



IATA ECONOMICS BRIEFING **SEPTEMBER 2007**

AIR FREIGHT MARKET OUTLOOK

KEY POINTS

- Air freight is a key part of the airline industry and of the wider global economy. It accounts for around 35% of global merchandise trade by value, equivalent to **\$4.2 trillion** of the \$12 trillion value of trade in 2006. The air freight sector provides estimated total annual revenues of almost **US\$ 55 billion**, equivalent to 12% of the airline industry's total revenue.
- International air freight growth has historically been closely correlated with world trade growth. World trade growth is forecast to be around 7-8% per annum until 2011. However, the magnitude of its impact upon air freight demand appears to have weakened since 2004. Air freight demand still moves in a similar pattern to global trade, but is forecast to grow at a lower rate, of **around 5% per annum**.
- The global economic environment is still positive, though is subject to several risks. For example, the volatility in global stock markets in recent weeks has, so far, been confined to the financial sector but could affect growth in the wider economy if it leads to a fall in liquidity and higher cost of capital for firms.
- International air freight growth was a **disappointing low 2.7% in the first half of 2007**, especially as economic conditions are relatively strong. The low rate of growth is a reflection of several factors; strong competition from other modes, structural changes such as lighter manufacturing components in electronics and growth among new entrant airlines. Nevertheless, the growth rate has picked up in May and June, led by airlines in Asia Pacific, and the second half of 2007 should see an improvement in growth towards 5%.
- International air freight within Asia and exported from Asia to other regions already **accounts for around 45% of total international freight**, and will account for over 55% of new traffic to 2011. Growth is also set to be above average in the Middle East and Africa. However, the strong growth in Asia Pacific is set to **increase the imbalance in trade volumes** from and to the region. Revenues are concentrated on the outbound leg from Asia but costs are faced across both legs of the journey.
- Fuel prices declined in the second half of 2006 but have since seen a return towards **record high levels of around \$90 a barrel**. Looking ahead, most analysts expect that slower, yet still strong, global economic growth combined with increased supply should see a gradual easing in fuel prices over the next two years, though they will remain at relatively high levels. **Cost pressures may also emerge on the labour side**. Airlines have made significant progress in improving labour productivity in recent years, but the risk of skill shortages in some key areas (e.g. pilots) could place upward pressure on wage demands.
- Air freight faces **increased competition from other modes**, especially container shipping, even for high-value, time-sensitive goods. Container shipping has become more competitive as route networks and frequencies have increased. However, **container shipping potentially faces its own capacity bottlenecks** (especially at ports) that could constrain its growth and ability to compete against air freight.
- The expected slower rate of growth in air freight revenues in 2007, combined with high fuel prices, will place **downward pressure on profitability** in the air freight sector. A return to declining yields, especially while fuel prices remain high, will increase the break-even load factor for air freight. An increase in new deliveries over the next three to four years could place further downward pressure on yields.
- Nevertheless, with positive economic conditions and further demand growth, **opportunities for profitable growth still exist**. New routes and new aircraft can open up new geographical and product markets for air freight. The industry remains exposed to unpredictable, external shocks (e.g. avian flu, security threats), but the medium to long-term outlook for air freight growth is still positive.

THE ECONOMIC ENVIRONMENT

- International air freight growth has historically been closely correlated with world trade growth. Freight demand is less closely linked to global GDP than passenger demand because of the large contribution of the service sector to today's global economy. Instead, it is the movement of goods across international boundaries that is a key driver of air freight demand.
- World merchandise trade growth has been very strong since 2003, boosted by the increased globalisation of production and by fast growth in developing economies (see Figure 1). World trade growth is forecast to slow slightly from 10% in 2006 to 7% in 2007, but is forecast to remain around 7-8% per annum until 2011. However, the magnitude of its impact upon air freight demand appears to have weakened since 2004. Air freight demand still moves in a similar pattern to global trade, but is forecast to grow at a lower rate, of around 5% per annum, to 2011. The nature of world trade growth has changed, especially with the strong growth in China. Higher growth in world trade than in air freight is largely due to commodities (e.g. oil) that are unsuitable for air freight.

