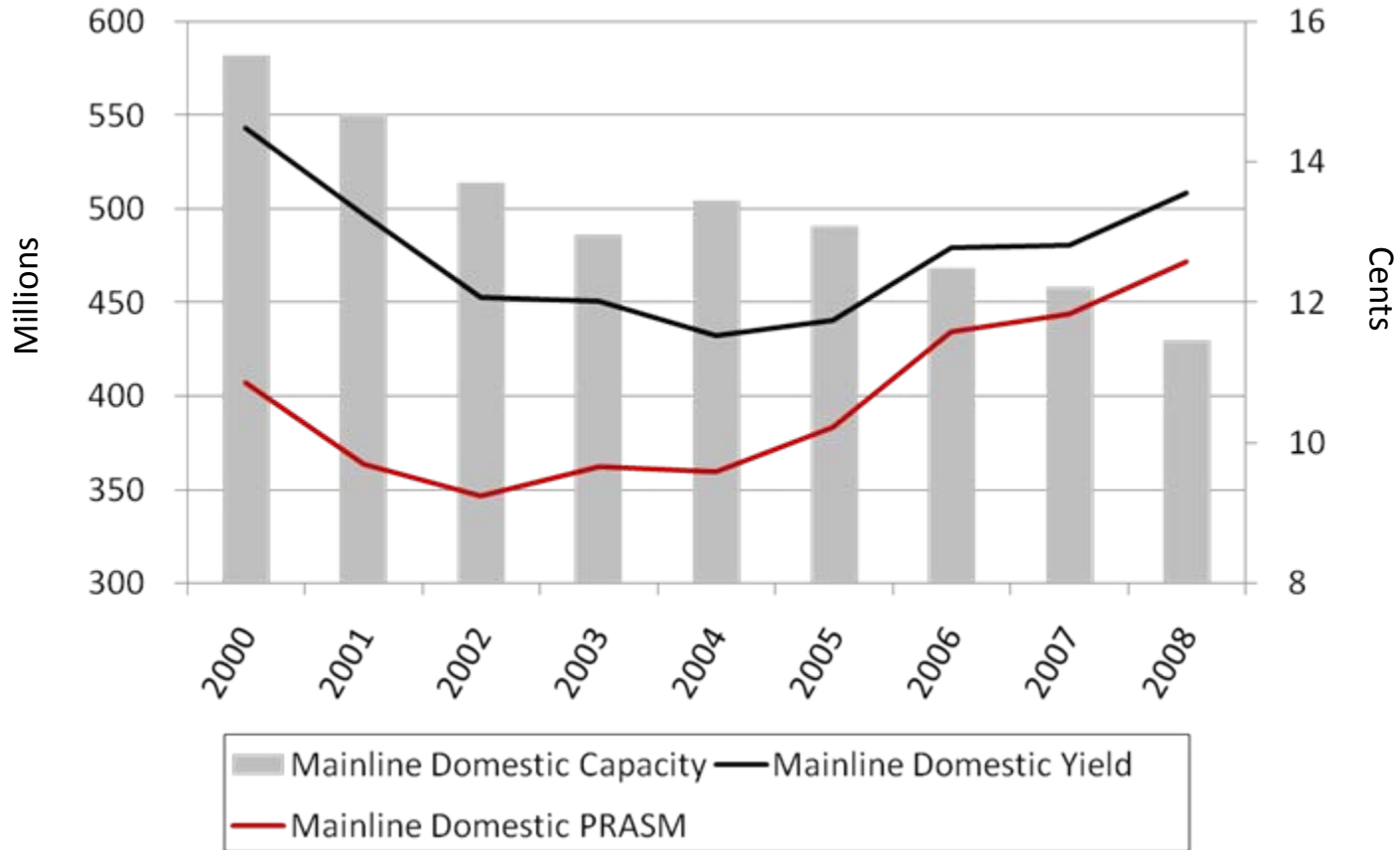
**Year Over Year
Percent Change**



SOURCE: Bureau of Transportation Statistics



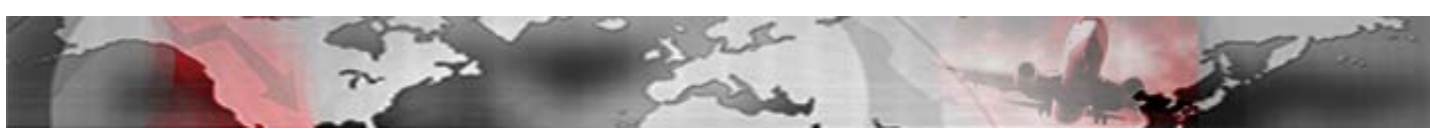
The Causal Relationship of Declining Capacity and Increasing Unit Revenues Was Working



