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Trade Growth Moderating at Start of Q4

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ASR's logistics proxies suggest global trade growth peaked in Q3 and has started to moderate in Q4. The industry remains upbeat on the near-term outlook for air freight, but sees container shipping growth slowing. The ASR-GLI shows the market is pricing in slower trade growth, whilst the Global Air Freight proxy suggests Global EPS growth may have peaked.

ASR's logistics dataset suggests trade growth moderating after strong Q3

Our Global Air Freight and Container Shipping proxies suggest that trade growth slowed as we moved into Q4, with Asian Airfreight seeing the most pronounced slowdown. However, PMI data on orders provide some support for the trade outlook. So does e-commerce, which may also be shifting the balance of east-west flows.

Logistics provider data corroborate good Q3; but air/sea outlook diverging

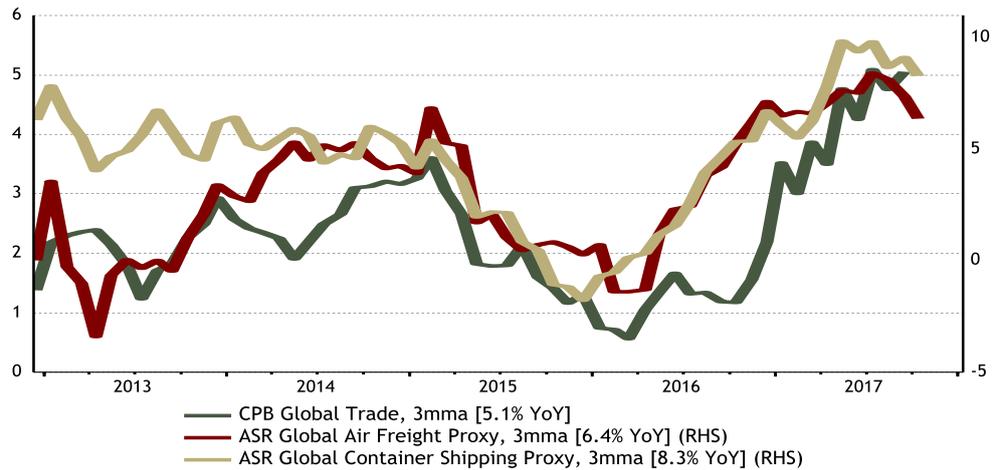
All services (sea, air, air express, road and contract logistics) reported sustained robust growth in Q3. Forwarders believe the air freight market continues to grow in double digits, and that this dynamic will broadly persist through Q4, before slowing in 2018. However, Maersk see containerised sea freight growth slowing in Q4.

Ti Air and Sea Indices suggest large forwarders are gaining market share

Ti's Air and Sea Indices track the volume growth of 10 of the world's largest forwarders. The Air Index suggests large forwarders' volume growth was 11.8% in Q3, while the Sea Index implied growth of 5.7%. The Air Index has exceeded industry estimates of market growth for six of the last eight quarters (Sea Index: seven of the last eight quarters), suggesting large forwarders are gaining market share.

ASR-GLI shows market pricing in slower trade; suggests EPS growth peak

The ASR Global Logistics Index (ASR-GLI) has outperformed in recent weeks, likely on hopes of US tax reform. However, the relative performance of the ASR-GLI suggests the market is pricing in a moderation in trade growth. Whilst ASR's Global Air Freight proxy suggests Global EPS growth may have peaked.



Source: ASR Ltd. / Various Airport and Port Authorities / Thomson Reuters Datastream

Macro Signals from Logistics Data

Zahra Ward-Murphy

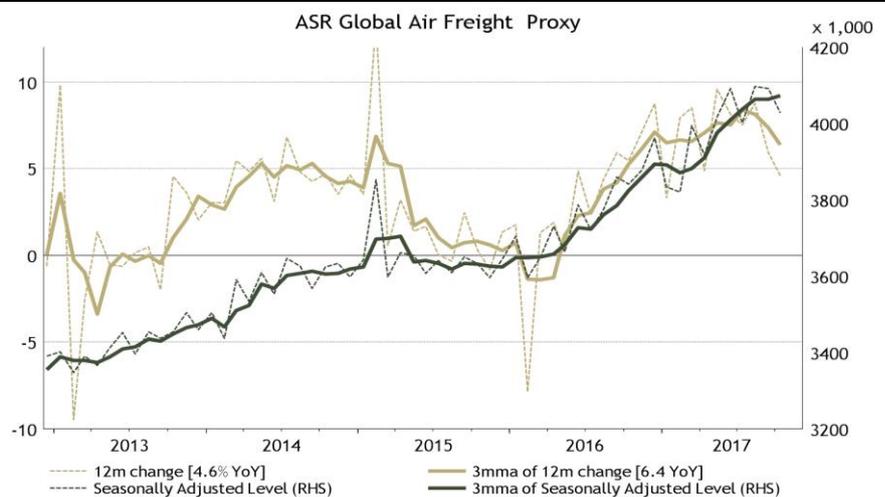
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Trade Growth Moderating at Start of Q4

- Global Air Freight growth slowed to 4.6% YoY in October vs. a robust 7.4% YoY in Q3, driven largely by a decline in Asia.
- Global Container Shipping growth also looks to have slowed in October vs. Q3, albeit more modestly.
- Together, ASR’s logistics proxies suggest global trade growth peaked in Q3 and has started to moderate in Q4.
- However, PMI export orders and orders vs. inventories does provide some support for trade growth going forward.
- So too does the growth in international e-commerce, which also has the potential to shift the balance of eastbound vs westbound trade.

ASR’s Global Air Freight Proxy has shown signs of levelling out in recent months (dark green line, L1). Activity rose 7.4% YoY in Q3. However, the growth rate moderated to 4.6% YoY in October as European, and, more particularly, Asian Air Freight growth slowed. Asian Air Freight was challenged by a higher base from Q4’16, when Asian Air Freight growth accelerated.

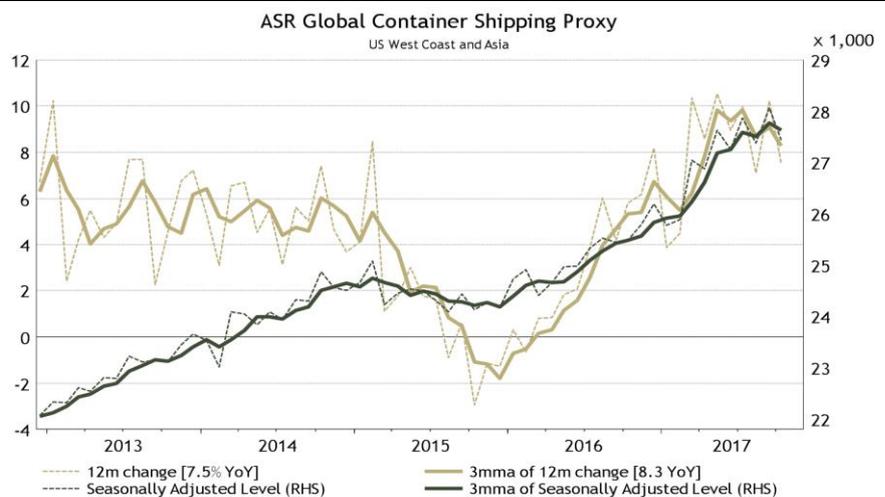
L1: ASR Global Air Freight Proxy (data to Oct’17)



Source: ASR Ltd. / Various Airport Authorities

ASR’s Global Container Shipping Proxy, also looks to be levelling out with the pace of growth moderating. However, from 9.0% YoY in Q3, volumes were still up 7.5% YoY in October, supported by 8.3% YoY growth in China throughput. Together, our logistics proxies therefore suggest that after a strong Q3 – when overall global trade rose 5.1% YoY up from 4.3% in Q2 according to CPB data - activity growth

L2: ASR Global Container Shipping Proxy (data to Oct’17)



Source: ASR Ltd. / Various Port Authorities

started to moderate as we moved into Q4.

A peak in trade growth is not quite confirmed, however. First, because, as seen in L3, the moderation in growth in our logistics series, smoothed over the past 3m, is only fairly modest, particularly in container shipping.

Second, because the data so far available for November, suggest tentative evidence of a rebound in growth vs.

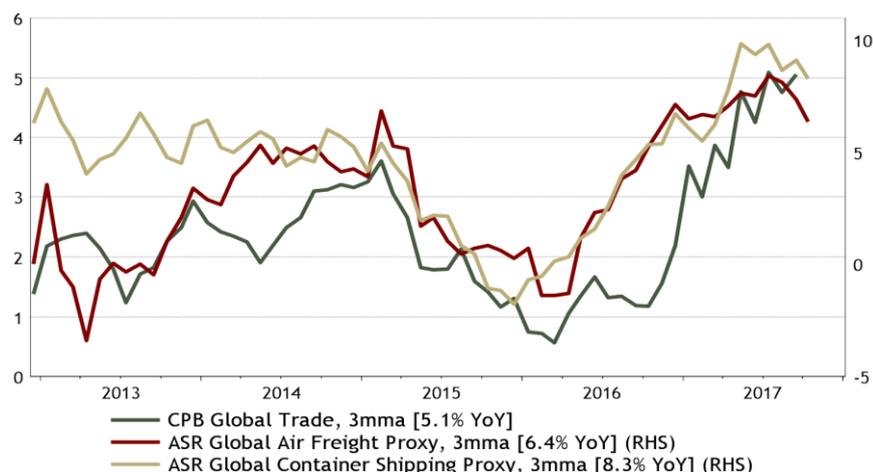
October: Korean and Taiwan Air Freight growth improved and US inbound container shipments look to be rebounding.

