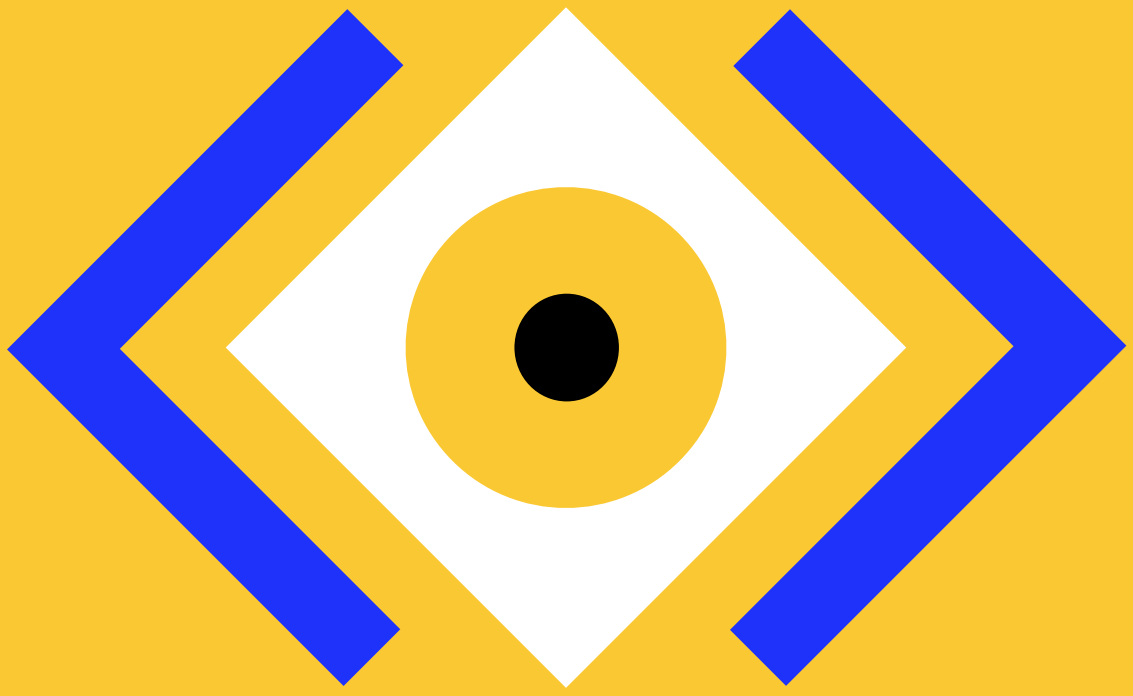
June 2024

Global Outlook for Air Transport

Deep Change



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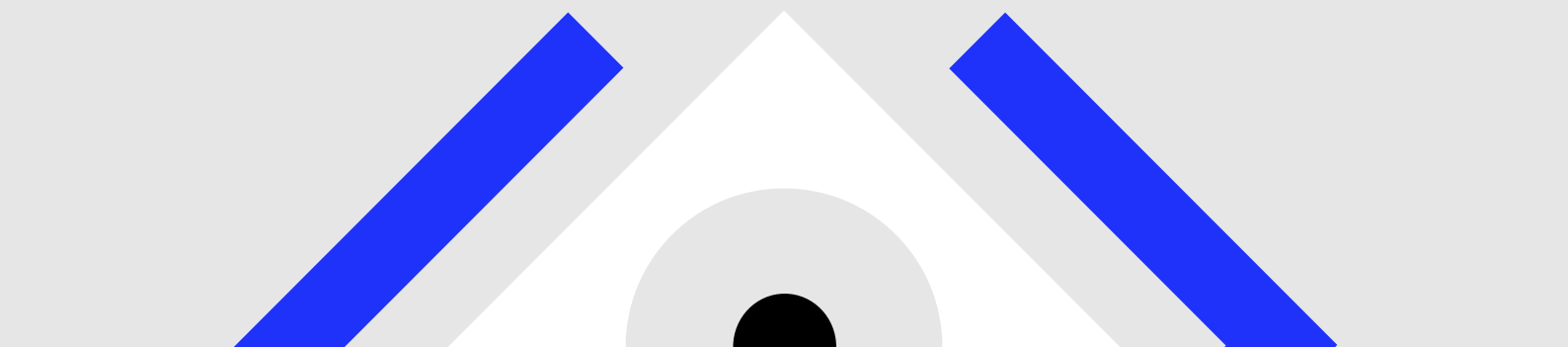


Global Outlook for Air Transport
Deep Change

This semi-annual report takes a broad look at developments in the airline industry, the context in which it is operating, and the challenges it is facing.

Main takeaways

- The year 2024 is unusually challenging, notably because 4.2 billion persons, a majority of the world's population, will go to the polls in as many as 70 countries – an unprecedented occurrence. Many of the elections will take place in a polarized setting and many will be less than free. Policies could change significantly, and weaken our global capacity to address systemic problems, and to deliver economic growth and improved welfare for all.

- This will likely take place against a backdrop of still very tight labor markets, in turn contributing to prices being sticky and inflation taking longer to drop within central banks' target range. Policy interest rates will therefore not fall as rapidly or by as much as many might expect in 2024. Higher for longer policy interest rates in the US will keep the appreciating bias in the US dollar against most other currencies – a feature that is of course growth-dampening for most countries and which adds costs to all USD-denominated debt and invoices for non-USD based businesses. For airlines, this of course adds to the already high oil price by pushing up the local currency price of fuel.

- Thanks to solid and persistent demand for air transportation, our industry can now turn the page on the Covid-pandemic. Traffic has caught up with 2019 levels, and profitability has returned to the industry. To be sure, this is a laudable feat. While the trend is will in all probability stay positive regarding both growth in activity and profitability, the pace of improvement is likely to slow. A key variable to watch is unemployment which could challenge the trend were it to begin to rise. In the interim, gains will also be capped by capacity constraints pertaining to labor and aircraft.

- The airline industry matched 2019 levels of Revenue Passenger Kilometers (RPKs) as of February 2024. This year, we expect 11.6% growth in total RPKs and an increase of 10.4% in the number of global passengers. Asia Pacific will lead the growth among the regions, contributing to more than half of the global net gain in passenger numbers by 2043. The different air transportation needs across the regions and the industry's ability to respond to them will continue to drive change across the global network, change that was set in motion already by the Covid-pandemic and by geopolitical developments. Traffic numbers are back at 2019 levels, but the nature of the connectivity provided is changing.

- Air cargo of course faces all the challenges common to the industry as a whole, but it is uniquely exposed to trends in manufactured goods trade and to all the related policies. There is a global increase in steps taken by countries to restrict international trade by different types of measures, including raising tariffs. Despite this difficult context, 2024 has seen growth in trade accelerate from a difficult 2023. Cyclical indicators point to further improvements in the second half of this year, helped by booming e-commerce and disruptions in maritime shipping, both of which favor air cargo. Global air cargo traffic is expected to grow by 5% in 2024.

- Thanks to the anticipated growth in passenger and cargo traffic, the industry's revenue should increase by 10% and nearly reach the evocative USD 1 trillion mark. The top-line development will benefit not only from the traffic volumes but also from higher passenger yields. Cargo, on the other hand, will see a decline in revenue as the expected drop in cargo yields will outweigh the increase in Cargo Tonne Kilometers (CTK). The bottom line is projected to generate a net profit of USD 30.5 billion in 2024, with a 3.1% net profit margin and a 6.0% operating margin.

- With such slim margins, the industry's profitability is still fragile, leaving meagre buffers with which to absorb the rising costs of climate change and decarbonization, and the many other potential sources of additional costs or threats to activity. Moreover, compressed margins in a context of generalized cost increases will impede the strengthening of balance sheets that still carry excess debt since the Covid pandemic.

- Airlines are committed to deliver net-zero CO2 emissions in air transportation by 2050. Addressing aviation's energy transition could not only bring about emissions-free air transportation but create win-win situations across the air transport industry and the transportation sector, across entire countries, regions, and the global economy, and this of epic proportions. Providing access to sustainable, abundant, and cheap energy for all will transform every human activity. Airlines cannot achieve this on their own because no industry or country can. Together though, it is for sure, definitely, 100% do-able.

1. Deep Change

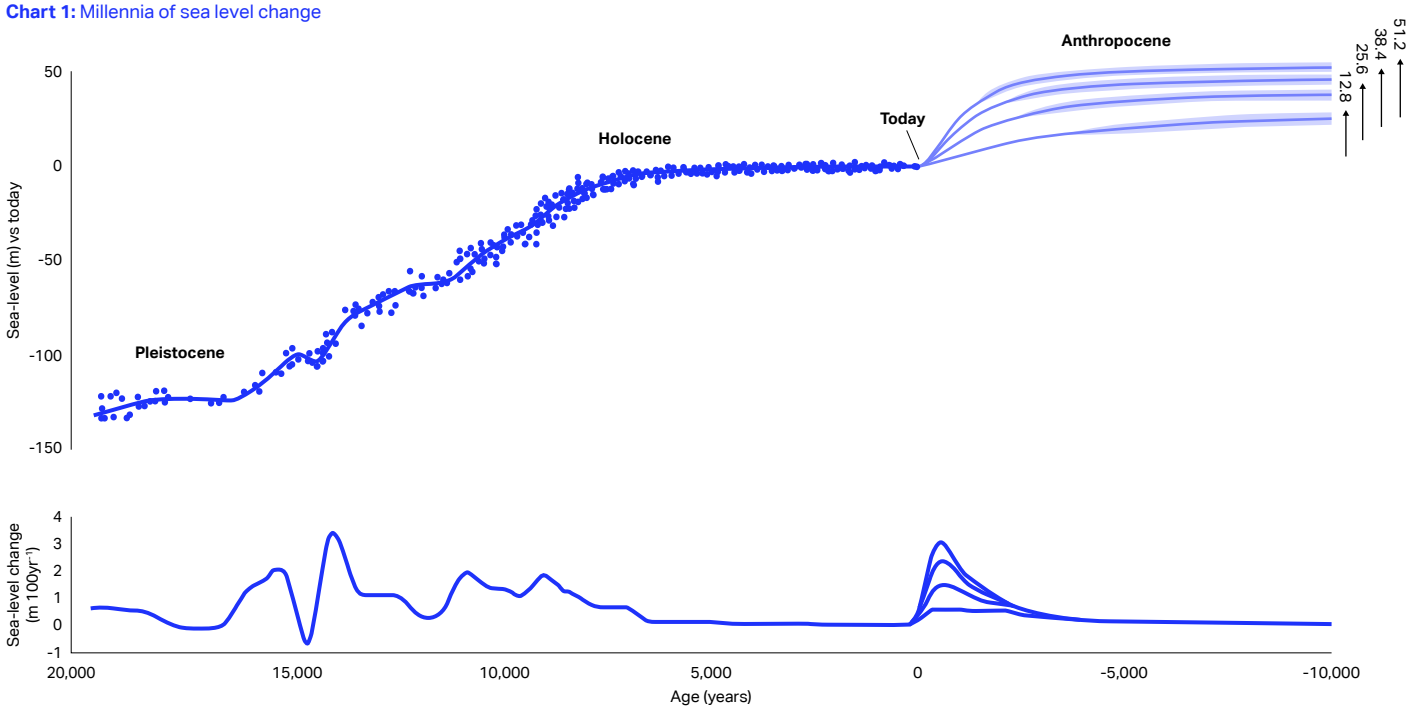
Heraclitus, the ancient Greek philosopher (born around 540 BC), famously proclaimed, "There is nothing permanent except change". It ought to surprise us little then that change is still upon us. The difference a few thousand years make is that the pace of change seems to be accelerating, and that the change to come could prove to be unusually profound.

Climate change

For the past 6,500 years, average sea levels were so stable that they came to be taken as a constant, as far as human endeavors were concerned (Chart 1). This stability coincided with and enabled the emergence of our civilization. Since around 1900, the average sea level has risen by 20 cm (about 7.87 in), according to NASA[1], and half of this rise has occurred since 1993. This climate fact alone tells a compelling story about the deep change our global economy will face going forward.

