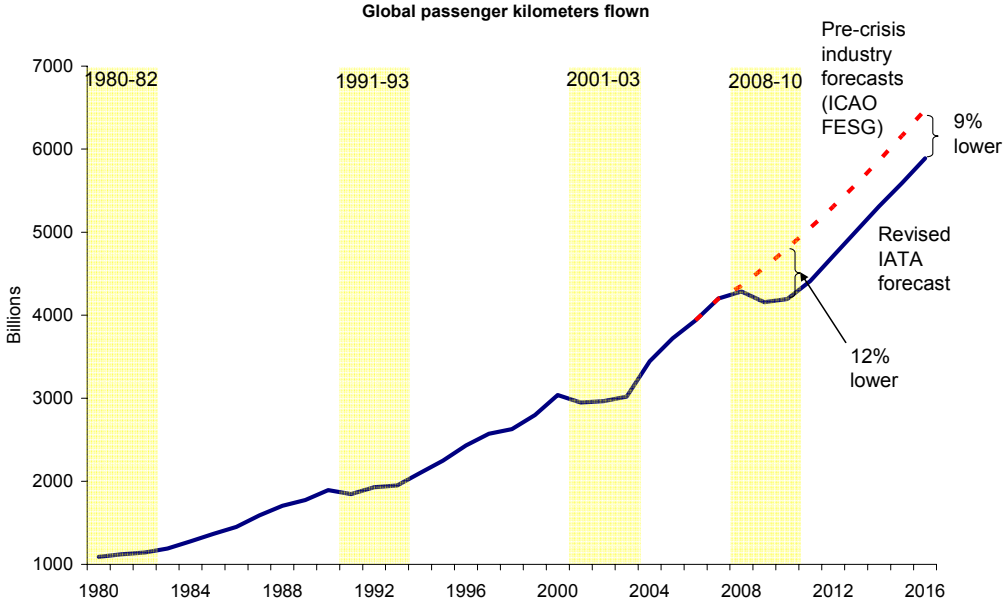
IATA ECONOMIC BRIEFING

DECEMBER 2008

THE IMPACT OF RECESSION ON AIR TRAFFIC VOLUMES

- Recession is now forecast for North America, Europe and Japan late this year and into 2009. The last major downturn in air traffic, driven by recession rather than terrorist attack, was in 1991 when global passenger traffic (RPKs) fell 2.6%. We now forecast that global passenger traffic will fall by 3% in 2009.
- Weakness in travel markets has lasted three years in previous recessions. We do not expect a return to traffic growth above 4% until 2011. Economic forecasts imply that airline traffic will remain below the previous trend over the medium-term, with passenger travel forecast to be 9% lower by 2016 than pre-crisis industry forecasts.

Substantial downward revision of forecast air travel post-financial sector crisis



Source: ICAO, IATA

- Air freight volumes are also expected to shrink in both 2008 and 2009. However, a more rapid recovery in line with world trade is anticipated with a return to 6%+ growth by 2010. IATA's new forecasts are shown below:

IATA's revised forecasts for global air transport volumes

	2007	2008	2009	2010	2011	2012	2013
Domestic and international scheduled traffic							
Passenger departures, millions	2,260	2,305	2,236	2,256	2,373	2,535	2,698
% change	6.4%	2.0%	-3.0%	0.9%	5.2%	6.8%	6.4%
RPKs, billions	4,201	4,285	4,157	4,194	4,412	4,713	5,015
% change	6.7%	2.0%	-3.0%	0.9%	5.2%	6.8%	6.4%
Freight tonnes, millions	41.6	41.0	38.9	40.9	43.7	46.4	49.6
% change	4.5%	-1.5%	-5.0%	5.1%	6.9%	6.2%	6.7%
FTKs, billions	158	156	148	156	167	177	188.7
% change	4.8%	-1.5%	-5.0%	5.1%	6.9%	6.2%	6.7%
International scheduled traffic only							
Passenger departures, millions	828	854	829	836	885	953	1017
% change	8.8%	3.2%	-3.0%	0.8%	5.8%	7.7%	6.7%
RPKs, billions	2,545	2,626	2,548	2,570	2,719	2,929	3126
% change	7.6%	3.2%	-3.0%	0.9%	5.8%	7.7%	6.7%
Freight tonnes, millions	25.3	24.9	23.7	24.9	26.6	28.2	30.1
% change	5.9%	-1.5%	-5.0%	5.1%	6.9%	6.2%	6.7%
FTKs, billions	132	130	124	130	139	148	158
% change	5.3%	-1.5%	-5.0%	5.1%	6.9%	6.2%	6.7%

Source: ICAO data to 2007, IATA forecasts 2008-2013

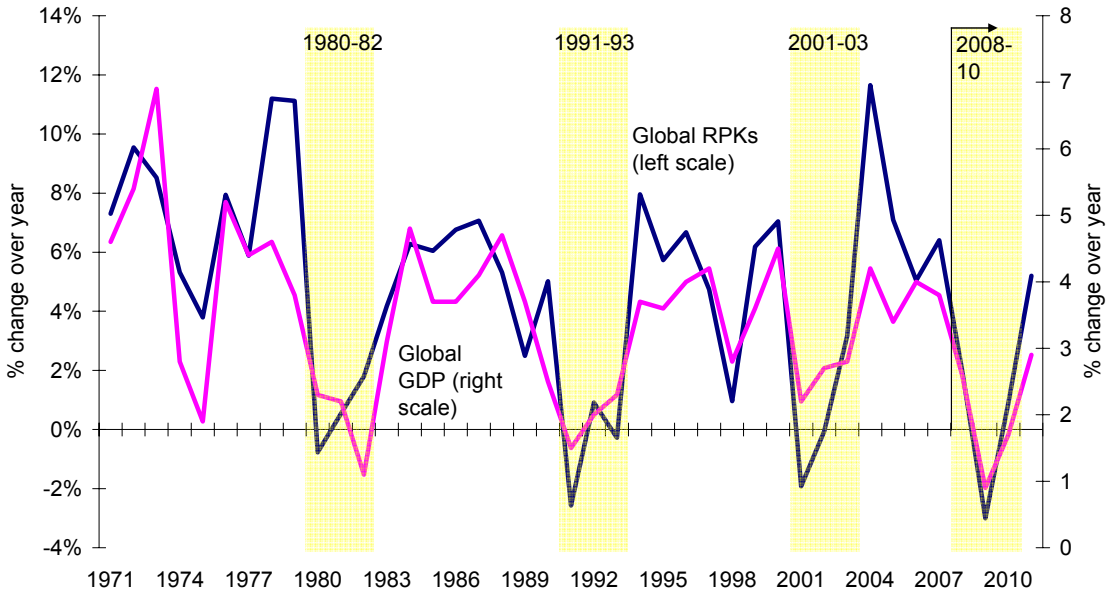
Comparing IATA's forecasts with its recent survey of airline industry forecasts

	2007	2008	2009	2010	2011	2012
	Domestic and international scheduled traffic					
Passenger departures						
IATA forecast, millions	2,260	2,305	2,236	2,256	2,373	2,535
% change	6.4%	2.0%	-3.0%	0.9%	5.2%	6.8%
Industry survey, millions	2,260	2,323	2,386	2,493	2,621	2,749
% change		2.8%	2.7%	4.5%	5.1%	4.9%
	International scheduled traffic only					
Passenger departures						
IATA forecast, millions	828	854	829	836	885	953
% change	8.8%	3.2%	-3.0%	0.8%	5.8%	7.7%
Industry survey, millions	828	869	909	952	1000	1049
% change		4.9%	4.7%	4.7%	5.0%	4.9%
Freight tonnes						
IATA forecast, millions	25.3	24.9	23.7	24.9	26.6	28.2
% change	5.9%	-1.5%	-5.0%	5.1%	6.9%	6.2%
Industry survey, millions	25.3	26.4	27.6	28.8	30.2	31.6
% change		4.3%	4.5%	4.5%	4.7%	4.7%

Source: Industry survey - IATA Passenger Forecasts 2008-2012, IATA Freight Forecasts 2008-2012
http://www.iata.org/ps/intelligence_statistics/

- Each year IATA surveys the airline industry to estimate the 'industry consensus' of traffic forecasts on the majority of country pairs. The results of the latest survey, undertaken in the summer, have just been published in two reports 'IATA Passenger Forecast 2008-2012' and 'IATA Freight Forecast 2008-2012'. These reports can be accessed from www.iata.org/ps/intelligence_statistics/.
- The table above compares our own forecasts with the 'industry consensus' identified by the survey. It is clear that expectations prevailing during the summer for the growth of passenger and freight markets will be disappointed both this year and next. By 2010 we forecasts that the level of global passenger departures will be 10% lower than expected by the industry before the recent financial crisis. International freight tonnes are likely to be 13% lower than expected by 2010.
- Once recovery is solidly established by 2011 we forecast growth rates that are much closer to industry expectations. The two reports of the survey contain much valuable information about medium-term industry expectations for country-pair passenger and freight market developments. These medium-term expectations may not have been significantly changed by the short-term fluctuations due to the recession.

