



This past March, Gulfstream launched its long-awaited G650, the company's new ultra-long-range, ultra-large-cabin jet. An all-new, clean-sheet-of-paper design, it will have the largest traditional business jet cabin, the greatest range (7,000 n.mi.) of any business jet, and the fastest maximum speed of any civil aircraft flying today (Mach 0.925). The G650 sells for about \$60 million and will fly in the second half of 2009, with deliveries in 2012.

Gulfstream's new product illustrates a key trend in the business jet industry. Because the top segment is growing the fastest, manufacturers are staking out the highest part of the market they can reach. This is creating new products that expand the very idea of private jet travel.

The high-end emergence

Today's high-end business jet segment did not exist before 1996, when Gulf-



stream delivered its first GV. In today's money, the GV was priced at about \$45 million. Before it arrived, the most expensive jets in this category sold for about \$35 million, again in today's dollars. The GV was followed by Bombardier's similarly priced Global Express. By 2008, the two manufacturers had sold over 700 of these aircraft and their derivatives.

There has been an equally remarkable development for dedicated business jet variants of passenger jetliners. Historically, most of these aircraft were converted to private ownership after being withdrawn from airline service; very small numbers of completely new private jetliners were delivered. But this has changed profoundly since the introduction of the new dedicated business versions of jetliners, especially the Boeing Business Jet (BBJ) series and the Airbus A319/320CJ series and A318 Elite. The first BBJs arrived in 1998, and by 2008 Boeing had delivered over 100, while Airbus had delivered over 50 of its private jetliners.

Even within these families there has been growth. Boeing's BBJ has developed into the BBJ2 and -3, with the larger 737-800 and -900 fuselages. The top of the

line BBJ3 costs \$78 million equipped. Interior options can easily raise this to the \$100-million range.

But the very highest part of the private jet market has found a new level of luxury (and price) with new-build business adaptations of twin-aisle jets. Several of these have been built or converted in the past, but the new generation of twin-aisle jetliners is attracting unprecedented customer interest. There are now over 30 private widebody jetliners on order.

Largely as a result of these new product developments, there are now more than 550 jetliners and business regional jets in private use. This fleet has more than doubled in size over the past seven



years. Just as important is that the older, smaller fleet had a higher percentage of government and military air arm planes. The new dedicated private jetliners are more commonly owned by wealthy corporations and individuals.

It is not just the high-end players who are seeking to move up. Other business jet manufacturers are emphasizing the top part of their product lines. For example, Dassault last year began deliveries of its Falcon 7X trijet. At \$41 million, this trijet is the costliest and most capable product the French company has introduced. Similarly, early this year Cessna introduced its \$27-million Columbus. While less than half the price of a G650, it is the biggest and most capable Cessna yet built. It costs \$7 million more than the previous high-end Cessna product, the Citation X.

In short, the exploding high-end segment has helped to redefine the concept of luxury and private travel. Learjets, once the very symbol of wealth and success, are now considered low- to midmarket workhorses in a fleet that now comprises 16,000 business jets spanning a very broad range of prices and capabilities.

It's about the cash

There are basically three rationales for seeking out the high end. First, there is strong evidence that the top of the market is growing faster than the other segments. Between 1997 and 2008, the top tier grew by a 15.5% CAGR (compound annual growth rate), as measured by dollar value of deliveries. By contrast, the business jet market as a whole had a CAGR of 10% in the same period.

This high-end growth is caused by the same factors that grew the business jet market by over 400% between 1996 and 2008. Corporate profits have enjoyed very high growth rates. Prices for commodities, especially oil, have also increased greatly, driving demand from resource-rich markets such as the Middle East and Russia. Also, the number of high-net-worth individuals has grown at a strong pace worldwide.

While these factors have had a tremendous impact on the broader business jet market, their effect on this top segment is particularly strong. This growth closely parallels a similar increase in very-high-end yacht construction, providing further evidence that the buying power of the very richest part of society enjoys the fastest growth.

The next reason that manufacturers are seeking the high end involves pricing. There is historical evidence that high-end aircraft hold their values better than smaller, less expensive planes. More important, elasticity—the measure of a customer's sensitivity to price tag in selecting an aircraft—diminishes at the high end of the market. In other words, some customers are less price sensitive and thus willing to pay virtually any price for the very best aircraft available. This means that profit margins should be higher at the top of the market.