Weaning the global economy off its dependence on fossil fuels must be everybody's most overarching priority. While undoubtedly an unprecedented challenge, the world has experienced energy transitions several times over. The unusual aspects of the current situation are the ubiquitousness of fossil fuels, involved in nearly all human activities, and the speed with which replacement renewable energies need to be developed. The good news is that such technologies exist, and that financing appears feasible in the absolute. The part that has yet to deliver on its necessary and cataclysmic role is that played by our political leaders. There is a lack of will, determination, focus, and coordination, as countries' attention turns to seemingly more immediate threats.

Chart 1: Millennia of sea level change



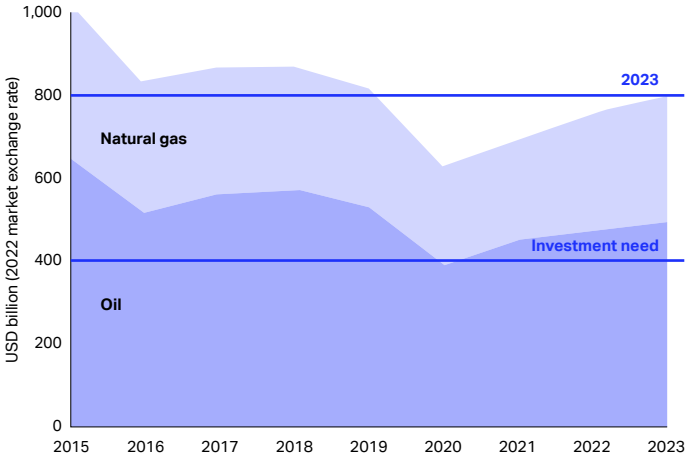
Source: Real Climate

1 NASA Sea Level Change Portal

The oil and gas industry and renewable energy

The oil and gas industry contributes a mere 1% to global investments in renewable energies (Chart 3). Over 60% of this amount comes from only four companies, leaving many thousands of companies in the sector completely absent from taking any part in the energy transition, according to the International Energy Agency (IEA). The IEA also calculates that current investments in the oil and gas industry are twice as high as the amount needed to safeguard the production that will still be required in a net-zero CO_2 emissions world in 2050. This equates to an overinvestment in the industry of USD 400 billion per year which could be redirected to renewable energies and sustainable aviation fuels given the appropriate policy framework (Chart 2).

Chart 2: Investment in oil and natural gas, USD billion



Source: International Energy Agency,
"The Oil and Gas Industry in Net Zero Transition", December 2023

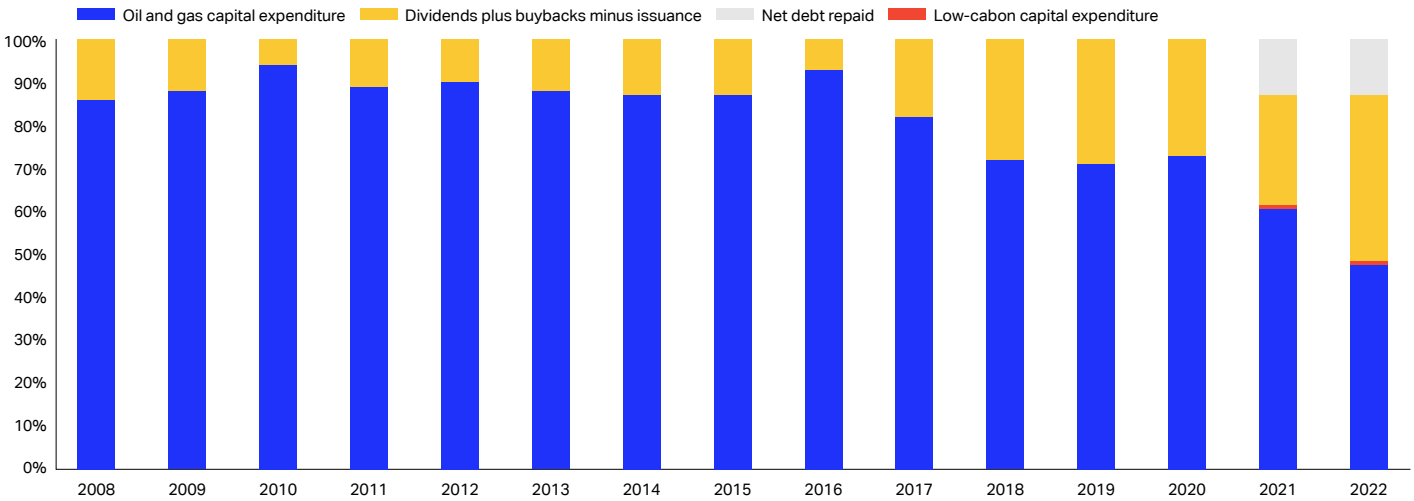
Geopolitics

Wars in Europe and in the Middle East caused all brakes on oil drilling to be lifted. The US, for instance, allowed oil and gas exploration on federal lands again in 2022 after the invasion of Ukraine. 2024 will be a record year in terms of oil production, and the US has become the world's record oil producer[2]. Energy security is at the top of political agendas.

At a time when radical cooperation is required on a global scale, multilateralism is faltering, and the post-WW II institutions are losing influence. A more organic and "self-organized" way of running the world can be seen in the role played by the G20 in global affairs since the group's creation in 1999, and in the emergence of the Paris Agreement in 2015. Many factors have of course contributed to curtailing such global collaboration, including the UK's decision to leave the European Union in 2016, the trade wars of the first Trump administration in the US, and the Covid pandemic, all of which promoted more inward-looking economic policies.

With a majority of the world's population, over 4 billion people, in around 70 countries, representing 60% of global Gross Domestic Product (GDP), being called to vote in national elections as well as in the regional elections to the bodies of the European Union, there is every reason to expect an inward focus also in 2024. As these elections take place in an unusually polarized climate, with strongmen on the rise and political freedoms under pressure, election results can produce starkly different policies. While policy volatility tends to be a break on economic growth and welfare gains at the best of times, it is particularly harmful when there is an exceptional need for global policy coordination to address global challenges that no country can solve on its own.

Chart 3: Distribution of cash spending by the oil and gas industry, % of total, 2008-2022



Source: International Energy Agency, "World Energy Investment 2023", May 2023

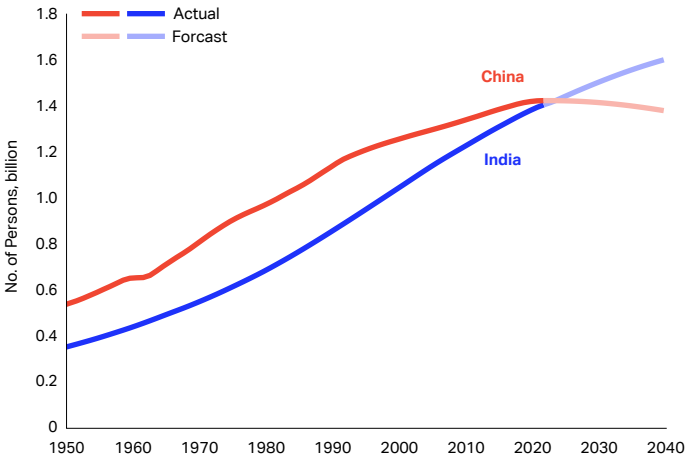
Superpower

Changing demographics and economic heft are also influencing geopolitics. China's population was surpassed by India's in 2023, according to the United Nations[3]. Last year China's population fell by 2 million to 1.40 billion, and India's rose to 1.42 billion (Chart 4). India could become the world's third-largest economy already by 2030, reports S&P Global Ratings, behind the US and China.

It is unlikely that India will follow the same path as China and become the manufacturing hub of the world. The world is now truly a service economy with 67% of global GDP being generated thanks to this sector[4], and India can be expected to continue to excel in this domain thanks to its young and tech savvy workforce. Its economy's full potential will only be realized, however, if a reform agenda can dominate religious and cultural agendas.

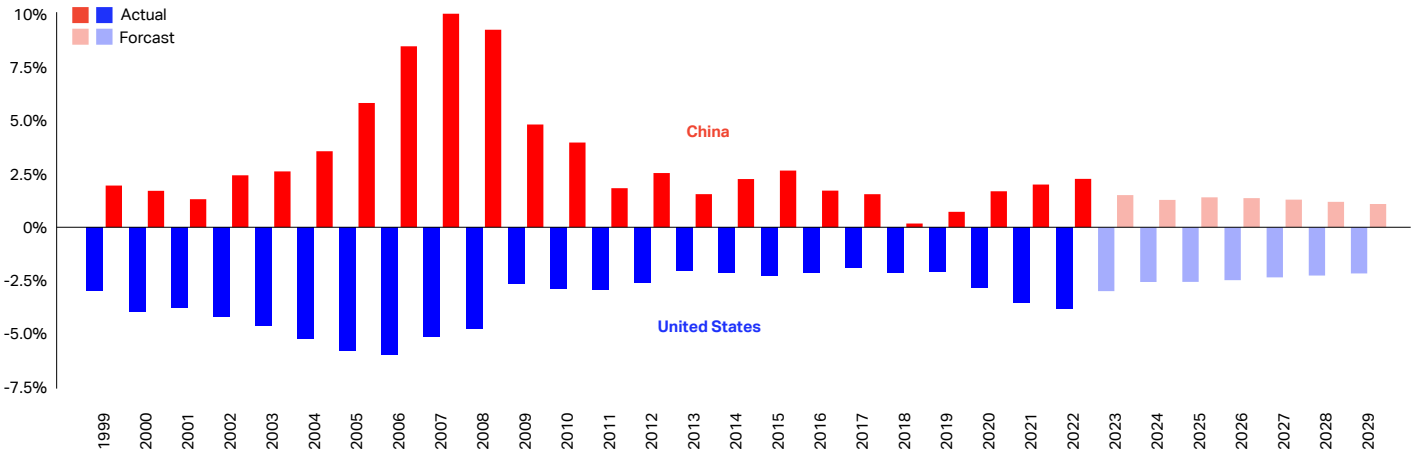
Similar remarks could be made regarding China, where a reform agenda is needed to adapt to the shrinking population, lower demand for housing and construction, and the end of unlimited cheap labor to manufacture the country's exports. China's current account balance showed a surplus of 10% of GDP in 2007. In 2024, it might be as low as 1% and it is expected to continue to decline going forward, possibly turning negative. This is in and of itself not a sign of economic decline – the US' current account has been in deficit since 1970 with only a handful of exceptions (Chart 5). The US has, however, always depended on the kindness of strangers, as Tennessee Williams might have said. Without access to foreign countries' excess savings, the US cannot finance its structural overconsumption, and China's ability to play this important role in the global financial system is waning.

Chart 4: Total population of China and India, billion



Source: UN World Population Prospects, 2022

Chart 5: Current account balance, % of GDP



Source: IMF World Economic Outlook, April 2024

3 https://www.un.org/en/desa/india-overtake-china-world-most-populous-country-april-2023-united-nations-projects#:~:text=24%20April%202023%20%2D%20China%20will,the%20population%20of%20mainland%20China

4 WTO, 2021 data

The global economy

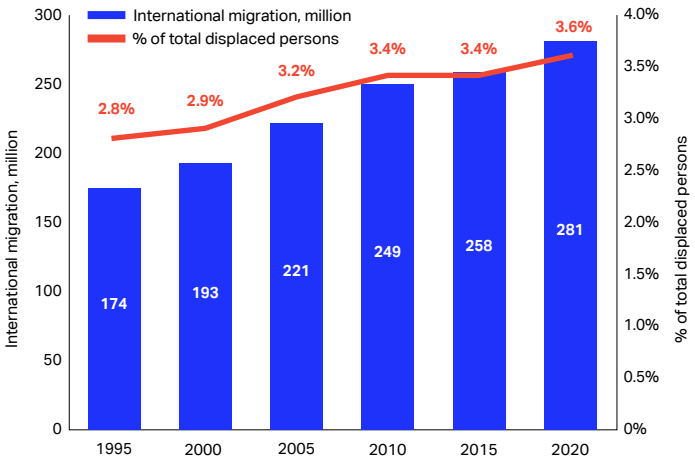
The deep changes the global economy is facing, including those mentioned above, point to slower economic growth and lower potential growth, as a structural trend and over this century.

The energy transition, were we to succeed, could free the global economy from its energy constraint and spell a whole new future for the global economy. If energy were to become not only sustainable, but also cheap and accessible to all, it would certainly be a positive game changer of epic proportions – like manna from heaven, and a potential means of preventing mass exodus from climate change-afflicted areas. In the interim, migration risks being one of the most destabilizing factors going forward (Chart 6).

