

# IATA ECONOMICS BRIEFING

## NEW AIRCRAFT ORDERS – A POSITIVE SIGN BUT WITH SOME RISKS

**FEBRUARY 2006**

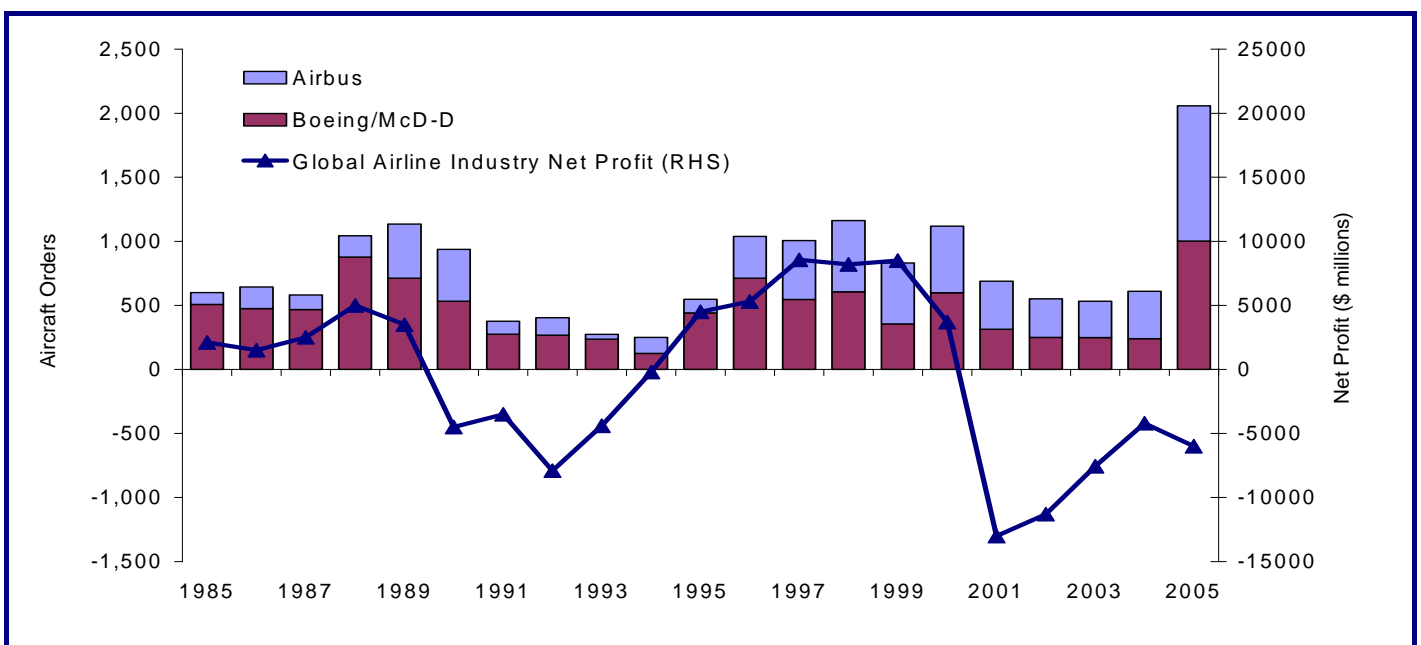
### KEY POINTS

- 2005 saw a record number of new aircraft orders – over 2,000 for Boeing and Airbus together – even though the airline industry itself is estimated to have seen net losses of \$6 billion. With such large new orders, the concern is that subsequent aircraft deliveries will create excess capacity – and damaging price competition – from 2007 onwards. **This could put at risk the forecast return of the airline industry to positive profits in 2007.**
- However, a closer analysis suggest that – based on current firm orders at least – the delivery schedule will be reasonably well managed. Indeed, new aircraft deliveries as a percentage of the current fleet will still be less than the peaks reached in previous cycles in 1991 and 1999.
- In addition, deliveries will be focused on the fastest growing markets – in particular, China and India – where there is great potential for demand growth to absorb capacity additions. In some cases, new aircraft will also be used in other regions to replace older, less-efficient aircraft and to rationalise capacity appropriately.
- Nevertheless, several risks remain – not least on a regional (e.g. Asia) and individual route (e.g. Europe – Asia/Australasia) basis. It is important to monitor this situation in light of expected further new orders this year.
- This note focuses solely on Boeing and Airbus orders. Nevertheless, it should also be noted that regional jet manufacturers (Embraer, Bombardier) have also seen new orders increase strongly in 2005, and regional jets are an increasingly important part of an airline’s fleet, replacing larger jets on some routes.

