



04.Nov.10 _____

TIACA Air Cargo Forum 2010

Aftermath of the Perfect Storm

Surprisingly quick recovery

Slow demand growth but high volatility

Shippers' search for predictability

Hungry bellies and new freighters

Belly only, isn't belly up...

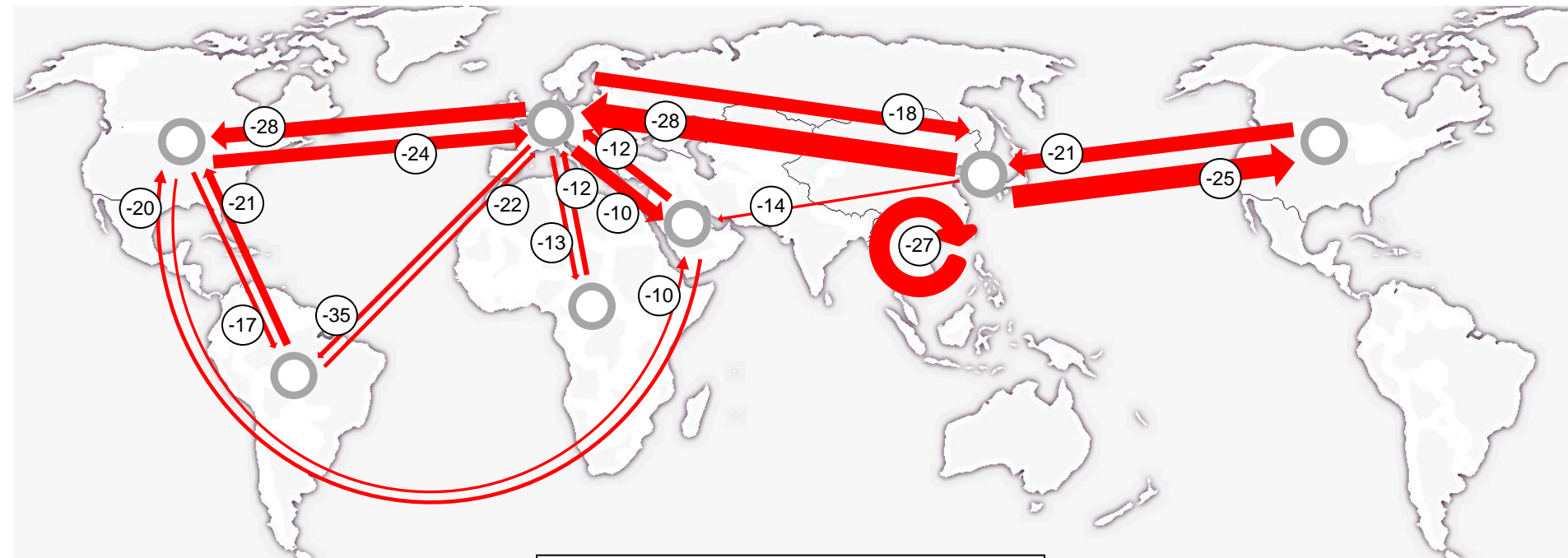
End to friendly fire?

This snapshot was taken on November 2, 2009

The decline in volumes across the globe resulted in very difficult market conditions

Intercontinental air trade growth 2009

%*



Total international air trade growth: -21%

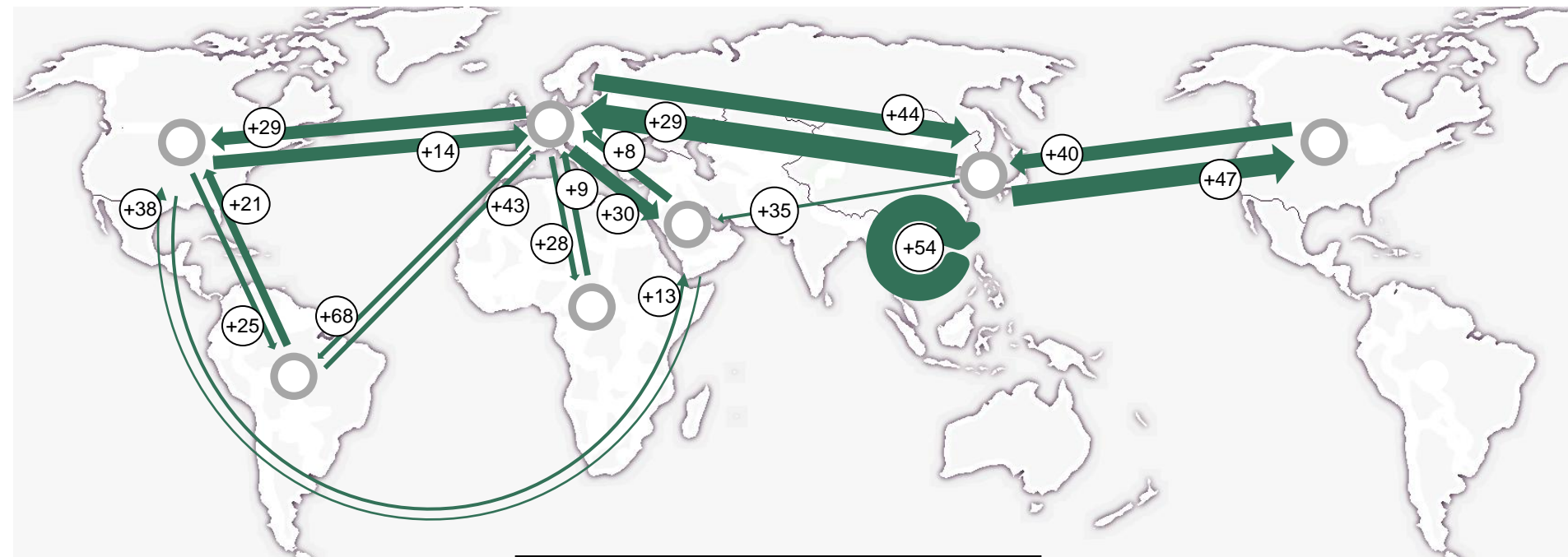
*YOY growth in terms of weight; based on US data until August 2009 and North East Asia & Europe data until July 2009
Intra Asia air trade consists of flows to/from North East Asia. Asia to Middle East air trade based on North East Asia data
Source: Seabury Global Trade Database. Last update: Nov. 2 2009

The most recent snapshot provides a very different picture

The speed of recovery with which the air cargo volumes rebounded took the industry by surprise

Jan-July 2010 air trade growth

%*



Total international air trade growth: +39%*

*Based on China data until August, US data until July, Europe data until June, and N.E. Asia data until May

