

# CARGO CHARTBOOK

2016 Q4

## Key points

- Industry wide FTKs grew 3.8% in 2016, the second highest growth rate since the 2010 rebound after the GFC
- Global economic growth is expected to accelerate moderately in 2017, however world trade remains fragile
- But expansion in export orders and strong consumer confidence may boost air cargo demand
- Air cargo profitability outlook under strain due to increase in capacity and rising fuel costs

## Economic Outlook & Traffic Performance

Industry wide FTKs grew 3.8% in 2016, the second highest annual growth rate since the 2010 rebound after the GFC. This solid growth in air cargo demand occurred despite a moderate deceleration in the growth rate of the global economy in 2016 and is explained by favorable cyclical and structural factors. In 2017, the global economy is expected to accelerate moderately, as fiscal policies ease (1).

However, there is significant uncertainty on the scale and timing of the stimulative policy interventions in the US and the extent to which impacts of the planned tax reform, infrastructure spending and regulatory overhaul will materialize in 2017. Irrespective of this uncertainty prospects for the US economy remain favorable with strong household spending, jobs growth and continued signs of rising nominal wages (2). However, a strong US dollar may be a drag on exports and impacts of US posture vis-à-vis trade policy are unclear. Expected increases in the US Federal Funds Rate may expose vulnerabilities among some emerging markets although pick-up in growth in emerging markets is still to be expected.

Growth in the Eurozone has been a key driver underpinning the favorable demand for air cargo in 2016. The decelerating aggregate growth figures for 2016 mask the acceleration in growth that has been experienced across a number of Eurozone states. The broadening of the economic recovery in the Eurozone (3) offered a key favorable tailwind for air cargo demand in 2016 and if sustained could do so again in 2017.

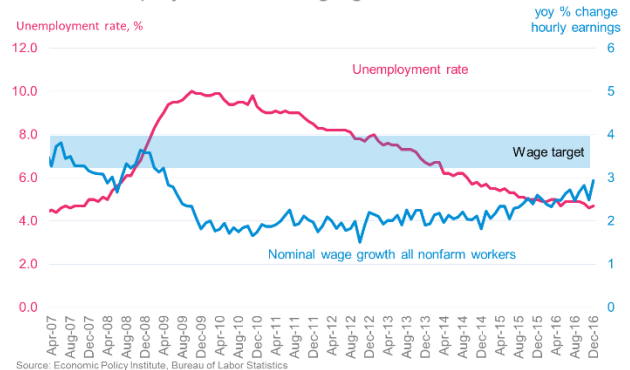
In sum, the air cargo market had a weak first quarter but recovered and grew in the second and third. Growth accelerated further in the fourth quarter supported by a pick-up in Asia and a more intense peak season, as global product launches (i.e. Apple) and new marketing strategies (i.e. singles day, Cyber Monday) contributed to shoring up demand. One-off factors (i.e. Hanjin Shipping bankruptcy) may have also diverted some cargo flows temporarily to air thereby boosting demand.

European and Asian carriers' FTKs explain about 61% of growth seen in Q4 and about 64% of the growth in 2016. Middle East and North American carriers accounted for 24% and 11% respectively of traffic growth in 2016 (4).