And third, because, as seen in L4, the Global PMI Export Orders series, which appears to lead global trade growth by 3-4m, accelerated in November. This suggests global trade growth could hold up in the near-term.

In L5 we find that the Global Inventory Shipment ratio has bottomed out (the inverted red line topping out), suggesting trade growth may be close to peaking. However, again using the PMI data, the orders-inventory ratio for November has a more upbeat message.

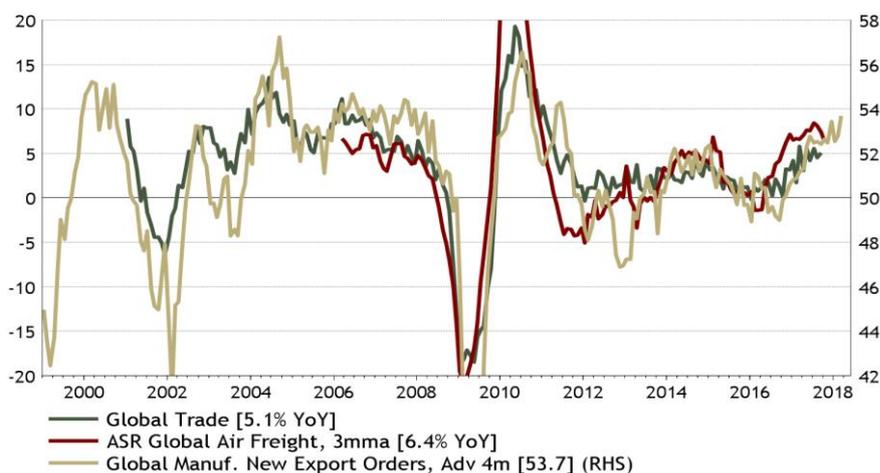
Consistent with our Global Air Freight proxy in L3 & L4 (red lines) IATA believe that the peak in the air freight growth cycle probably occurred earlier this year.

L3: ASR Logistics Proxies and Global Trade Growth



Source: ASR Ltd. / Various Airport and Port Authorities

L4: ASR Air Freight Proxy, Global Trade & PMI New Export Orders



Source: ASR Ltd. / Various Airport and Port Authorities

L5: Global Trade & I-S Ratio and PMI Proxy



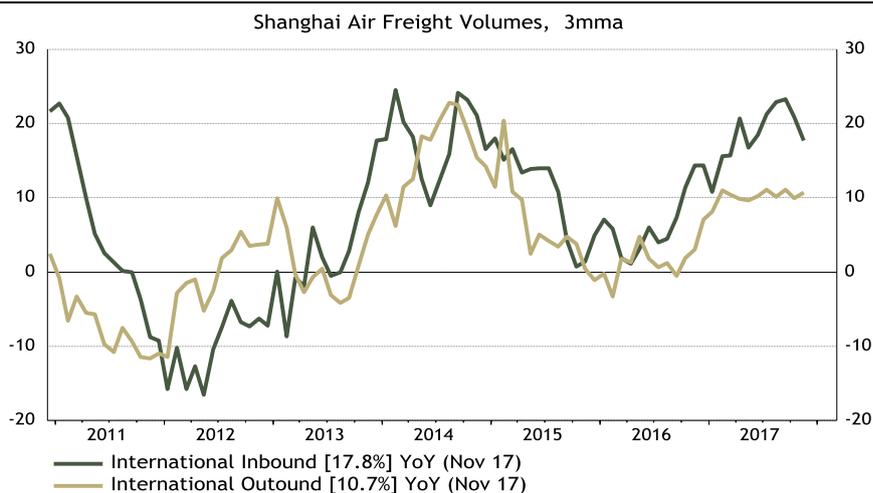
Source: ASR Ltd. / Various Airport and Port Authorities

However, the association still expects solid growth in 2018, forecasting 4.5% following 9.3% this year. They cite a pick-up in European capex, which ASR wrote about [here](#), as a source of support for air freight; they also cite strong growth in e-commerce.

E-commerce is a key theme for trade and logistics. Recently the Association of Asia Pacific Airlines, and freight forwarders Panalpina and DHL, have all mentioned growth in e-commerce as a factor supporting global air freight activity both currently and going forward.

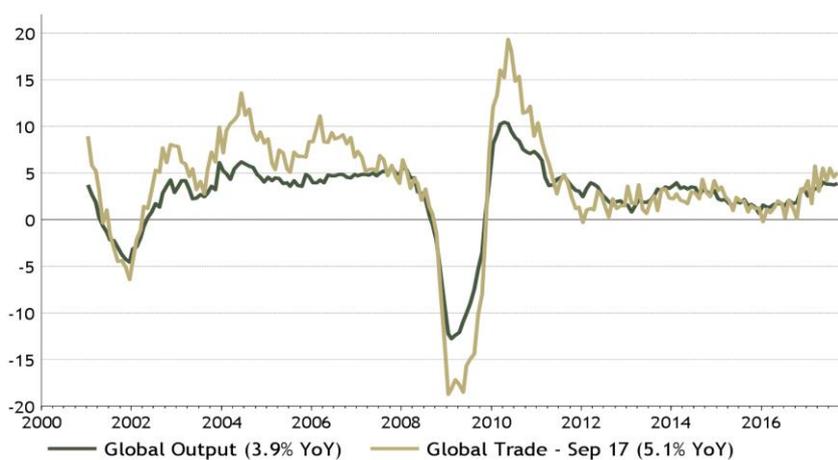
E-commerce also has the potential to shift the balance of eastbound vs westbound trade as Asian consumer demand for foreign goods continues to rise. Note that whilst outbound freight volumes from Shanghai airport outweigh inbound volumes, international inbound volumes have been *growing* more rapidly this year, as seen in L6. DHL Global Forwarding have said they started seeing an increase in US outbound air freight from the US to China last year and noted the first evidence of a 'peak' season for US exports to China based on e-commerce demand for consumer goods. November is likely to be a strong month for such flows due to Singles' Day shopping. Cross-border e-commerce may be contributing to the recent pick up of trade growth vs. output growth: L7.

L6: Shanghai International Inbound vs Outbound Air Freight Growth



Source: ASR Ltd. / Thomson Financial Datastream / CPB

L7: Global Trade Growth Starting to Edge Ahead of Global Growth



Source: ASR Ltd. / Thomson Financial Datastream / CPB

Air Freight Activity

Signs of Air Freight Growth Moderating

Zahra Ward-Murphy

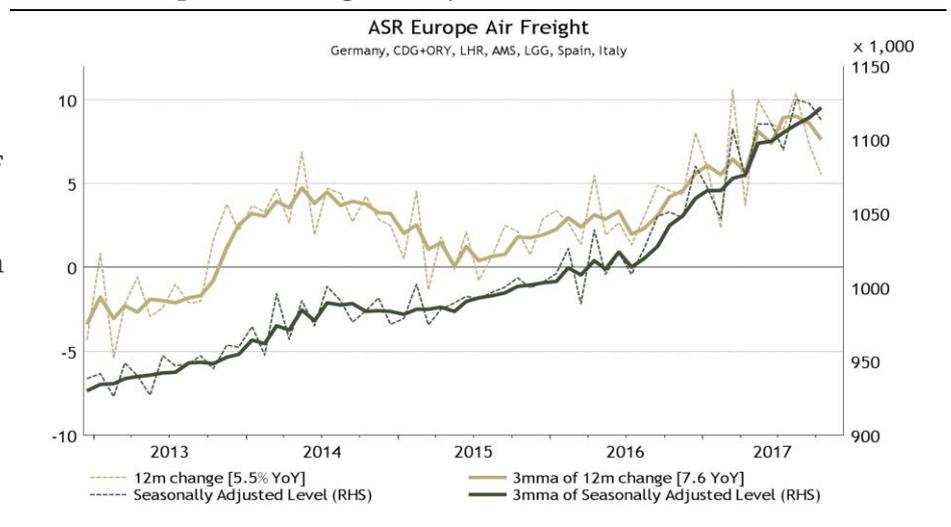
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Our European Air Freight Proxy has continued to trend higher in recent months, with activity up 8.6% YoY in Q3. However, in October there were signs of the pace of growth decelerating as, unsmoothed, activity growth dropped back to 5.5% YoY in October, from 7.3% in September; the slowest pace of growth since April.

Germany saw a deceleration in YoY growth, with Frankfurt citing a decline in activity with Asia. London Heathrow and Italy also saw slower growth. Amsterdam Schiphol saw a sharp drop to just 0.9% YoY in October from 7.1% in September. Some freighter traffic has been diverted from Schiphol as the airport has breached its annual quota of air traffic movements. As seen in L9, Belgium's Liege airport has been one beneficiary of this situation. Frankfurt is underperforming overall Germany, as it has been gradually losing market share domestically. Spain has seen very strong growth recently; which may be partly attributable to it being used increasingly as a hub for intercontinental freight.