Figure 1: World Trade and Air Freight Growth

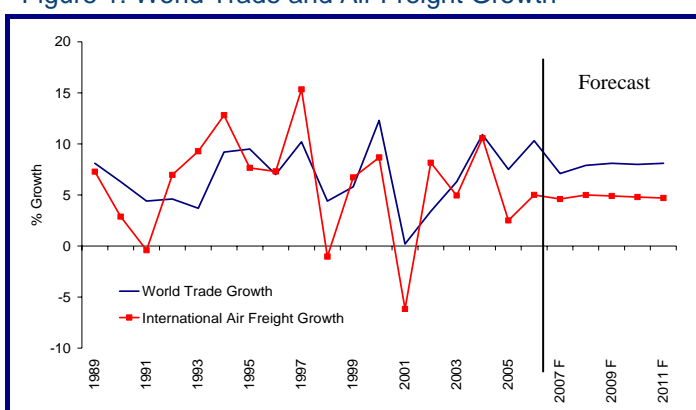
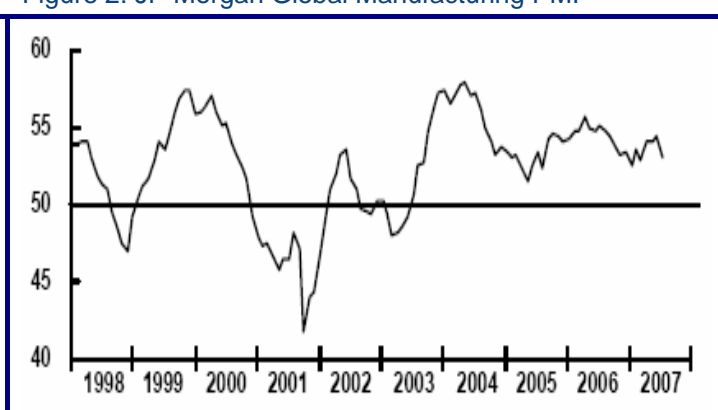


Figure 2: JP Morgan Global Manufacturing PMI



Source: EIU; Air France-KLM Cargo, JP Morgan; IATA

- Conditions in the global manufacturing sector, a key customer for air freight, remain relatively strong. The JP Morgan global manufacturing purchasing managers index (PMI) is a good gauge of business confidence in the sector (see Figure 2). The PMI has indicated positive growth in the sector since mid-2003 (a score above 50 represents growth). Though the rate of growth has slowed since mid-2006, the outlook is still positive.
- The US dollar has depreciated by over 10% in trade-weighted terms in the last two years, though a large proportion of this depreciation has been against the euro (and other European currencies) as well as against the Chinese renminbi (see Figure 3). By contrast it has appreciated against the Japanese yen. With US trade and public sector deficits still at unsustainably high levels the US dollar may face more downward pressure, but is unlikely to see a major downward change. In the absence of a dollar shock, movements in exchange rates should have little impact on overall global growth, though may help to reduce some imbalances by making US exports (and airlines) more competitive. However, with fuel priced in dollars, non-US airlines can benefit from a lower impact on their costs (in local currency terms) from high fuel costs.

