

# CARGO E-CHARTBOOK

Q1 2010

## KEY POINTS

- The turn of the year saw a strong upturn in cargo volumes and yields. Confidence over further gains is high. The challenge will be to turn growth into profit, given low aircraft utilization, new deliveries, rising fuel costs. Also vast and perhaps enduring differences in demand conditions from one trade lane to another.

## HEADLINES BY SECTION

### Economic Outlook (page 2)

- In Asia interest rates have already started to rise as economies recover. However, a bigger threat to the outlook is posed by future tax increases. Economic growth will continue to be very uneven, with Asia strongest.

### Demand Environment (page 4)

- The usual indicators of freight demand are broadly positive. Business stopped cutting inventory in 2009Q4 and semi-conductor shipments are up strongly, but purchasing managers' optimism has stabilised.

### Revenue and Yields (page 6)

- Volume growth does not necessarily improve profitability, but there are now signs of significant yield increases – albeit very concentrated by trade lane and direction. By end-2009 revenues had begun to rise.

### Capacity (page 8)

- Capacity has started to return but is still some 10% lower than in early 2008. The freighter fleet is 160 down. Back to pre-911 load factors. But belly capacity is up and aircraft utilisation is -7% - not good for profitability.

### Profitability (page 10)

- Financial results for most of 2009 reflect the severest downturn the industry has ever experienced. Even so losses seemed to be levelling out in Q3 and some profits were evident in Q4 in Asia. Confidence has risen.

### Traffic Growth (page 3)

- Air freight volumes rose strongly at the end of 2009 and into 2010 to a level 28% up from late 2008 lows. Asian markets are strongest, reflecting economic growth. Both freighters and belly holds are now benefiting.

### Demand Drivers (page 5)

- Indicators of final demand – on which air freight will depend once the inventory cycle is over – are mixed. Consumer spending is strong in China, weak in the West. Business investment plans have, at best, stopped shrinking.

### Costs (page 7)

- Fuel prices have been trending higher as the world economy gathers strength, with jet averaging \$85 a barrel so far this year and expected to rise to \$90 in 2010. Recession brought other costs down but there are signs that is ending.

### Competition (page 9)

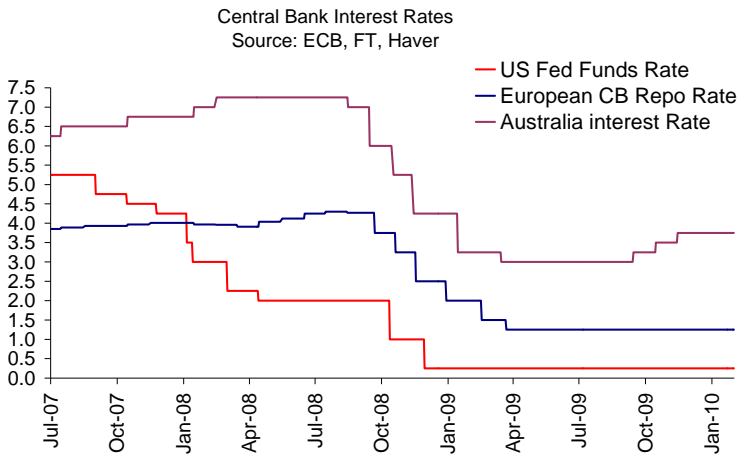
- There are some signs of the world trade upturn in the bulk commodities and containerized shipping industries, but these sectors are lagging air freight at present. However, ocean rates are now rising in line with air.

## Economic Outlook

### Key Issue:

➤ In Asia interest rates have already started to rise as economies recover. However, a bigger threat to the outlook is posed by future tax increases. Economic growth will continue to be very uneven, with Asia strongest.

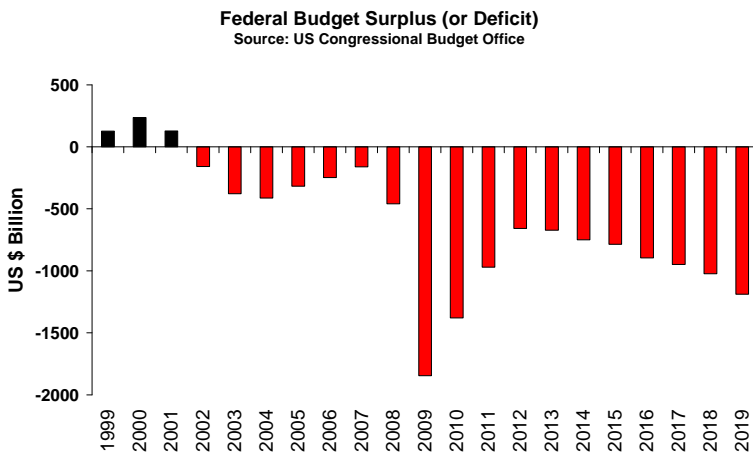
### Interest rates remaining low in Western economies but already rising in Asia-Pacific



➤ Low interest rates, together with direct injections of liquidity into the banks and private sectors, have played a key role in turning economies around from deep recession to economic upturn. In the US and Europe, where economic recoveries remain fragile, central banks are keeping interest rates low.

➤ However, in the Asia-Pacific region economies have experienced strong rebounds and some central banks e.g. Australia have already started to ‘take the punch bowl away from the party’.

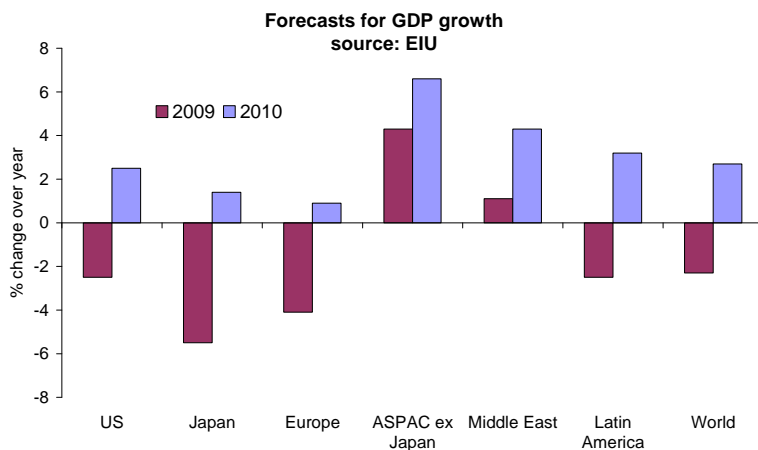
### Massive fiscal stimulus has helped economic recovery but there will be a price to pay



➤ Governments in many economies implemented massive fiscal stimulus packages, boosting government spending and cutting taxes, in order to stop economies slipping into recession. They have succeeded, but at a cost of huge borrowing requirements, approaching \$2 trillion a year in the case of the US.

