Right-Sizing: The Right Move in the Airline Business

Northwestern University
Icarus Society

December 11, 2012
Fundamental Airline Economics

Which is more important?

- Unit Costs
- Yields
Two Ways to Make Money

**COMMODITY:**
Sell a large quantity at a low margin

**DIFFERENTIATED PRODUCT:**
Sell a small quantity at a high margin
Two Ways to Make Money: Unit Profitability

¢/ASM

RASM CASM

DIFFERENTIATED PRODUCT

MARGIN

COMMODITY

RASM CASM
In the Airline Business

The Love of Capacity
Is the Root of All Evil
U.S. Airline Net Profits 1947-2010

Source: ATA Data
U.S. Airline Net Profit: Regulated Era

Source: ATA Data

U.S. Airline Profitability ($M)

Net Income

Source: ATA Data
What Caused the 1970 Losses?

I
n summer 1970, I had graduated from college and wanted to work for an airline. As I was living in New York, JF
International Airport was a logical place to look for work. I
began with Braniff, having been advised that they had hired for
the summer peak in previous years.

The advice was correct; according to Braniff’s station
manager, but the past tense was appropriate because they were
services ‘beat the rush’ by departing 15 minutes prior the hour.
Probably many of those wearing the devices would have had to
stop and think about the message, if asked. Mine came in handy
one day, as will be seen later.

That early coffee break resulted from the day shift’s
supervisor having to think of what to do with several untrained
new-hires. Upon our return, refreshed and suitably caffeinated,
One Thing that Caused the 1970 Losses

747 Deliveries

Source: The Airline Monitor, May 2012
An Extraordinary Chunk of Capacity

747 Deliveries as a Percent of Total

Source: The Airline Monitor, May 2012
U.S. Airline Net Profit: Post-Deregulation

Source: ATA Data
1980s Right-Sizing: Problem

Photo © George Hamlin
1980s Right-Sizing: Solution
Long-Haul, 1980s-Style

Transatlantic

Transpacific

Photos © George Hamlin
Long-Haul, 1990s-Style

Photos © George Hamlin
The 1990s: Heyday of the RJ
Long-Haul, 2000s-Style

Photos © George Hamlin
The Intercontinental A319
And the First of Two Game-Changing Aircraft is Now in Service
Once, Pricing was Fairly Uniform, and was Available in Print
In 1971, Fares were More Uniform

<table>
<thead>
<tr>
<th>Market</th>
<th>Class</th>
<th>Fare</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYC-LAX</td>
<td>F</td>
<td>$205.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>$163.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YN</td>
<td>$130.00</td>
<td>One-stop</td>
</tr>
<tr>
<td></td>
<td>EX</td>
<td>$142.00</td>
<td>Except Fri/Sun; Saturday night stay; 30 day max</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Market</th>
<th>Class</th>
<th>Fare</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYC-LON</td>
<td>F</td>
<td>$782.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>$452.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YH</td>
<td>$552.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>$412.00</td>
<td>One-stop; turboprop</td>
</tr>
<tr>
<td></td>
<td>TH</td>
<td>$502.00</td>
<td>One-stop; turboprop</td>
</tr>
<tr>
<td></td>
<td>EX4</td>
<td>$141.00</td>
<td>17-28 day; low season</td>
</tr>
<tr>
<td></td>
<td>EX5</td>
<td>$191.00</td>
<td>17-28 day; high season</td>
</tr>
<tr>
<td></td>
<td>EX12</td>
<td>$134.00</td>
<td>29-45 day; low season</td>
</tr>
<tr>
<td></td>
<td>EX13</td>
<td>$164.00</td>
<td>29-45 day; high season</td>
</tr>
</tbody>
</table>

Source: July 1971 OAGs
Preparing for the pricing challenge of deregulation

American Airlines
Domestic and international timetable effective April 3, 1978

Super Savers Everywhere
Save up to 40-45% to any American Airlines destination in the Continental United States

American Airlines
Domestic and international timetable effective April 30, 1978

Super Savers Everywhere
Save up to 40-45% to any American Airlines destination in the Continental United States
9% of United’s passengers produce 41% of the revenue.

Source: Gerald Greenwald, Former United CEO, in a speech at The Washington, D.C. Aero Club May 27, 1999
Effective Yield Management Can Enhance Profitability

Sample Short-Haul Market: CR7 vs. B737
by Onboard Passenger Yield Band

Source: Airline data
Higher-Yield Passengers are More Valuable than Lower-Yield Traffic

<table>
<thead>
<tr>
<th>Yield Band</th>
<th>737-800</th>
<th>CRJ 700</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of Passengers</td>
<td>% of Revenue</td>
</tr>
<tr>
<td>&lt; 20¢</td>
<td>51.6%</td>
<td>28.5%</td>
</tr>
<tr>
<td>20¢ - 30¢</td>
<td>26.5%</td>
<td>28.9%</td>
</tr>
<tr>
<td>30¢ - 40¢</td>
<td>12.7%</td>
<td>19.5%</td>
</tr>
<tr>
<td>40¢ - 50¢</td>
<td>6.3%</td>
<td>12.7%</td>
</tr>
<tr>
<td>&gt; 50¢</td>
<td>3.0%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Avg Yield</td>
<td>$0.224</td>
<td>$0.294</td>
</tr>
</tbody>
</table>
Sometimes Less (Passengers) is More (Higher Yield)

<table>
<thead>
<tr>
<th>Type</th>
<th>Passengers</th>
<th>Yield</th>
</tr>
</thead>
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<tr>
<td>737-800</td>
<td>95</td>
<td>$ 0.224</td>
</tr>
<tr>
<td>CRJ 700</td>
<td>43</td>
<td>$ 0.294</td>
</tr>
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Direct Operating Cost by Type