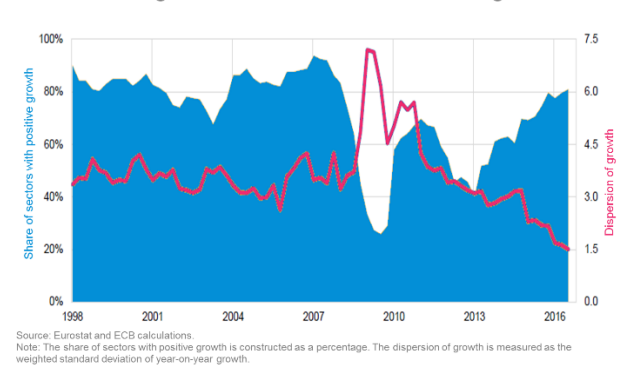
1. Forecast for GDP growth



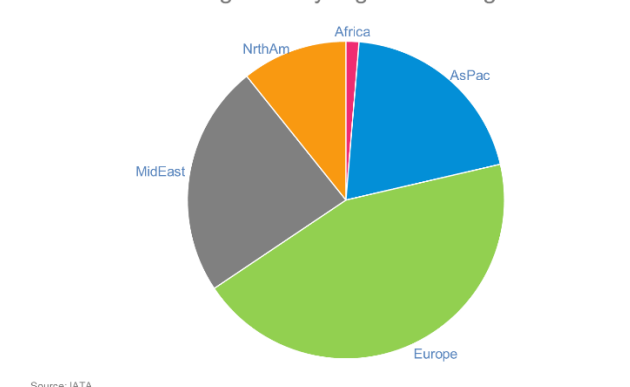
2. US unemployment and wage growth



3. Economic growth in Eurozone is broadening



4. Share of 2016 growth by registration region



## Demand Environment and Drivers

For the first time since the financial crisis, world trade in 2016 is expected to grow slower than GDP with total global merchandized trade estimated to have grown 1.7%. The IMF explains the trade slowdown since the financial crisis through changes in composition of economic growth, lower levels of activity and restrictive trade policy combined with other factors. International FTK growth has fared better, growing 3.8% in 2016. In seasonally adjusted terms the market is almost 10% above the year end levels reached in 2015 (5).

The positive performance of air cargo has delivered significant economic benefits for the global economy. Increases in air connectivity is associated with better trade competitiveness ([see report](#)), which governments can further improve by identified policy and practical measures (6).

One of the contributing factors for the improvement in air cargo performance in 2016 has been the fall in business inventories compared to sales. The faster than expected pick up in demand has led to firms relying more on air cargo to replenish inventories (7). The Hanjin disruption may have also had a favorable lagged impact on demand in international air freight in Q4 as a portion of the higher-value and time sensitive goods initially held up at sea may have end-up being served by air.

Global PMI for export orders continues to remain in expansionary territory (8). Although when looked at in year-on-year terms it has decelerated somewhat explaining some of softness in cargo demand observed in November and may be a sign of weaker short-term performance. Consumer confidence has continued to stay strong over the last quarter and remains resilient (9). Further medium term optimism for the demand outlook comes from rising inflation in advanced economies and the knock on impacts that may have on stimulating investment.

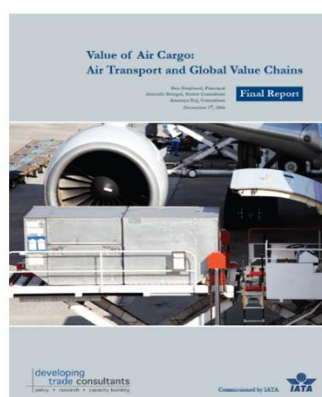
## 5. World trade and international FTKs

Index 2007=1  
(seasonally adjusted)



