

General Aviation

Overview

Global general aviation (GA) manufacturers shipped 2,015 units in 2010, down almost 53 percent from 2007, which was the best year since the early 1980s.¹ The decline reflects the continuation of the economic downturn that began at the end of 2008. U.S. manufacturers' market share continued to fall, mostly due to significant production cutbacks at Cessna. Total U.S. shipments were down 15.8 percent over the previous year. The only bright spot for the industry was in large business jets, which saw a slight uptick in deliveries.

The diversification of general aviation operators continues. While North America remains the top market for aircraft sales, aircraft deliveries are becoming more evenly distributed amongst the regions. Asia-Pacific is now the second largest region for turbo-prop deliveries. This change, however, is due more to the fact that the North American market has shrunk than to significant growth elsewhere.

General Aviation Manufacturers

U.S. Manufacturers

American Champion
Boeing Business Jets
Cessna Aircraft Company
Cirrus Design Corporation
Emivest Aerospace Corp
Gulfstream
Hawker Beechcraft
Liberty Aerospace
Maule Air Incorporated
Mooney Aircraft
Piper Aircraft, Inc.

Non-U.S. Manufacturers

Airbus (EU)
Bombardier (Canada)
Dassault Falcon Jet (France)
Diamond Aircraft (Canada/Austria)
Embraer (Brazil)
GippsAero (Australia)
Pacific Aerospace Corporation (New Zealand)
Piaggio (Italy)
Pilatus (Switzerland)
Socata (France)

Trends

For 2010, global shipments were down 11.4 percent from 2009 though billings (value of shipments) were up 1.2 percent. This reflects the fact that deliveries of larger, more expensive business jets were stable. Once again, however, shipments declined in all three industry segments from the previous year:

¹ All data taken from GAMA's 2010 General Aviation Statistical Databook and Industry Outlook unless otherwise indicated. Available on the web at: <http://www.gama.aero/publications>. GAMA estimates their data covers over 90 percent of the total market. Some Bombardier aircraft are manufactured in the United States and are included in the U.S. shipment figures; likewise, some Gulfstream aircraft are made in Israel and are not included.

- piston aircraft (down 7.7 percent)
- turboprops (down 17.7 percent)
- business jets (down 12.3 percent)

Despite the negative numbers, these figures actually present a more optimistic picture than the figures for 2009. Most notably, the drop-off in piston aircraft shipments was significantly less precipitous, improved from a 53 percent drop in 2009.

However, the U.S. manufacturers' share of worldwide shipments fell again, from 69 percent in 2009 to 66 percent in 2010. In the 2001-2010 timeframe, 2008 was the only year in which U.S. market share expanded, resulting in an average growth rate of -5 percent for that time period. By contrast, the average growth rate for the rest of the world during that time period was 8.6 percent.