Slower realized and potential GDP growth does not necessarily mean more recessions though (Chart 7). As the global economy has become increasingly reliant on the service sector for its growth, the business cycles have become longer. Other factors are most certainly also at play here, but the US economy enjoyed a record 146 quarters of growth in the cycle that ended in the Covid pandemic[5] (Chart 8). The ensuing recession was also its shortest – only two quarters.

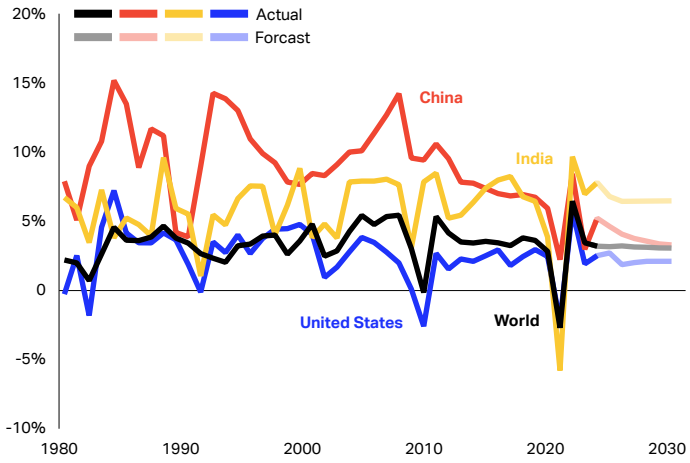
The service sector's workings could also be a major factor in explaining the exceptionally tight labor markets that the world is still experiencing, despite the lack of fizz in GDP growth rates. Still, young people, in China and India in particular, are not gaining the same access to the labor market and this is likely to dent those countries' growth potential.

Chart 6: International migration, million, and % of total displaced persons



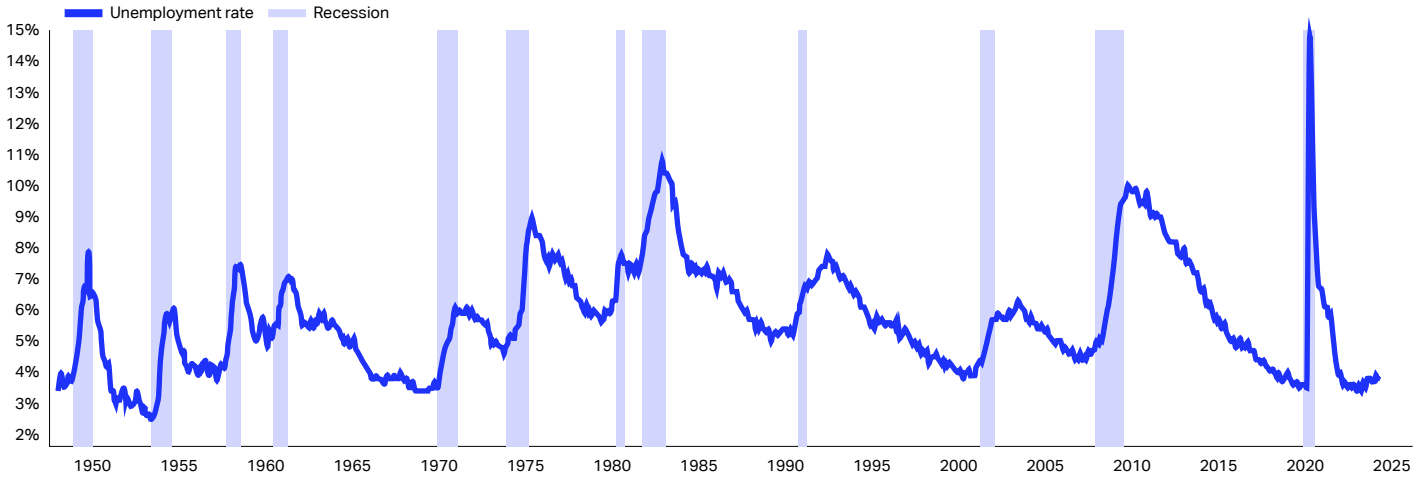
Source: Global Migration, By the Numbers: Who Migrates, Where They Go and Why, Corrections Environmental Scan (nicic.gov)

Chart 7: GDP growth rate and forecasts, %



Source: IMF World Economic Outlook, April 2024

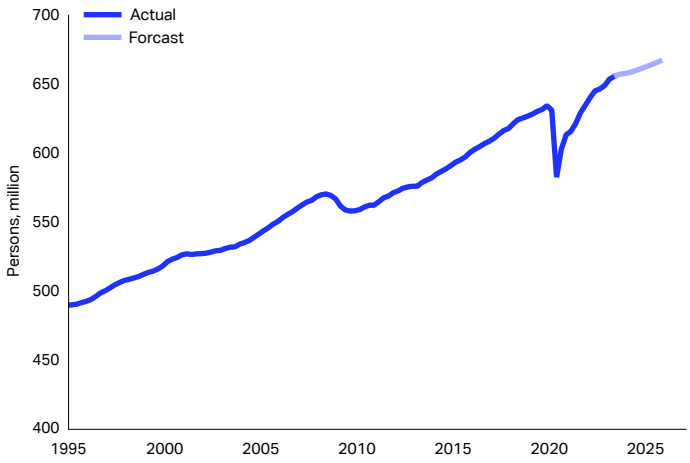
Chart 8: US business cycles, columns indicate recessions, and unemployment rate, %



Source: Federal Reserve Bank of St. Louis

As the year 2024 enters its second half, it remains characterized by tight labor markets (Chart 9), lower but still above-target inflation rates, higher interest rates for longer, a rather strong US dollar versus most currencies, and uncomfortably high oil prices. Among these mostly growth-dampening factors, the positive one that still dominates is the fact that more people are working than ever before. Until unemployment rates start to rise, we can expect sustained demand for air transportation, which is, of course, a service-sector industry.

Chart 9: OECD total employment, million



Source: OECD Economic Outlook, May 2024

2. Traffic to reach an all-time high

Air passenger traffic

Recent developments and outlook

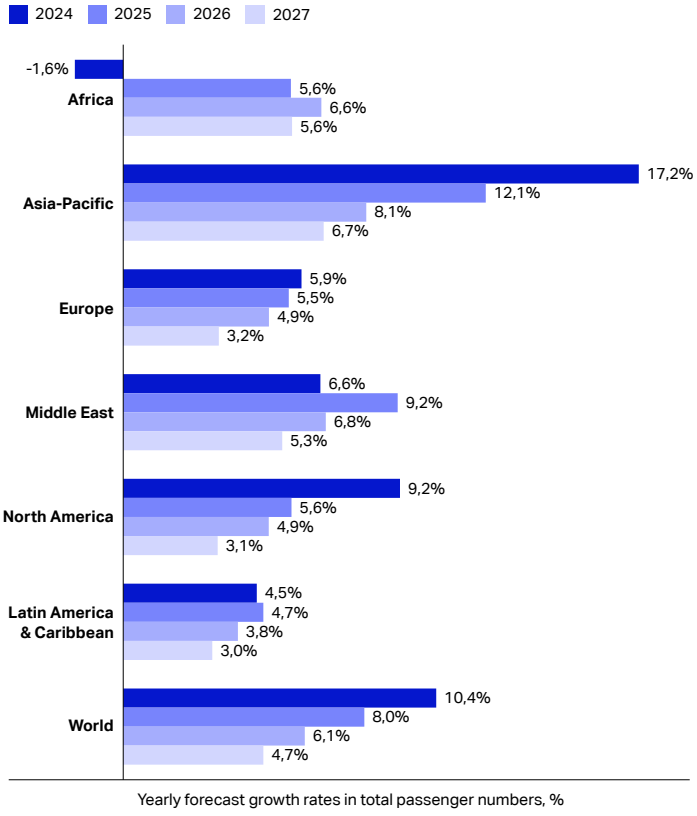
As of 2024, the airline industry can turn its back on the Covid-induced crisis (Chart 10). This is a remarkable rebound, considering the initial shock that saw RPKs drop by 93% in April 2020.

Domestic travel bounced back to the pre-Covid level in the spring of 2023, while international routes did so only recently. Total traffic matched and surpassed 2019 numbers in February 2024. The global network, however, has evolved since 2019. China's international traffic recovery has been slower due to the later easing of travel restrictions, economic uncertainties, and geopolitical tensions. Domestic traffic, on the other hand, has surged thanks to internal tourism, reaching record numbers. Moreover, traffic between Asia and Europe remains affected by the war in Ukraine.

Most regions are expected to climb above 2019 levels in 2024, and most countries will experience continuous growth (Chart 11). Connectivity to Asia Pacific should be fully restored this year. The anticipated increase in total passenger numbers for 2024 is 10.4% year-on-year (YoY) or 11.6% in RPK.

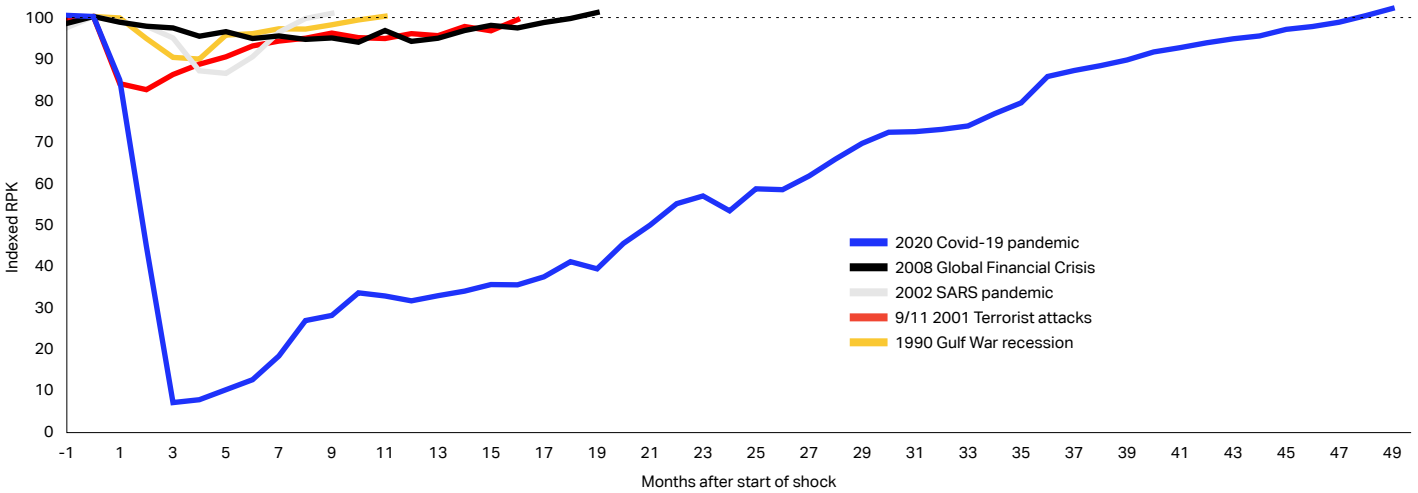
Africa is the only region likely to see a contraction in passenger numbers this year, although from an elevated base due to strong traffic in 2023. The Middle East is forecast to have a more favorable economic environment in 2024, despite geopolitical tensions. Europe is expected to see solid growth in its passenger numbers, especially in smaller economies that have seen particular buoyancy recently. Asia Pacific sports the highest growth numbers, from a lower base, at 17.2% YoY this year. China and India are driving developments in this region.

Chart 11: Regional and global yearly forecast growth rates in total passenger numbers, %



Source: Air Passenger Forecasts, February 2024 update

Chart 10: Historic recovery of industry-wide RPK after global shocks



Source: IATA Sustainability and Economics, IATA Monthly Statistics

Over the next 20 years, we expect world passengers to increase by 3.8% per year on average, resulting in over 4 billion additional passenger journeys in 2043 compared to 2023. European and North American markets will see a slower rise in demand, 2.3% and 2.7% per year respectively. Asia Pacific is anticipated to record the fastest rise in passenger numbers and to contribute to more than half of the net increase in global passenger numbers by 2043 (Table 1).