A Global Strategy for All Emerged in 2004

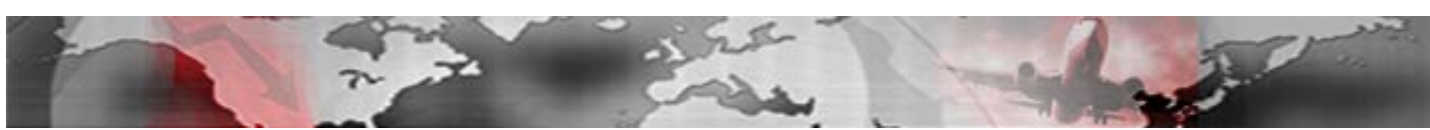


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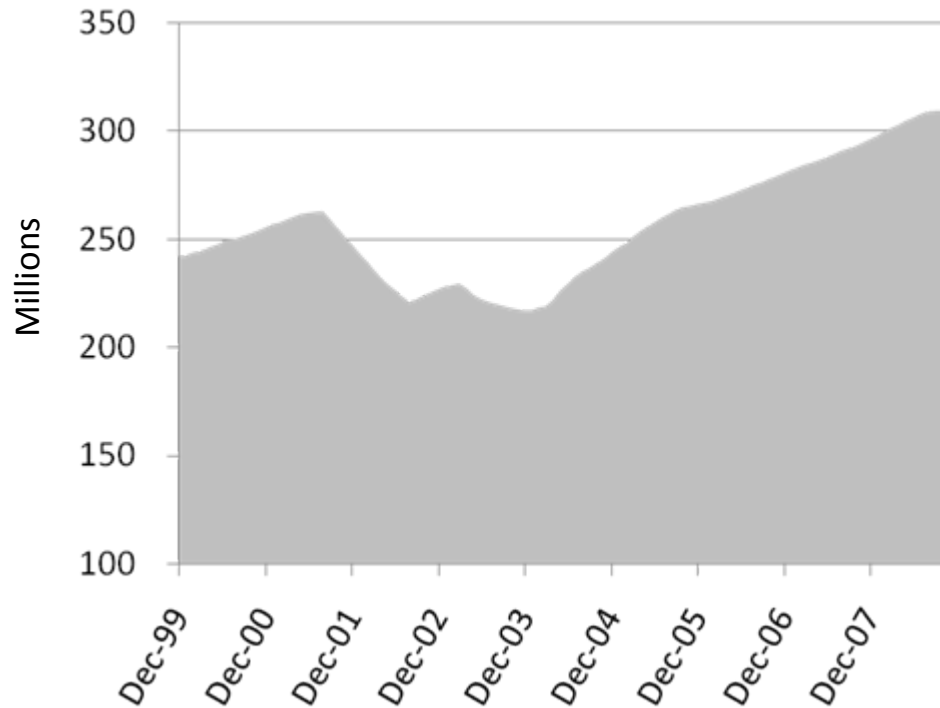
International Growth

- **Transatlantic growth successful in conjunction with alliance partners**
 - Transpacific growth becomes dependant on economies like China and India becoming consuming economies
 - Caribbean/Mexico/Deep South America flying showing the greatest increase
 - Deceiving as most of growth with narrowbody aircraft
 - 50% of Latin demand centered on Brazil and Mexico
 - Becoming an extension of the US domestic market?
- **Yield trends positive but as you learned, added capacity has its negative consequences**
 - Are we beginning to see product competition?
 - The growth in international operations has been an important contributor to improved US network carrier performance

