

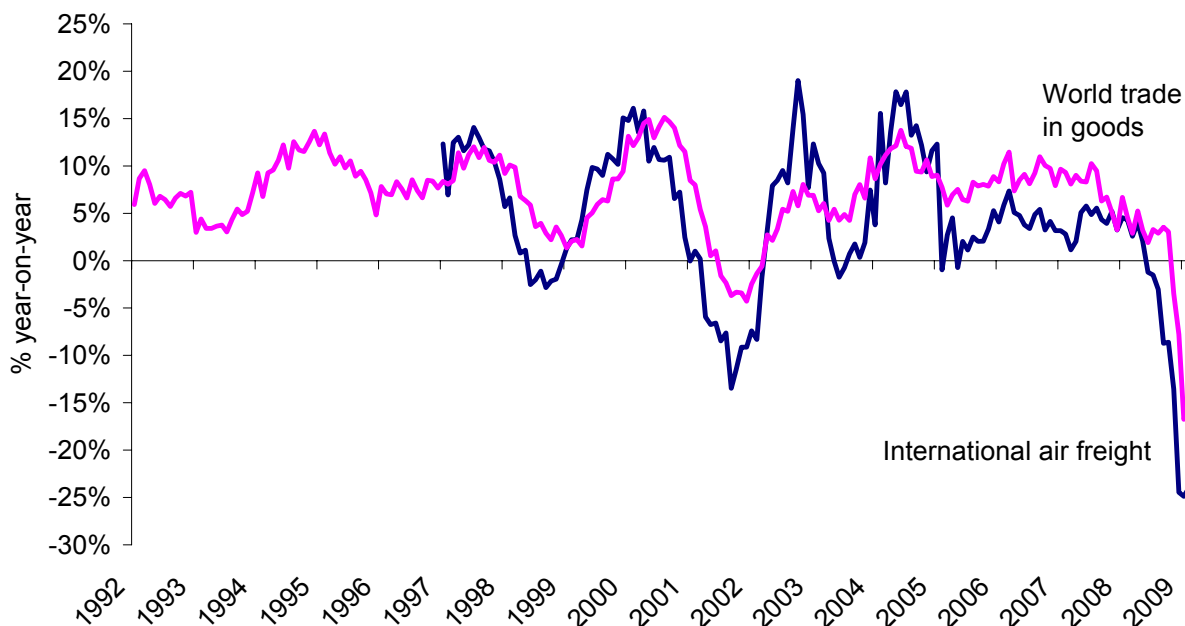
IATA ECONOMIC BRIEFING

APRIL 2009

AIR FREIGHT TIMELY INDICATOR OF ECONOMIC TURNING POINT

- Air freight has proved to be a very timely indicator of overall world trade volumes. IATA releases data on a particular month's international air freight movements towards the end of the following month, which is around four weeks in advance of the most timely release of world trade data, by the Netherlands Bureau of Economic Analysis (CPB). Given the importance of the world trade contraction in driving the recession, movements in air freight are likely to be a very helpful guide to any turning points in the global economy. Indeed, decision-makers such as the Bank of England's Monetary Policy Committee, are already using this data as the most timely indicator available on world trade developments.
- Air freight is a little more than a coincident indicator of world trade. Turning points in world trade are often signalled 4-5 months ahead by air freight, for the reasons discussed below. In this most recent downturn air freight growth turned negative in June and started to fall sharply in September. Growth in overall world trade volumes turned negative in November and then fell very sharply in December.