➤ This is not sustainable and the price to pay will be large tax increases or spending cuts in the future, which will be a drag on economic growth in these countries.

### Upturn in economic growth through 2010 forecast to be geographically uneven



➤ The result of central bank and government stimulus measures is apparent in forecasts for GDP growth in 2010. Across the world forecasts are positive, as economies emerge from the deep recessions of 2009.

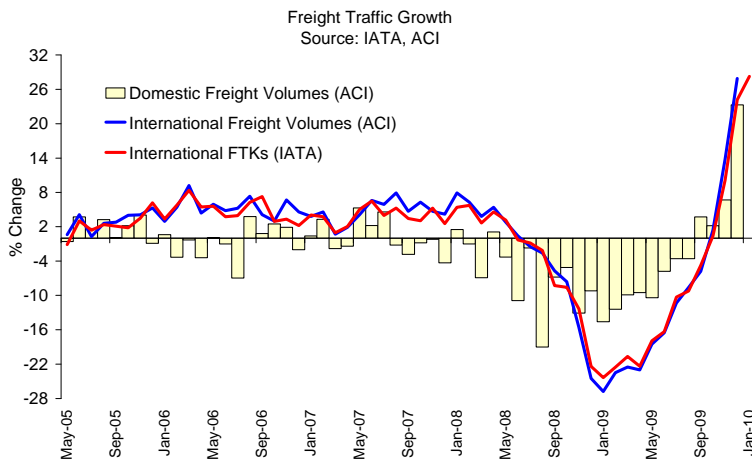
➤ However, that growth is forecast to be very uneven geographically. Burdened by debt and fiscal problems the large developed economies are expected to have only sluggish growth. By contrast emerging markets should see a strong economic expansion.

## Traffic Growth

### Key Changes in the data this quarter:

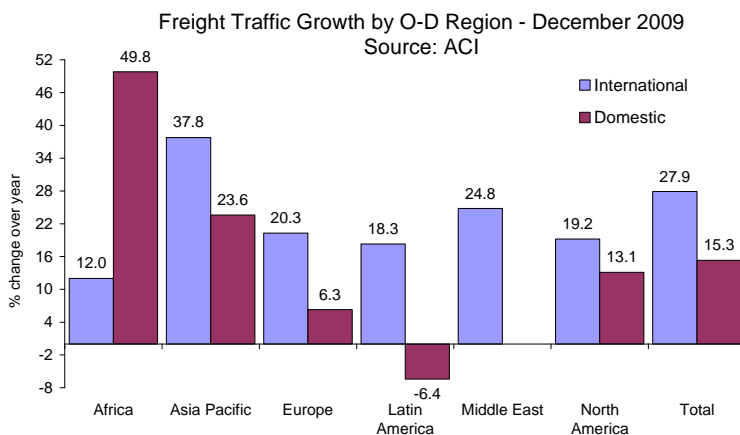
- ↗ Air freight volumes rose strongly at the end of 2009 and into 2010 to a level 28% up from late 2008 lows. Asian markets are strongest, reflecting economic growth. Both freighters and belly holds are now benefiting.

### Air freight volumes rising strongly into 2010



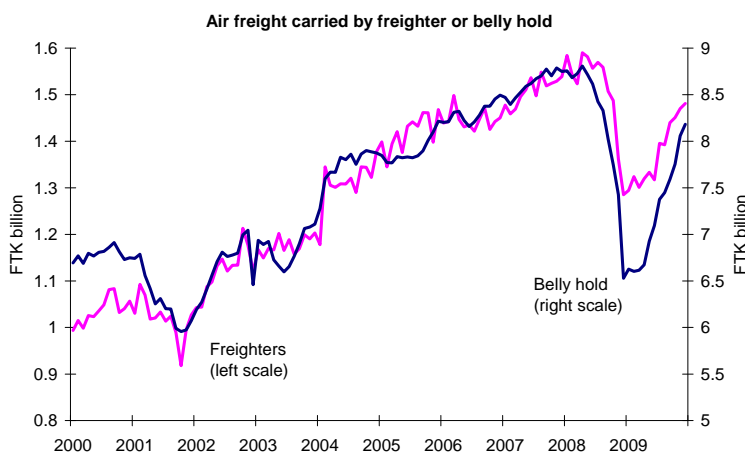
- ↗ The year-on-year growth rates in the chart opposite are being exaggerated by the comparison with last year, when air freight was collapsing, but nevertheless there was a strong rise in cargo volumes at the end of 2009 which continued into January 2010.
- ↗ The level of air freight on international markets is up around 28% from its low point at the end of 2008. However, the size of the market is still 3-4% lower than in early 2008. Domestic air freight has also picked up strongly.

### Regional data on air freight flows reflects the uneven pattern of the economic upturn



- ↗ The uneven pattern of the economic upturn is reflected in regional flows of air freight, though growth is starting to spread to most regions.
- ↗ Unsurprisingly Asia-Pacific is the strongest international market. Also, notably, European airports have seen a 20.3% rise in freight volumes by December, yet European airlines have carried only an additional 5.2%. Trade flows have been largely Asia to Europe and local airlines seem to have been the major beneficiary.

### Biggest cycle seen for freight carried in passenger aircraft bellies



Source: IATA

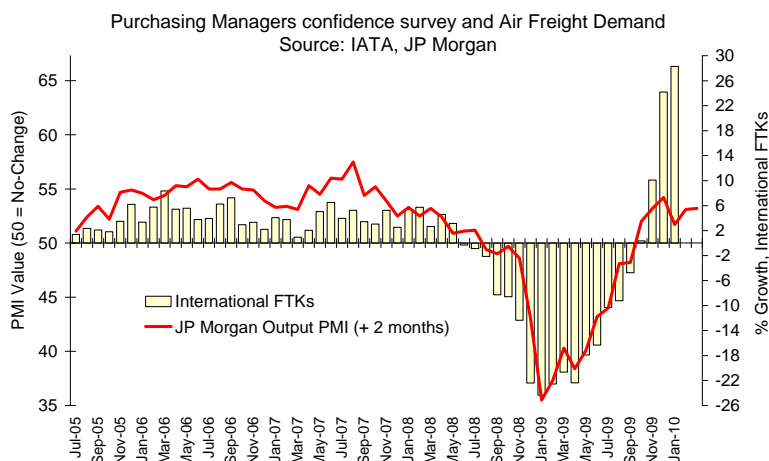
- ↗ The residual nature of passenger aircraft belly capacity in the air freight market can be seen in this chart. The sample on freighters underestimates the true picture but even so this shows that air freight carried by freighters has grown by twice the pace in the medium term as freight carried in the bellies of passenger aircraft.
- ↗ Moreover, the cycle has been more muted for freighters with a 19% decline in 2008 versus a 26% fall for belly freight. Both freight transport modes are now around 7% below their early 2008 highs.

