

Regionals move forward...to 1995

The regional aircraft industry has stopped declining from its dizzying heights. The arrival of new large jets coupled with a turboprop renaissance has rescued the market from a bad situation, the result of a production collapse in the 30-50-seat regional jet segment.

Yet an assessment of these and other industry trends actually reveals a market that has retreated from its glory days—and one that also is looking more and more as it did a decade ago.

Bigger jets...again

Both families of larger regional jets have been enjoying good times. Bombardier has delivered over 300 of its CRJ 700/900 family jets since 2001 and has 83 on backlog as of July. Embraer's ERJ 170/190, first delivered in 2004, has almost 300 orders on backlog.

Last year was the first year since 1995 that these larger regional jets (70-100 seats) constituted a bigger market than 30-50-seat jets. In 2005 the small RJ market saw deliveries of 116 jets worth \$2.4 billion; their larger cousins comprised 137 deliveries worth \$3.4 billion.

This large jet ascendancy was not just the result of a renewed market, although

the large regional jet market is worth twice as much as its 1988-1996 average. More important is that the colossal 30-50-seat market basically collapsed (see "Fifty-seat RJ market implodes," February, page 11). The dynamic that inflated that bubble—U.S. legacy carriers trying to reinvent themselves despite onerous scope clauses—reached its bankruptcy end-game. Bombardier and Embraer are ending small regional jet production this year, although they will keep producing these planes for corporate and government applications.

Yet while the Bombardier and Embraer jets are new to the landscape and clearly have stimulated the market, other players have tried and failed. Before 1996 the large RJ market was worth over \$1.5 billion in a typical year. The dominant players were Fokker with its F70/100 line of 78/107-seat jets and British Aerospace (now BAE Systems) with its 70/115-seat 146/Avro RJ series. Fokker went bankrupt pursuing this market; British Aerospace merely lost a lot of money.

The new families have succeeded ini-



The three notable ERJ 190/195 customers are anomalies.

tially by offering the first truly efficient 70-seat designs. Yet for the new families (particularly Embraer's ERJ 190/195, but also the CRJ 900) to move beyond their current niche, the 90-100-seat segment will have to grow too.

Here, the regionals have been stymied by the perseverance of scope clauses—the agreements between airline management and pilots' unions determining who can fly what kind of plane. While pilots have allowed basically unlimited use of 50-seat jets, and increasingly unhindered use of 70-seat jets, the line has been drawn at 90 seats. Above this, routes remain largely in the domain of mainline carriers, using traditional Airbus and Boeing jets.

Accordingly, the three notable ERJ 190/195 customers remain anomalies. First is US Airways and its affiliated regionals. This airline made the most progress of any U.S. major carrier in restricting union scope clause protests. As it emerges from its merger with America West, it basically has carte blanche to move routes to regionals as it sees fit.

The second prospect, large RJs on legacy airline mainline routes, is highly uncertain. In addition to the scope clause problem, the new large regional jets have notably higher seat-mile costs than their larger Airbus and Boeing cousins, removing some of their appeal. The only evidence we have is Air Canada, which has ordered 45 ERJ 190s (plus 15 ERJ 175s).

Bombardier has delivered over 300 of its CRJ 700/900 family jets since 2001.



This too looks like a unique set of circumstances, based on extreme airline weakness and an unusual market situation (a European-style flag carrier with international route dominance and U.S.-like domestic feeder route geography).

In June 2003, a third possible large regional jet market category was added: discount carriers. JetBlue has ordered over 100 ERJ 190s, breaking with the traditional low-cost carrier single-fleet-type philosophy. The possibilities are intriguing, and suggest that the erosion of hub-and-spoke traffic might have some way to go—there could be scores of new thin routes to be developed using efficient new jets. But the jury is still out on this experiment, and the first two quarters (reflected in JetBlue's financial results) were not particularly promising.

All versions of the new Embraer family have been certified (the 195 was the last, in June). Without the stimulant of new equipment, the large regional jet market is hostage to existing market dynamics, and the market is peaking. But hopes of breaking out of the current market demand level depend on that 100-seat market, where there is plenty of historical precedent, all discouraging, and plenty of renewed hope.

