



COOLCHAINASSOCIATION

25.Sep.13

Pharmaceuticals market overview

More insights, better decisions...

Introduction Seabury Group

With over 200 professionals, Seabury is the largest global advisory practice in aviation and aerospace, and a leading advisor in the transport and logistics industry



- Founded in 1995, Seabury provides management consulting, investment banking and corporate reorganization advisory services
- Seabury Cargo Advisory has an unparalleled range of expertise in:
 - Strategy consulting and business planning
 - Operational improvement (e.g. cost reduction, revenue boosting, contract negotiations and outsourcing)
 - Network and alliance optimization; fleet selection, acquisition and financing
 - Business intelligence, market research and forecasting
- The practice is led by a combination of former cargo experts and consultants from leading cargo consulting firms
- Seabury's proprietary suite of software tools are considered the industry's best with a depth of analytics necessary to support rapid decision making

Key customers of Seabury Cargo Advisory

Seabury Cargo Advisory team has worked with a vast array of first-class customers across all segments of the cargo industry



Background on Seabury's shipper supply chain study

This year Seabury conducted a shipper study to validate and quantify trends affecting air freight and express

Goal and methodology

- Identify current and future supply chain trends impacting the air cargo industry
- 'De-mystify' the discussion in the media and quantify the trends
- Start a continuous knowledge sharing process between the shipper community and Seabury
- The results of this study originate from the analysis of:
 - Market data and literature
 - interviews and surveys of global shippers in a variety of industries, including Pharma
 - Seabury's databases to quantify the impact of certain trends

Five of the top ten pharmaceutical companies participated in the study



We believe this study is representative for the Pharma industry

Note: top ten based on March 2012 revenue as reported in annual reports

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- Market update

- High-level market review

- *“Increase in time and temperature controlled air freight”*

- *“Look to emerging markets for growth”*

- *“Mode shift has, for the most part, already occurred”*

- *“We aim to keep a global distribution model”*

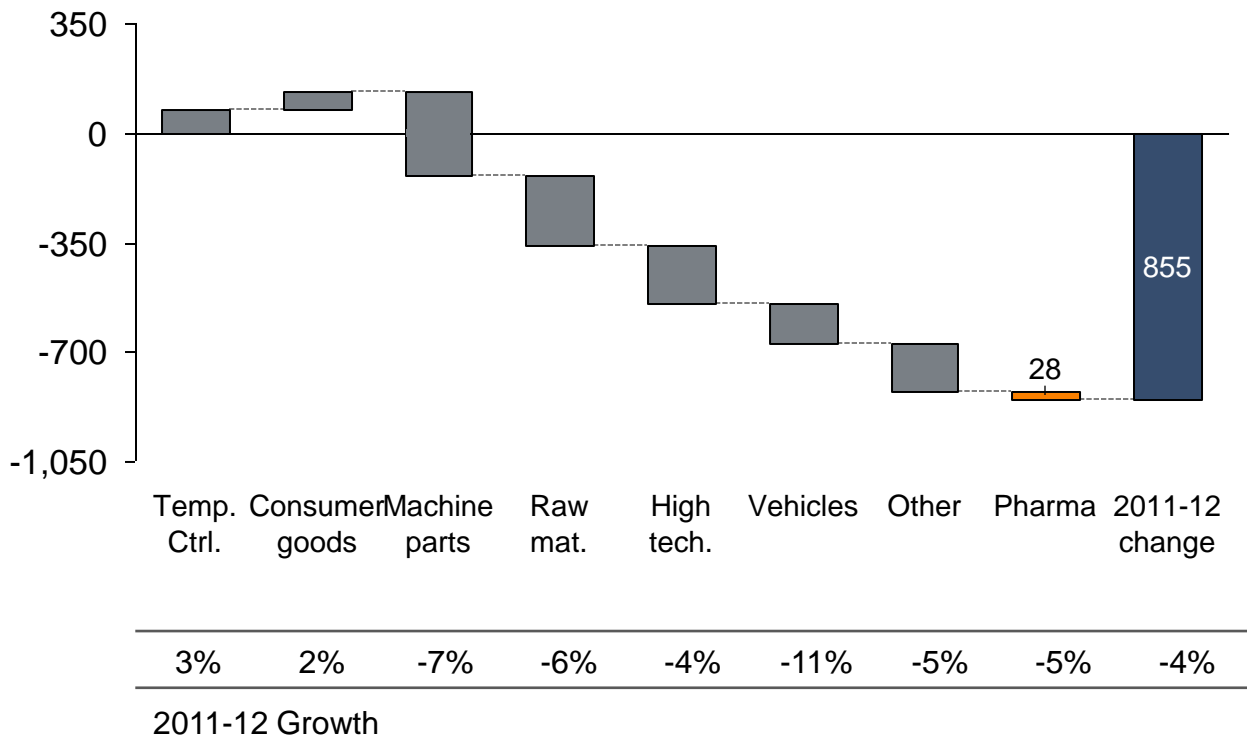
- Conclusion

Total air freight market results 2011-2012

With the global economy suffering, the air trade growth in 2013 declined 4% as compared to the previous year

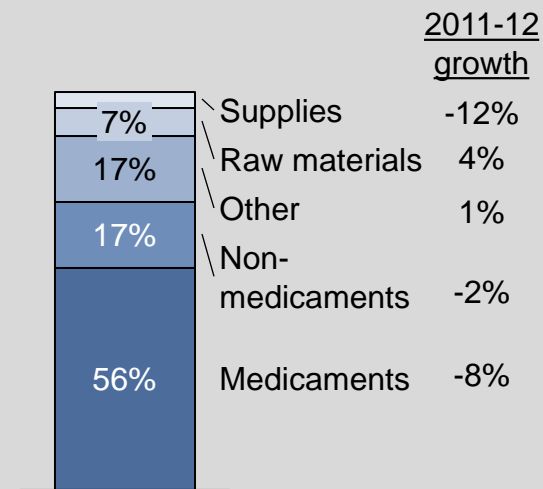
Air freight change per commodity group, 2011-12