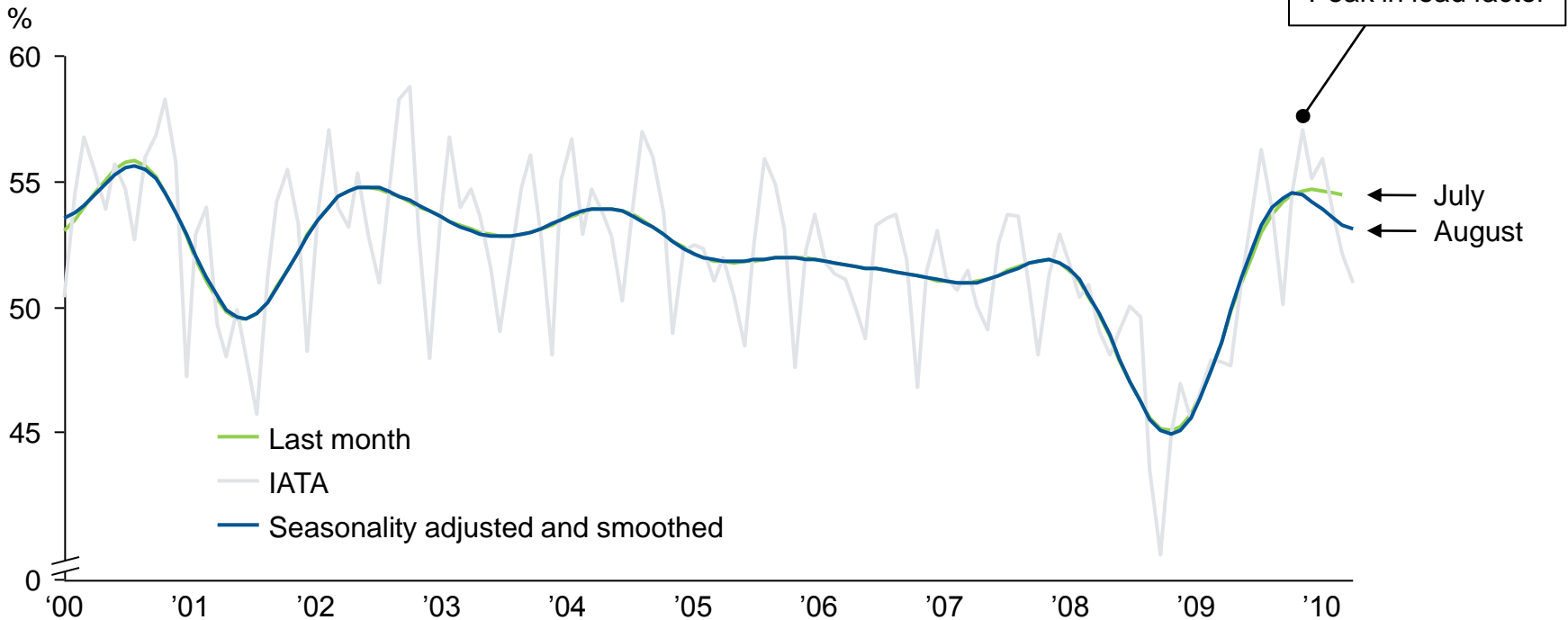
Note: Intra Asia and Asia to Middle East trade is based on North East Asia air trade data

Source: Seabury Global Trade Database. Last update: October 16, 2010

Decline in load factor after 17 months of growth

Freight load factor steadily declined over time, from 55% in '00 to 51% in '07. After a dip in '08/'09, the recovery in combination with reduced capacity brought load factors back to 53%

Freight load factor



Load factor is expected to drop further and follow trend again now boost is over and capacity is brought back into the market

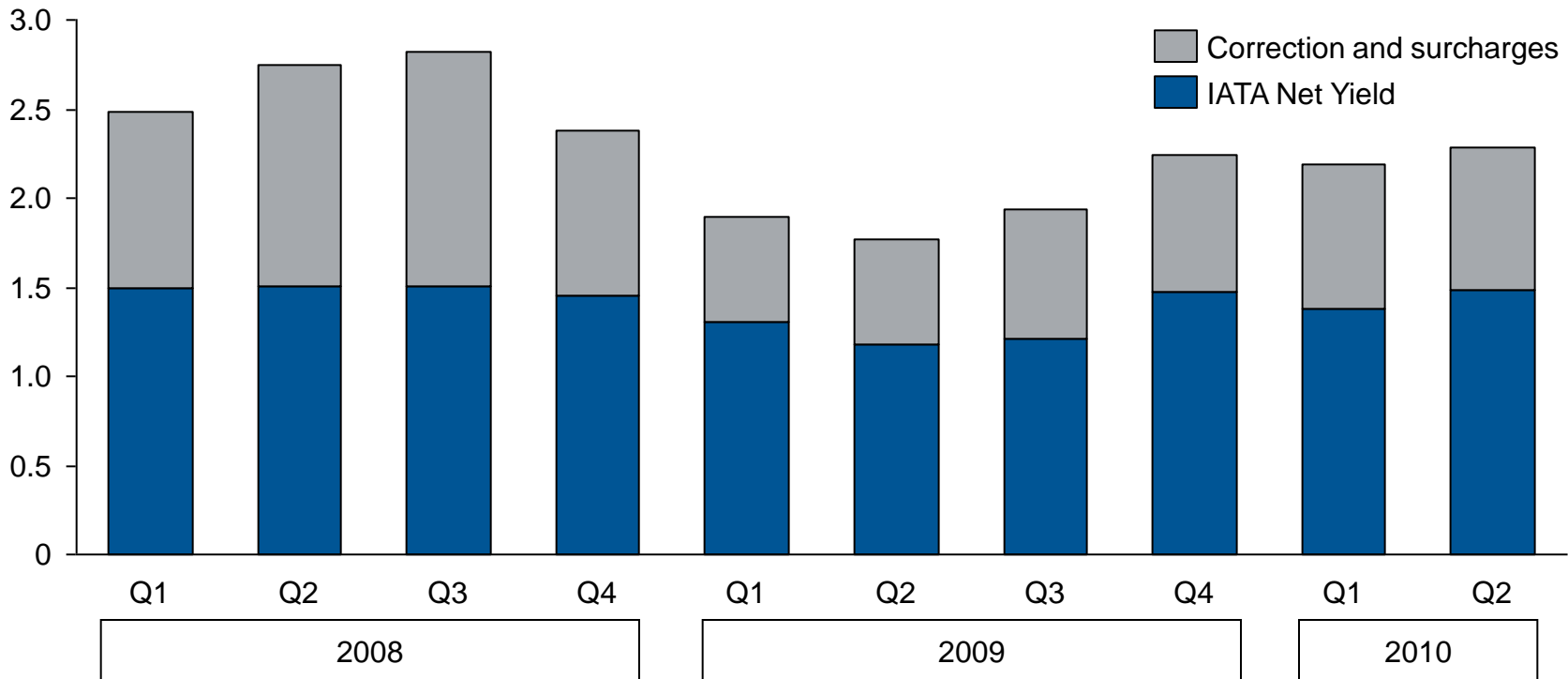
Note: Smoothing: low-pass filtered
Source: IATA; Seabury analysis