World trade and air freight growth

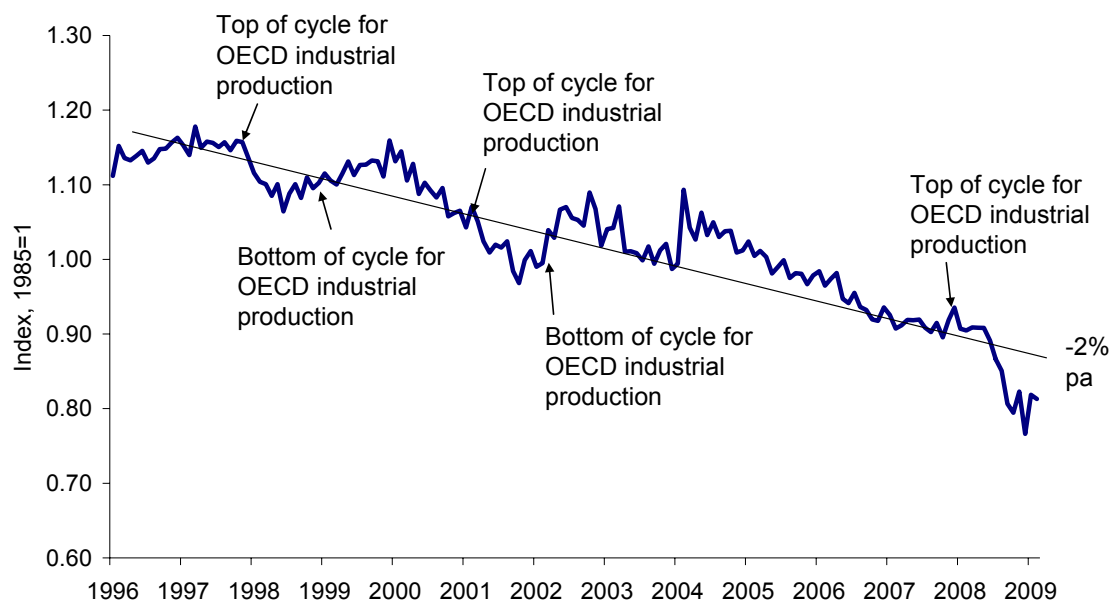


Source: IATA, Netherlands Bureau for Economic Policy Analysis (CPB)

- Before discussing developments in the most recent months – and a possible floor to the decline in world trade – we examine first the relationship between the shipment of goods by air and overall world trade, and then look at some of the key economic drivers behind recent developments.
- The chart below shows the ratio of IATA's measure of international air freight volumes, freight tonne kilometers flown, and the CPB's measure of world trade in goods measured in constant or inflation-adjusted US dollars. Note that there is a declining trend – air freight tonne kilometers has risen on average by 2% a year less than world trade – but also a cycle. The cycle is important because it is driven by the nature of air freight's fluctuating competitive advantage over other transport modes, and it is this that makes air freight a leading indicator of overall world trade.

- Typically, as the chart shows, air freight falls faster than world trade at the start of a downturn and then starts to rise faster than overall world trade a few months before the bottom of the cycle in industrial production. The reason for this is that air freight is a more expensive transport mode, compared to land or ocean transport, but it is much faster. During a recession, when firms are reducing inventory, speed of delivery of components and final goods becomes less important. Shippers switch to the cheaper, though slower, transport modes causing a sharp fall in air freight but some delay before overall world trade weakens. The opposite occurs during the recovery phase when firms are seeking to replenish inventory and source components to build up production schedules. Then air freight becomes the transport mode of choice and rises ahead of world trade as shippers switch in the opposite direction.