Global growth in passenger traffic and GDP

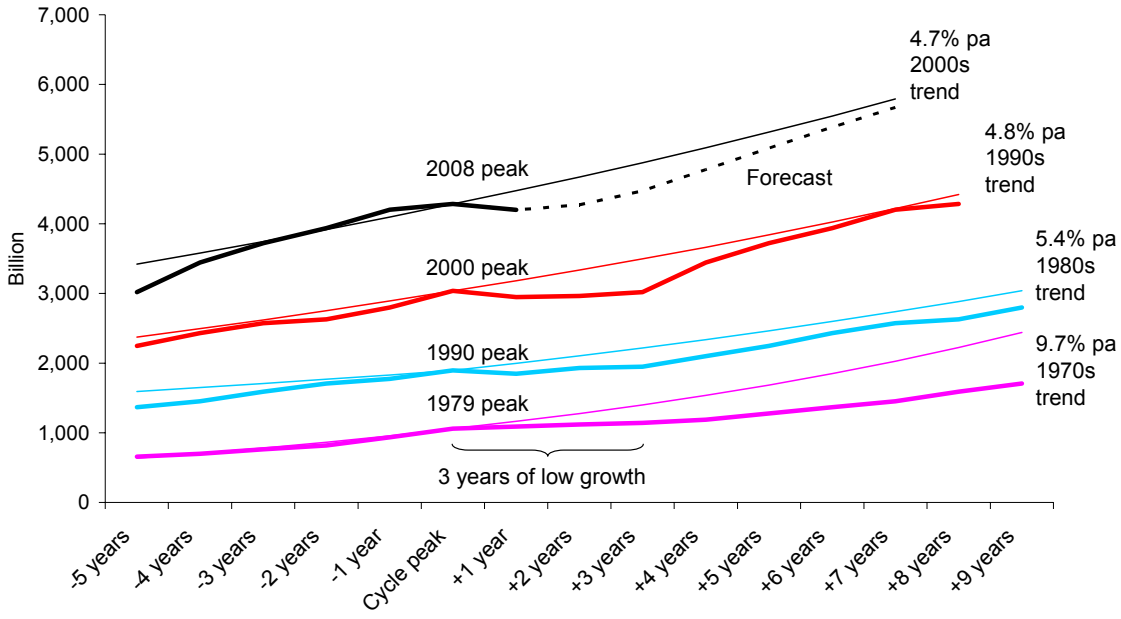


Source:
ICAO, EIU
IATA

- Global revenue passenger kilometers (RPKs) have fallen twice in the past 35 years, in 1991 due to recession and in 2001 due to the 9-11 terrorist attack on top of a sharp economic slowdown. There was also a sharp slowdown during the 1980-82 recession but not an absolute fall in travel.

- It is clear from the chart above that air travel is driven primarily by economic growth and that it is highly leveraged to the economic cycle, expanding and contracting at roughly twice the rate of the overall economy. The latest economic forecasts show global GDP growth slowing to less than 1%, with the US, Japan and Europe in recession. This is consistent with global RPKs falling by 2.2% in 2009 and not rising above 4% until 2011.

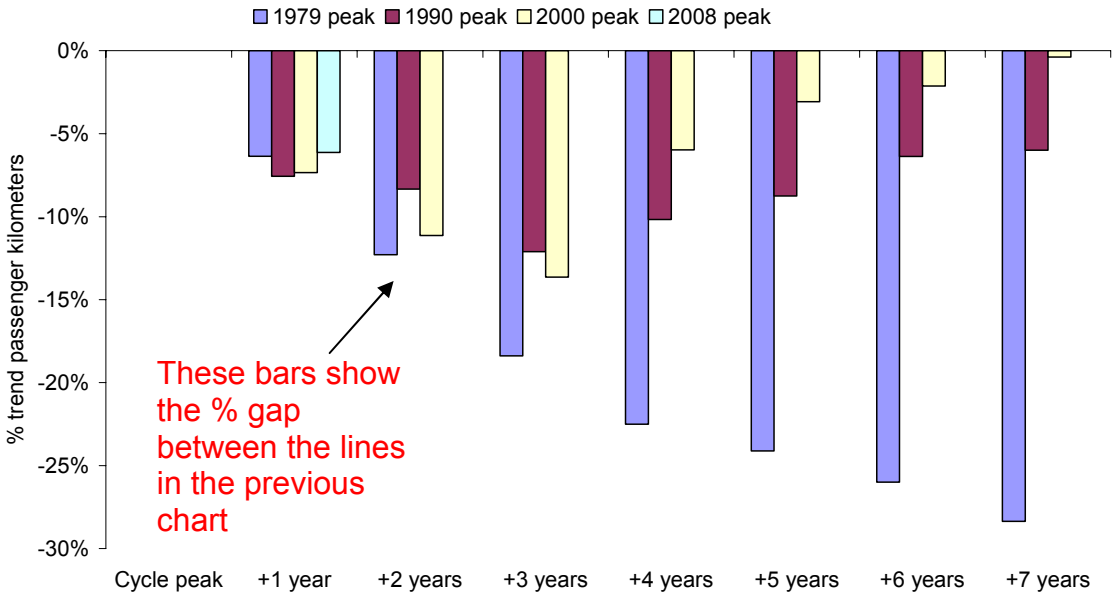
Global passenger kilometers flown



Source: ICAO, IATA

- The duration of weakness in travel markets has typically been around three years, with negative, zero, or very low growth of global RPKs.
- Moreover, the historical experience has been that travel volumes rarely return to the previous trend or peak-to-peak growth. The post-2000 recovery was the exception but that was driven by a credit boom that is unlikely to be repeated. Average growth from 2008 to the next peak is forecast to slow to an annual rate of 4.5%.

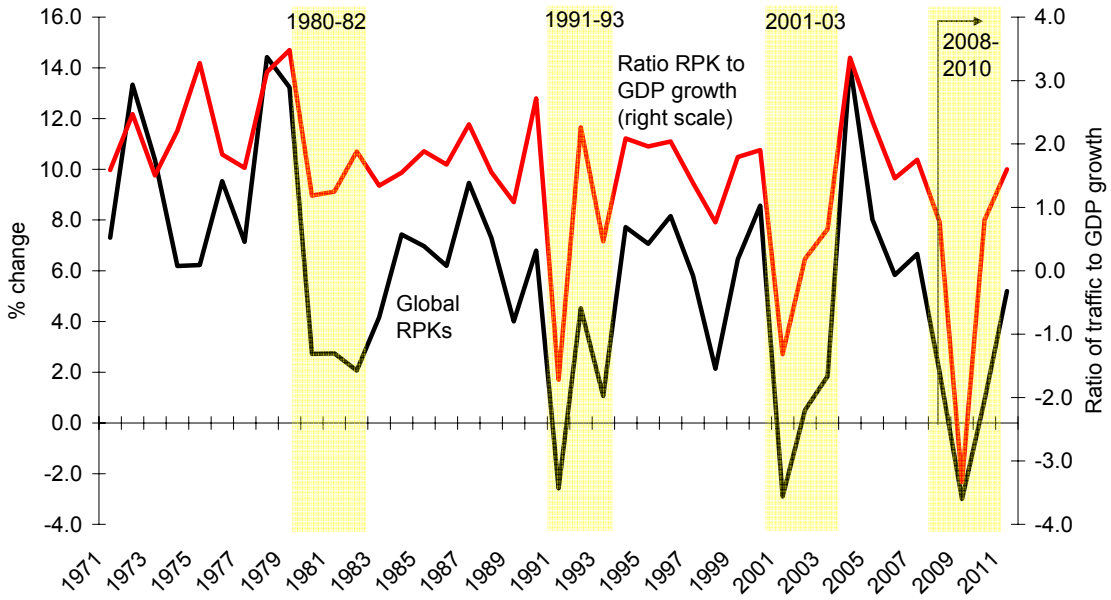
Global passenger kilometers flown relative to trend



Source: ICAO, IATA

- The last two downturns (1991-93 and 2001-03) saw global RPKs continuing to decline relative to the previously established trend for three years, before starting to narrow the gap. After the 1980 downturn the market never return to its previous trend.
- This was partly a reflection of a structural fall in economic growth from 3.8% a year to around 3.3% a year, following the oil shocks of the 1970s. It was also a reflection of maturing travel markets in the developed economies.