Tonnes, thousands



Air Pharma trade mix

Tonnes, thousands, 2013



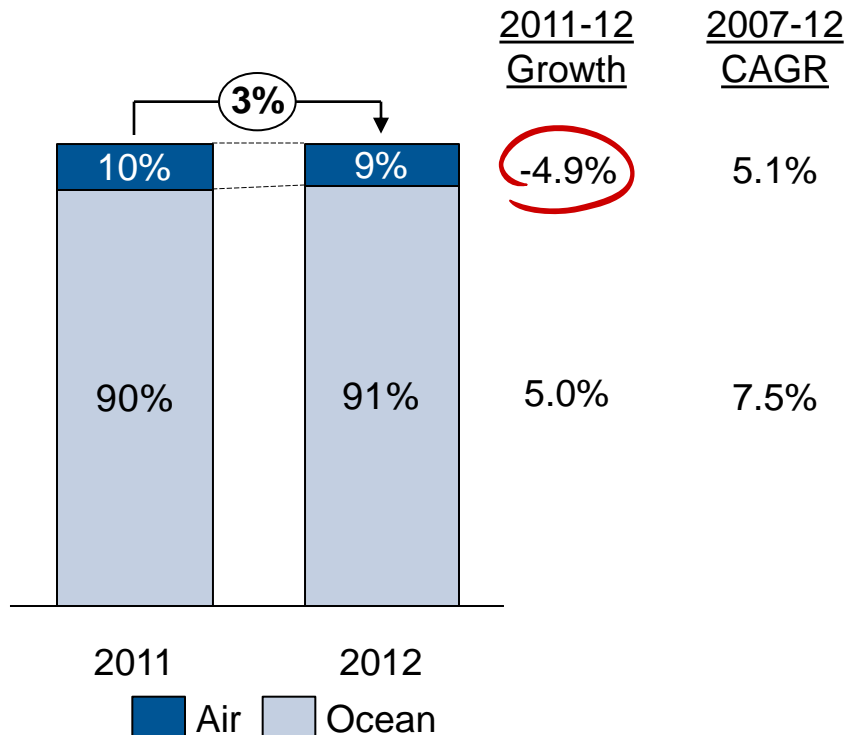
Air freight Pharmaceuticals followed the market, down 5%, mostly driven by a 8% decrease in medicaments

Global trade of Pharmaceuticals

Pharma has experienced steady growth – with air weight being hit hard in 2012; greater than 90% of weight travels by ocean while over 70% of the value travels by air

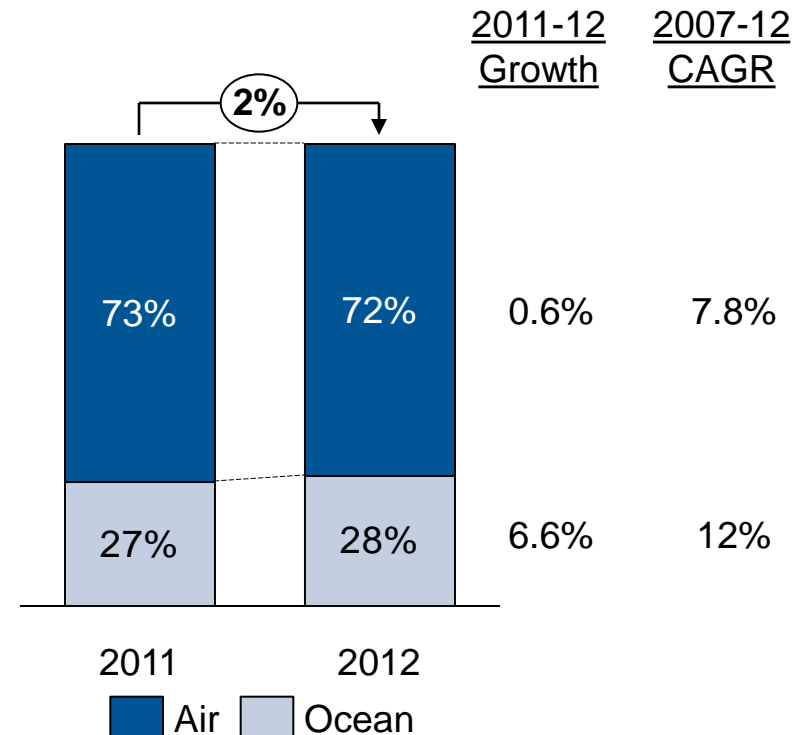
Weight distribution of pharmaceuticals

Weight



Value distribution of pharmaceuticals

USD



Air freight of Pharmaceuticals suffered a decrease, while ocean freight continued to grow

