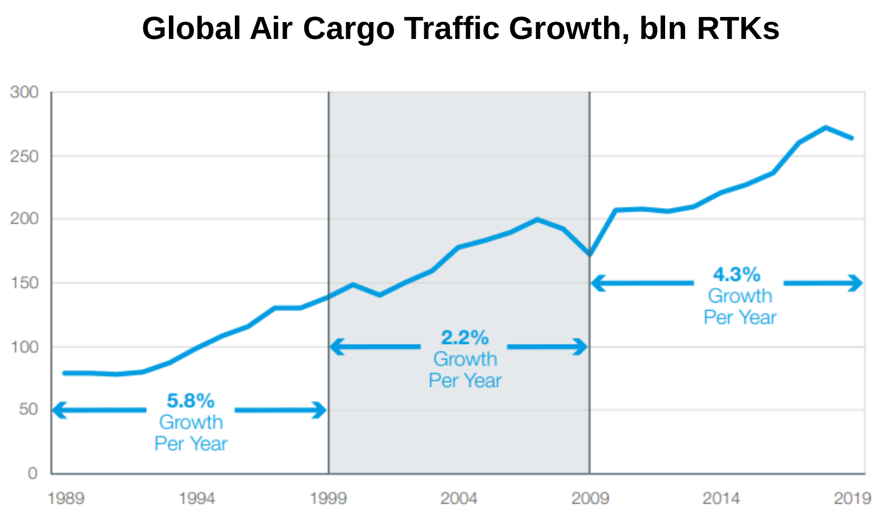
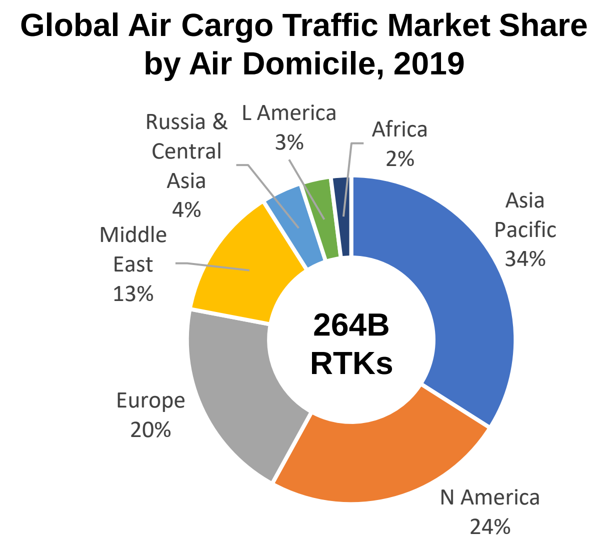
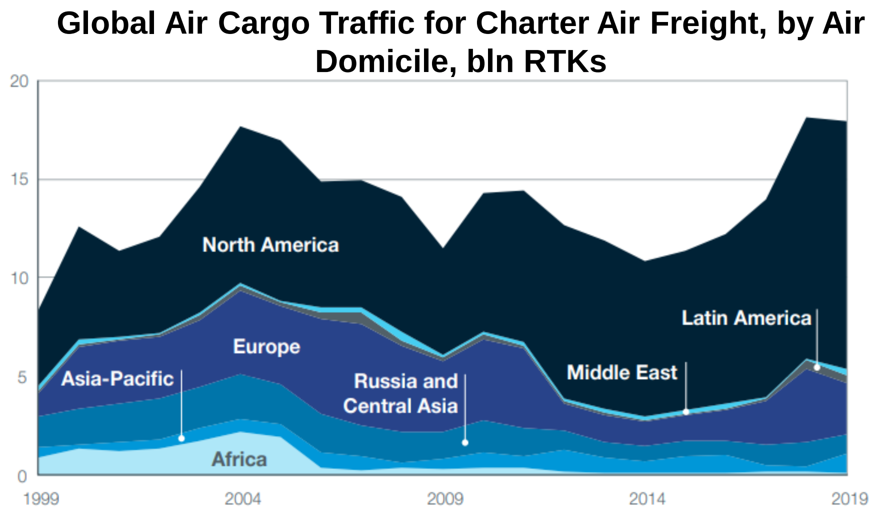
VERNY CAPITAL

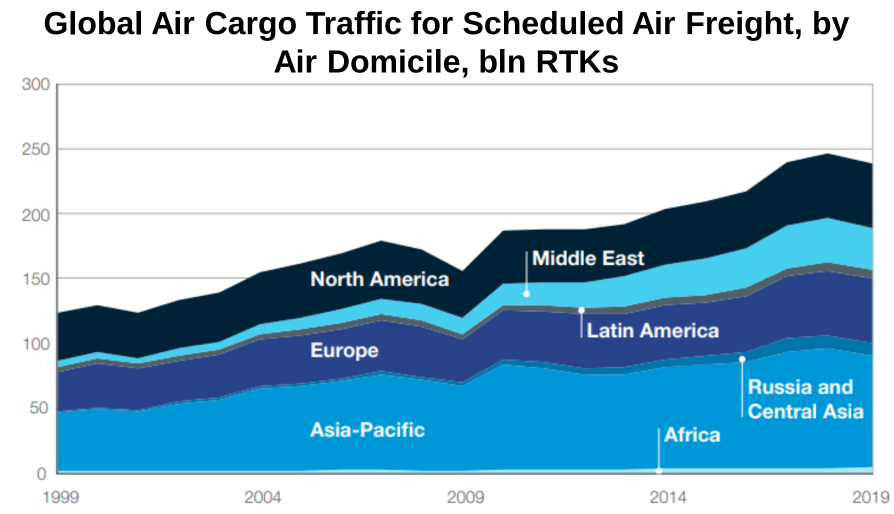
Global Air Cargo Market: Growth Outlook & Kazakhstan's Potential

Global air cargo traffic growth has averaged 4.1% p.a. during 1989-2019, with 264bln revenue tonne-kilometers registered in 2019