Yields have not recovered to pre-crises levels

Although the IATA reported yields have shown a substantial increase over the last few quarters, they are still below Q4 2008 levels

Airline yields

USD/KG



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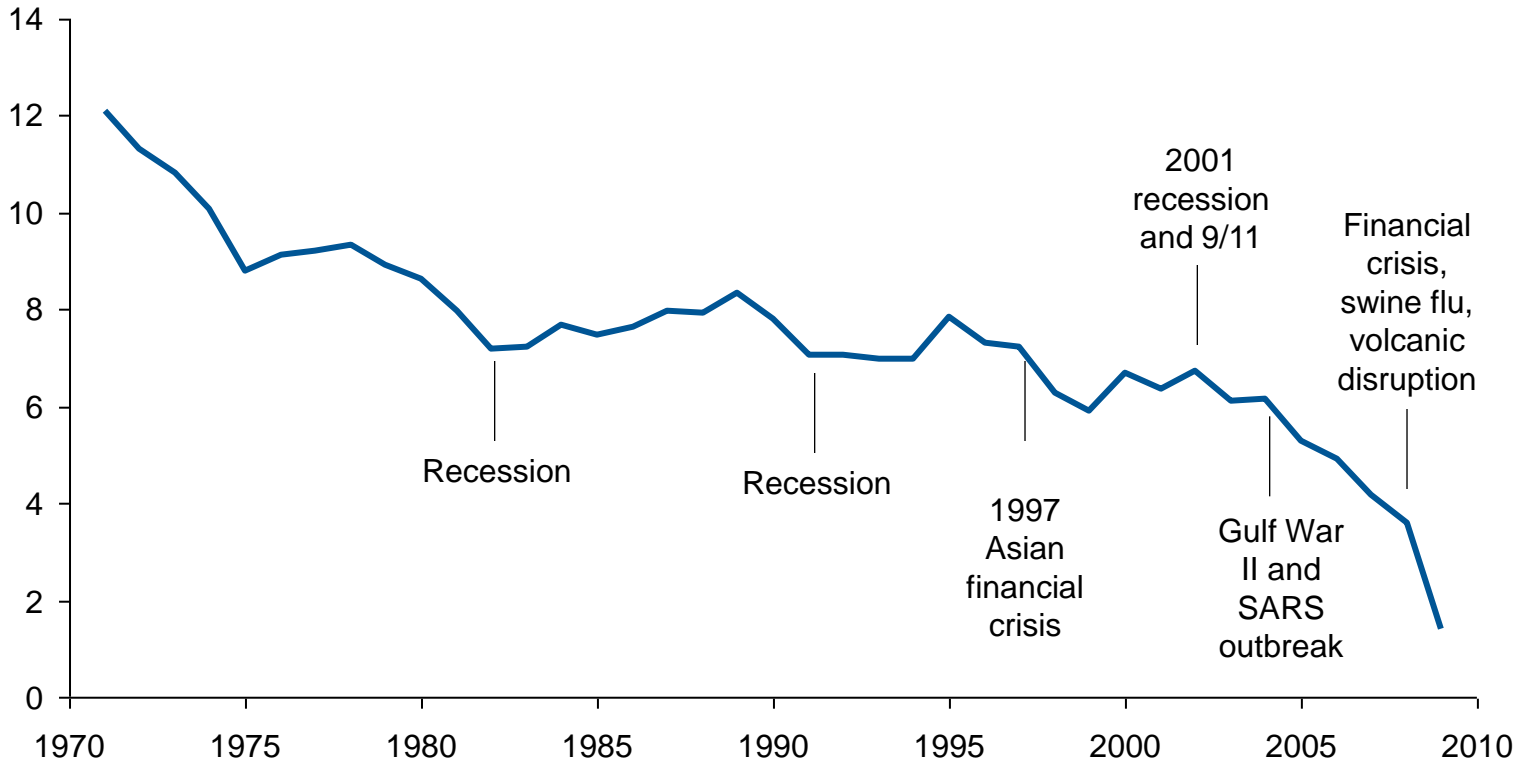
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Airfreight growth is slowing down

The 10-year average growth rate has declined from 8-12% in the seventies, 7-8% in the eighties, 6-7% in the nineties, and 2-7% for the last decade

Air freight growth decelerating over time

FTK growth 10-year moving average (%)