Source: Netherlands CPB, IATA

## 6. New research study on value of air cargo



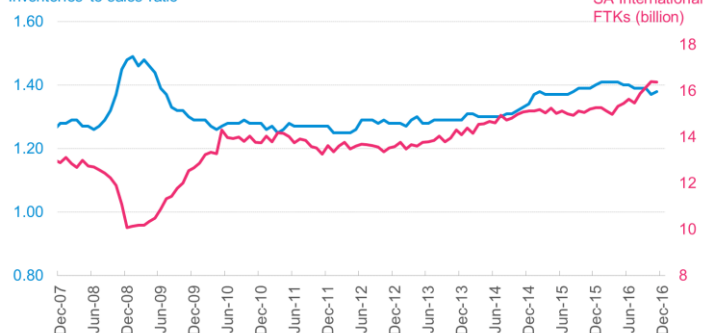
Source: IATA

### NEW RESEARCH

Value of Air Cargo:  
Air Transport and  
Global Value Chains

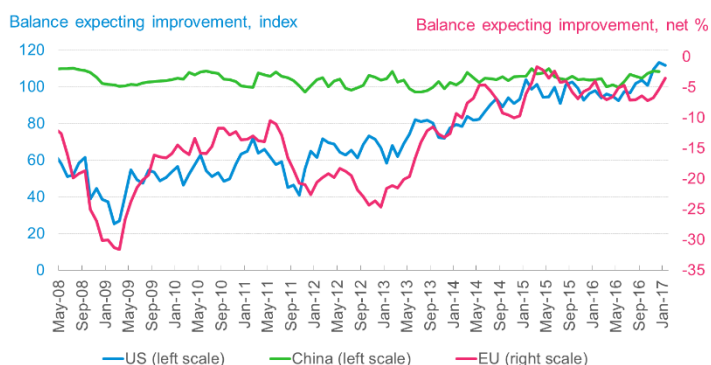
## 7. Total business inventories to sales ratio & FTKs

Inventories to sales ratio



Source: IATA, US Census Bureau

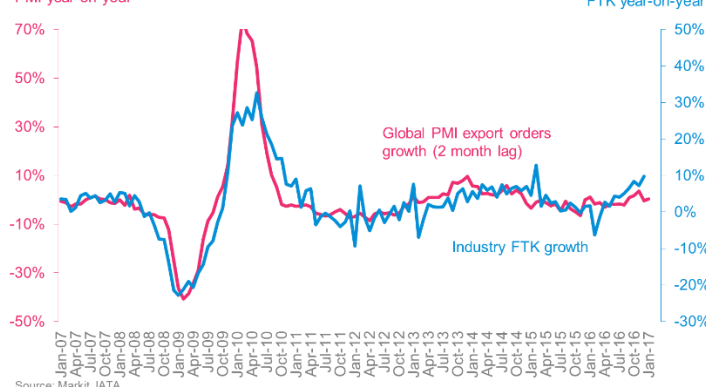
## 9. Consumer confidence



Source: Datastream

## 8. Global export orders and air freight

PMI year-on-year



Source: Markit, IATA

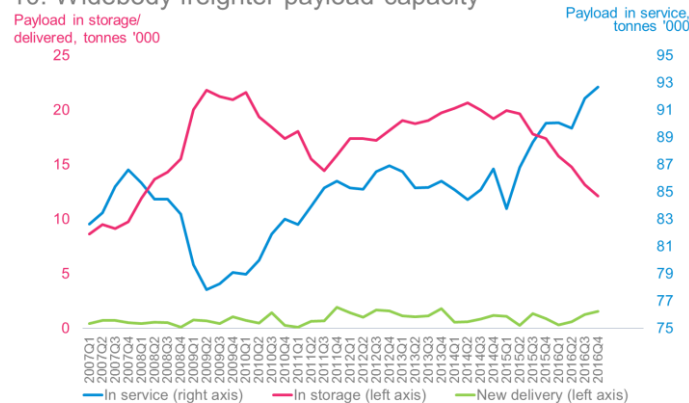
## Capacity and Competition

Expansion of in-service payload capacity for widebody freighters has continued on an upward trajectory for the seventh consecutive quarter. The increase in Q4 is explained by a reduction of in-storage capacity and delivery of new freighter aircraft. Payload capacity available in storage currently stands at about 13% of in-service payload capacity, above pre-crisis levels of Q1 2007 when it was 10.5% - despite an environment of higher fuel prices in 2007. Since Q3 a significant increase in the delivery of new freighter aircraft can be observed. Payload widebody freighter capacity delivered in Q4 was the largest within a quarter over the past three years. This may in part be explained by the difficulty faced by airlines to further defer maturing orders on freighter aircraft without having to incur large financial penalties.

The capacity challenge is further exacerbated by the strong growth in demand in the passenger business (11). Deliveries of wide-body passenger aircraft have led to the addition of significant levels of belly capacity (12). The new widebody passenger aircraft entering the fleet have on average more payload belly capacity available compared to older models. Therefore, the growth in available belly capacity is higher compared to simply the growth rate in the number of widebody passenger aircraft. 2016 was a record year for delivered widebody payload belly capacity. On some trade lanes the continued addition of widebody payload belly capacity has had a significant impact on dynamics in the air cargo market.

