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Pilot Outlook 2010-2029: A Shortage Looms

Latest industry statistics point to a pilot shortage that will dwarf those that came before

By Marc C. Lee

Like the pendulum on a giant grandfather clock, the availability of aviation jobs goes back and forth in giant, lazy swings. In 2007, regional airlines saw an enormous jump in pilot hiring, sucking flight instructors out of every corner of general aviation, and leaving gaping CFI positions at local FBOs everywhere. Flight schools scrambled while aviation industry pundits breathlessly exclaimed that there were no flight instructors left. Meanwhile, airline training centers bulged at the seams with fresh-faced recruits, some of whom had maybe 250 hours of time under their belts. In 2007 alone, 2,766 domestic airline pilots were hired.

Contrast that scenario with 2009. A scant two years later, and the entire airline industry crashed. During that entire year only 30 domestic airline pilots were hired—30! It was the lowest point in the airlines’ history. So it is with that ominous mist hanging heavy over the aviation profession that we bring up the subject of a looming pilot shortage.

If you spend time on airline pilots’ chat forums, you’ll find the argument raging. One side maintains that a pilot shortage is impossible. “Look at all the furloughed pilots,” they say. “Fuel is too expensive,” adds another. Meanwhile, concerned aviation recruiters and industry experts are wringing their hands, pointing to the growing international demand and the lack of new pilots entering the fold. So, who’s right?

The Stats

Hard statistics are plain enough for anybody to see and understand. According to Flightglobal’s Insight Fleetwatch—which is based on their ACAS database and airline monitoring system—the current firm order backlog for the global airline industry stands at over 8,000 aircraft. The recent trend (beginning in December 2010) has been consistent month-over-month increases in backlogged airliner orders.
Boeing publishes a well-respected World Market Outlook that has been a comprehensive industry standard for 40 years, and is known for its accuracy in projecting commercial air service demand. Their recently published 2010-2029 outlook supports a huge pilot shortage. Extensive research by Boeing has concluded that the most powerful driver of growth in the commercial airline industry—and the resulting demand for airplanes and pilots—is the global gross domestic product (GDP), which reflects worldwide economic activity. The global GDP is projected to grow at an average of 3.2% per year for the next 20 years. As a result, worldwide passenger traffic will average 5.3% growth, and cargo traffic will average 5.9% growth over that period.

Research also confirms that the demand for commercial aviation services follows worldwide economic growth. To meet this growth, the number of airplanes in the worldwide fleet will grow at an annual rate of 3.2%, almost doubling from approximately 19,000 airplanes today to more than 36,000 airplanes in 2029. To replace aging airplanes, and to accommodate growing fleets, new airliner deliveries will total 30,900 over the next 20 years, with a total value of 3.6 trillion U.S. dollars. Since airliners don’t yet fly themselves (and the public doesn’t yet support the idea), qualified pilots will be needed to fly all those new airplanes. Based on Boeing’s projections, 466,650 trained pilots and 596,500 maintenance technicians will be needed to fly and maintain the growing worldwide fleet. The bulk of those half-million pilots will be new hires who will replace retiring pilots and furloughed pilots who leave the workforce permanently and through attrition.

Commercial air service growth is already starting to creep up. Freight carrier FedEx announced in January 2011 that it will take delivery of 55 new Boeing 777F aircraft to add to its current fleet of 12, and to replace other aging aircraft. The first 777F was delivered to FedEx on February 28, 2011. Anticipating a rebound in luxury travel, on-demand leader NetJets has placed a firm order for 50 Bombardier aircraft, with options for 70 more, worth $6.7 billion.

It’s no secret that the biggest demand for pilots will come from countries outside the U.S. Beginning just a few years ago, airlines in emerging nations started hiring pilots from other countries (including the United States) to meet their domestic needs. Though some of that hiring has subsided, the coming demand will certainly require aggressive recruiting from these overseas airlines to attract qualified talent. The fact remains that if you’re willing to pack your bags and live abroad, you’ll be able to write your own ticket.

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The largest growth in pilot numbers will be in the Asia Pacific region, with a requirement for 180,600 pilots. China will experience the most dramatic growth and will need the most pilots, with an expected requirement for 70,600 pilots. North America will need some 97,350 pilots, and Europe will require 94,800 pilots. Another 100,000 pilots will be needed across Africa, the Middle East and Latin America. Maintenance personnel will enjoy an unprecedented increase in demand, with specialized skills in systems and avionics wanted everywhere.

The Obstacles

But what about the disastrous events that have affected the aviation industry? The Asian financial crisis, SARS, terrorist acts, three major world recessions, two Gulf wars, and the current eruption of anti-government violence in Middle Eastern countries are calamities that have hit aviation hard. Add to those the high cost of flight training and fuel, disappearing GA airports, and the negative public perception of GA.
Those issues have, in fact, hit our domestic airline industry hard. For example, volatile fuel costs effectively ended the era of the regional jet by negating their economic viability. Airlines were forced to renew their fleets, streamline their operations, look for new paths of revenue (fees for baggage, premium seating, food, etc.), and take an active role in developing alternative fuels. But more than the negative effects, these issues have proven that the commercial aviation industry is extremely resilient, and that our globalized economy needs air service to function. Business concepts in the 21st-century like “just-in-time” manufacturing, and the increasing level of international sourcing of goods and services doesn’t cease to exist because of wars or recessions. Sure, that family of four in Topeka might defer their trip to Disney World for a few years until gasoline prices stabilize, but global businesses require passenger and cargo services by air daily. Remember the volcanic eruption in Iceland and what it did to global economies? Our reliance on commercial air service is so ingrained that it has no choice but to grow. If it did cease altogether, we would have much bigger problems than not finding pilot jobs.