## Demand Environment

### Key Changes in the data this quarter:

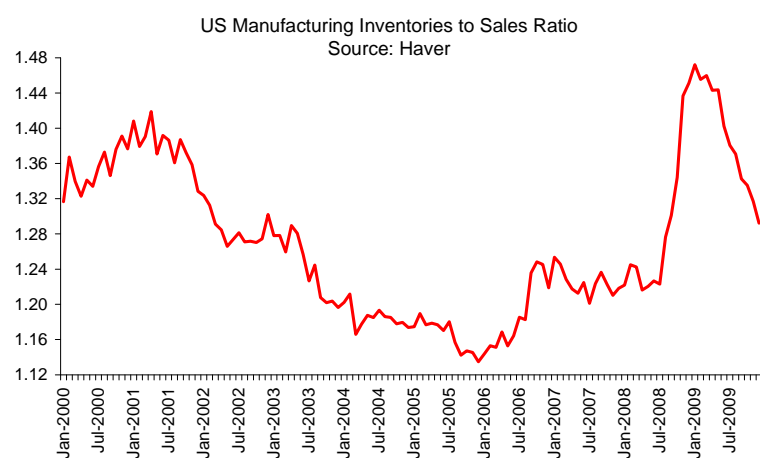
- The usual indicators of freight demand are broadly positive. Business stopped cutting inventory in 2009Q4 and semi-conductor shipments are up strongly, but purchasing managers' optimism has stabilised.

### Purchasing managers' confidence suggest temporary spike in freight growth



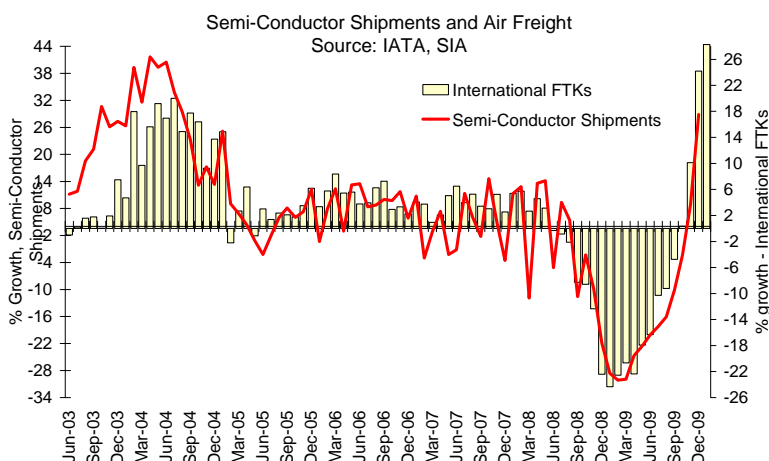
- The confidence of purchasing managers at manufacturing companies around the world has proved a good leading indicator for growth in air freight volumes. Whenever the PMI index is above 50 this indicates expansion of orders, when below contraction.
- The PMI led the air freight recovery very closely up to November. But the spike in freight growth rates in the past two months is much higher than indicated by the PMI, which points to 2010 growth coming back down to the 5-10% range in future months – but that slowdown might not be until Q4.

### Manufacturers' inventory overhang almost eliminated, boosting demand for air freight



- The level of air freight is almost a perfect mirror image of the inventory-sales ratio in manufacturing. The rise to a massive inventory overhang was mirrored in the end-2008 collapse of freight volumes. Rising sales and destocking has almost eliminated that overhang, boosting air freight.
- Business stopped cutting their inventories in 2009Q4, having slowed destocking in Q2 & Q3. That caused the year-end surge in demand for air freight to ship components and goods.

### Semi-conductors now helping to drive the rise in air freight



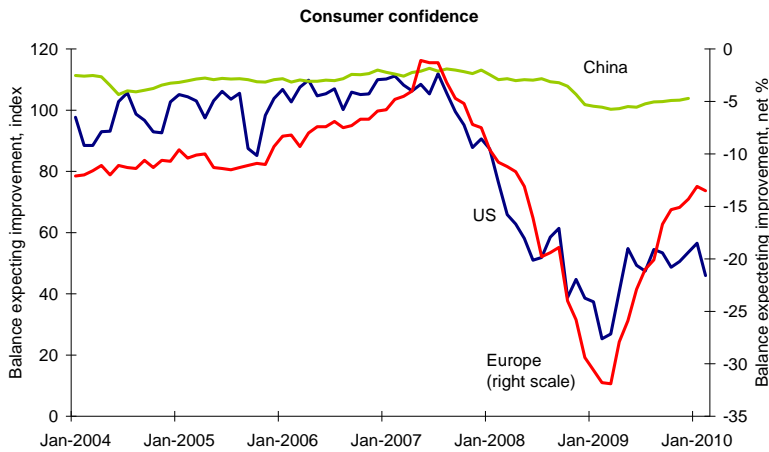
- In the initial stages of the air freight upturn last year, semi-conductor shipments were lagging. More recently this key shipper segment for air freight – high value/low volume - has shown strong growth.
- Wireless handsets have replaced other consumer electronics as the recent driver in demand, with the industry, according to the Semi Conductors Industry Association, expecting growth in excess of 10% this year.

## Demand Drivers

### Key Changes in the data this quarter:

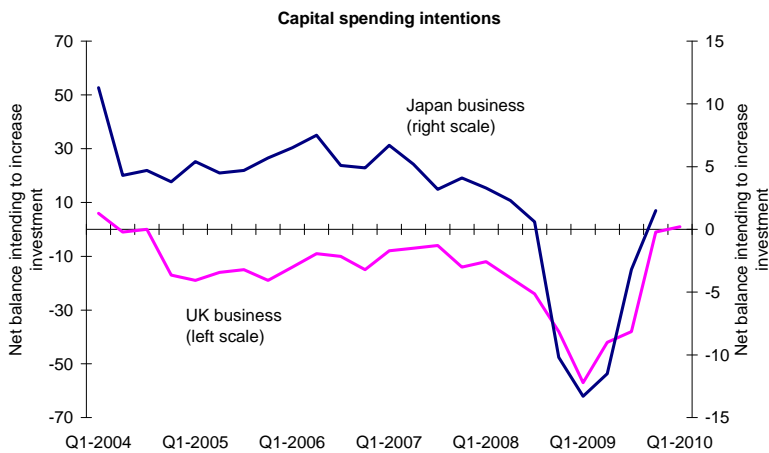
- Indicators of final demand – on which air freight will depend once the inventory cycle is over – are mixed. Consumer spending is strong in China, weak in the West. Capex plans have, at best, stopped shrinking.