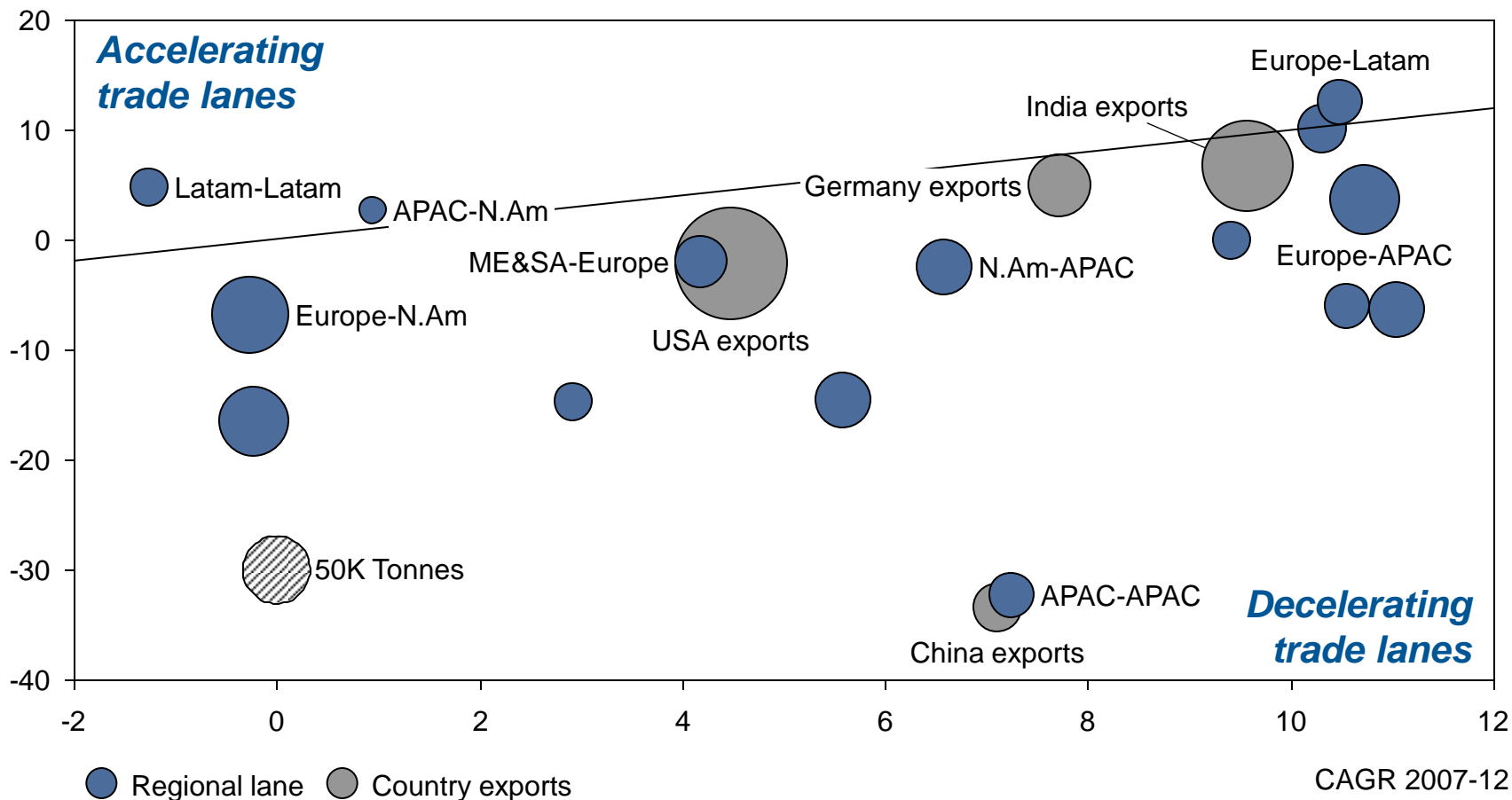
Source: Seabury Global Trade Database

Regional development of Pharmaceutical air trade

The majority of regional lanes have reduced growth speed over the last year, with few exceptions including emerging markets such as Latin America

Pharma air tonnes growth

2011-12 growth



Note: Some double counting observed due to specific export regions being separated such as India's and Germany's. Source: Seabury Global Trade Database



Pharmaceutical shippers view of air freight

Interviewed shippers commented on important trends for the industry; main concerns are temperature control, emerging markets and mode shift from air to ocean

“Increase in time and temp sensitive”

“10-15% of our pharma was time a temp sensitive five years ago, 35% now, and 50% in 3-5 years”

“Look to emerging markets for growth”

“Most growth is in non-traditional markets with double digit growth (BRIC, Asia, Latin America)”

“Mode shift has, for the most part, already occurred”

“Large modal shift has happened [...] in 2010 10% shipped by ocean, now it’s 65% by ocean”

“In temperature controlled, ocean freight is more reliable”

“We aim to keep a global distribution model”

“We aim to achieve 50% of our sales in emerging countries by 2015 while most of our production stays in Europe and North America”

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Expect and increase time and temp sensitive products

Three out of five shippers interviewed stressed the importance of time and temperature sensitive products in Pharma as well as their trend to grow in the short-term

- *“10% of product require active cooling, will be increasing in the next five years”*
- *“10-15% of our pharmaceuticals were time and temperature sensitive five years ago, 35% now and 50% in 3-5 years”*
- *“75% of temperature controlled pharmaceuticals are shipped in active containers and is expected to further increase”*
- *“All products must be shipped with a device to track temperature”*
- *“Cool chain transportation has increased in importance, especially passive because of high costs. For ocean freight it is 100% reefer container “*
- *“If more countries follow Canada, Saudi Arabia and Israel with their GDP (good distribution practices) guidelines and policies, expect an increase in air cargo (expects adoption by Middle East, Brazil and LATAM, and Australia)”*



Shippers will increasingly look for temperature controlled solutions; suppliers should prepare for this trend by increasing the quality of their products

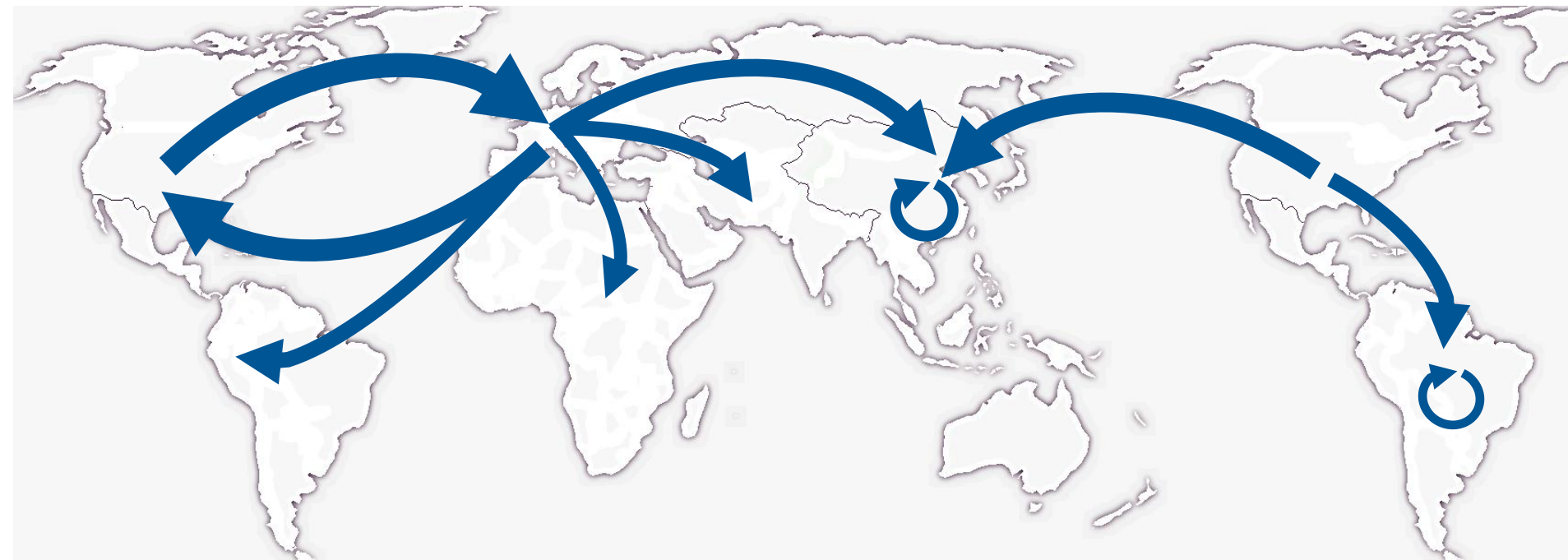


Key air trade lanes of temperature controlled Pharma

North America and Europe are the major exporters of temperature-sensitive pharmaceuticals by air

Principal air trade lanes of temperature controlled Pharmaceuticals

Relative size and share of products that are temperature controlled



Note: to differentiate temperature controlled commodities, Seabury conducted a study with forwarders classify commodity groups into temperature controlled or not. Arrows represent region to region trade. Circa 70% of the trade shown on the illustration above.

Source: Seabury Global Trade Database.