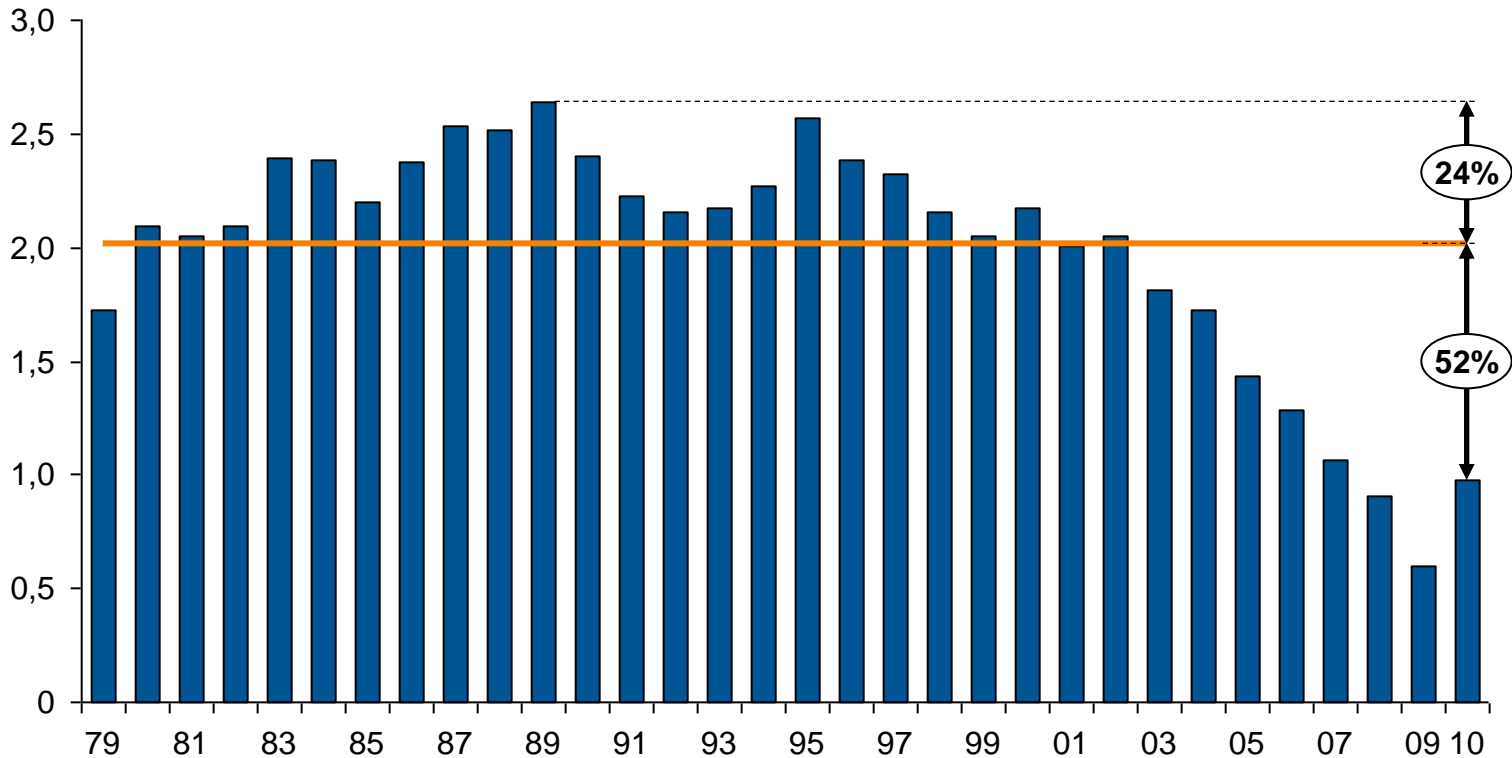
Source: Boeing, Seabury analysis

Correlation between GDP and FTK growth varies greatly

The 2010 high growth numbers result in a nearly 1:1 ratio between GDP and FTK growth during the last decade

Changing relation GDP and air freight growth

FTK/GDP ratio, 10-year average

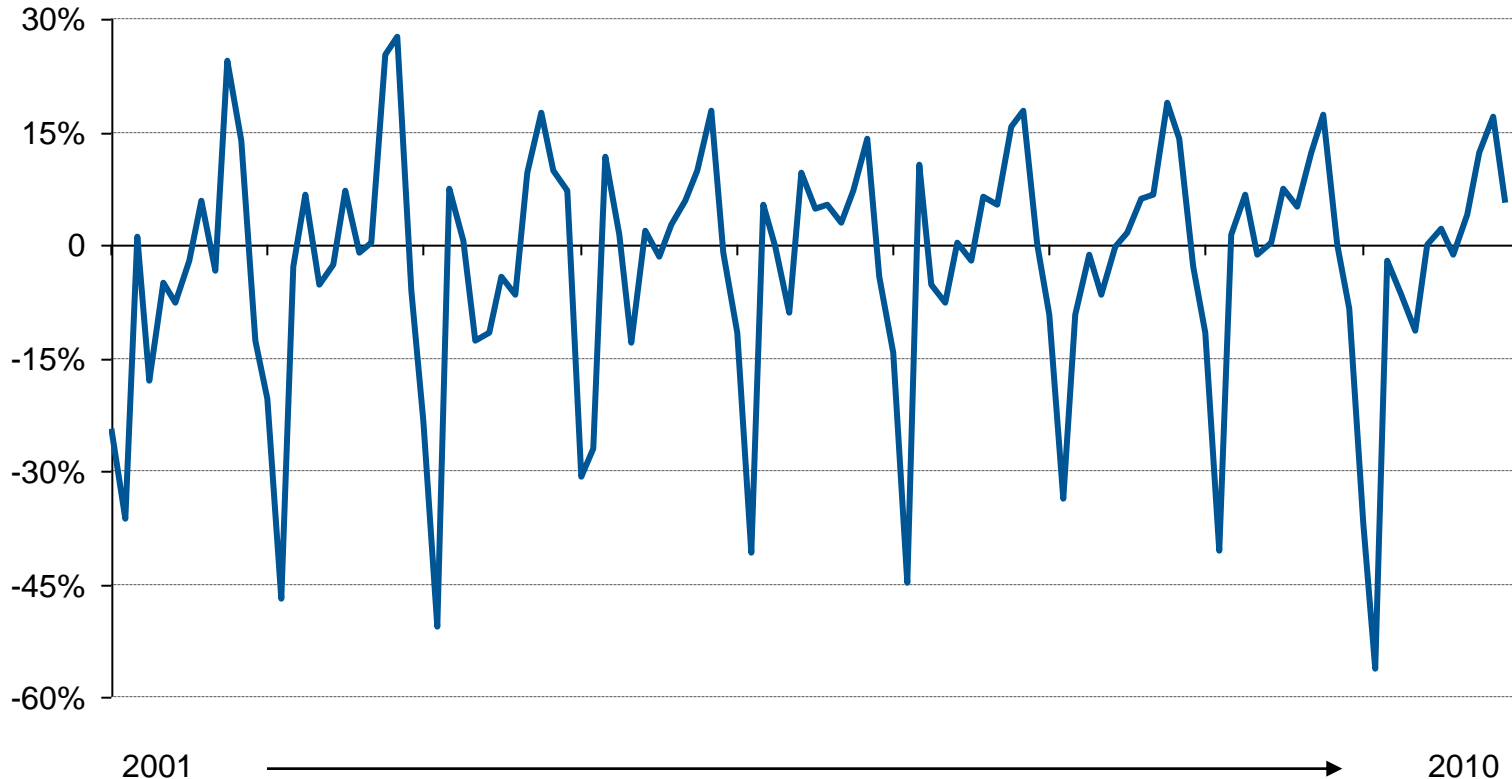


Air cargo markets are volatile by nature

Volatility in demand and the lack of leading indicators trouble network and fleet planning at airlines, especially considering that ~50% of capacity is relatively numb to these fluctuations