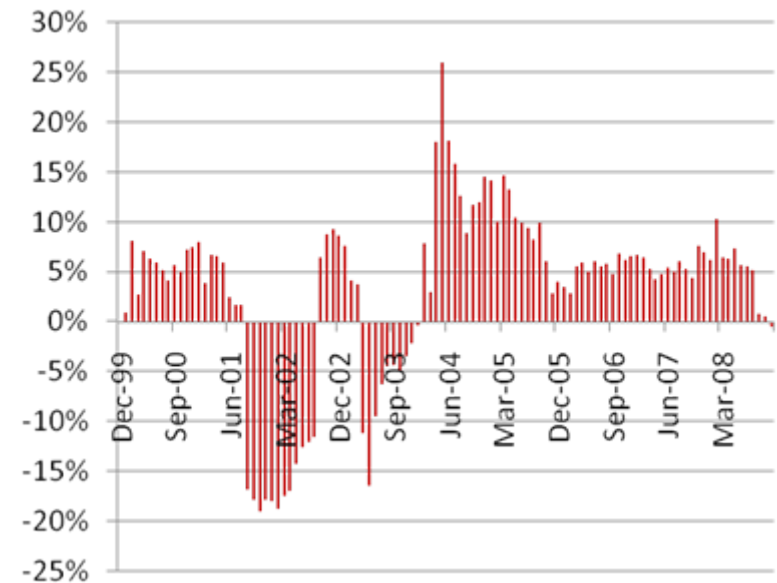


Shifting Domestic Capacity to International Markets

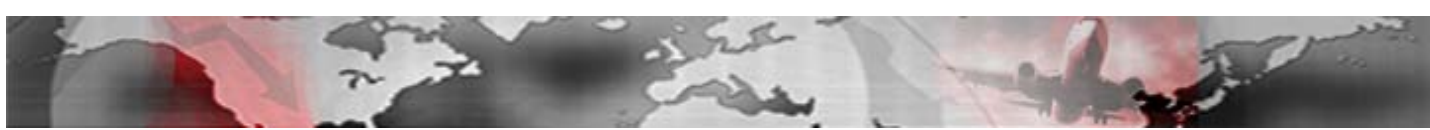
**International Available Seat Miles
12 Month Moving Total**



