

SUMMARY

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The Aviation Forecasting Committee of the Transportation Research Board, National Research Council, conducted the Third International Workshop on Aviation Forecasting over three days during September 12-14, 1983 in Washington, D.C.

This workshop builds on the results of two previous workshops. The most recent workshop was conducted in Washington, D.C. on March 26-27, 1981 on "Assumptions and Issues Influencing the Future Growth of the Aviation Industry (see Transportation Research Board Research Circular Number 230, August 1981). An earlier workshop, also sponsored by the Aviation Forecasting Committee, was conducted in Washington, D.C. at the Fifty-Ninth Transportation Research Board Annual Meeting January 14-15, 1980 to examine the forces and assumptions influencing air travel to and from North America (see Transportation Research Board Circular Number 220, August 1981).

The 1983 workshop had a broader international context in that participants from France, West Germany, Japan, United Kingdom and Canada, as well as the United States attended.

The ten resource presentations and six seminars were organized into five plenary sessions and three concurrent workshop sessions as follows:

Day #1

● Plenary Session

Economic Outlook
Energy Outlook
Financing the U.S. Airline Industry

Day #2

● Plenary Session

Comparison of 1981 and 1982 Macro
Environment
Forecasting Review: How Well Did We Do?

● Workshop Seminars

Seminars Number 1 - Number 6 concurrent

● Plenary Session

Forecast Users Speak Out

● Workshop Seminars

Seminars Number 1 - Number 6 concurrent

● Plenary Session

Major Barriers to Aviation
Broadcast Special Event Teleconferencing
IBM Teleconferencing

Day #3

● Workshop Seminars

Seminars Number 1 - Number 6 concurrent

● Plenary Session

Key Findings of Each Seminar
Workshop Wrap-Up and Summary
Survey of Workshop Participants

Resource presentations during plenary sessions were made by David Wyss, Data Resources Inc.; James L. Johnston, Standard Oil Company of Indiana; Robert B. Schwarzenbach, Mellon Bank; Harvey B. Safer, Federal Aviation Administration; C. Robert Nysmith, National Aeronautics and Space Administration; Richard C. Harkness, Satellite Business Systems Inc.; Polly Rash, Public Satellite Consortium; and Harold Hagopian, IBM Corporation.

The six seminars, held during Day #2 and Day #3 included the following topics: airline passengers and changing airline competition, air cargo, international environment, strategic external forces, commuter industry, and business aviation. Participants from leading travel organizations such as airlines, airframe manufacturers, engine suppliers, oil companies, economic and aviation consultants, banking officers, industry associations, government officials, airport staff, universities, communications and data processing suppliers were invited to make presentations at individual seminars. Summaries of the findings and conclusions of the six workshop seminars, prepared by the moderators are presented on pages 5 to 23.

Just prior to adjournment of the workshop, a written survey was conducted to provide some understanding of the views and opinions of the participants regarding a number of key aviation issues and forecast assumptions. Thus, the survey reflects the results of individual attendees' perspectives and views after three days of debate and discussion on major issues of significant importance to the aviation industry.

MAJOR FINDINGS

The foundations of the global economy are stronger at this point in time compared to the turbulence experienced two years ago during the previous workshop.

The consensus was that economic growth will be the most important factor influencing aviation growth, overwhelming the impact of changes in air fares, energy prices, tourism, deregulation, as well as advances in technology and aircraft operating economics.

Global economic growth will average 3.7 percent annually for industrialized nations, and 5.5 percent annually for developing nations through the 1995 period. However slower growth, on a global scale, will be realized in the near term through 1985. Export volumes will expand at an average 5.1 percent per year for the world as a whole.

The U.S. economy will realize moderate but continuing economic growth in 1984 with moderating expansion in 1985. Inflation rates will remain moderate and not rise faster than 5.0 percent through 1985. While the world and U.S. economies are in better shape than in the last five years, there is concern about how long their economic health will last. Real inflation rates are at historic highs, U.S. government budget deficits at record levels, and unemployment rates are moving downward only gradually. Downside risks include rising inflation rates, continued high budget deficits, and insufficient capital availability. These factors could choke off an extended economic recovery.