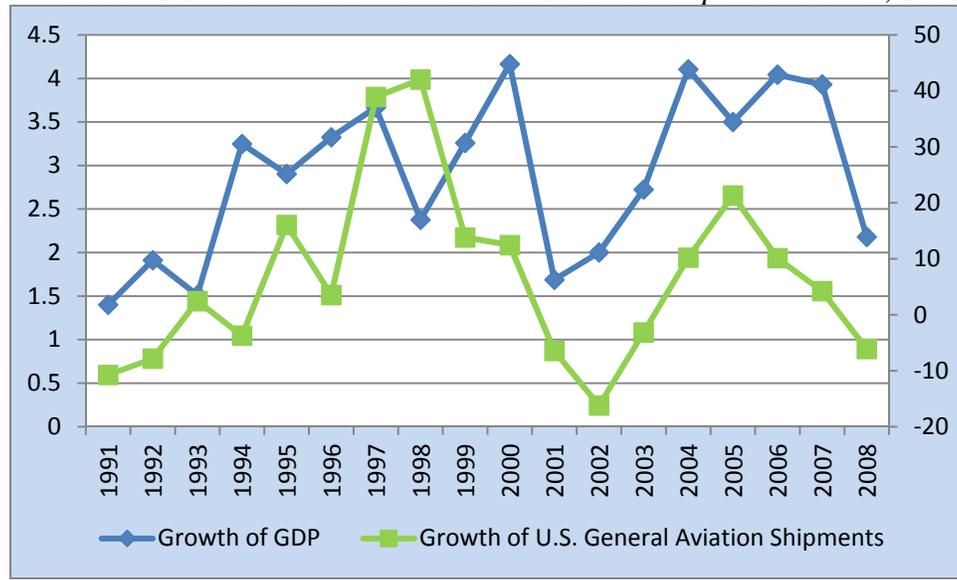
This most recent drop in market share was due entirely to the decline in market share for U.S.-made business jet shipments, which has declined 25 points in 2 years (the U.S. share of piston aircraft was steady in 2010 and the U.S. share of turboprops actually rose). In 2009, the decline in U.S. market share was due mostly to the loss of Eclipse Aviation, which stopped manufacturing in late 2008. While the remaining U.S. manufacturers all saw significant declines in production 2009, their individual market shares declined only slightly. Instead, Embraer's Phenom 100 filled the void created by Eclipse and caused Brazil's market share to rise from 3 percent to 14 percent.

In 2010, U.S. market share declined again, in this case due to cutbacks at Cessna, a division of Textron. Cessna typically dominates the market for business jets, with its share of global shipments averaging 36 percent from 2001-2009. In 2010, however, its market share was only 23 percent, in large part because Cessna produces only small and mid-sized jets, which have not fared well in the economic downturn. Hawker Beechcraft, another U.S. manufacturer, also lost market share but was balanced out by gains at Boeing and Gulfstream. Hawker also produces small and mid-sized jets, but it began to lose market share well in advance of the 2008 economic crisis.

At the same time, Embraer gained market share due to the introduction of its second very light jet, the Phenom 300. Introduction of new models often leads to an increase in demand as customers seek to try out new innovations—France's Dassault has also gained market share over the last several years after introducing the Falcon 7X in 2007. However, Cessna's own relatively new very light jet saw a 42 percent drop-off in shipments in 2010. It remains to be seen whether Embraer's performance is sustainable or whether they will see a similar drop-off as it fills its order backlog. It should be noted, however, that Embraer opened a second assembly facility for the Phenom 100 in February 2011, indicating that the company, at least, is optimistic.

Economic growth is the major factor in determining the health of the GA industry. Businesses tend to purchase a new plane or replace an old one when the economy is strong and profits are up. The following chart indicates that in recent years, changes in the GA market tend to lag economic growth by one year. GA shipments thus suffered during the recessions in the early 1990s and early 2000s and recovered when the economy grew during the second half of the decade.

Chart 1: Global GDP Growth and U.S. General Aviation Shipment Growth, 1991-2008²



A notable trend not captured in the data is the activity of the Chinese. Chinese firms have acquired or invested in several American general aviation aircraft firms, including Epic Air (mostly kit aircraft with one certified turbo-prop), Teledyne Continental (engines), and Cirrus (aircraft) and is reportedly interested in acquiring Emivest³ (formerly Sino Swearingen), another cash-strapped airframer. In the past, it has looked at Grob (Germany) and Piper (U.S.).⁴ In addition, Cessna and Diamond Aircraft (an Austro-Canadian manufacturer) are manufacturing piston aircraft in China. After reorganizing its aerospace industry in 2008, China announced its interest in entering the general aviation industry but has not launched a domestic program for business aircraft. Instead, the Aviation Industry Corporation (AVIC) has sought to acquire this capability by buying western firms. AVIC believes that this will help more easily gain certification in the west, where most general aviation aircraft are sold.