Figure 3: US Dollar Vs Major Trading Currencies

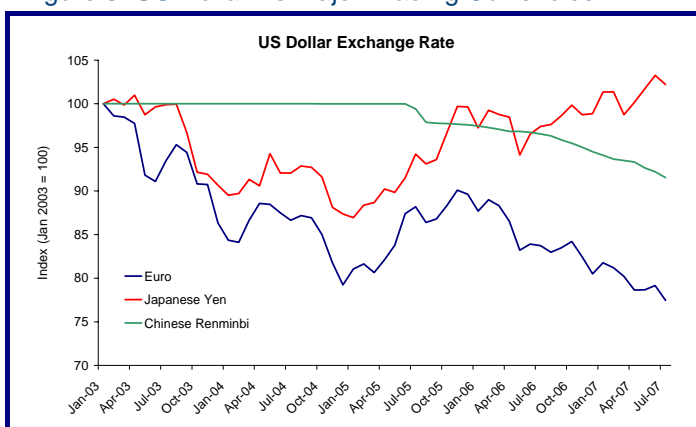
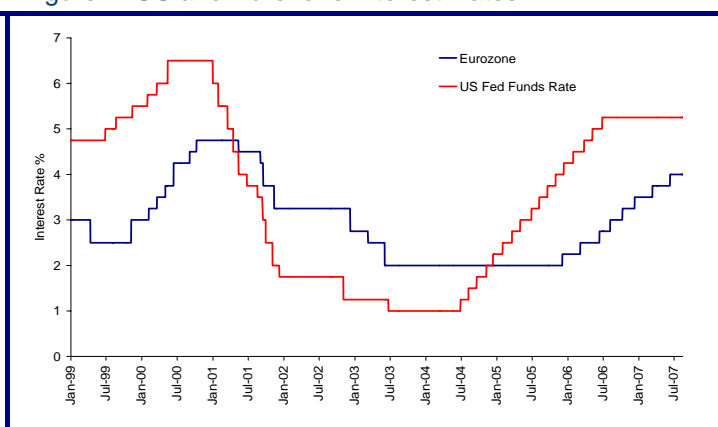


Figure 4: US and Eurozone Interest Rates



Source: EIU

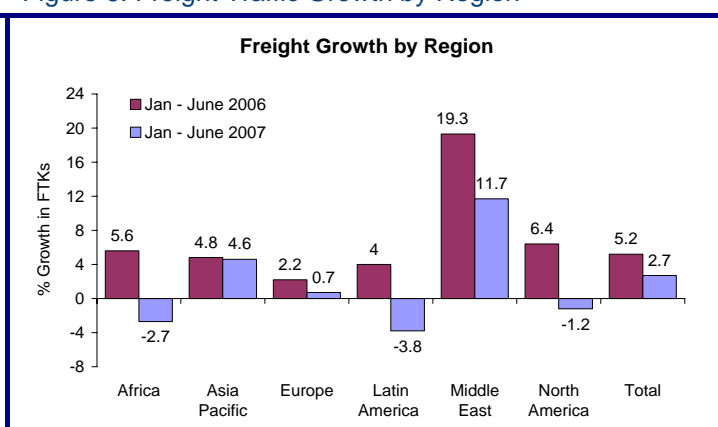
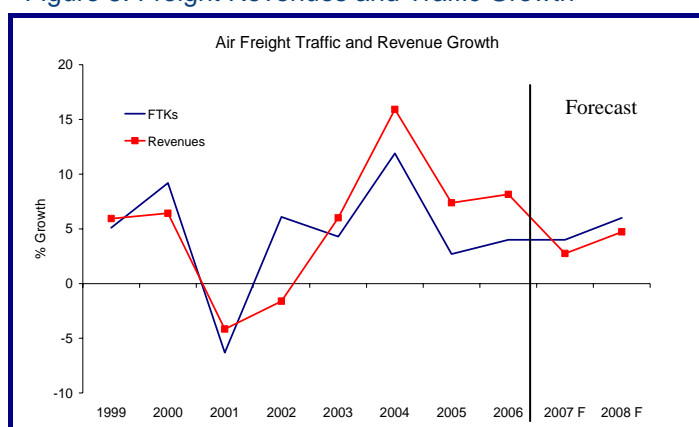
- The global economic environment is still positive, though is subject to several risks. The volatility in global stock markets in recent weeks has, so far, been confined to the financial sector but could affect growth in the wider economy if it leads to a fall in liquidity and higher cost of capital for firms. However, central banks have signalled a willingness to intervene to help prevent any wider impact. Central banks will be unwilling to bail out firms that have suffered losses, but with inflation pressures easing after recent increases in interest rates (see Figure 4), the next move for central banks is likely to be to keep interest rates at current levels or to lower them.

