

## THE CHANGING U.S. AIRLINE PICTURE

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I am going to talk about the airline industry since deregulation, where it stands at present, and what we foresee in the future.

### Underlying Trends

First, let's look at some underlying trends. Back in 1977-78, there were those who said that, under deregulation, many smaller carriers would get certificates, provide service and compete with the incumbent carriers. That is what was envisioned in the deregulated environment by some.

They were right. But only for a while. Between 1978 and 1986, there were 198 certificated carriers providing interstate passenger service in the United States. (See Table 1). If we were to add the 36 carriers operating prior to deregulation, you would now have 234 carriers operating. This is the kind of utopia that some people had visualized for the deregulated environment.

TABLE 1      **NUMBER OF U.S. SCHEDULED AIRLINES**

(Operating Under Section 401 Certificate)  
January 1987

|  |            |
|--|------------|
| Certificated Prior to 1987   | 36         |
| Certificated 1978 - 1986   | <u>198</u> |
| Total  | 234        |
| Merged, Liquidated, Decertificated<br>or Not Operating Under Certificate | <u>160</u> |
| Total Currently Operating  | 74         |

The expectation did not quite materialize because 160 of those carriers are either merged, liquidated, decertificated, were not operating, or never did operate under a certificate. Therefore, as of January of this year, instead of 234 operating carriers, there are only 74 remaining.

We can go beyond that because, if you take the 74 carriers currently operating and subtract the 36 carriers operating totally outside the 48 contiguous states (most of those in Alaska), and take out 13 carriers of the 74 that have feeder agreements with larger carriers, you have a better idea of the size of the present operation. Therefore, at present there are 25 carriers currently operating that do not have feeder agreements or do not operate totally outside the U.S. (See Table 2).

TABLE 2

**TOTAL CARRIERS OPERATING<sup>1</sup>**

(Under Section 401 Certificate)  
January 1987

|   |           |
|---|-----------|
| Total Carriers Currently Operating  | 74        |
| Carrier Operating Totally Outside<br>48 States (Alaska, Pacific, and Caribbean) | 36        |
| Carriers With Feeder Agreements   | <u>13</u> |
| Total Operating in 48 States Without<br>Feeder Agreement With Larger Carrier    | 25        |

- 1 Not including carriers with operations totally outside the 48 contiguous states and carriers providing feeder services to larger carriers.

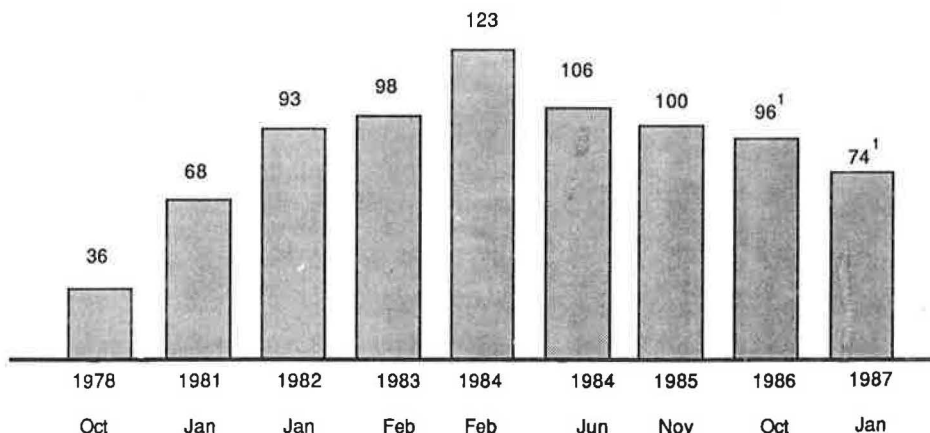
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This indicates a contraction of the industry rather than the tremendous growth that some had foreseen.

Looking at it a different way, if you take the 36 original carriers and add at any point in time the total number of carriers actually operating, you can see that the number peaked at 123 carriers in February, 1984 (See Figure 1). That number has since declined to 74 carriers, as shown previously, and is reduced to 25, of course, when taking into account carriers operating totally outside the U.S., and carriers with feeder agreements.

Therefore, you really don't have the kind of competition that many foresaw. In fact, there has been a considerable amount of consolidation of the industry. Since deregulation in 1978, over 60 mergers and acquisitions have taken place, 30 of which involved major carriers in some way (See Table 3). That compares to about 4 or 5 that occurred in the 8 years prior to deregulation. So, you can see that there is probably more activity in that area than anyone had ever imagined.

As a result of all the consolidation, it appears that the medium and small carriers seem to be losing out (See Table 4). So far this year we have had 10 failures of small carriers and, although the industry made over \$1 billion in operating profit in the first half of 1987, five smaller carriers showed losses. In spite of a rather good first half for the industry as a whole, failures and lack of profitability plagued the smaller carriers.



1 / Assumes approval of proposed mergers/acquisitions

FIGURE 1 Number of U.S. Scheduled Airlines Operating Under Section 401 Certificate as of January 1987

TABLE 3 AIRLINE MERGERS AND ACQUISITIONS SINCE DEREGULATION

| Year | Carriers Involved  | Year | Carriers Involved   | Year | Carriers Involved   |
|------|--|------|---|------|---|
| 1979 | North Central/Southern   | 1986 | Northwest/Republic<br>People Express/PBA<br>Texas Air/Eastern<br>People Express/Britt<br>TWA/Ozark<br>Business Express/Pilgrim (80%)<br>Texas Air/Rocky Mountain<br>Pan Am/Ransome<br>USAir/Suburban<br>Jet Florida/Pocono<br>Delta/Atlantic Southeast (20%)<br>Delta/Comair (20%)<br>Pan Am/NYAir "Shuttle"<br>Piedmont/Jetstream<br>Suncoast/Fleming<br>Delta/Western<br>Texas Air/People Express-Frontier<br>Alaska/Jet America<br>American/AirCal<br>Alaska/Horizon<br>USAir/PSA<br>Presidential/Colgan<br>Presidential/Key<br>Midstate/Chicago Air<br>Pan Am/Tempelhof (50%) | 1987 | States West/Golden State<br>USAir/Piedmont <sup>2/</sup><br>Aloha/Princeville Airways<br>Emery/Purolator<br>World/Key<br>Texas Air Corp./Bar Harbor (50%)<br>Midway/Fischer Brothers Aviation<br>Mesa/Centennial<br>Metro/Chaparral<br>Ansett/America West (20%)<br>American (Discussed with Air Midwest acquiring aircraft & other assets) |
| 1980 | Pan Am/National<br>Flying Tiger/Seaboard<br>Republic/Hughes Airwest  |      |   |      |   |
| 1981 | Texas Air/Continental (50%)  |      |   |      |   |
| 1983 | Piedmont/Henson (20%) <sup>1/</sup>  |      |   |      |   |
| 1984 | Midway/Air Florida<br>Republic/Simmons (10%)<br>Northwest/Mesaba   |      |   |      |   |
| 1985 | Southwest/Muse (TranStar)<br>USAir/Pennsylvania<br>United/Pan Am Pacific Division<br>Carl Icahn/TWA<br>People Express/Frontier<br>Piedmont/Empire<br>Texas Air/Continental (19%)<br>Jet America/Best<br>Air Wisconsin/Mississippi Valley<br>Pilgrim/NewAir<br>Ransome/FordAire dba Susquehanna<br>Metro/Sunair<br>Holland Industries/Wright<br>Daniel Lehner & Joseph Gall/Pilgrim<br>USAir/Suburban<br>KOA/MidPacific<br>Royale/Metro (HOU Operation)<br>Jet Florida/Southern Express |      |   |      |   |

1/ Agreement for Piedmont to buy 20% each year starting in 1983

2/ Subject to DOT approval

TABLE 4 THE MEDIUM/SMALL CARRIER IS LOSING OUT

Failing 1987:

- |                   |                    |
|-------------------|--------------------|
| o Air Atlanta     | o McClain Airlines |
| o Air Puerto Rico | o Rio Airways      |
| o Air South       | o Royale Airlines  |
| o Chicago Air     | o Royal West       |
| o Gull Air        | o TranStar         |

In The First Half Of 1987 The Industry Made Over \$1 Billion Operating Profit. Only Five Carriers, All Small, Showed Losses:

- o Alaska (with Jet America)
- o Aloha
- o America West
- o Braniff
- o Southwest

The six survival characteristics and the value of recent mergers in terms of these characteristics are shown in Table 5. These survival characteristics are: strong hub/spoke systems, nationwide with international tie-ins; a sophisticated yield management system; good capacity management; low labor costs; ownership or equity interest in a computerized reservations system; and taking full advantage of size.

The righthand column shows what each carrier's rating was in 1984, prior to any merger, and right below it the post-merger ranking in 1987.

This rating system shows that every merger involving a major carrier resulted in a gain of 3 points or more out of a maximum total of 18. But two of those carriers gained over 7 points as a result of mergers. One was Northwest with a gain of 7 points from its merger with Republic (and almost concurrent acquisition of 50% of PARS), and the other, Texas Air Corporation which gained 7 points when it acquired Eastern and People Express.

What this means is that size alone, or even a strong single hub and spoke system, is not the sole criterion for building survival strength in a merger. There are, in addition, four other very important areas in which carriers seek to gain survival strength.