Finally, there is a belief that insulation from a downturn is better at the high end of the market than in the broader market. There is no material evidence for this—both the high-end segment and the broader market fell about 36% by value in the last downturn, between 2001 and 2003. But the broader market largely comprised mature programs and segments. The top end, at the time, was made up of new programs that had just satisfied up-front demand.

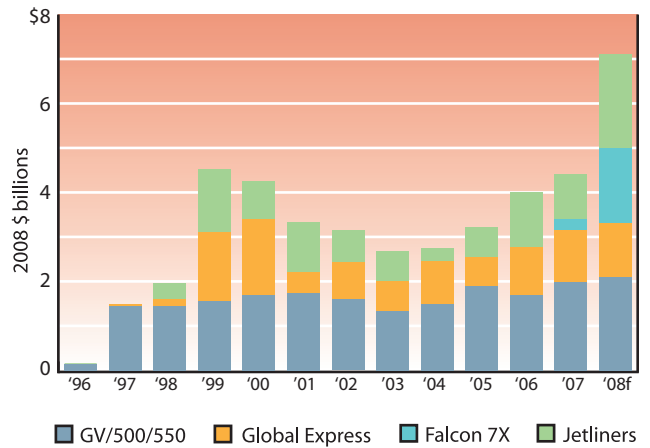
Some argue that the top end's decline was caused not by a cyclical demand drop but by a pause that occurred after the initial customer base received its long-awaited aircraft. Still, top-end resilience to a downturn is merely theoretical, as there are no data to support the idea.

The future

With Gulfstream working on the biggest traditional business jet, and with multiple private versions of widebody jetliners, it is difficult to envisage what the next series of high-end jet products will look like. But there are a few possible next steps.

First, Bombardier needs to consider a competitive response to the G650. The company's Global Express XRS and Gulf-

\$40+ MILLION BIZJET DELIVERIES
In 2008 prices



stream's G550 are similarly priced and compete for the same customer base—corporations and wealthy individuals seeking the largest and most capable traditional business jet. But now that the G650 is poised to establish a new high end, the Bombardier jet has been left behind (along with the G550) as just another price point in a broad market spectrum. That threatens sales numbers and profits, as the Global Express might need to compete with some level of discount pricing. To respond, Bombardier may be able to enhance or stretch Global Express, or it might need to follow Gulfstream in creating an all-new airframe.

For its part, Gulfstream will likely consider derivatives of the G650, leverag-



Falcon 7X



Global Express XRS

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Aerion concept



SAI concept

ing its big new airframe development investment. However, its range of options is somewhat limited. This aircraft's parameters—weight and size especially—are designed to be as large as possible while still falling within the allowable limits of less congested private airports such as Teterboro in New Jersey. Growth models of the G650 would not enjoy this advantage.

We will also see changes in the size and capabilities of private jetliners. Airbus's A380, the world's largest jetliner, has already been sold as a "Flying Palace" variant. Boeing's slightly smaller 747-8 has also registered sales in a private VIP format. And Boeing's new composite long-range 787 and Airbus's A350 XWB have both garnered numerous private customers before either type has made its first flight.

It is also important to note that many second-generation widebody and narrowbody jetliners are coming up for retirement from airline service. This is largely due to very high narrowbody production rates, and to the impending arrival of new-generation widebodies, led by Boeing's 787. The arrival of retired, depreciated yet very appealing equipment, such as Boeing 757s and Airbus A340s, should engender a very strong market in conversions to business jet use. These will feature the same expensive level of work and options found on their new-build business jetliner cousins.

Speed rules

In the long run, the entire high-end market will likely be transformed by a supersonic business jet (SSBJ). In 2004, two new players emerged in this arena. One, Supersonic Aerospace International (SAI), uses a Lockheed Martin Skunk Works aircraft design with a suppressed sonic boom. Second is Aerion, using an aircraft with laminar flow wings. Although in theory Aerion could bring its product to market faster, it would have some kind of sonic boom, so it would be more restricted in its overland flights. Both SAI and Aerion are seeking investors and/or industry partners.

The SSBJ concept has been on the drawing boards for over 20 years. Technology development has been an issue, particularly for materials, engines, and airframe shapes. But the main concern has been market development.

Given the steady upward expansion of the high end of the traditional business jet market—from \$35 million to \$45 million to \$60 million—and given the strong adjunct market enjoyed by private jetliners, there are few doubts that the high end will continue to be redefined. If manufacturers can offer an SSBJ priced at \$80 million-\$90 million (in today's money), they are likely to find a respectable market response.

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