### RECORD NEW AIRCRAFT ORDERS IN 2005

- Boeing and Airbus enjoyed record new orders in 2005, with both companies receiving firm orders for over 1,000 new aircraft and options or letters of intent signed for several more. However, unlike in previous upturns, the sharp increase in new orders in 2005 is not associated with improved industry profitability (see Figure 1).

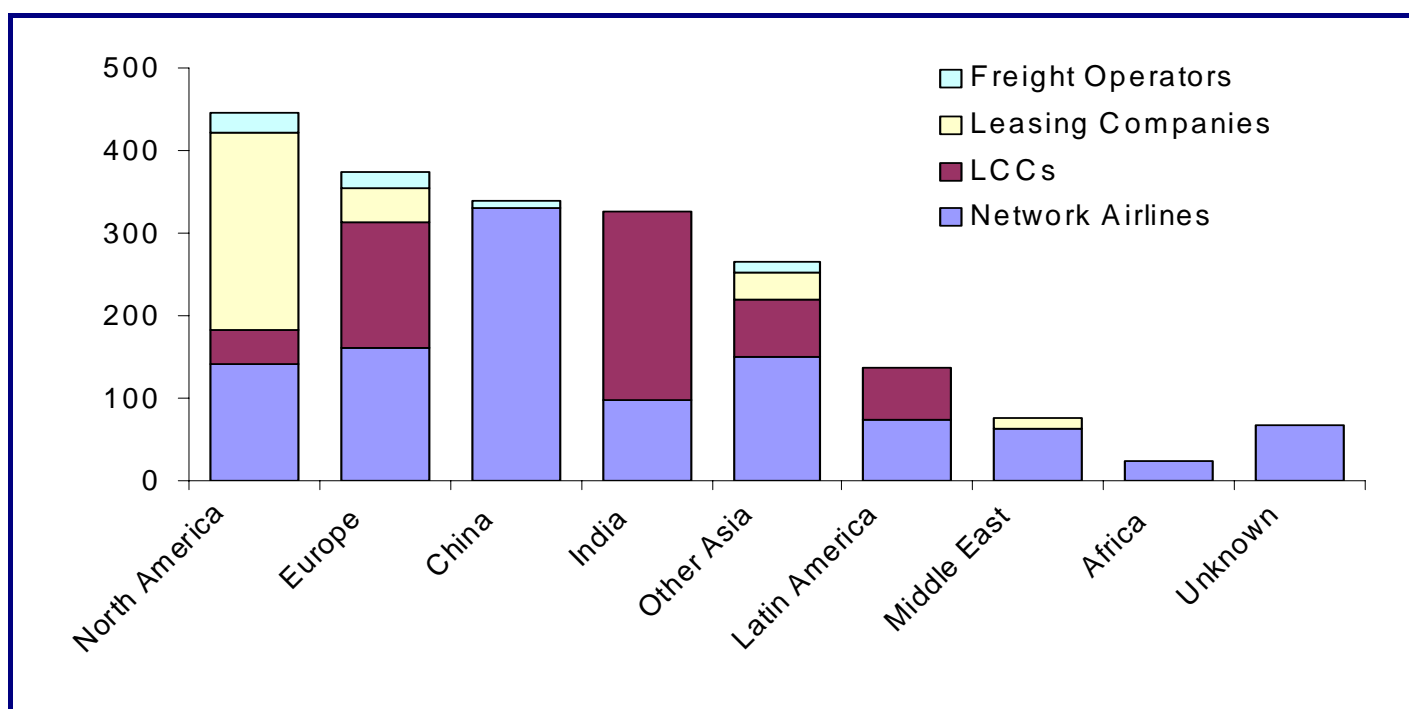
**Figure 1: Airline Industry New Aircraft Orders and Profitability**