Direct Cost per ASM: 350 Miles
(Stage Length Adjusted)

Cost per ASM

Source: The Airline Monitor, August 2012
Direct Cost per ASM: 350 Miles Indexed to 737 (Stage Length Adjusted)

Source: The Airline Monitor, August 2012
Revenue & Cost per ASM: 350 Miles Indexed to 737
(Cost Stage Length Adjusted)
All travelers are not equal, from a revenue perspective; some should get left behind
Airline Economics 101

- Frequency
- Share of High-Yield Traffic
- Greater Profitability
- Higher Return on Investment
Not Being Able to Right-Size Can Limit Market Opportunities

<table>
<thead>
<tr>
<th>Carrier</th>
<th>70/90</th>
<th>125</th>
<th>150</th>
<th>175</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>LIMITED</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>DL</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>UA</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>US</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>
At the Other End of the Size Spectrum
# Body Count vs. Revenue

<table>
<thead>
<tr>
<th>Class</th>
<th>Seats</th>
<th>Load Factor</th>
<th>Pax</th>
<th>Yield</th>
<th>Rev/ASM</th>
<th>Rev/Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prem</td>
<td>125</td>
<td>70%</td>
<td>88</td>
<td>$0.40</td>
<td>$0.28</td>
<td>$35.00</td>
</tr>
<tr>
<td>Econ</td>
<td>430</td>
<td>70%</td>
<td>301</td>
<td>$0.10</td>
<td>$0.07</td>
<td>$30.10</td>
</tr>
<tr>
<td>Total</td>
<td>555</td>
<td>70%</td>
<td>389</td>
<td>$0.168</td>
<td>$0.117</td>
<td>$65.10</td>
</tr>
</tbody>
</table>
# Body Count vs. Revenue

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</tr>
</thead>
<tbody>
<tr>
<td>Prem</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>$0.40</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Econ</td>
<td>800</td>
<td>70%</td>
<td>560</td>
<td>$0.10</td>
<td>$0.07</td>
<td>$56.00</td>
</tr>
<tr>
<td>Total</td>
<td>800</td>
<td>70%</td>
<td>560</td>
<td>$0.10</td>
<td>$0.07</td>
<td>$56.00</td>
</tr>
</tbody>
</table>
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<th>Rev/ASM</th>
<th>Rev/Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ</td>
<td>400</td>
<td>70%</td>
<td>280</td>
<td>$0.10</td>
<td>$0.07</td>
<td>$28.00</td>
</tr>
<tr>
<td>Econ</td>
<td>400</td>
<td>70%</td>
<td>280</td>
<td>$0.05</td>
<td>$0.035</td>
<td>$14.00</td>
</tr>
<tr>
<td>Total</td>
<td>800</td>
<td>70%</td>
<td>560</td>
<td>$0.075</td>
<td>$0.053</td>
<td>$42.00</td>
</tr>
</tbody>
</table>
If it Were a Beer, it Might be Hard to Sell… (Even a Kellogg Grad Might Have a Difficult Time with This One)
More Filling...Less Taste

The graph shows the RASM (cents) and Revenue per Mile ($) for different years:
- **F/C/Y**
- **Y-Current**
- **Y-Realistic**

The RASM values are higher in **F/C/Y** compared to **Y-Current** and **Y-Realistic**.

The Revenue per Mile ($) decreases as we move from **F/C/Y** to **Y-Realistic**.
Very Large is Currently a Small Niche

747, A380 Deliveries as a Percent of Total

Source: The Airline Monitor, May 2012
He who dies with the most market share...
He who dies with the most market share… Dies
British Airways “New Strategic Model”

- More capital-efficient aircraft
- Improved mix of traffic
- Short-haul network structured to maximize returns rather than feed
- Profitability, not size

Source: British Airways Presentation at Merrill Lynch Conference, June 8, 1999
Wonder which one has the higher average yield…

Lufthansa’s 747-8 Intercontinentals have about the same number of premium seats as on the airline’s A380 fleet: eight first class and 80 business, compared to eight and 98 on the Airbus double-decker. However, in LH service the A380 has considerably more economy seats: 420 versus 298 on the 747-8.

Source: Airways, August 2012, page 19
More Recently

Turkish Airlines said it’s close to ordering 100 planes to provide short-haul links from Istanbul while scrapping plans to buy the biggest jumbo jets in favor of more modestly sized wide-body planes.

Source: Bloomberg November 28, 2012 “Turkish Air  Seeks 100 Narrow-Body Jets After Ditching Jumbos
A Key Consideration

“Our biggest problem is the capacity and the frequency,” the [Turkish] CEO said. “We want to go to higher frequencies. The 777 is big enough.” Possible plans include switching daily services to cities including Chicago and Hong Kong to double-daily, he said.

Source: Bloomberg November 28, 2012 “Turkish Air Seeks 100 Narrow-Body Jets After Ditching Jumbos
Fundamental Airline Economics

Which is more important?

- Unit Costs
- Yields
Fundamental Airline Economics

The Answer:

- Neither

- What is most important: Maximizing the difference between total revenues and total costs.
Critical Mass Size

Is BIG Necessarily Better?
Big is not necessarily better
Extremism in the Defense of Market Share is No Virtue…
• Appropriate frequency enhances profits
• Utilize the right aircraft size for the market
  – Too large can reduce yields
  – Too small can increase unit costs
  – Right-sizing benefits are largely independent of competitive response
• Don’t follow the herd; optimize carrier
Right-Sizing: The Right Move in the Airline Business

Northwestern University
Icarus Society

December 11, 2012
Go Cats!
Beat Mississippi State