Long economic recovery cycles are usually necessary to benefit aviation growth while short or disruptive economic cycles tend to suppress aviation activity and may be catastrophic to equipment suppliers who need prolonged aviation growth to support reequipment periods. Several

years ago, there was strong consensus that aviation fuel prices would increase at about 3 to 5 percent per year, in real terms, during the 1981-1991 period. Present situations indicate that these fuel price increases will be much lower, probably between 0 and 2 percent in real terms (excluding the effects of inflation). There continues to be uncertainty about future increases or possible decreases in energy and fuel prices.

Stabilization of the international airline industry will occur only through significant cost control by major airlines. Cost controls will occur through better productivity of labor, unionized and non-unionized. Whether an airline is unionized or not is of small importance relative to whether labor is productive or not.

The hub and spoke route system continued to gain momentum in the United States. Airlines appear to use hubs partly because of the existence of large aircraft and their role in collecting large volumes of passengers at major hubs. However, costs of transferring passengers at a hub may not be completely understood; and a number of routes will begin to emerge that overfly large hubs. Passenger convenience may be greatly enhanced by having more non-stop services that take less time as a connection compared to transferring through a hub.

Macro aviation models are shifting toward less sophisticated techniques and parameters with good success. In a number of examples, income and price variables have been used with forecasting results as good as many-variable equations.

Special/418 cargo carriers constitute a group of airlines (such as Federal Express, Emery Worldwide, or small "418" carriers) that have high potential for growth. Most other cargo carriers will grow at the same rate as overall GNP or trade volumes or less. It has also proved more accurate to forecast cargo revenues than revenue ton miles, packages, or yields, due to offsetting factors. The development of new markets, rather than competing for share of market, will be a critical factor in developing overall air cargo markets.

The number of passengers diverted from paying full fare may be twice the number of passengers generated by promotional fares, according to recent survey analyses. Small fare reductions appear to be effective in stimulating added traffic, but large fare reductions are less effective and may be quite unprofitable.

Five important consumer segments warrant careful attention in the airline industry: women business travelers, young adults, multi-earner households, passengers over 65 years old, and handicapped travelers. These travel segments will increase in importance during the next several years.

Exchange rate fluctuations probably depress travel growth rates regardless of the direction (U.S. to Europe, Europe to U.S., Japan to Europe, etc.) because of the uncertainty generated during periods of such changes.

Emplanements, aircraft movements, and revenue passenger miles of commuter airlines will grow significantly during the decade. However, the number of points (cities) served by this growing sector of aviation may be limited or reduced during the latter period (about 1988) when subsidies for small cities are withdrawn making it unprofitable for many commuters to continue to serve these cities. It is possible, that the number of commuter airlines in operation by the early 1990s will be substantially below that of today's industry.

Business jet and business turboprop aircraft are likely to recover from the recession of 1980-82. However, the peak production rates seen in the 1970s are not likely to reappear until after 1985.

A survey of fifty of the workshop participants revealed that real economic growth, real air fares, real energy prices, tourism growth, and consumer demographics will be among the most important factors determining aviation growth during the 1980s. Asia and the Pacific region will outpace others in traffic growth rates during the same time period, followed by the Middle East and South America. Six out of ten participants believe that the Asian and Pacific region growth will be "high" (7 percent per year in terms of revenue passenger miles during the 1980s). Increases in real yields will be lower than rates of inflation for carriers registered in the United States, but they will rise at the same rates as inflation in most other regions, suggesting that discount rates and fare wars may continue in domestic U.S. markets for most of the 1980s.

International operations of most airlines will realize air fares rising at the same rate as inflation for most of the decade. However, 17 percent of the respondents believed that air fares in the Pacific may rise more rapidly. Real jet fuel prices will decline during the 1983-1985 period, be level during the 1986-1988 period, and rise from 1989 to 1992, according to workshop attendees.