Outlook

Forecasting at this point remains uncertain. Industry experts are trying to interject optimism into their predictions, but there is no consensus on when overall shipments will begin to recover and to what degree. Though the inventory for used aircraft is declining, the percentage of aircraft for sale is still high. This suppresses both demand and price for aircraft.⁵ Moreover, the significant drop in production at Cessna, which typically represents about one-third of all deliveries, has

² Data points represent percent changes over the previous year. GDP data from the National Accounts Main Aggregates Database, United Nations Statistical Division. (Search terms World, GDP (constant 1990 dollars), and years 1991-2008). Available at: <http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>. Growth of general aviation shipments calculated as a percent change from the previous year.

³ Molly McMillan. "Chinese buying spree creates some frustration." *The Wichita Eagle*. March 22, 2011. <http://www.kansas.com/2011/03/22/1773873/ese-buying-sprees-creates-some.html>

⁴ Leithen Francis. "Buying its way to the top?" *Flight International*. Oct 20-26, 2009.

⁵ Honeywell Business Aviation Outlook Forecasts Next Period of Expansion to Begin by 2012. October 26, 2010. <https://www.honeywellbusinessaviation.com/news/post/honeywell-aerospace-business-aviation-outlook-forecasts-next-period-of-industry-expansion-to-begin-by-2012>

caused the supply chain to respond accordingly. To demonstrate the size of the problem, total production at Cessna dropped 43 percent in 2009 and an additional 28 percent in 2010 (from 1,300 aircraft in 2008 to 534 aircraft in 2010). By contrast, production dropped only 22 percent after 9/11 (from 1,202 to 944 aircraft). The speed with which the supply chain is able to ramp up production will affect the airframers' ability to respond to any positive demand growth.

Figure 1: Fixed-wing Turbine Corporate Aircraft Fleet by Region, 2009⁶-2010⁷

Region	2009	2010	% change
North America	18,531	18,585	.2%
Europe	3,712	3,835	3.3%
Latin America	2,955	3,311	12.0%
Pacific Rim	825	917	11.2%
Africa	754	805	6.8%
Middle East	403	453	12.4%
South Asia	229	258	12.7%

Though North America is still the biggest market for GA aircraft, the market is not growing. The corporate overall fleet (which does not include piston aircraft but may include used aircraft) increased by only 54 aircraft (see above) in 2010. Growth in Europe is also slow. Other regions are experiencing healthier corporate fleet growth and Latin America actually reported the largest increase in terms of units. In addition, GAMA data shows that the market share for North American deliveries of new aircraft is shrinking relative to deliveries to other world regions.

However, while GAMA data indicates that non-U.S. deliveries are gaining in importance, this is not because deliveries to these markets have dramatically increased, but because deliveries to North American and European customers have dropped so precipitously. In the figure below, which translates GAMA market share percentages into numbers of aircraft, we see that between 2008 and 2010, deliveries to almost every region declined (except Middle East/Africa). In addition, the decline in North America was the biggest both in terms of the number of aircraft and the percent change (61 percent). Europe experienced the second biggest decline, at 49 percent at the end of two years. Meanwhile, deliveries to the third biggest market, Asia, are still about a quarter of North American deliveries. Thus while for U.S. companies, export markets are becoming relatively more important, to date, they are nowhere close to compensating for lost demand at home.

⁶ Sarsfield, Kate. "Business Aviation Census: Global Fleets Buoyant but Traditional Markets Suffer." October 11, 2009. <http://www.flightglobal.com/articles/2009/10/11/333296/business-aviation-census-global-fleets-buoyant-but-traditional-markets-suffer.html>

⁷ Sarsfield, Kate. "Rough but Ready: Business Aircraft Census 2010." October 11, 2010. <http://www.flightglobal.com/articles/2010/10/11/348248/rough-but-ready-business-aircraft-census-2010.html>

Figure 2: Regional deliveries of all GA aircraft, 2008-2010

Region	2008	2009	2010
North America	2457	1260	955
Europe	780	511	394
Latin America	315	182	240
Asia	252	200	271
Middle East/Africa	165	117	156

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