Source: Boeing; Airbus; ICAO

- Indeed, the upturn in new orders has occurred in a year when the major US airlines made a combined loss of \$10 billion – with three of the top 5 US airlines operating under Chapter 11 bankruptcy protection – and airlines in the rest of the world faced significantly higher fuel costs. So what has been the driving force behind the record new orders?
- Figures from Boeing and Airbus show that, by the region of the purchaser's headquarters, North America accounted for nearly 450 new orders in 2005 (see Figure 2). However, this number is significantly inflated by the orders placed by US-based aircraft leasing companies and freight operators, with many of these orders probably destined for use in other regions. Instead, it is Asia that is the key driver of new orders – especially in the fast growing markets of China and India. These two countries, alone, accounted for a third of the new orders in 2005, and are probably key destinations for orders placed by the leasing companies too.
- The Low Cost carrier (LCC) sector is still a major source of new orders, from established carriers such as Ryanair and Easyjet in Europe to new start-ups in India and other parts of Asia. The Middle East placed relatively few direct new orders in 2005, though could also be a key destination for orders placed through the leasing companies. The Middle East also has a sizeable backlog of previous orders, placed in 2004.

**Figure 2: Boeing and Airbus New Orders in 2005, by airline region and category**



Source: Boeing; Airbus

- The boost in new orders is also partly driven by technical advancements among the manufacturers, with both major new aircraft types (e.g. 787, A350, A380) and more fuel-efficient models of existing types (e.g. 737 NG). In contrast to the historic link, where higher industry profits led to higher orders, new aircraft orders can actually be a key part of the strategy for cutting costs at a time when the industry faces widespread financial pressure. Not only are the new models more cost-efficient (especially in terms of lower fuel consumption), but they also help to boost an airline's reputation for quality of service among customers and can lead to cost-effective capacity adjustment on some routes (e.g. BA's replacement of 757s with smaller A319/A320s on some short-haul routes). This latter point has boosted the popularity of regional jets on some North American and European routes – though an analysis of regional jet orders is beyond the scope of this note.