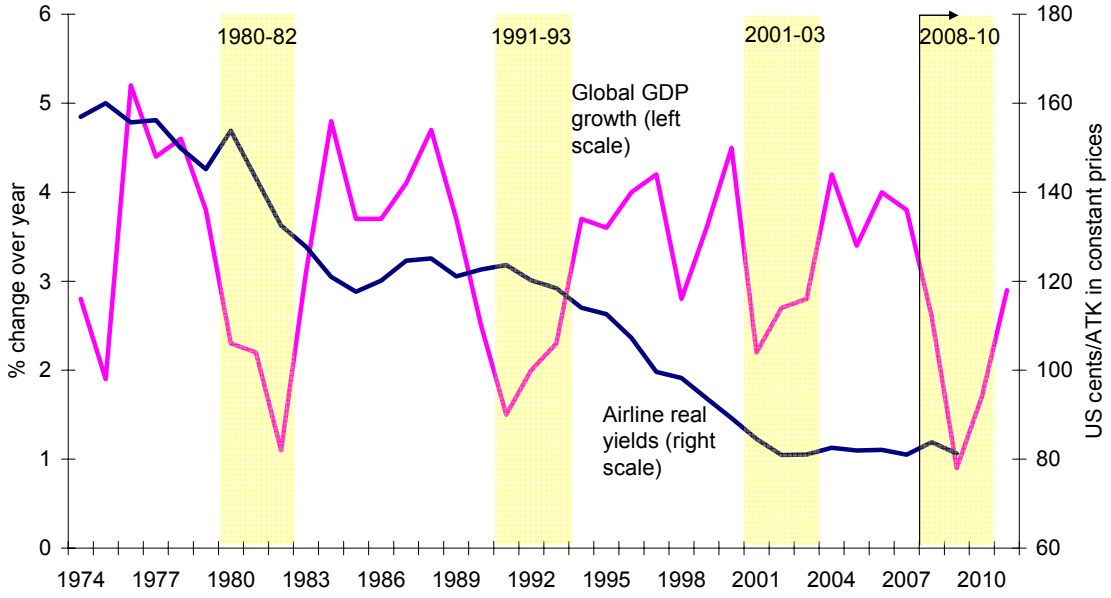
Growth in global passenger kilometers flown



Source: ICAO, EIU, IATA

- One enduring industry 'fact' is that traffic grows twice as fast as GDP. As the chart above shows this is only true on average for the good years of the economic cycle: 1971-1979, 1984-1990, 1993-2000, 2004-2007.
- It is not true during downturns when the ratio has turned negative, with traffic falling faster than GDP in 1991 and in 2001. On average, throughout the cycles of the past 35 years, global RPKs have risen by 1.6 times GDP.
- This ratio is forecast to turn negative once more in 2009 as global RPKs shrink, before recovering toward 2 by 2011, producing strong growth in 2011-13.

Global GDP and airline real yields

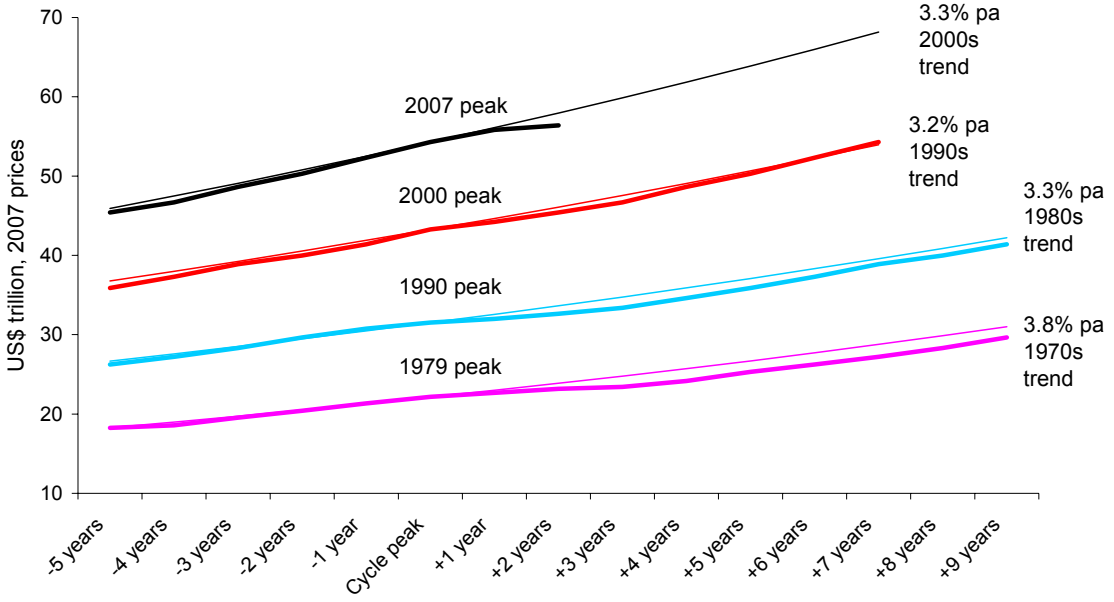


Source: ICAO, EIU, IATA

- Since air transport market liberalisation began in the late-1970s real yields have fallen by almost 50%. Air travel and air freight has become considerably cheaper and clearly this has boosted volumes. However, this impact has been a steady trend. Fluctuations in real yields from year to year have not seemed to be a major driver of travel. Economic growth, GDP, has been the principle driver of changes in global RPKs.

- This observation from the charts above has been substantiated by econometric research (see Air Travel Demand, IATA Economics Briefing No 9) which found demand at the national or regional level to be relatively inelastic with respect to price, with elasticities in the range of 0.5-0.6, but very responsive to GDP, with elasticities of 1.5-2.

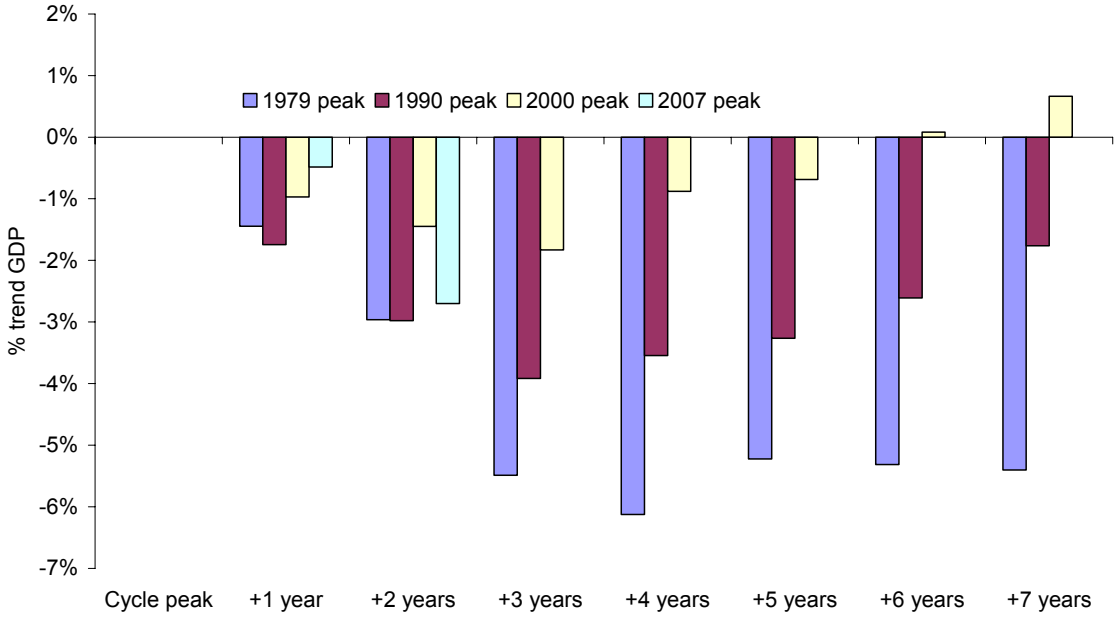
Global GDP



Source: EIU, IATA

- Gross domestic product (GDP) measures economic activity and its cyclical pattern is clearly responsible for the majority of the fluctuations in air travel volumes.
- Peak-to-peak trends in economic growth have declined since the 1970s, as has air travel growth, and GDP has rarely returned to its previous trend after a recession shock, with the exception of the most recent cycle. It has already been noted that this was driven by a credit boom which is unlikely to be repeated.

