additional management skills. These factors must be balanced against the high debt of a carrier, such as Braniff, which in Eastern's case, made this kind of takeover prohibitive. Takeovers will occur where there are clear-cut advantages such as for Pan American in its acquisition of National.

There is a real possibility that the equipment financing problem could be met by the development of investment groups who own and lease aircraft on a different basis than has been done historically. This will not be so much a method of financing aircraft from the standpoint of the airline, as an investment opportunity. A carrier might be able to approach the problem of developing markets from the standpoint of where a developmental opportunity exists, the best way to develop it, the kind of equipment needed to develop it, and where to lease that equipment, rather than how to utilize existing equipment.

## AIRLINE PASSENGER DEMAND

William R. Nesbit, United Air Lines

Airline passenger demand is determined by three sets of forces: (1) fares and costs, (2) consumer income, and (3) technological and structural changes in the economy. In the long run, airline fares tend to follow the cost of producing airline service. Fuel and labor are the dominant cost factors. Fuel prices will rise somewhat faster than inflation in general but improvements in airline efficiency and aircraft/engine technology should hold fuel costs in line with inflation. Airline labor costs, which have risen at an above-average rate historically, will probably rise less rapidly due to deregulation. Airline capital costs have escalated in recent years and are expected to continue to do so. On balance, total airline unit costs are expected to rise about in line with the inflation rate.

Real yields are thus likely to be flat over the next ten to twenty years. Unit costs for fuel and labor should be flat or downward in real terms but capital costs will increase. Efficiency factors such as utilization, seat density and load factor will improve somewhat but not nearly as much as in the past eight years. From a forecasting standpoint, an assumption of constant real yield is a blessing since it wipes out the effect of price elasticity -- a subject on which nobody seems to agree.

Although average real yield will probably remain relatively flat, deregulation will result in a wider variety of price/service options for air travelers which, on balance, should be a stimulant to demand.

If fares are neither a drag nor a stimulus to growth, then changes in the economy and population will be the vital considerations. Most forecasters, except the FAA, agree that income elasticity is strongly positive, so that the consensus economic projection of 3 percent annual growth in real disposable personal income (DPI) implies at least 4-1/2 percent to 6 percent market growth. However, the growth of true discretionary income and how it is distributed among various demographic age-income cells is viewed as a better growth indicator than the gain in aggregate DPI.

There is no consensus among forecasters with respect to a "realistic" assumption regarding future passenger load factor levels. The FAA forecast of 63 percent seems to fall within the bounds of expectations.

Among other potential growth factors, teleconferencing was viewed as a negligible influence for the next decade and private business aircraft were not a threat to airline demand. Diversion from surface modes is primarily a historical phenomenon -- from railroads in the 1950's and from autos in the 1970's. People seem to be getting more accustomed to small cars and willing to use them for intercity trips - and would be even more likely to use autos if the 55 m.p.h. speed limit were repealed. Airport or airway congestion was expected to become worse since no new airports are expected; however, this will not be a constraint on airline growth because there are many ways to overcome the congestion problem. General aviation may face a more serious airport constraint as small airports close, air carrier airports become very expensive and reliever airports are expanded at an uneven pace.

The need for better market research data on air travel based on general population surveys, such as the ATA/Gallup survey, was discussed at length. Airlines strongly oppose in-flight surveys other than their own proprietary surveys. The airframe and engine manufacturers seem to be willing to underwrite a major research effort through the Aerospace Industries Association at a cost far in excess of the $13,000 for the ATA/Gallup survey. Airlines, manufacturers, government and academics agreed on the need for much better information in the public domain and seem to be willing to share the cost.

## AIRLINE CARGO DEMAND

Donald C. Creswell, SRI International

The objectives of the cargo session were: (1) to identify threats to and opportunities for the air freight industry (The "industry" does not include specialized small package overnight services.); (2) to develop a consensus about growth rates, 1980-1990; (3) to identify important issues; and (4) to identify important areas for research.

### Threats and Opportunities

The prime outside or major threats are possibilities of disruptive pricing and/or lack of availability of fuel. There are direct threats of increased operating costs, and indirect threats of depressed demand from economic recession.

Trucking deregulation in the U.S. is a threat because no one is quite sure how the new structure will work out. There is a threat of increased competition within a 500-mile radius of major airports.

Other outside threats are new "institutional barriers" affecting international traffic. These are changing trade agreements, shifts in bilateral agreements aimed at protecting flag carriers, shifting currency exchange rates, and various restrictions on free trade.

Outside, or macro-opportunities include modal expansion as an attractive strategic option resulting from truck and rail deregulation. This opens the way for imaginative operators to move into complementary transport modes. An example is the new services offered by the Flying Tiger Line.

Third World economic expansion may offer opportunities for airlines and related air freight businesses that are capable of taking advantage of such changes.

Several participants thought the high inflation rates would increase the apparent value of products relative to the cost of air freight. More commodities would, therefore, cross the "threshold of eligibility" for movement by air freight.