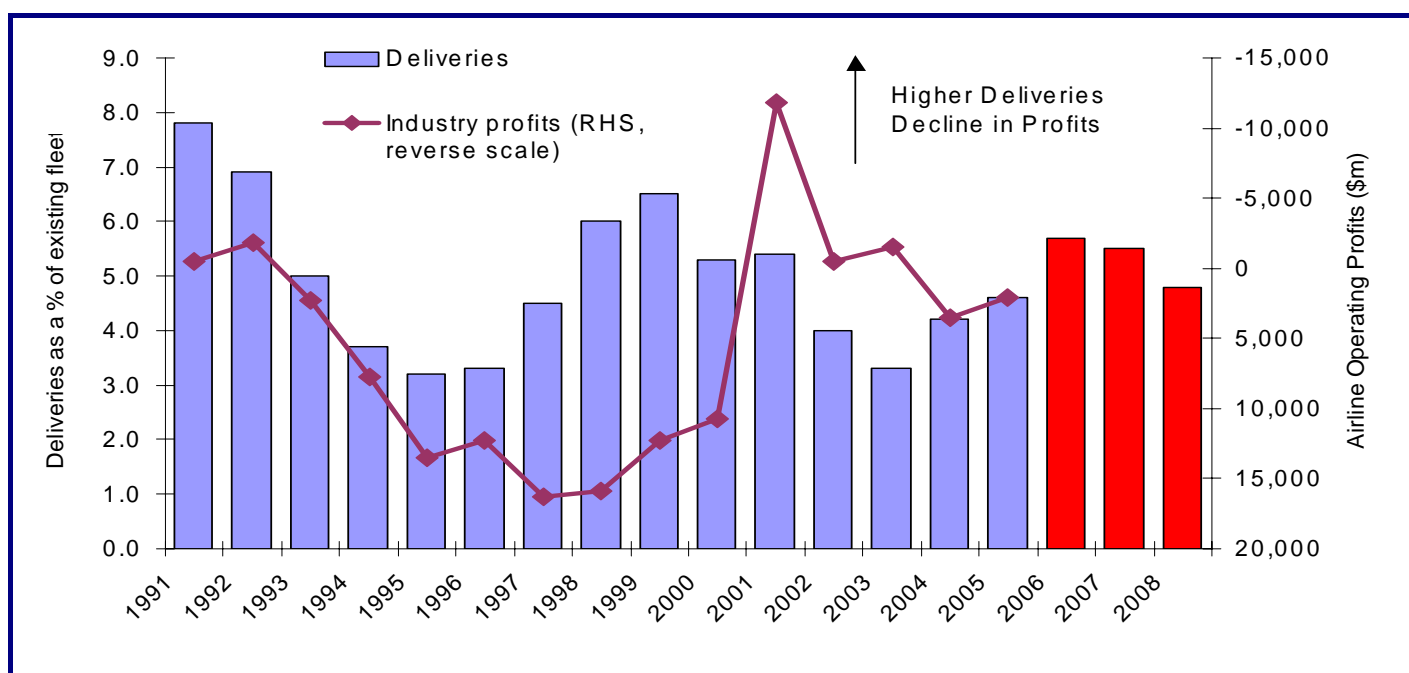
## WILL LARGE NEW ORDERS LEAD TO FUTURE OVERCAPACITY?

- The concern for the airline industry is that record new orders placed in 2005 could lead to more excess capacity being created when these aircraft start to be delivered from 2007 onwards, placing further downward pressure

on yields and profits. In particular, if airline demand growth begins to slow, large-scale new deliveries could force airlines to enter into cut-throat price competition just at the time when the industry's profits are expected to turn positive again after several years of losses (IATA forecast net profits of \$6.2 billion in 2007, after six years of losses totalling \$46.4 billion).

- The airline industry does not have a great track record in the timing of new orders and subsequent deliveries. As with all capital-intensive industries, the time scale between order and delivery has often increased the magnitude of the cycle from boom to bust. A high deliveries in the early 1990s were at least partly responsible for low profits, while high deliveries in the late 1990s led to excess capacity and a downward trend in profits, even before 9/11 (see Figure 3).

**Figure 3: New Aircraft Deliveries and Airline Industry Profits**



Source: Airclaims; ICAO

- Yet there are reasons to be more confident that the airline industry may avoid the mistakes of past cycles, and that the record number of new orders will not create significant capacity:
  - The delivery dates for the new orders are fairly well spread, reflecting perhaps physical capacity constraints for the manufacturers as well as airlines looking to gradually introduce new aircraft. Based on current firm orders, deliveries are expected to be **5.7%** of the current existing fleet in 2006 and **5.5%** in 2007. These rates well below the previous peaks in 1991 and 1999.
  - A large proportion of the new orders are destined for the fastest growing markets, i.e. China and India. The markets have the potential to deliver demand growth rates in excess of the expected growth in the number of aircraft.
  - As discussed above, some of the new aircraft will be replacements for older, less cost-efficient aircraft. We don't have projections for aircraft retirements but, undoubtedly, some of the larger, older aircraft will be removed from service, especially in North America and Europe. Our analysis focuses on aircraft numbers rather than the size of each aircraft type. New aircraft may actually reduce capacity on some routes if smaller, more cost-efficient aircraft replace the larger, older types.
- There are, of course, risks against this view, particularly on a regional basis. The current total backlog for Boeing and Airbus is equivalent to 29% of the existing fleet (see Table 1). However, there is also a substantial number of options or letters of intent that are currently outstanding, equivalent to a further 26.1% of the current fleet.