**Year Over Year
Percent Change**

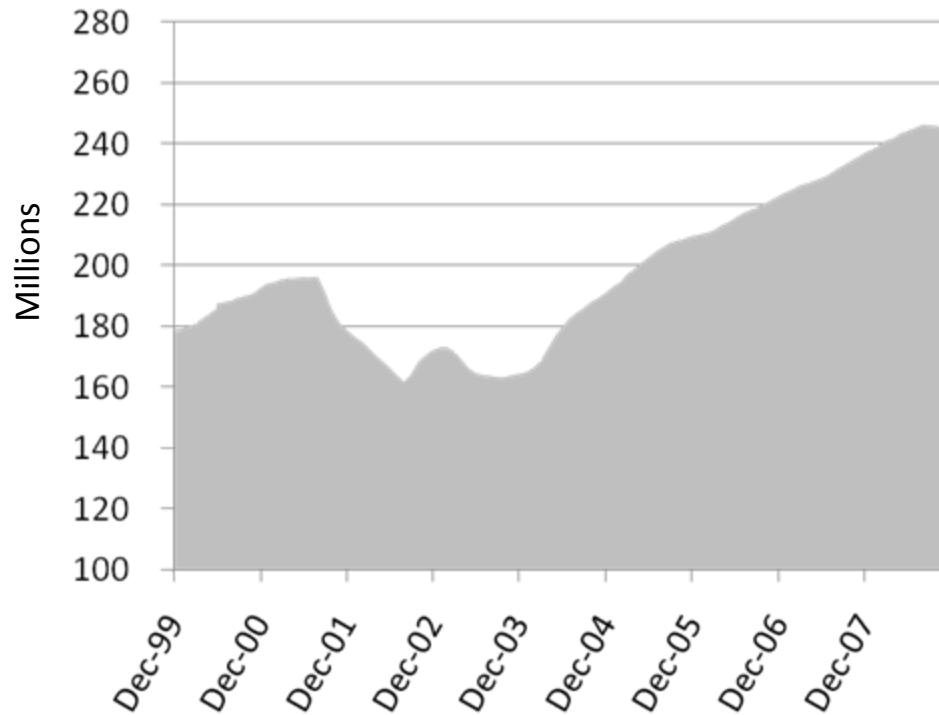


SOURCE: Bureau of Transportation Statistics

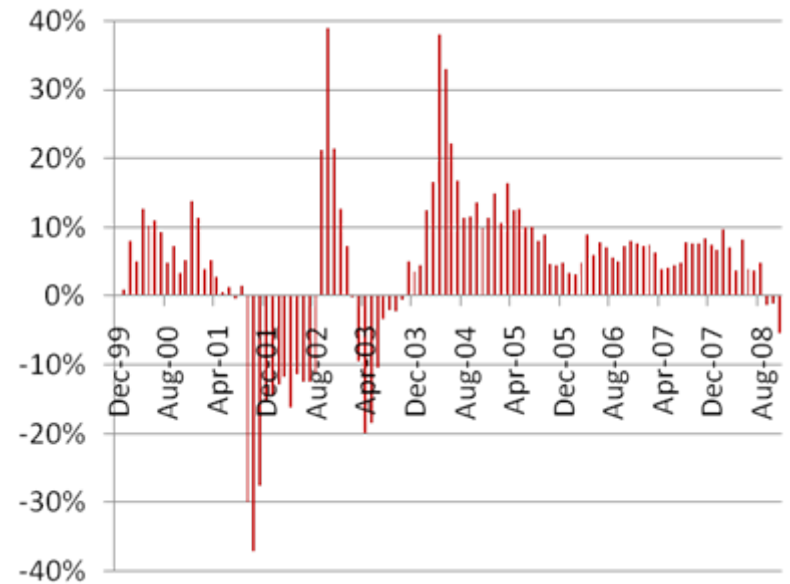


The Growth in International Traffic Since 2004

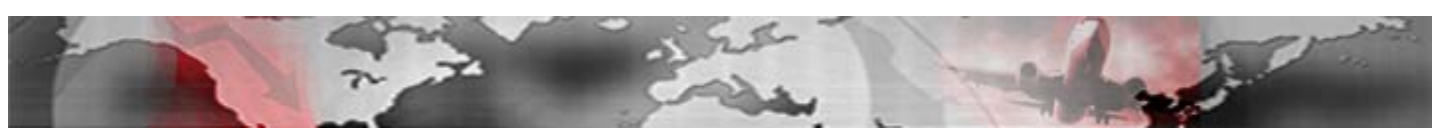
**International Revenue Passenger Miles
12 Month Moving Total**



**Year Over Year
Percent Change**



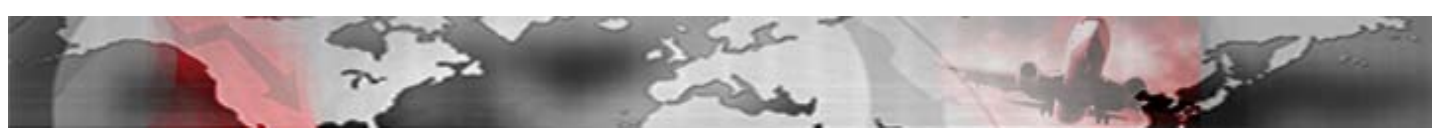
SOURCE: Bureau of Transportation Statistics



The Shift to International Flying Has Had Positive Revenue Results

But, Are We Nearing the End?





Concluding Thoughts

- One can say that many industries associated with the airline industry do well, but the airline business does not
- Can that continue? **I fear not. Not many rabbits left for some.**
- Consolidation/contraction of capacity facilitates needed revenue traction for the airline business
- Just like banks and autos, **the airline industry will be smaller and needs to be smaller**
 - However, it is difficult, if not impossible, for the airport infrastructure to do the same without some markets becoming obsolete
- Changed operating models are necessary. It can be done.

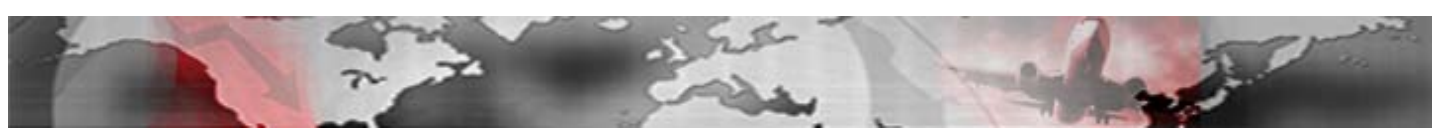
Thank You



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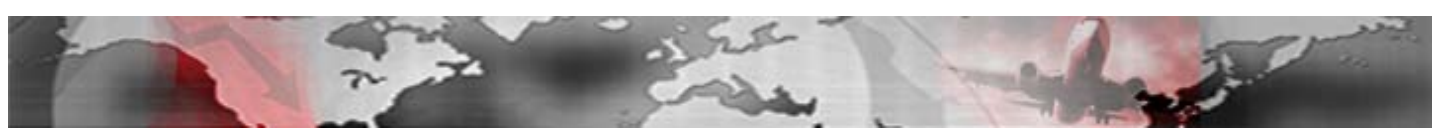


About the MIT Global Airline Industry Program



About Us

- The MIT **Global Airline Industry Program** represents a large-scale effort that provides the means for MIT and the academic community to make contributions in studying the airline industry and in educating its future leaders. This effort is funded under the umbrella of the **Sloan Foundation's Industry Studies Program**.
- The MIT **Airline Industry Research Consortium** is an outgrowth of the MIT Global Airline Industry Program, sponsored by the Alfred P. Sloan Foundation. Its goal is to engage industry stakeholders in the next phase of the Program's research and to provide a forum for addressing key issues facing the airline industry during this critical period of transformation.
- Another goal of MIT's **Global Airline Industry Program** is to develop a body of knowledge for understanding development, growth and competitive advantage in this industry, which is one of the most diverse, dynamic and perplexing of the world. To further this goal, and to support the goals of the **Sloan Foundation Industry Studies Program** and the goals set forth in establishing the **MIT Airline Industry Research Consortium**, the **MIT Global Airline Industry Program** recently introduced the establishment of the **Airline Data Project**.



Members of the MIT Airline Industry Consortium

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- Airports Council International - NA
- Air Transport Association of America
- Amadeus s.a.s.
- American Airlines
- American Express
- Federal Aviation Administration (FAA)
- Jeppesen Systems
- Lufthansa German Airlines
- SITA
- United Airlines



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