

Used aircraft have become an accepted means of acquiring capacity for an increasing number of regional airlines. This is explained by used aircraft having low lease rates and similar cash operating costs to new aircraft. Contrary to popular perception, there are few used turboprops available.

Regionals look to the used market

The used regional aircraft market is becoming the primary source of aircraft for many regional airlines.

The increased acceptability of used aircraft is due to the availability of operating leases at attractive rates and the fact that new production turboprops offer little benefit over used ones.

Increased acceptability

Acquiring used aircraft is becoming more acceptable. A recent example is KLM Cityhopper, which added three ex-Rio-Sul Fokker 50s to its fleet of ten factory delivered aircraft. Similarly, Finnair had a requirement for three ATR72s to add to its fleet of six and decided to acquire aircraft from Transasia Airways of Taiwan. Aer Lingus has built up a fleet of 10 British Aerospace (BAe) 146s from the used market.

Other airlines have been established entirely with used aircraft. One example is Air Nostrum of Spain which has grown from its formation in 1995 with four ex-Lufthansa Cityline Fokker 50s to a fleet of 18 Fokker 50s, five ATR72-500s and five Canadair RJs. Skyways of Sweden operates 13 used Fokker 50s.

In the US mixed fleets of new and used aircraft are already commonplace. Examples are Air Wisconsin's BAe 146 fleet, Mesaba's Saab 340 fleet and Skywest's Embraer Brasilia fleet.

Operating leases

The remaining manufacturers have concentrated on placing aircraft on either finance leases or through simple cash sales. As a result, smaller operators have been forced into the used aircraft market

where operating leases are the norm.

As well as the big fleets controlled by the manufacturers' own asset management organisations, there are a number of smaller, less widely known, lessors. These include organisations such as AeroCentury, Ages, debis AirFinance, Gecas, MCC, Millennium, Newcourt, Pembroke, International Airline Support Group and TAT.

Availability

Well-maintained aircraft, from a reputable source, are unlikely to remain on the market for long. There are enough aircraft to ensure that used lease rates are competitive with new equipment, but not enough to cause a collapse in market lease rates. Since most of the second-generation aircraft entered service from the mid-1980s onwards, many of the early delivered aircraft are likely to enter the market in the near future as they come to the end of their original financing.

The table (*see page 34*) provides the best estimate of aircraft currently available. Many are not widely publicised, especially those controlled by the manufacturers' asset management organisations. This listing cannot therefore claim to be exhaustive, but should still be a good indicator.

As a rough-and-ready indicator of the current market conditions being experienced, the ratio of number available to the number built is shown.

Benefits from new

Unless new aircraft offer significant benefits over existing types, the only other justification for replacement of

older ones would be if dispatch reliability deteriorated with age or if they became increasingly expensive to maintain.

Discussions with various industry experts suggest that for a well-maintained 1980s generation regional aircraft this is not the case. With the proper support from the manufacturer there is no reason why a used aircraft should be significantly more expensive (warranty period withstanding) or less reliable than its new build counterpart.

ATR42

The ATR42 is probably the most active of all the aircraft considered here. Since the beginning of 1999, 24 have been placed with 14 operators. The majority by ATR Asset Management, but also two each by Ages, Bristol Associates, Cabot Aviation and Fortis Jet Prop.

Availability of ATR42s remains quite low with nine aircraft on the advertised market. ATR Asset Management is known to have available four out of 10 aircraft it took back from AMR Eagle during 1998, together with two ex-Pan Am aircraft most recently used as interim aircraft for Tarom.

ATR continues with a policy of taking aircraft in trade to encourage sales of the ATR42-500 and ATR72-500. This means that despite the ATR42 still being in production, lease rates for the earlier -300/-320 generation are no better than the out-of-production Fokker 50.

ATR72

The ATR72 market is characterised by good demand and low availability. Only five transactions occurred during



1999, involving a total of 16 aircraft.

Until recently, availability was limited to two ex-Continental Express aircraft being offered for sale only through Meridian and one aircraft from Air Liberte.

This availability was increased when KLM uk announced it was phasing out its fleet of five ATR72s and that they would thus be available for lease. Three of the five aircraft were placed quickly, two with Gill Airways and one with BRAL. To this total of five advertised aircraft can be added the prospect of Air Greece, which was recently taken over by Aegean Aviation, turning back its three aircraft early. A total of eight aircraft on the market is still hardly cause for alarm.