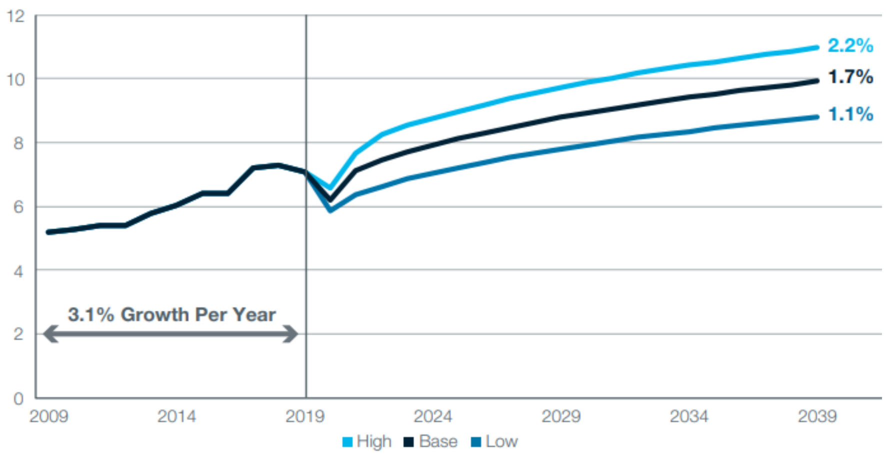
Source: Boeing

Global air cargo traffic projected to grow 4% p.a. during 2020-2039

Global Air Cargo Traffic, RTKs bln

Global Air Freight Traffic, RTKs bln

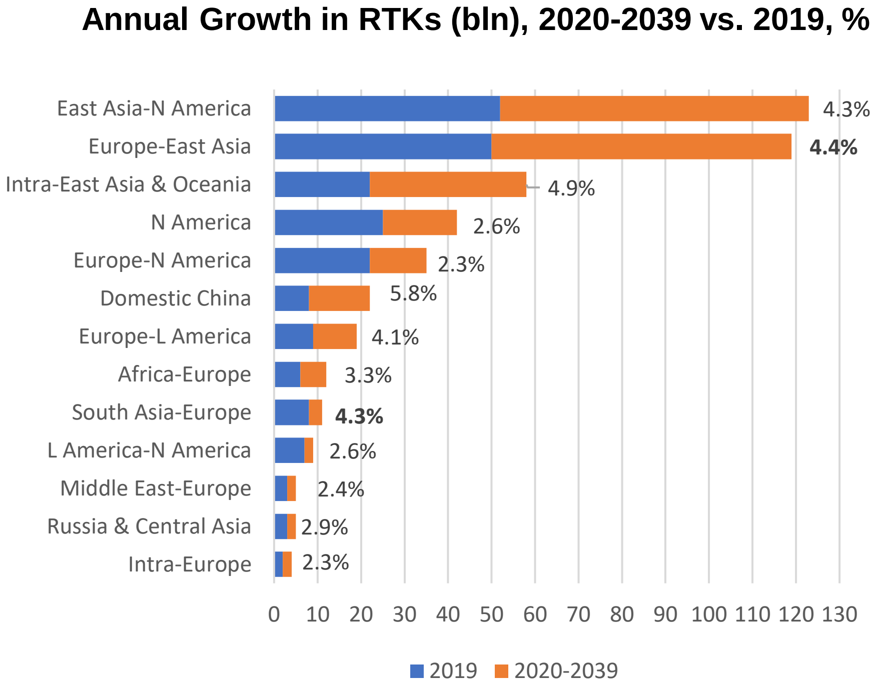
Global Airmail Traffic, RTKs bln

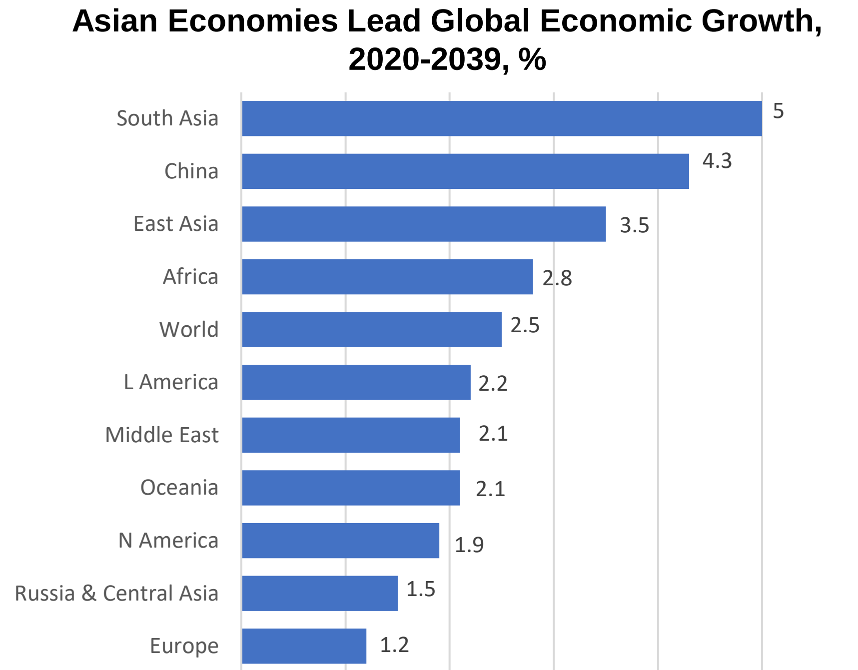


- ✓ Global air cargo is the sum of freight and mail, and air cargo traffic is strongly related to GDP, industrial production and average yield.
- ✓ **Global air cargo traffic in RTKs is projected to grow at 4.0% average per year up to 2039**.
- ✓ **Global air freight is forecast to grow 4.1% through 2039**, increasing from 257bln RTKs in 2019 to **568bln RTKs in 2039**, underpinned by global trade, economic recovery & e-commerce.
- ✓ Global airmail is projected to grow by 1.7% per year up to 2039.

Source: Boeing

East Asia and South Asia markets will continue to lead global air cargo industry growth in the next 20 years



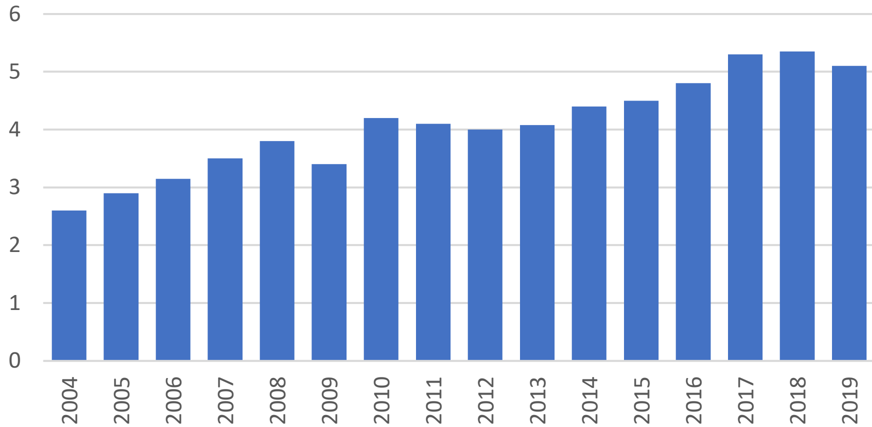


- ✓ Asian economies are expected to lead global economic growth, led by South Asia, China and East Asia at 5%, 4.3% and 3.5% respectively during 2020-2039.
- ✓ Global trade is projected to grow by 4.7% during 2020-2025 and 2.8% on average during 2019-2039.
- ✓ **Global air cargo markets linked to Asia is anticipated to lead all other international markets** in average annual growth during 2020-2039, with **Europe-East Asia at 4.4%, South Asia-Europe at 4.3% and Russia & Central Asia at 2.9%**.

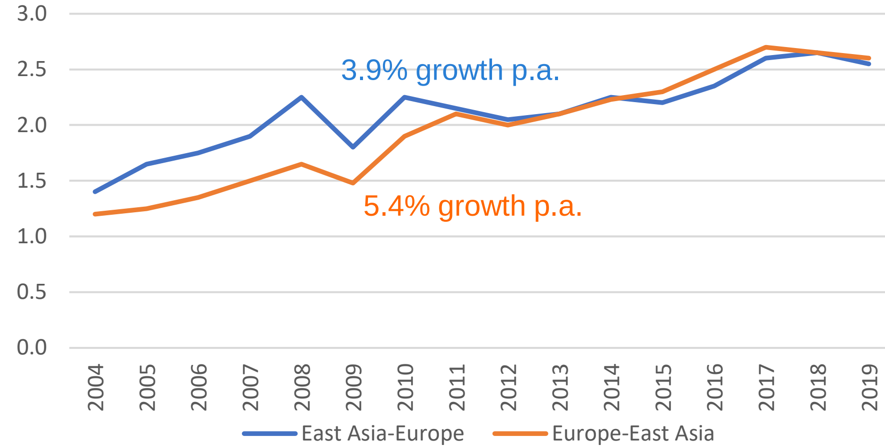
Source: Boeing

Europe-East Asia market represents 19.7% of global air cargo in tonne-kilometers and 9.6% in tonnage

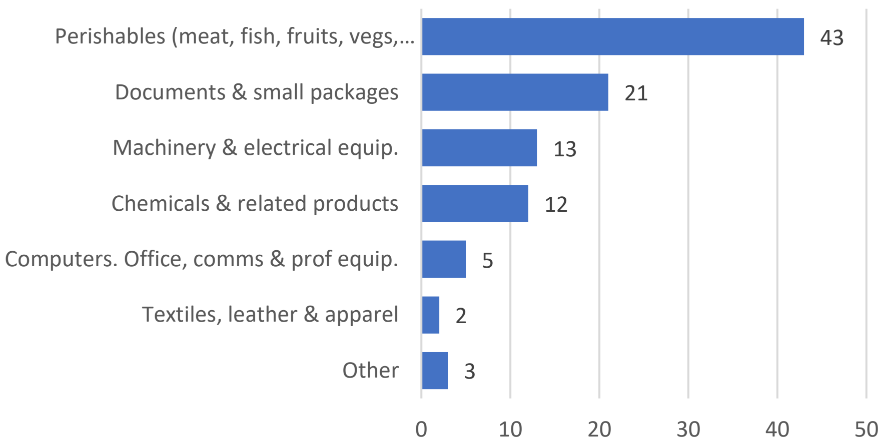
Europe-East Asia air cargo market has grown 4.6% per year during 2004-2019, mln tonnes



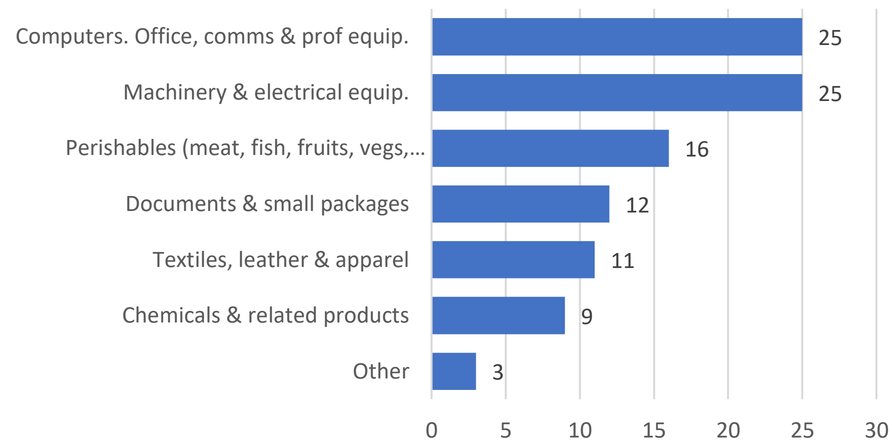
European air exports to East Asia account for 50% of the market, mln tonnes