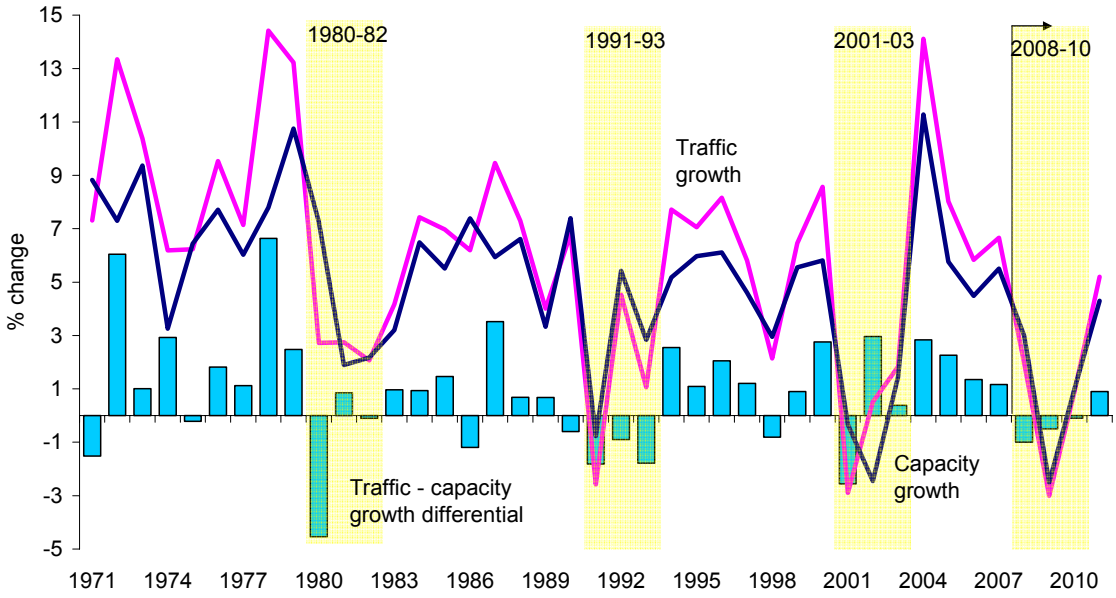
Global GDP relative to trend



Source: EIU, IATA

- If the current economic forecasts are right then this economic downturn is shaping up to be worse than 2001 and closer to the business environment experienced during the 1991 recession, when GDP fall to 3% below trend before starting to recover four years after the previous peak.
- Even seven years after the 1991 recession began GDP was still over 1% below its previous trend. This is the major reason why air travel markets rarely return to their previous trend levels following major shocks to demand.

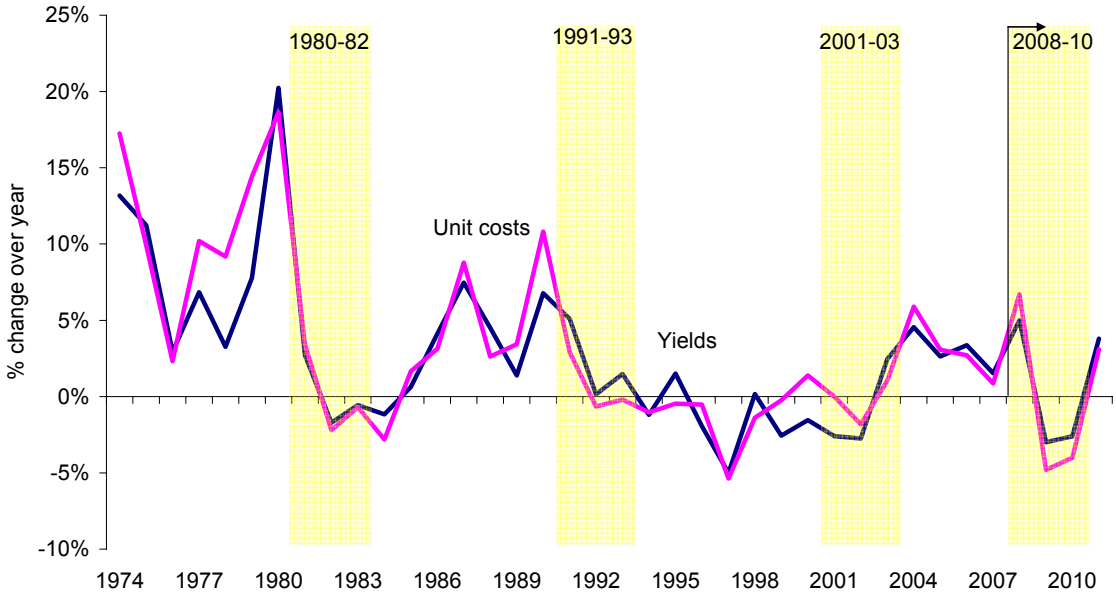
Global airline passenger traffic and capacity



Source: ICAO, IATA

- Of course airlines will respond to demand shocks by trying to bring capacity into line. During downturns, as the chart above shows, demand usually falls faster than airlines are able to reduce capacity in the first year of recession. But then the industry usually reduces capacity in line with demand.
- This cycle is a little different in that airlines, particularly in the US, started to slash capacity in response to earlier high fuel prices. Outside the US cuts have been less. Nonetheless, capacity is moving more in line with demand than in previous cycles, which should help limit the damage of the recession on airline profitability.

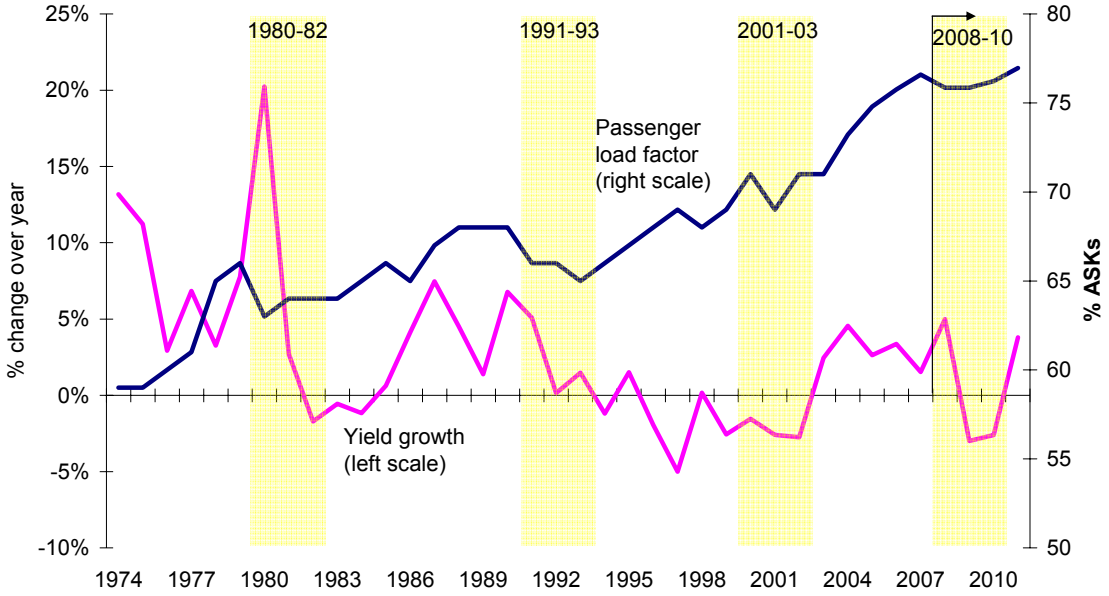
Global airlines unit costs and yields



Source: ICAO, IATA

- Many analysts in the US are suggesting that planned capacity cuts will tighten supply-demand conditions for US airlines in 2009 to the extent that they could raise yields and make profits, despite the recession.
- However, the chart above shows that, since deregulation in the late-1970s yields follow unit costs almost exactly. There is a correlation coefficient of 0.99 between the two series. This is consistent with other evidence that the airline industry is highly competitive and unable to sustain fares significantly above unit costs.
- Yields rose sharply last year and in 2008 because of fuel prices. During 2009 unit costs will fall sharply because of the fall of oil and jet fuel prices. Yields are also likely to decline as a result.