### Consumer confidence remains fragile in developed economies but robust in China



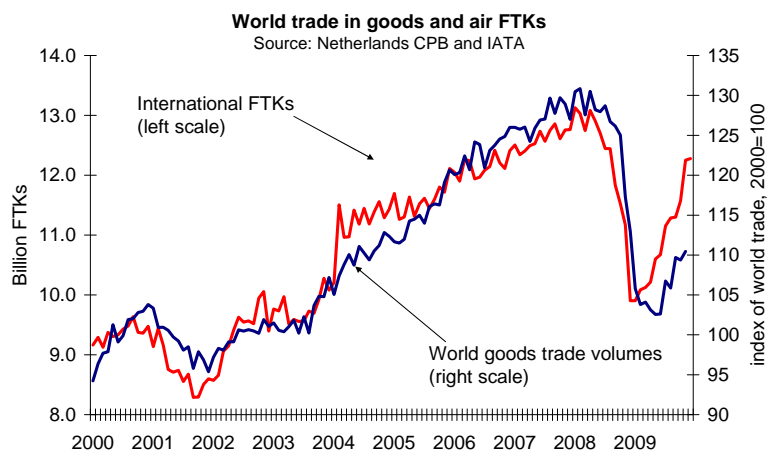
- Once the freight boost from the inventory cycle is over, further gains will depend on a durable recovery of consumer spending. There have been signs of improved confidence world-wide, but in the big developed economies confidence and consumer spending remain slow growing and fragile – burdened by debt and unemployment.
- By contrast in emerging economies like China consumers slowed rather than reduced spending, and the outlook here is for more growth at a rate of 9% or so.

### Business investment plans have stopped shrinking but no CAPEX boom ahead



- Business investment is another key driver of final demand, along with consumer spending. Many of the capital goods invested in are shipped by air freight. The 'Great Recession' has produced a lot of spare capacity, so it was not surprising to see business investment collapse early last year.
- By the end of last year tentative signs were emerging that business had stopped slashing capex plans. This means capex will no longer be a drag on air freight but it will take some time before it becomes a stimulus again.

### World trade is the immediate driver of air freight and air remains favoured mode



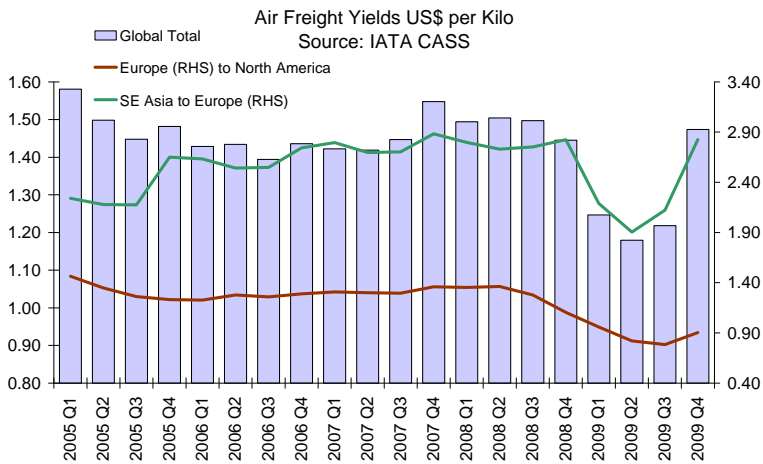
- Air freight has risen three times as far as world trade from its end-2008 low, as shippers switched transport modes to air from ocean and surface transport to reduce time and working capital as the economic recovery gathered pace.
- This rapid post-recession upturn phase is usually associated with the business inventory cycle and normally lasts 6-12 months. It is likely we are within 6 months of the end of this phase, after which growth will be more in line with world trade increases of 5-6% a year.

## Revenues and Yields

### Key Changes in the data this quarter:

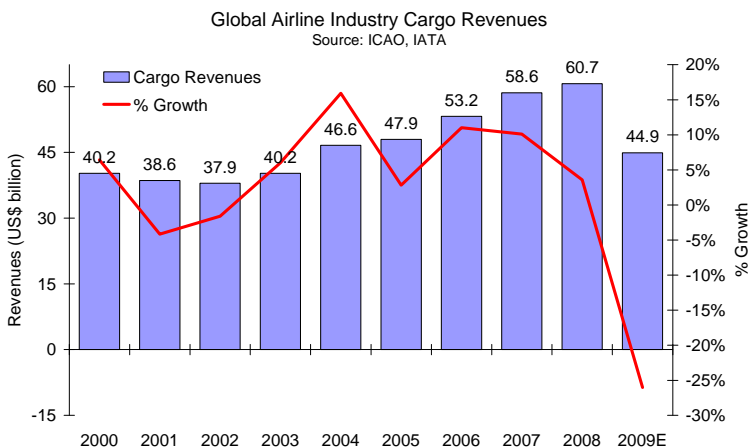
- ↗ Volumes growth does not necessarily improve profitability, but there are now signs of significant yield increases – albeit very concentrated by trade lane and direction. By end-2009 revenues had begun to rise.