Therefore, though the current firm orders are fairly well spread in terms of delivery dates, if the options are converted into firm orders it will significantly add to the number of deliveries, probably from 2008 onwards. There are also currently 1,691 aircraft stored “in the desert”, equivalent to 11.7% of the current operational fleet. These aircraft could also create excess capacity in some areas if brought back into use, though this may be unlikely given that the majority of stored aircraft are older, inefficient types (see Appendix).

**Table 1: Aircraft Deliveries as a % of the Current Fleet**

|               | Aircraft Firm Deliveries as a % of Jan 2006 Existing Fleet |             |             |             |             |               |             | Options as % of Fleet |
|---------------|--|-------------|-------------|-------------|-------------|---------------|-------------|-----------------------|
|               | All  | 2006        | 2007        | 2008        | 2009        | 2010 or later | TBD*        |                       |
| Africa        | 14.0%  | 3.5%        | 1.8%        | 1.0%        | 0.7%        | 5.3%          | 1.7%        | 7.6%                  |
| Asia          | 48.0%  | 9.8%        | 8.0%        | 8.2%        | 6.1%        | 15.8%         | 1.1%        | 16.0%                 |
| Australasia   | 11.5%  | 4.8%        | 1.6%        | 1.6%        | 1.0%        | 2.5%          | 0.0%        | 101.3%                |
| Europe        | 30.4%  | 6.0%        | 6.9%        | 4.8%        | 2.7%        | 9.7%          | 0.3%        | 26.6%                 |
| Latin America | 25.3%  | 4.7%        | 5.8%        | 5.3%        | 3.4%        | 5.0%          | 1.1%        | 23.4%                 |
| Middle East   | 34.5%  | 6.7%        | 5.8%        | 7.2%        | 4.5%        | 9.5%          | 0.8%        | 22.9%                 |
| North America | 19.2%  | 3.7%        | 3.8%        | 3.4%        | 2.4%        | 5.2%          | 0.7%        | 29.2%                 |
| <b>Total</b>  | <b>29.0%</b>   | <b>5.7%</b> | <b>5.5%</b> | <b>4.8%</b> | <b>3.2%</b> | <b>8.6%</b>   | <b>1.2%</b> | <b>26.1%</b>          |

Source: Airclaims

\*TBD = Delivery Date yet to be decided

- There is a regional difference in the exposure to the risk of excess capacity from new deliveries. Asia currently has a backlog of almost half its current fleet, with deliveries equivalent to 8-10% of the current fleet expected each year from 2006 to 2008. Though Asia is also projected to be the faster growing region in terms of passenger demand, this is still a large increase in supply to meet each year. By contrast, growth in the North American fleet is expected to be relatively low, though a high proportion of these deliveries will be to LCCs who may look to engage in further price competition.
- There also remains the risk of excess capacity on individual routes. For example, the deliveries of new A380s to Middle Eastern and Asian airlines will significant add to competition on Europe – Asia/Australasia routes.
- In addition, further new orders will be placed this year and next that will add to the delivery schedules in Table 1 (at least from 2008 onwards). It is important that these new orders will be widely spread in terms of delivery dates to ensure that supply is managed in a realistic manner.

## SUMMARY

- Record new aircraft orders in 2005 are a positive sign for the industry as a whole. They reflect investor confidence in the future of the industry, in spite of the financial difficulties that have been faced over the last four years. They also partly reflect a strategic response by both the aircraft manufacturers and the airlines themselves to improve their operational cost-efficiency and to promote their reputation for quality of service.
- However, the key for the airline industry will be to ensure that record new orders in 2005 do not translate into damaging excess capacity problems from 2007 onwards.
- The initial signs are that airlines have learnt from past cycles, and that new aircraft capacity will be delivered in a relatively realistic schedule. Aircraft will be targeted on the fastest-growing (though not necessarily most profitable) markets and will also, to some extent, replace older, less-efficient aircraft.
- Nevertheless, several risks of excess capacity remain, not least on a regional or individual route basis.