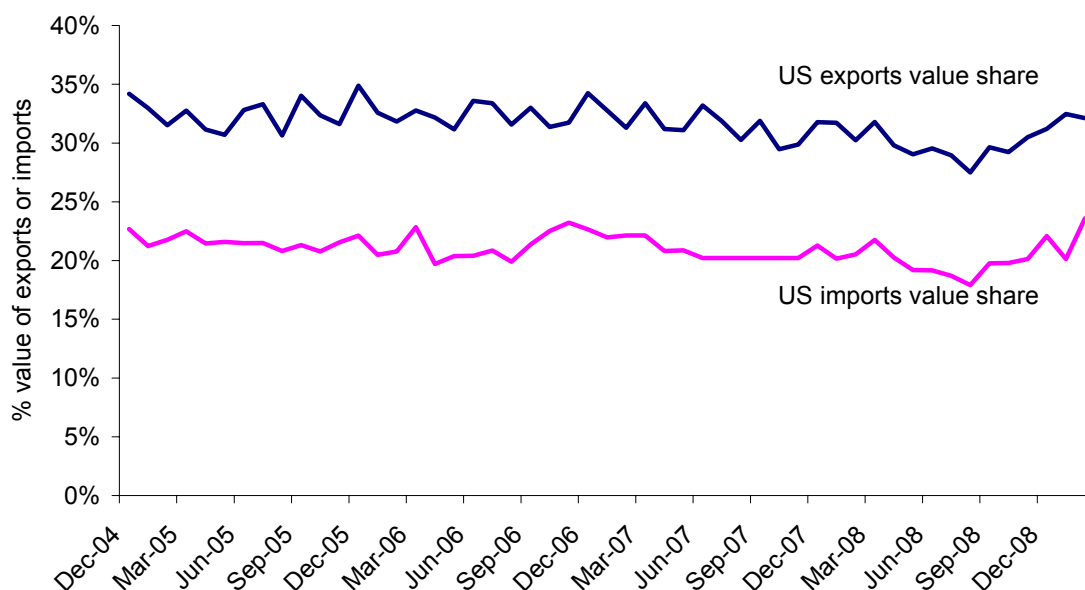
Air freight as a ratio to world trade



Source: IATA

- The declining trend is a little harder to explain. On a superficial view one might expect air freight to rise faster, not slower, than overall world trade in goods. The heavier, lower unit value, bulk commodities and oil will always be shipped by sea or possibly land and these goods are generally slower growing than the manufactured goods that could be shipped by air. In the seven years to 2007 international trade in fuel and mining products grew by an average of 3.5% a year, compared with average growth of 7.5% in manufactured goods trade; overall world trade in goods averaged 6%. Over that same period the growth in air freight tonne kilometers flown averaged 4%.
- It could be that there has been a trend loss of market share to ocean going containerised shipping, in addition to the normal cyclical moves from one transport mode to the other. It is certainly the case that there have been technology advances in containerised shipping in recent years, increasing the speed of ocean-going freight and eroding the time advantage of air freight. Over the period 2000-2007 the tonnage carried by containerised ships grew at an average rate of around 8% i.e twice the pace of air freight tonne kilometers.
- However, other data conflicts with a loss of share to ocean being the only or even the main explanation for air freight tonne kilometers growing more slowly than world trade. The chart below shows that, for the US at least, the value share of goods both exported and imported by air have held relatively stable. Some 30-35% of US exports, by value, are shipped by air and around 20-25% of imports arrive by air freight. There was a dip in the middle of last year and arise towards the end of the year as a result of fluctuating oil prices, but the overall picture is of stable not declining value shares.
- This suggests that comparing tonne kilometers with inflation-adjusted dollar values is not comparing like with like. One key reason may be that the capital and electronic goods that form the bulk of air freight are getting lighter in relation to their inflation-adjusted value. There is also likely to be a composition effect with higher value to weight products (computers, semi-conductors etc) growing at a faster rate than the lower value to weight goods (refridgerated food and flowers, textiles etc).