Let's take a look at what is going on at hubs (See Figure 2). Fourteen of these major hubs have a single carrier garnering two-thirds of the market, an



TABLE 5 CHANGE IN SURVIVAL CHARACTERISTICS/STRENGTH

| Pre-Merger (1984) vs Post-Merger (1987) |      |                   |                  |                     |                 |     |                   |       |
|---|------|-------------------|------------------|---------------------|-----------------|-----|-------------------|-------|
| Airline                                 | Year | Hub/Spoke Systems | Yield Management | Capacity Management | Low Labor Costs | CRS | Advantage of Size | Total |
| AA                                      | 84   | xx                | xx               | xxx                 | xx              | xxx | xx                | 14    |
| AA/AirCal                               | 87   | xxx               | xxx              | xxx                 | xx              | xxx | xxx               | 17    |
| CO                                      | 84   | x                 | x                | x                   | xxx             | x   | xx                | 9     |
| TAC*                                    | 87   | xxx               | xxx              | x                   | xxx             | xxx | xxx               | 16    |
| DL                                      | 84   | xx                | xx               | xxx                 | x               | xx  | x                 | 11    |
| DL/WA                                   | 87   | xxx               | xxx              | xxx                 | xx              | xx  | xxx               | 16    |
| EA                                      | 84   | xx                | xx               | x                   | x               | xx  | x                 | 9     |
| Merged with Texas Air Corp.             | 87   | -                 | -                | -                   | -               | -   | -                 | -     |
| NW                                      | 84   | x                 | x                | xxx                 | x               | x   | x                 | 8     |
| NW/RC                                   | 87   | xx                | xxx              | xxx                 | xx              | xx  | xxx               | 15    |
| PA                                      | 84   | x                 | x                | x                   | x               | x   | x                 | 6     |
|   | 87   | x                 | xx               | x                   | xx              | xx  | x                 | 9     |
| PI                                      | 84   | x                 | xx               | xxx                 | xx              | x   | x                 | 10    |
|   | 87   | xx                | xxx              | xxx                 | xx              | x   | xx                | 13    |
| People Express                          | 84   | x                 | x                | x                   | xxx             | x   | x                 | 8     |
| Merged with Texas Air Corp.             | 87   | -                 | -                | -                   | -               | -   | -                 | -     |
| RC                                      | 84   | xx                | xx               | xx                  | x               | x   | xx                | 10    |
| Merged with Northwest                   | 87   | -                 | -                | -                   | -               | -   | -                 | -     |
| TW                                      | 84   | x                 | x                | x                   | x               | xx  | x                 | 7     |
| TW/OZ                                   | 87   | x                 | xx               | xx                  | xx              | xxx | xx                | 12    |
| UA                                      | 84   | xx                | xx               | xx                  | x               | xxx | xx                | 12    |
| UA/ PA Pac                              | 87   | xxx               | xx               | xxx                 | xx              | xxx | xxx               | 16    |
| USAir                                   | 84   | x                 | xx               | xxx                 | x               | x   | x                 | 9     |
| USAir/PSA/PI                            | 87   | xx                | xxx              | xxx                 | xx              | x   | xx                | 13    |
| WA                                      | 84   | x                 | x                | x                   | x               | x   | x                 | 6     |
| Merged with Delta                       | 87   | -                 | -                | -                   | -               | -   | -                 | -     |

Source: Airline Economics Inc. \* CO / EA / NYAir / People Express / FL

x = Minimum Strength  
xx = Moderate Strength  
xxx = Unusually Strong

indication of the concentration and strength of the hub and spoke system in the airline industry today. Feeder agreements help strengthen those hubs. Prior to 1983, there were only one or two such agreements; nine in 1983. In 1987, there are 65 (See Figure 3). The 1987 figure reflects a reduction from the previous year due to purchase and integration of former feeder carriers -- a trend that will continue.

As you will recall, one of the six survival characteristics was equity or full ownership of a computerized reservations system. As of September 1986, American's Sabre system and United's Apollo had approximately two-thirds of the travel agent market. (See Figure 4). SystemOne, which is now owned by Texas Air Corporation, is being used by Eastern Air Lines and its software for the Amadeus system is being used by foreign carriers.

### Yields

Let's talk about yields. There is a lot of activity in that area, and a lot has happened since deregulation. (See Figure 5). The upper left hand box

shows that the average amount of discount for domestic operations of major carriers in 1978 was about 34 percent. In other words, discount fares averaged about 1/3 off from full fares in 1978. Now, that average has

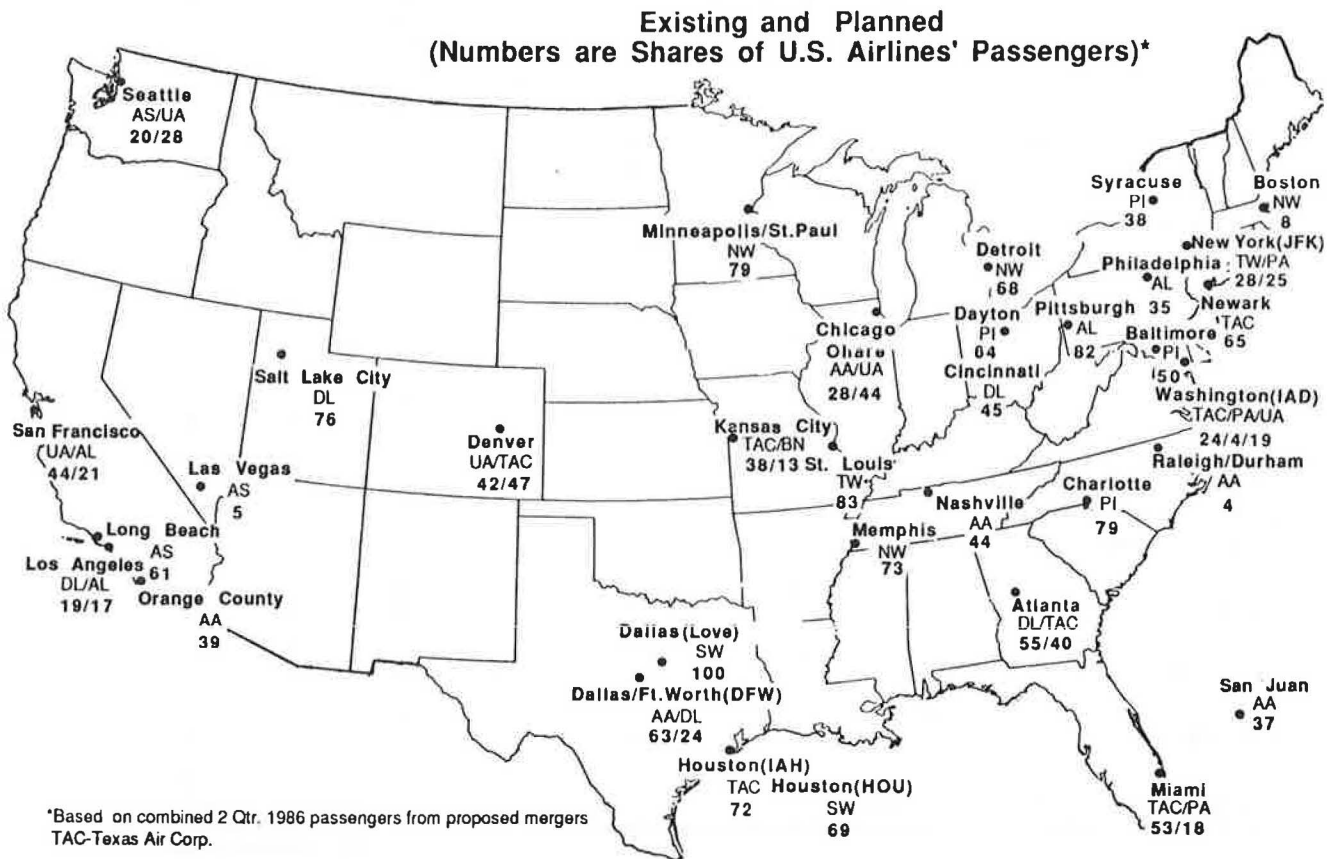
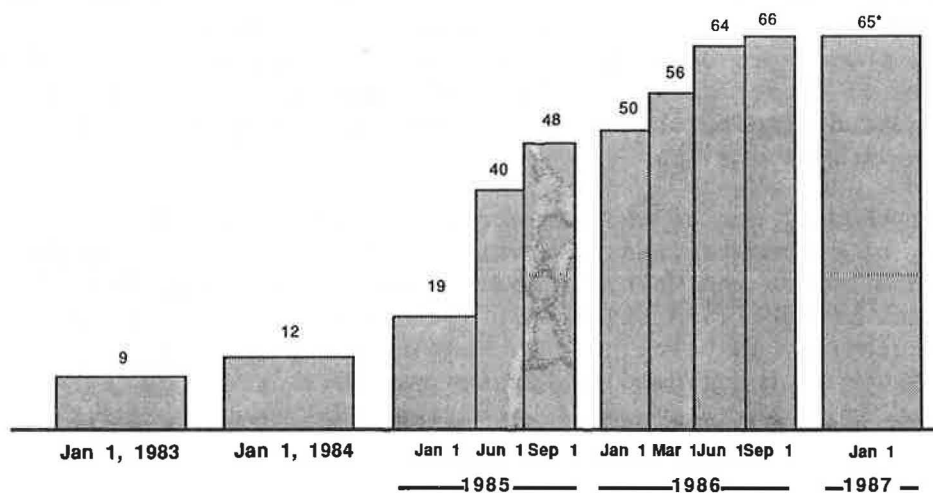
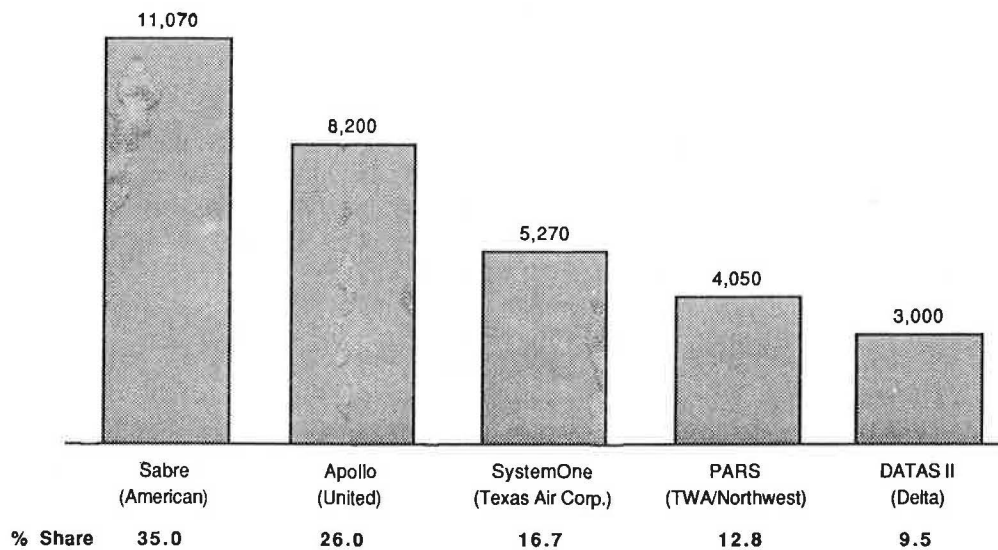


FIGURE 2 Major U.S. Hubs Existing and Planned  
(Numbers are Shares of U.S. Airline Business)



\* Reduction due to purchase and integration of former feeder carriers.