Table 1: Regional and global compound annual growth rate (CAGR) and net growth in passenger numbers over the 2023 – 2043 horizon

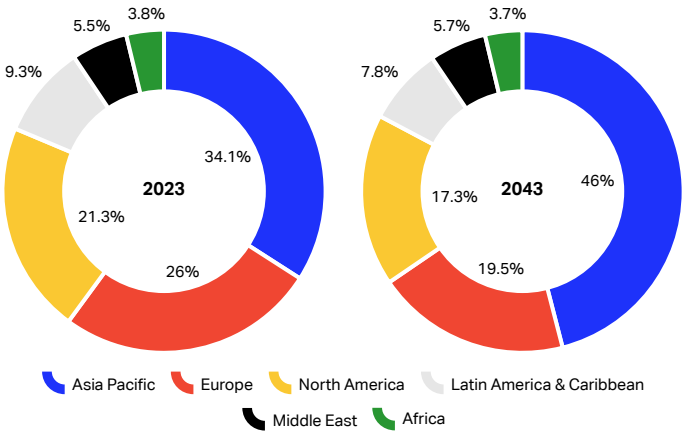
Region	CAGR (2023 - 2043)	Additional passengers by 2043, million
Africa	3.7%	179
Asia Pacific	5.3%	2,750
Europe	2.3%	656
Middle East	3.9%	282
North America	2.7%	659
Latin America & Caribbean	2.9%	311
World	3.8%	4,154

Source: Air Passenger Forecasts, February 2024 update

The region is also slated to experience solid economic growth and improving living standards, which will drive demand for air transport well beyond the global average (Chart 13). GDP in the Asia Pacific region will grow by 65% over the coming 20 years, and trips per capita should almost triple. As a result, nearly half of global passenger traffic will originate or depart from the region in 2043, as opposed to 34.1% in 2023 (Chart 12). The larger share of the region in total global traffic comes at the expense of the US, Europe, and Latin America which shares will fall. The Middle East and Africa are likely to see stable shares of the global total.

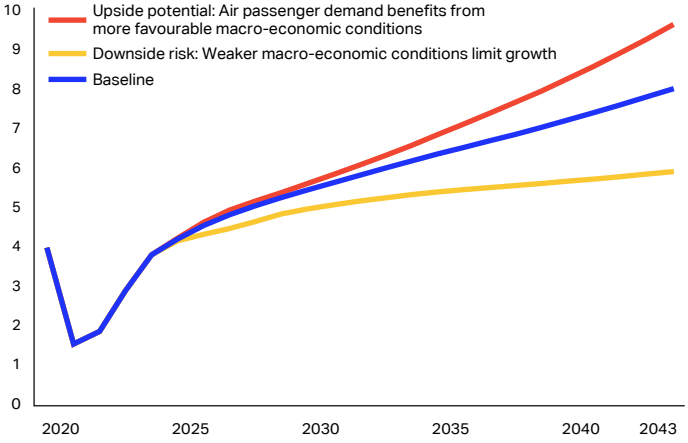
Our baseline forecast comes with a large range of uncertainty that considers the upside and downside factors which could affect the industry's trajectory and air passenger demand. Favorable macro-economic conditions, such as the normalization of supply chains and lower inflation rates, could potentially lead to an increase in demand. However, geopolitical tensions and conflicts, particularly the ongoing wars in Ukraine and the Middle East, pose substantial risks to the global economy. In addition, new climate policies could dampen the growth in demand for air travel over the coming decades. Overall, the balance of risks remains tilted to the downside, in the near-term but also in the longer term (Chart 14).

Chart 12: Regional passenger traffic, share of total, %, 2023 and 2043 forecast



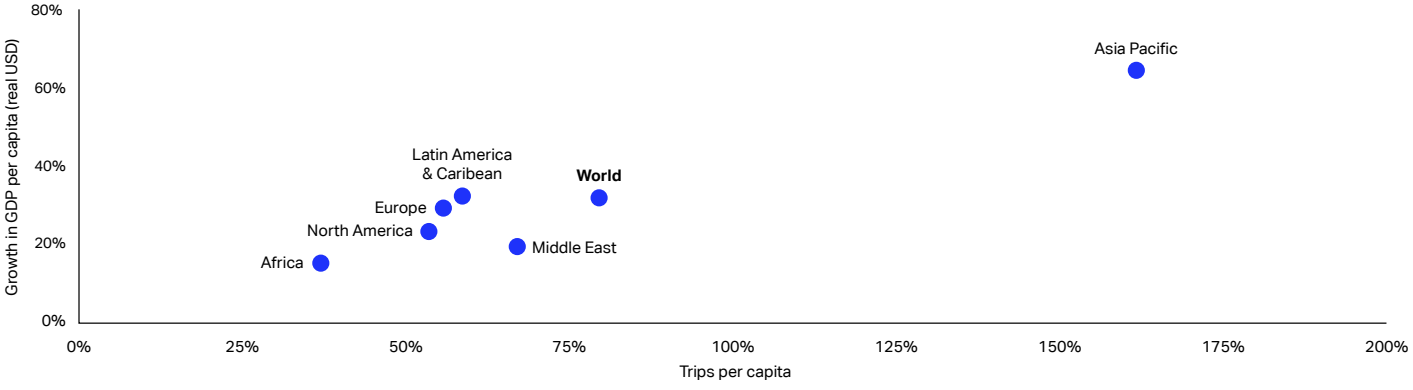
Source: Air Passenger Forecasts, February 2024 update

Chart 14: Global air passenger journeys, billion



Source: Air Passenger Forecasts, February 2024 update

Chart 13: Regional and global GDP and trips per capita, % growth over forecast period, 2023-2043



Source: Air Passenger Forecasts, February 2024 update

Traffic, connectivity, and contribution to the wider economy

Traffic numbers are not the only way to look at activity in the airline industry – connectivity adds a fundamental dimension to the analysis. Air transport plays a crucial role in global economic development, thanks to the connectivity it provides between people, cities, and countries. Connectivity ensures the seamless flow of goods, people, and ideas necessary to support the global business cycle (Table 2). The Covid pandemic brought an abrupt and substantial decline in connectivity in 2020, with the number of unique city pairs falling by more than 28% and eliminating almost 6,000 routes. 2024 should mark the first year with unique city pairs exceeding 2019, growing by 5% YoY, and setting a record at more than 22,000. Connectivity is fueled by a gradual real decline in ticket fares, which have dropped by more than 30% over the past decade. Moreover, 2024 should be the first year since 2021 that real, that the inflation adjusted fares should fall, which could boost connectivity further.

In addition to the number of unique city pairs, we also need to understand the frequency of service and the capacity provided on these routes. The IATA connectivity index is calculated from the scheduled passenger capacity weighted by the economic scale of destinations served (Chart 15). In 2023, connectivity of international and domestic routes grew by 28% and 10%, respectively. A major factor behind this evolution is the resurgence of the Asia-Pacific markets whose international connectivity rose by 62% in 2023 as travel restrictions were removed. As a result, the route areas which saw the steepest growth in connectivity were those within Asia-Pacific and between Asia-Pacific and Europe. Along with the continuing strong and steady YoY growth in North American and European international connectivity of 18% and 17%, respectively, global air connectivity is set to reach record highs in 2024.

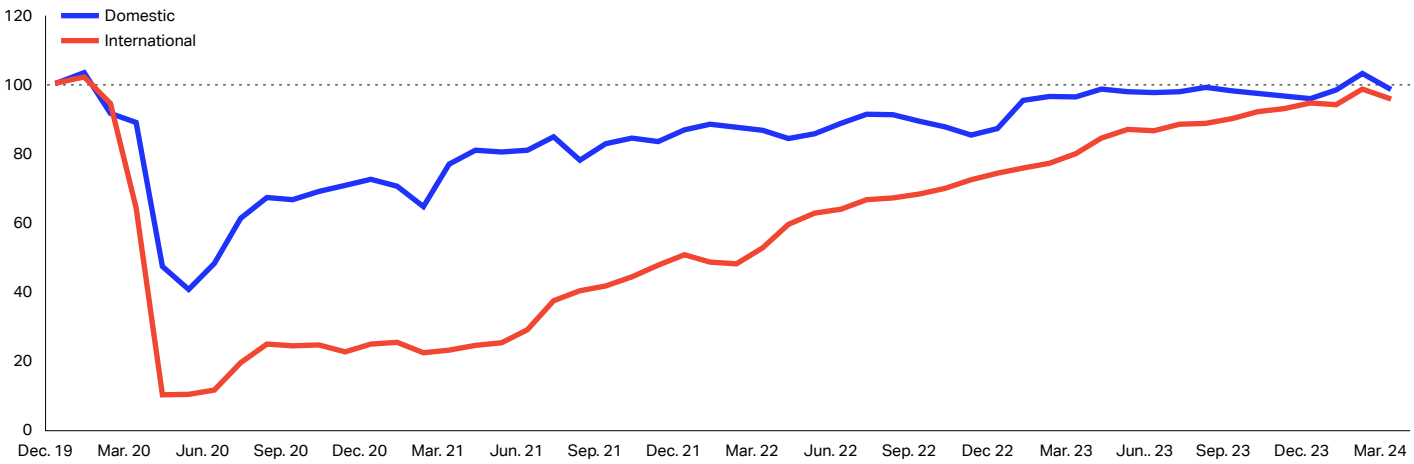
Table 2: Measures of connectivity and economic contribution of air transportation

Global airline industry	2019	2020	2021	2022	2023e	2024f
Unique city pairs	21,736	15,621	16,846	19,665	21,006	22,056
compared to 2013	30%	-6%	1%	18%	26%	32%
Real return fare*, 2018 USD	306	239	226	245	259	252
compared to 2013	-20%	-37%	-40%	-36%	-32%	-34%
Value of trade carried, USD billion	6,482	5,961	7,570	8,424	8,046	8,311
% YoY	-2.7%	-8.0%	27.0%	11.3%	-4.5%	3.3%

* including ancillary revenue

Source: IATA Sustainability and Economics

Chart 15: IATA Global Air Connectivity Index, January 2020 – September 2023, 2019 = 100



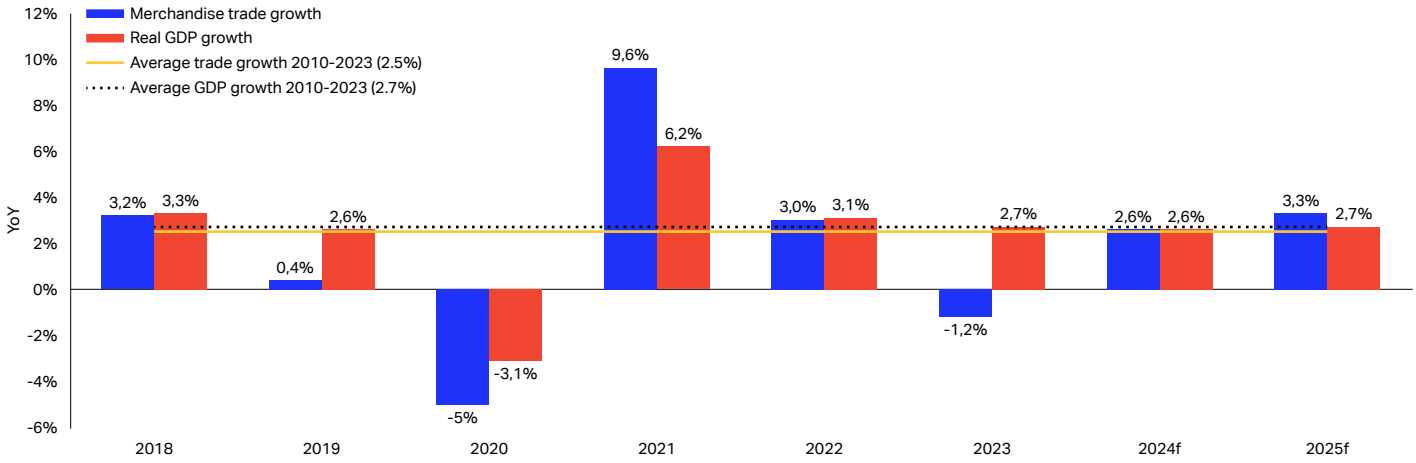
Source: IATA Sustainability and Economics

Air cargo traffic

In 2023, geopolitical tensions, continued inflation, impaired supply chains, and rising cross-border trade restrictions weighed heavily on the world's trade in goods (Chart 16). Even though many of these headwinds have carried over to 2024, the World Trade Organization expects merchandise trade volumes to grow by 2.6% YoY this year, after falling by 1.2% in 2023. This would be just above the historical (2010–2023) average of 2.5% YoY, but there is considerable downside risk to this forecast.