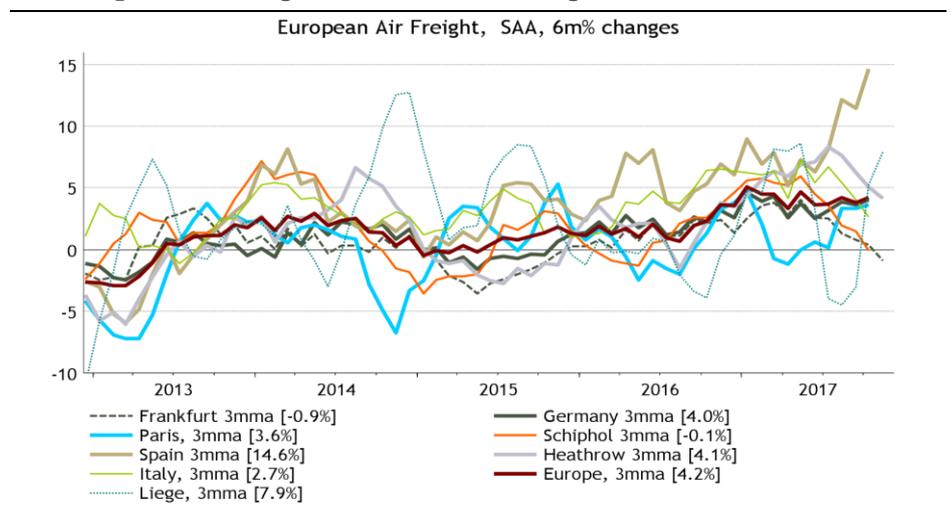
- European Air Freight volumes continue to trend higher, although the rate of YoY growth slowed in October.
- Asia Air Freight volumes look to be levelling out and YoY growth slowed significantly in October, challenged by high base levels from Q4'16. Early releases for November suggest a tentative rebound, but still suggest slower growth in Q4.
- US Air Freight volumes have also shown signs of levelling out, but growth re-accelerated in October.

L8: ASR European Air Freight Proxy (data to Oct'17)



Source: ASR Ltd. / Various Airport Authorities

L9: European Air Freight Series – 6m % change SAA (latest data)



Source: ASR Ltd. / Various Airport Authorities

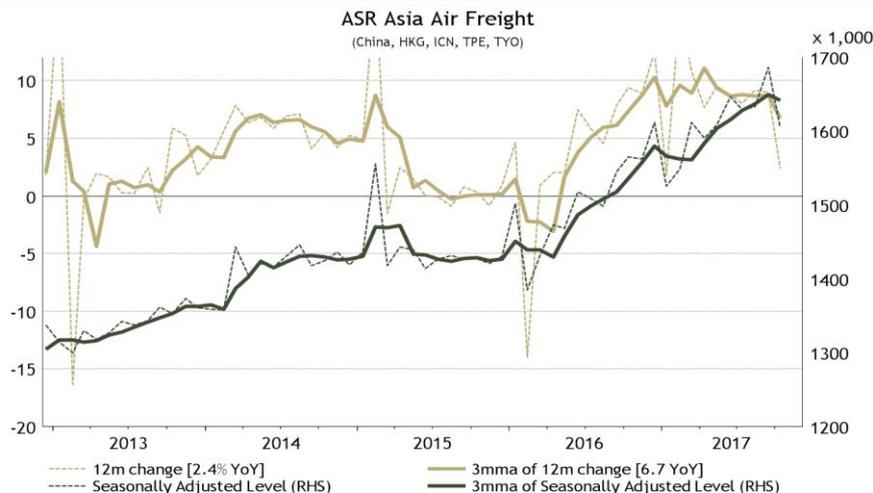
Our Asian Air Freight Proxy has shown some signs of levelling out in recent months (see dark green line, L10). Activity rose 8.7% YoY in Q3. However, the growth rate, which has maintained a high level since last year, dropped to just 2.4% YoY in October. Growth was challenged by a higher base from 2016, when Asian Air Freight growth accelerated in the final quarter of the year. All our Asian components saw slower growth in October. China Air Freight was fairly resilient, still up 5.1% YoY, but volumes at Seoul's Incheon airport contracted.

However, in November, we have seen Incheon Air Freight recover to post growth of 7.1% YoY. Taiwan has also seen a modest improvement after a weak October growth rate.

L11 shows the recent deceleration in terms of the smoothed 6m rate of change.

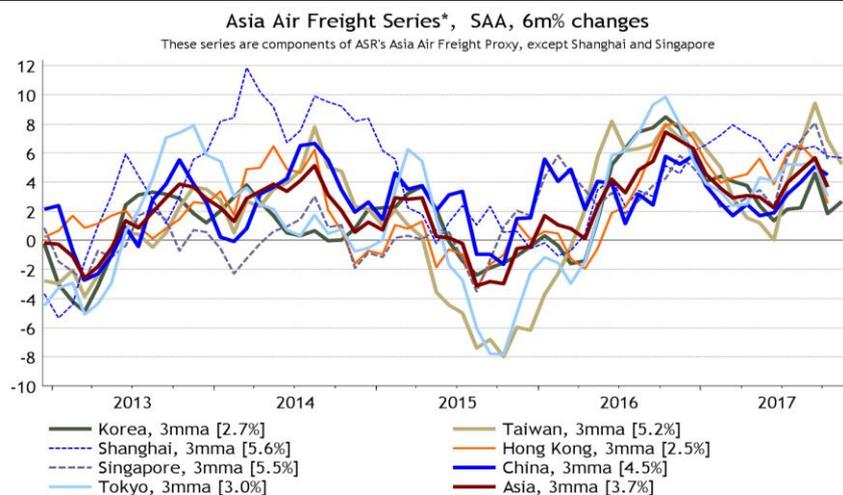
Our US Air Freight proxy has also shown signs of levelling out in recent months, though growth did re-accelerate to 6.6% YoY in October. Growth at the more domestically-focused freight airports (Memphis and Louisville) was comparable with growth at the airports dominated by international cargo (Anchorage, Miami, LAX, Chicago).

L10: ASR Asian Air Freight Proxy (data to Oct'17)



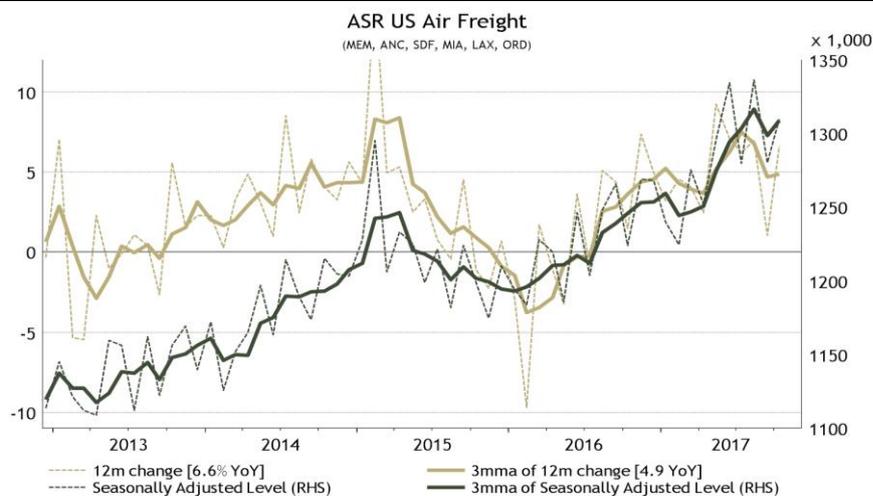
Source: ASR Ltd. / Various Airport Authorities

L11: Asian Air Freight Series – 6m % change SAA (latest data)



Source: ASR Ltd. / Various Airport Authorities

L12: ASR US Air Freight Proxy (data to Oct'17)