FIGURE 3 Agreements with Major Carriers for Common Identification and Feed



Source: Travel Weekly, September 22, 1986

FIGURE 4 Computerized Reservations Systems: Numbers of Travel Agents as of September 1986

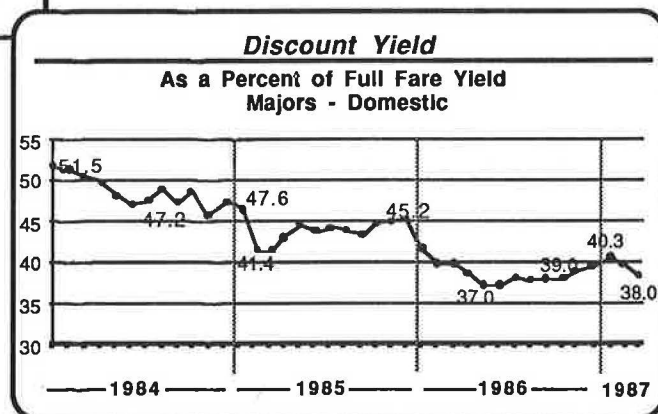
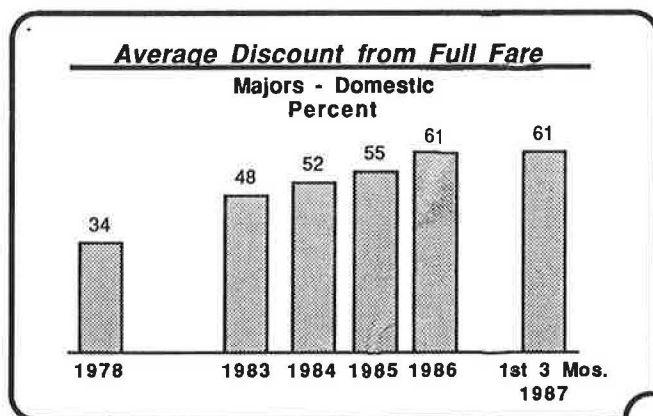


FIGURE 5 Discount Fares

leveled off at about 60 percent discount from full fare. This increased discount, of course, tends to bring average yields down.

Looking at the amount of discount fare usage in the first half of 1984, about 79-80 percent of U.S. domestic travel was on discount fares. That usage has now leveled off at about 91 to 92 percent. In other words, only about 8 to 10 percent of the people in domestic U.S. travel now are making use of the full fares. This travel is primarily by people who cannot abide by travel restrictions placed on discount fares. (See Figure 6)

This year has been a particularly interesting year with regard to fare proposals and attempts to increase yields (See Table 6). I want to illustrate the contest that is going on with regard to pricing leadership in the industry. So far this year one carrier (Texas Air Corp.) has been primarily the price leader. That company has maintained that position all year up until recently. But it is being severely challenged at this point in time.

The year started off with United taking a try at a 3-day advance purchase super coach fare. This proposal was very quickly matched by some of the other major carriers but not by Texas Air Corporation. The fares were withdrawn. Approximately two weeks later, Texas Air came out with a new fare structure, and the other carriers followed. That action was sustained. The same pattern generally has applied throughout the year. If a carrier made a fare proposal and it was followed by Texas Air Corporation, it succeeded. If not, it was withdrawn. This has been true almost throughout the year.

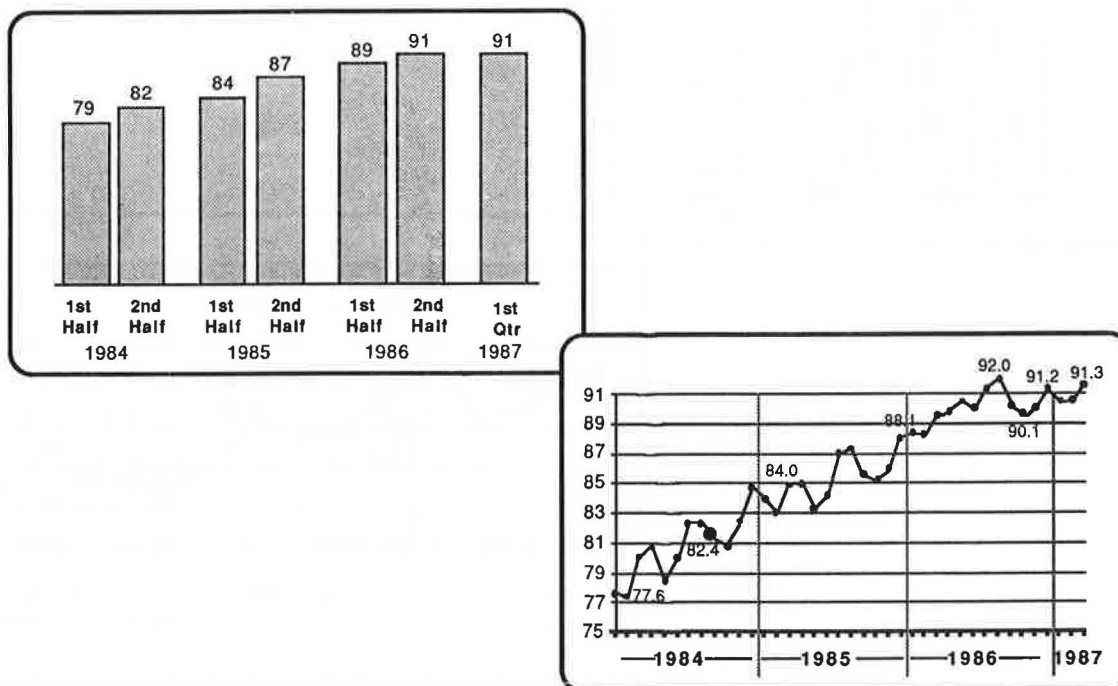


FIGURE 6 Discount RPMs as Percent of Total (Majors-Domestic)

TABLE 6 CHRONOLOGY OF MAJOR AIRLINE FARE PROPOSALS - 1987

| 1987         |                     |   |   |   |                |                                     |
|--------------|---------------------|---|---|---|----------------|-------------------------------------|
| Approx. Date | Introducing Airline | Proposal  | Fare  | Matched by  | Not Matched by | General Outcome                     |
| Jan 6        | UA                  | 3-day advanced purchase   | Super Coach (B Class)   | AA, DL, NW, WA                                    | TAC/CO         | Withdrawn                           |
| Jan 14       | TAC/CO              | \$10 Increase for travel after May 20<br>\$10-\$30 Increase<br>\$45 Increase<br>7-day advanced purchase   | 30-day advanced purchase<br><br>Full Coach<br>First Class<br>QEOP - Unrestricted -<br>Sat night stay = 45% reduction        |   |                | Sustained                           |
| Jan 30       | TAC                 | MaxSaver Fares<br>= 80% Discount<br>2-day advanced purchase<br>Sat night stay<br>No refund  | MaxSaver  | Most Majors:<br>AA, UA, DL, NW,<br>PA, TW, PI, WA |                | Offered almost systemwide           |
| Feb 6        | AA                  | 30-day advanced purchase  | MaxSaver  | Most Majors                                       | TAC/CO         | Withdrawn                           |
| Feb 18       | AA                  | After May 20:<br>Eliminate MaxSaver and other discount fares:<br>Increase \$20<br>Increase discount: to 50% from 20%<br>Increase cancellation to 25% from 10% | MaxSaver<br>14-day advanced purchase<br>21-day advanced purchase<br>30-day advanced purchase<br><br>7-day advanced purchase | Most Majors                                       | TAC/CO         | Withdrawn                           |
| Mar 9        | NW                  | Increase \$20 RT ticketing after Mar-15   | MaxSaver  | UA*, PI, AL<br>* not in TAC markets               | TAC            | Not implemented in most TAC markets |
| Apr 7        | UA                  | Increase full fares   | First Class OW - \$15<br>Full/Super Coach OW - \$10   | TAC and most other Majors                         |                | Sustained                           |
| Apr 8        | TAC/EA              | New 2-day advanced purchase fare<br>No stayover<br>Atlanta markets  | Business Savers   | Delta   |                | Sustained                           |
| Apr 21       | TAC                 | Extend MaxSaver thru Summer<br>Effective May 21:<br>7-day advanced purchase<br>Sat night stay<br>Non-refundable<br>Increase \$19/99 to \$19/139               | MaxSaver  | Most Majors                                       |                | Sustained                           |
|              |                     | Reduce advance purchase to 7 days   | Super Saver & F/C<br>(30-day advanced purchase)<br>(25% cancellation penalty)   | Most Majors                                       |                | Sustained                           |
| May 19       | UA                  | Increase full fares   | Coach RT - \$20<br>First Class RT - \$30  | Most Majors                                       | TAC            | Withdrawn                           |
| Jun 8        | TW                  | Fare surcharge to account for increased fuel costs  | Distance surcharge<br>\$3 to \$8  | TAC & most other Majors                           |                | Sustained with slight modifications |
| Jul 13       | NW                  | Fare increase to account for increased fuel costs (effective Aug 1)   | All- \$2 to \$8 depending on distance   | Most Majors                                       |                | Sustained                           |
| Aug 10       | TAC/CO              | Increase unrestricted Y-Class<br><br>Impose 3-day advance purchase  | Y-Class: \$2-\$20 each way depending on distance<br>B-Class unrestricted discount   | Most Majors                                       |                | Sustained                           |