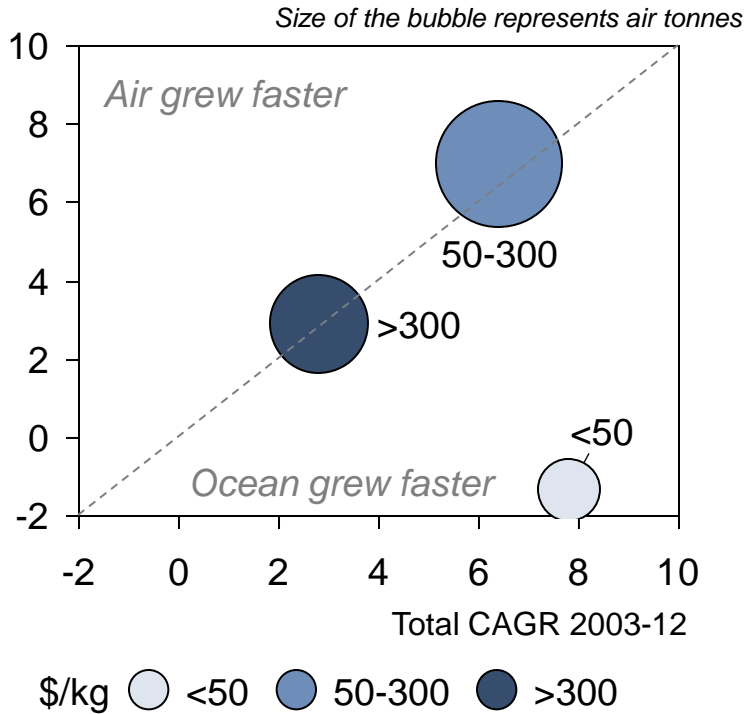


Low value products outperformed – and go by ocean

Low value products (<\$50/kg density) grew at 8% in ocean and -1% in air; this segments makes up 96% of ocean trade and explains ocean's outpacing air trade

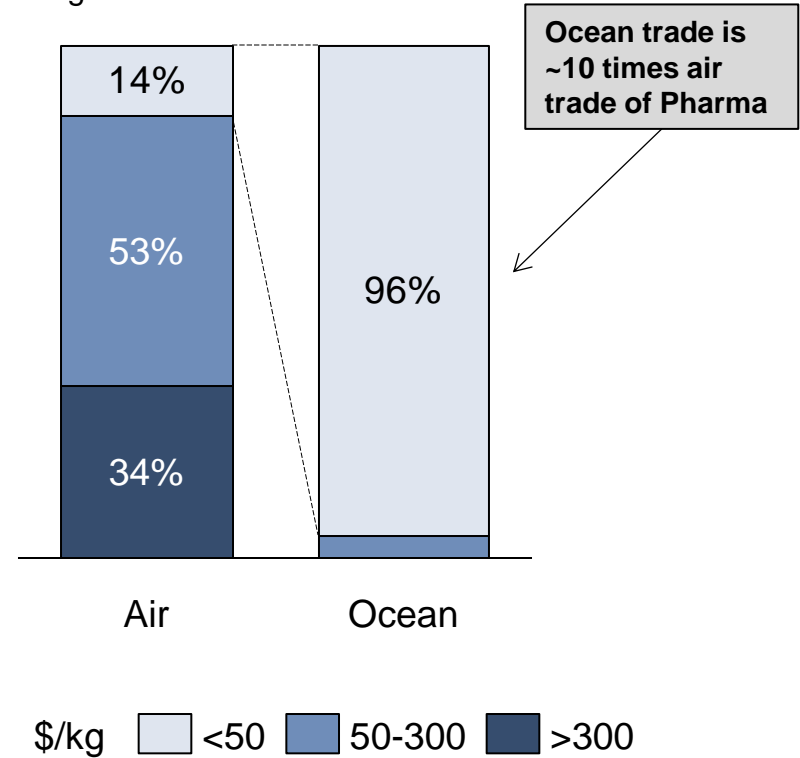
Growth by value buckets

Air CAGR 2003-12



Share of value buckets per mode

Weight



Air freight better suited for higher value products, which are growing faster by air than on ocean

Note: density is defined by the value declared at customs divided by actual weight of the shipment. Source: Seabury Global Trade Database

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Shippers view: emerging markets

Pharma producers are focusing on emerging markets for revenue growth while considering the G3 mature (static) markets

- *“Biggest markets remain to be US, Japan and EU but these markets are static. Emerging markets such as China, South America, Brazil have big growth”*
- *“North American market is static/declining. Europe also static. Sales increases in BRIC, emerging markets”*
- *“Most growth is in non-traditional markets with double digit growth (BRIC, Asia Pacific, Latin America)”*
- *“New markets for products: Brazil, China, Australia, New Zealand, Taiwan, especially emerging markets are expected to grow above average”*



Shippers will increasingly look for additional shipping solutions to the emerging markets

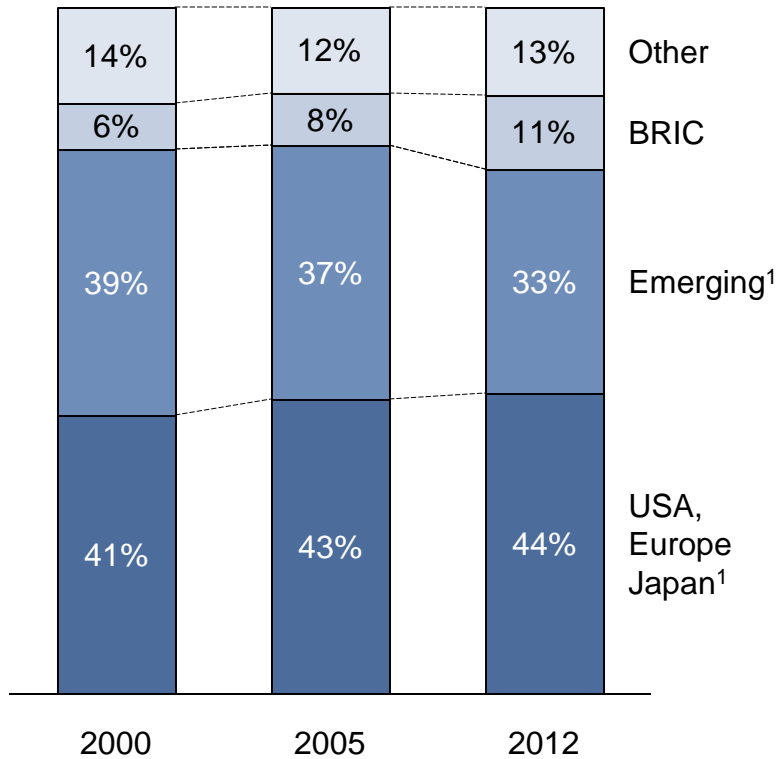


Trade distribution of Pharmaceutical air freight

The share of emerging countries in Pharma trade has shifted over the least decade with BRIC countries remarkably becoming more important as exporters and as importers