Source: ASR Ltd. / Various Airport Authorities

L13: ASR Global Air Freight Proxies and component series - monthly growth rates

Air Freight Volumes	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
Germany Air Cargo, SAA %MoM	-2.2	5.5	-4.6	3.8	0.7	-0.2	2.2	-0.7	-1.9	
%YoY	3.2	10.3	0.9	9.1	6.0	8.6	9.6	6.5	4.3	
o / w Frankfurt Air Freight SAA %MoM	-3.0	6.4	-3.2	-0.2	2.2	-1.2	-1.1	2.7	-2.7	-1.0
%YoY	1.6	10.6	2.4	5.3	4.9	4.5	5.5	4.0	0.3	4.7
Paris Air Freight SAA %MoM	-2.5	6.8	-1.5	0.2	3.6	-6.2	6.8	-1.3	-1.7	
%YoY	-6.1	4.4	0.6	3.4	9.1	2.4	5.4	0.2	1.9	
Amsterdam Schiphol Air Freight SAA %MoM	-2.1	3.3	0.0	1.2	0.7	-1.5	-1.3	1.7	-3.9	
%YoY	7.0	9.5	6.3	12.3	9.8	6.5	7.6	7.1	0.9	
London Heathrow Air Freight SAA %MoM	0.5	3.8	-0.1	1.9	1.4	0.9	-1.4	1.1	1.0	0.7
%YoY	4.4	12.6	8.6	10.7	13.4	15.1	13.1	11.5	9.2	11.8
Liege Air Freight SAA %MoM	-3.4	8.1	-5.0	4.9	-5.8	-13.0	18.2	4.8	3.6	6.9
%YoY	-2.2	10.0	5.2	12.6	-0.4	-8.0	9.6	14.7	18.0	18.2
Spain Air Freight SAA %MoM	-0.4	8.2	-5.1	6.6	-2.6	2.1	11.1	-5.6	6.1	-3.1
%YoY	6.9	19.6	5.2	18.4	15.5	19.9	25.6	15.6	19.0	15.9
Italy Air Freight SAA %MoM	-2.7	8.9	-3.8	6.8	-4.5	1.0	0.2	0.2	-2.6	
%YoY	5.3	17.1	9.5	14.5	11.2	11.4	13.0	8.5	1.6	
China Air Freight SAA %MoM	3.5	1.5	0.0	2.2	3.2	-4.7	1.7	3.7	-2.0	
%YoY	18.7	4.4	6.3	8.5	8.2	4.7	7.7	7.9	5.1	
Hong Kong Air Freight SAA %MoM	0.4	9.6	-4.7	1.7	1.9	0.4	-1.2	2.6	-5.3	
%YoY	14.1	17.8	8.9	12.9	11.4	11.0	10.1	9.1	2.3	
S. Korea Incheon Air Freight SAA %MoM	1.6	1.0	0.2	-1.0	1.1	0.9	0.3	5.5	-10.5	8.8
%YoY	16.9	11.7	9.7	7.7	4.4	6.7	9.6	10.7	-2.5	7.1
Taiwan Air Freight SAA %MoM	1.7	3.3	-2.4	2.0	1.7	4.3	0.2	2.2	-6.8	3.0
%YoY	17.3	10.6	4.5	6.8	9.9	13.4	11.9	12.3	1.6	5.2
Tokyo Air Freight SAA %MoM	-1.7	5.0	1.1	1.0	0.9	-0.2	-1.1	1.6	-3.3	
%YoY	12.4	15.2	10.2	10.9	8.8	8.3	8.4	6.5	1.3	
Memphis Air Freight SAA %MoM	1.9	4.7	-6.1	2.0	5.0	-9.4	11.5	-4.7	-0.3	
%YoY	-1.6	0.3	-5.1	1.3	0.1	-2.8	4.7	-0.6	4.9	
Anchorage Air Freight SAA %MoM	-3.6	0.5	5.8	2.5	6.4	-4.2	0.8	1.7	0.3	
%YoY	11.6	-3.1	5.5	10.1	14.0	8.8	5.9	5.7	7.3	
Louisville Air Freight SAA %MoM	-0.3	9.2	-6.3	7.9	3.6	-10.5	11.9	-6.9	-0.7	
%YoY	0.3	6.8	0.5	13.1	8.5	3.4	8.0	2.3	9.3	
Miami Air Freight SAA %MoM	0.0	-1.8	-1.1	3.5	-3.5	-0.8	2.3	-14.0	24.0	
%YoY	7.8	4.3	2.6	11.6	-0.5	0.9	2.2	-14.0	8.4	
Los Angeles Air Freight SAA %MoM	-0.3	2.9	1.5	3.9	2.0	-0.6	-0.7	-1.5	-5.9	
%YoY	8.6	9.7	9.3	14.0	12.5	12.7	8.7	6.1	-1.8	
Chicago O'Hare Air Freight SAA %MoM	-7.7	10.2	-0.2	2.2	0.9	10.0	-5.8	-0.8	4.1	
%YoY	11.2	16.4	13.7	14.8	15.8	27.8	16.5	7.4	13.9	
ASR Europe Air Freight proxy, comprised of above European series, SAA %YoY	-1.9	5.8	-2.9	3.3	0.0	-1.6	3.1	-0.3	-1.0	
ASR Asia Air Freight proxy, comprised of above Asian series, SAA %MoM	2.4	10.6	3.7	10.0	8.5	8.2	10.4	7.3	5.5	
%YoY	1.6	4.1	-1.3	1.2	2.3	-1.1	0.2	3.3	-4.9	
ASR US Air Freight proxy, comprised of above US series, SAA %MoM	16.2	10.8	7.7	9.5	8.7	8.1	9.2	8.9	2.4	
%YoY	-1.1	4.2	-1.8	3.5	3.0	-4.1	4.4	-4.2	2.3	
%YoY	4.6	4.1	2.5	9.2	7.1	6.2	7.0	1.0	6.6	
ASR Global Air Freight proxy, comprised of individual series above, SAA %YoY	-0.3	4.6	-1.9	2.5	1.9	-2.2	2.4	-0.1	-1.6	
%YoY	7.9	8.5	4.9	9.6	8.1	7.5	8.7	5.9	4.6	

Source: ASR Ltd. / Various Airport and Port Authorities

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Container Shipping Activity

Asia and US Inbound Volumes Strong in July

Q3 saw a strong peak shipping season for US West Coast Ports, with the volume of inbound loaded containers up 8.5% YoY (the red line in L14 shows inbound volumes for 2017).

However, volume growth slowed in October, to just 0.6% YoY. The National Retail Federation forecasts that inbound volumes in November will also be broadly flat, with retailers now having stocked up ready for the busy holiday season.

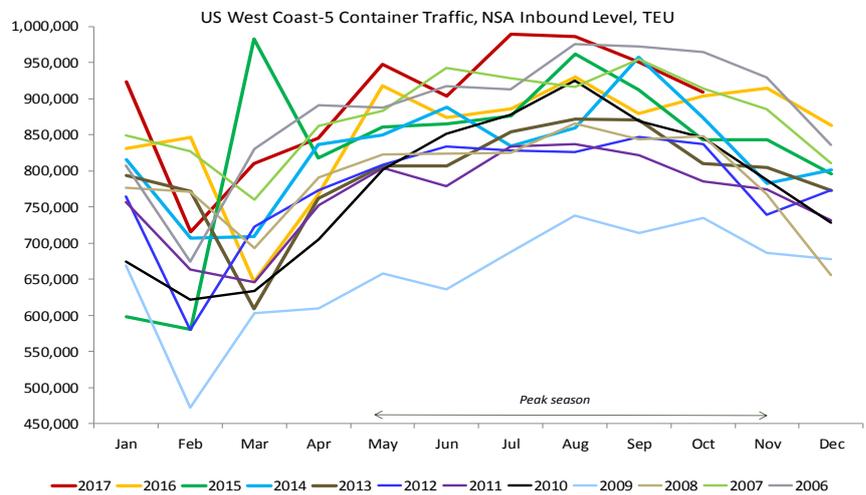
Loaded containers outbound from the US have stabilised in recent months but were down -8% YoY in Q3 and -7% YoY in October. One thing to watch in November is whether outbound volumes may pick up, due the strong China Singles' Day shopping event – though this may impact air freight more than shipping, if customers expect quick delivery.

The sum of US inbound and outbound loaded containers therefore fell -2.4% YoY in October.

Asian container shipping activity continues to trend higher, although the rate of growth may now be starting to decelerate. According to our proxy, volumes rose 9.0% YoY in Q3. In October the rate of growth remained robust, but moderated to 7.9% YoY. As

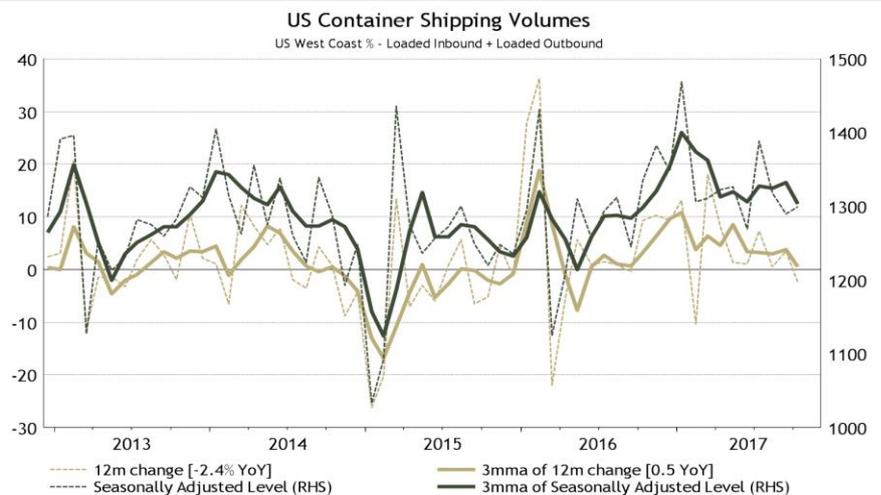
- The US saw a strong inbound shipping season in Q3, but with the US shelves now restocked for the holiday season, growth is likely to be slower in Q4. US outbound volumes have stabilised in recent months but are down YoY.
- Asian container shipping growth remains robust, with China volumes up 8.3% YoY in October, but may just be starting to moderate.
- Our proxy for European container shipping volumes suggests growth rose to 11.0% YoY in Q3, the fastest pace of growth since early 2011.