With the perturbations in global supply chains in the aftermath of the Covid pandemic, both sea freight and air transportation rates were very volatile. Disruptions in ocean container shipping have reemerged since late 2023, linked to the Red Sea, the Panama Canal drought, and the accident at the Baltimore Bridge. This has again brought about a sharp drop in relative air cargo rates over maritime shipping in the first quarter of 2024 (Chart 17), radically increasing air cargo's competitiveness. It is crucial for the air cargo outlook to ponder whether the shift in global supply chains could be a lasting phenomenon.

Chart 16: Annual growth in world merchandise trade volume and GDP, 2018-2025



Source: WTO Global Trade Outlook and Statistics, April 2024

Chart 17: The relative price of shipping by air over maritime cargo

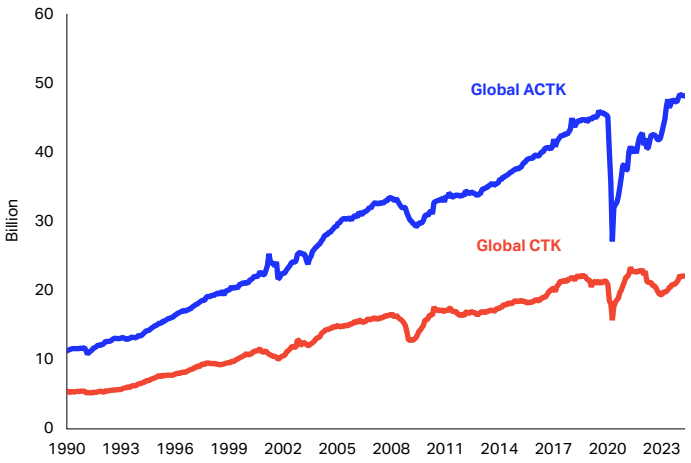
Source: IATA Sustainability and Economics, IATA CargoIS, Freightos Baltic Index

Industry-wide CTKs contracted in both 2022 and 2023 (Chart 18), having enjoyed stellar growth in the year prior. However, with booming e-commerce and repeated disruptions in global maritime shipping capacity, the tide started to turn in 2023 and growth rates turned positive again. As of the latest available data, the strongest rise in demand is observed in the Middle East, Africa, and Asia Pacific. However, all regions have seen demand improving over the past year (Chart 19). Amid concerns about declining air cargo yields in 2024, such broad-based increases in traffic levels are a welcome development, as they hold promise for expanding cargo volumes across all regions in the current year.

Global air cargo capacity, measured in Available Cargo Tonne Kilometres (ACTKs), recovered to just above 2019 levels in 2023 (Chart 18) as China's borders reopening led to returning passenger aircraft belly-hold capacity on international routes, so that the global share of air cargo transported on dedicated freighters is inching closer to its pre-pandemic level (Chart 20). This normalization of the ratio between dedicated freighters and passenger belly can be expected to continue in 2024. And with blossoming demand, global air cargo capacity can be expected to continue to expand in 2024, albeit at a slower rate than in 2023.

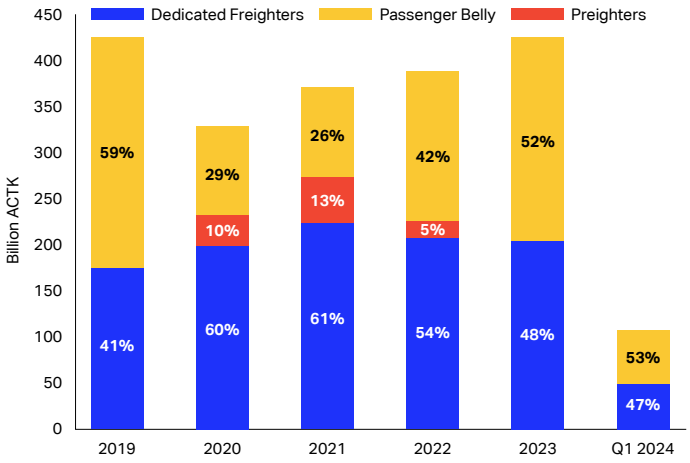
The return of air cargo capacity post-Covid led to a decrease in the industry-wide Cargo Load Factor (CLF) in 2022 and 2023. The industry-wide CLF is likely to decrease further in 2024 due to the growth in capacity outpacing demand.

Chart 18: Seasonally adjusted global ACTKs and CTKs, billion



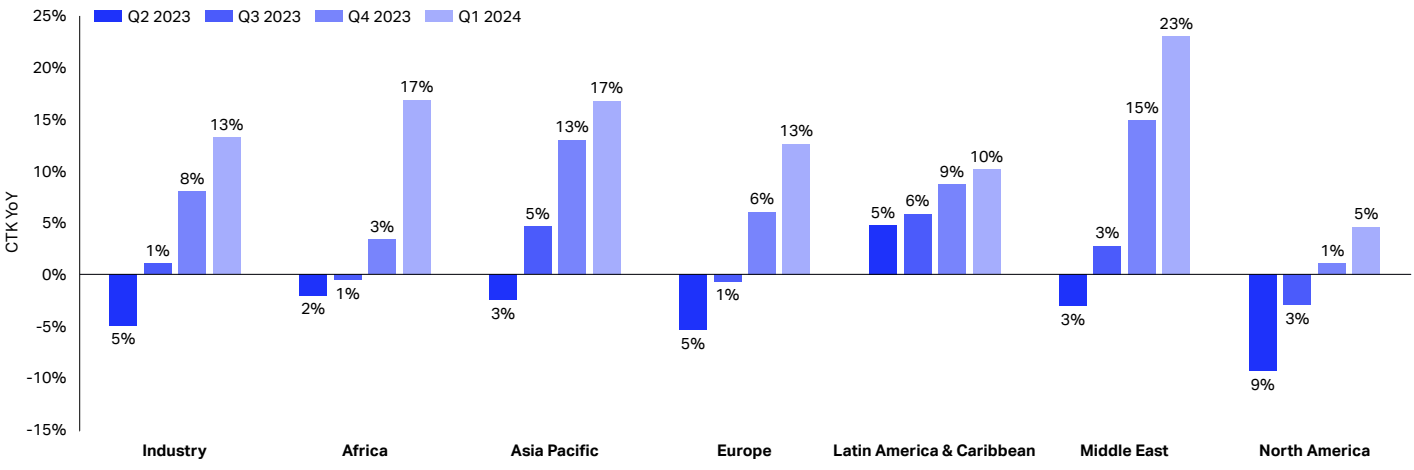
Source: IATA Sustainability and Economics, IATA Monthly Statistics

Chart 20: Recovery trends in global international air cargo capacity by cargo business type, 2019-2023 and Q1 2024



Source: IATA Sustainability and Economics, IATA Monthly Statistics

Chart 19: Industry CTK growth compared to the same period in the previous year



Source: IATA Sustainability and Economics, IATA Monthly Statistics

3. Airline financial performance

Considering the relatively high crude oil prices, the strong USD against many other currencies, persistent inflation, as well as the higher interest rates, the aviation industry has demonstrated a remarkable ability to adapt to the changing market environment. In 2023, revenues exceeded the 2019 level, and operating profits rebounded to a level last seen in 2018.

Thanks to higher than anticipated yields, we have revised up our 2023 profits forecast for all regions, most notably in Asia Pacific, Latin America, and Europe. At the industry level, we now expect 2023 net profit stands to reach USD 27.4 billion and the current operating margin should climb to 5.7%.

In 2024, we expect further growth in traffic, though at a slower pace than that seen in 2022 and 2023. This should allow net profits for the aviation industry to reach USD 30.5 billion, with a 3.1% net profit margin and a 6.0% operating margin (Chart 21). The operating margin is expected to continue its upward trend, driven by sustained demand and further gains in fleet utilization and load factors. These factors should help dilute the unit cost (specifically, the non-fuel unit cost measured per Available Tonne-Kilometer (ATK) and boost the profit margin.

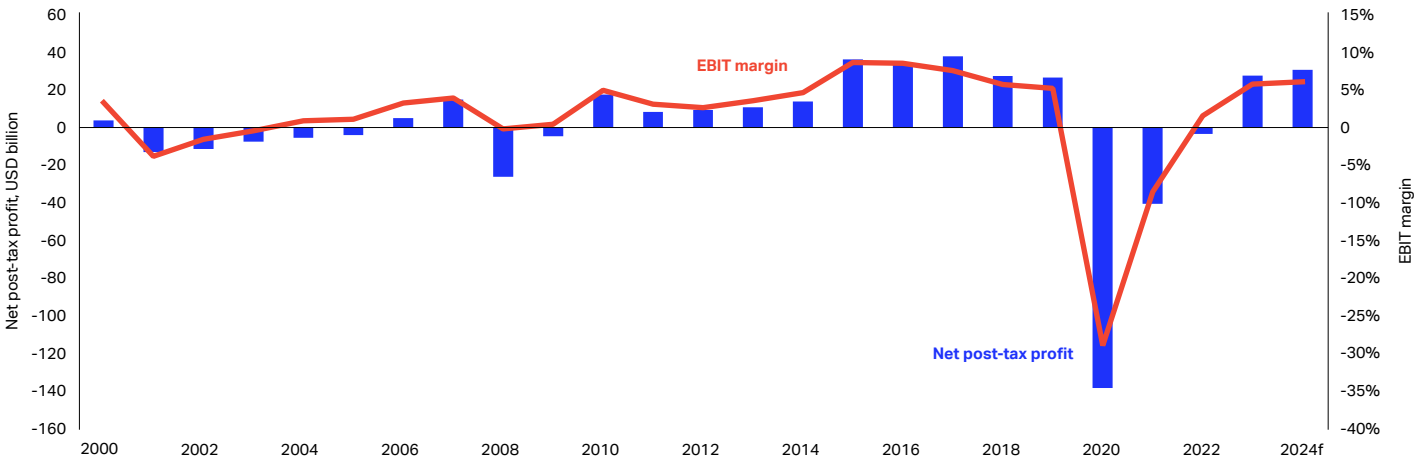
Delays in aircraft deliveries can have contrasting effects on airlines and their network. On the one hand, limited seat availability may prevent the maximization of anticipated revenue growth. On the other hand, delays can enhance profitability if higher load factors lead to higher yields, potentially improving margins.

High interest rates tend to have a negative impact on net margins and typically impact airlines' financing costs with a lag. The full effect of the tighter monetary policy is likely to be felt in 2024 and 2025. Furthermore, delays in aircraft deliveries have already driven operating lease prices to record highs, which could also impact profitability this year.

Despite these challenges, we expect that 2024 will see a relatively stable macro-economic outlook and strong passenger demand. These factors should enable the airline industry to improve its operating margin compared to 2023. However, it is essential to consider that higher aircraft ownership costs may keep the net margin broadly flat YoY, despite an increase in operating margin.

The improved financial health can also be observed on the balance sheets. First reads of industry finacials this year indicate nominal debt levels falling to a level just a notch above 2019 and a rough estimate of adjusted net debt/EBITDAR ratio of 4.1x compared with 2017-19 average of 4x. On the other hand, debt levels now imply higher interest burdens, given a sharp increase in interest rate, which may put pressure on net margins.

Chart 21: Global airline net post-tax profit and EBIT margin, %



Source: IATA Sustainability and Economics

The key assumptions underpinning our financial forecast include:

- Global real GDP growth rate will likely remain stable at 3.2% this year and next, unchanged from 2023 and broadly in line with the long-run average.
- Inflation rates will ease gradually throughout 2024, having peaked in 2022, but still exceed major central banks' target of 2%.
- Real interest rates are therefore expected to remain relatively high throughout 2024, as only limited policy rate cuts will be delivered this year.
- Labor markets are still exceptionally tight, producing pockets of labor shortages and wage pressure, explaining part of the persistent consumer price inflation.
- Average crude oil prices should stay around USD 85 - 90 per barrel in 2024. The jet fuel crack spread is expected to narrow on average but could exceed its long-term historical range of up to USD 20 per barrel.
- Passenger and fleet growth rate will depend on supply chain and aircraft quality issues which could cause additional delays in deliveries.
- The outlook for the airline industry also depends critically on the geopolitical situation and notably on the wars in the Middle East and Eastern Europe, which we assume will not spread.