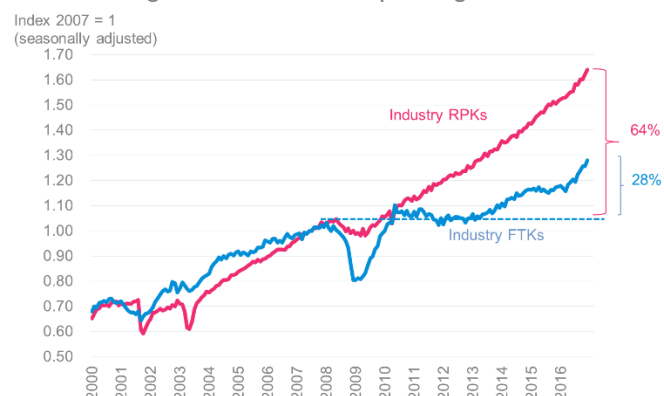
AFTKs grew 5.3% in 2016 outpacing FTK growth of 3.8% by 1.5 percentage points. This means that on an annual basis the increase in supply offered in the market has outpaced demand. Some recent improvement in balancing air cargo supply and demand at an industry level has been observed (13). For the first time since Q4 of 2013, demand has outstripped supply and while this is a welcome development for carriers it may be short lived. The outperformance of demand was partially due to a more intense peak season and one factors (see above). Annual developments point to the extent of the capacity challenge. From an annual perspective, the rise in capacity has increased the vulnerabilities of air carriers to a softening in the demand environment and if continued could lead to further yield erosion in 2017.