TABLE 6 (Continued)

| 1987<br>(January 1 - September 24) |                        |  |   |                                   |                   |                              |
|------------------------------------|------------------------|--|---|-----------------------------------|-------------------|------------------------------|
| Approx.<br>Date                    | Introducing<br>Airline | Proposal   | Fare                                      | Matched<br>by                     | Not<br>Matched by | General<br>Outcome           |
| Aug 24                             | DL                     | A three-tiered structure of discount fares:<br><div> <div>Adv. %</div> <div>Tier Purch. Penalty Disc</div> <div>1 30 50% 60-70</div> <div>2 14 25% 36-59</div> <div>3 7 10% 24-55</div> </div> <p>Increase of \$10-\$20 OW<br/>All effective Sep 8</p>         | Most Restricted Discount Fares            | See Below                         | TAC/CO/EA         | See Below                    |
|                                    | AA                     | A two-tiered structure of discount fares:<br><div> <div>Adv. %</div> <div>Tier Purch. Penalty Disc</div> <div>1 14 100% 60-70</div> <div>2 7 50% 40-50</div> </div> <p>\$10 above TAC 7-day advance purchase<br/>Effective Sep 15<br/>Oct 15 (TAC Markets)</p> | Most Restricted Discount Fares            | UA, DL, NW                        | TAC/CO/EA         | Sustained by AA, UA, DL & NW |
| Aug 31                             | TAC/EA                 | Reduce MaxSaver about \$40 RT & extend to Caribbean (for travel Sep 9-Dec 15)  | MaxSaver                                  | UA but later withdrawn            | Most Majors       | Sustained by TAC/EA          |
| Sep 7                              | AA                     | Raise OW fares \$5-\$15 Effective Sep 15   | Unrestricted Discount Fares (Super Coach) | TAC and other Majors              |                   | Sustained                    |
| Sep 14                             | DL                     | A three-tiered structure of discount fares:<br><div> <div>Adv. %</div> <div>Tier Purch. Penalty Disc</div> <div>1 30 25% 60-70</div> <div>2 14 35% 36-59</div> <div>3 7 50% 24-55</div> </div> <p>Effective Dec 13</p>   | Most Restricted Discount Fares            | (No responses as of Sep 24, 1987) |                   |                              |

Recently, Delta proposed a three-tiered fare structure. Without going into detail, let me say that it wasn't matched by Texas Air Corporation and it didn't get anywhere. At the same time or shortly thereafter, American proposed a two-tiered fare structure. At this point, for the first time one sees the price leadership being severely tested. American (and some others) are going ahead with fare increases not followed by Texas Air Corporation. American bluntly asserts that people will pay the additional price for (American's) better service. We shall see. The pattern for changes in fares in the future will depend heavily on the outcome of this battle for fare leadership.

One of the questions most asked of us at Airline Economics is whether fares have been up or down since deregulation and the answer, of course, is "yes."

Full fares were up 158 percent in November 1986 from 1978. During the same time period, discount fares were up 56%. So one could say "Yes, fares were up." However, if you take the average of those, you get average fares being up 38% percent since deregulation. (See Figure 7)

The reason for the apparent disparity there is simply this. If you take into account the shift that I showed you from usage of the higher full fares to the lower discount fares, that shift continually brings fares down, even if no decrease occurred in either fare. So it brings the overall average down. Therefore, average fares were only up 38 percent in that time period.

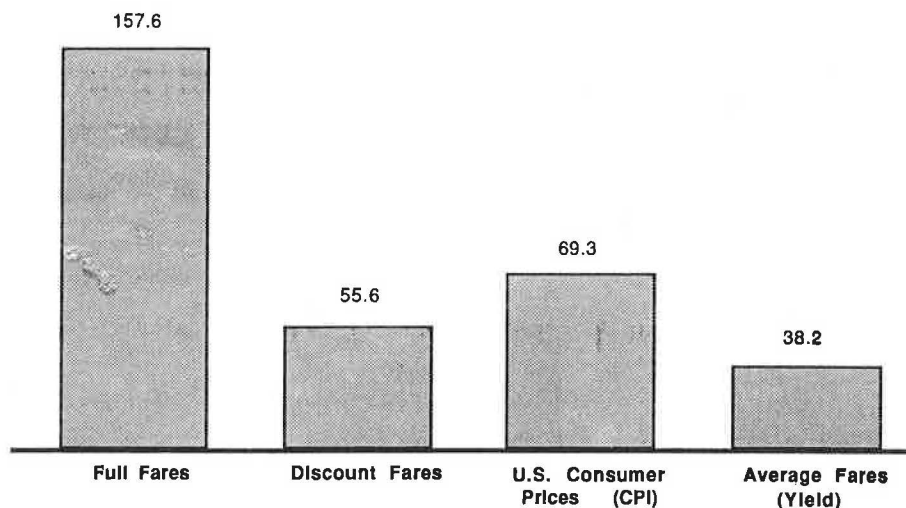


FIGURE 7 Airline Fares Versus Consumer Price Index (CPI)  
Majors - Domestic 1978 Through November 1986  
- Percent Change

Fares increased 38 percent but consumer prices for the same time period were up almost double that -- 69 percent. Consequently, if you adjust the average fares to "buying power dollars" in that time period using the Consumer Price Index, one would say that fares are down. In fact, we have done just that. Figure 8 shows constant 1967 dollar fares since 1950. If you took the dates off the chart, and took off that vertical line labeled deregulation, I doubt that one could tell where deregulation started. The point is, the trend in "buying power dollar fares" is no different now than it has been for the last 27 years. As a matter of fact, if one carried the analysis back to 1938, you would find the same trend.

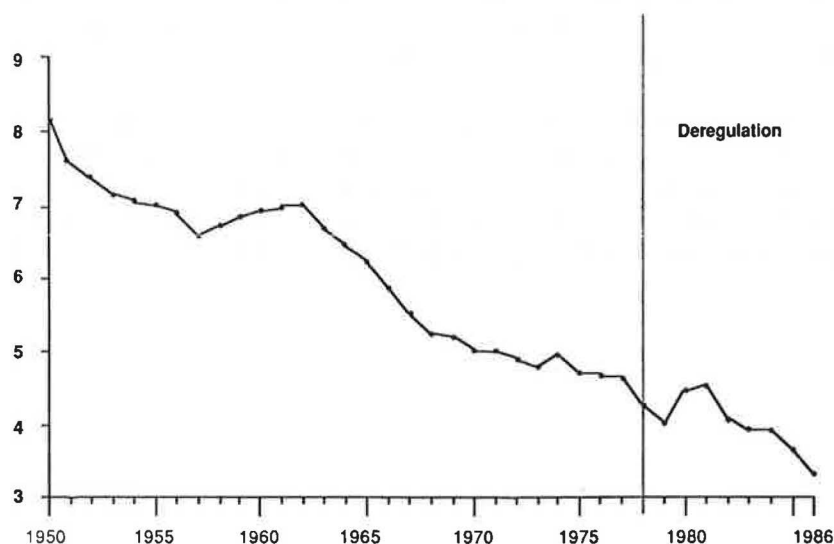


FIGURE 8 Average Fare Per Passenger: U.S. Scheduled Airlines  
(In Constant 1967 Dollars)

In 1986, throughout the year, fares were down from 1985. In 1987, in the first part of the year, they were down again. But for the first time in June and again in July, fares were up. So, for the first time in a 2-1/2 year period we saw, in June and July, an increase in fares. Fuel prices had bottomed out and were increasing in that time period. Thus, much of the increase in fares was to offset those increased fuel prices. (See Figure 9)



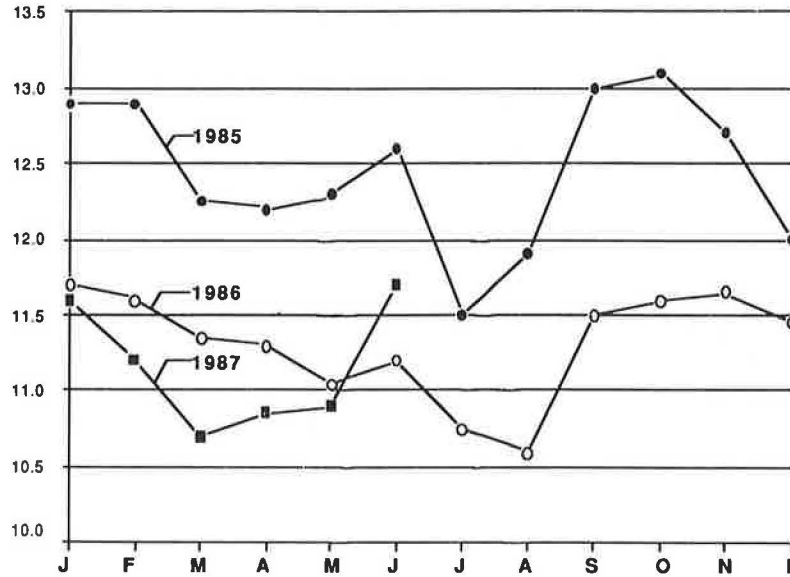
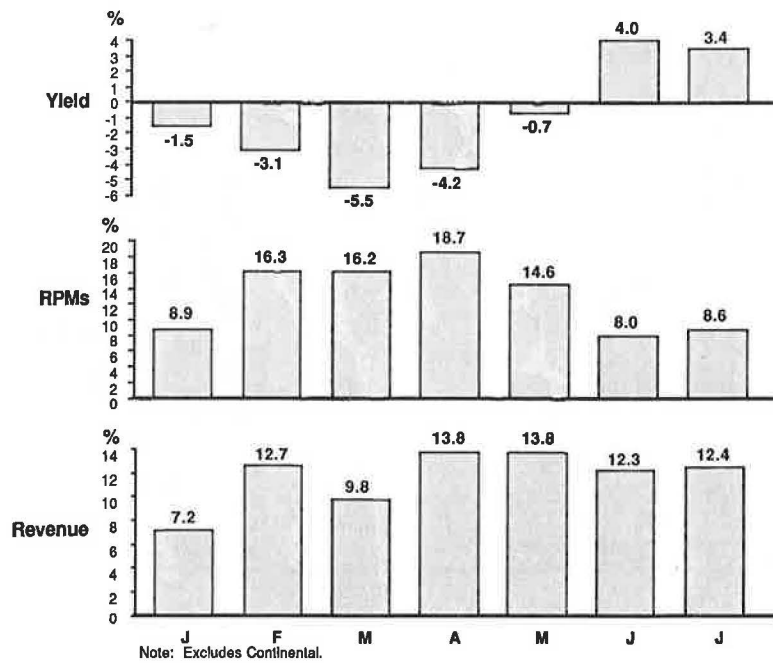