Top 3 commodity categories account for 77% of Europe-East Asia air cargo traffic, mln tonnes



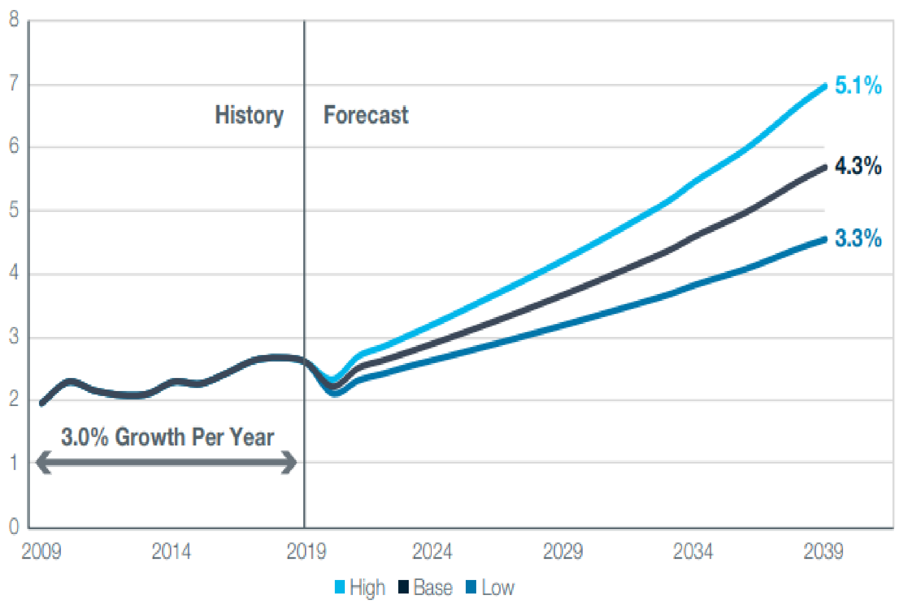
Top 3 commodity categories account for 66% of East Asia-Europe air cargo traffic, mln tonnes



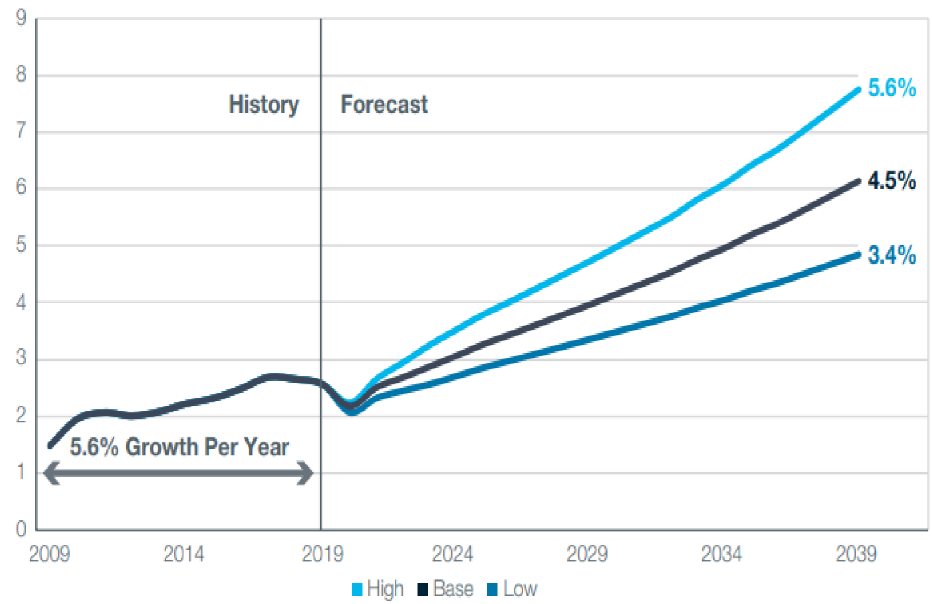
Source: Eurostat, Boeing

Air trade flow in both directions for Europe-East Asia air cargo market is projected at 4.3%-4.5% per year during 2020-2039

East Asia-Europe Air Cargo Traffic Avg Annual Growth, 2020-2039, mln tonnes



Europe-East Asia Air Cargo Traffic Avg Annual Growth, 2020-2039, mln tonnes

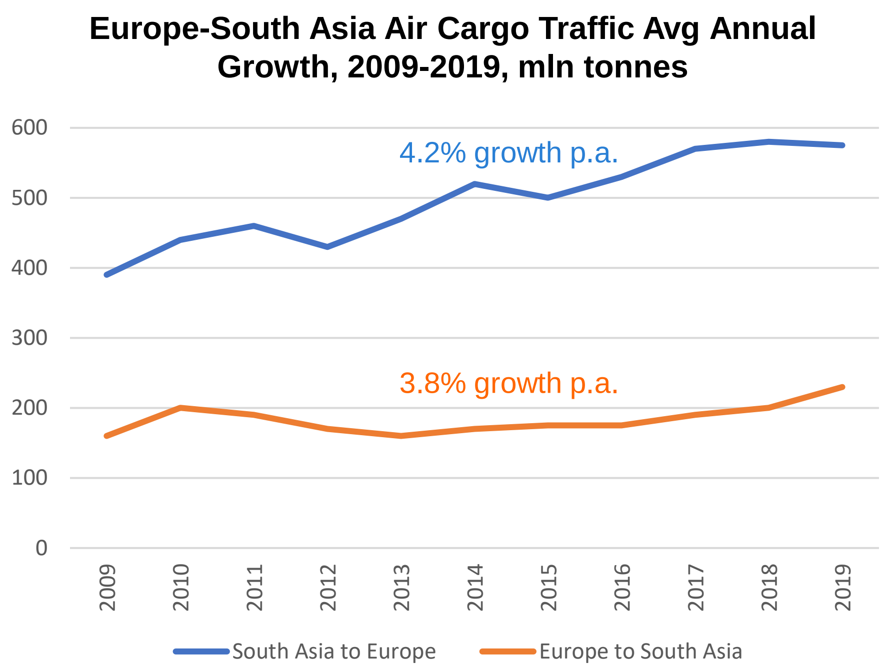


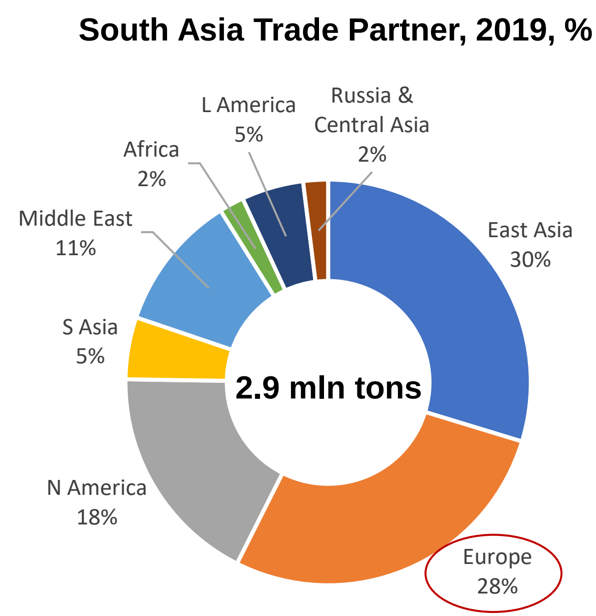
- ✓ **Global air cargo flow from East Asia to Europe is forecast to grow at 4.3% average per year through 2039**, while the flow from **Europe to East Asia at 4.5% average per year**.

- ✓ East Asia's GDP will grow 3.4% per year during the next 20 years, with **China continues to play a major role in East Asia** with GDP growth projection of 4.3% per year until 2039. China's economy accounts for 55% of East Asia's GDP currently and will increase to 65% by 2039.

Source: Boeing

South Asia air cargo market accounts for 6.8% of global air cargo traffic in tonnage and 5.9% in tonne-kilometers





✓ **South Asia air cargo market constitutes 6.8% of the global air cargo traffic in tonnage and 5.9% in tonne-kilometers**.

✓ India is the center of most freight traffic in South Asia, whereby >70% of South Asia's air cargo moved through India in 2019.