Revenue developments

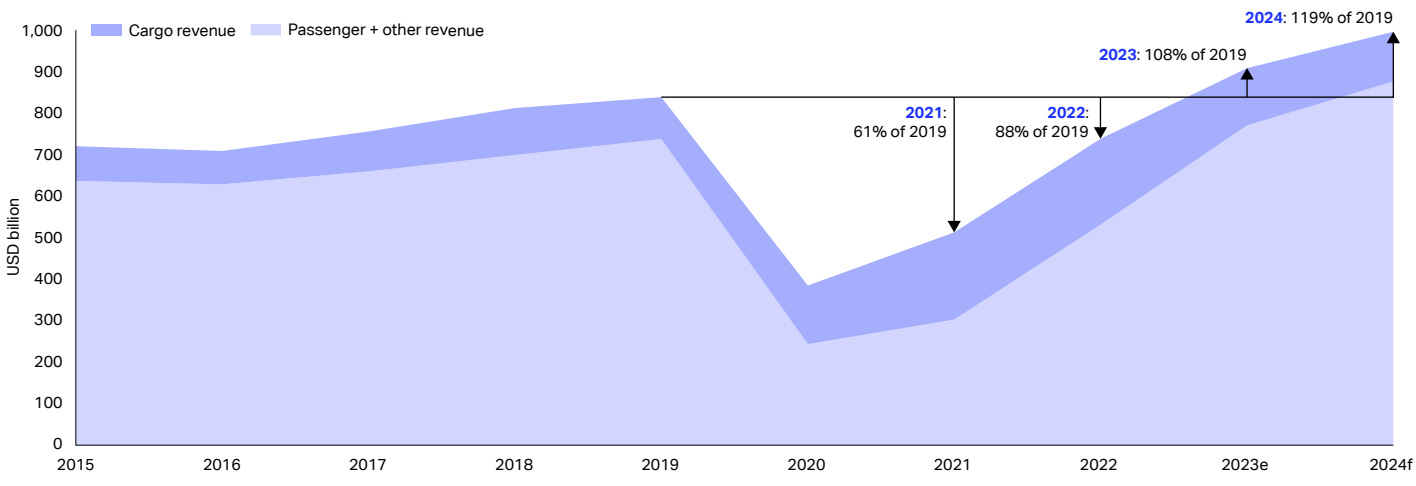
Air passenger demand grew strongly in 2023, with RPKs increasing by 37% YoY. With capacity not quite keeping pace, airlines benefited from a sharp increase in the load factor to 82.2%, up from 78.7% in 2022. This underpinned another year of recovery in the financial performance of the airline industry.

Demand has stayed strong in the face of higher passenger yields, suggesting a rather immutable need for air transportation and a limited price elasticity of demand for air travel. It needs to be noted, that despite high growth, the average real fare (incl. ancillaries) is significantly below pre-Covid levels (15% below 2019 and 32% below 2013).

Growth in traffic is expected to decelerate in 2024, after two years of vigorous catching up from the pandemic lows. Together with stabilizing passenger yields, this should translate to a 15% YoY increase in passenger revenues (ticket revenue only).

Total passenger revenue (including ancillaries and other) should grow at a slightly slower pace, by 14% YoY, as ancillary revenue keeps being diluted by the recovering average distance traveled to pre-Covid levels (Chart 22). Ancillary revenues per passenger will therefore drop closer to pre-Covid levels following the temporarily change in the à la carte buying behavior of travelers during the pandemic years.

Chart 22: Passenger and cargo revenue, USD billion



Source: IATA Sustainability and Economics

On the flipside, cargo revenue should remain under pressure in 2024, with an expected 13% YoY decline in revenue, though this is an improvement on the 33% drop seen in 2023. The projected 5% YoY rebound in CTK will be offset by a deeper reduction in air cargo yields of as much as 17.5% YoY. Yields will in this case continue to approach pre-Covid levels for a third year in a row, while remaining 18% higher than the 2017-2019 average in 2024.

Overall, the airline industry's revenue is projected to reach USD 996 billion in 2024, marking 9.7% YoY growth and reaching the highest nominal value in aviation history, just shy of the evocative threshold of USD 1 trillion. Revenue growth will stem chiefly from an increase in traffic, as we expect that any gain in passenger yields will be offset by a decline in cargo yields. Therefore, overall revenue per ATK should remain flat compared with 2023.

Table 3: Key air finance figures

Global airline industry	2019	2020	2021	2022	2023e	2024f
Air transport revenue, USD billion	838	384	513	738	908	996
% YoY	3.2%	-54.1%	33.4%	44.1%	23.0%	9.7%
% global GDP	1.0%	0.4%	0.5%	0.7%	0.8%	0.8%
Real return fare with ancillaries, 2018 USD/pax	306	239	226	245	259	252
% YoY	-4.2%	-21.8%	-5.4%	8.3%	5.7%	-2.6%
Freight rate, USD/kg	1.79	2.77	3.49	3.73	2.54	2.10
% YoY	-8.2%	54.7%	25.9%	7.0%	-31.8%	-17.5%
RPKs, billion	8,688	2,974	3,623	5,973	8,160	9,108
% YoY	4.1%	-65.8%	21.8%	64.9%	36.6%	11.6%
CTKs, billion	254	229	272	250	246	258
% YoY	-3.2%	-9.9%	18.8%	-8.1%	-1.8%	5.0%
World GDP growth (real), %	2.5%	-3.5%	6.3%	3.5%	3.2%	3.2%
World consumer price index (CPI)	3.3 %	3.2 %	4.7 %	8.7 %	6.8 %	5.9 %
World goods trade volume growth, %	0.2%	-4.9%	11.3%	3.2%	-1.2%	2.6%
Aircraft departures, million	38.9	18.3	20.6	28.2	36.0	38.7
% YoY	2.1%	-53.0%	12.4%	37.0%	28.0%	7.5%
ASKs, % YoY	3.3%	-56.6%	18.7%	40.1%	30.9%	11.2%
Passenger load factor, % ASK	82.6%	65.2%	66.9%	78.7%	82.2%	82.5%
Cargo load factor, % ACTK	46.8%	53.8%	56.1%	50.0%	44.2%	42.7%
Weight load factor, % ATK	70.5%	70.0%	59.5%	61.7%	66.9%	68.1%
Breakeven load factor, % ATK	66.5%	66.4%	76.7%	66.9%	65.9%	64.2%
RPK yield w/ancillaries, USD cents/RPK	8.3	7.5	8.0	8.7	9.2	9.4
% YoY	(1.4)%	(8.7)%	5.9 %	8.7 %	6.6 %	2.1 %
Revenue per ATK (RATK), USD cents	54.3	44.7	51.3	60.5	60.6	60.3
% YoY	0.1 %	(17.7)%	14.7 %	17.9 %	0.2 %	(0.5)%
Ex-fuel cost per ATK (CATK), USD cents	39.2	48.3	45.1	41.9	39.0	39.0
% YoY	1.4 %	23.3 %	(6.7)%	(7.0)%	(6.9)%	-

Source: IATA Sustainability and Economics

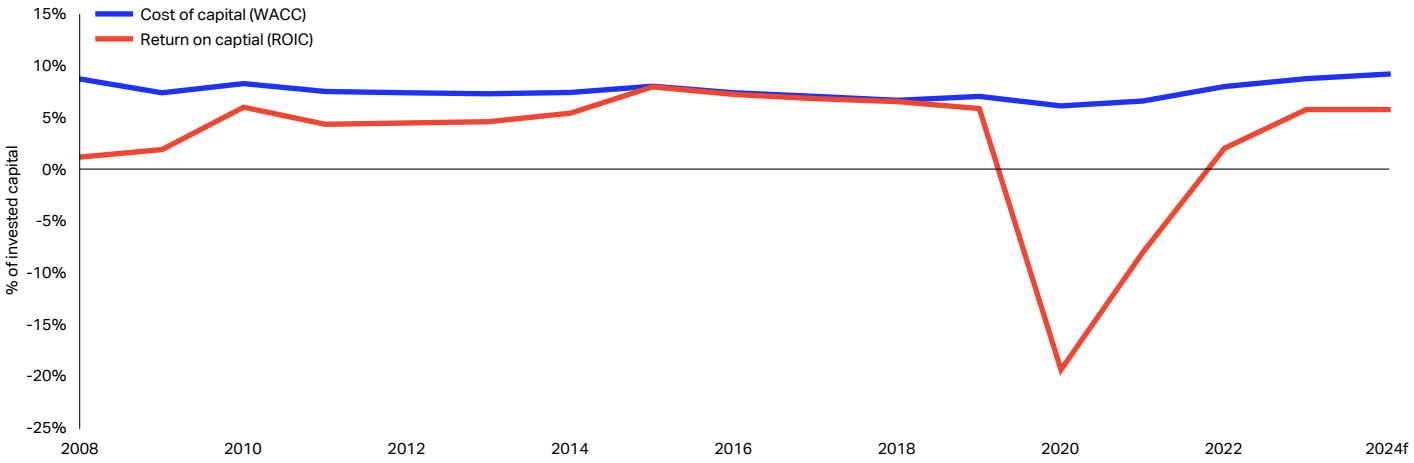
Cost developments

Cost of capital

Historically, the air transport industry has struggled to deliver the returns which equity investors expect to receive in compensation for risking their capital. Put another way, the return on invested capital (ROIC) has typically been lower than the weighted average cost of capital (WACC) in the airline industry. While this holds true for the global industry, it is not necessarily the case in each region (or country, or airline). In the four years prior to the pandemic, we estimate that equity investors in Europe and North America did receive returns above the cost of capital, helping the whole industry's apparent move towards a more sustainable financial future.

After the eye-watering low reached in 2020, the industry's financial performance has risen in line with traffic volumes. With ROIC turning positive again in 2022 at just shy of the 2% mark, the metric is expected to increase and stay flat in 2023 and 2024 at 5.7%. At the same time, however, the cost of capital has increased from 2022 onwards, on the back of higher interest rates around the world as central banks responded to escalating inflation rates. The result is that a sizeable gap persists between ROIC and WACC in spite of the improvement in the former (Chart 23, Table 4).

Chart 23: Return on capital invested in airlines globally, 2008-2024f, % of invested capital



Source: IATA Sustainability and Economics

Table 4: Summary of key financial metrics

Global airline industry	2019	2020	2021	2022	2023e	2024f
ROIC, % invested capital	5.8%	-19.3%	-8.0%	2.0%	5.7%	5.7%
EBIT margin, % revenue	5.2%	-28.8%	-8.5%	1.5%	5.7%	6.0%
Net post-tax profits, USD billion	26.4	(137.7)	(40.4)	(3.5)	27.4	30.5
% revenues	3.1%	-35.8%	-7.9%	-0.5%	3.0%	3.1%
USD per passenger	5.80	-78.38	-17.63	-0.99	6.09	6.14

Source: IATA Sustainability and Economics

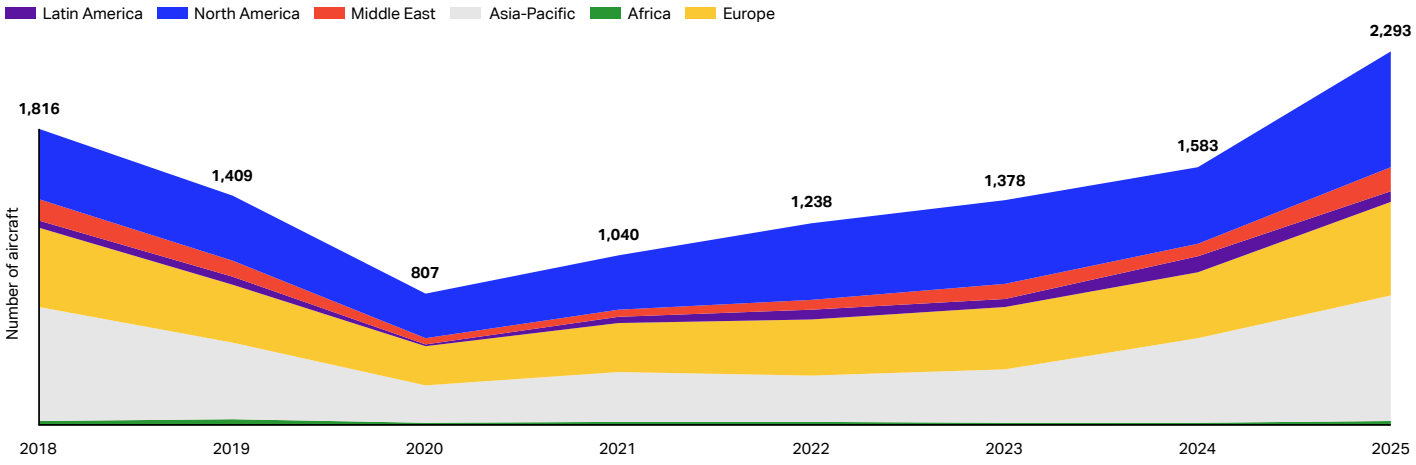
Aircraft and Ownership

Aircraft deliveries numbered 1,378 in 2023, up 11% YoY from 2022, continuing the rebound after Covid. Airlines worldwide are still accepting deliveries of new commercial jets that were mostly ordered prior to Covid, in response to strong demand as well as favoring more fuel-efficient and quieter equipment. The increase in deliveries of new aircraft is, unsurprisingly, driven by the three largest regional markets: Asia Pacific, Europe, and North America.