L14: US Inbound Shipments (data to Oct'17)



Source: ASR Ltd. / Various Port Authorities

L15: US Container Shipping (data to Oct'17)

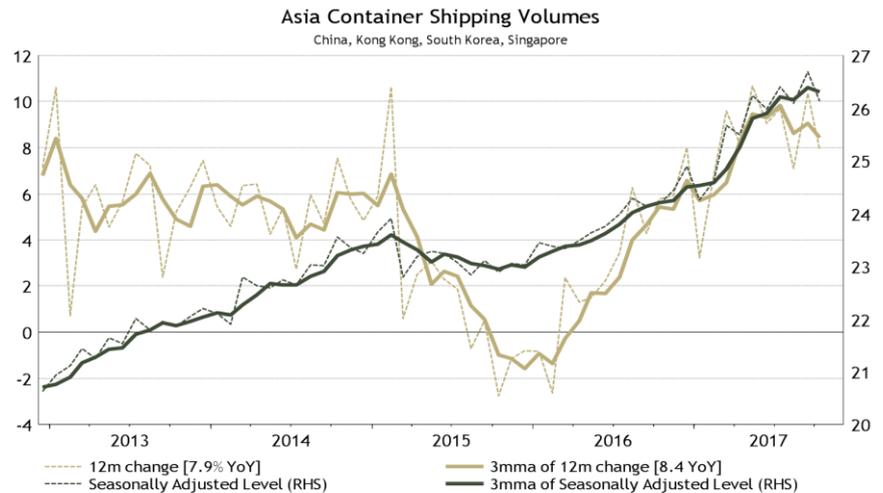


Source: ASR Ltd. / Various Port Authorities

seen in L18 below, China shipping growth – which dominates our Asia proxy – was still up 8.3% YoY in October. This may suggest some upside risk to the NRF’s forecast of flat inbound volumes to US West Coast Ports in in November. Singapore saw growth surge to 16.7% YoY (the port is potentially benefitting from CMA CGM putting more volumes through Singapore after its purchase of NOL), though this was offset by a YoY contraction in activity in Hong Kong and South Korea.

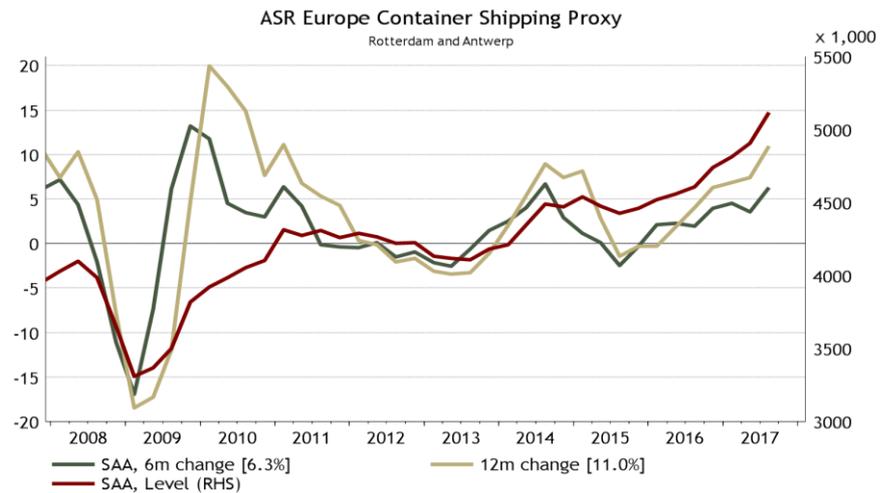
Our European Container Shipping proxy currently comprises quarterly volumes for Rotterdam and Antwerp. We see here that YoY growth picked up to 11.0% YoY in Q3, the fastest pace of growth since early 2011.

L16: Asian Container Shipping (data to Oct’17)



Source: ASR Ltd. / Various Airport and Port Authorities

L17: European Container Shipping (data to Q3’17)



Source: ASR Ltd. / Various Airport and Port Authorities

L18: ASR Container Shipping Proxies and component series - monthly growth rates

Container Shipping Volumes	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
China Container Shipping SAA % MoM	2.2	4.3	-1.1	2.2	0.7	1.7	-1.4	2.0	-2.3	-0.2
%YoY	7.8	9.8	7.9	10.9	9.9	10.2	8.0	11.1	8.3	7.4
S. Korea Container Shipping SAA % MoM	-4.2	5.6	-0.1	2.0	-1.4	0.9	-1.2	2.5	-5.0	
%YoY	-2.6	5.6	6.1	6.3	5.8	3.0	4.8	8.2	-0.5	
HK Container Shipping SAA % MoM	10.6	-1.6	-0.2	-5.1	-4.2	2.4	-4.7	15.3	-6.4	
%YoY	33.9	17.0	15.4	10.4	3.4	8.1	-5.9	7.5	-1.4	
Singapore Container Shipping SAA % MoM	-4.5	7.0	2.0	5.9	-3.8	1.7	2.3	-2.4	3.5	
%YoY	-3.6	6.9	7.8	12.2	8.6	11.9	9.9	7.8	16.7	
ASR Asia Container Shipping proxy, comprised of above Asian series, SAA	1.6	4.3	-0.7	2.9	-1.0	1.6	-1.2	2.3	-2.1	
%YoY	6.8	9.6	8.2	10.7	9.1	9.7	7.1	10.4	7.9	
ASR US Container Shipping proxy (West-Coast 5), SAA % MoM	-11.1	0.4	1.0	0.2	-4.4	9.5	-5.1	-2.2	0.8	
%YoY	-10.4	18.1	8.2	1.3	1.0	7.4	0.5	3.5	-2.4	
ASR Global Container Shipping proxy (WC-5 and Asian series), SAA % MoM	0.6	4.5	-0.7	2.8	-1.4	2.3	-1.8	2.5	-2.3	
%YoY	4.5	10.3	8.6	10.6	8.9	10.0	7.1	10.2	7.5	

Source: ASR Ltd. / Various Airport and Port Authorities

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ASR, Consultant to Ti

The ASR Global Logistics Index

The ASR Global Logistics Index represents the market performance of the logistics sector.

The DJ Transports Index, comprising large US-quoted companies involved in the transport of goods, is a great concept. Industrials make, Transports take, so the saying goes. The performance of, and/or commentary from, such companies should therefore tell us something about the strength of demand in the real economy. However, trade and transportation are now far more intermodal and far more global than they used to be. In terms of quoted companies, whilst the big road and rail freight names are still in the US, Asian and European companies dominate the shipping lanes. We now have a new generation of logistics providers which cover a wide range of shipping services and supply chain solutions.

Our Global Logistics Index is a Transportation Index for the 21st Century.

The ASR Global Logistics Index comprises 60 global equity names to bring the transportation index concept into this century and out into the global economy.

A full list and some notes on selection and construction can be found below.

Recent performance of this index can be found on p.16.

For our ASR Global Logistics Index we looked for companies within the Industrial Transportation and Airline industry classifications which best fit the profile of general merchandise logistics companies. All the companies included have at least 5-year price history and a market cap. above \$1bn. Airlines included are either cargo operations or derive at least 20% of revenue from cargo. We have attempted to limit the number of North American Road and Rail companies included to have a more representative, global, 21st century feel to our index list. We have created both equal and market-cap weighted versions of the Global Logistics Index (ASR-GLI).

ASR Global Logistic Index Constituents (Listed alphabetically)

Company	Market	Sector	Market Cap		Company	Market	Sector	Market Cap	
				\$bn					\$bn
A P MOLLER - MAERSK 'A'	DENMARK	Marine Transportation		17.7	HYUNDAI MERCHANT MARINE	SOUTH KOREA	Marine Transportation		1.5
ADANI PORTS AND SEZ.	INDIA	Transportation Services		12.5	INTL.CTNR.TERM.SVS.	PHILIPPINES	Transportation Services		4.2
AGILITY PUB.WHSG.	KUWAIT	Transportation Services		3.4	KAMIGUMI	JAPAN	Transportation Services		3.1
AIR TRANSPORT SVS.GP.	UNITED STATES	Delivery Services		1.4	KANSAS CITY SOUTHERN	UNITED STATES	Railroads		11.6
ARAMEX	DUBAI	Delivery Services		1.9	KAWASAKI KISEN KAISHA	JAPAN	Marine Transportation		2.4
ATLAS AIR WWD.HDG.	UNITED STATES	Delivery Services		1.4	KINTETSU WORLD EXPRESS	JAPAN	Delivery Services		1.4
BLUE DART EXPRESS	INDIA	Delivery Services		1.5	KNIGHT-SWIFT TRSP.HDG. 'A'	UNITED STATES	Trucking		7.7
BOLLORE	FRANCE	Transportation Services		15.2	KOREAN AIR LINES	SOUTH KOREA	Airlines		2.8
BRAMBLES	AUSTRALIA	Containers & Packaging		12.3	KUEHNE+NAGEL INTL.	SWITZERLAND	Marine Transportation		20.9
CANADIAN NATIONAL RY.	CANADA	Railroads		60.0	LANDSTAR SYSTEM	UNITED STATES	Trucking		4.4
CATHAY PACIFIC AIRWAYS	HONG KONG	Airlines		5.7	MITSUBISHI LOGISTICS	JAPAN	Transportation Services		2.3
CH ROBINSON WWD.	UNITED STATES	Trucking		12.2	NETSCOUT SYSTEMS	JAPAN	Marine Transportation		3.9
CHINA AIRLINES	TAIWAN	Airlines		2.1	NIPPON EXPRESS	JAPAN	Trucking		6.3
CHINA MRCH.POR.HDG.	HONG KONG	Transportation Services		8.3	NIPPON YUSEN KK	JAPAN	Marine Transportation		4.0
CJ LOGISTICS	SOUTH KOREA	Transportation Services		3.2	OLD DOMINION FGT.LINES	UNITED STATES	Trucking		10.7
COMPANIA SUDAMERICANA DE	CHILE	Marine Transportation		1.7	ORIENT OVERSEAS (INTL.)	HONG KONG	Marine Transportation		6.0
CONTAINER CORP.OF INDIA	INDIA	Transportation Services		4.9	OSTERREICHISCHE POST	AUSTRIA	Delivery Services		3.0
COSCO SHIP.PORTS	HONG KONG	Marine Transportation		3.1	PANALPINA WELTTRANSPORT	NETHERLANDS	Delivery Services		2.1
CSX	UNITED STATES	Railroads		50.2	POSTNL	NETHERLANDS	Delivery Services		2.1
DEUTSCHE POST	GERMANY	Delivery Services		57.4	QUBE HOLDINGS	AUSTRALIA	Transportation Services		3.2
DSV 'B'	DENMARK	Trucking		14.6	RYDER SYSTEM	UNITED STATES	Transportation Services		4.3
EVA AIRWAYS	TAIWAN	Airlines		2.1	SANKYU	JAPAN	Transportation Services		2.8
EVERGREEN MARINE	TAIWAN	Marine Transportation		2.2	SEINO HDG.	JAPAN	Delivery Services		3.3
EXPEDITOR INTL.OF WASH.	UNITED STATES	Delivery Services		11.4	SINGAPORE POST	SINGAPORE	Delivery Services		2.2
FEDEX	UNITED STATES	Delivery Services		64.2	STEF	FRANCE	Trucking		1.5
HAMB.HAFEN UD.LOGISTIK	GERMANY	Transportation Services		2.0	SUMITOMO WAREHOUSE	JAPAN	Transportation Services		1.3
HEARTLAND EXPRESS	UNITED STATES	Trucking		1.9	TFI INTERNATIONAL	CANADA	Transportation Services		2.2
HUNT JB TRANSPORT SVS.	UNITED STATES	Trucking		12.2	UNION PACIFIC	UNITED STATES	Railroads		101.1
HUTCHISON PORT HDG.TRUST	SINGAPORE	Transportation Services		3.5	UNITED PARCEL SER. 'B'	UNITED STATES	Delivery Services		82.3
HYUNDAI GLOVIS	SOUTH KOREA	Transportation Services		4.9	XPO LOGISTICS	UNITED STATES	Transportation Services		9.2