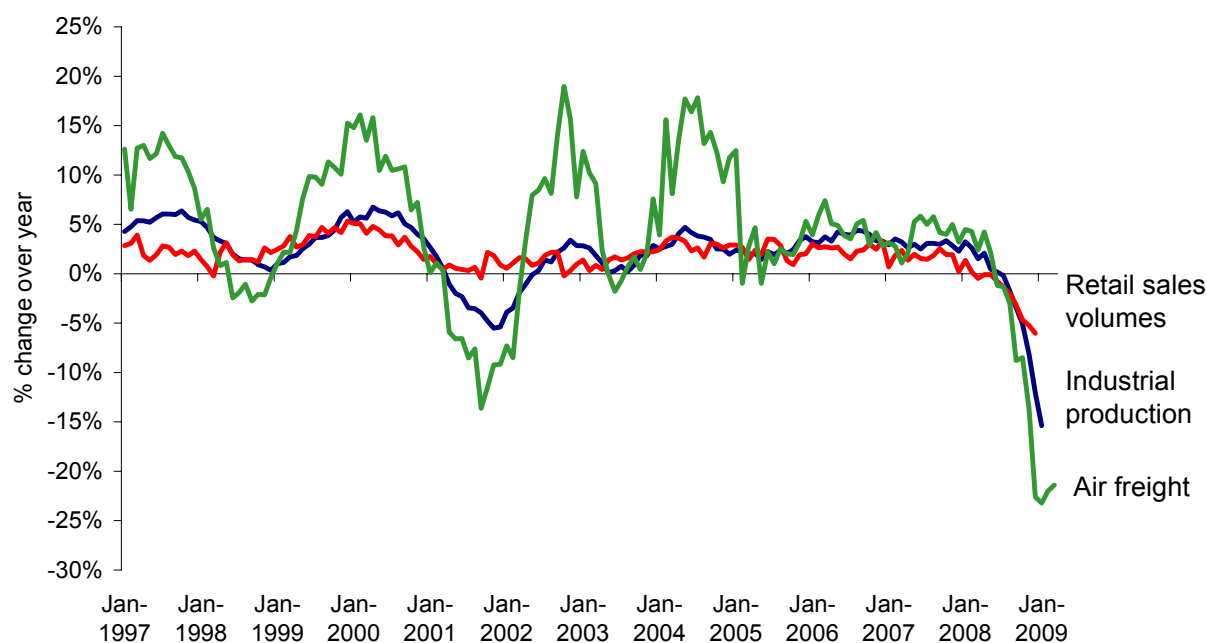
Value share of US traded goods shipped by air



Source: US Bureau of the Census

- During upturn phases air freight (tonne kilometer) growth has averaged 3-5% points more than growth in overall (constant dollar) world trade in goods. In downturn periods the opposite has been the case with declines averaging 5-7% points lower than world trade, as in recent years. On average air freight tonne kilometers will grow some 2% points below world trade growth. This is not due to market share being lost to containerised shipping, though this has happened. The main reason is that lighter, higher value, goods are growing at a faster rate than other goods. If measured on the same basis as world trade, in constant dollar prices, the volume of air freight is likely to show a trend more in line with overall world trade in goods.

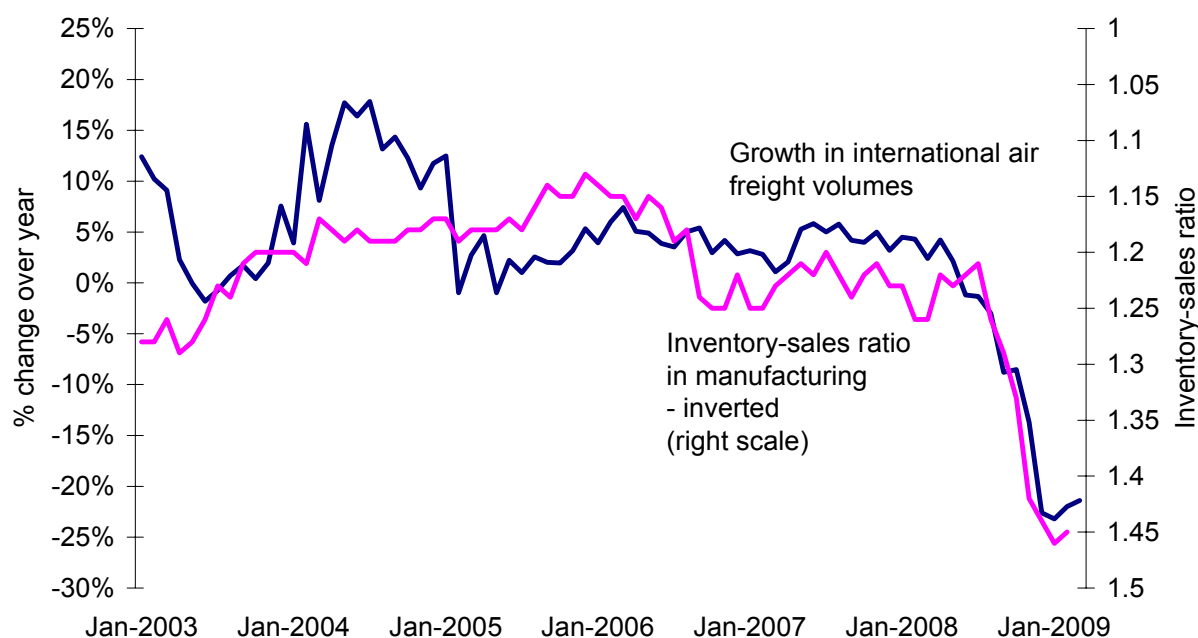
Air freight and OECD industrial output and retail sales growth