REVENUES AND TRAFFIC

- Air freight has provided a relatively strong boost to airline revenues over the last two years even though traffic growth has been relatively low (see Figure 5). Airlines have seen a degree of pricing power, allowing them to pass a proportion of the higher fuel costs on to customers through fuel surcharges. However, strong competition – within the industry and with other modes – and increased capacity is placing downward pressure on yields, with revenues expected to grow at a lower rate than traffic over the next two years.
- International air freight growth was a disappointing low 2.7% in the first half of 2007, especially as economic conditions are relatively strong. The low rate of growth is a reflection of several factors; strong competition from other modes, structural changes such as lighter manufacturing components in electronics and growth among new entrant airlines (e.g. Jade and Great Wall airlines in China) that are not included in the data. Nevertheless, the growth rate has picked up in May and June, led by airlines in Asia Pacific, and the second half of 2007 should see an improvement in growth towards 5%. Airlines in the Middle East continue to see the strongest growth in air freight traffic, though also at a lower pace than the first half of 2006 (see Figure 6).

Figure 5: Freight Revenues and Traffic Growth

Figure 6: Freight Traffic Growth by Region

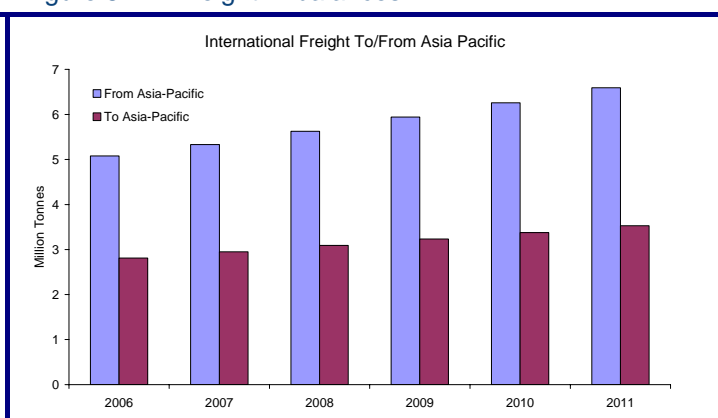
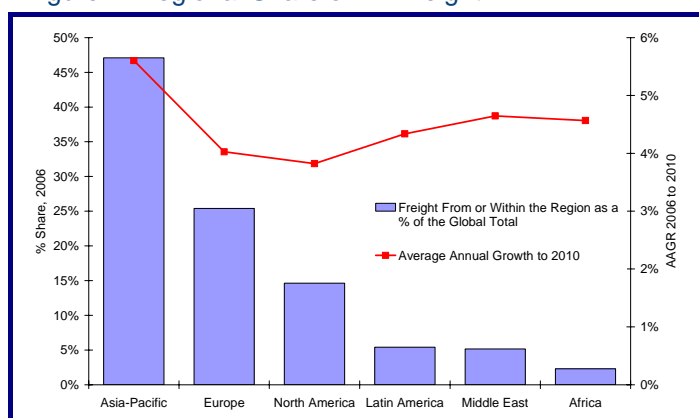


Source: ICAO; IATA

- Looking ahead, Asia Pacific is set to see the highest annual growth rate in freight volumes to 2011 (see Figure 7). International freight within Asia and exported from Asia to other regions already accounts for around 45% of international freight, and will account for over 55% of new traffic to 2011. Growth is also set to be above average in the Middle East and Africa, though slower in the more mature markets of Europe and North America.

