

RISKS TO THE FORECAST

The FAA is confident that its current outlook for aviation demand and activity can be achieved, as shown by the resiliency of the demand for air transportation in the face of challenges. As has been the case for the past several years, terrorism remains the greatest risk to achieving the forecasts. Tighter security measures have restored the public's confidence in the integrity of U.S. and world aviation security systems. However, because of aviation's high visibility and global reach, concerns remain about international terrorism. Any terrorist incident aimed at aviation would have an immediate and significant impact on the demand for aviation services. In addition, there has been much discussion about a world-wide pandemic such as influenza. Should such an event occur, it is likely that severe limits on aviation would be enacted and would have a significant impact on the demand for aviation services.

Terrorist and pandemic concerns notwithstanding, this year's forecast is driven, at least in the short-term, by the financial health of the commercial aviation industry, which, in turn, is tied to the price of jet fuel and the health of the U.S. economy.

During most of FY 2007 oil prices ranged between \$50 and \$65 per barrel and similar to the prior year, prices moved up after June, reaching \$78/barrel in mid-August. But prices didn't fall back as they had in the previous two years after the peak summer season, but instead kept on rising, breaking \$80/barrel in mid-September and \$90/barrel in late October. Oil prices in the spot market approached \$100/barrel in mid-November 2007 before falling back to around \$90/barrel at the end of December. However, in early January 2008, oil prices topped \$100/barrel for the first time before retreating. The dramatic increase in the price of oil has led many analysts to revise their long-term oil price projections upward. While last year's forecast had long-term oil prices in the \$55-\$65/barrel range, current projections now have oil prices in the \$70-\$80/barrel range over the next several years.

Although the fuel bill for U.S. commercial air carriers was essentially unchanged in FY 2007, the recent sharp increase in fuel prices threatens the continued profitability of the industry. Given FY 2007 consumption levels, a one-cent increase in the price of jet fuel costs the industry \$195 million annually. Thus, the \$15-\$20/barrel increase in the price of oil could add \$7 billion to \$9 billion to the industry's annual fuel bill, an amount equal to the FY 2007 operating profit of the 10 largest passenger carriers. This year's forecast assumes \$86/barrel oil in 2008, up from \$60/barrel in 2007, and then gradually falls back to \$73/barrel in 2015. Already, carriers have announced capacity reductions and service cutbacks because of high fuel prices which threaten to increase passenger inconvenience and reduce passenger demand and competition in many markets. Should oil prices reach \$100/barrel on a sustained basis, carriers have said that further restructuring, including consolidation and/or further contraction of carrier route structures, would be in order. Under this scenario, several large U.S. airports could lose their major service provider. Efforts to develop alternative aviation fuels may mitigate this risk by increasing supplies and availability and reliability; this benefit would be realized whether or not the fuels are targeted to aviation.

Although FAA uses economic projections from OMB to derive the forecasts of aviation demand, an important part of the FAA forecast process is to compare the OMB forecasts with other economic forecasts. FAA typically compares OMB economic forecasts to those of Global Insight, Inc., a leading economic consulting firm. Unlike prior forecasts, Global Insight's current U.S. GDP forecast is lower than OMB's. While OMB is projecting U.S. GDP growth to average 2.9 percent a year between 2007 and 2010, Global Insight is forecasting U.S. GDP growth to average 2.5 percent during the same period. In addition, Global Insight regularly provides alternative forecasts and assigns a likelihood of their occurrence; along with the likelihood of the baseline forecast occurring. In December 2007, Global Insight was assigning a 50 percent likelihood of their baseline forecast. An optimistic scenario—higher economic growth in the rest of the world, lower oil prices, and a continuation of the high worker productivity rates of the late 1990's—that results in higher U.S. economic growth was assigned only a 10 percent likelihood by Global Insight. Higher economic growth would lead to increased demand for aviation services and speed the industry's return to profitability.

However, Global Insight's pessimistic scenario—a weaker dollar, rising oil prices, higher inflation, a deeper housing downturn, and rising unemployment—that results in a recession in the U.S. was assigned a 40 percent likelihood. We used the pessimistic scenario as inputs to our domestic traffic industry model to quantify the impact of a recession on US airline industry traffic and capacity growth. The results were as expected but the magnitude was surprising. In 2008, domestic passengers in the pessimistic scenario would be 2.2 percent lower than in our base forecast with RPMs down even further. The difference between the base forecast and the pessimistic scenario widens over the next 2 years so that by 2010, domestic passenger enplanements would be 7.7 percent lower than in the base forecast and RPMs would be 9.5 percent lower. Industry passenger revenue was 6.9 percent lower, hampering the industry's drive for sustained profitability and balance sheet improvement.

Low-cost carriers are forecast to continue to increase their share of domestic traffic over the forecast period through a large increase in their fleet. However the 2007 financial performance of these carriers was, at best, mixed. There is a good deal of doubt about whether the low-cost carriers, with their present business models, can profitably use all of the aircraft they are scheduled to take in the next few years. Although most of the current low-cost carriers appear to have greater financial stability and access to funding than previous start-ups, continued high fuel prices, a prolonged slump in travel demand, and/or a prolonged fare war could cause these carriers to scale back planned growth and/or cease operations. In addition, low-cost carriers have a significantly smaller percentage of their future fuel needs hedged. If jet fuel prices go higher than are forecast, the cost gap between low-cost carriers and the network carriers should narrow, further reducing the competitive advantage that many of the low-cost carriers currently enjoy. Any loss of competition could lead to higher fares and a loss of passenger demand.