Source: IATA, Haver

- Air freight is driven more by fluctuations in industrial production than retail sales and other final goods demand. Clearly air freight and world trade is ultimately driven by final demand from consumers and firms, but both cycles and month-to-month volatility are much higher for air freight and world trade than for final demand.
- Around half of the goods shipped by air are intermediate parts for manufacturing or capital equipment, including computers. This is why air freight responds so quickly to fluctuations in the economy and why it swings more violently. On top of the cycles in final demand are the swings in inventories, as manufacturers restock in anticipation of recovery or destock as recession looms.
- One of the major drivers of the collapse in air freight from September last year was the emergence of an extremely large inventory overhang in the US and elsewhere – as the recession hit sales much harder and more quickly than expected by firms. The chart below shows the inventory-sales ratio in manufacturing inverted i.e. a fall in the red line indicates a rise in the inventory overhang. As the chart shows, air freight growth closely followed this development as the inventory overhang led to purchasing managers sharply reducing their shipments of components such as semi-conductors and car parts. Air freight fell precipitously as a consequence.

Air freight growth and manufacturers inventory-sales ratio



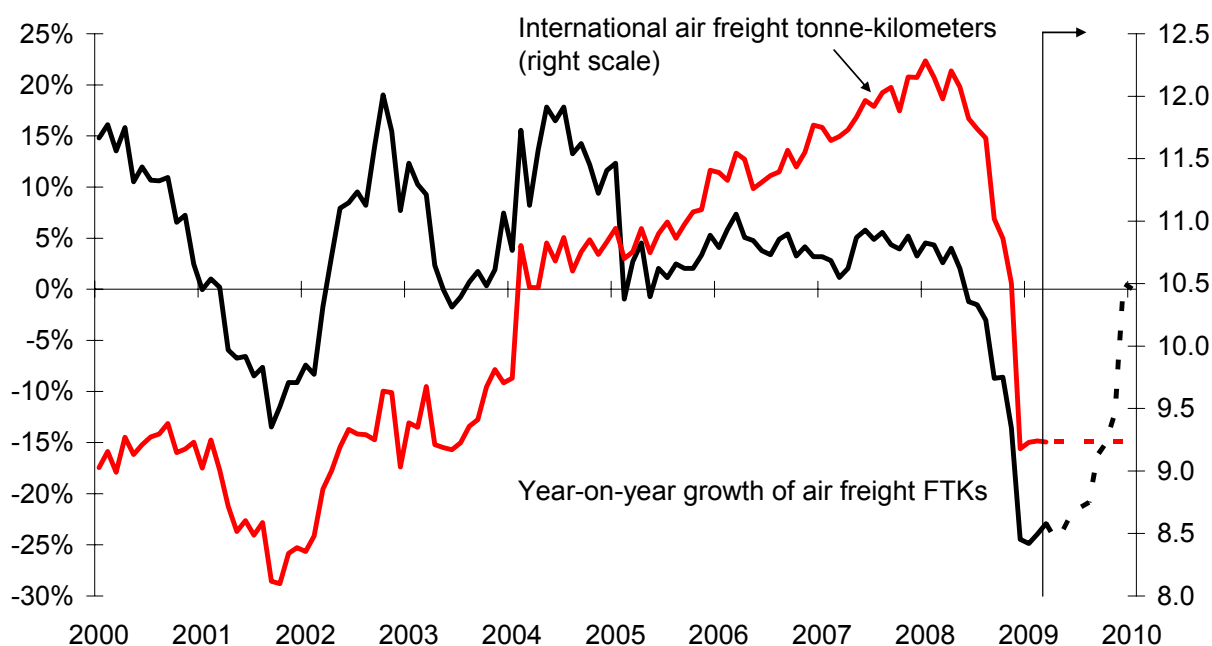
Source: IATA, Haver

- A peak to the inventory overhang in manufacturing may have been reached in January, though it is far too soon to be sure. February data show a very minor decline in the inventory to sales ratio. Moreover, purchasing managers in manufacturing have been reporting a modestly more optimistic (or rather less pessimistic) outlook over future output and order levels since January. We may have reached a point where the inventory overhang is getting no worse.
- As a result shipments of components and finished products are no longer being cut further. Existing levels of shipments seem low enough to at least prevent a further accumulation of inventory in manufacturers' warehouses. So air freight has stabilised. In the three months to March international air freight tonne kilometers, adjusted for seasonal fluctuations, have been almost unchanged since December.
- Overall world trade was still declining in January but edged up 0.8% in February (March data is not available from the CFB until the 21 May). Air freight may now be signalling a turning point as the recession reaches its low point.