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## APPENDIX

## ➤ Aircraft Orders by Type

|               | Existing Fleet |              | Firm orders  | Options      | Delivery Date of Firm Orders |            |            |            |               |            |
|---------------|----------------|--------------|--------------|--------------|------------------------------|------------|------------|------------|---------------|------------|
|               | In use         | Storage      |              |              | 2006                         | 2007       | 2008       | 2009       | 2010 or later | TBD*       |
| McD-Douglas   | 2,110          | 512          | 35           | 1            | 8                            | 17         | 10         | -          | -             | -          |
| 707, 717, 727 | 910            | 425          | 5            | -            | 5                            | -          | -          | -          | -             | -          |
| 737           | 4,191          | 379          | 1,133        | 1,655        | 281                          | 289        | 219        | 106        | 172           | 67         |
| 747           | 938            | 133          | 61           | 24           | 16                           | 11         | 11         | 4          | 15            | 4          |
| 757, 767      | 1,828          | 122          | 30           | 42           | 12                           | 11         | 7          | -          | -             | -          |
| 777           | 542            | -            | 287          | 206          | 70                           | 60         | 58         | 38         | 49            | 12         |
| 787           | -              | -            | 291          | 324          | -                            | -          | 28         | 54         | 209           | -          |
| A300, A310    | 588            | 65           | 20           | 23           | 9                            | 6          | -          | -          | -             | 5          |
| A318, A319    | 797            | 27           | 512          | 535          | 136                          | 111        | 76         | 48         | 81            | 60         |
| A320, A321    | 1,779          | 22           | 1,138        | 655          | 209                          | 209        | 207        | 153        | 347           | 13         |
| A330, A340    | 689            | 6            | 258          | 98           | 80                           | 67         | 56         | 22         | 15            | 18         |
| A350          | -              | -            | 87           | 112          | -                            | -          | -          | -          | 87            | -          |
| A380          | -              | -            | 159          | 72           | 3                            | 27         | 38         | 32         | 59            | -          |
| A400M         | -              | -            | 192          | 9            | -                            | -          | -          | 6          | 186           | -          |
| <b>Total</b>  | <b>14,375</b>  | <b>1,691</b> | <b>4,174</b> | <b>3,746</b> | <b>821</b>                   | <b>791</b> | <b>695</b> | <b>463</b> | <b>1,225</b>  | <b>179</b> |

Source: Airclaims

\*TBD = Delivery Date yet to be decided

## ➤ Aircraft Orders by Region

|               | Existing Fleet |              | Firm orders  | Options      | Delivery Date of Firm Orders |            |            |            |               |            |
|---------------|----------------|--------------|--------------|--------------|------------------------------|------------|------------|------------|---------------|------------|
|               | In use         | Storage      |              |              | 2006                         | 2007       | 2008       | 2009       | 2010 or later | TBD*       |
| Africa        | 603            | 135          | 84           | 46           | 21                           | 11         | 6          | 4          | 32            | 10         |
| Asia          | 2,775          | 96           | 1,357        | 444          | 271                          | 221        | 228        | 168        | 438           | 31         |
| Australasia   | 314            | 12           | 36           | 318          | 15                           | 5          | 5          | 3          | 8             | 0          |
| Europe        | 3,555          | 165          | 1,082        | 946          | 214                          | 247        | 169        | 97         | 344           | 11         |
| Latin America | 919            | 212          | 232          | 215          | 43                           | 53         | 49         | 31         | 46            | 10         |
| Middle East   | 599            | 66           | 207          | 137          | 40                           | 35         | 43         | 27         | 57            | 5          |
| North America | 5,606          | 991          | 1,107        | 1,637        | 206                          | 213        | 190        | 133        | 290           | 41         |
| Unknown       | 4              | 14           | 103          | 3            | 11                           | 6          | 5          | 0          | 10            | 71         |
| <b>Total</b>  | <b>14,375</b>  | <b>1,691</b> | <b>4,174</b> | <b>3,746</b> | <b>821</b>                   | <b>791</b> | <b>695</b> | <b>463</b> | <b>1,225</b>  | <b>179</b> |

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