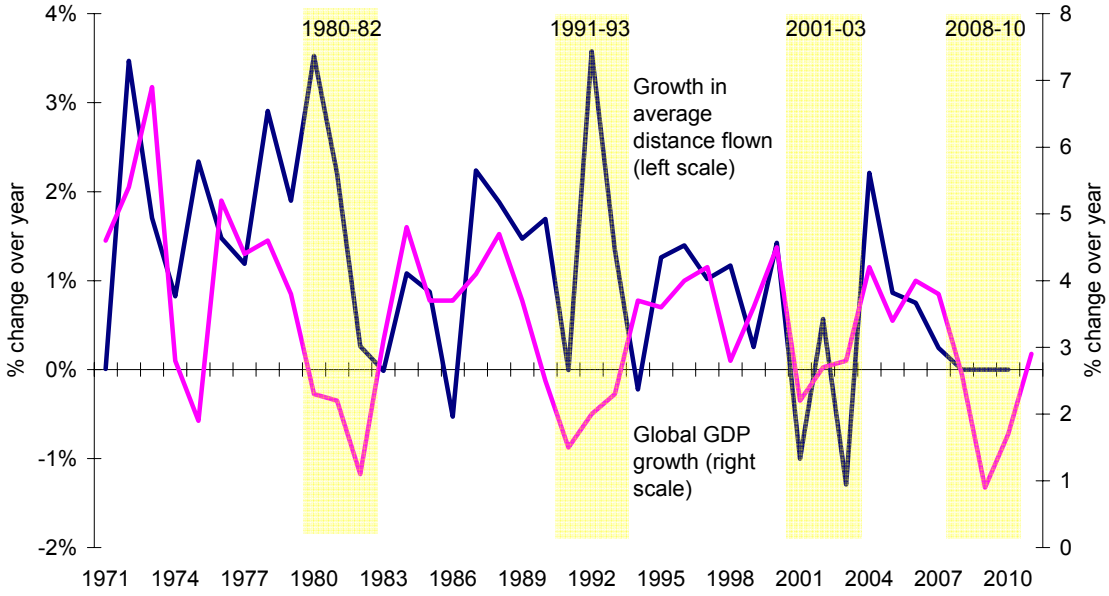
Global airline yields and load factors



Source: ICAO, IATA

- Load factors are likely to hold up much better in this downturn than in the past, because of the pre-emptive cuts in capacity. Load factors are likely to rise for US airlines on domestic markets. However, the chart above confirms the earlier assessment that there is little evidence that rising load factors necessarily lead to better yields.
- Yields have typically fallen during recessions but this seems to have been driven more by falling costs than falling load factors; competition keeps fares and freight rates close to costs at all times during the cycle.

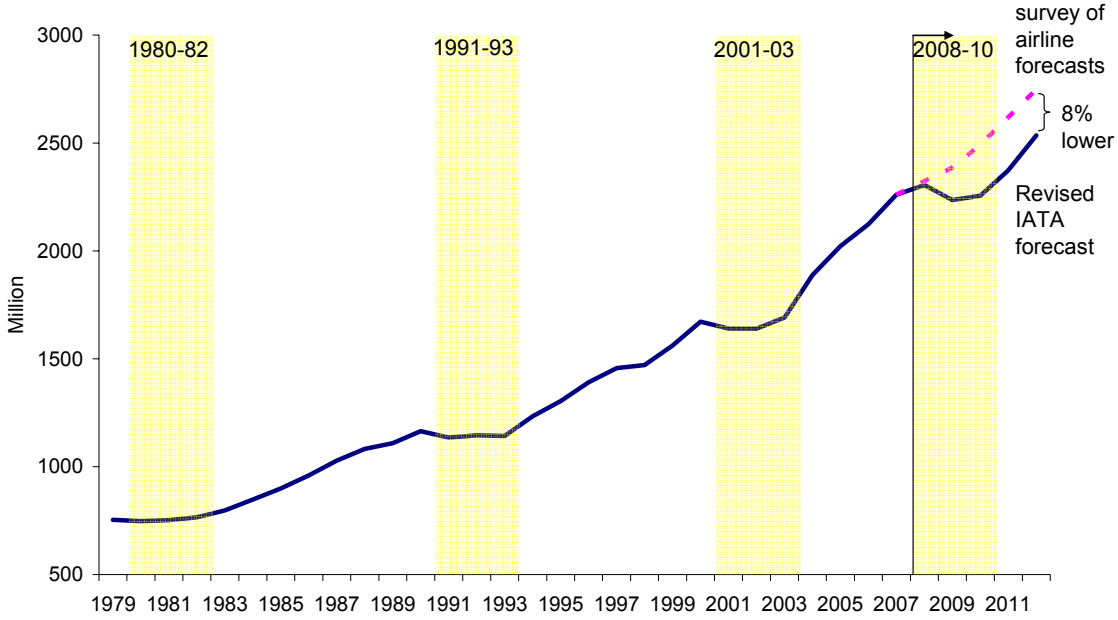
Average distance flown and GDP growth



Source: ICAO, EIU, IATA

- The average distance flown has risen in the past 35 years as long-haul city-pairs and frequencies have increased at a faster rate than domestic services. However, there is a cyclical pattern to distance flown, presumably as passengers switch from more expensive long-haul trips to short-haul.
- In our forecasts we have assumed that average distances stop growing during the downturn.

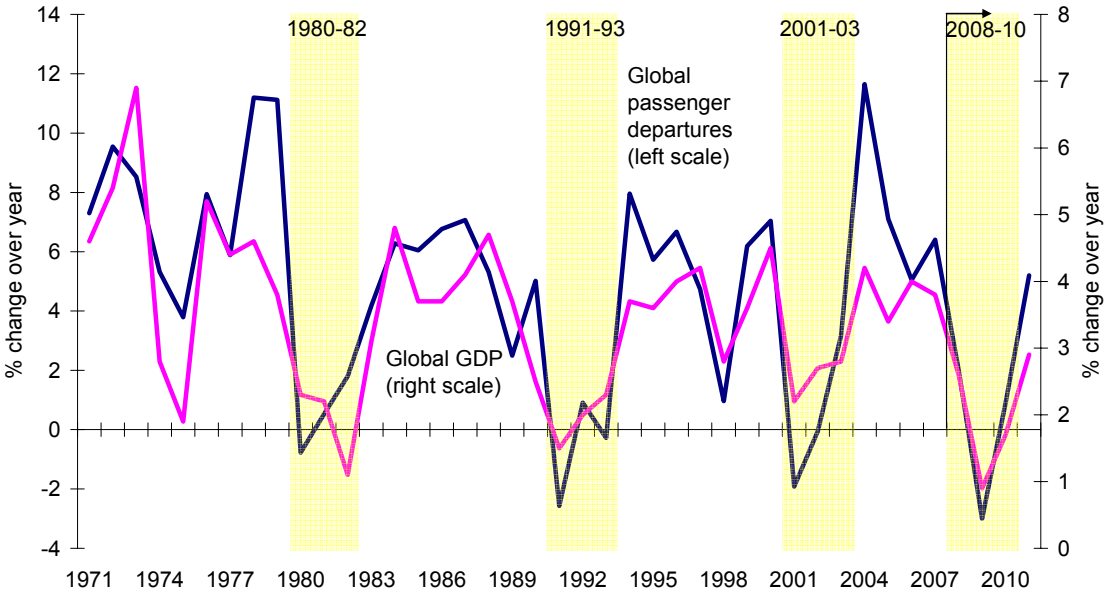
Global scheduled passenger departures



Source: ICAO, IATA

- As a result of average distances stabilising we forecast similar growth of passenger departure numbers as for global RPKs.
- IATA has just published its latest annual survey of airline traffic forecasts (IATA Passenger Forecast 2008-12) which surveyed airlines in the middle of the year. As the chart above shows the recession shock will disappoint expectations and planning contingent on them, with passenger numbers forecast to be 8% lower than expected by 2012.

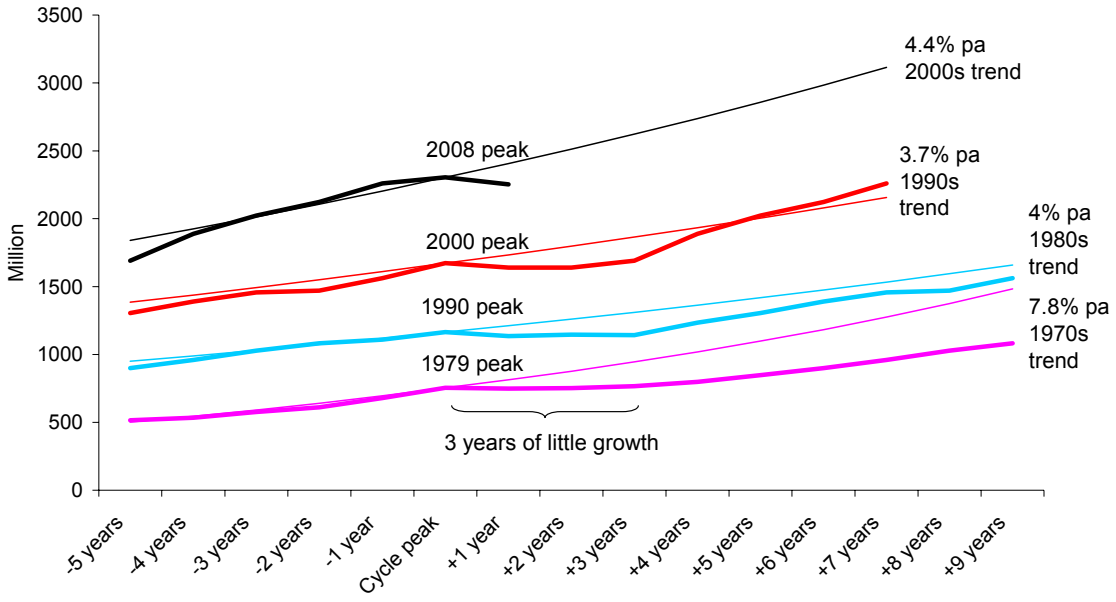
Global airline passenger departures and GDP growth



Source: ICAO, EIU, IATA

- It is little surprise that growth in global passenger departures mirrors the pattern for global RPKs, and its relationship with GDP growth.
- Following the sharp decline in passenger numbers already seen in the second half of 2008, a fall of 3% is forecast for 2009.