Volatility of Air Cargo demand between China and United States

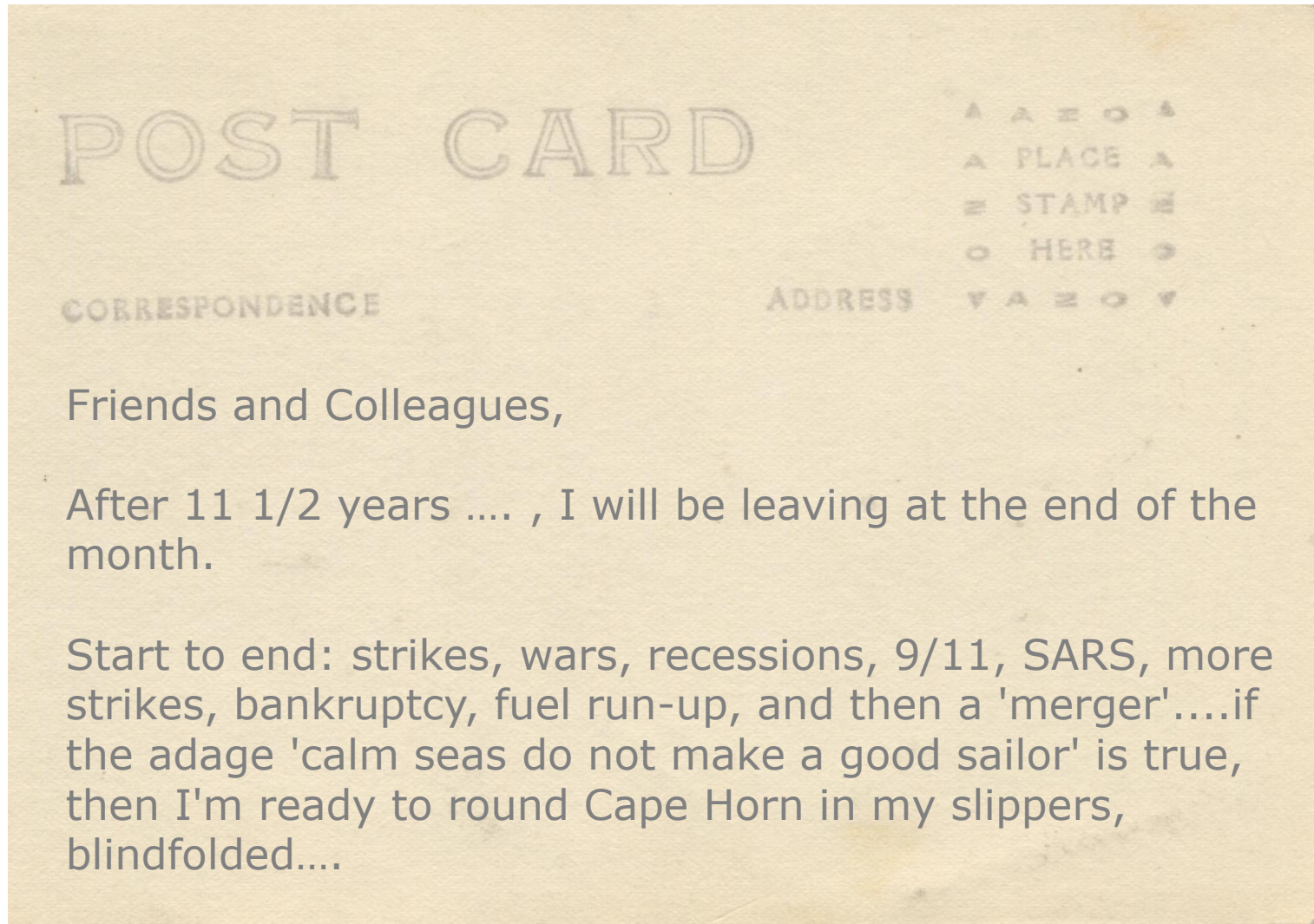
Growth versus 12 month average



Source: Seabury Global Trade Database

And then there are the unexpected events as well...

Goodbye note from a client leaving the air cargo industry

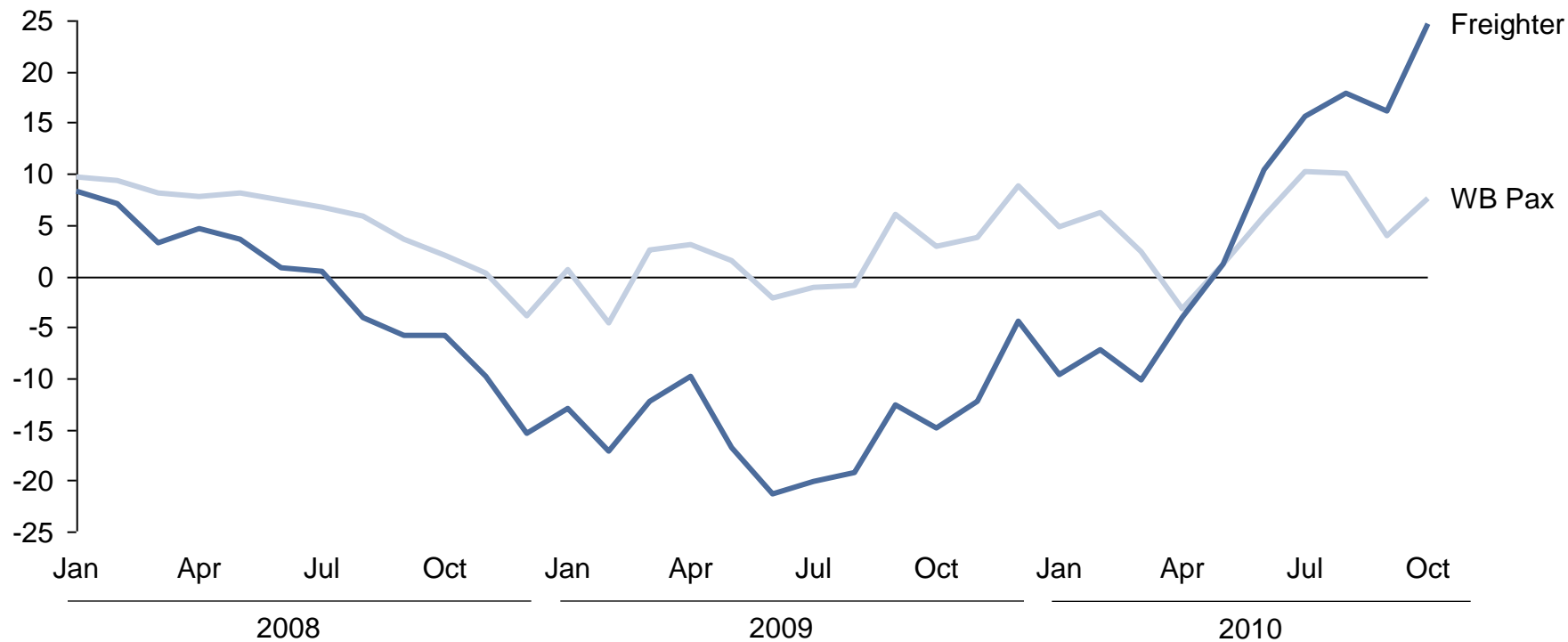


Freighter services are the safety valve on the capacity front

As capacity on passenger flights is less sensitive to fluctuations in demand, freighter services are the main source to match capacity to demand