Figure 7: Regional Share of Air Freight

Figure 8: Air Freight Imbalances



Source: IATA

- The strong growth in Asia Pacific is set to increase the imbalance in trade volumes from and to the region. Air freight exports from Asia Pacific are almost twice the level of air freight imports at present, with the gap between exports and imports set to grow from 2.3 million tonnes in 2006 to 3.1 million tonnes in 2007. The nature of the imbalances mean that a large proportion of the revenues on a cargo flight from Asia is earned on the outbound leg (in terms of both higher volumes and higher rates). However, while revenues are concentrated on the outbound leg, costs are faced across both legs of the journey. Increasing capacity to meet higher demand on the outbound leg also raises the risk of excess capacity on the return leg. Airlines are having to seek new cargo types or to have multiple stops on the return leg in order to improve return load factors.

SHIPPER SEGMENTS

- Air freight accounts for around 35% of international merchandise trade by value, but less than 1% in terms of volume. As such, air freight is more attractive for high-value, time-sensitive and compact goods. The electronics sector is a key customer for air freight (see Figure 9), especially in Asia, though air freight also transports a large amount of fresh agricultural products and apparel that are important exports for developing countries into the major developed markets.
- The three largest categories – capital equipment, intermediate materials and computers – are expected to account for around half of the increase in air freight volumes to 2010. However, structural changes in the design and shipment of these products can also have an impact on air freight demand. Firstly, the increased trend towards compact and lighter electronic and manufacturing components lowers the unit weight of the shipment. Secondly, concerns over supply-chain risks within the global production chain (e.g. over-reliance on a particular supplier or country for a component) could see a step back from just-in-time production techniques towards a greater stock of inventories, reducing the competitive advantage air freight has over other modes.

Figure 9: Air Freight by Category

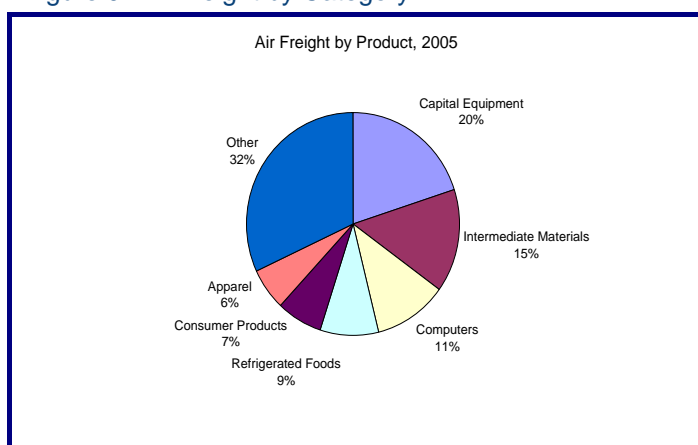
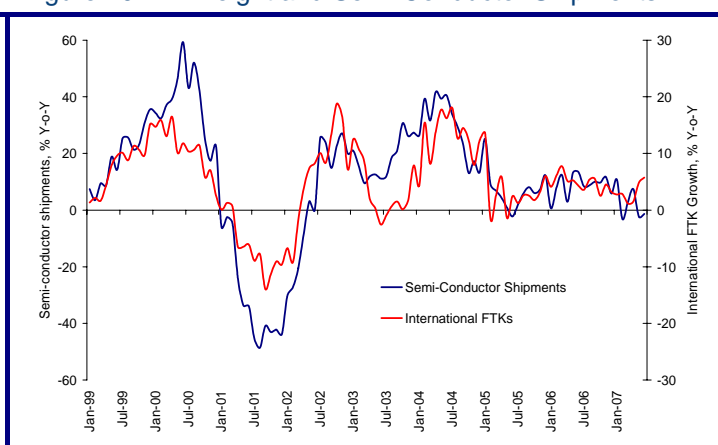


Figure 10: Air Freight and Semi-Conductor Shipments



Source: Merge Global; SIA; Air France-KLM Cargo, IATA

- The performance of the semi-conductor industry is a key leading indicator for air freight, with a strong positive correlation between the growth in semi-conductor shipments and the growth air freight (see Figure 10). However, the growth in semiconductor shipments has slowed in the first half of 2007, reflecting excess capacity in some parts of the electronics sector and higher levels of inventories. However, with global economic growth still relatively strong, semiconductor shipments are expected to increase again in the second half of 2007.