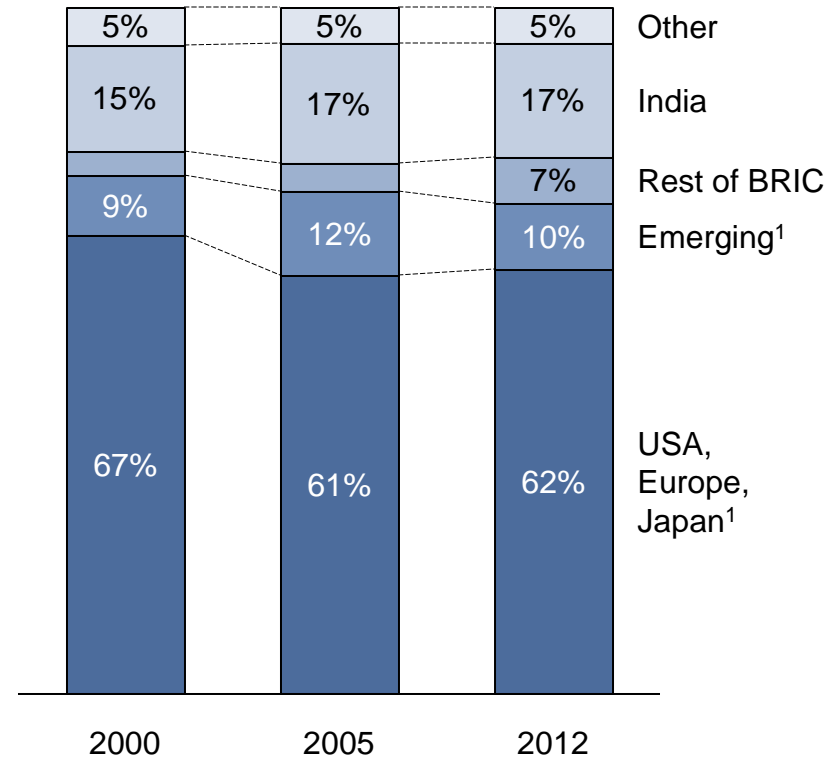
Air freight imports

Weight



Air freight exports

Weight



1.- G3 refers to all Europe, the USA and Japan. Emerging countries contains Africa, Latin America, Middle East & South Asia excluding India and South East Asia excluding Singapore. Rest of countries contained in "Other."

Source: Seabury Global Trade Database

Latin America export and import regions

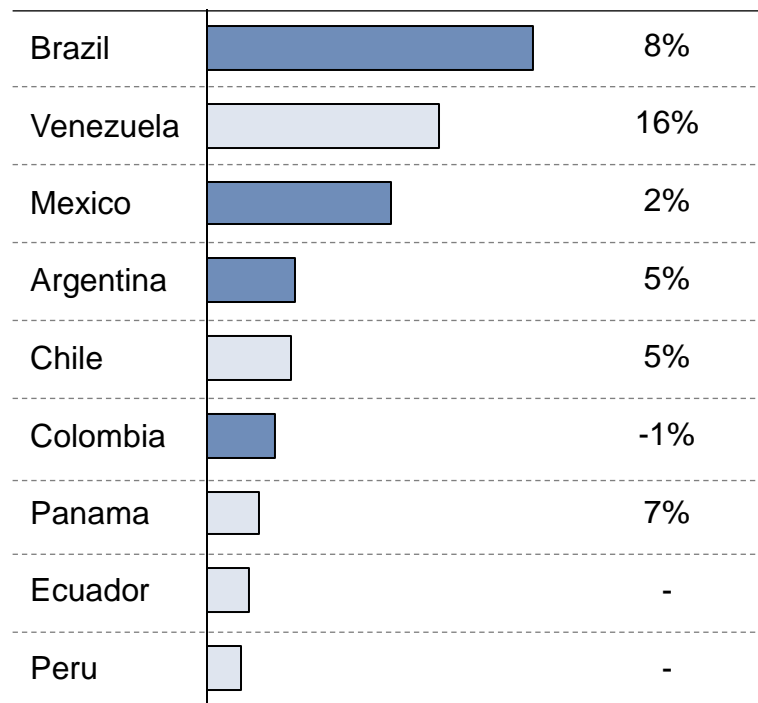


Countries in Latin America experienced fast growth over the last decade as air importers of Pharmaceutical products; values on imports are generally high