Source ASR Ltd. / Thomson Financial Datastream Market cap as of 8/12/17

We believe that monitoring the newsflow around this basket of names will complement our understanding of trends in trade and logistics.

David Buckby
Ti, Economist

Logistics Sector Developments

Industry estimates confirm solid demand in Q3

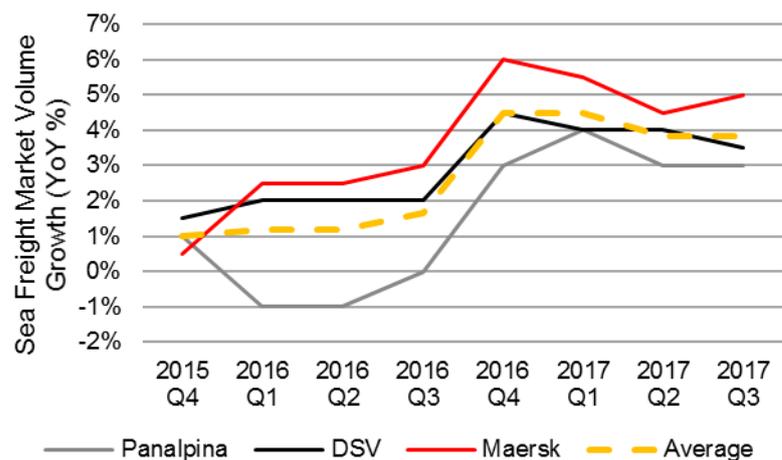
The ave. estimate of global containerised sea freight growth by Maersk, Panalpina and DSV was 3.8% YoY in Q3, unchanged on Q2. These estimates, which comprise the logistics providers' own views, are significantly lower than the growth rates suggested by ASR's port-based global shipping proxy. Panalpina estimated growth of just 3%. DSV's central estimate was growth of 3.5%, while Maersk put the figure at 5%. Data from Maersk suggest that nominal supply/ capacity growth in container shipping was lower than demand growth again in Q3. This has been the case since Q3 2016. However, a sharp drop in idling of vessels added to effective capacity. Maersk's average freight rate in Q3 2017 was approximately 20% higher than its historically low average rate for 2016, but the Q3 reading is still over 10% lower than its average rate in the recession year of 2009. Although there were 527,000 TEUs of new capacity ordered in Q3 2017, the orderbook as a share of the global fleet was just 13.5%, lower than the annual figures for 2010 to 2016, which range from 32% to 17%. This limited increase in supply should offer some support to freight rates going forward.

- Industry estimates suggest global sea container freight growth was steady in Q3, but will slow in Q4
- Industry estimates suggest air freight volume growth remained in double digits, with Tech and Pharmaceutical cargos growing faster than average; and Kuehne & Nagel expect pace of growth to be maintained in Q4
- In Air Express, DHL and UPS gained as FedEx contended with the NotPetya cyberattack
- European road freight and contract logistics volume growth stay around 3%

Sea Container Freight

Key provider quote: On Q3 volume development, Maersk stated: "Global container demand remained solid and grew around 5% in Q3 2017 compared to the same quarter last year. While demand growth is high compared to the past couple of years, it was still lower than the first half of 2017 and growth is expected to slow further towards the end of the year. Container volumes on East-West trades were driven by high imports into North America and Europe, while growth in Far East imports remained low. On the North-South trades the growth in container demand remained strong. Especially imports into South America and Africa continued to rebound after several years of low growth. For the full year of 2017, global container demand is expected to grow 4-5%."

L.19: Provider Estimates of Sea Freight Market Volume Growth



Source: Ti / Panalpina, DSV and Maersk estimates of overall market growth

Graph notes: The graph above tracks companies' estimates of global market demand for containerised shipments. Estimates have been sourced from the world's largest container shipping line, Maersk, and two of the world's largest freight forwarders, DSV and Panalpina. The average of Maersk's, Panalpina's and DSV's estimates of year-on-year global market demand growth for containerised shipments was 3.8% in 2017 Q3.

Air Freight

For Q3 2017, the average estimate of year-on-year global air freight growth by the forwarders Panalpina and DSV was 10.5%, up from 10% in Q2. Panalpina estimated market growth at 10%, whereas DSV's figure was slightly higher at 11%. These data suggest faster growth than ASR's global air freight proxy.

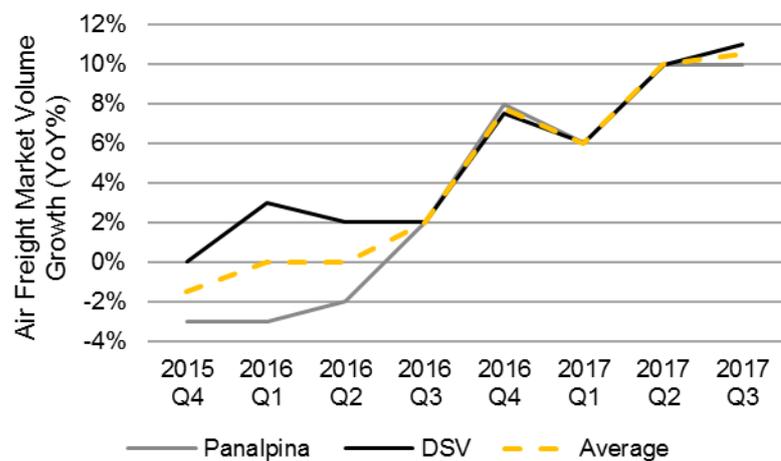
According to WorldACD, September 2017 was the thirteenth consecutive month of year-on-year volume growth exceeding 5%. Through the first three quarters of the year, Asia Pacific (+14.2%) and Europe (+12.6%) remain the best performing regions for volume growth.

As for particular sectors driving growth, WorldACD asserted that for the first eight months of the year, growth in the transport of high tech & other vulnerable goods outpaced growth in general cargo: 18% vs. 12.4%. Pharmaceuticals was the only other category growing faster than general cargo. Perishables growth was slower. Volumes of flowers were up by 9.9%, though fruits and vegetables (+5.9%) and fish and seafood (+4.9%) volume growth lagged behind.

Key provider quote: Commenting on the state of the market, Kuehne + Nagel CEO Detlef Trefzger remarked: "I would assume that this strong volume growth in airfreight should normalize next year, back to a 5%... market growth. That would be our reading of the market".

"At the moment [two weeks into Q4], also talking to airfreight carriers, we don't see any major change. And we have peak season now. So at the moment, we don't see any changing element in that airfreight volume growth."

L.20: Provider Estimates of Air Freight Market Volume Growth



Source: Ti / Panalpina and DSV estimates of overall market growth

Graph notes: The graph above tracks estimates of global market demand for air freight shipments, as measured by estimates of global air freight tonnage growth. Estimates have been sourced from two of the world's largest freight forwarders, DSV and Panalpina. It is not completely clear whether their estimates cover both domestic and international shipments, but given that the nature of their business is managing international freight flows, it is thought that their estimates measure international air freight tonnage growth. An average of these estimates puts year-on-year global tonnage growth at 10.5% in 2017 Q3.

Ti's own Sea Freight Index suggests that containerised sea freight volume growth for large forwarders was 5.7% in Q3 2017, higher than the average estimate of market volume growth (3.8%) of Maersk, DSV and Panalpina. For seven of the last eight quarters, year-on-year volume growth of the world's largest forwarders has exceeded that of the market*, suggesting the big players are gaining market share.