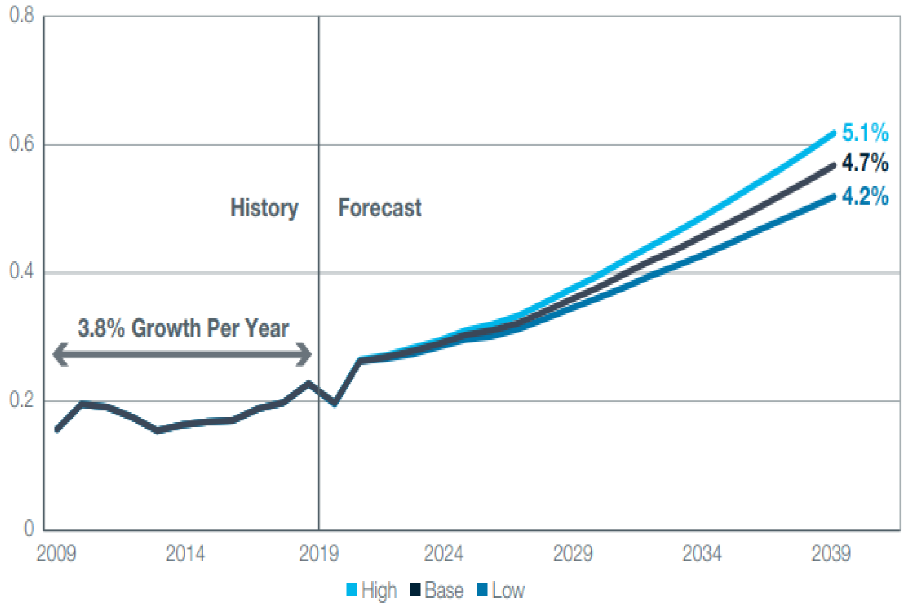
✓ **Europe remains South Asia's second largest trade partner**, at market share of 28% as at 2019.

✓ **Over the past decade, air cargo tonnage between South Asia and Europe expanded 4.1% per year**.

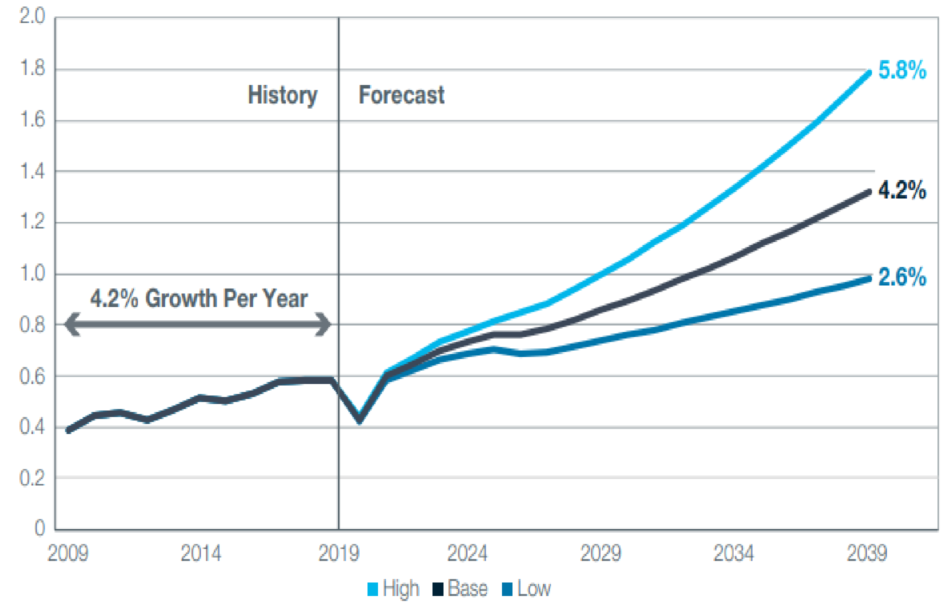
Source: Boeing

Trade between South Asia and Europe will continue to grow as South Asia's economy sees robust growth

Europe-South Asia Air Cargo Traffic Avg Annual Growth, 2020-2039, mln tonnes



South Asia-Europe Air Cargo Traffic Avg Annual Growth, 2020-2039, mln tonnes



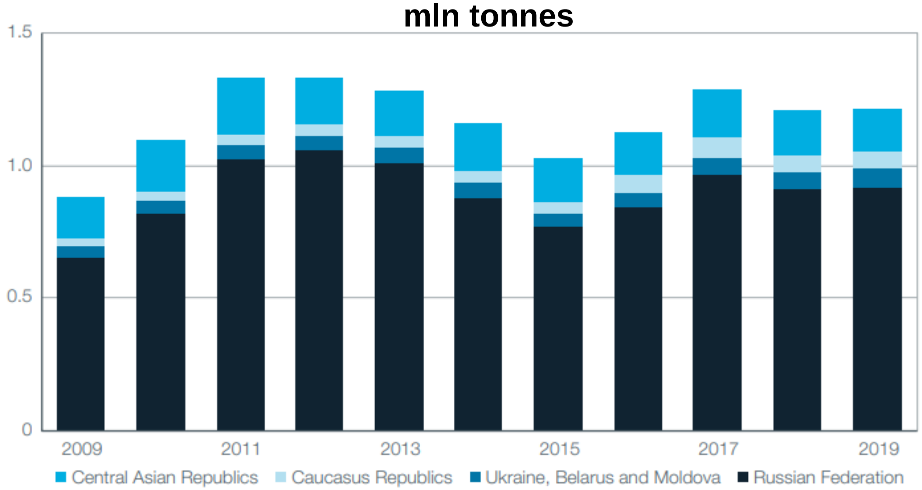
✓ **Global air cargo flows from Europe to South Asia are forecast to grow at 4.7% average per year through 2039**, while the flows from **South Asia to Europe at 4.2% average per year**.

✓ **South Asia remains competitive in terms of production costs**, which will drive continued air export growth to Europe. **Imported goods from Europe into South Asia will expand faster than air exports to Europe** because of rapidly growing middle class in India.

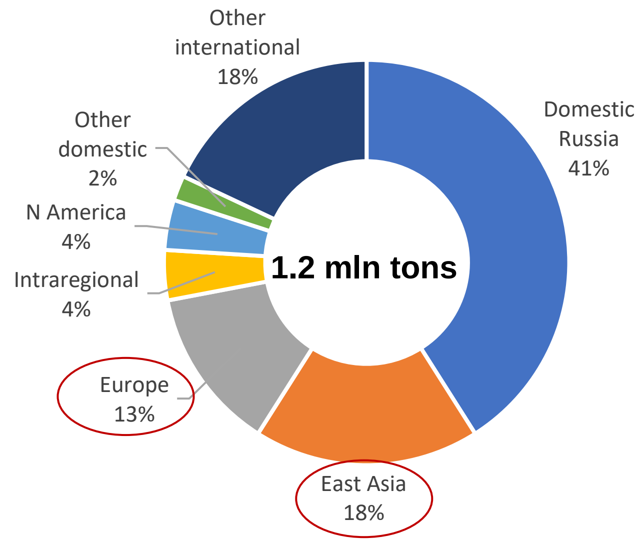
Source: Boeing

Russia and Central Asia account for 1.3% of global air cargo traffic in tonne kilometers and 2.3% in tonnage

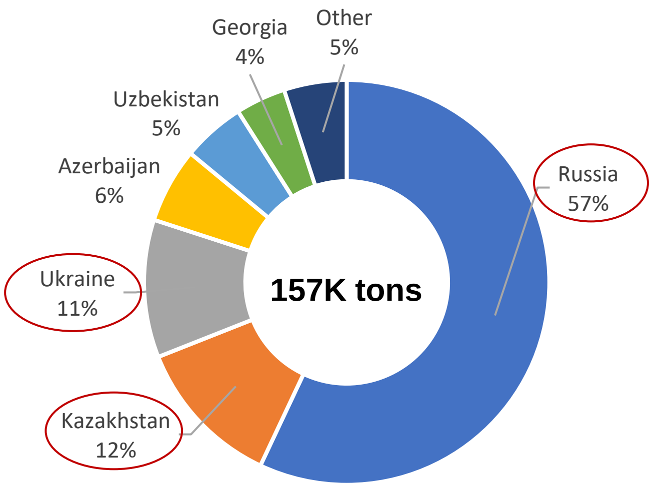
Russia & Central Asia Airport Air Cargo Traffic, mln tonnes