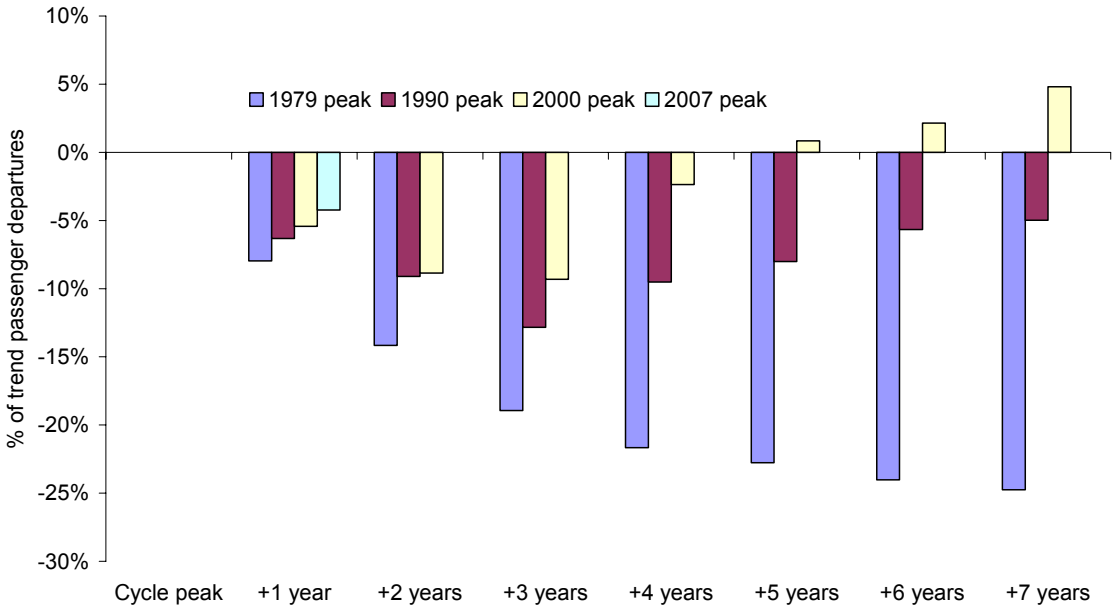
Global air passenger departures



Source: ICAO, IATA

↗ Until recently the trend in passenger numbers was considerably slower than growth in RPKs, because of the growth in long-haul and its impact on average distances flown. In the 1970s passenger numbers grew by 2% points less than RPKs, in the 1980s by 1.4% points, in the 1990s by 1% point. In recent years that difference slowed to just 0.3% points and has now almost halted.

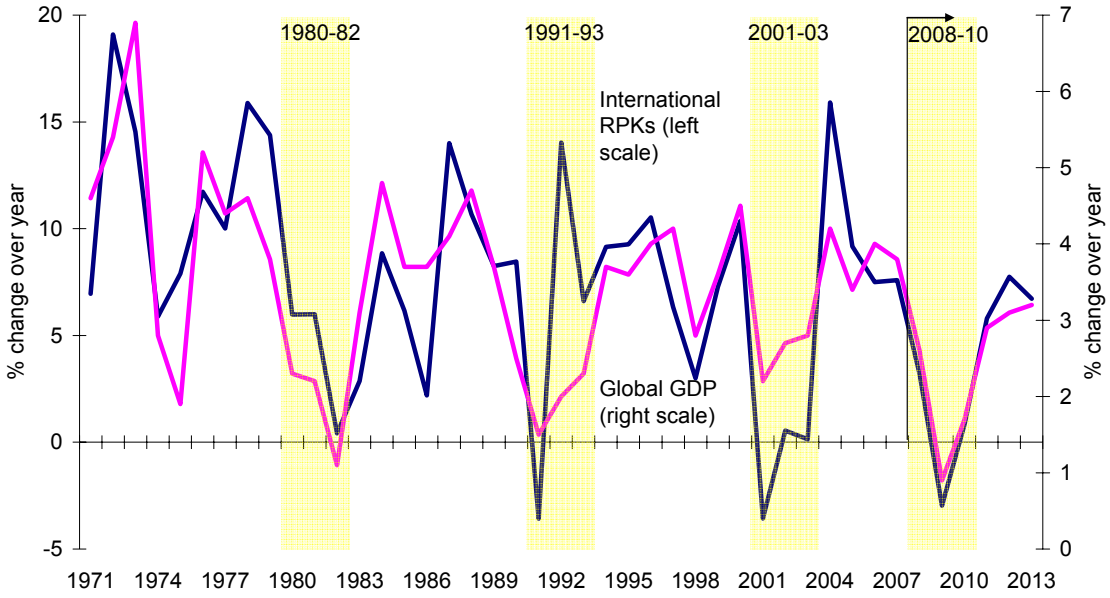
Global passenger departures relative to trend



Source: ICAO, IATA

↗ Again the pattern of passenger numbers, relative to trend following a demand shock, is similar to both global RPKs and GDP. The deterioration in passenge markets relative to the previously established trend continues for three years before any improvement is felt.

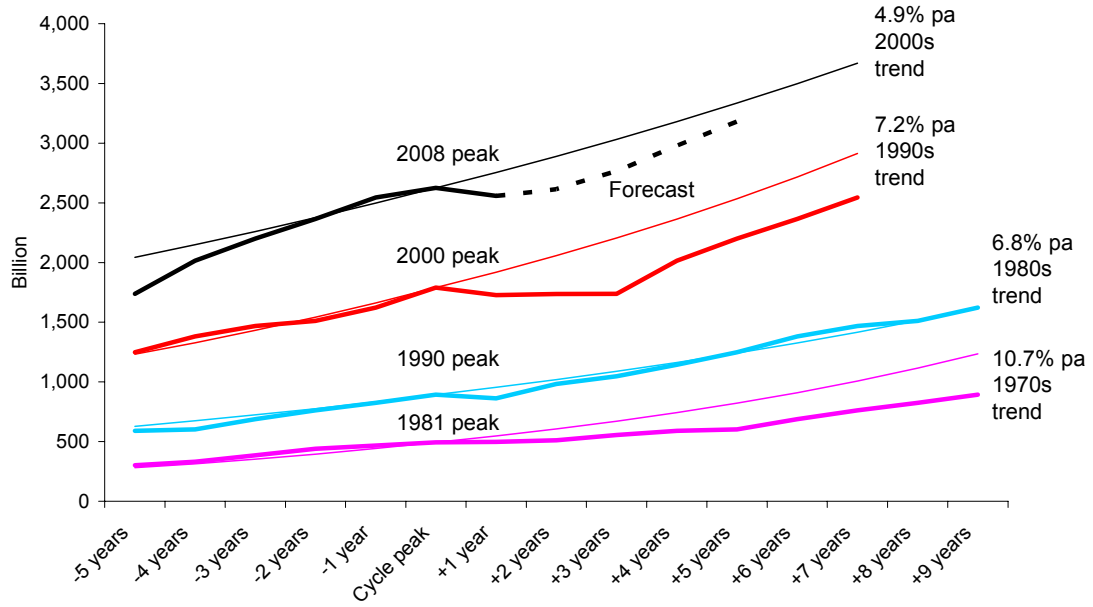
International passenger kilometers flown and global GDP