This lack of availability combined with an almost complete lack of direct competition (ATP excluded) has allowed ATR and the few other owners of the type to maintain high values and lease rates, up to about \$125,000/month. This allows the manufacturer to point to high residual values that assist it to offer new aircraft at competitive lease rates of about \$150,000/month. This is likely to continue with the large ATR market base and the growth in the average size of aircraft employed in the regional market pointing to an increasing demand for the ATR72.

British Aerospace 146

The first half of 1999 had been one of the quietest years for the BAe 146, with little activity and most of the fleet in active service.

Availability was limited to a few older -100 aircraft (one ex-Air Botswana and one ex-NAC of Indonesia) and a number

of -300s, all of them from Asian operators. UNI Airways of Taiwan was advertising its fleet of five BAe 146-300 aircraft and China Northwest Airlines made it known that its fleet of seven -300s could be available.

The only non-Asian source was Ansett, which in late 1998 announced its fleet of four BAe 146-300s would be replaced by 12 Canadair RJs operated by Kendell Airlines between April and November 2000.

The second half of 1999 saw a surge of activity. This began with the news that National Jet Systems was to set up an Italian subsidiary to operate British Airways (BA) franchise flights. The five UNI-Air BAe 146-300 aircraft have been acquired for this operation.

Next came the collapse of Debonair in September, which brought with it a surge in availability, with two -100s and ten -200s suddenly unemployed. Three of the -200s were placed almost immediately with Flightline, which took over the Debonair contract with Swissair to operate as Swissair Express. The owners of the other seven BAe 146-200s are fighting over which aircraft will go into the former Debonair-run Lufthansa operation which employed another five aircraft.

The third development was the news that Braathens Malmo Aviation would be taking the nine ex-SAM Colombia RJ100s, but would be returning seven of its existing BAe 146-200s at the same time. The only new placement was one of the Ansett BAe 146-300, which was sold to British Regional Airlines.

Overall availability of the BAe 146 has therefore increased in the past few months, particularly of the -200. Prior to

The ATR market is tight. Fleets are growing with older variants being placed by ATR to encourage sales of new ATR42-500s and ATR72-500s. Regional carriers are also increasing average aircraft size, keeping the ATR72 market buoyant.

these recent developments there were no -200s on the open market. The seven ex-Debonair and seven ex-Braathens Malmo -200s in particular are unlikely to remain on the market for long.

The Malmo aircraft will not be available until the SAM RJ100s are delivered and five of the immediately available ex-Debonair aircraft will likely go to Lufthansa Express operations.

The future for the BAe 146 is fairly predictable. Ansett Group and Air Wisconsin appear reasonably committed and therefore no big increases in availability should follow.

British Aerospace J41

The Jetstream J41 market is limited, since there are so few operators of the type. Until late 1999 the only available aircraft were the five ex-Air Atlantic aircraft, which have been on the market for a number of years.

Future availability is largely tied to the existing fleets of Atlantic Coast Airlines (ACA) and Trans States, which account for 57 of the 104 aircraft built. ACA has made it clear it wishes to move out of its existing turboprop fleet, but the Jetstream 32s will be the first to go and their J41s will probably be safe for some years to come. Trans States is in an identical position with a large fleet of J32s likely to be replaced before any J41 movement is likely.

British Aerospace ATP

When the decision was taken in 1995 to discontinue production of the ATP there was a large number of aircraft available compared to the total number produced. As well as five new build aircraft that remained unallocated, there were three machines returned by LAR of Portugal and four from THY that had been exchanged for Avro RJ100s.

As well as dealing with this backlog, BAe Asset Management has subsequently had to deal with British Airways returning all fourteen of its aircraft, Merpati returning the four survivors of its fleet and the return of a single aircraft off-lease from BRAL.

BAe has successfully placed all five of the new build aircraft, four with British World and one with Sun-Air of Denmark. Two of the three LAR aircraft, all four ex-THY aircraft and 13 of the 14 ex-BA

aircraft are in service. This leaves seven aircraft on the market from BAe Asset Management. The only other ATPs available are the two aircraft that were sold to Bangladesh Biman and the two used aircraft sold to Sun-Air.

Unfortunately for BAe Asset Management, having come so close to achieving full market use for the aircraft, in October 1999 United Airlines announced that the United Flying Service ATP operation would be replaced by a combination of Atlantic Coast Canadair RJs and Air Wisconsin Dornier 328s. This then frees up nine additional aircraft for a grand total of 20 available, more than 30% of the total fleet.