Also, the forecast assumes the addition of sizable numbers of regional jets into the fleet of regional carriers. However, the regional carriers' future is closely linked to those of the larger network carriers. Should one or more of these large carriers cease to exist (because of financial difficulties or merger), certain regional carriers could find themselves either saddled with excess capacity or lack of sufficient capacity, or lack of feed traffic. The recent experience of the Delta and Northwest bankruptcies saw opportunities for regional flying substantially reduced.

Despite last year's failed attempt by US Airways to acquire Delta, there is still considerable interest in consolidation within the industry. Some carriers, particularly United and US Airways, have made it clear that they believe consolidation is necessary for the long-term stability/profitability of the industry. Other carriers, who in the past have been less vocal in their views on consolidation, have recently admitted that they have been evaluating their options if a large merger is announced. While proponents of consolidation argue that consolidation can lead to more rational capacity decision making and enhance the financial stability of the industry, the reality is that in any consolidation scenario there would be fewer carriers and less domestic competition. Less competition could lead to higher fares for the flying public and thus reduce travel demand.

Some weakness began to appear in global economic performance in 2007, although many regions recorded strong gains. While the current forecast calls for continuing high growth rates throughout the forecast period, there are many downside risks inherent in these forecasts. In the near term, the largest risk is the global credit crunch. Although the credit crunch in the U.S. and in Europe has not severely impacted Asia, should U.S. consumer spending falter as a result, Asian exporters and Asian economic growth could suffer. In addition, sustained high (\$95 - \$100/barrel) oil prices pose a risk to economic growth in oil importing nations (namely the U.S., Eurozone, and Japan). Many regions are counting on strong export growth to the United States as a major contributor to their future economic growth. If economic growth in the U.S. slows as a result of sustained high oil prices, strong U.S. import growth is unlikely to occur, diminishing global economic growth prospects.

Furthermore, much of the growth that is currently occurring is concentrated in a relatively few countries such as China and India. Because so much of the current growth is concentrated in a few countries, the risk that a local event could quickly have widespread effects increases. One scenario is that China suffers a "hard landing" in which economic growth slows dramatically from current levels. Global Insight assigns about a 30-35% probability of such a scenario occurring. In such a scenario, Global Insight estimates that global economic growth would be reduced by 1 percent. In addition, there are potential geopolitical risks that could slow global economic growth, i.e., the uncertain political situations in several major oil exporting countries. Doubts remain over the strength of demand in both Japan and the Eurozone as these areas continue to be constrained by structural economic problems, institutional constraints, and the authorities' reluctance to take decisive action. The current forecasts assume strong passenger growth for travel between the United States and other world regions. Any slowing of global economic activity could seriously inhibit the growth in world passenger demand.

On the other hand, loosening of international regulatory constraints could drive growth higher than what is projected. Historically, international markets have been subject to a series of bilateral agreements that have, for the most part, severely restricted competition. It remains to be seen if the "open skies" agreement between the U.S. and the European Union will prove to be a catalyst for reaching other agreements throughout the world, especially in large markets like China and Japan. If it does, more U.S. carriers could gain access to new markets throughout the world and introduce new competition. Greater competition could lead to lower fares and higher growth in these markets.

The demand for general aviation products and services, especially business jets, appears to be expanding. While the high end of the industry (business and corporate jets) is growing, the lower end of the business (piston aircraft) is showing signs of a slowdown. How long the industry expansion continues depends, in large part, on the strength of the market for business jets and VLJs. The market for business jets is largely dependent upon the growth in the economy and corporate profits and it is unknown how well this market will fare as the U.S. economy and corporate profit growth slows. The current fore-

cast assumes that 400-500 VLJs will enter the fleet a year, with the U.S. market growing to 8,145 by 2025. This is in the middle of a fairly wide range of industry estimates. The key driver of the VLJ market is the on-demand air taxi industry. Those who believe the time has come for the air taxi industry tend to have higher fleet forecasts. Those who are less sanguine about the prospects for the on-demand air taxi industry tend to have more conservative fleet forecasts. If the on-demand air taxi industry does gain widespread acceptance, it will spur the demand for VLJs and the general aviation active jet fleet and hours flown could be higher than forecast.

The mix of aircraft operating at most large hubs is also expected to become increasingly complex over the forecast period. The expected large increases in the numbers of regional jets and VLJs will increase the complexities of the national airspace system and make the FAA's job more challenging. The increased complexity of the mix of aircraft serves to compound the increases in workload strictly due to the increasing demand for aviation services projected over the forecast period.

High levels of delays occurred at many U.S. airports in 2007 and could become a critical limit to growth over the forecast period. FAA's forecasts of both demand and workload are unconstrained in that they assume that there will be sufficient infrastructure to handle the projected levels of activity. Should the infrastructure be inadequate and result in even more congestion and delays, it is likely that the forecasts of both demand and workload would not be achieved. The Department of Transportation is considering the use of market-based measures to manage congestion. New market forces from these measures could have an impact on the aviation industry, but the specific measures to be implemented and therefore their impact are unknown at this time. In addition, should industry consolidation become a reality, the impacts on congestion are unclear. Some current hubs would likely be downsized in the event of consolidation resulting in less congestion, but other hubs might experience greater levels of activity that could lead to rising congestion at those specific airports.

Environmental concerns also pose a risk to the forecast. Concerns about aviation's impact on the environment, which have accompanied its growth, could potentially restrict the ability of the aviation system to grow to meet national economic and mobility needs. Airport expansion or new construction is often a contentious issue because of noise, air quality, and water quality concerns. Although aviation only currently contributes 2 to 3 percent of anthropogenic greenhouse gases, emissions from the sector are expected to grow in absolute terms, and concerns about the climate impacts of these emissions are also growing. All of these concerns could have a negative impact on the ability of the aviation system to meet the mobility needs of the traveling public in the future unless systematically addressed as laid out in the Next Generation Air Transportation Plan.