Turboprops...again

While big jets have been in the limelight, the last two years have seen a remarkable renaissance by turboprops, which dominated the industry before 1997. This is not due to the arrival of new equipment serving as a technology stimulant. Rather, it is traditional, legacy equipment enjoying an unexpected resurgence.

After 10 years of doldrums for turboprop sales, ATR suddenly finds itself with 126 unfilled orders.



The two primary surviving prop families—EADS/Finmeccanica's Avions de Transport Regional ATR 42/72 and Bombardier's Dash 8—have received a total of 228 orders over the past 18 months (through July of this year). Accustomed to living hand-to-mouth over the past 10 years, they now find themselves with impressive backlogs. ATR has 126 unfilled orders, while the Dash 8 has 87 (as of July 1).

Another area that has risen impressively for turboprops is deliveries, which exceeded \$700 million in 2005—a respectable increase from the \$500 million in both 2003 and 2004. Manufacturer plans call for deliveries to rise above \$1 billion this year, with almost \$1.5 billion planned for 2007, the highest level since 1998. By comparison, the prop market was typically worth about \$3.5 billion in annual deliveries before 1992 (all of these figures are in 2006 dollars). While 50% of the market's peak sounds low, a few years back there were serious doubts that both of the surviving prop manufacturers would be around by 2008.

Nobody can say for certain whether the prop market will continue to grow, or even if it will stabilize at its current level. Much depends on fuel prices, which are basically unpredictable. But it is important to note that the majority of recent prop orders have come from the emerging air transport markets, particularly in India, China, and Africa. Airlines in these markets have little interest in following North American carriers by promoting an all-jet image or using long-range RJs to raid other airlines' hubs. Instead, they are looking for the most cost-efficient form of transportation for short and medium routes. The high price of fuel leads them to use props.

The big upside to this market, therefore, is North America. If airlines decide that their all-jet regional philosophy makes



Bombardier has been moving Dash 8 work to China.

little sense in a time of high fuel prices and drastic cost-cutting, prop orders could result from American, Delta, or the others. This could even restore the prop market to its pre-1992 level. For now, however, the North American majors are sticking to their all-jet mantras.

Turboprop competitiveness could be further enhanced by stretched versions of the current models. Bombardier has been exploring a larger Dash 8, which would be particularly attractive from a seat-mile cost standpoint, especially if fuel stays expensive.

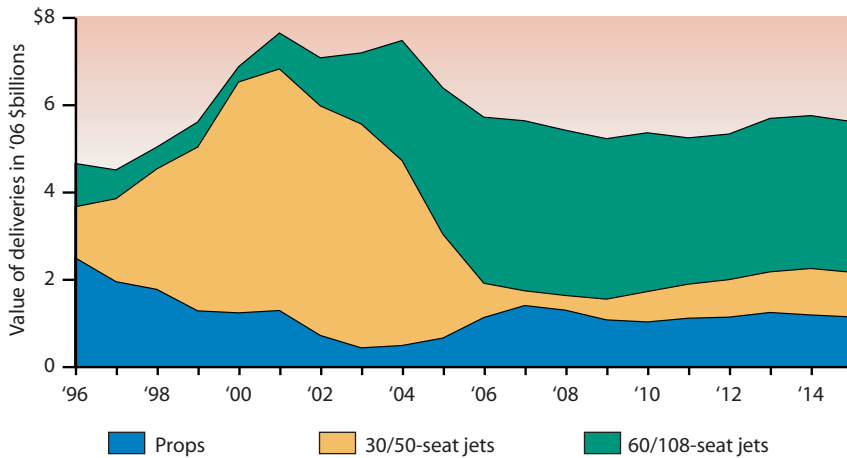
Not only is the prop market growing, but profit margins are considerably higher as well. Turboprop aircraft were once a notorious way for aviation companies to lose money. Today, both manufacturers are claiming profits and have embarked upon ambitious cost-cutting strategies, with extensive outsourcing plans. ATR is moving airframe work to Romania and China. Bombardier is also focused on moving Dash 8 work to China, with Shenyang Aircraft tapped in July to build Dash 8 Q400 series fuselages.