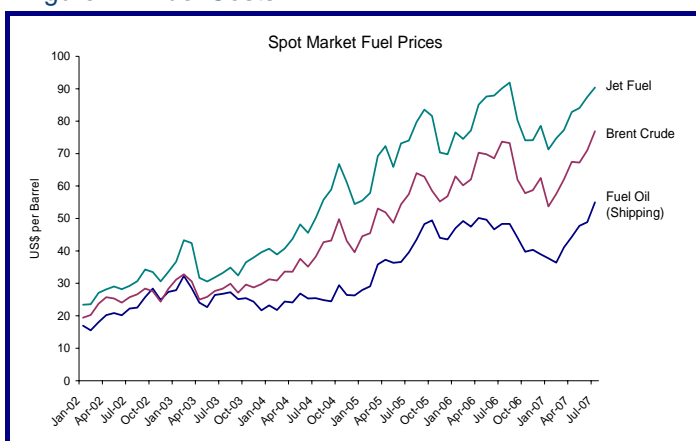
COSTS

- Oil and fuel prices declined in the second half of 2006 but have since seen a return towards record high levels, equating to a jet fuel spot market price of around \$90 a barrel (see Figure 11). Whereas high fuel prices in 2006 were largely caused by future supply concerns, the rise in oil and fuel prices since early 2007 has largely caused by a current excess of demand over supply and a reduction in stocks. Demand has risen since last year, but the main cause of the change is supply reductions implemented by OPEC and by supply disruptions in some regions (e.g. Nigeria). Slower, yet still strong, global economic growth should see a slight easing on the demand side, which should also benefit from improvements in fuel efficiencies. An increase in supply, from both OPEC

and non-OPEC countries should see crude oil prices gradually reduce from over \$70 per barrel to around \$60 per barrel over the next two years.

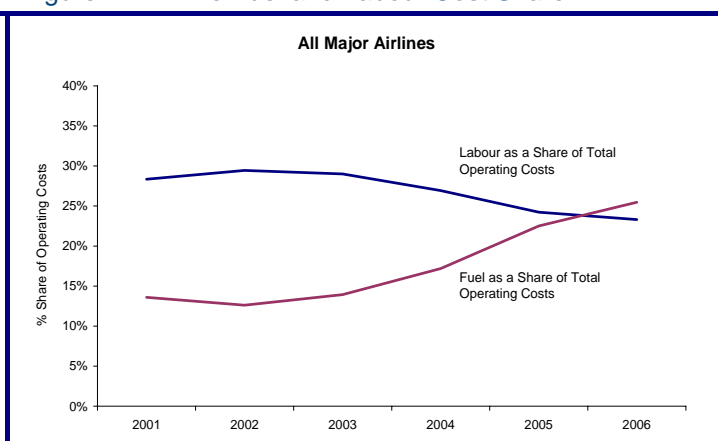
- Airlines have in recent years faced both rising crude oil costs and a higher refining margin for jet fuel. Capacity constraints at refineries, largely due to historic under-investment by oil companies, have increased jet fuel prices at a faster rate. By contrast, the price for bunker fuel (used by container and bulk ships) has actually been lower than crude oil prices, as it is often a surplus in the refining process. This gives a significant competitive advantage to shipping. Nevertheless, there are signs that the refining margin, as well as the underlying crude oil price, should begin to ease as jet fuel refining capacity finally increases, especially in the US.