### 10. Widebody freighter payload capacity



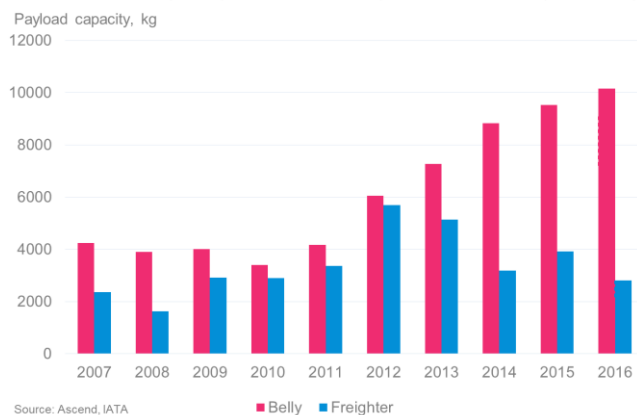
Source: Ascend, IATA

### 11. Passenger business outstrips cargo



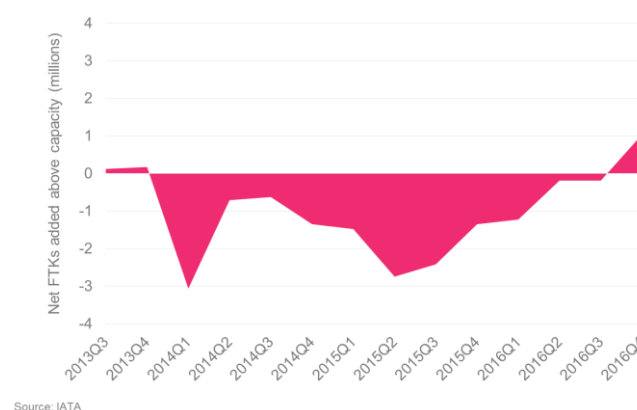
Source: IATA

### 12. Widebody payload capacity added - belly & freighter



Source: Ascend, IATA

### 13. Air freight demand added net of capacity



Source: IATA

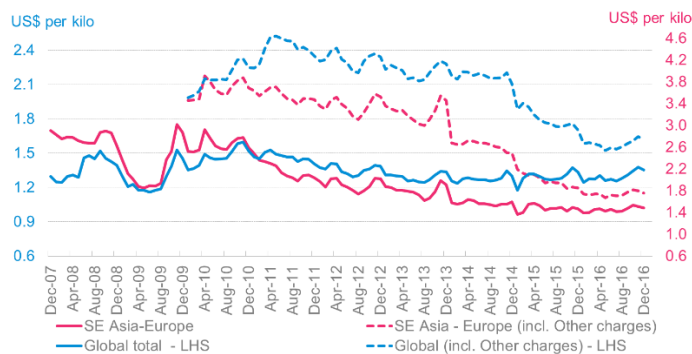
## Revenues, Costs and Profits

Downward yield trajectory started to accelerate in the second half of 2014 as lower fuel prices were sustained. At an industry level total international air cargo yields have continued to deteriorate in 2016. Month-on-month comparisons show a bottoming out of 2016 yields towards the end of Q2 but in effect the deterioration in yields has continued into Q3 and Q4 when looked at in year-on-year terms. Yields in Q4 of 2016 were on average about 6% lower compared to yields in Q4 of 2015 (14).

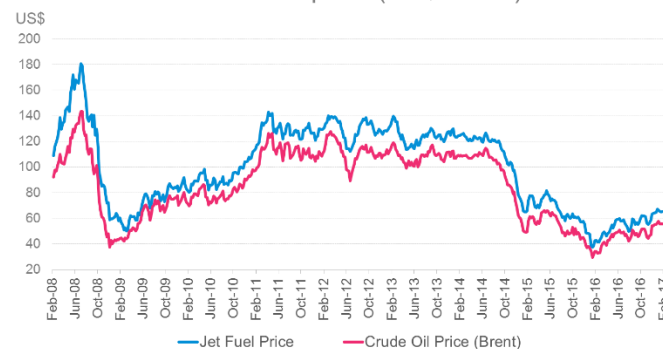
In parallel, jet fuel prices were on average about 8% higher in Q4 of 2016 compared to Q4 of 2015 (15). The rise in input costs combined with decreasing unit revenues points to worsening profitability outlook for air carriers.

Increase in capacity (discussed in previous section) amid a weak global trade backdrop are key risks for air cargo profitability outlook. An IATA survey of heads of cargo confirms concerns over yield performance for the year ahead (16).

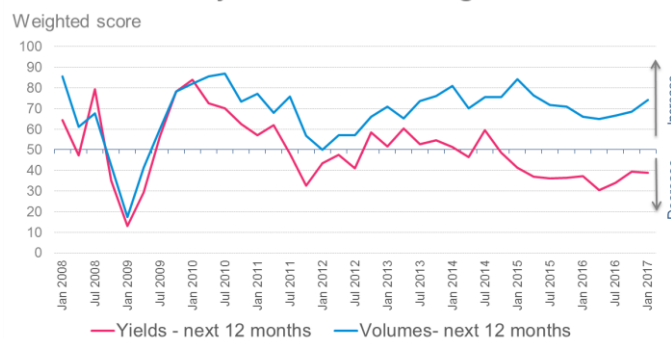
### 14. Air freight yield (US\$ per kilo)



### 15. Jet fuel and crude oil price (US\$/barrel)



### 16. IATA survey of heads of cargo



## Air Freight Routes and Direction

Table 1. International Freight Tonne Kilometer Growth by Route Area (Source: IATA statistics)

Route Area	% Growth in Freight Tonne Kilometers, year-on-year					
	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16
Africa - Europe	-9.0%	-10.7%	-5.6%	-4.4%	-4.4%	-0.4%
Africa - Far East	21.8%	20.7%	34.1%	40.9%	40.3%	59.3%
Africa - Middle East	3.4%	1.8%	-4.3%	-5.9%	0.0%	4.4%
Central America / Caribbean - South America	-7.6%	0.4%	-1.6%	-15.8%	-0.7%	-13.8%
Europe - Central America / Caribbean	1.2%	2.5%	-3.9%	8.1%	4.2%	-2.5%
Europe - Far East	2.5%	3.1%	2.4%	7.6%	10.8%	6.2%
Europe - Middle East	0.8%	4.7%	3.8%	4.6%	16.1%	16.3%
Europe - North America	-0.2%	3.8%	2.6%	10.0%	8.9%	7.6%
Europe - South America	-2.3%	1.6%	1.7%	4.5%	13.6%	2.9%
Far East - North America	1.9%	2.5%	5.7%	5.0%	6.9%	6.2%
Far East - Southwest Pacific	-4.6%	2.3%	3.3%	-1.3%	4.1%	4.9%
Middle East - Far East	4.0%	0.7%	-3.3%	2.2%	9.6%	5.2%
Middle East - North America	44.1%	24.9%	8.6%	19.0%	16.2%	1.6%
North America - Central America / Caribbean	-12.7%	-10.8%	-3.3%	0.6%	-7.4%	-6.9%
North America - South America	-9.3%	-2.2%	-3.9%	-4.7%	-1.5%	-3.6%
North / South America - Southwest Pacific	9.9%	27.8%	25.6%	28.4%	34.0%	23.9%
Within Central America	-6.2%	-1.5%	-2.6%	-2.9%	-7.3%	2.1%
Within Europe	12.3%	14.1%	16.9%	34.0%	63.9%	33.0%
With Far East	9.8%	6.7%	7.3%	8.4%	12.6%	12.6%
Within South America	-27.3%	-27.8%	-17.1%	-14.1%	-19.2%	-4.0%