### Cargo yields turn up in 2009H2 – in some markets – as load factor rise impacts market



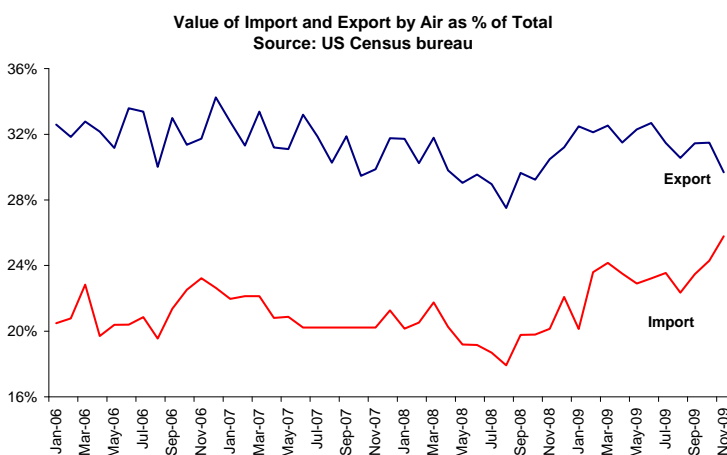
- ↗ Cargo yields rose sharply in 2009Q4, following the beginnings of an upturn in Q3. However, the rise is concentrated geographically and directionally.
- ↗ Trade lanes from Asia have seen a strong rebound in exports and a relative shortage of capacity. Cargo rates from Asia are up 50% from Q2 lows. By contrast rates into Asia are up only 20% and on other trade lanes e.g. transatlantic there has been only a slight increase or further decline. However, Asian trade is so important for air freight that it is driving the total.

### Cargo revenues in 2009 will reflect the disastrous first half of the year



- ↗ We estimate that cargo revenues were down by just over 25% in 2009 – the worst decline faced by the industry in the past 50 years. Volumes fell by an average of around 10% and yields were down by 15%.
- ↗ However, the worst of this decline was in the first half when revenues were down over 40% at one point. By the fourth quarter revenues were up an estimated 12% on the previous year. That pace of improvement is threatened by sluggish Western economies and now rising capacity.

### Air freight regains lost market share at the start of an upturn in economic activity



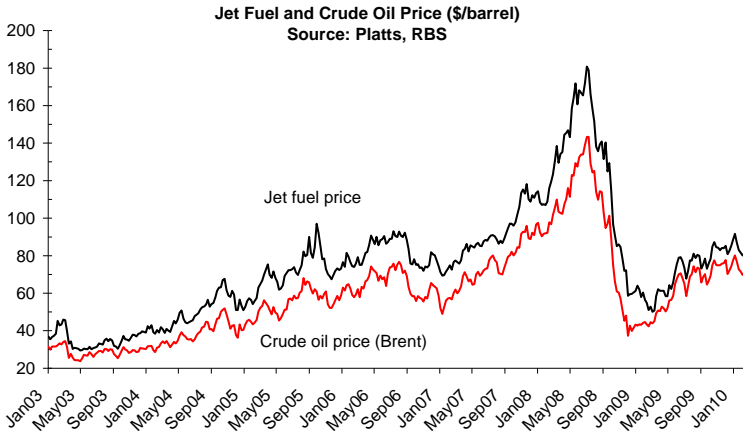
- ↗ Data on US exports and imports by mode of transport has shown air cargo recovering its market share by value in the past 12 months. Part of this earlier loss and more recent gain is due to the price of oil, which increased the value of ocean trade up to mid 2008 and reduced it to end 2008.
- ↗ Oil prices rose throughout 2009 – raising the value of ocean trade - but air cargo nonetheless boosted its share of imports over ocean transport, driven by the US business inventory cycle.

## Costs

### Key Changes in the data this quarter:

↗ Fuel prices have been trending higher as the world economy gathers strength, with jet averaging \$85 a barrel and expected to trend to \$90. Recession brought other costs down but there are signs that is ending.

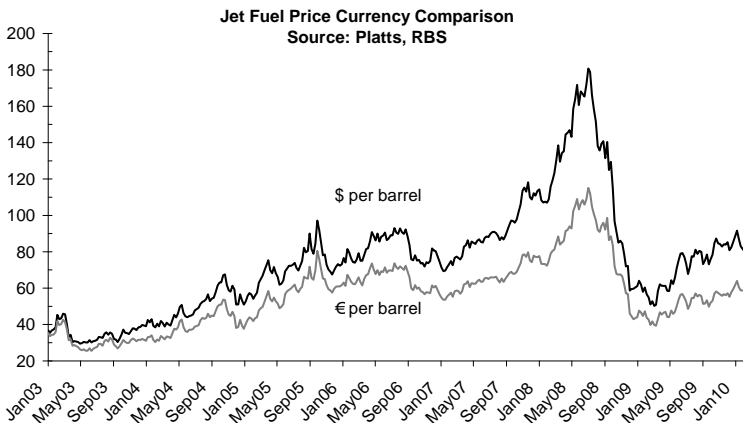
### Jet fuel price, pushed higher by oil prices, fluctuating around \$85 a barrel



↗ Average jet kerosene prices have fluctuated around \$85 a barrel this year; a significant rise from the lows of end-2008 but one-third lower than the 2008 average and not far from average 2006-2007 prices. Higher oil prices have been partially offset by a lower (13% vs normal 25%) crack spread.

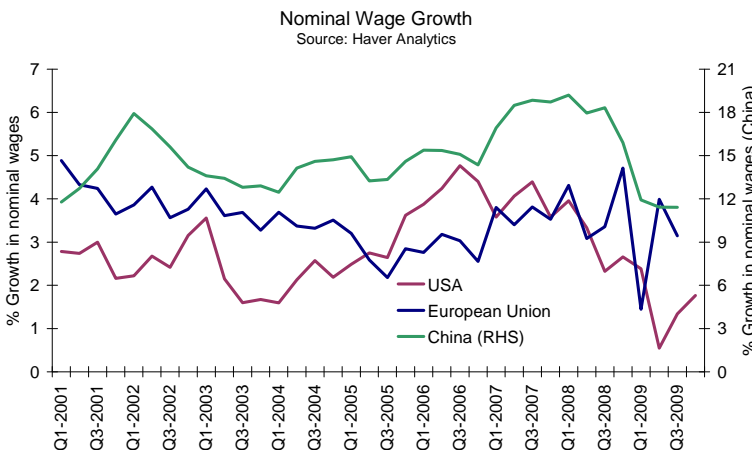
↗ Looking ahead futures markets are pricing in a slowly rising oil price to around \$80 a barrel later this year, implying jet around \$90 a barrel.

### US dollar weakness in 2009 provided a moderate offset to jet fuel price rises for some



↗ During the 2007-08 and 2009 rising oil price periods the US dollar weakened against many currencies. This helped moderate the impact of higher \$ oil prices on non-US\$ airlines. During 2009 this led to a 38% rise in the Euro price of oil versus a 42% rise in the US\$ price. But that's not much. Moreover, US\$ weakness increases the incentives of the OPEC cartel to push US\$ prices up to preserve the local currency value of their revenues.