Russia & Central Asia International Air Freight, 2019



Russia & Central Asia Air Freight with Europe, 2019

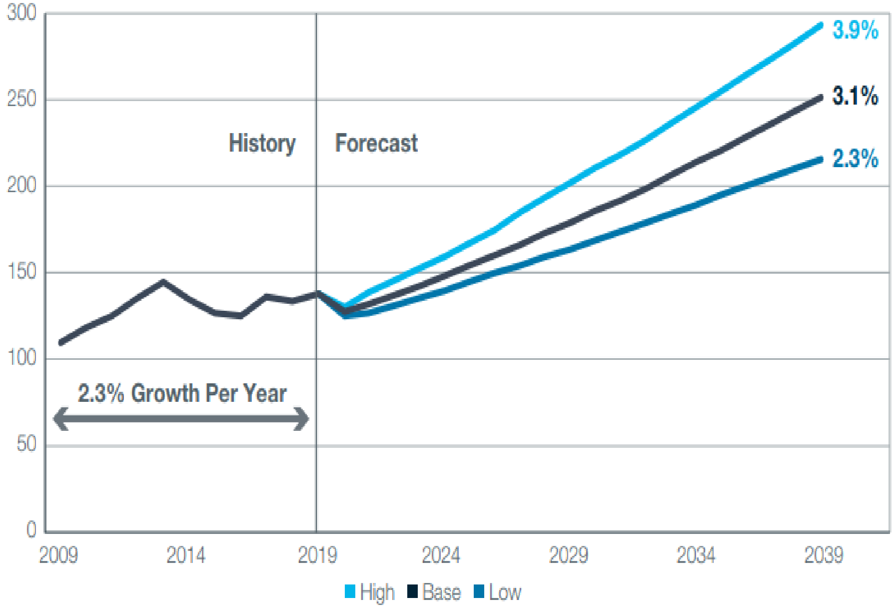


- ✓ The Russia and Central Asia market accounts for 1.3% of global air cargo traffic in tonne kilometers and 2.3% in tonnage.
- ✓ **East Asia has been the region's largest air trade partner, reaching 216,000 tonnes in 2019**.
- ✓ **Russia and Central Asia–Europe traffic remains a large market, at 157,000 tonnes in 2019**, led by Russia and Kazakhstan.

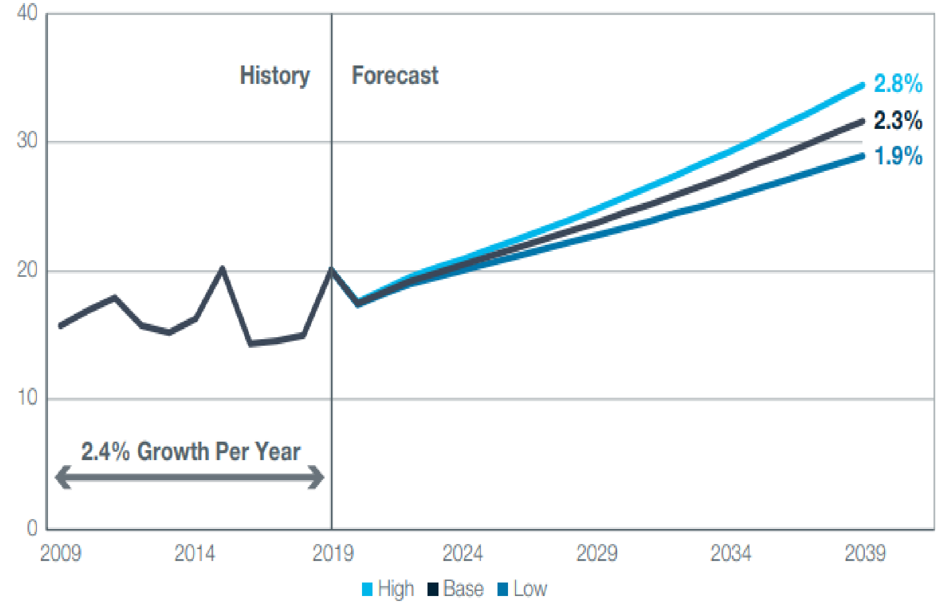
Source: Boeing

Russia & Central Asia-Europe air cargo market will grow at 3.0% average per year during 2020-2039

Europe-Russia & Central Asia Air Cargo Traffic Avg Annual Growth, 2020-2039, mln tonnes



Russia & Central Asia-Europe Air Cargo Traffic Avg Annual Growth, 2020-2039, mln tonnes

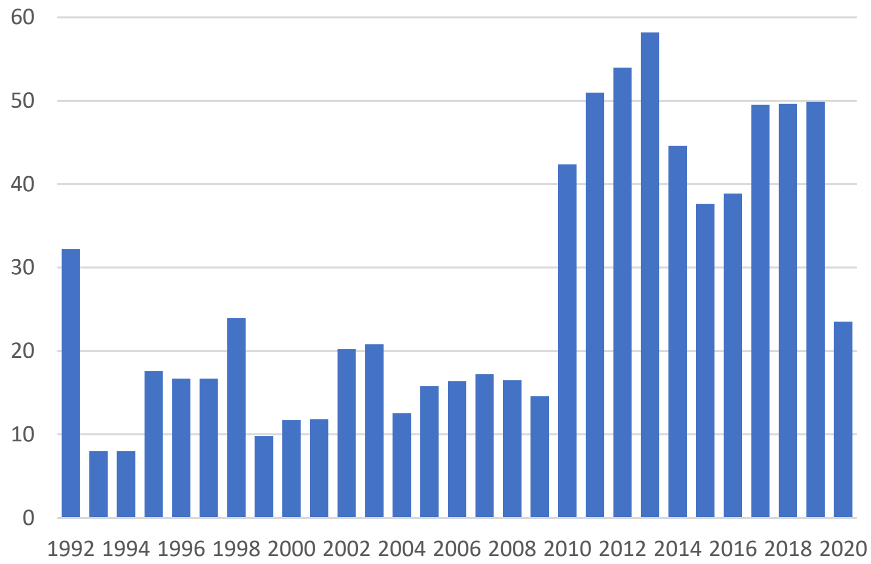


- ✓ **The Russia and Central Asia–Europe air cargo market will grow at an average annual rate of 3.0%** for the next two decades.
- ✓ **Russia and Central Asia air imports from Europe are forecast to grow 3.1% per year, while Russia and Central Asia air exports to Europe will grow at a rate of 2.3%**.
- ✓ Regional conflicts, laws & regulations adverse to new businesses, or renationalization of industries would impede air trade growth, leading to the low-growth projection.

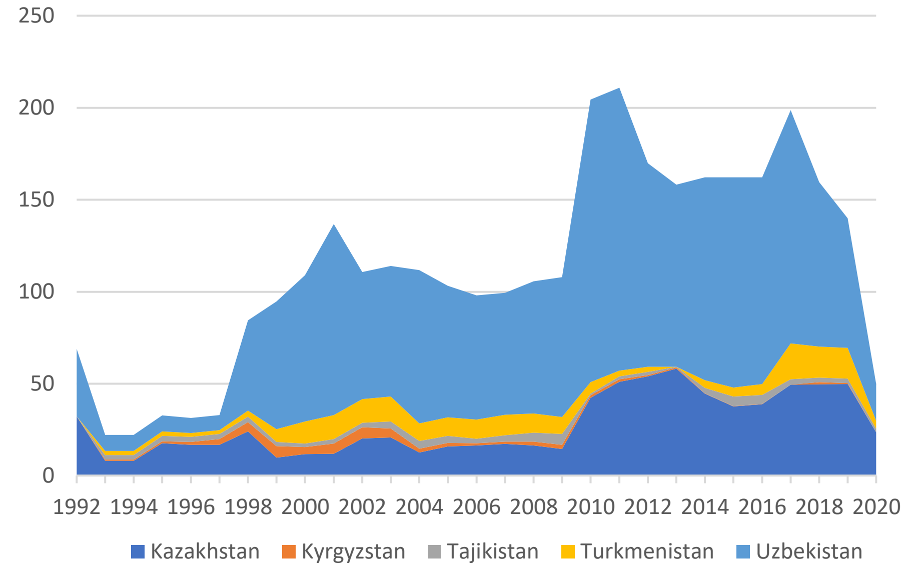
Source: Boeing

Kazakhstan air transport freight amounted to 23.5mln tonne-kilometers, leading Central Asia's air freight volumes

Kazakhstan's Air Freight, mln tonne-kilometers



Air Freight Comparison: Kazakhstan vs. Central Asia, mln tonne-kilometers



- ✓ **In 2020, Kazakhstan's air transport freight stood at 23.5mln tonne-kilometers**. During 2010-2019, the country's air freight saw robust volumes averaged at 47.57mln tonne-kilometers per year.
- ✓ **Kazakhstan led air freight in the Central Asian region at 47.3%**, followed by Uzbekistan 40.2%, Turkmenistan 8.7% and Tajikistan 3.9%.
- ✓ With the closure of air space access due to the war and sanctions, air cargo flights from Europe to Asia were cancelled. **It is estimated that 25% of air cargo between Asia and Europe needing to find alternate means of transportation/route**.
- ✓ **Kazakhstan has the potential to be Central Asia's air cargo transit hub between Europe and Asia**.