FIGURE 9 Yield: Cents per RPM; U.S. Majors -- Domestic



Source: Air Transport Association

FIGURE 10 Yields, RPMs and Revenue: U.S. Majors -- Domestic 1987 (%Change over Previous Year)

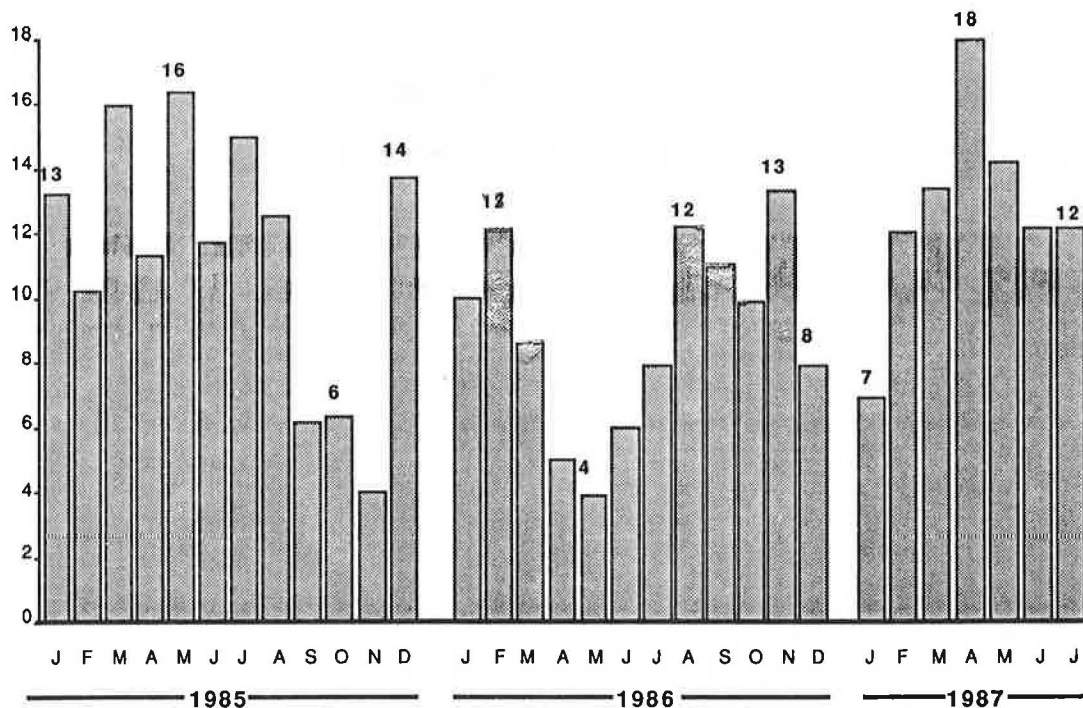
## Traffic

What happens to traffic and revenues in that same time period I think is interesting. In the first half of 1987 yields were down, ranging from 1.5 to about 5.5 percent. But as you saw previously, in June, they were up 4 percent and in July 3.5 percent. (See Figure 10)

Now, what effect did these fare changes have on RPMs and traffic. Earlier in the year when fares were down, traffic increases ranging from 9 to 19 percent were recorded -- largely as a result of those decreases in fares and the introduction of new low MaxSaver fares. With fares up 3.5 to 4 percent, traffic was still at a fairly high level in June and July, at 8 to 8.5 percent. As a result, revenue increases were not a lot different in June or July when fares were up than in the first 5 months of the year in which fares were down.

Bear in mind that it costs a little more to handle added passengers. So, if the revenue happens to be the same, then it is a slight economic advantage to a carrier to have higher fares, lower traffic and get the same revenues.

In a 2-1/2 year period of year over year increases in system traffic, if you account for the depression of traffic in the international scene because of fear of terrorism and nuclear incidents, you have an unusually large growth in system-wide traffic. These data include international traffic. (See Figure 11)



Source: Air Transport Association

FIGURE 11 Change in Revenue Passenger Miles: U.S. Scheduled Airlines  
(Percent Change Over Previous Years)

Capacity increases in 1987 are considerably less than traffic increases. Thus, there has been a significant increase in load factor so far this year. (See Figure 12)

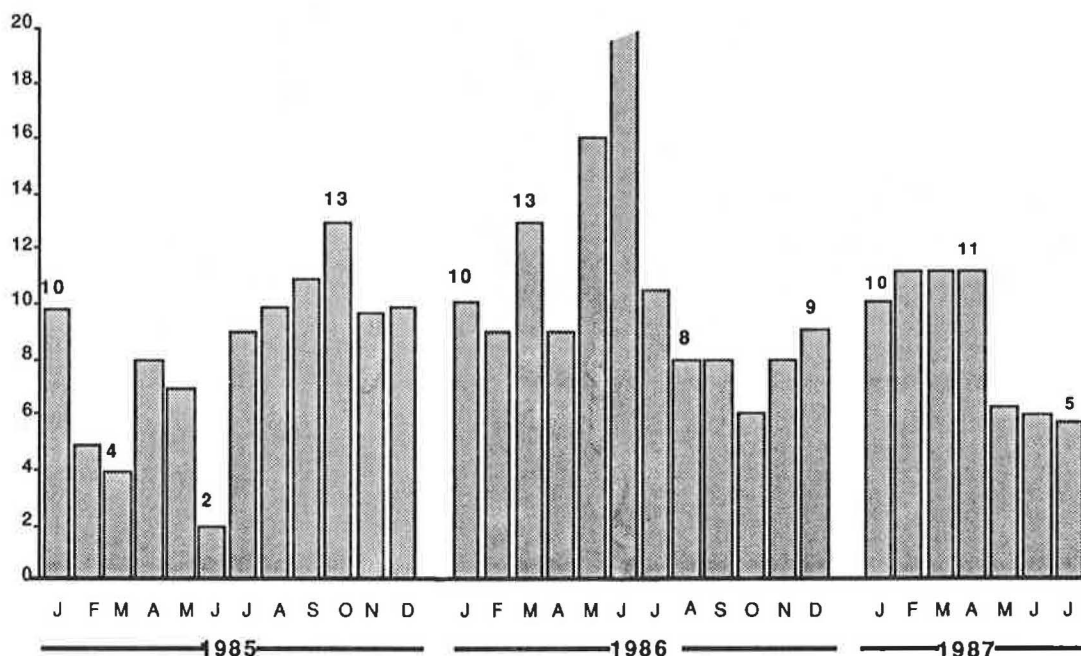
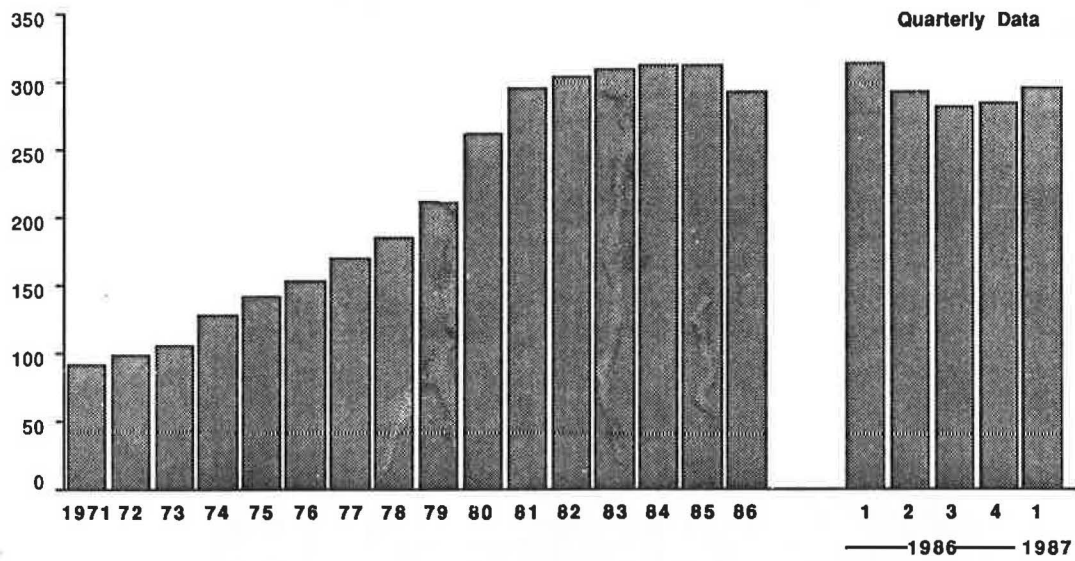


FIGURE 12 Change in Available Seat Miles: U.S. Scheduled Airlines  
(Percent Change Over Previous Years)

### Cost Performance

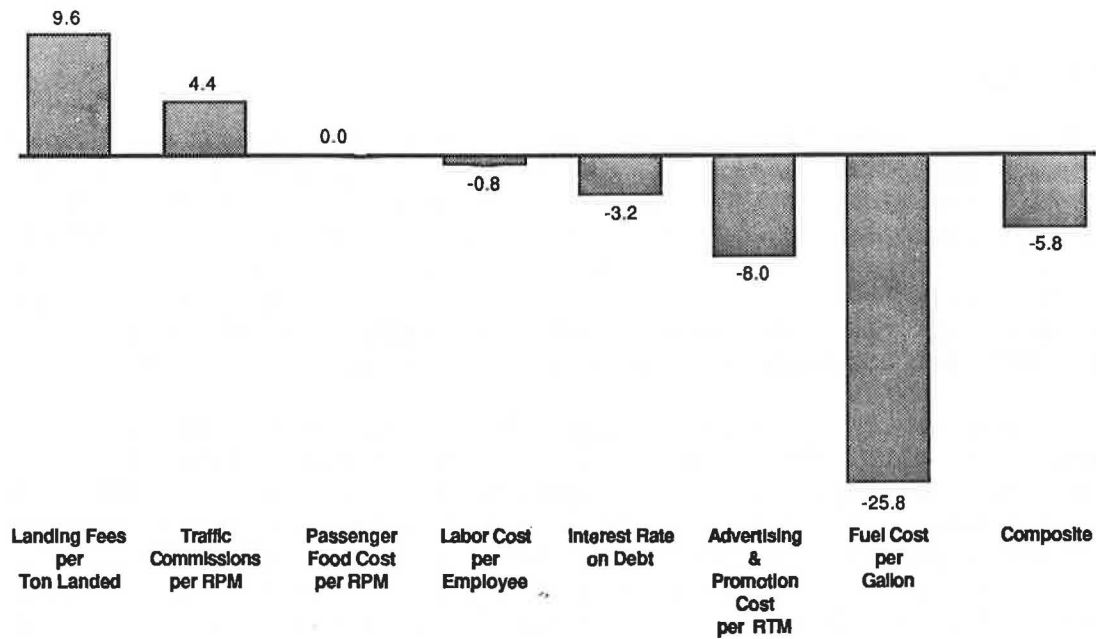
The Airline Cost Index that measures the composite change in the unit costs that a carrier incurs is a composite of fuel costs per gallon, of labor costs per employee, commission costs per passenger and the like. Therefore, the composite is somewhat like a cost-of-living index for the airlines. During the 1971-1981 period, large increases in overall unit costs were incurred by the industry. Costs began to level off shortly after 1981 and since then they have been declining. In 1986, overall unit costs were down; in the first quarter of 1987 that downward trend is still continuing. (See Figure 13)