Main air importers of Pharma - 2012

Tonnes, thousands

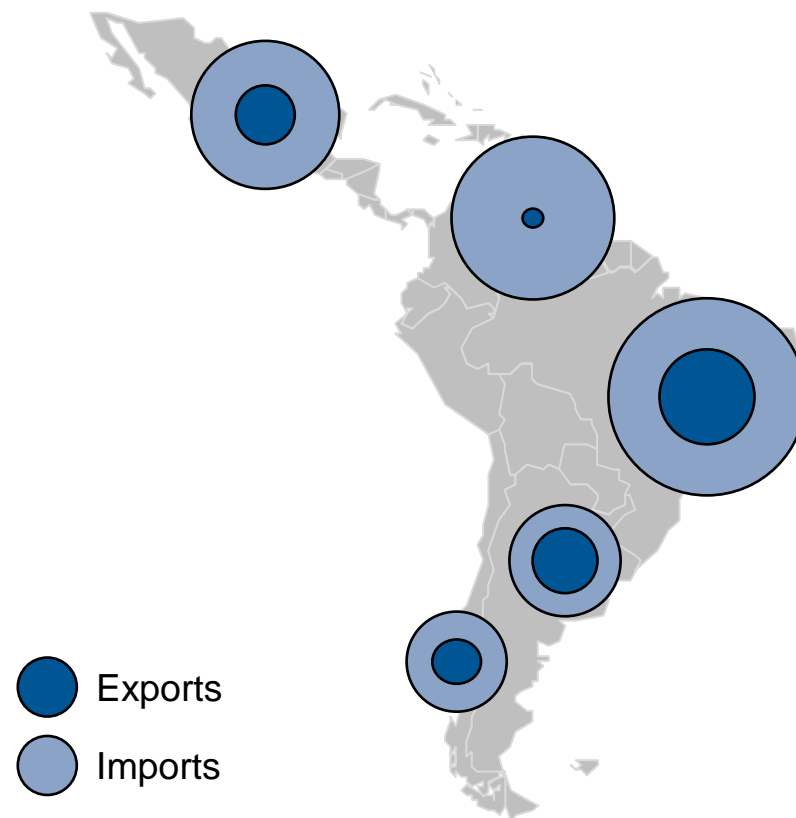
2003-13
CAGR



USD/kg 100-200 >200

LATAM air export and imports

Relative size

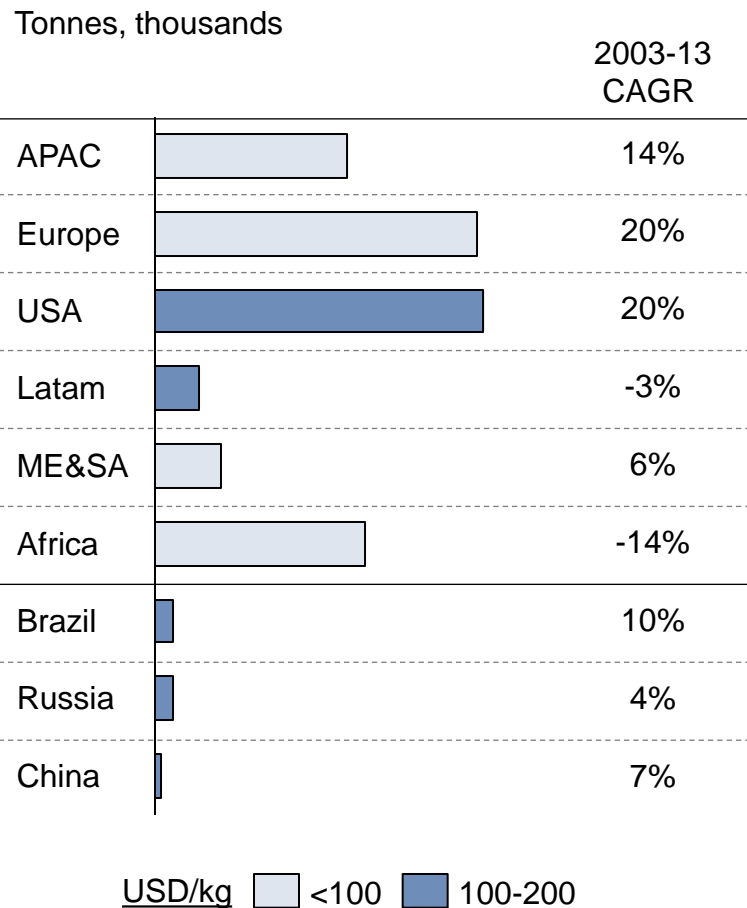


Bubbles show: Brazil, Mexico, Venezuela, Argentina and Chile
 Source: Seabury Global Trade Database

India export and imports of air freight

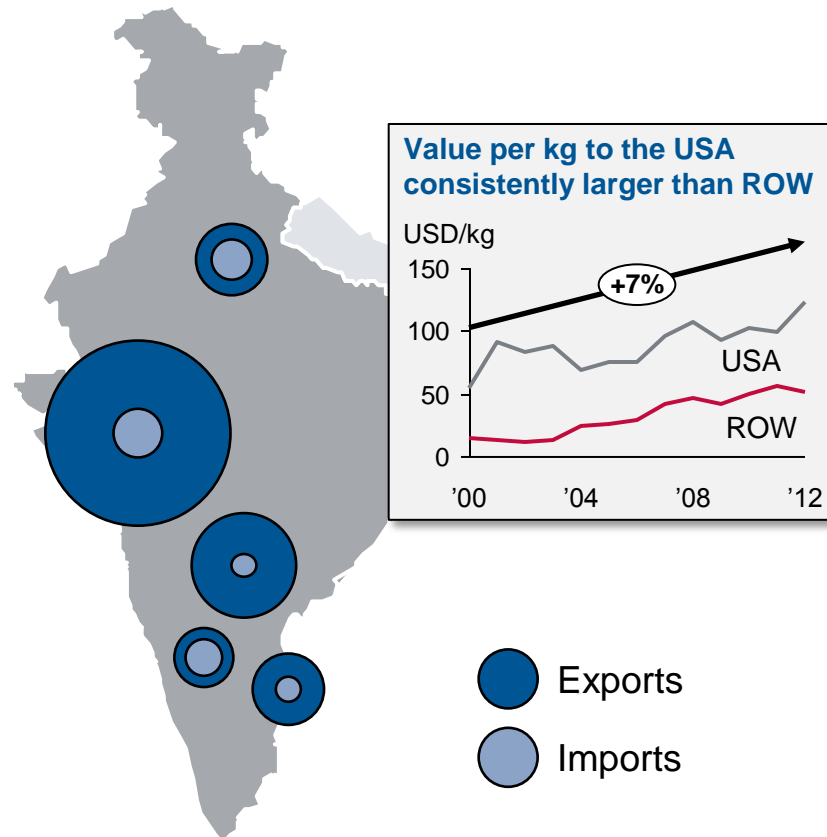
India has experienced high growth rates in the last decade for air exports of Pharmaceuticals, mostly originating in the Mumbai region

Indian air export lanes on Pharma – 2012



India air export and import regions

Relative size



Bubbles show: Mumbai, Delhi, Chennai, Bengaluru and Hyderabad
Source: Seabury Global Trade Database

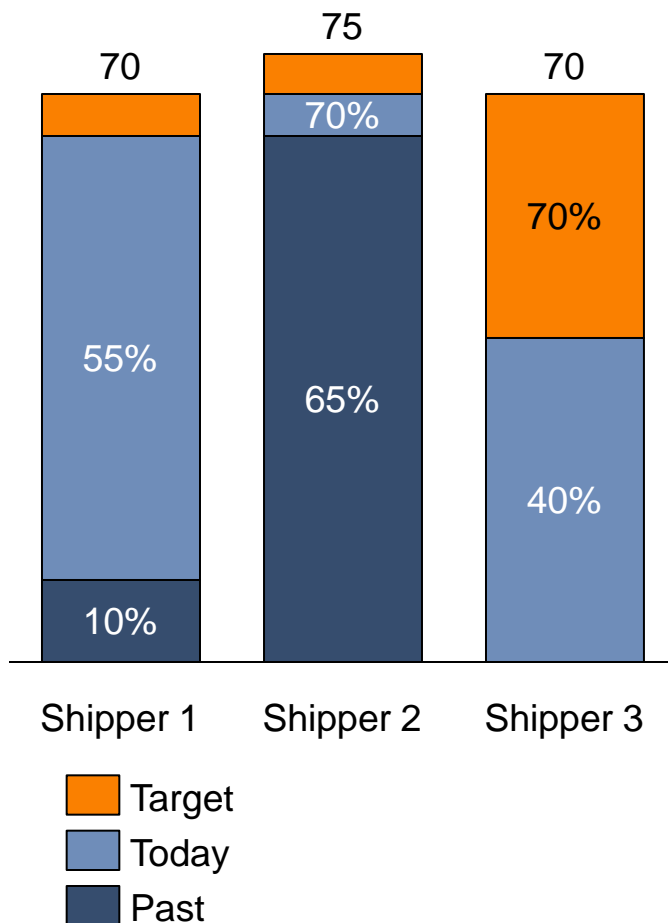
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Pharmaceutical shippers view on mode shift