Source: World Bank, VC

Kazakhstan air cargo growth opportunities

- ✓ In January 2022, Kazakhstan signed Open Skies Agreement with the US. There is high interest among Kazakhstan's airports and major airlines in partnering with US logistics companies, **to establish Kazakhstan as an air cargo transit hub between China and Europe**.

- ✓ The **development and expansion of cargo terminals is a priority for the country** and is underway at two of the biggest airports: Almaty International Airport (Almaty), and Nur-Sultan Nazarbayev International Airport (Nazarbayev).

- ✓ **The Nazarbayev airport currently serves more than 2,000 cargo transit flights per year**, whereas pre-COVID the figure was less than 50 transit cargo flights. Incentives for utilizing Nur-Sultan Nazarbayev International Airport as a transit hub for cargo airlines flying from China to Europe include:

  (i) reduced costs due to its competitive prices offered for ground handling and jet fuel;
  (ii) the airport has the best ground infrastructure and special technical equipment in Central Asia, one of the best runways in Central Asia (International Civil Aviation Organization category IIIA);
  (iii) the capacity to receive and release all types of aircraft under various weather conditions;
  (iv) the modern aircraft refueling system available reduces the time spent on pre-flight procedures, allowing faster turnaround times for airlines. For example, refueling 100 tonnes of fuel for a heavy liner takes only 30-40 minutes.

- ✓ **The Almaty International Airport also has potential for the development of cargo transportation**, it is the busiest airport in the Central Asian region. In 2019, it served 6.4mln passengers and **transported more than 69,000 tonnes of cargo**. In 2021, the International Finance Corporation provides a USD222.2mln financing package to Almaty International Airport to build a new terminal to strengthen Kazakhstan's connectivity and economic competitiveness.

- ✓ **The Sary-Arka International Airport at the city of Karaganda** comes with developed logistics and warehouse infrastructure. It currently **receives and processes 30,000 tons of cargo per year**. The Sary-Arka International Airport **presents favorable location to serve the most dynamically developing destinations in Asia: South and Central China, South-East Asia**.

Source: International Trade Administration April 2022, IFC press release 27th September 2021

Summary: Kazakhstan’s potential as Central Asia’s air cargo transit hub between Europe and Asia

- ✓ **Global air cargo traffic is projected to grow at 4.0% average per year up to 2039**, driven by positive global economic growth and international goods trade.

- ✓ **Global air cargo markets linked to Asia is anticipated to lead all other international markets** in average annual growth during 2020-2039, with **Europe-East Asia at 4.4%, South Asia-Europe at 4.3% and Russia & Central Asia at 2.9%**.

- ✓ **Kazakhstan is strategically located at the crossroads of trade flows** between production facilities of East, South & Southeast Asia and sales markets of Europe.

- ✓ **The Central Eurasian Corridor passes through Kazakhstan**, the main transport artery providing overland transportation between Europe and Asia, which will be **positive for the country’s integration into international logistics chain**.

- ✓ **In 2020, Kazakhstan’s air transport freight stood at 23.5mln tonne-kilometers**. During 2010-2019, the country’s air freight saw robust volumes averaged at 47.57mln tonne-kilometers per year.

- ✓ **Kazakhstan led air freight in the Central Asian region at 47.3%**, followed by Uzbekistan 40.2%, Turkmenistan 8.7% and Tajikistan 3.9%.

- ✓ With the closure of air space access due to the war and sanctions, air cargo flights from Europe to Asia were cancelled. **It is estimated that 25% of air cargo between Asia and Europe needing to find alternate means of transportation/route**. Note that the number of flights through Kazakhstan’s airspace tripled to more than 450 immediately after Europe bans on flights by Russian airlines (source: Kazaeronavigatsiya).

- ✓ Therefore, **Kazakhstan has the potential to be Central Asia’s air cargo transit hub between Europe and Asia**. The **development and expansion of cargo terminals is a priority for the country** and is underway at key Kazakhstan’s airports.

Disclaimer & Disclosures

The Investment Team Market Intelligence of Verny Capital LLP (hereinafter referred to as the "**Research Team**") have prepared this Report (hereinafter referred to as the "**Report**"). The Research Team certifies that all views expressed in this Report reflect the Research Team's personal professional views. The Report is based on the information and methodologies taken from the sources which the Research Team considers to be reliable and have used public and other data which was not independently verified. While the Report is intended to be as accurate as possible, the Research Team and/or Verny Capital LLP make no guarantee, warranty or representation of any kind under any applicable law, express or implied, as to the accuracy or completeness of the information contained in the Report or otherwise, and it should not be relied on as such, and expressly disclaim under any applicable law any and all liability whether arising in tort, contract or otherwise which they might otherwise be found to have in respect of this Report or any statement in it. Further, the forward-looking statements speak only as at the date of the Report. The Research Team and/or Verny Capital LLP make no undertaking to update this Report or its contents after the date of the Report notwithstanding that such information may have become outdated or inaccurate. Notwithstanding above, the Research Team may change information contained in this Report at any time without notice.

Neither the Research Team nor Verny Capital LLP or any of its officers, employees shall be liable for any losses or damage that may result from any use of or reliance upon the information contained in the Report as a consequence of any inaccuracies in, errors or omissions, if any, in the information which the Report may contain or otherwise arising from the use and/or further communication, publication, or other disclosure of the information contained in the Report. Reliance upon any information in the Report is at the sole discretion and risk of the reader. Receipt and continuing review of the report shall be deemed agreement with, and consideration for, the foregoing.

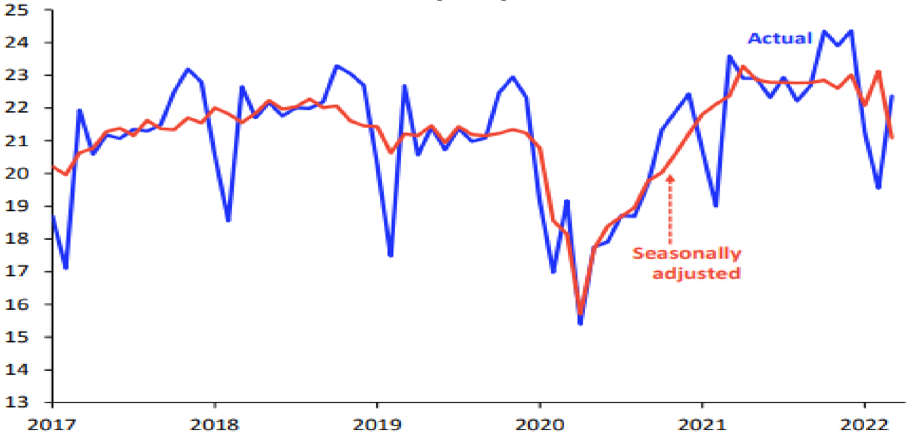
This Report is solely intended for general information purposes only. Verny Capital LLP states that this Report is not in any sense, and shall not be construed under any applicable law, as an offer or solicitation of an offer to any person of the purchase or sale of any assets or securities in any jurisdiction; the Report and any materials contained therein shall not be relied upon for any purpose whatsoever, including but not limited to, for investment or any other decisions.

No portion of this Report may be copied, published, used or duplicated in any form by any means or redistributed without prior written consent of Verny Capital LLP. In addition, Verny Capital LLP expressly prohibits the use of any portion of the Report, whether by reference, by incorporation, or otherwise, in any prospectus, IPO materials, or other filings in any jurisdiction with financial supervisory or other authorities, or in any public materials on which any investment or any other decisions might be based.