Just as important, pricing is much better now that the prop market is shared by just two producers. That \$3.5-billion pre-1992 turboprop market was shared among nine different manufacturers, with even more players planning on entering before demand imploded.

Emerging producers...again

Ironically, the last time the industry saw hopeful new producers trying to enter the regional market, they were pursuing turboprop projects, just before regional jets rendered turboprops irrelevant. Now, the

RJ DELIVERIES: NOT QUITE A SECOND WAVE



hopeful new producers are targeting regional jets, just as the regional jet market has turned downward. Like the proverbial canoe that keeps going straight through the air after a waterfall, the new RJ players are enthusiastically pushing ahead.

Back in the late 1980s and early 1990s, the new players were led by Indonesia's IPTN, which succeeded in building a prototype 50-seat prop, the N-250. China, Japan, Korea, Malaysia, and Taiwan also had hopes of entering the regional market, and Russia was reinventing its prop designs with Western engines and avionics. All of those turboprop efforts failed (IPTN produced a particularly spectacular failure), although China still produces tiny numbers of small prop planes for marginal users. But China and Russia are now trying a different path.

First is China, which in 2002 announced that it would develop its ARJ-21. This project, fronted by Aviation Industries of China I (AVIC-1), is the latest in a long line of China RJ proposals. Notably,

In 2002, China announced plans to go ahead with its ARJ-21 regional jet project.



2002 also saw an agreement between AVIC-1's Harbin unit and Embraer to co-produce ERJs. This agreement has resulted in an unimpressive 16 orders from Chinese carriers, partly because there is little demand for regional jets in China.

Second, Russia has tried for years to rationalize its fragmented and imploding civil aviation sector, with a government-funded RRJ (Russian Regional Jet) as a new foundation. The project was renamed the Superjet 100 at this year's Farnborough Air Show.

Long-time fighter manufacturer Sukhoi has been tapped to lead this effort, which caps a decade of trying in vain to create a successful Yakovlev or Tupolev regional jet product. In theory, all of these manufacturers and design bureaus, along with Ilyushin, will be rolled into a single state-owned entity, the United Aircraft Corporation.

Yet the two successful players in this industry dominate the market for reasons of strong customer support, active customer finance, and good salesmanship. Good engineering or low production costs have very little to do with Bombardier and Embraer's success, and as the two companies are demonstrating, production costs can be reduced through outsourcing.

Unfortunately, Russia and China are relying on low costs to help them enter this market. It will be very difficult for them to challenge

Bombardier and Embraer, which have maintained their support, finance, and salesmanship supremacy.

It will be equally difficult for them to count on up-front demand from their home markets. Chinese regional aircraft demand is 10-15 planes annually, at best. Russia's domestic airlines are unlikely to find the cash for planes. If their routes generated adequate revenue, they would have replaced their aging aircraft with inexpensive used Western equipment long ago.

Five billion dollars...again

Unfortunately, the changing market for regional aircraft no longer offers prospects for strong growth. The impressive rise in large RJ deliveries over the past three years is not enough to compensate for a deflating small RJ market.

Although the market has stopped shrinking, the most likely forecast scenario offers a flat market, a far cry from the great days of 1997-2001, when deliveries



Russia renamed its Russia Regional Jet the Superjet 100.

went from \$4.5 billion to \$7.7 billion. Interestingly, Bombardier benefited from this trend at the same time its business jet division enjoyed 350% growth. This helps explain the company's aborted CSeries jetliner family, proposed as a way for the company to maintain its accustomed (though temporary and unusual) growth rate.

But the arrival of Embraer's ERJ 195 this year should help stabilize the market at around \$5.5 billion in annual deliveries (with a possible upside if the 100-seat market finally takes off, or if prop demand returns in the North America market). We also expect Bombardier to upgrade its CRJ 700/900 family, which will likely include a CRJ 900X growth derivative. This will help maintain demand for Bombardier's RJ products as Embraer's new family grows in popularity.

Richard Aboulafia
Teal Group
raboulafia@tealgroup.com