Figure 11: Fuel Costs



Source: Platts; EIA; IATA

Figure 12: Airline Fuel and Labour Cost Share

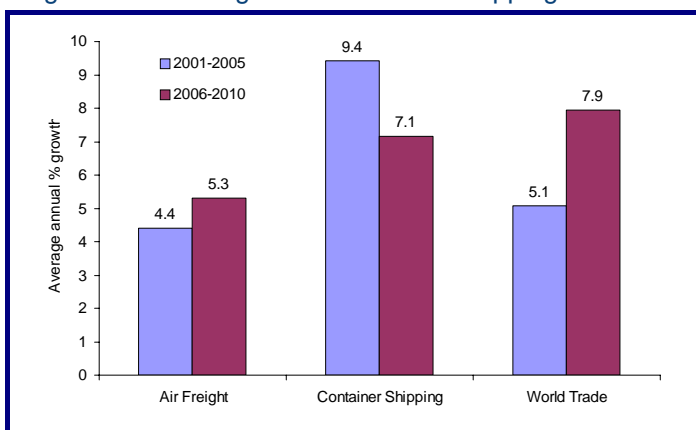


- Fuel accounts for a larger proportion of operating costs on the freight than on the passenger side. As such, the air freight side has faced even greater pressure on profitability due to high oil prices. It is difficult to find figures for just cargo operations, but taking account of all airline operations fuel now accounts for the largest operating cost item (see Figure 12). Fuel's share of costs has risen in recent years while improvements in labour productivity have helped to reduce the share of labour costs. However, these trends could change over the next two years, with most economic forecasts expecting oil prices to ease, while the risk of skill shortages in some important parts of the airline sector (e.g. pilots) could lead to upward pressure on labour costs.

COMPETITIVE ENVIRONMENT

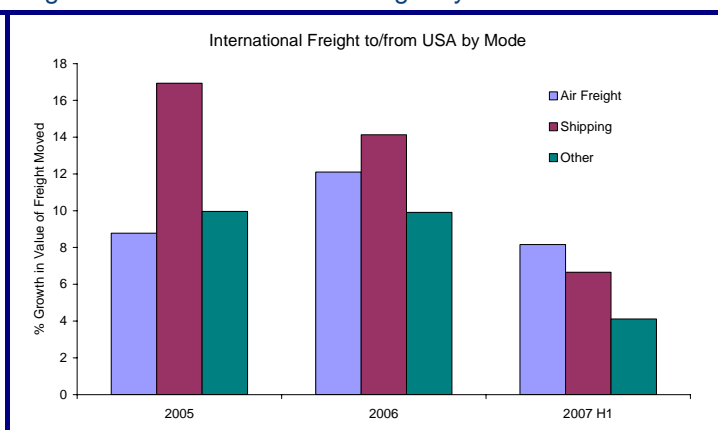
- Air freight is a highly competitive industry between individual airlines. But it is also increasingly facing strong competition from other modes, even for high-value, time-sensitive goods. Land-based modes and short-shipping have traditionally offered competition on short-haul routes, especially in the US and within Europe. However, air freight is also increasingly facing competition for shipments on longer-haul routes from container shipping. Air freight grew at less than half the rate of container shipping between 2001 and 2005 (see Figure 13).

Figure 13: Air Freight and Container Shipping Growth



Source: Merge Global; IATA; US Customs

Figure 14: US International Freight by Mode



- Average annual air freight growth is expected to be slightly higher between 2006 and 2010, though will remain below world trade growth and container shipping growth (even though the latter should slow as new capacity growth slows). Therefore, competition from other modes will remain strong. Container shipping has become more competitive as route networks and frequencies have increased, while journey times and freight rates have reduced (the latter since 2005 as significant new capacity has come into the market).
- However, container shipping potentially faces its own capacity bottlenecks that could constrain its growth and ability to compete against air freight. Though container shipping capacity has increased significantly (and shipping rates reduced), congestion at ports can limit volumes, as seen at major US ports in 2004. Constraints within the shipping supply chain may be a key factor behind the slower rate of growth in shipping to/from the US in the first half of 2007 (see Figure 14).