### High unemployment has brought wage growth down but unions are resisting change



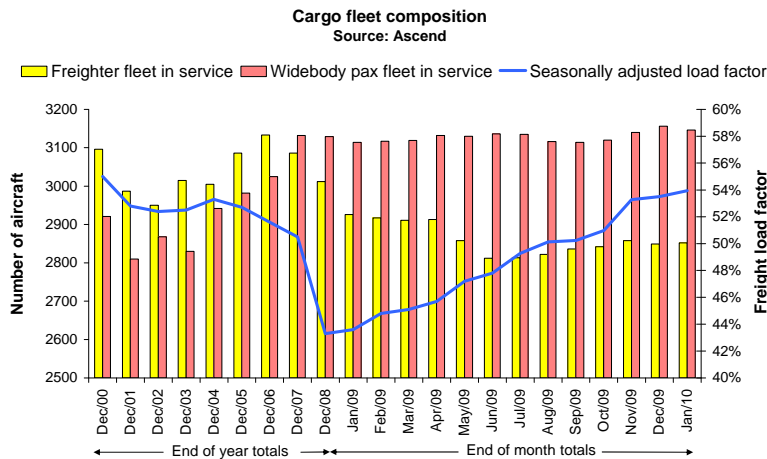
↗ Unemployment rates have risen sharply following the 'Great Recession' leading to a slowdown in wage increases. However, there are signs that labour markets have stopped loosening with some levelling off apparent in wages. Union resistance has also started to intensify where airlines are seeking to push through changes in working practices, to improve productivity. The ease of implementing such change will become increasingly difficult as economic recovery gathers strength.

## Capacity

### Key Changes in the data this quarter:

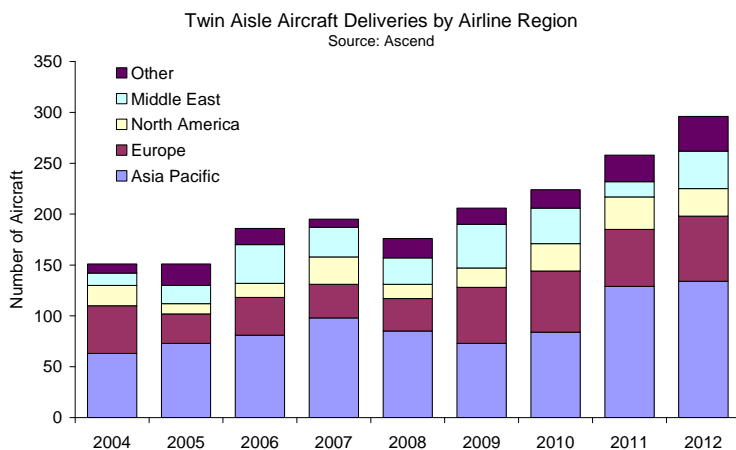
- Capacity has started to return but is still some 10% lower than in early 2008. The freighter fleet is 160 down. Back to pre-9/11 load factors. But belly capacity is up and aircraft utilization is -7% - not good for profitability.

### Load factors now back to pre-9/11 levels but in-service aircraft numbers rising again



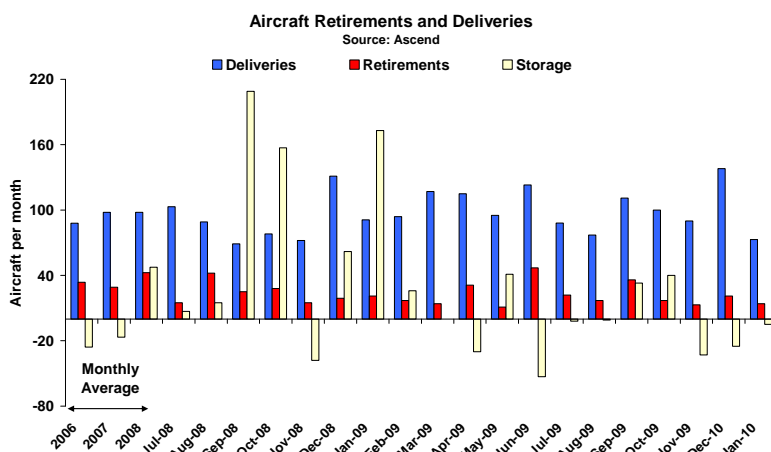
- The industry has managed to pull freight load factors, on international markets, steadily upwards since they collapsed at the end of 2008. At 54% of weight capacity in January this is back to load factor levels last seen in 2000.
- During this period of rising load factors there was a reduction in the freighter fleet by 200 aircraft at one point, though 40 have returned. However, the wide-bodied passenger fleet continued to grow, albeit modestly.

### Rising profile for delivery of new freight capacity in the next few years



- Despite 2009 being the worst ever for the air cargo industry, and almost the worst for the passenger business, there were over 200 new wide-bodied aircraft delivered – not all for replacement.
- Moreover, there are a further 240 on the books to be delivered this year, including over 50 freighters. There were a lot of freighters taken out of service last year. But with no further retirements the deliveries of new aircraft would add 4-5% to the wide-body/freighter fleet.

### Twin and single aisle fleet expanding as deliveries continue to exceed parking



- The storage of freighters appeared to turn up in the records during December 2008 and January 2009. Since then the change in the number of aircraft in storage has fluctuated from positive to negative, while retirements have averaged just over 20 aircraft a month. With new deliveries averaging 100 a month the fleet of passenger and freighter aircraft has been expanding by a net 80 aircraft or 0.4% a month.
- This has been squared with AFTK capacity cuts by reducing aircraft utilisation by around 7% since early 2008, hampering efforts to cut costs.