Five out of the top 10 Pharma companies in the world have already made important shifts from air to ocean, all aiming to ship around 30% by air

Share of ocean shipments

% of weight by ocean based on interviews



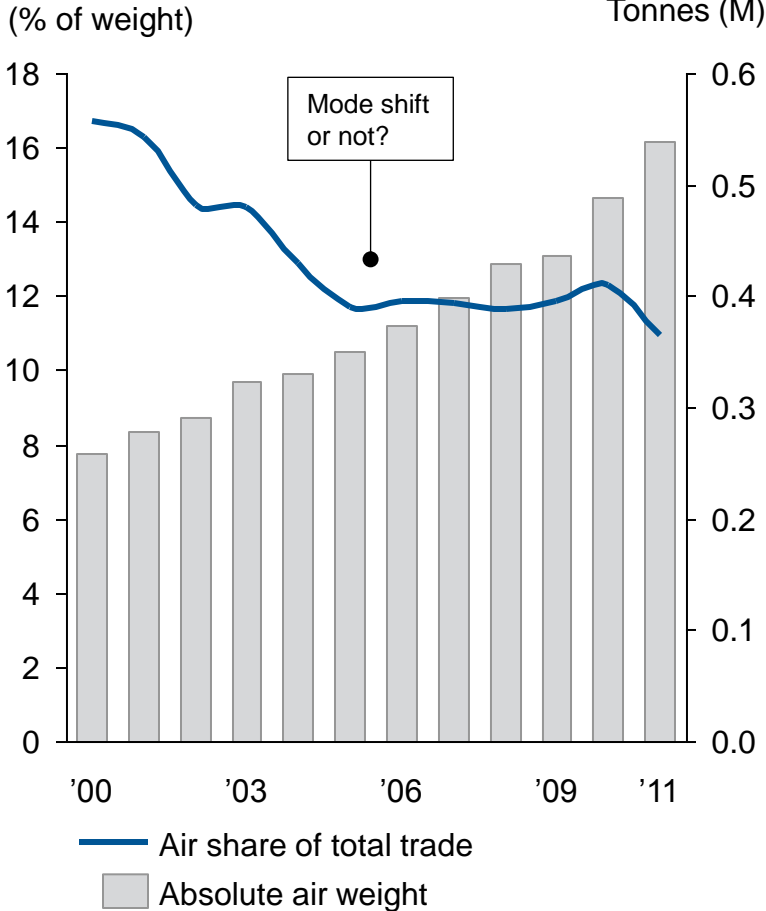
Key takeaways

- Mode shift is already occurring
 - “Large mode shift has happened [...], in 2010 10% was ocean freight, now is 65%”
 - “Product launches are done first by air and then by ocean”
- 70% shipments by ocean is perceived as optimal
 - “Mode shift will continue to reach 70% on ocean freight”
 - “Aim is to increase ocean to 70%”
- Mode shift is a result of industry needs
 - “Lost and damaged goods on air freight pushing mode shift to ocean”
 - “Main reason is not cost, but reliability of ocean in terms of temperature controlled shipments”

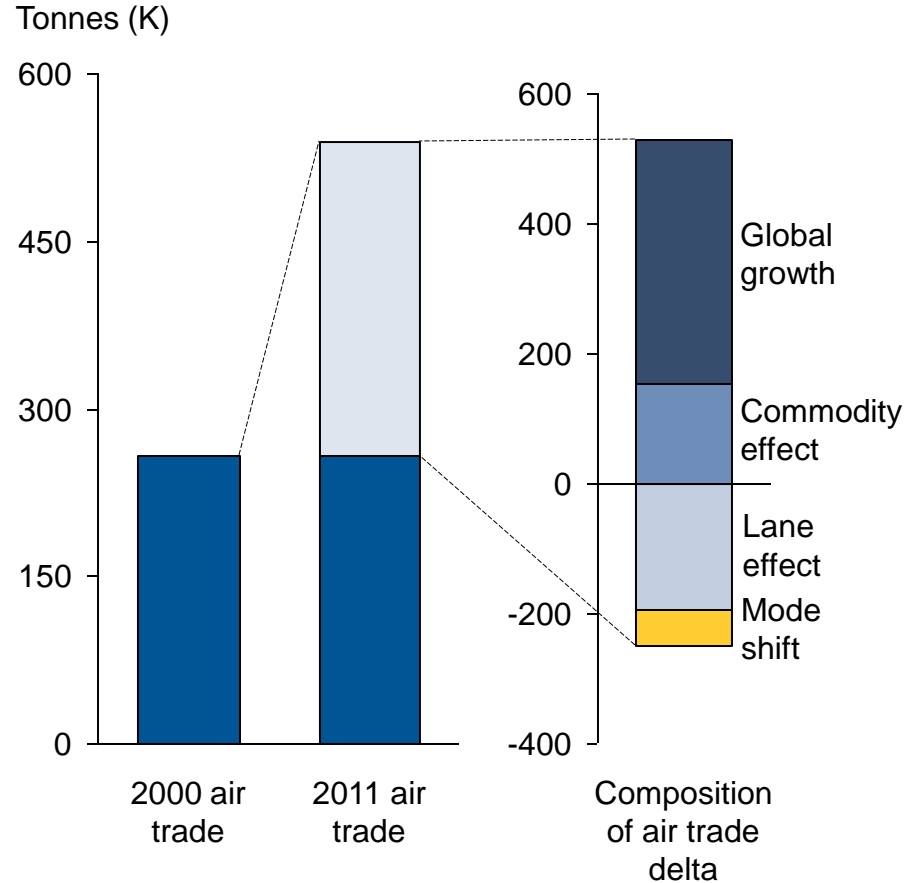
Pharmaceutical mode shift explained

Since 2000, more than 50,000 tonnes of Pharmaceuticals have shifted from air to ocean, reducing the share of air freight to 11% in 2011, versus 17% in 2000

Pharmaceuticals



Pharmaceuticals air trade



Source: Seabury Global Trade Database. Note: not all air trade captured in mode shift analysis.