From 2002 British Regional Airlines will also commence the return of its 14 aircraft. This leaves only two operators, Air Europa Express with 16 and British World with six actually committed to the type long-term. Lease rates will therefore continue to be low relative to the ATR72, its closest competitor.

Dash 8-100

Bombardier dominates the Dash 8 market. A major activity during the past two years for Bombardier Aircraft Trading has been placement of the 25 Dash 8-102s returned by Mesaba Airlines.

Nine of the Dash 8s have been redelivered during 1999, to add to 12 in 1998, leaving four still to be placed.

The three aircraft freed up by the closure of Canadian operator Air Atlantic in October 1998 have been on the market for the whole year with no success. This demonstrates how difficult it is to re-market aircraft in competition with the original manufacturer. Another two have to be added to the four that remain available at Bombardier. This leaves nine aircraft to re-market.

Bombardier has had to take back large numbers of aircraft. There appears to be a steady flow of orders from smaller operators, which keeps a balance between supply and demand.

Dash 8-300

The Dash 8-300 is the least popular of the conventional 50-seat turboprops. Only 161 have been sold compared with 357 ATR42s and 214 Fokker 50s.

Despite their lack of appeal, only eight are currently available, five of them taken in trade for newer aircraft by Bombardier itself (ex-South African Express, Rheintalflug, Brymon and Great China Airlines) and three available for lease from GECAS.

Dornier 328

The overall market for the 328

REGIONAL AIRCRAFT LEASE RATES, AVAILABILITY AND PRODUCTION

AIRCRAFT TYPE	Monthly lease rate \$	Availability	Production total	Availability as % of production
BAe J41	50,000	5	104	5%
Emb-120	37,500	19	352	5%
Do 328	65,000	13	111	12%
Saab 340A	35,000-45,000	14	159	9%
Saab 340B	55,000-60,000	47	300	16%
Dash 8-100	50,000	9	299	3%
Dash 8-200	50,000	1	88	1%
ATR42	75,000	22	357	6%
Dash 8-300	50,000	8	161	5%
Fokker 50	60,000-65,000	1	214	0.5%
Saab 2000	110,000	0	63	0%
ATR 72	100,000-125,000	8	250	3%
BAe ATP	65,000	20	63	32%
BAe 146-100		3	34	9%
BAe 146-200	120,000-130,000	15	116	13%
BAe 146-300		5	71	7%
Fokker 100	150,000-175,000	14	280	5%

turboprop is weak. Despite the obvious attractions of the superior cabin and its good performance characteristics, it has never gained market acceptance.

Failures of several US operators have always kept a number of aircraft on the ground, notably Horizon Air which in August 1996 cancelled its order for 20 aircraft after only 12 had been delivered (all of which were subsequently returned to Dornier).

Seven of these aircraft found their way to Aspen Mountain Air, which operated 11 aircraft before its own collapse. Fortunately Air Wisconsin has proven to be a good customer for the type, having built up a fleet of 18 since its acquisition of Mountain Air Express in March 1998 (then operating 10 aircraft). Its most recent order for a further six aircraft in July soaked up much of the remaining capacity in the USA.

The second significant event of 1999 was the collapse of Norwegian operator Air Stord, which freed up three units that were rapidly placed with Suckling Airways.

There are currently four Dornier 328 turboprops on the advertised market and a further two remain in the USA from the failure of Aspen Mountain Air. There are still a further seven white tails, which should be allowed for.

In the longer term Proteus' selection of the ERJ-135/145 indicates a short-term future for its 328 turboprop fleet and the airline has already returned one aircraft.

Its last aircraft was delivered new in September 1988 and returned only 12 months later.

Emb-120 Brasilia

There have probably been more Emb-120s on the market than any other regional type in recent years. Traditionally its customer base is almost entirely confined to the US, but there are several carriers in Europe and Australia that have been growing because of their use of used fleets.

Manufacturers' buybacks are a feature of the Brasilia market. For example, Bombardier took ex-Atlantic Southeast Airlines' aircraft and these have already been sold in the Australian market.

To try and find new markets for these Bombardier has sponsored the development of a freight conversion modification. The supplemental type certificate (STC) holder for this conversion is Worldwide.