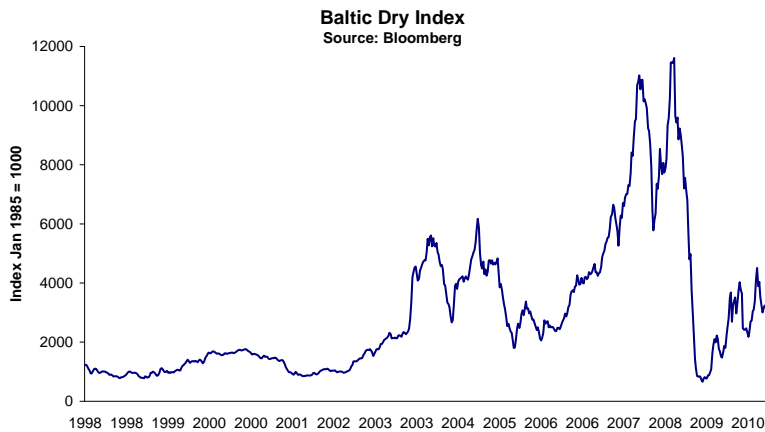


## Competition

### Key Changes in the data this quarter:

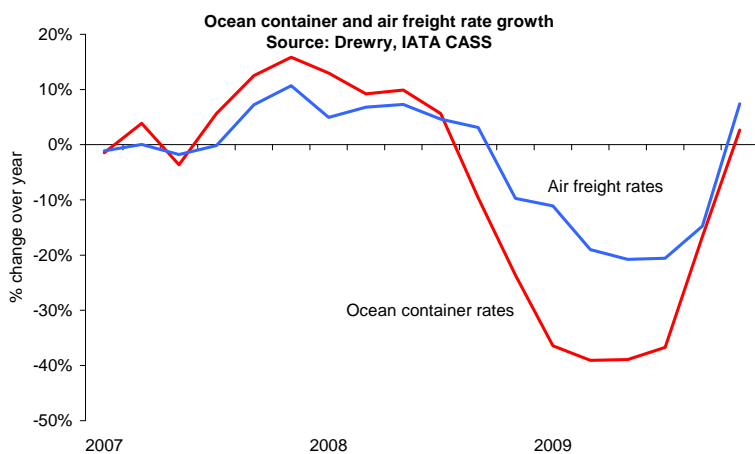
- There are some signs of the world trade upturn in the bulk commodities and containerized shipping industries, but these sectors are lagging air freight at present. But ocean rates are now rising in line with air.

### Cost of shipping bulk commodities trending higher but volatility from new capacity



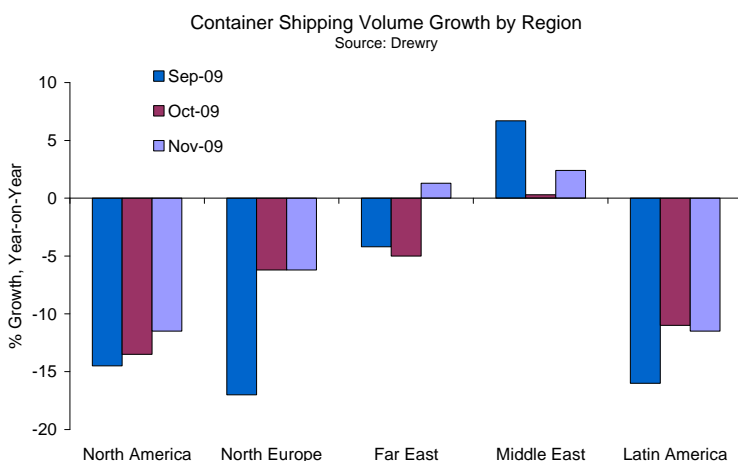
- The Baltic Dry Index, measuring the cost of shipping bulk commodities, has been rising since dramatically collapsing at the end of 2008. This rising trend through 2009 and into 2010 reflects the economic recovery in Asia together with some degree of strategic stockpiling by China.
- The volatility is caused by the shipbuilding cycle which is now delivering a lot of capacity to a market at a time when it does not need it.

### Ocean container freight rates show more volatility than air freight but both now rising



- Ocean freight had been gaining market share over air freight during the expansion years of 2004-2008. Ocean freight rates were also rising faster, so it would seem this market share gain was due to improvements in technology and supply chain changes.
- When recession hit, ocean freight rates fell first and much further than air freight. Despite the post-recession switch towards air freight by shippers, ocean freight rates are now rising more or less in line with air freight rates.

### Container demand rise lagging air freight and showing very large regional differences



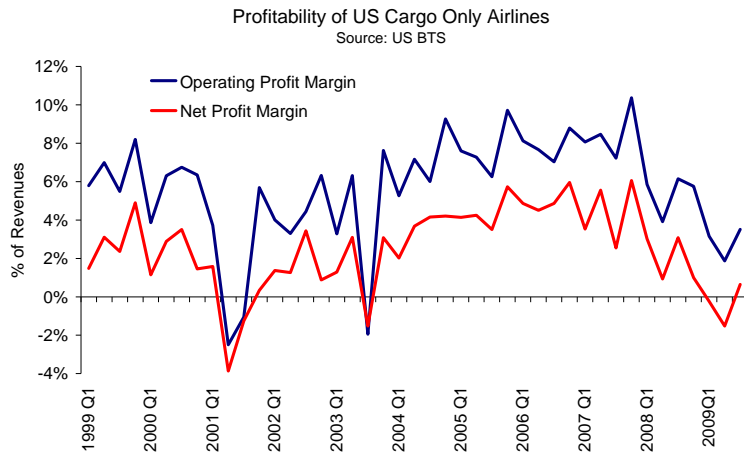
- The very large regional differences in recovery from the 'Great Recession' is very apparent in the demand for container shipping. By November there was some modest single figure growth in the Far and Middle East. However, although ocean freight to and from North America and Europe had improved since September, levels were still well down on the previous year.
- This pattern of relatively strong air freight/weak ocean freight suggests demand is still driven by the inventory cycle and has not yet spread to a more sustainable expansion in final demand.

## Profitability

### Key Changes in the data this quarter:

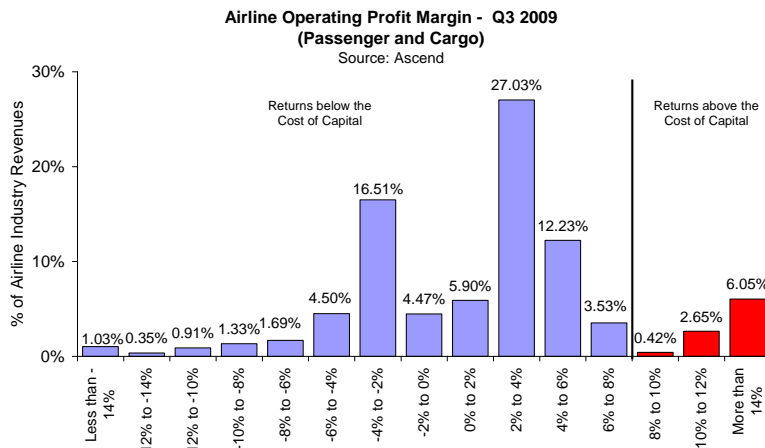
- Financial results for most of 2009 reflect the severest downturn the industry has ever experienced. Even so losses seemed to be levelling out in Q3 and some profits were evident in Q4. Confidence has risen sharply.