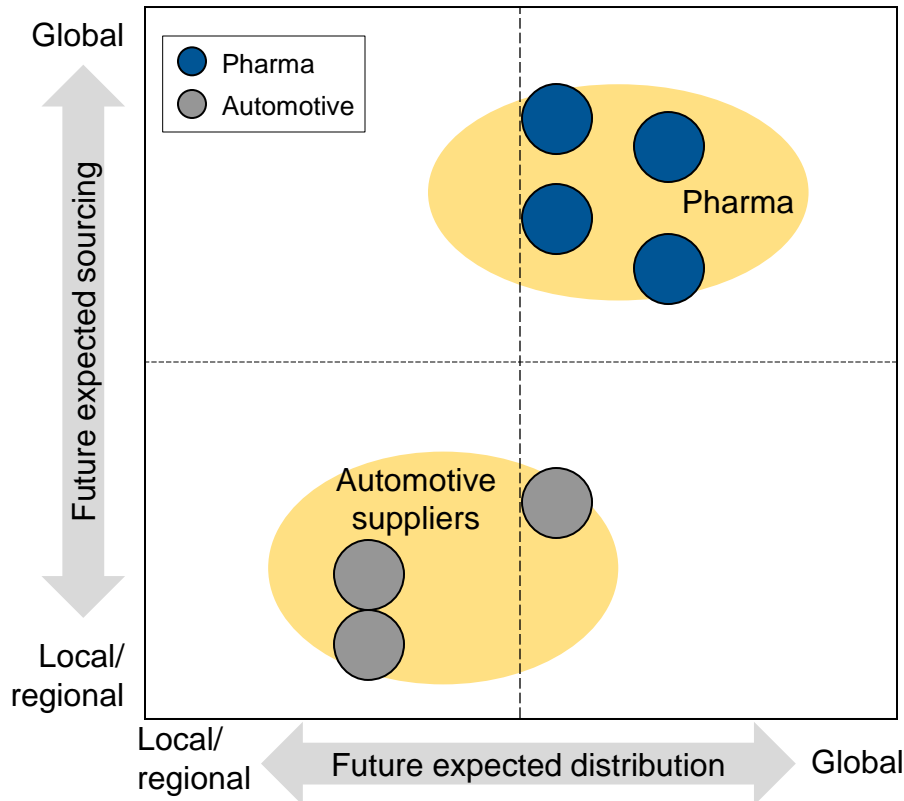
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Shippers are expected to continue global distribution models

The Pharmaceuticals industry plans to continue global sourcing and distribution from few selected locations which benefits air trade

Expectations for sourcing and distribution

Interview and survey respondents



Insights

- Pharmaceutical shippers will increase the distribution of finished products more globally from a few production locations
 - “We aim to achieve 50% of our sales in emerging countries by 2015 while most of our production stays in Europe and North America” - Pharma shipper
- As an example to contrast, automotive suppliers move their production closer to automakers’ factories; this detracts air cargo

The global sourcing and distribution of Pharma favors air cargo

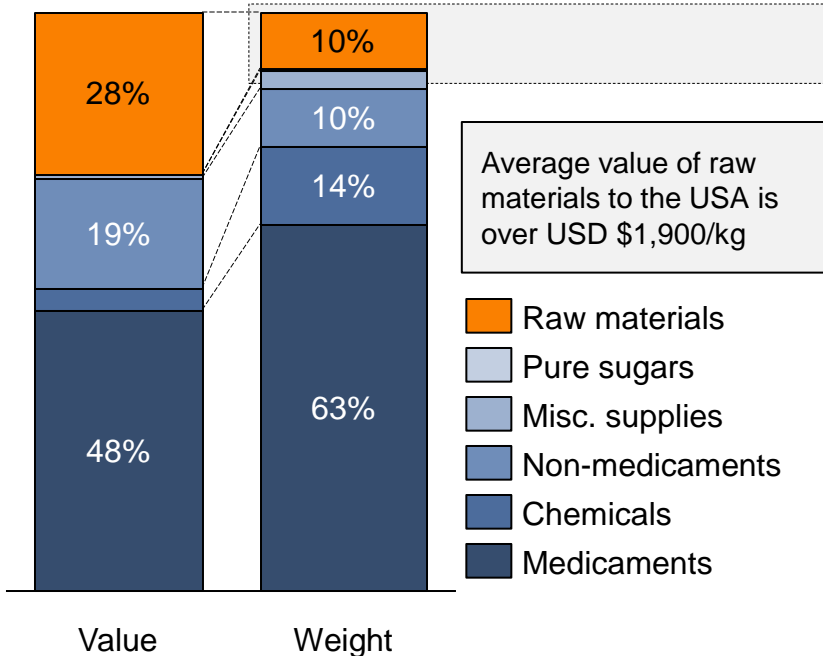
Source: In-depth interviews and follow-up questionnaire

Raw materials air imports in the USA

The commodity represents nearly a third of the value but only 10% of the weight imported in pharmaceuticals; an important share of it is cleared in Puerto Rico

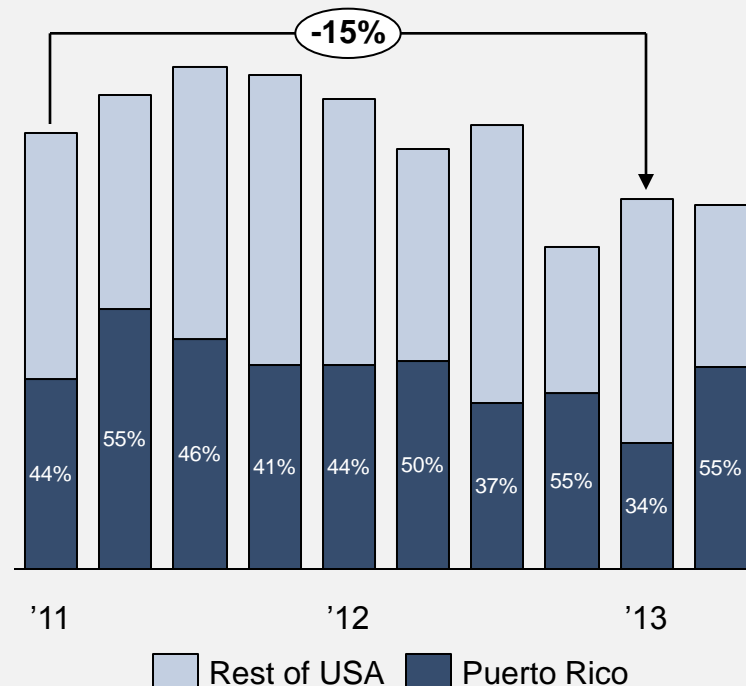
Pharmaceuticals imported in the USA

Value USD; weight



Geographic mix of raw materials imports

Value USD



Raw materials for Pharma represent close to one third of the value of air imports to the USA

An important part of these imports lands in Puerto Rico, although there is a declining trend

Source: Seabury Global Trade Database

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“Increase in time and temp sensitive”

- Keep an eye on the latest regulations!
- Shippers are keen increase this segment

“Mode shift has, for the most part, already occurred”

- (Some) airlines and airports need to better deliver on their pharma offering – there is a risk to lose more cargo to “reliable ocean”

“Look to emerging markets for growth”

- Not all growth is of high value (temp sensitive) pharmaceuticals
- Latin America isn't one market – it's important to segment the markets

“We aim to keep a global distribution model”

- Trade lanes will continue to be imbalanced, suggesting a need to optimize container management