The first quarter 1987 unit cost changes show quite a different pattern than we saw in the early 1980s. In fact, it is almost the inverse of that earlier pattern. (See Figure 14) The composite (shown on the right hand side) was down 5.8 percent. But fuel cost, which was roaring upward in the early '80s, was down 26 percent. Interest rates which were up most of that time period were down 3 percent and even labor costs, which were rapidly increasing in the early '80s, were down 1 percent in the first quarter of 1987. Insofar as unit costs for the industry are concerned, this is a whole new trend.



Source: Air Transport Association

FIGURE 13 Airline cost Index: Majors and Nationals  
Composite Index of Airline Expenses. 1972=100



Source: Air Transport Association

FIGURE 14 Airline Cost Index: Majors and Nationals  
Percent Change 1st Quarter 1987/1986

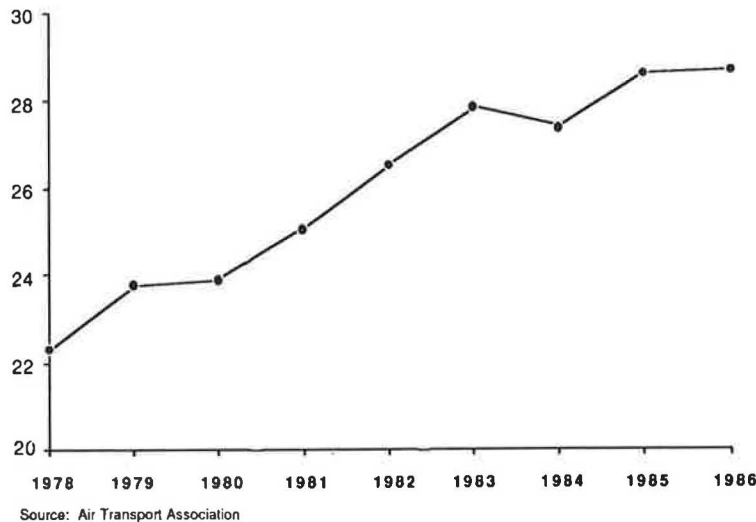


FIGURE 15 Fuel Efficiency: Majors and Nationals (RPMs/Dollars)

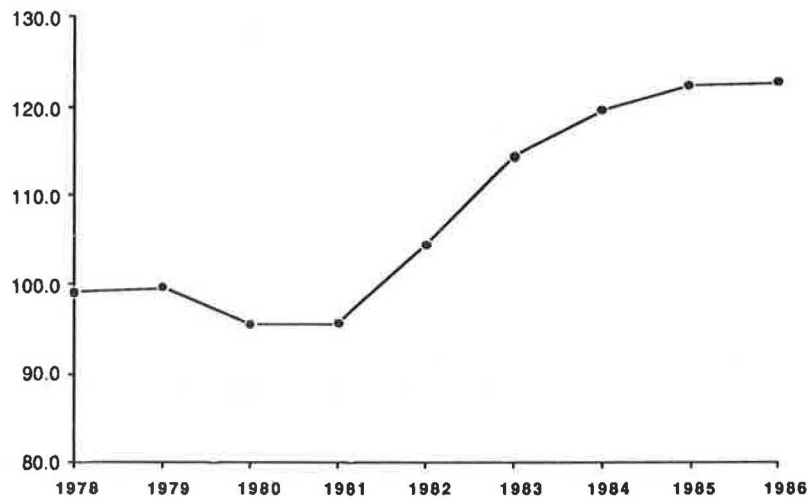
Some things that are now a bit annoying to airline managements include some of the productivity measures. Fuel efficiencies, in spite of the influx of new, very expensive fuel efficient aircraft, has leveled off and is no longer climbing like it was in the 1978 through 1983 time frame. Contributing to this is the effect of hubbing and fuel inefficiencies that result from that kind of operation. (See Figure 15)

We would expect two things to happen -- as hubbing matures and traffic growth puts heavier pressures on airports, there will be some move to bigger airplanes and more linear route systems -- not linear routes, but more linear than they are now. Both of those factors could put the fuel efficiency trend back more on the trends of the early '80s.

Employee productivity climbed steadily during the 1981 to 1984 period. But, it has now leveled off at a new high level. We believe this to be temporary. Since the leveling reflects interim labor inefficiencies that occur from mergers prior to full integration, we expect that labor productivity will again move upward in the near future. (See Figure 16)

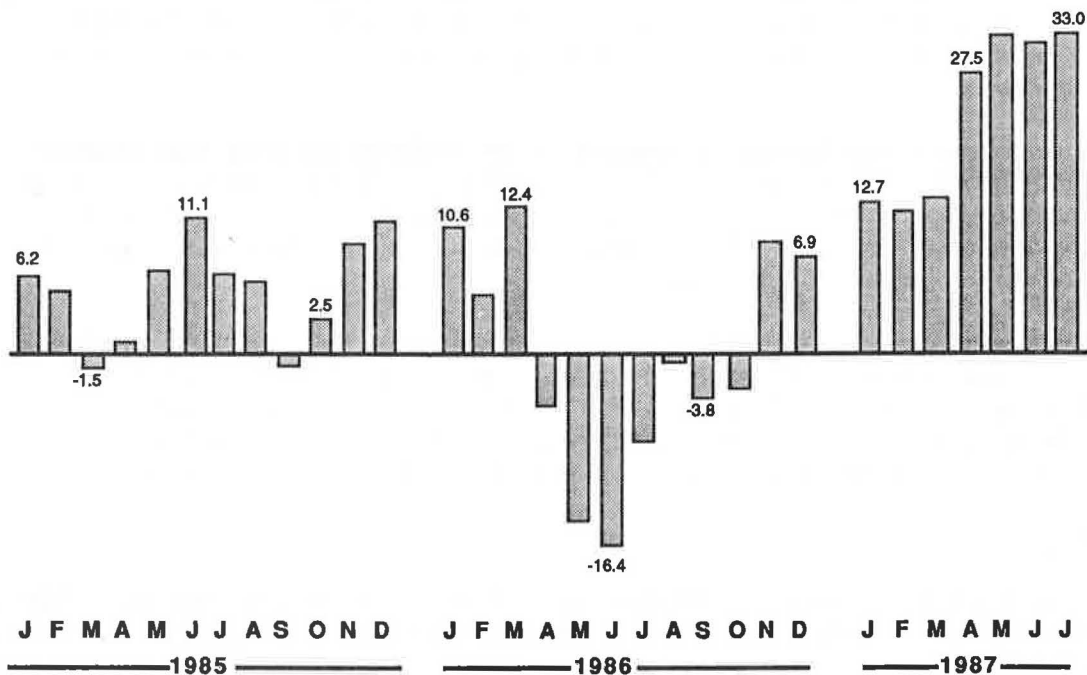
### International

Now, let us look at what is happening on the international scene. 1986 was a terrible year, as most of you know. We had Chernobyl, terrorism incidents, and the European currencies strengthened relative to the dollar. Even accounting for that low base year, one must say that 1987 is booming insofar as international traffic is concerned. The market has more than recovered from the lows recorded in 1986. Some people had thought earlier this year, including some international airlines, that 1986 might match 1985. In fact, 1987 international traffic will probably exceed 1985 levels. (See Figure 17)



Source: Air Transport Association

FIGURE 16 Employee Productivity: Majors and Nationals  
Revenue Ton Miles per Employee (000)



Source: Air Transport Association

FIGURE 17 International RPMs: Majors and Nationals.  
Percent Change Over Previous Year

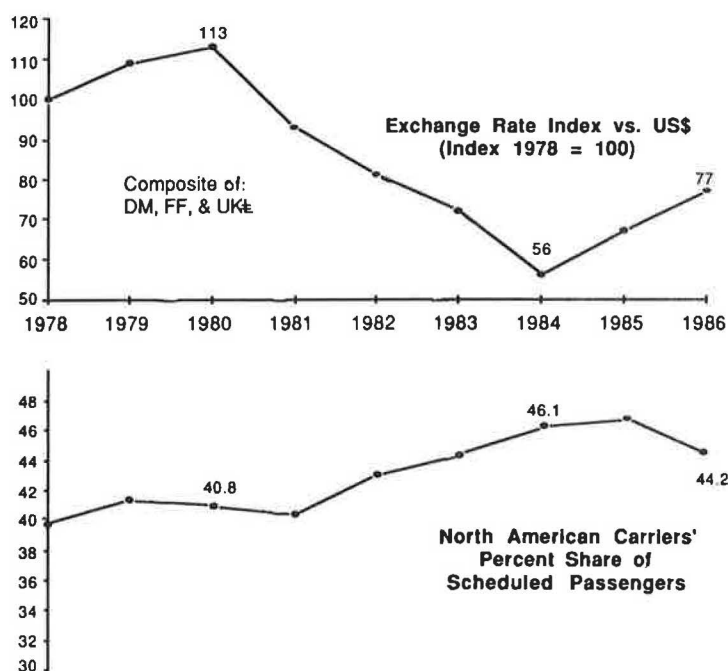


Figure 18 Currency Exchange Rates vs. Market Share  
Percent Change Over Previous Year

I mentioned currency exchange rates. Although there is no conclusive correlation between currency exchange rates and market share there is some impact on traffic of changes in the strength of the U.S. dollar. (See Figure 18)

The upper plot is the dollar exchange rate -- a composite of Deutsch marks, French francs and British pounds -- from 1978 to the present. Below it is the North American carriers' percent share of the North Atlantic market. It can be seen that as those foreign currencies declined in the 1980 to 1984 time period, there was a strengthening of traffic and market share of the North American carriers. The converse was true as the dollar weakened.