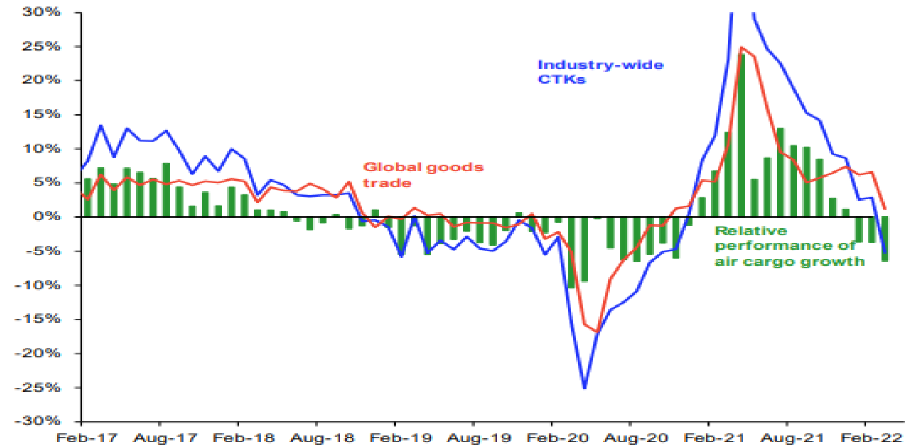
Appendix: Global Air Cargo Market Review

Global air cargo volumes were down in March and air cargo drivers suggest further weakness in 2022

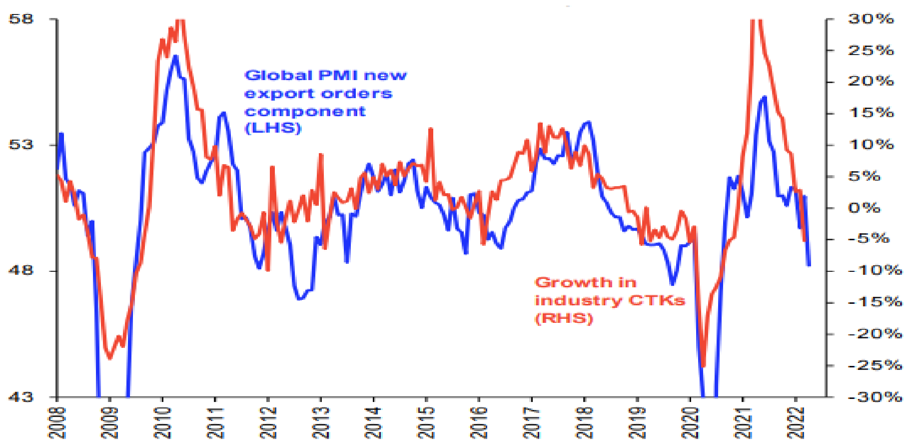
Global Cargo Tonne-Kilometers, Actual vs. Seasonally Adjusted, bln



Growth in Global Goods Trade vs. CTKs, % YoY



CTK Growth vs. Global New Export Orders, % YoY

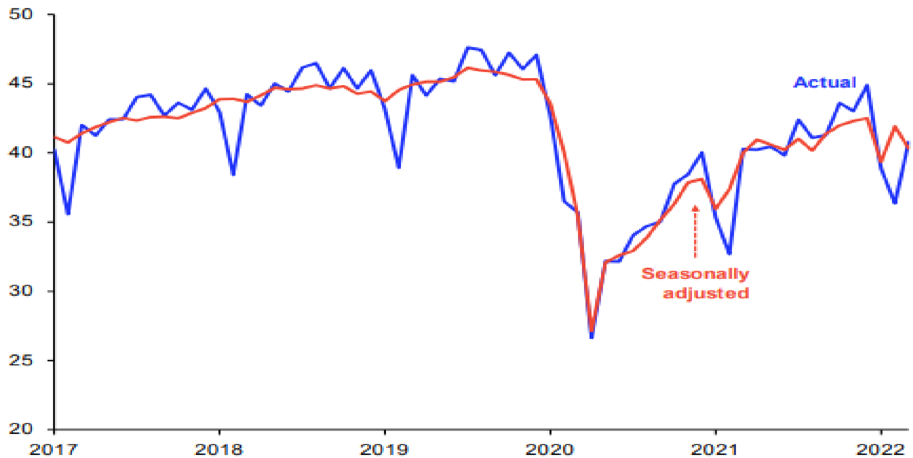


- ✓ **Global CTKs were down 5.2% YoY in March**. The level of increase in CTKs in January and February (2.7% YoY) was already notably lower than prior months, signaling a softening in demand.
- ✓ The war in Ukraine led to a fall in the air cargo capacity used to serve Europe, as several airlines based in Ukraine and Russia were crucial carriers in the region.
- ✓ The ongoing spread of Omicron in Asia caused new lockdowns and labour shortages, impacted manufacturing centers and in turn have hurt air cargo transport.
- ✓ **Global air cargo drivers (global goods trade & global new export orders) suggest further weakness in 2022**.

Source: IATA

Global air cargo trends – charting growth

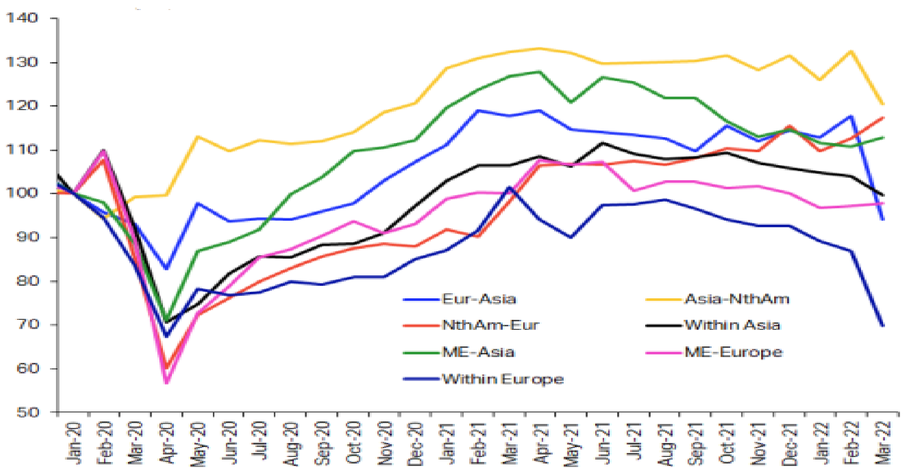
International Available Cargo Tonne-Kilometers, Actual vs. Seasonally Adjusted, bln



Global Air Cargo Market Key Indicators, March, % YoY

Data	World share %	CTK	ACTK	CLF %	CLF level
Total market	**100**	**-5.2**	**1.2**	**-3.7**	**54.9**
Africa	1.9	3.1	8.7	-2.7	49.4
APAC	32.5	-5.1	-6.4	0.9	63.8
Europe	22.9	-11.1	-4.9	-4.7	67.1
LATAM	2.2	22.1	34.9	-4.7	44.8
Middle East	13.4	-9.7	5.3	-8.7	52.6
N America	27.2	-0.7	6.7	-3.3	44.2

Seasonally Adjusted CTKs by Route Area (indexed Jan 2020=100)



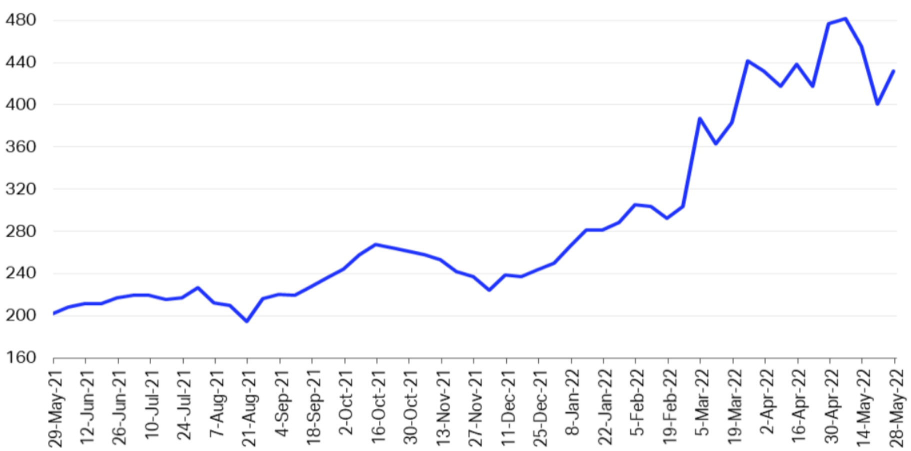
Global Air Cargo Market Key Indicators, March 2022 vs. March 2019, % Change

Data	World share %	CTK	ACTK	CLF %	CLF level
Total market	**100**	**-1.4**	**-10.6**	**5.1**	**54.9**
Africa	1.9	15.6	-9.6	10.8	49.4
APAC	32.5	-9.5	-21.4	8.4	63.8
Europe	22.9	-11.9	-26.1	10.8	67.1
LATAM	2.2	-4.3	-26.0	10.1	44.8
Middle East	13.4	-1.2	-7.6	3.4	52.6
N America	27.2	20.2	13.7	2/4	44.2