A surge in new aircraft orders was seen in 2023 when 5,000 aircraft were added, bringing the backlog to an all-time high of 17,000 aircraft. The year 2024 looks impressive, with the highest number of scheduled deliveries since 2018 and an increase of 17% YoY. However, the persisting supply chain issues limit the number of deliveries. The number of deliveries scheduled for 2024 dropped to 1,583 from 1,777 reported six months earlier, a fact that implies 11% less capacity added.

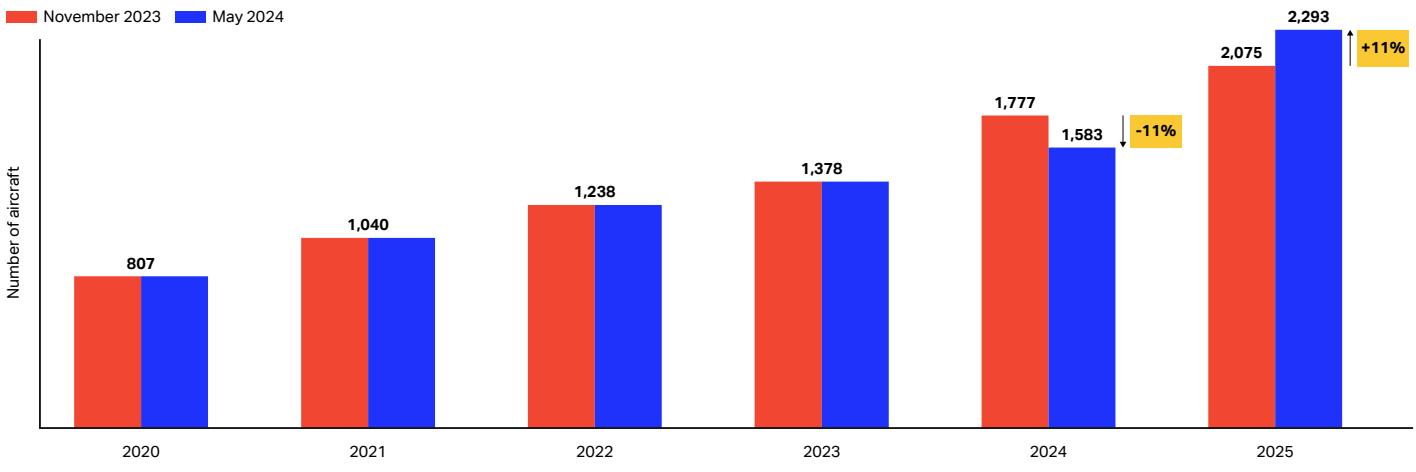
However, a large share of the global fleet remains parked in storage. As much as 14% of the fleet was in storage in 2023, up from 10% on average in 2019-2000.

Chart 24: Aircraft deliveries by region (delivered: 2018-2013 and scheduled: 2024-2025)



Source: IATA Sustainability and Economics using Cirium

Chart 25: Revision of scheduled aircraft deliveries



Source: IATA Sustainability and Economics using Cirium

Labor

The global labor market is still red hot. Many countries have record low or near record low unemployment rates. In the US, the unemployment rate has been below 4% for the longest stretch in 50 years. While this supports consumer confidence and drives demand for air travel, is also spells labor and skills shortages, and puts upward pressure on wages (Table 5).

A lack of pilots contributes to the high number of aircraft in storage, especially in North America. According to Oliver Wyman, a management consulting firm, the shortfall of pilots in North America is estimated at 17,000 in 2024 and is expected to remain significant over the next decade. This is a systemic change from the oversupply observed prior to 2021. The high average age of airline pilots (51 years in the US), early retirement during the pandemic, and longer training requirements have all contributed to the current situation.

Fuel

The outbreak of war in Europe in February 2022 caused a sharp increase in global oil prices. The price of jet fuel rose further still, exceeding USD 175 per barrel in the summer of 2022, with the spread between jet fuel and crude oil prices (jet crack spread) to climb above USD 60 per barrel. In 2023, crude oil prices again increased in the second half of the year but have so far remained below the levels of 2022. The main driver of this trend is the war in the Middle East, which poses a risk to the stability of oil production and exports, as well as OPEC's production curbs. The average crude oil price in 2023 ended up at USD 82.5 per barrel with the crack spread remaining high at USD 30 per barrel, reflecting the limited refining capacity allocated to jet fuel. In 2024, we forecast that crude oil prices will remain high between USD 85-90 per barrel. If OPEC lifts output targets to meet the growing demand, the price could drop. Clearly, slower global GDP growth could also push the price lower. In our central scenario, the crack spread should narrow to 30%, down from 36% in 2023, equivalent to USD 26 per barrel (Table 6).

According to our estimates, the airline industry consumed between 450,000 and 500,000 tons of sustainable aviation fuel (SAF) at USD 2,500 per ton (or 2.8x jet fuel) in 2023, adding USD 756 million to the industry fuel bill.

We estimate that SAF production could rise to 0.5% of airlines' total fuel consumption in 2024, adding USD 2.4 billion to this year's fuel bill. An additional cost will come from the carbon offsetting and reduction scheme for international aviation (CORSIA), a global market-based carbon offsetting mechanism designed to stabilize international aviation emissions. CORSIA-related costs are estimated at USD 600 million in 2024.

Table 5: Key industry labor metrics

Global airline industry	2019	2020	2021	2022	2023e	2024f
Labor costs, USD billion	189	160	162	180	199	214
% YoY	3.6%	-15.2%	0.9%	11.3%	10.2%	7.6%
Employment, million	2.93	2.56	2.67	2.80	2.97	3.07
% YoY	0.3%	-12.6%	4.0%	5.0%	6.0%	3.5%
Productivity, ATK/employee	526,003	335,264	374,761	436,267	505,329	538,257
% YoY	2.8%	-36.3%	11.8%	16.4%	15.8%	6.5%
Unit labor costs, USD/ATK	0.123	0.187	0.162	0.148	0.132	0.129
% YoY	0.5%	52.2%	-13.2%	-8.9%	-10.2%	-2.4%

Table 6: Fuel

Global airline industry	2019	2020	2021	2022	2023e	2024f
Fuel spend, USD billion	190	80	106	215	271	291
% YoY	1.2%	-58.0%	32.2%	103.6%	25.9%	7.4%
% opex	23.9%	16.1%	19.0%	29.6%	31.6%	31.1%
Fuel use, billion gallons	96	52	62	77	92	99
% YoY	2.2%	-45.9%	19.9%	22.9%	20.3%	7.5%
Fuel efficiency, gallons/100 ATK	6.2	6.0	6.2	6.3	6.1	6.0
% YoY	-0.8%	-3.0%	3.2%	0.5%	-2.0%	-2.5%
Fuel price, USD/barrel	80	47	78	136	112	114
% YoY	-7.4%	-41.5%	67.0%	74.3%	-17.3%	1.4%
% spread over oil price	22.6%	11.6%	10.1%	35.0%	36.0%	30.0%

Source: IATA Sustainability and Economics

Regions

The financial performance of all regions improved in 2023 compared to 2022 and exceeded our previous estimates. However, due to their unique characteristics, regions recovered at different speeds (Table 7). Based on the latest data available, we estimate that all regions generated a net profit in 2023, led by North America. In 2024, all regions should see their profitability improve further and the largest nominal increase is expected to be recorded in Asia Pacific.

Asia Pacific showed remarkable revenue growth in 2023 and the region is expected to be responsible for half of the world's RPK growth this year. This is very much thanks to the gains seen in the domestic markets of China, Japan, and Australia, all recovering at a faster rate than the rest of the world currently. However, international travel in the region remains subdued, especially in China, where it is still below the pre-Covid levels. This indicates that there is still a lot of pent-up demand for cross-border travel in the region, which will likely boost the future growth prospects. Thanks to these developments, we now estimate a net profit for the region in 2023 of USD 0.6 billion. Full post-Covid recovery is expected in Asia Pacific in 2024, adding to profitability and generating an expected net profit of USD 2.2 billion. This would imply a 0.7% net margin.

North America continues to lead in terms of financial performance. As the first market to return to profitability already in 2022, the North American airlines delivered a net profit of USD 14.8 billion, supported by a high passenger load factor and higher yields in 2023. Consumer spending has remained solid and the demand for air travel is robust, despite cost-of-living pressure. In 2024, passenger demand (RPK growth of 7%) and a high load factor at 84% are expected to strengthen revenue development and operating profitability. Canada, however, is seeing slower growth in traffic and greater wage pressure than the US market. The smaller regional markets have been particularly impacted by labor shortages.

Europe is likely to end 2023 with a stronger than expected performance, notwithstanding the various capacity issues and supply-side constraints the region faces. European carriers likely delivered a net profit of around USD 8.6 billion in 2023. Demand is expected to remain strong in 2024, but supply chain issues, together with high interest rates and the risk of labor disputes may prevent further increases in profitability. Nevertheless, the outlook for the rest of the year remains positive. Net profits should increase to around USD 9.0 billion, with a net profit margin of 3.8% in 2024.

Latin America has seen a steady improvement in financial performance since 2020 but is expected to have generated only a minor profit of around USD 0.2 billion in 2023. The performance of airlines across the region has been very mixed. While some are performing strongly, others find themselves in considerable financial difficulties, including being in or coming out of Chapter 11 proceedings. In part, this is a consequence of the economic and social turmoil observed in the region. We see countries in Central America, especially Mexico, El Salvador, Guatemala, and Honduras being key contributors to the region's growth in profits. The net profit margin should improve from a negative 11.2% in 2022 to an estimated positive 0.5% in 2023 and a forecast 1.4% in 2024. The healthy outlook for 2024 is supported by the airlines in the region reporting strong sales growth and high profitability in the first quarter of the year, and raising their guidance for the full year.

The Middle East is estimated to have delivered a strong financial performance in 2023, likely recording a net profit of around USD 3.1 billion, coupled with a 4.9% net profit margin. The region's financial recovery benefits from still significant RPK growth that reached 32.3% YoY in 2023 and should post a healthy 9.3% YoY in 2024. A net profit of around USD 3.8 billion at a 5.3% net profit margin is expected in 2024. The Middle East carriers enjoy buoyant economic performance in the region, and they operate important global hubs. Especially the UEA continues to attract business and leisure travelers. Saudi Arabia's massive investments in infrastructure and tourism are bearing fruit and the country is witnessing robust growth in passenger and cargo volumes. While airlines continue to add capacity, yields and demand remain healthy and look set to continue apace. Geopolitical risks are the main threat, especially to the Levant carriers. The Gulf carriers are relatively less impacted unless tensions between Iran and Israel escalate.

Africa generated a marginal but encouraging profit of around USD 0.1 billion in 2023. This region has a high operational cost base and a low propensity to spend on air travel. Infrastructure and connectivity challenges dampen the industry's expansion and performance. Despite these headwinds, there is sustained demand for air travel, which should allow the market to maintain the same level of profitability in 2024. Geopolitical dynamics are a key factor weighing on profitability as well.