Competition in some areas is very expensive. The Pacific is now one of the most competitive areas in the world. U.S. domestic passenger commissions as a percent of revenue were about 8.5 percent in the first quarter; Latin American commissions were 9.5 percent; and Atlantic commissions were 10.5 percent. But, commissions in the Pacific area averaged 25 percent. Pacific commissions, on average, moved from 17 percent in 1984 to 25 percent this year. (See Figure 19 and 20)

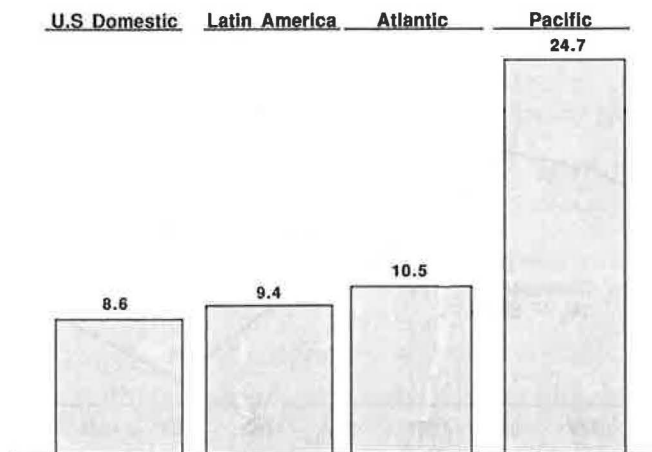


FIGURE 19 Passenger Commissions as Percent of Passenger Revenues:  
U.S. Scheduled Airlines, 1st. Quarter 1987

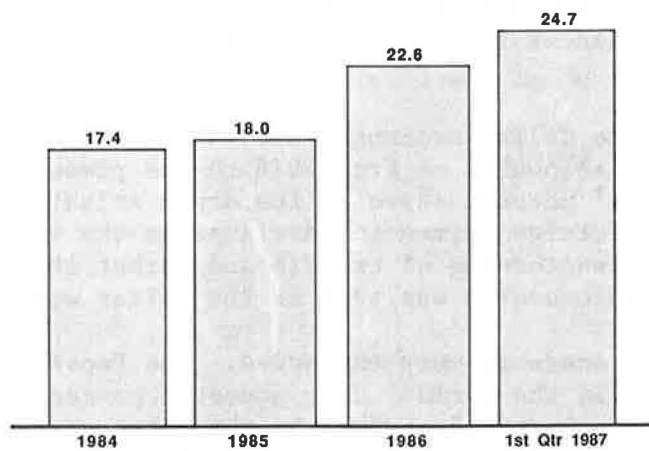


FIGURE 20 Passenger Commissions as Percent of Passenger Revenues:  
U.S. Scheduled Airlines - Pacific



Our recent forecast for world airline traffic up to the year 2000 shows the estimated 1987 level of worldwide traffic at 1,000 billion (a trillion) revenue passenger miles (RPMs). We project that worldwide RPMs will double by the year 2000, reaching 2,000 billion (2 trillion) revenue passenger miles. International traffic will grow slightly faster than domestic because of the globalization process that is going on right now. (See Figure 21)

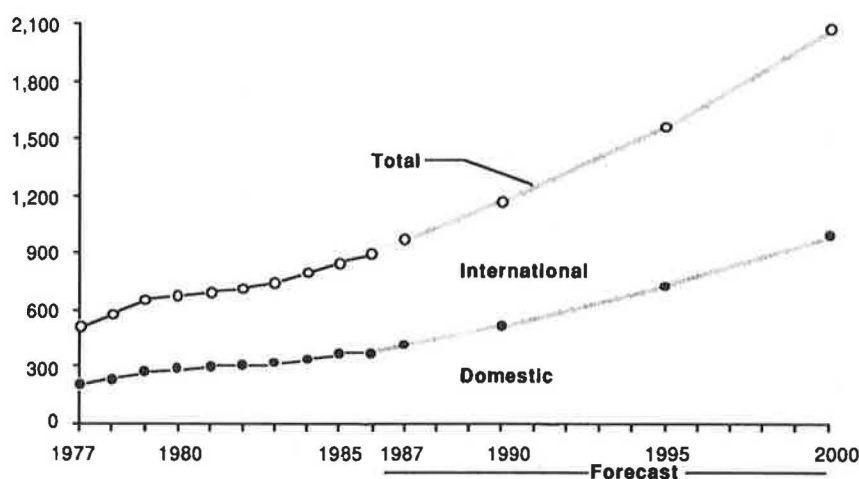


FIGURE 21 World Airline Traffic: Revenue Passenger Miles (RPMs) Scheduled Services (Billions)

It is interesting to note what has happened in the past few years with U.S. carrier international services. In 1978, American, United, Delta and Texas Air Corporation were predominantly domestic carriers. American served no foreign gateways in 1978 but served 8 in 1986; United, none in 1978, but 14 in 1986; Delta, one in 1978, and five in 1986; Texas Air Corporation three in 1978 compared to 21 in 1986. These four major carriers that served only four foreign gateways in 1978, by 1986, were serving a total of 48 gateways. Thus, predominantly domestic carriers are rapidly moving out of their traditional roles, and increasingly moving into international operations. (See Table 7)

TABLE 7 FOREIGN GATEWAYS SERVED NON-STOP

| Selected U.S. Carriers  |  |   |                      |   |    |
|-------------------------|--|---|----------------------|---|----|
| 1978                    |  |   | 1986                 |   |    |
| American                | -  | 0 | Dallas/<br>Ft. Worth | Frankfurt<br>London<br>Paris, Tokyo<br>Dusseldorf<br>Frankfurt, Paris<br>Manchester                           | 8  |
|                         |  |   | Chicago              |   |    |
| United                  | -  | 0 | Honolulu             | Auckland<br>Hong Kong<br>Sydney<br>Tokyo  | 14 |
|                         |  |   | Los Angeles          | Sydney<br>Tokyo   |    |
|                         |  |   | New York             | Tokyo   |    |
|                         |  |   | Portland             | Tokyo   |    |
|                         |  |   | San Francisco        | Hong Kong<br>Osaka, Tokyo<br>Taipei   |    |
|                         |  |   | Seattle              | Hong Kong, Tokyo  |    |
| Delta                   | Atlanta-London   | 1 | Atlanta              | London<br>Frankfurt<br>Munich<br>Paris  | 5  |
|                         |  |   | Portland             | Tokyo   |    |
| Texas Air<br>(CO,EA,PE) | Hon.-Johnston I<br>Hon.-Marshall I<br>Wash. DC-Guatemala | 3 | Honolulu             | Auckland<br>Guam, Nadi (Fiji)<br>Johnston I<br>Pago Pago<br>Sydney  | 21 |
|                         |  |   | Houston              | London  |    |
|                         |  |   | Los Angeles          | Papeete   |    |
|                         |  |   | Miami                | Barranquilla<br>Bogota<br>Buenos Aires<br>Cali<br>Guatemala<br>Guayaquil<br>London<br>Panama City<br>San Jose |    |
|                         |  |   | New Orleans          | Panama City   |    |
|                         |  |   | New York             | Brussels<br>London  |    |
|                         |  |   | San Francisco        | Brussels  |    |

### Airline Financial Performance

I would now like to discuss the current airline financial performance. The airline industry reported a \$1 billion operating profit in the first half of 1987 but only approximately \$100 million net profit. The bulk of the difference resulted from the high interest expense on the \$1.6 billion of industry debt. Each carrier's net income for the first half of 1987 shows that winners and losers were about evenly divided. (See Figure 22)

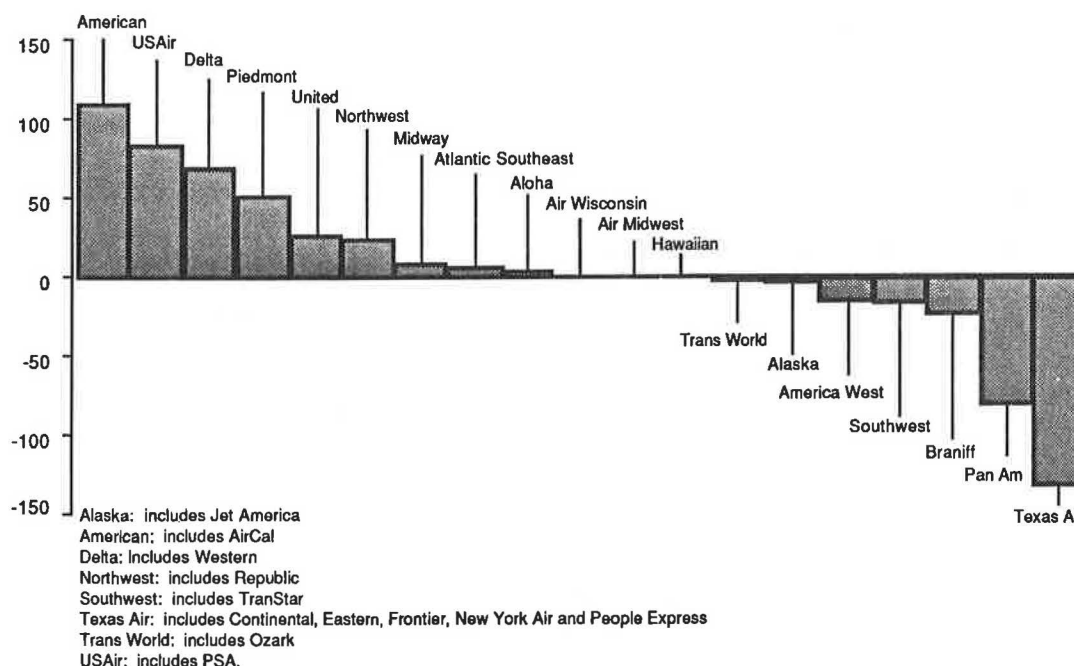


FIGURE 22 Net Income/Loss: U.S. Scheduled Airlines.  
First Half 1987 (\$ Millions)