### Cargo losses may have bottomed out during the second half of 2009



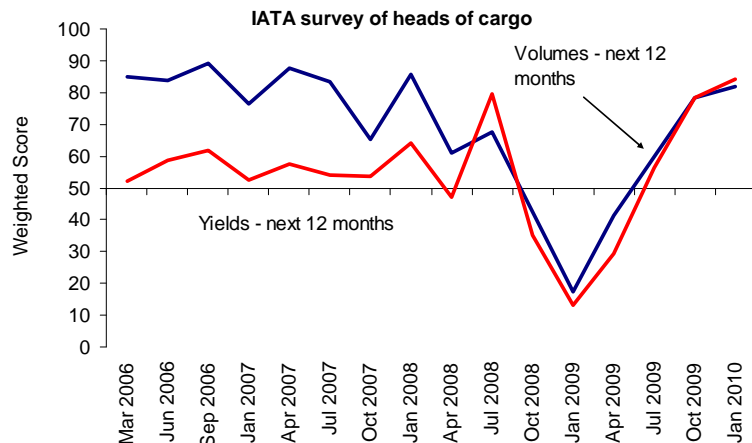
- US cargo airlines in aggregate – the results dominated by the integrators – saw profits in 2009Q3, suggesting that the downward trend may be bottoming out. Available information suggested European air cargo businesses continued to generate losses in Q3.
- However, the sharp revival in air freight volumes and rates from Asia was apparent in Asia-Pacific airlines cargo revenues in Q4 with at least one example of a move from loss into profit in that region.

### Operating profits beginning to emerge in 2009Q2 and Q3



- The sample of airlines in this chart includes passenger as well as cargo, showing the distribution of operating margins across the airlines reporting in 2009Q3 (Jul-Sep).
- In Q3, as in Q2, the median airline was just making a positive operating profit (2-4%) but less than 10% were making enough to meet their cost of capital. 30% were making losses. This is a modest improvement over Q2 when 50% were making losses and less than 8% were meeting their cost of capital.

### Business confidence over future cargo revenues improves further in January survey



- Heads of cargo surveyed by IATA reported improved confidence in the growth of both cargo volumes and yields over the next 12 months.
- The indices opposite weight those expecting an increase with those expecting no change and a fall. Behind these numbers 72% expect an expansion of both volumes and yields over the coming year, with less than 10% expecting a decline. For yields this is the most positive result since the survey was started in early 2006.

## Air Freight Routes and Direction

## International Freight Volume Growth by Route Area (Source: IATA ODS statistics)

Route Area	% Growth in Freight Tonnes, year-on-year					
	Jul 2009	Aug 2009	Sep 2009	Oct 2009	Nov 2009	Dec 2009
Africa - Middle East	-3.6%	-0.1%	-7.5%	15.2%	14.7%	20.9%
Europe - Far East	-17.5%	-16.5%	-12.3%	-9.0%	0.9%	15.2%
Europe - Middle East	-4.1%	-1.0%	-5.2%	4.6%	12.2%	23.5%
Within Far East	-5.5%	-3.5%	3.1%	10.2%	24.1%	50.4%
Within Middle East	3.4%	11.7%	-13.1%	6.5%	4.8%	10.4%
Within South America	-14.8%	-4.9%	-4.0%	-6.9%	14.0%	21.5%
Mid Atlantic	-10.1%	-7.8%	-0.2%	4.9%	10.4%	19.0%
Middle East - Far East	4.0%	6.1%	1.0%	13.6%	20.7%	25.2%
North Atlantic	-16.1%	-13.4%	-9.7%	-6.1%	-1.0%	12.3%
North America-Central America	-1.9%	-4.5%	-2.4%	-14.5%	-2.7%	-2.0%
Europe - Africa	-1.6%	-6.9%	-7.5%	-4.7%	-2.9%	-1.8%
North America - South America	6.1%	10.1%	14.4%	12.1%	28.3%	49.6%
Far East - Southwest Pacific	-3.6%	-2.0%	3.0%	0.4%	7.8%	20.4%
North and Mid Pacific	-11.7%	-13.1%	-3.1%	-0.9%	20.0%	42.6%
South Atlantic	-12.0%	-3.9%	-2.6%	4.3%	13.4%	22.9%
Within Europe	-10.6%	-18.8%	-17.6%	-7.3%	-3.5%	9.7%

## Outbound CASS Market Revenues

Origin Region	US\$m Q4 2009	% Growth in Air Freight Revenues, year-on-year					
		Q3 2008	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009
Africa	41.9	5.9	2.2	-8.0	-18.2	-18.4	-1.5
Caribbean	4.2	7.3	-6.8	-7.3	-4.2	-11.3	1.6
Central America	49.3	9.2	-19.9	-15.8	-17.5	-8.5	28.3
Europe	1223.1	-1.1	-23.9	-37.0	-39.9	-30.4	0.8
Japan & Korea	912.4	-23.5	-41.6	-55.6	-39.5	-12.9	45.0
Middle East	72.5	26.7	23.2	49.4	19.4	-1.5	26.7
North America	615.1	7.3	-15.1	-23.7	-32.2	-25.2	6.2
South America	219.9	11.0	-6.1	-20.8	-30.0	-20.1	-2.8
South East Asia	1184.1	27.2	-2.3	-27.2	-30.3	-22.3	29.0
South West Pacific	139.9	-0.3	-27.2	-30.0	-29.9	-13.1	26.8

## Inbound CASS Market Revenues

Destination Region	US\$m Q4 2009	% Growth in Air Freight Revenues, year-on-year					
		Q3 2008	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009
Africa	307.2	10.8	-5.9	-12.5	-19.5	-13.5	6.4
Caribbean	31.0	6.3	-10.2	-27.9	-22.1	-22.9	-8.3
Central America	83.8	-6.2	-25.4	-37.1	-42.3	-34.0	4.7
Europe	1342.5	2.3	-17.3	-33.6	-35.8	-25.6	16.5
Japan & Korea	244.7	-13.2	-31.8	-41.2	-35.3	-23.9	11.5
Middle East	287.3	18.7	-2.4	-12.3	-16.3	-13.3	7.1
North America	922.4	-7.9	-31.0	-45.6	-43.9	-28.7	25.4
South America	326.7	24.7	-14.1	-33.9	-38.7	-29.8	14.1
South Asia	140.3	18.4	-3.9	-16.0	-23.6	-11.5	19.6
South East Asia	551.5	-5.5	-26.7	-42.4	-33.5	-15.0	25.7
South West Pacific	228.2	4.9	-25.1	-34.9	-39.4	-24.7	13.6