Air travel increases every year, regardless of economic uncertainty. Airline pilot projections for the next 20 years are significantly higher now than before the worldwide economic recession. In 2008, Boeing projected an average need for 18,000 pilots per year and 24,000 maintenance people. The latest figures project 22,500 pilots per year and 28,000 new mechanics.
Another interesting development of late is the newly proposed FAA pilot rest requirements (Docket No. FAA-2009-1093 “Flight crew Member Duty and Rest Requirements”). The proposed rules require a minimum of nine hours’ rest between shifts, and 30 consecutive hours away from work each week. In a response to the proposed FAA rule, American Airlines—one of many who responded—said it would need to hire an additional 2,325 pilots at a cost of $514 million per year. That’s in addition to the pilots needed to meet increasing domestic demand. American Airlines hit the bull’s-eye when they responded that, “The industry figure will be so large as to raise the question of from where they (pilots) all will come.”

The International Air Transport Association, the U.S. Federal Aviation Administration and the International Federation of Airline Pilots’ Associations are all voicing their concern about medium- and long-term pilot supply. The IATA launched its prescient “Training and Qualifications Initiative” (ITQI) in 2007 to deal with this issue. Describing the need for the ITQI, IATA said, “While the present economic downturn has brought a temporary reprieve to the urgency of this situation, IATA believes the (pilot) shortage is a long-term issue. Therefore, we have not changed our goals or commitment to addressing this issue.”

There are several initiatives that could be changing our industry to help meet growing pilot demand. AOPA has launched its “Flight Training Student Retention Initiative” as a long-term, industry-wide effort dedicated to increasing the percentage of students who earn a pilot certificate. The idea is to grow the pilot population through “positive flight-training experiences.” AOPA convened a major flight-training summit in November 2010 at its Expo in Long Beach, Calif., to focus on the problem of a decreasing pilot population.

The International Civil Aviation Organization (ICAO) and IATA are focusing on modernizing and revolutionizing flight training to meet airline demand through the ITQI. The initiative is looking at competency-based training, the Multi-crew Pilot License (MPL), and new ways of attracting young people to aviation to help kick-start the pilot population. Meanwhile, airlines are discussing ideas like subsidized training, training in exchange for employment contracts, long-term recruiting from university flight-training programs and academies, and other ideas to attract talent.

Recent changes in the legal requirements for flying time in the United States as a result of the February 2009 Colgan Air crash, have yet to yield enough impact to determine how they will affect pilot numbers. The new law requires both pilots of any commercial airliner to have a minimum of 1,500 hours flying time...
and an air transport pilot (ATP) certificate. If even regional airlines require higher-time pilots, the existing pool of pilot applicants will be a drop in the bucket compared to insatiable domestic demand.

So, as grim as the present may look with regard to the availability and desirability of professional pilot jobs, the future looks like a ray of sunshine burning through the overcast. That’s great news for those of us who love to fly, and for anyone who has the passion to follow his or her aviation dream. If you thought the hiring boom of 2007 was dramatic, imagine what the coming shortage will look like.

As of March 1, 2011, 203 airline pilots have already been hired. That’s half of all the pilots hired during the entirety of 2010 and a consistent increase from the 2009 low point. Airline travel continues to increase, and has increased 5% per year since 1977. As airlines and aviation industry leaders hold summits and meetings and enact law changes to deal with a shortage of pilots, it becomes clear that pilots will continue to be needed. If the numbers hold true, flying will continue to offer a great way to make a living. The unmet demand will offer tremendous opportunities for those who are prepared and seek the unique magic of life in a professional cockpit.

Regardless of anybody’s opinion about a pilot shortage, raw numbers are alarming. According to the FAA, 2011 will yield roughly 69,000 student pilots in the U.S. (lowest on record). Meanwhile, recent AOPA studies show that only about 30% of those students will finish their training.

Since roughly 12% of today’s 613,746 active pilots are ATP rated, that yields a potential 2,484 airline pilots out of this year’s crop of finishing aviation students. With industry projections of 5,600 airline pilots per year needed in the U.S. alone over the next 20 years (112,000 total), it illustrates that, at best, current pilot supply will be less than half of what’s needed. And that’s domestic only. If you apply those numbers to the worldwide demand, a scary shortage emerges. Those seeking careers in aviation will certainly be in for a wild ride.

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3 Comments

Steve Costello makes this comment

Here's a question for you. I just turned 40 years old. While not exactly 'spring chic', I ain't dead yet. My first career choice was to fly. Due to a financial crisis, I had to drop out of Embry-Riddle while working on my Aerospace degree when I was in my 20's. I've just recently started flying, and will have my Private Pilot License in short order. My question is... am I too old now to even think about a successful (read: able to make a living without holding down other jobs to make ends meet) career in flying. I don't need to get rich... but earning at least $65-80K would be the goal, as my current career, while not exactly rewarding (I'm a web designer/developer), pays in that range. Thoughts?

Brian makes this comment

Absolutely Steve. You can make 80-110 or more at Eagle. Many FO's make in the 50's. But it may take a year or two with low pay to get the hours in to get there.

Andrew makes this comment

You might make 50k at Eagle if you work your tail off. Too many regional FOs, stuck in the right seat, barely sniff 40k at topped out pay rates. Upgrade time at most places right now is at least 5 years. Can you afford to make so little for that long?

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