Scheduled ATK growth

Monthly YoY growth



Source: Seabury Capacity Database

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Shippers are searching for a higher degree of predictability

Recent developments have pushed shippers to look for a more predictable supply chain, from both a costs as well as a service point of view

Causes of concern

- Great hike in fuel surcharges that was experienced in the summer of 2008, and they had little room to hedge...
- Unexpected surge in demand especially from Asia in Q4 2009 that sent prices through the roof while delivery times went trough the floor
- The volcano-induced closure of European air space in April 2010 created an ever more intense though shorter shortage of capacity

Change in behavior

- Shippers aim to have contracts that do not allow for intermediate changes to freight rates and surcharges
- They demand 'on-time' delivery guarantees with penalties in case of non-adherence
- Even more disciplined approach to making their logistic chain less dependable on air freight



The changes in behavior will also have a large impact on the forwarder-airline relationship

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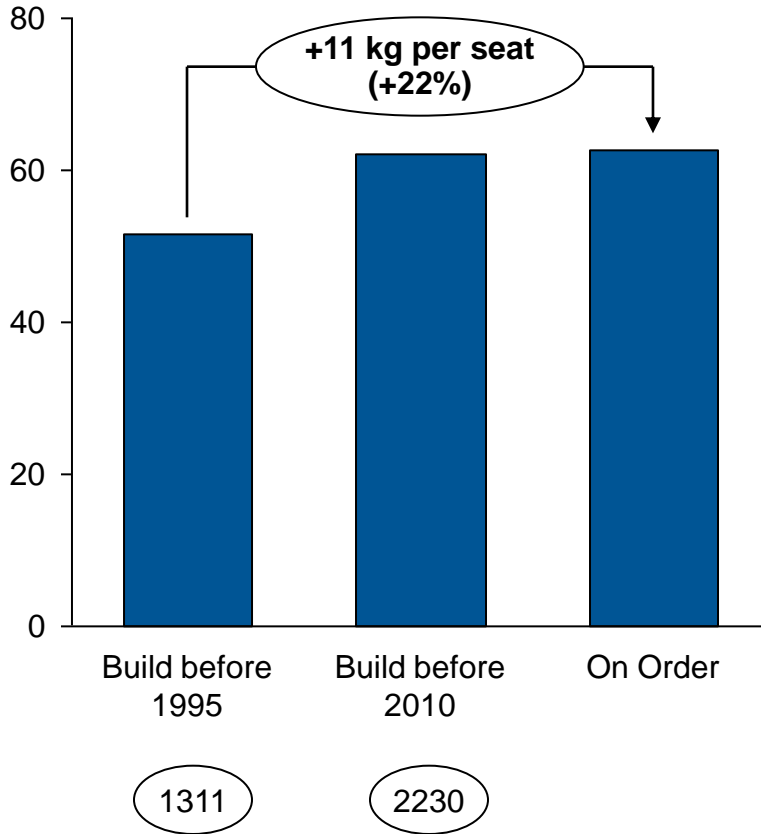
End to friendly fire?

Passenger aircraft are becoming increasingly cargo friendly

With an increase in capacity per seat and range, passenger aircraft have become more 'cargo friendly', a trend that is expected to continue

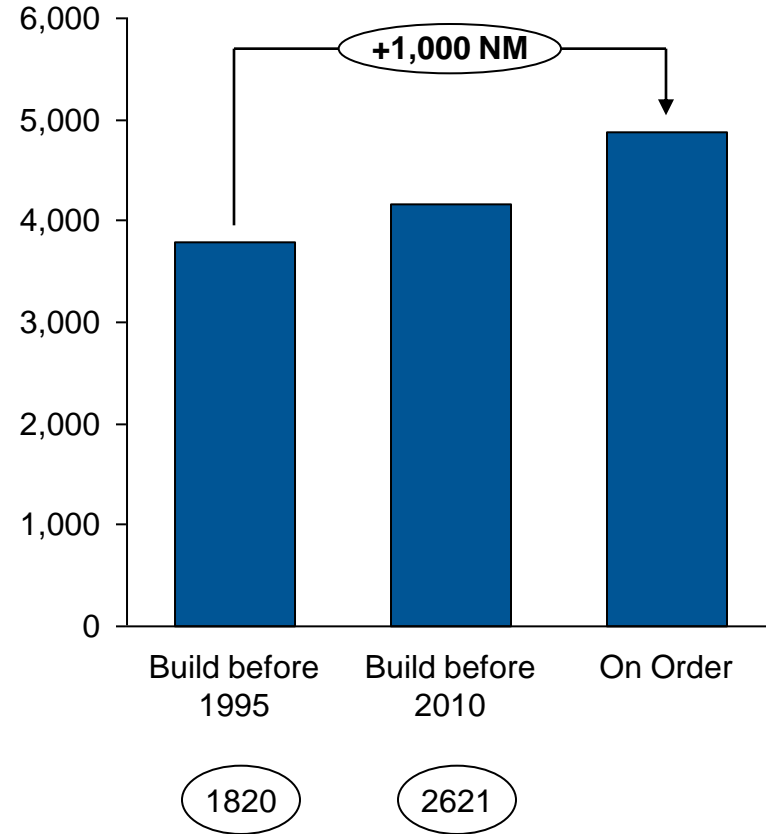
Cargo capacity per seat

KG per seat



Aircraft range

NM



Note: Cargo capacity in each age group is weighted against number of total seats and total capacity; only includes wide body aircraft
Source: Ascend Database; Seabury Capacity Database; Seabury Analysis