PROFITABILITY

- The expected slower rate of growth in air freight revenues in 2007, combined with high fuel prices, will place downward pressure on profitability in the air freight sector. The pricing power that has allowed airlines to pass on a share of the higher fuel costs to customers through surcharges shows signs of weakening, with competition and increased capacity resulting in stable or declining cargo yields (see Figure 15). A return to declining yields, especially while fuel prices remain high, will increase the break-even load factor for air freight.
- The improvement in airline financial performance in 2005 and 2006 contributed to record numbers of new aircraft orders in both years (as did high fuel prices, which encourages an earlier replacement of older, less fuel-efficient aircraft). These new orders will result in an increase in new deliveries over the next three to four years (see Figure 16). With significant new amounts of air freight capacity set to be delivered, the challenge for the industry is to focus new capacity on the fastest growing markets. Otherwise, yields may face further downward pressure as capacity increases. However, for the freight sector, the challenge of matching capacity to demand growth is even greater than on the passenger side because of the imbalances in trade flows.

Figure 15: Air Cargo Yields

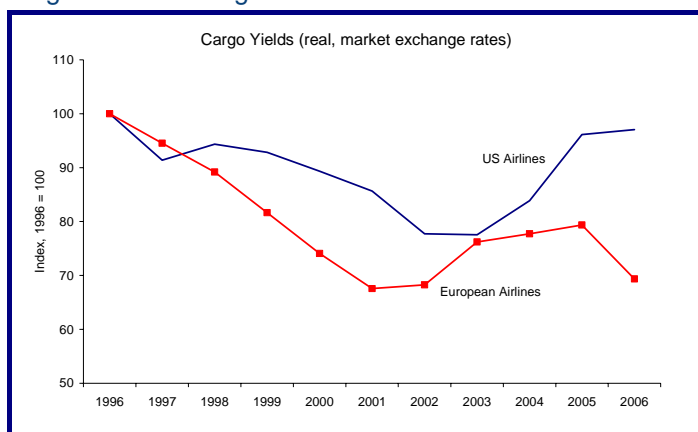
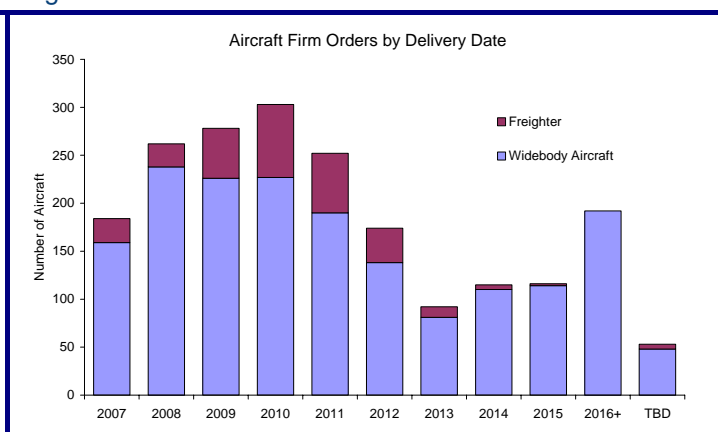


Figure 16: Aircraft Orders



Source: AEA; ATA; Ascend.

- Nevertheless, with positive economic conditions and further demand growth, opportunities for profitable growth in the air freight sector still exist. Increased liberalisation can open markets to even greater competition but can also provide greater commercial freedom to adapt to market conditions. New routes and new aircraft can also open up new geographical and product markets for air freight. The industry remains exposed to unpredictable, external shocks (e.g. avian flu, security threats), which means that short-term volatility in growth cannot be discounted, but the medium to long-term outlook for air freight growth is still positive.

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