### The Outlook - Near Term

How do we see things for the rest of this year and next year? In the first half of this year, traffic was up a very healthy 15 percent from the first half of 1986. Yields were down 2 percent. The combination produced operating revenues up 13 percent. Expenses were up by only 6 percent -- capacity was up 9 percent, but unit costs were down about 3 percent. The difference between the 13 percent increase in revenues and 6 percent increase in expenses gave the industry \$1 billion of operating profit in the first half. We do not anticipate traffic growth to be as high in the second half. But yields will be up. We expect the combination to increase operating revenues 13 percent -- the same as in the first half of the year. Because of the increase in fuel prices, unit costs will be up as well. With revenues and expenses both up 13 percent, we see close to a repeat of the 1986 second half -- about \$1.5 billion operating profit. For the year, then, we see a record operating profit of approximately \$2.5 to \$2.6 billion. But, as I mentioned previously, with the high debt cost of about \$1.6 to \$1.7 billion, the industry will be lucky to make \$1 billion in operating profit after interest or in net profit for the whole year. (See Table 8)

TABLE 8 AIRLINE FINANCIAL OUTLOOK\*

| U.S. Scheduled Airlines<br>% Change over Previous Year<br>1987 |                 |                   |                                 |
|--|-----------------|-------------------|---------------------------------|
|  | <u>1st Half</u> | <u>2nd Half</u>   | <u>Year</u>                     |
| RPMs   | 15              | 9                 | 12                              |
| Yield  | -2              | 4                 | 1                               |
|  | -----           | -----             | -----                           |
| Operating Revenues   | 13              | 13                | 13                              |
| ASMs   | 9               | 9                 | 9                               |
| Unit Costs   | -3              | 4                 | 0                               |
|  | -----           | -----             | -----                           |
| Operating Expenses   | 6               | 13                | 9                               |
| Operating Profit   | \$1 Billion     | \$1.5-1.6 Billion | \$2.5-2.6 Billion               |
| Interest Expense   |                 |                   | \$1.6-1.7 Billion               |
| Operating Profit<br>After Interest                             |                 |                   | \$900 Million to<br>\$1 Billion |

\* Midpoints of Forecast Range

TABLE 9 AIRLINE FINANCIAL OUTLOOK\*

| U.S. Scheduled Airlines<br>% Change over Previous Year<br>1988 |                      |
|--|----------------------|
| RPM  | 7                    |
| Yield  | 3                    |
|  | -----                |
| Operating Revenues   | 10                   |
| ASMs   | 6                    |
| Unit Costs   | 3                    |
|  | -----                |
| Operating Expenses   | 9                    |
| Operating Profit   | \$2.5 to 3.0 Billion |
| Interest Expense   | 1.7 Billion          |
| Operating Profit<br>After Interest                             | 1.0 Billion          |

\*Midpoints of Forecast Range

For 1988, we see traffic growing at 6 to 8 percent -- about one-half the rate that it is growing this year. We see yields easing upward, but at a lower rate than the general inflation rate. We expect operating revenues to be up about 10 percent. Operating expense increase of 9 percent will nearly match the revenue increase. Thus, the operating profit for next year will be only slightly more than in 1987. Again, subtracting the \$1.7 billion in interest expenses brings profit after interest down to the \$1 billion range (See Table 9)

#### Outlook 1987-1990

Now for some observations about the future. Eight major carriers now have 95 percent of the market, indicating a good degree of consolidation. Consolidation is almost but not quite over and we expect there will be further consolidations involving the eight major carriers. At each of 14 hubs we see a single carrier having over two-thirds of those particular markets. So, entry at those hubs is going to be somewhat difficult. The capital of four major carriers consists of over 50 percent debt. This is the basis for the \$1.7 billion industry interest expense. Yet the industry's return on assets is less than the cost of capital. There are, and will be, increasing government airport capacity constraints. Recently, and House and Senate have both passed the consumer bills that will add to the airlines operating costs. To some degree, unit costs have bottomed out and will move upward in the future. Together, these observations mean that for the rest of the decade we are going to see higher fares and higher yields. (See Table 10)

TABLE 10                      **OUTLOOK 1987 - 1990**

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#### U.S. Scheduled Airlines

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##### OBSERVATIONS:

- o 8 major carriers have 95% of the market
- o At each of 14 hubs a single carrier has over 2/3 of market
- o 4 major carriers have over 50% debt
- o Industry return on assets less than cost of capital
- o Increasing government airport capacity restraints
- o Increasing government consumer regulations
- o Unit costs have bottomed

##### MEANS:

Higher Fares & Higher Yields in Future

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But, we think that there will be a close relationship between airline fare increases and the overall inflation rate, and that continuation of the downward trend in constant dollar yields is a distinct possibility. In addition, consolidation will result in some firming up of airline industry profits in the future.

### Discussion

Mr. Nesbit: One of the numbers that is not on your chart is the denominator in all this, and roughly speaking it looks as though you are predicting 1988 revenues at about \$50 billion for U.S. airlines.

Mr. Howard: That would be about right, yes

Mr. Nesbit: Which means with net profit of under 1 billion you have a profit margin of less than 2 percent.

Mr. Howard: That is not very good.

Mr. Nesbit: That is miserable. Robert Crandall, American Airlines has said that he needs 10 percent operating and 5 percent net to survive.

Mr. Howard: Some people would look at the past and say, "It is a 2 percent industry." For those of you who may not know it, all US industry makes between 4 and 5 percent year after year in profit margin, and the airline industry has traditionally been in about the 2 percent range on an average basis. So, some people would look at that past and say, "It is a 2 percent industry," whether it is deregulated or not deregulated. I don't believe so. Although in the shorter term we do show about 2 percent in 1988, I think that in longer term, as the industry settles down, digests the recent mergers and acquisitions, and begins to (I don't want to scare you here) operate as an oligopoly, that you will see the industry moving out of that 2 percent area and begin to make on an overall margin well above that.

On the other hand, that may not come soon because you are talking about a very, very cyclical industry, as you all know. If we are hit after 1988 with a recession, then you will probably will not be seeing the industry moving above the 2 percent range in that time period.

Like any average, there are some very high and some very low numbers that make up the average, and indeed, those carriers that are well above 2 percent average level are having no problem securing the financing they need to go ahead.

The only thing new here since deregulation is the magnitude of the spread; and so, I am saying that once fully consolidated, the spread will probably decrease, as well.

Mr. Larkins (Allied Signal): I have two questions. One: do most industries focus on bottom line and then as a side issue look at how the operations did? I am curious as to how it has happened that the airlines have evolved a situation where people focus on the operating profits and then as a kind of

side issue say, "Oh, by the way, we had these other costs, and the net result is zero" Next, but related to the first one, is the question of the cost of the leasing. How is that accounted for; is that part of the interest payment or is that incurred in the operating costs?

Mr. Howard: That is part of the interest and the debt level. Capitalized leases are part of the debt ratios as we measure them, and they are also, a part of the of the interest, -- the amortization of the long term debt.

Mr. Larkins: Do you know any reason why the airlines and the airline commentators tend to focus on operating profit and not really on the overall results?

Mr. Howard: I think one reason is a very simple one, and it is one that is not completely logical, but I think it is true. It is that all of the reporting by a carrier makes that distinct separation. That has been traditional. CAB accounting reports have required that a carrier come down to the operating profit level and then take those non-operating items off to get down to the bottom line. CAB put heavy reliance on operating profit as a measure of the operations ability of the company, with regard to fare setting and the like. So, part of it is a carry-over from the old regulated days.

Mr. Larkins: I assumed that, but I just was not sure. A second fast question regarding your RPM growth projections. In general, are you assuming an increasing penetration of travelers in the population?

Mr. Howard: Oh, I think so.

Mr. Larkins: Is that then the trend in the general population?

Mr. Howard: Yes I think so. You know there is a tremendous variety of discount fares out there. Even if you go to the simplified two-tiered structure that is being proposed by American Airlines, you still have a wide variety of fares. They tend to cause the discretionary traveler to take advantage of them to a greater extent. How long that will last? I don't know but we think it will certainly last through 1988, to some extent.

Mr. Shenton (Avmark): I have a question on the 2 percent problem. Somehow in the airline industry we seem to be looking at the profits as relating to revenues, even net profits, whereas it is more customary in industry to think of profits as return on capital. I think one of the ways in which the airlines are taking care of the problem is by trying to reduce their capital as much as possible by leasing their aircraft. This, in turn, increases the operating costs which may be higher than they would otherwise have been. So, I guess maybe this is why they can live with 2 percent; and yet, in fact, become more profitable by other industry standards. I think that is what the industry is trying to do.

Mr. Howard: Yes, it certainly could be, but nonetheless, some of the carriers are making well above 2 percent and are doing quite well. So, you have both the spread and the nature of the business that you are relating there, Harold.

Mr. John Drake (Purdue): Could you amplify a little bit on the slide you showed concerning the commissions in the Pacific? What is the source of that

data, and to what extent does it really reflect the consolidators and other things which are depressing the actual yield to the carriers. Furthermore, are the yield figures (international yields) before or after these commissions? In other words, are true yields actually worse than reported?

Mr. Howard: First off, the yields we talk about are not net of commissions. They are straight out passenger revenue divided by revenue passenger miles, and so of course, do not reflect the commission costs. If you were to take them into account, net yields in the Pacific area would be diminished by about 25 percent to get to net revenue.

Secondly, the source of the material is as reported to the Department of transportation in the carrier reporting program.

One aside with regard to those commissions, not all of the business, of course, is done by travel agents. There is some, maybe 20 percent, that is done by the carriers themselves. So, in actual travel agents' commissions, the figure could be as high as 28 to 30 percent.