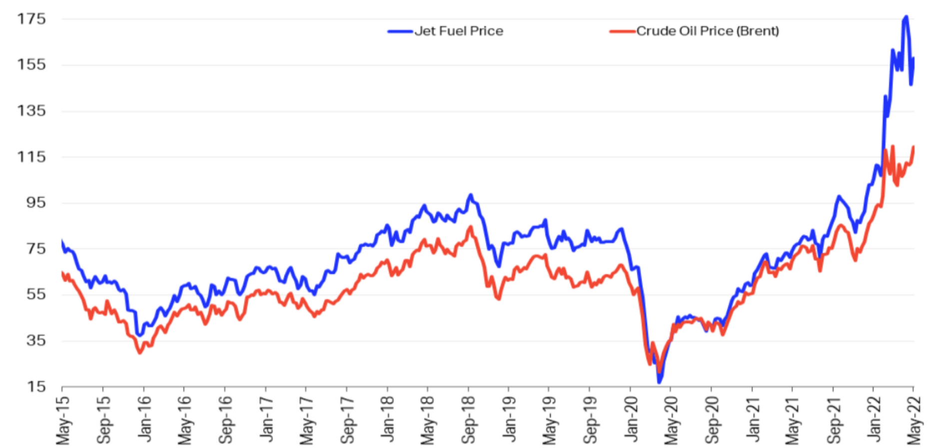
Source: IATA

Pressures on operating costs are rising: jet fuel price at elevated levels

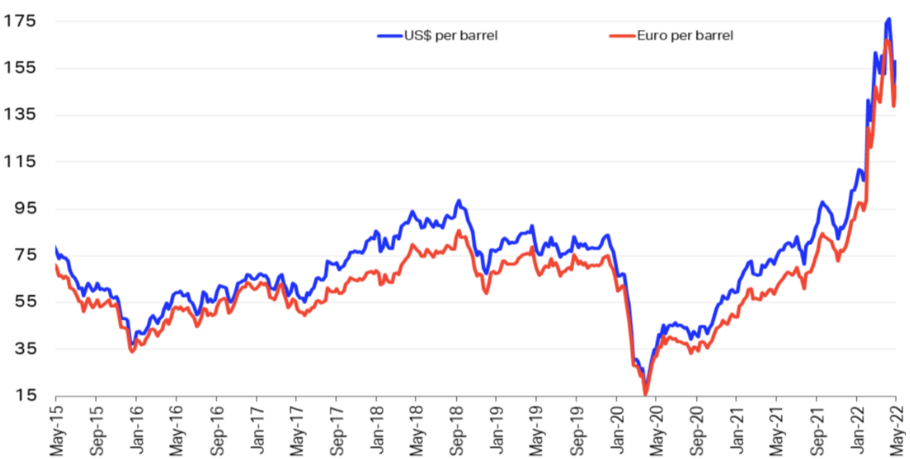
Jet Fuel Price Index (2000=100), 1-Year Trend



Jet Fuel & Crude Oil Price, 7-year Trends, USD pb



Jet Fuel Price, USD vs. EUR, pb



- ✓ **Jet fuel price was quoted at USD158pb as at 27th May, up 114% YoY**, reflecting the rise in crude oil prices.
- ✓ The average jet fuel price of USD136.8pb YTD results in industry total fuel bill of USD122.8bln in 2022.
- ✓ Global supply chain bottlenecks and rising jet fuel prices have pushed up global air cargo rates.

Source: IATA, S&P Global, Reuters

Global Jet Fuel Price Analysis

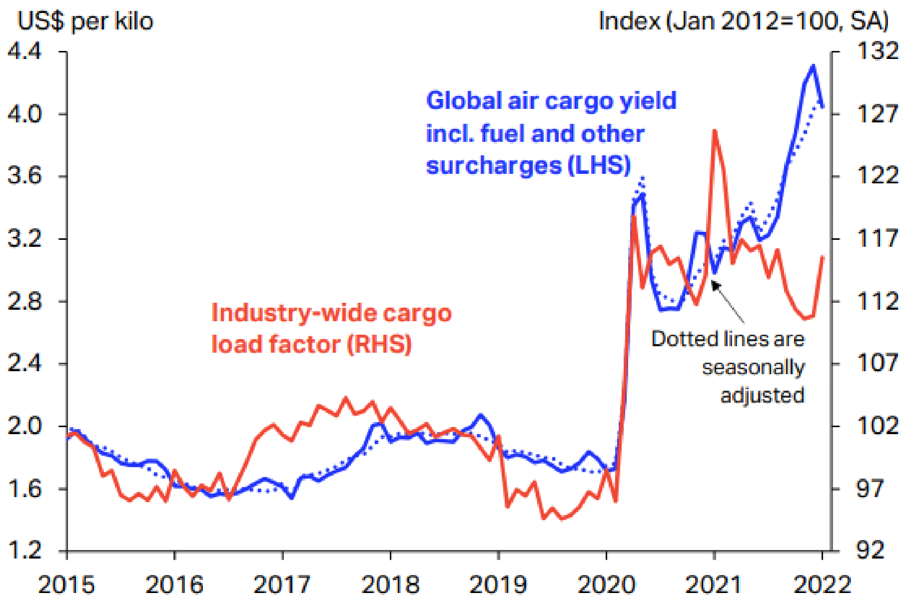
Jet Fuel Price by Region, as at 27th May 2022

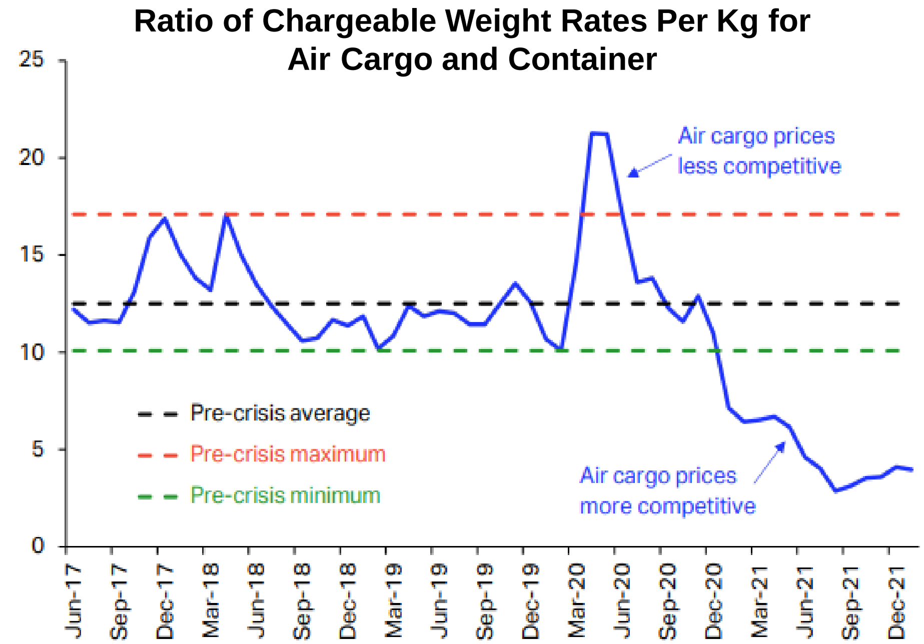
27th May 2022	Share in World Index	Cts/gal	USD/pb	USD/MT	Index Value 2000=100	vs. 1 week ago %	vs. 1 month ago %	vs. 1 year ago %
Jet Fuel Price	**100%**	**376.29**	**158.04**	**1,248.02**	**432.03**	**7.9**	**-9.4**	**114.0**
Asia & Oceania	22%	350.22	147.09	1,162.03	420.28	7.2	1.0	101.6
Europe & CIS	28%	389.47	163.58	1,290.63	440.73	9.9	-7.2	121.3
Middle East & Africa	7%	359.78	151.11	1,193.08	451.25	7.8	-2.1	110.2
N America	39%	382.91	160.82	1,270.49	427.55	7.0	-16.7	115.9
Latin & Central America	4%	389.31	163.51	1,291.73	452.95	5.5	-5.6	116.6

Source: IATA

Global air cargo rates were up 150% as at end-2021 compared to 2019 levels, ongoing conflicts should lead to further increases

Global Air Cargo Yield vs. Global Cargo Load Factor





- ✓ On a month-on-month basis, global air freight rates saw a marked slowdown in the rate of increase on Asia-Europe routes and a fall in transatlantic rates. However, **global air freight rates currently remain at high levels in comparison to 2019 and 2021, and the ongoing conflicts should lead to further increases**.
- ✓ Recovery in global demand combined with insufficient global air cargo capacity saw air cargo prices rose slightly faster than container shipping prices in recent months. Overall, air cargo now remains more price competitive vs. container shipping than in the past.

Source: IATA