Source: ICAO, EIU, IATA

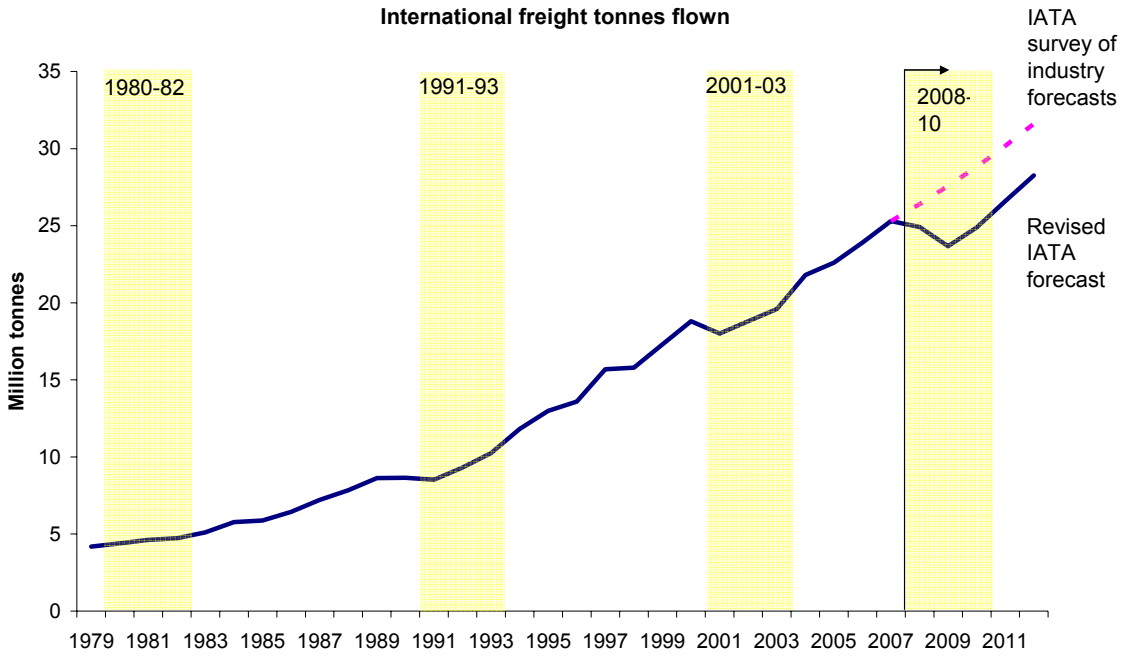
- The rapid growth in long-haul in the past 35 years has meant that international RPKs have risen at a faster rate than domestic and therefore overall global RPKs. International travel, with a higher GDP elasticity than short-haul, is also more highly geared to the economic cycle. It rises faster in an upturn and falls further in downturns.
- In 2009 international RPKs are forecast to shrink by 3% and grow only sluggishly in 2010, before a strong recovery in growth above 7% by 2012.

International passenger kilometers flown



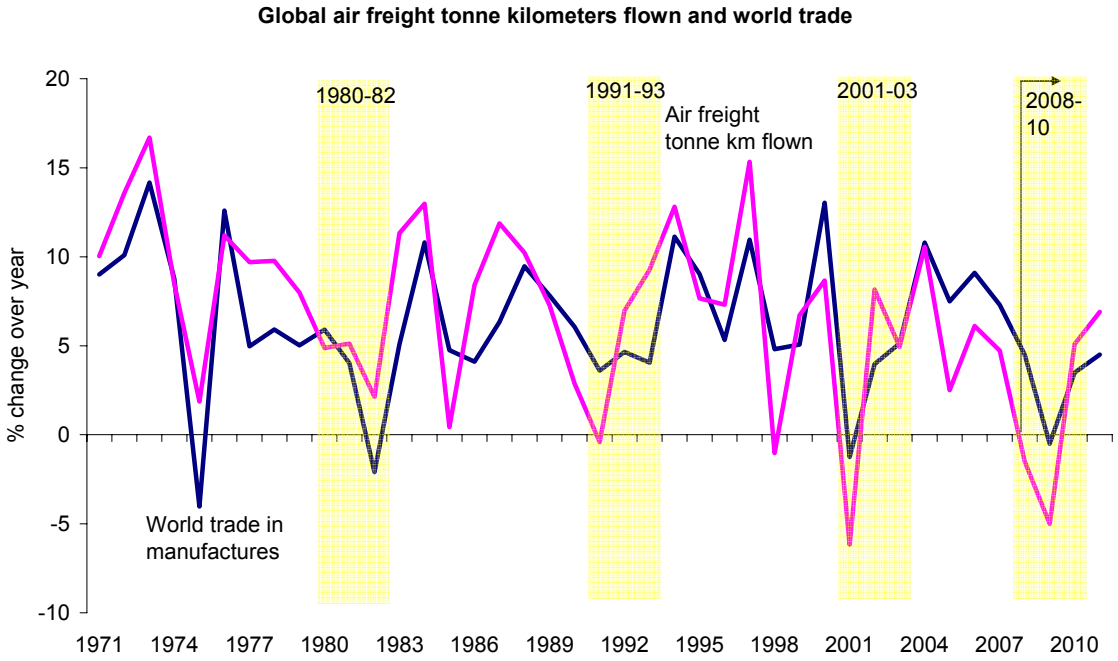
Source: ICAO, IATA

- Throughout the 1970s, 1980s and 1990s international RPKs have grown at a trend between 1-2.4% points faster than overall global RPKs. However, the trend since the peak in 2000 has been barely 0.2% points faster. This is likely to reflect the impact of liberalising intra-EU travel markets, with entry in domestic EU markets from fast growing LCCs, and domestic markets in India and China which also have expanded very rapidly.
- Although domestic market growth has accelerated due to liberalisation in recent years, there has clearly been a sharp slowdown of international RPK growth during the 2000s. This seems to have been largely due to growth on shorter-haul international markets. Growth in international passenger departures has been much more stable with trend growth of 6.8% during the 1990s and 6.2% during the 2000s.



Source: ICAO, IATA

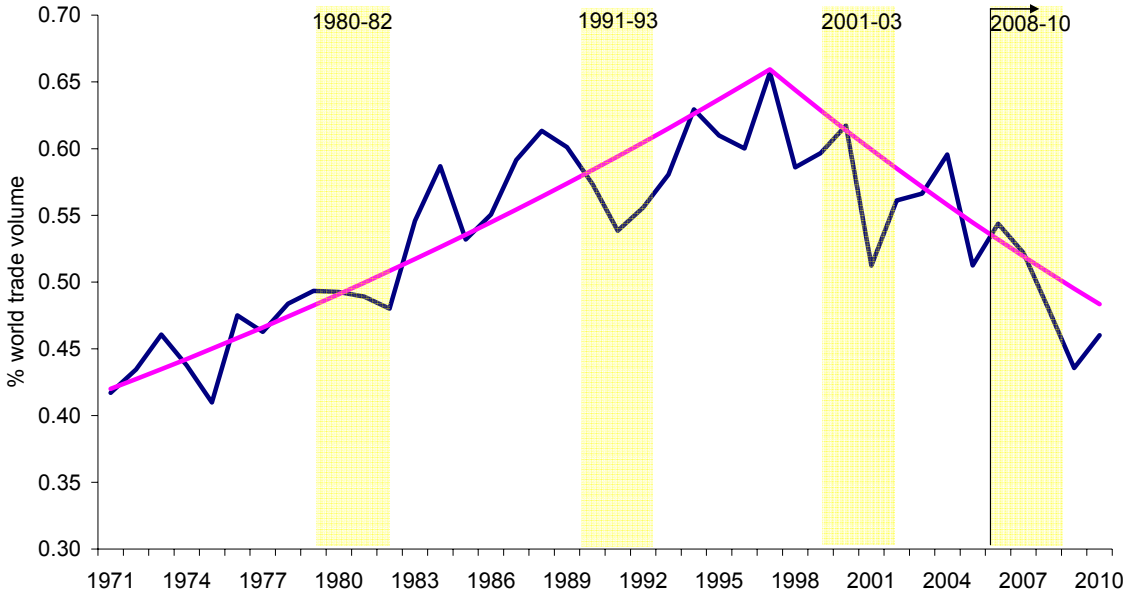
- Air freight volumes have declined much earlier and to a greater degree than passenger markets. A fall of 1.5% is forecast for international freight tonnes in 2008, and a further decline of 5% is forecast for 2009.
- Compared to the growth in air freight expected by the industry, when surveyed in the middle of the year, air freight volumes are forecast to be 10% lower than expected by 2012.



Source: ICAO, EIU, IATA

- Global air freight volumes have typically grown quite closely in line with world trade volumes of manufactured goods, for obvious reasons. Air freight is slightly more volatile than overall world trade, because it is the most costly transport mode and so is substituted away from during downturns.
- However, in the past few years the growth of air freight had been rather slower than expected given the expansion of world trade. World trade is expected to decline in 2009 producing a 5% decline in global FTKs.