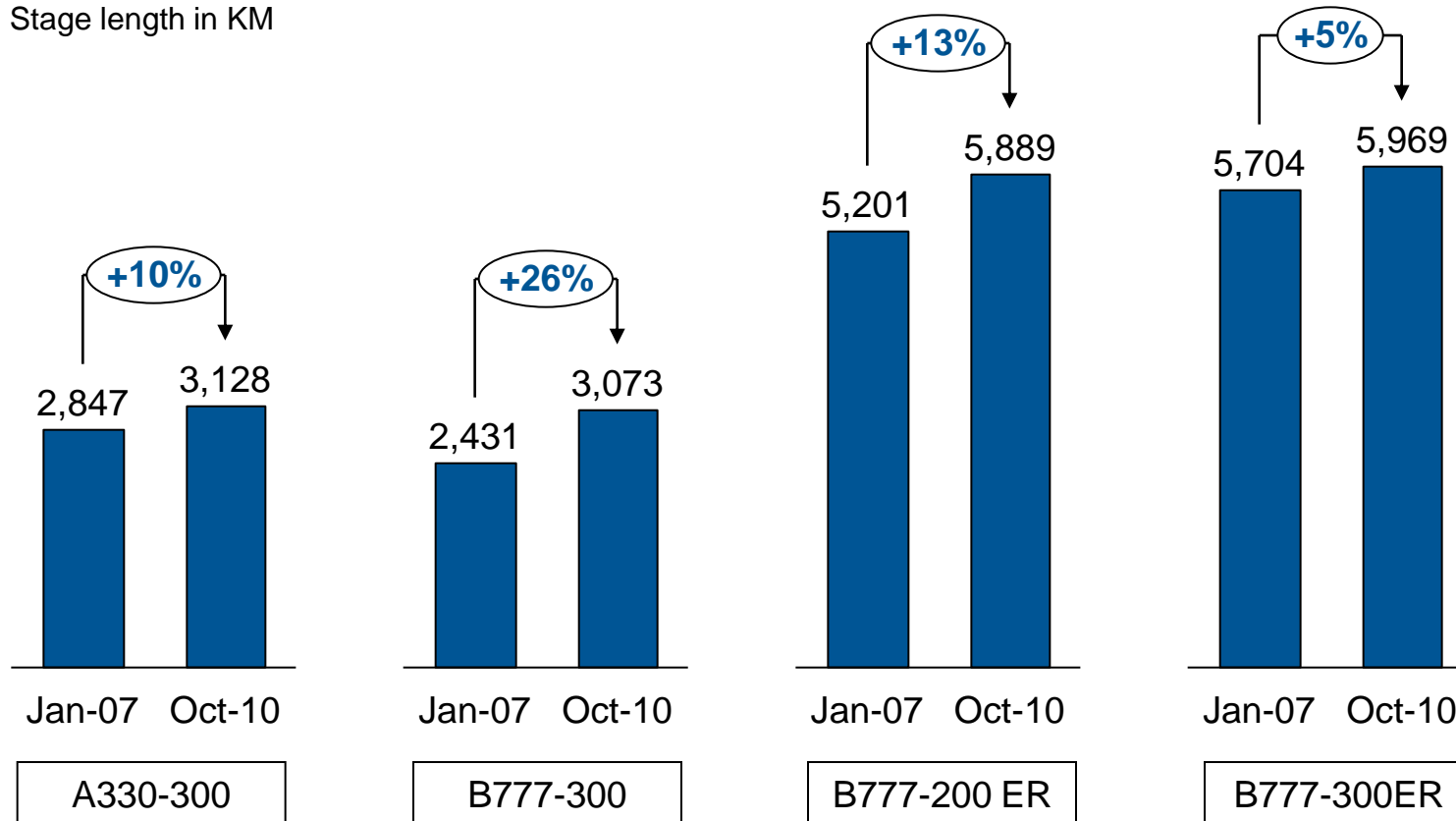
Widebody aircraft in service count

Average stage length per aircraft type is increasing

Airlines are taking their aircraft further and further; thereby increasing the risk that payload restrictions will limit the available cargo capacity

Average flight distance per aircraft type

Stage length in KM



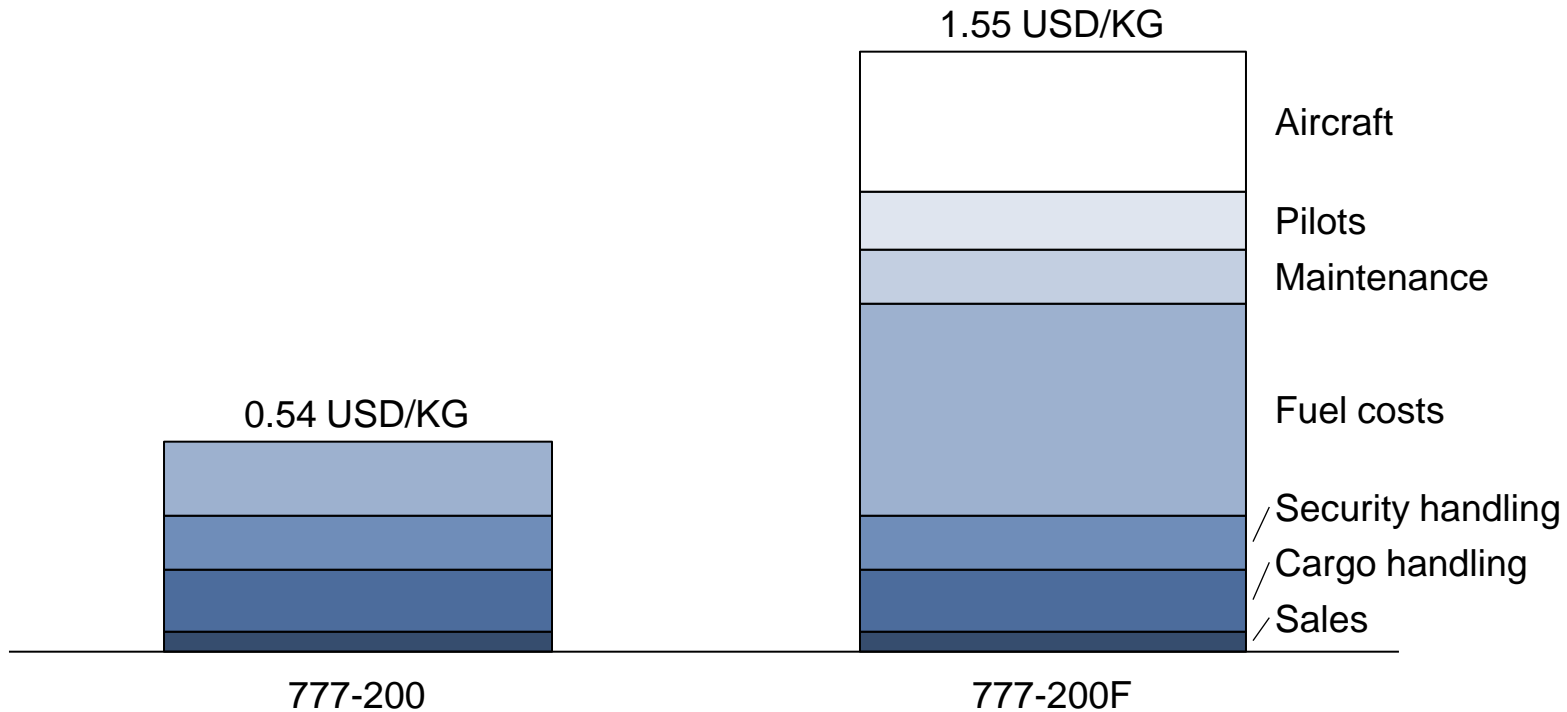
Source: Seabury Capacity Database

Belly costs can be one third of freighter costs

Depending on the chosen cost allocation structure, direct cargo costs for belly operations can be up to 2.5 times less expensive than freighter operations

Air Transport cost of Cargo from AMS to ORD

USD per KG



Note: Assuming fuel cost at 2.3 USD per USG and LF at 70%
Source: US DOT Form 41, airlines interviews, Seabury analysis

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Airlines that decided to stop offering full freighter services

For admittedly different reasons, these legacy airlines stopped offering full freighter services and focused solely on selling the capacity on their passenger aircraft



How have some of these airlines experienced the change in business model?