Embraer is also working on its own freight conversion together with the International Airline Support Group (IASG). There is a growing market for freight-converted regional aircraft. Spanish carrier Swiftair is taking Emb-120 freighters. There are now seven airlines in the US working on a franchise basis to feed FedEx's hubs and these airlines are using Emb-120 freighters. The aircraft has a 300 knot speed and 7,500lb



payload, making it ideal for a growing market segment.

The saving grace of the Brasilia has been the expansion of the US regional carriers. The Westair collapse resulted in a large number of Emb-120s entering the market, but these have already been placed by IASG. The 21 Emb-120s from Continental Airlines have also already been placed and are no longer available.

Fokker 50

A total of 20 Fokker 50s were placed during 1999. The biggest transactions relate to the near collapse of Philippine Airlines, which put 10 aircraft on the market. All 10 have since been placed.

A new generation of regional carriers, Air Nostrum, Denim Air, Skyways and VLM seem to have an insatiable appetite for the aircraft.

Current availability is limited, with only one good European example on offer.

Saab 340A

The Saab 340A market is largely outside of Saab's direct control with the majority of these aircraft owned by either the operators or third parties. The aircraft are therefore freely traded. There are currently 14 on the market, of which only five are owned by Saab Aircraft Leasing (SAL).

SAL placed 10 aircraft with Chautauqua in November. This deal included options on a further two aircraft, which could be the remaining two Business Express aircraft. There placement of these options leaves SAL with only the three aircraft available.

Saab 340B

Saab itself dominates the market for the 340B. Demand for used 340s is strong like the Emb-120. Saab Aircraft Leasing (SAL) has already placed ex-American Eagle Saab 340s with new lessees. Saab had considered a freight conversion programme, but dropped this on account of strong demand for passenger variants.

The exposure of the type to one or two operators is worrying, 115 (40% of the total) are with American Eagle and a further 49 with Mesaba. Fortunately, both carriers appear to still be committed to the type, with Mesaba being the last substantial customer for production-line aircraft. American Eagle was a threat to stability, but during 1999 reached agreement with SAL to extend the leases on 25 Saab 340Bplus aircraft. In exchange for an additional seven years' lease on these aircraft, SAL agreed to take back 12 340As and 20 340Bs from Business Express. SAL also accepted responsibility for placing nine early AMR 340Bs.

While a dozen aircraft would have been manageable there is the imminent prospect of a further 32 aircraft being made available in the next few years. As well as 20 aircraft being released by Business Express, Crossair will be releasing 12 of its fleet of 15. Fortunately the Saab 340A replacement market is a natural one for the 340B, since it shares almost complete commonality with its predecessor and offers superior performance.

Saab will no longer be able to maintain the difference in lease rates between the two variants. Until quite

Saab has already dropped plans for a freight conversion programme for the 340 on account of strong demand for passenger aircraft. A growing number of regional airline freight operators are materialising and several Emb-120s have already been converted. A freight conversion programme for the Saab 340 may yet be developed.

recently A models were averaging around \$45,000 per month compared to 340Bs at \$65,000. With supply of the 340Bs increasing, the difference will be impossible to justify and it will be gradually eroded until 340B rates reduce to 340A levels.

Saab 2000

Only Crossair and Air Marshall Islands actually purchased their aircraft directly from the manufacturer, so the market for the Saab 2000 is manufacturer controlled. There are no SAL aircraft idle, but four of the six aircraft delivered to SAS Commuter are due to be returned off lease in the first quarter of 2000 with the other two following in 2001.

Fortunately for Saab, delays in the Dash 8-400 programme mean that these aircraft will almost certainly remain in service for longer than originally scheduled.

Conclusion

With jet hysteria still largely unabated in the US, it is easy to see why jet availability is so low. Less obviously apparent is the shortage of some types of turboprops, in particular the ATR72, which is still able to command very good pricing. The Saab 2000 can also be placed in this category, since it offers unique performance capability for a small niche market.

Next there are the types such as the Dash 8-100, Fokker 50 and Saab 340A, which are being freely traded in a reasonably positive marketplace. Good quality European/North American aircraft will tend to be placed quickly, although pure sales are rare and thus may remain on the market for some time.

Then there are the types that are finding life difficult at the moment. These include the Embraer Brasilia and Saab 340B. This is a function of high availability combined with moderate demand in a very narrow market: the US.

Finally, there are the types that have never really penetrated the market, notably the BAe ATP and the Dornier 328 turboprop. The ATP is effectively becoming a European niche aircraft while the 328Jet will always be an expensive aircraft in comparison with equivalent 30-seaters.