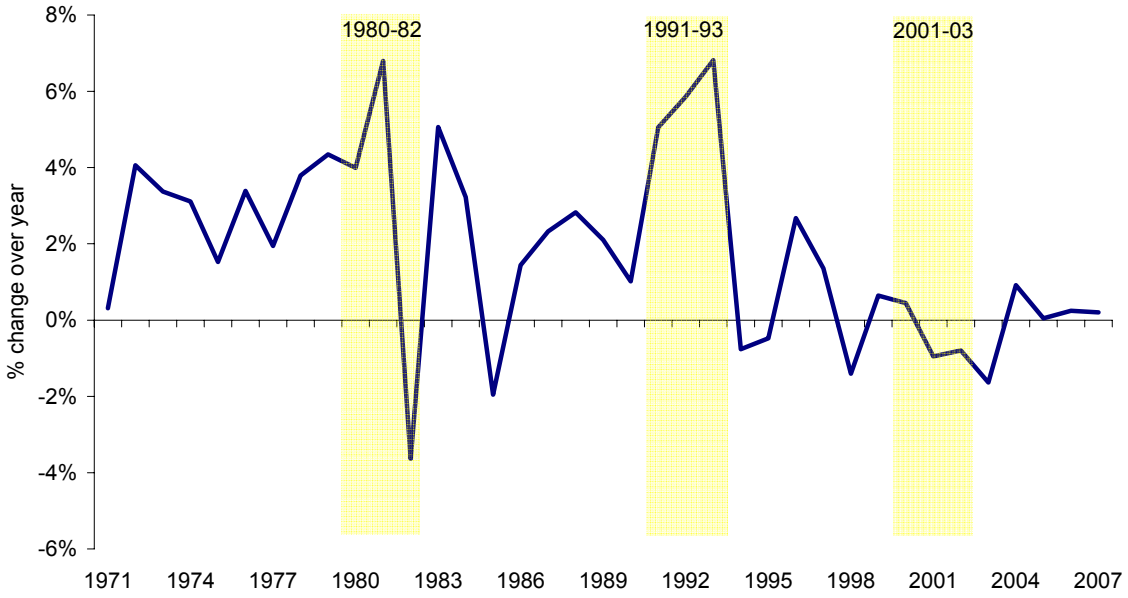
Air freight tonne kilometers share in world trade volumes



Source: ICAO, EIU, IATA

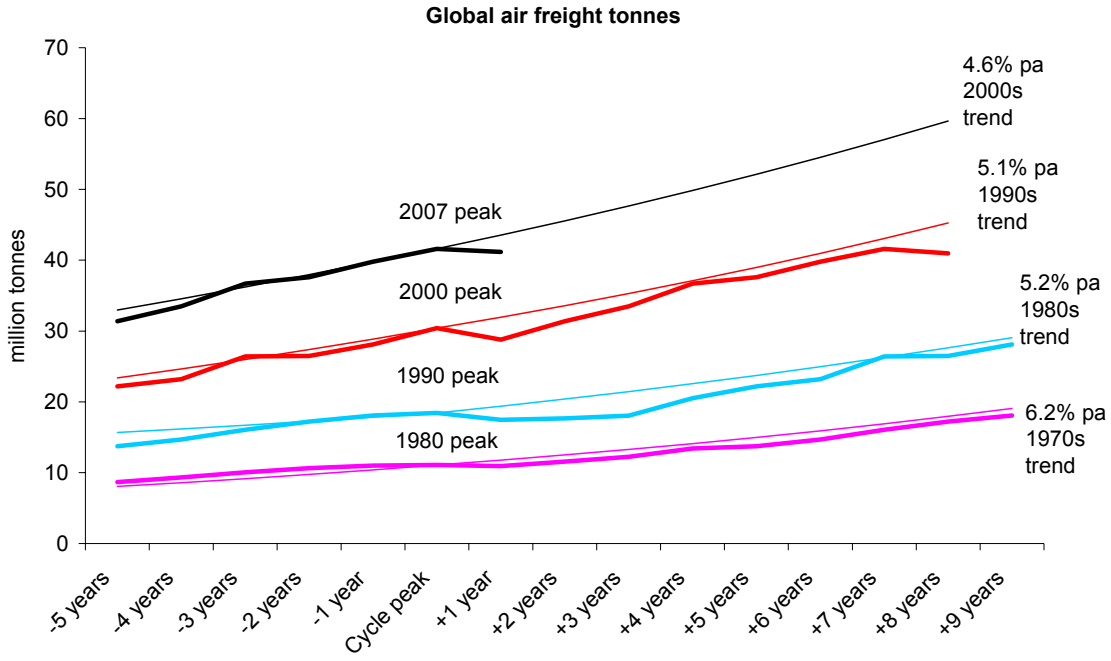
↗ The slower growth of FTKs experienced during the 2000s is consistent with a change in the trend of market share. The chart above shows there was apparently a sharp change in trend after air freight's share of world trade volumes peaked at 0.66% in 1997 (not the share of world trade value in current US$, which is around 35%). This was before the rise in fuel costs and so may reflect a shift in technology, such as the reported improvement in the time performance of the container shipping industry. Whatever the underlying cause of this shift we have assumed this down-trend in market share will continue in our forecasts.

Growth in average distance flown by air freight



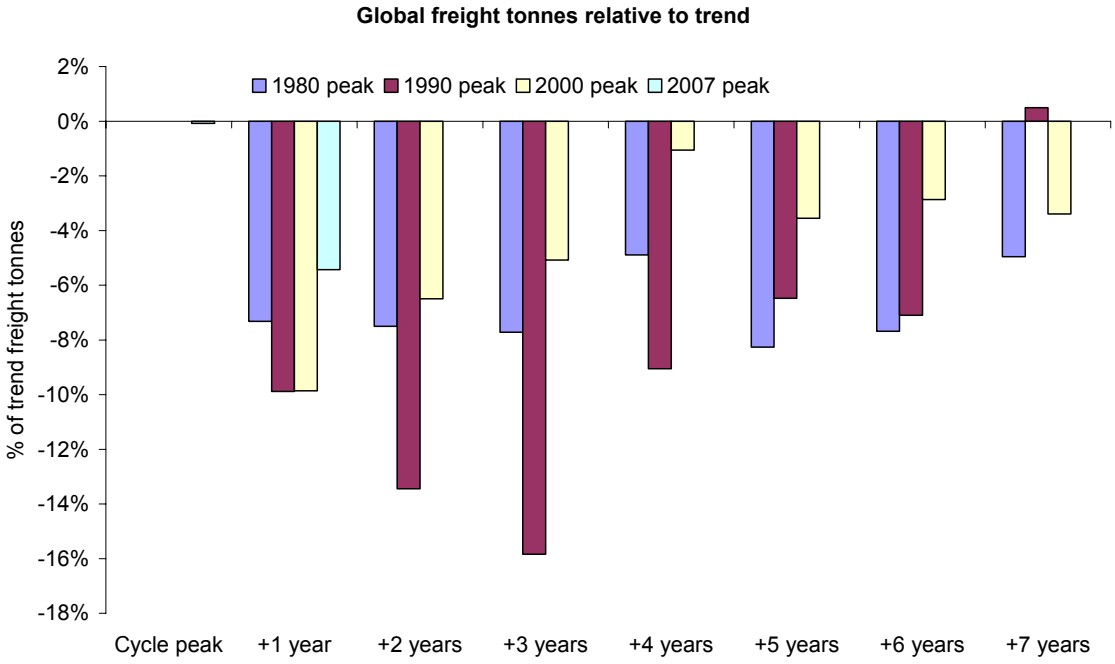
Source: ICAO, IATA

↗ Air freight does not behave in the same way as passengers during recessions. There is no indication of any cyclicality in average distances flown by air freight. In fact in the past 15 years there has been no trend increase in average distance flown. We have assumed this to continue in our forecasts.



Source: ICAO, IATA

- Growth in air freight tonnes have slowed since the 1970s but at a much reduced rate than passenger travel. In the 1970s growth in the tonnes of freight shipped by air averaged 6.2%. By the 2000s that trend had slowed to 4.6%.
- There also seems to be less of a sustained divergence from trend with air freight volumes. There is less evidence that air freight markets are 'maturing' and therefore slowing in the same way as passenger markets.



Source: ICAO, IATA

- Air freight volumes also typically recover from a demand shock a little more quickly than passenger markets. There is no hard and fast rule but the most recent cycle saw a recovery after two years rather than the three years common to passenger markets.

IATA Economics
1st December 2008