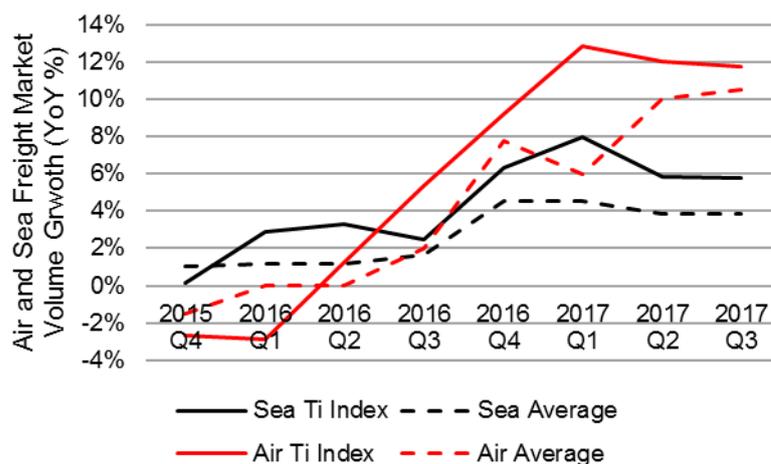
Ti's Air Freight Index suggests that global air freight volume growth for large forwarders was 11.8% in Q3 2017, higher than the average estimate of market volume growth (10.5%) of DSV and Panalpina. For six of the last eight quarters, year-on-year volume growth of the world's largest forwarders (as proxied by the Ti Air Freight Index) has exceeded that of the market**. As in sea freight, this suggests that the big players are gaining market share.

In a survey undertaken by Ti earlier this year, 39% of respondents believed that the top 20 forwarders would increase their market share over the next five years due to organic growth (36% maintain share, 21% decrease share, 4% unsure).

Ti Sea and Air Freight Indices

Key Finding: Ti's own air and sea freight forwarding indices suggest stronger rates of growth for large forwarders than estimates of market growth by the likes of Panalpina, DSV and Maersk, suggesting the big players are gaining market share.

L.21: Estimates of Air and Sea Freight Market Volume Growth



Source: Ti / Panalpina and DSV estimates of overall market growth

Graph notes: The 'Sea Ti Index' and 'Air Ti Index' estimates of sea and air freight market volume growth are based on a weighted basket of volume growth data from 10 of the world's top 20 freight forwarders who supply such figures. Weights are fixed and are based on 2016 annual volumes. A company is excluded for a period if an acquisition materially inflates its figures and it fails to provide an estimate of organic growth. When a company is excluded from the basket for a period, weights are adjusted accordingly. Collectively, the 10 forwarders are estimated to manage approximately one third of global air and sea freight volumes. The indices are proxies for global air and sea freight market volume growth, although more directly, they serve as an indicator of volume growth of the world's largest freight forwarders

*The 'Sea Average' series is the average of Maersk's, Panalpina's and DSV's estimates of year-on-year global market demand growth for containerised shipments, as covered on p11.

**The 'Air Average' series is the average of Panalpina's and DSV's estimates of year-on-year global market demand growth for air freight tonnage, as covered on p12.

The American giants UPS and FedEx reported international air express volume growth of 19.0% and 0.4%, respectively, in Q3 2017. DHL Express' Time Definite International (TDI) volumes were up by 11.9%.

FedEx's volume growth of 0.4% was depressed primarily due to the NotPetya cyberattack on its subsidiary TNT, which is heavily exposed to Europe. Its difficulties must have aided its rivals' volume growth to some extent – UPS noted that its exceptional growth was mainly driven by European volumes. FedEx estimates that the cost of the attack will be \$300m, the same as fellow sufferer Maersk. FedEx has stated that it is reconsidering an insurance policy to cover cyber-attacks, as policies are improving. One upside is that TNT's security is now much improved. In addition, the episode has accelerated the integration of TNT and FedEx, which is expected to be complete by 2020.

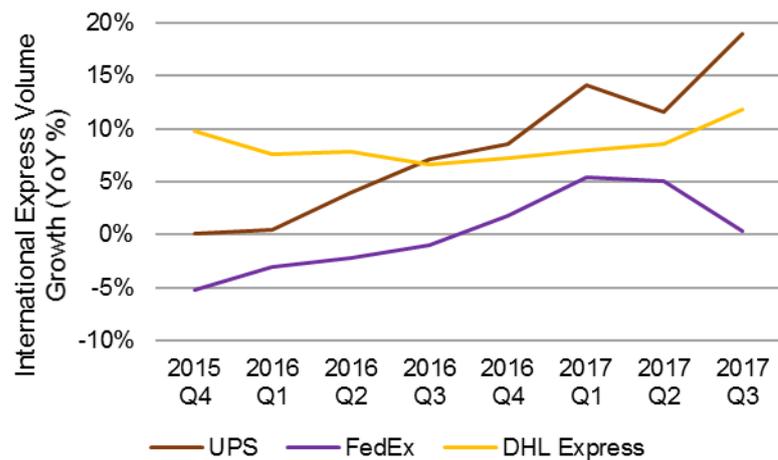
DHL noted that its double-digit TDI volume growth was fuelled by "cross-border B2C, good B2B growth and further market share gains." Volume growth was again supported by all regions: MEA (+31.5%), Americas (+20.4%), Europe (+14.8%) and Asia/Pacific (+4.5%).

International Air Express

Key provider quote: On its Q3 results, UPS stated: "Export volume in the third quarter and year-to-date periods of 2017 grew across all major trade lanes, mainly driven by our European operations. Europe export volume showed significant growth to all regions, particularly in the Europe-to-U.S., Europe-to-Americas and intra-Europe trade lanes. Export volume into the U.S. grew in all trade lanes, led by the Americas and Europe regions. Export volume growth was strong across all major products, with a continued shift towards our premium express products, such as Worldwide Express and Transborder Express services."

Commenting on the impact of its trade lane mix on revenues, UPS noted: "Export revenue per piece was adversely impacted by shorter average trade lanes due to faster growth in intra-regional shipments."

L22: Volume Growth of International Air Express Providers



Source: Ti / UPS, FedEx and DP DHL data

Graph notes: The graph above tracks DHL Express' Time Definite International (TDI) volume growth, its most premium air express product. UPS data measures its international export volumes. FedEx data reflects its Express division's International Priority volumes. The data from all three is thought to offer a reasonable comparison of volume growth in the most premium segment (time definite international) of the international air express industry.

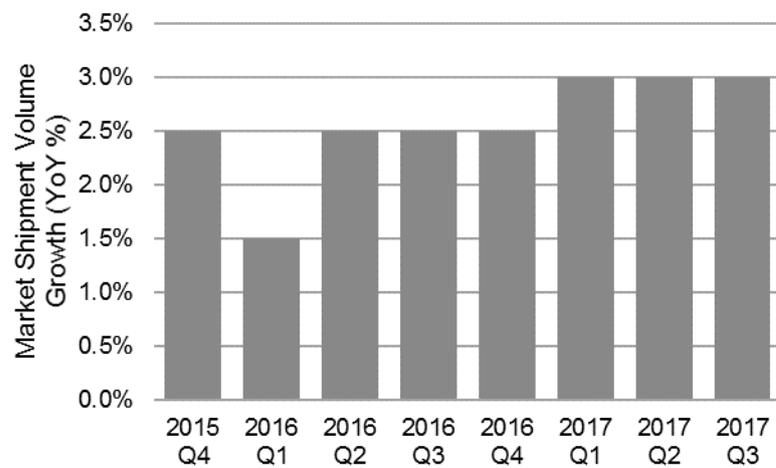
The three providers comprise the vast majority of the TDI market. DHL Express data asserts that the global TDI market is worth €24.0bn in its latest market study. It estimated its global market share at 38%, with FedEx at 24%, UPS at 22% and TNT at 5% (now owned by FedEx). Others accounted for 11%.

European Road Freight and Contract Logistics

DSV's estimate of year-on-year European road freight market shipment growth in Q2 2017 was 3.0%, the same as in Q1 and Q2 2017. In the three previous quarters, its corresponding growth estimate was 2.5%. Road freight volume growth is broadly picking up in conjunction with Europe's economy. As indicated by the graph, road freight market volume growth tends to exhibit little volatility, and looking ahead to the final quarter of the year, it is expected that volume growth will broadly match its performance in the first three quarters.

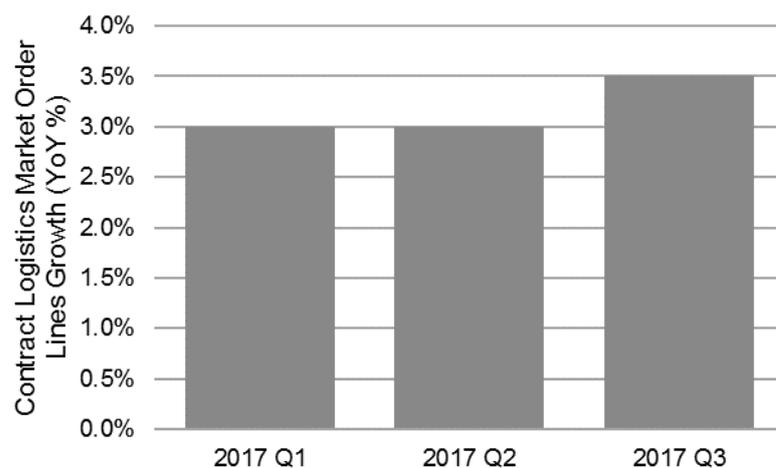
DSV estimated that European contract logistics volume growth was approximately 3.5% in 2017 Q3. It has stated that contract logistics is broadly growing in line with road freight. This is not all that surprising given that transportation typically accounts for about one third to one half of a provider's contract logistics revenues. Contract logistics should arguably be growing faster however, particularly as it should benefit more from e-commerce growth than road freight and especially if one believes contract logistics is benefitting from continued growth in outsourcing.