Table 2. Outbound CASS Market Revenues (incl. fuel and other surcharges)

Origin Region	US\$m 2016 Q4	% Growth in Air Freight Revenues, year-on-year					
		2015 Q3	2015 Q4	2016 Q1	2016 Q2	2016Q3	2016Q4
Africa	84	4.4%	-7.6%	-3.9%	-4.1%	-4.1%	-15.4%
Asia Pacific	1322	-13.2%	-16.1%	-27.5%	-5.6%	3.0%	-2.7%
Europe	1955	-20.1%	-16.6%	-9.1%	-5.7%	-6.0%	-19.1%
Latin America & The Caribbean	433	-9.0%	-10.5%	-3.5%	-5.0%	-4.2%	-9.4%
Middle East & North Africa	114	-14.8%	-10.1%	-7.0%	-4.5%	-3.2%	-17.4%
North Asia	1376	-14.0%	-19.3%	-26.0%	-22.4%	-12.4%	-13.5%
North Atlantic & North America	773	-16.4%	-20.0%	-23.9%	-18.0%	-12.7%	-23.9%

Table 3. Inbound CASS Market Revenues (incl. fuel and other surcharges)

Destination Region	US\$m 2016 Q4	% Growth in Air Freight Revenues, year-on-year					
		2015 Q3	2015 Q4	2016 Q1	2016 Q2	2016Q3	2016Q4
Africa	283	-21.2%	-22.7%	-20.1%	-17.6%	-19.5%	-26.3%
Asia Pacific	1199	-17.1%	-17.6%	-15.2%	-9.8%	-6.8%	-21.3%
Europe	1332	-14.4%	-14.7%	-16.1%	-11.5%	-10.3%	-15.5%
Latin America & The Caribbean	562	-17.2%	-19.9%	-19.2%	-14.8%	-7.9%	-9.2%
Middle East & North Africa	512	-6.6%	-5.3%	-3.4%	-5.3%	-8.5%	-14.1%
North Asia	575	-22.1%	-15.4%	-10.8%	-2.0%	5.1%	-16.0%
North Atlantic & North America	1505	-13.8%	-19.5%	-30.8%	-15.6%	-2.5%	-6.9%



## Glossary and definitions

- ACI: Airports Council International
- AFTK: Available Freight Tonne Kilometers
- ECB: European Central Bank
- EIU: Economist Intelligence Unit
- CASS: Cargo Accounts Settlement System
- FTK: Freight Tonne Kilometers
- GFC: Global Financial Crisis
- PMI: Purchasing Managers Index
- Netherlands CPB: Netherlands Bureau for Economic Policy Analysis
- ODS: Origin-Destination Statistics
- SIA: Semiconductors Industry Association
- US BTS: US Bureau of Transportation Statistics
- M-o-m: Month over month percentage change
- Y-o-y: Year over year percentage change
- YtD: Year to date
- The traffic data refers to total scheduled traffic, including new model airlines, non-IATA member airlines, dedicated cargo carriers, regional carriers and others



8<sup>th</sup> February 2017

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