Table 7: Regional financial performance

Global airline industry	2019	2020	2021	2022	2023e	2024f
Africa						
Net post-tax profit, USD billion	(0.3)	(1.8)	(1.1)	(0.8)	0.1	0.1
Per passenger, USD	(2.7)	(58.0)	(24.7)	(10.2)	0.5	0.9
As % of revenue	-1.8%	-29.9%	-14.6%	-7.1%	0.4%	0.6%
RPK growth, % YoY	4.7%	-68.2%	17.0%	84.3%	36.7%	8.5%
ASK growth, % YoY	4.5%	-62.1%	18.5%	51.4%	35.7%	9.1%
Load factor, % ATK	59.6%	51.4%	53.3%	62.2%	63.0%	61.9%
Breakeven load factor, % ATK	55.6%	60.1%	57.0%	64.2%	60.9%	59.8%
Asia Pacific						
Net post-tax profit, USD billion	4.9	(44.9)	(13.7)	(13.4)	0.6	2.2
Per passenger, USD	2.9	(59.4)	(17.5)	(13.7)	0.4	1.2
As % of revenue	1.9%	-39.2%	-10.4%	-8.1%	0.2%	0.7%
RPK growth, % YoY	4.7%	-62.0%	-12.8%	32.3%	95.9%	17.1%
ASK growth, % YoY	4.4%	-53.8%	-6.1%	15.5%	74.8%	14.1%
Load factor, % ATK	72.3%	63.8%	63.3%	65.6%	67.5%	66.8%
Breakeven load factor, % ATK	69.9%	82.1%	68.9%	70.0%	65.4%	64.4%
Middle East						
Net post-tax profit, USD billion	(1.5)	(9.6)	(4.8)	1.6	3.1	3.8
Per passenger, USD	(6.7)	(142.0)	(57.7)	8.6	12.7	15.2
As % of revenue	-2.6%	-35.1%	-14.6%	3.2%	4.9%	5.3%
RPK growth, % YoY	2.3%	-72.1%	8.5%	144.4%	32.3%	9.3%
ASK growth, % YoY	-3.3%	-61.7%	21.2%	67.2%	24.6%	10.8%
Load factor, % ATK	63.5%	54.7%	54.9%	62.8%	63.7%	63.1%
Breakeven load factor, % ATK	64.3%	68.3%	65.5%	59.3%	58.7%	57.5%
Latin America						
Net post-tax profit, USD billion	(0.7)	(11.9)	(7.0)	(3.9)	0.2	0.6
Per passenger, USD	(2.2)	(137.8)	(52.6)	(17.3)	0.7	1.9
As % of revenue	-1.8%	-77.3%	-31.9%	-11.2%	0.5%	1.4%
RPK growth, % YoY	4.2%	-62.5%	40.5%	62.9%	16.6%	8.2%
ASK growth, % YoY	2.9%	-58.9%	37.3%	54.4%	14.1%	8.1%
Load factor, % ATK	69.2%	64.4%	66.6%	68.8%	69.5%	70.0%
Breakeven load factor, % ATK	65.3%	82.6%	72.6%	71.0%	67.1%	65.5%
North America						
Net post-tax profit, USD billion	17.4	(35.1)	(2.3)	8.5	14.8	14.8
Per passenger, USD	17.0	(84.7)	(3.2)	8.4	12.4	13.1
As % of revenue	6.6%	-25.2%	-1.1%	3.0%	4.7%	4.5%
RPK growth, % YoY	4.0%	-65.1%	74.6%	45.7%	15.1%	7.0%
ASK growth, % YoY	4.4%	-51.0%	41.1%	28.7%	14.0%	8.1%
Load factor, % ATK	66.0%	52.1%	59.2%	64.0%	64.8%	65.9%
Breakeven load factor, % ATK	57.8%	66.3%	61.8%	60.9%	60.0%	61.0%
Europe						
Net post-tax profit, USD billion	6.5	(34.6)	(12.4)	4.5	8.6	9.0
Per passenger, USD	5.42	-86.17	-23.46	4.55	7.28	6.93
As % of revenue	3.1%	-42.5%	-11.5%	2.4%	4.0%	3.8%
RPK growth, % YoY	4.2%	-69.5%	27.5%	103.9%	19.8%	11.1%
ASK growth, % YoY	3.5%	-62.3%	29.8%	69.6%	15.8%	11.5%
Load factor, % ATK	74.9%	65.2%	66.2%	73.6%	74.8%	74.4%
Breakeven load factor, % ATK	71.3%	84.9%	72.6%	70.9%	70.0%	69.6%

Source: IATA Sustainability and Economics

Appendix: Industry Statistics

Table 8: June 2024

Global airline industry	2019	2020	2021	2022	2023e	2024f
Revenues, USD billion	838	384	513	738	908	996
% change YoY	3.2%	-54.1%	33.4%	44.1%	23.0%	9.7%
Passenger, USD billion	607	189	242	437	646	744
Cargo, USD billion	100.8	140.4	210.0	206.5	138.3	119.8
Traffic volumes						
Passenger growth, RPK, % YoY	4.1%	-65.8%	21.8%	64.9%	36.6%	11.6%
Sched passenger numbers, millions	4,543	1,757	2,291	3,486	4,497	4,964
Cargo growth, CTK, % YoY	-3.2%	-9.9%	18.8%	-8.1%	-1.8%	5.0%
World economic growth, % YoY real	2.5%	-3.5%	6.3%	3.5%	3.2%	3.2%
World CPI	3.3%	3.2%	4.7%	8.7%	6.8%	5.9%
Passenger yield, % YoY	-3.7%	-9.1%	5.0%	9.7%	8.1%	3.2%
Passenger yield (w/ancillaries), % YoY	1.4%	8.7%	5.9%	8.7%	6.6%	2.1%
Cargo yield % YoY	-8.2%	54.7%	25.9%	7.0%	-31.8%	-17.5%
Revenue per ATK, % YoY	0.1 %	-17.7%	14.7%	17.9%	0.2%	-0.5%
Expenses, USD billion	(795)	(495)	(556)	(727)	(856)	(936)
% change YoY	3.7%	-37.7%	12.3%	30.8%	17.7%	9.4%
Fuel, USD billion	(190)	(80)	(106)	(215)	(271)	(291)
% of expenses	24%	16%	19%	30%	32%	31%
Crude oil price, Brent, USD/bbl	65.0	41.8	70.7	100.5	82.5	87.5
Jet kerosene price, USD/bbl	79.7	46.6	77.8	135.6	112.2	113.8
Fuel consumption, billion gallons	96	52	62	77	92	99
Non-fuel, USD billion	(605)	(415)	(450)	(512)	(585)	(645)
Cents per ATK (non-fuel unit cost)	39.2	48.3	45.1	41.9	39.0	39.0
% YoY	1.4%	23.3%	-6.7%	-7.0%	-6.9%	0.0%
Capacity growth, ATK, % YoY	3.1%	-44.3%	16.3%	22.2%	22.8%	10.2%
Flights, million	38.9	18.3	20.6	28.2	36.0	38.7
Break-even weight load factor, % ATK	66.4%	76.7%	66.9%	65.9%	64.2%	63.9%
Passenger load factor achieved, % ASK	82.6%	65.2%	66.9%	78.7%	82.2%	82.5%
Operating profit, USD billion	43.2	(110.8)	(43.5)	11.2	52.2	59.9
% margin	5.2%	-28.8%	-8.5%	1.5%	5.7%	6.0%
Net profit, USD billion	26.4	(137.7)	(40.4)	(3.5)	27.4	30.5
% margin	3.1%	-35.8%	-7.9%	-0.5%	3.0%	3.1%
Per departing passenger, USD	5.80	-78.38	-17.63	-0.99	6.09	6.14
Return on invested capital, %	5.8%	-19.3%	-8.0%	2.0%	5.7%	5.7%

Source: IATA Sustainability and Economics, The Airline Analyst

Note: Bankruptcy reorganization and large non-cash costs are excluded. Includes all commercial airlines. Historical data are subject to revision.

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Table 9: Financial Results

Global airline industry	EBIT margin, % revenues				Net profit, USD billion			
	2021	2022	2023e	2024f	2021	2022	2023e	2024f
Global	-8.5%	1.5%	5.7%	6.0%	(40.4)	(3.5)	27.4	30.5
Regions								
North America	-4.4%	4.8%	7.4%	7.4%	(2.3)	8.5	14.8	14.8
Europe	-9.7%	3.7%	6.5%	6.4%	(12.4)	4.5	8.6	9.0
Asia-Pacific	-8.9%	-6.6%	3.1%	3.6%	(13.7)	(13.4)	0.6	2.2
Middle East	-19.2%	5.6%	7.9%	8.9%	(4.8)	1.6	3.1	3.8
Latin America	-9.0%	-3.1%	3.6%	6.5%	(7.0)	(3.9)	0.2	0.6
Africa	-6.8%	-3.3%	3.3%	3.4%	(1.1)	(0.8)	0.1	0.1

Source: IATA Sustainability and Economics, The Airline Analyst

Note: Bankruptcy reorganization & large non-cash costs are excluded. Includes all commercial airlines. Historical data are subject to revision.

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Table 10: Traffic Results

Global airline industry	Passenger traffic (RPK)				Passenger capacity (ASK)			
	% change vs previous year				% change vs previous year			
	2021	2022	2023e	2024f	2021	2022	2023e	2024f
Global	21.8%	64.9%	36.6%	11.6%	18.7%	40.1%	30.9%	11.2%
Regions								
North America	75%	46%	15%	7%	41%	29%	14%	8%
Europe	28%	104%	20%	11%	30%	70%	16%	11%
Asia-Pacific	-13%	32%	96%	17%	-6%	15%	75%	14%
Middle East	9%	144%	32%	9%	21%	67%	25%	11%
Latin America	40%	63%	17%	8%	37%	54%	14%	8%
Africa	17%	84%	37%	8%	18%	51%	36%	9%

Source: IATA Sustainability and Economics

Note: Includes domestic and international traffic, and all commercial airlines. Historical data are subject to revision.

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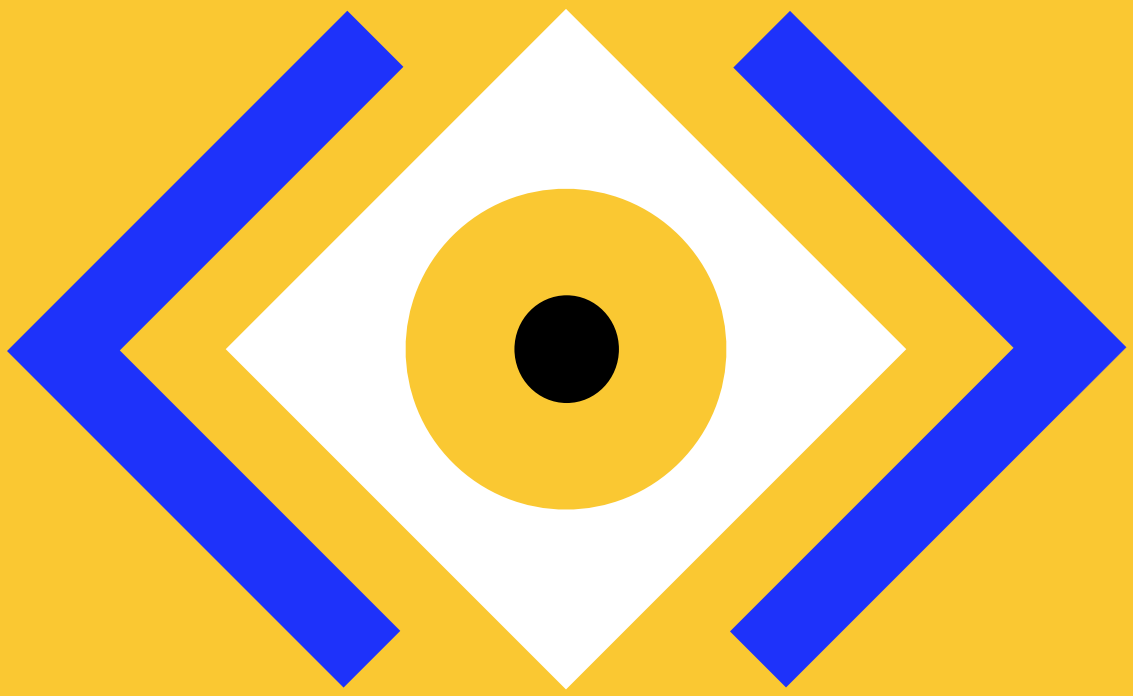

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