L23: European Road Freight Market Shipment Volume Growth



Source: Source: Ti / DSV estimates

L24: European Contract Logistics Order Lines 'Volume' Growth



Source: Source: Ti / DSV estimates

Graph notes: DSV, one of Europe's largest logistics providers, publishes quarterly year-on-year growth estimates of European road freight market shipment growth and contract logistics 'order lines' growth. Both domestic and international shipments are covered in its estimate of road freight volume growth. Contract logistics refers to integrated warehousing, transportation and value-added services within the context of a long-term relationship (typically 3-5 years). DSV sometimes states interval estimates rather than point estimates. Where interval estimates have been stated, Ti has taken the average of the interval. Only three quarters of data have been provided for contract logistics as DSV did not provide any estimates of contract logistics market volume growth in 2016 following its acquisition of UTi.

Zahra Ward-Murphy

ASR, Consultant to Ti

Market Signals from Logistics

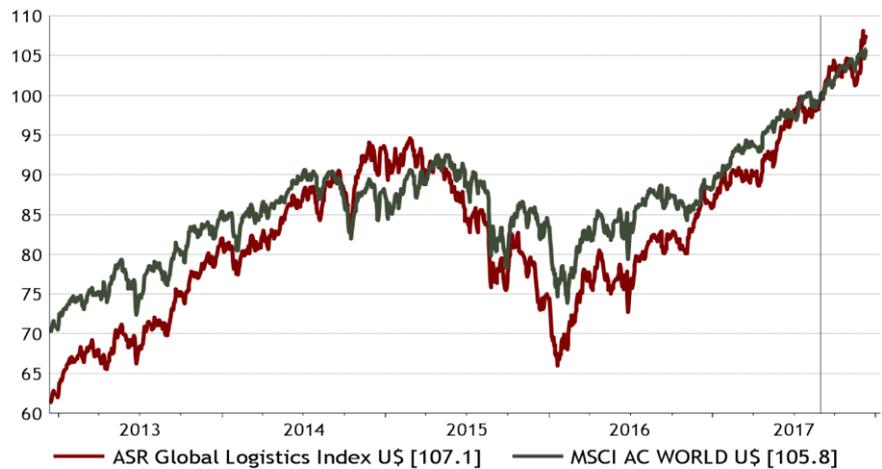
Logistics Data Suggest Peak in Global EPS Growth

- The ASR Global Logistics Index has outperformed Global Equities in recent months, in a potentially supportive sign for the market.
- As gains in the ASR-GLI have been led by Railroads and Trucks, which are dominated by US names, there looks to be a tax theme at play; however, Delivery Services have also outperformed, suggesting support from e-commerce.
- Longer-term relative performance of the ASR-GLI suggest the market is pricing in a moderation in trade growth.
- The relative performance of the ASR-GLI ASR's Global Air Freight proxy suggest Global EPS growth may have peaked.

Our ASR Global Logistics Index (ASR-GLI) has risen 7% over the past three months, modestly outperforming Global Equities which are up 6%. We believe this provides a positive signal for the equity market in the same way that the DJ Transports, representing real economic activity, is used to confirm new highs in the DJ Industrials.

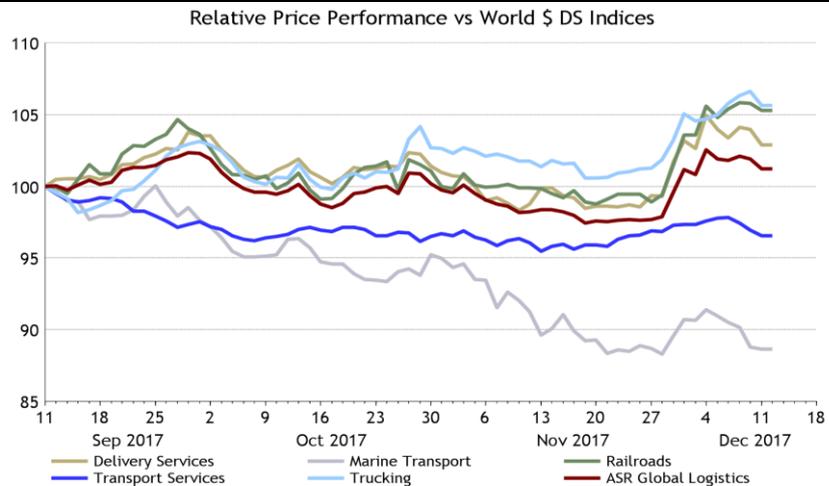
It is worth noting, however, that the outperformance of the ASR-GLI has come over the last couple of weeks and has been led by Trucks and Railroads. These subsectors are overwhelmingly comprised of US names. As such we suggest that they may have seen a boost from recent optimism surrounding US tax reform. Indeed, many of these names feature in ASR's list of US 'high tax rates companies', which have the most to gain from a lower corporate tax rate. However, Delivery Services have also outperformed, playing into the e-commerce theme, mentioned on p4.

L25: ASR Global Logistics Index and Global Equities



Source: ASR Ltd. / Thomson Reuters Datastream

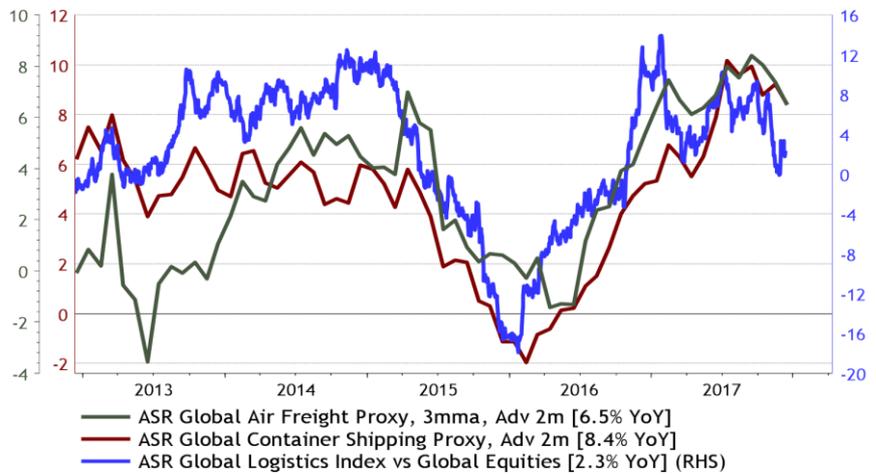
L26: Performance of Industrial Transportation Subsectors



Source: ASR Ltd. / Thomson Reuters Datastream

The ASR-GLI can also serve as a barometer for how much trade growth is priced into the market. L27 suggests from the slower YoY outperformance of the ASR-GLI that the market is pricing in a moderation of global trade growth, in fact perhaps a little more than out logistics series currently suggest.

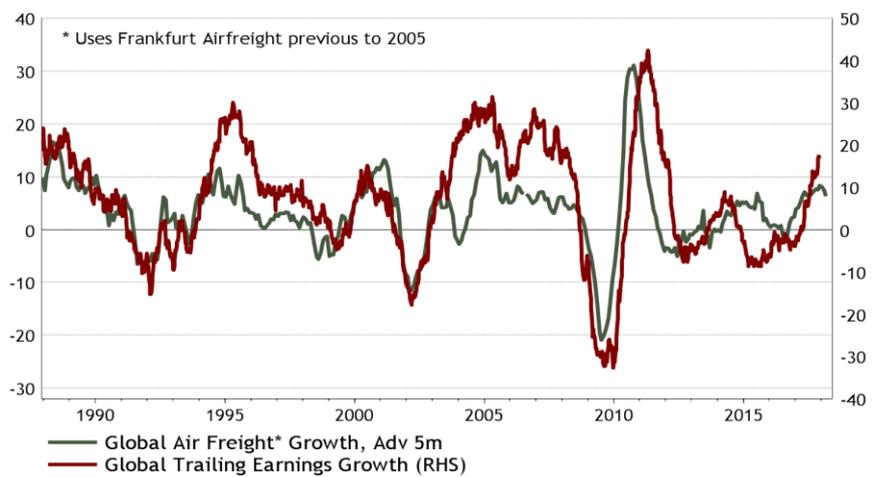
L27: ASR GLI Suggests Market Anticipating Slower Trade Growth



Source: ASR Ltd. / Thomson Reuters Datastream

Finally, we have always found a fairly good relationship between Global Air Freight growth – as a proxy for the cycle, and potentially pricing power – and global earnings growth. The turn down in both the ASR-GLI relative performance in L27 and the potential peaking out of Air Freight growth in L28 now points to a moderation in Global EPS growth going forward, consistent with ASR’s view.

L28: ASR Global Air Freight Growth Suggests EPS Growth to Peak



Source: ASR Ltd. / Thomson Reuters Datastream

About the authors:

David Buckby, Transport Intelligence, Economist.

David manages one of Ti's core strengths, that of quantitative analysis of a range of logistics markets, including sizing and forecasting. Over a number of years he has conducted market sizing studies on freight forwarding, contract logistics, European road freight transport, express & parcels and e-commerce logistics. He contributes to Ti's Logistics Briefing service and is regularly cited by industry media.

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