- There are two reasons for caution. First, for manufacturers to begin increasing their shipments of components they will need to have reduced their inventory overhang. There is no sign of this. At best conditions suggest manufacturers' shipments and air freight volumes will continue to move sideways. The second issue is that while manufacturing may have reached some local stability the same is unlikely to be true for consumer spending. The

US the credit boom led to households increasing their debt from 100% of disposable incomes in 2000 to 130% by the end of last year. Since their housing and equity wealth has fallen 30% or more in value it is highly likely that households will want to pay down debt with any strengthening of incomes. De-leveraging to just 125% would remove \$500 billion or 5% from being available for consumer spending. So major risks remain and there are good reasons for expecting any recovery to be some time away.

- The chart below is NOT a forecast but shows the impact on year-on-year growth in air freight IF volumes continue to move sideways for the rest of this year. By September year-on-year reductions would have moved below -20%. By November positive, though small, numbers will have returned. Of course this would be no sign at all of any recovery, just of continued stagnation at current low levels of air freight.

International air freight volume and growth



Source: IATA

- The first part of the recovery phase for air freight will come when the manufacturing inventory overhang is significantly reduced and shipments of components and final goods are required to meet existing demand. However, a sustained and strong recovery phase will await a return to confidence among consumers, as well as a more robust banking system. Central banks and Governments have taken very substantial actions to recapitalise the banks, add liquidity and restart the flow of credit. Fiscal stimulus has also gone some way to replace the reduction in spending by households and firms. However, an end to private sector de-leveraging may also take the passage of time, unless Governments can engineer a faster recovery in asset values and incomes, which looks unlikely at present.
- This suggests air freight may get little more than a moderate boost from the manufacturing inventory cycle later this year/early 2010, and a further downward leg driven by consumer de-leveraging cannot be ruled out yet. A return to more normal growth rates may not arrive until 2011. When it does air freight is likely, as it has done in the past, to signal several months ahead that a more sustained upturn in world trade and economic activity more generally is on its way.

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