Belly only is not belly up!

The majority of the airlines that were interviewed have found the transition less painful than perhaps anticipated and seem satisfied with the new business model

Experienced limited downside

- Relationship with the network forwarder hardly changed; no significant 'downgrade' by them was experienced
- Lack of maindeck capacity barely affected the competitiveness in the lowerdeck market
- Volumes previously fed by the freighters to the passenger network were (close to) fully recovered

Identified significant upside

- Focus allowed them sharpen their product offering and to increase their network yield
- Overall on-time performance went up, passenger flights are often more punctual than freighters flights
- Overall cargo contribution to the airline increased with substantial reduction in financial risk

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Global airline alliances are still passenger services focused...

Airlines within the same global alliance have not found the right modus yet to expand the co-operation for passenger services to cargo services



AIRFRANCE /

KOREAN AIR

Pax code-share on

ICN – CDG

Flight #: AF264 / KE262



STAR ALLIANCE

 **Lufthansa**



AIR CANADA

Pax code-share on

YYZ – FRA

Flight #*: LH463 / AC916



 **CATHAY PACIFIC**

 **JAL JAPAN AIRLINES**

Pax code-share on

HKG – NRT

Flight #*: JL736 / CX6322



Although these airlines co-operate on passenger services, they compete on the same stretches when it comes to cargo

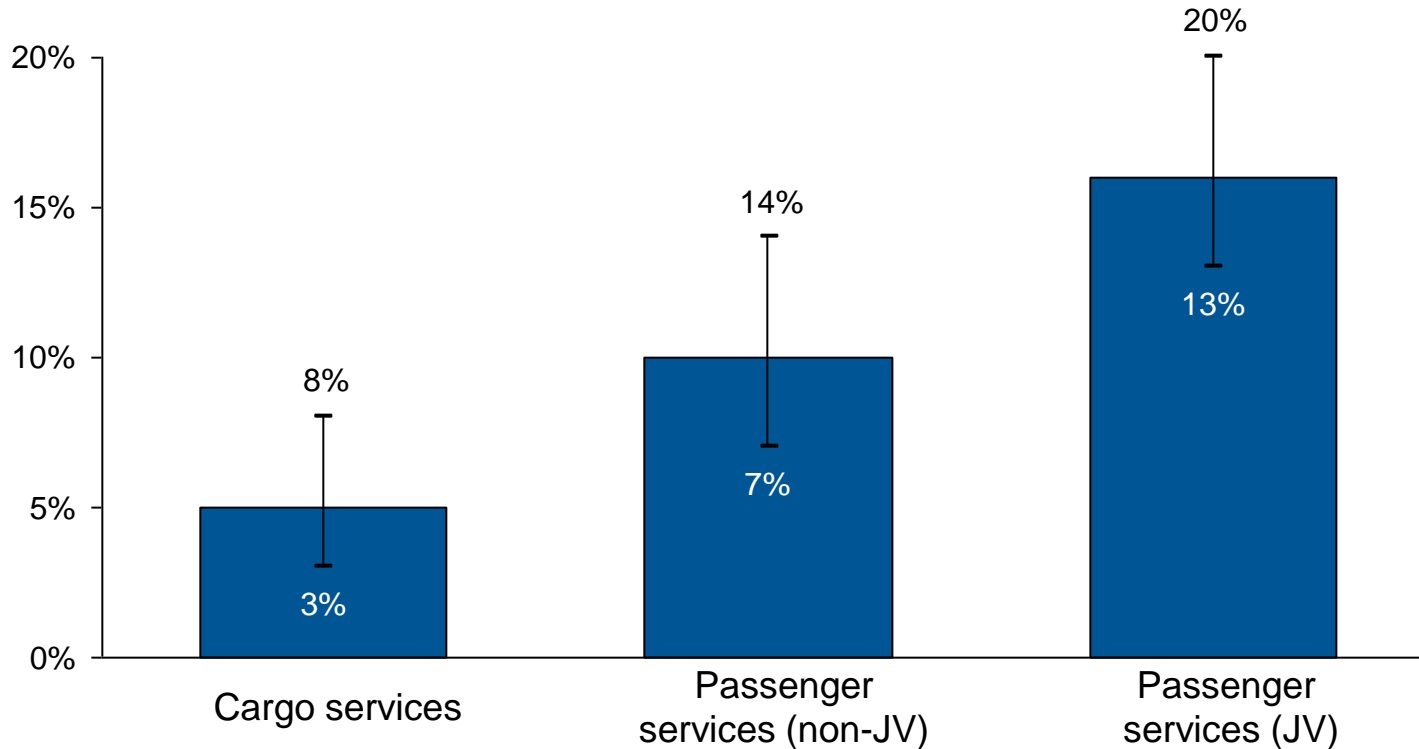
Source: Airline schedules and interviews

...which is reflected in the revenue made from other airlines

The importance of revenue from other airlines through forms of ad-hoc and structural partnerships is 2-3 times higher for passenger services than for cargo services

Revenue from partnerships per business model

As percentage of total



Source: Airline interviews; Seabury Analysis

Cargo JV across the Atlantic could be the way forward

Air France-KLM, Alitalia and Delta established an Atlantic joint venture that allows them to share cargo costs and revenue on all passenger flights

■ There are now three participants



■ Chosen model goes further than an alliance

- Enables participants to share cargo revenues and costs on Transatlantic flights regardless of the operator
- Includes all passenger flights and excludes the freighters; ~22% of the scheduled capacity across the Atlantic¹
- Is unique, 'Atlantic Plus Plus' JV between Air Canada, Continental, Lufthansa and United, excludes cargo



If participants can focus on 'making the pie bigger', rather than protecting 'their own slice', this joint venture could turn out to be revolutionary

¹Excludes full freighter services by express operators