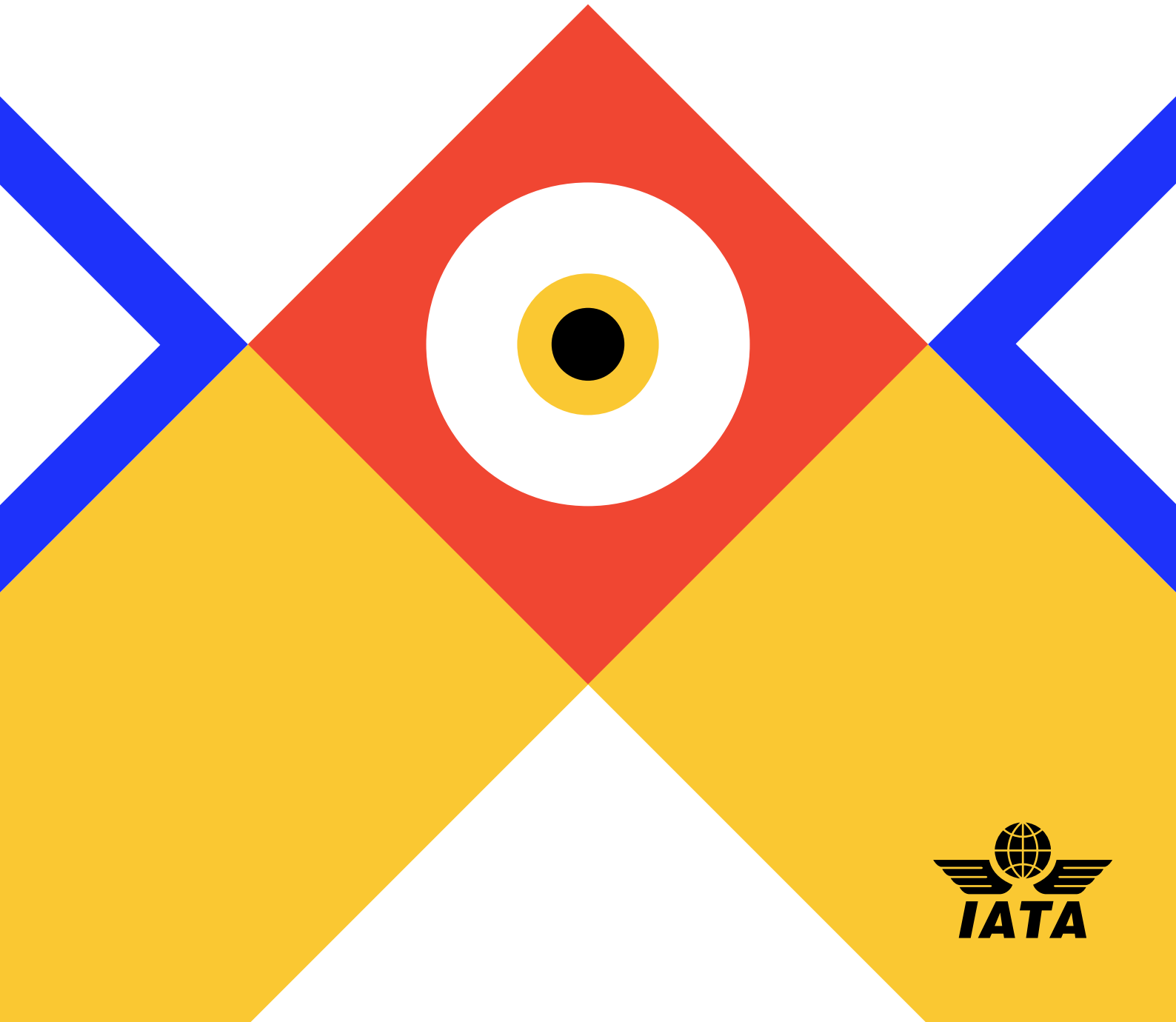
December 2024

Global Outlook for Air Transport

A World with Lower Oil Prices?



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1. Main takeways

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.

- The price of Brent crude oil has dropped by around 20% over the past 12 months. With global GDP stable at 3.2%, the lower oil price cannot be explained by a weakening global economic cycle. Instead, it is the result of over-supply as the US affirms its position as the world's leading oil producer. It is also the result of shifting demand for different energy products, especially in China.
- Lower oil prices will have several implications for the global economy and the airline industry, the most obvious one being lower headline inflation. This should allow further easing of monetary policy, and in turn potentially weaken the US dollar against most currencies. All these things are supportive of households' spending power and of global growth.
- Lower oil prices will improve oil-importing countries' current accounts and strengthen their financial positions. This represents a unique opportunity to reform fossil fuel subsidies and redirect them towards renewable energy production. One year's worth of global fossil fuel subsidies, USD 7 trillion in 2022, would cover the entire capital investment needed for the airlines' energy transition over the 27 years to 2050.
- Airlines will benefit from lower crude oil prices as long as jet fuel prices decline in parallel. Fuel is airlines' largest cost component, representing 30% of total costs.
- Passenger traffic has remained strong in 2024. For 2025 we expect traffic to continue to grow, albeit at a somewhat slower pace, as all regions surpass pre-pandemic levels.
- The cargo market has lent significant support to airline traffic in 2024. Demand surged thanks to effervescent cross-border e-commerce and capacity limitations in ocean shipping. The outlook for 2025 remains strong, given the ongoing challenges in maritime shipping. Global yields for air cargo stopped declining in 2023 and are now around 30% above pre-pandemic levels. We expect cargo yields to remain stable in 2025.
- The air transport industry is expected to report a relatively strong profit in 2024 despite rising costs and limits on capacity building. Airlines have faced wage increases and higher operating costs, some because of the longer routes imposed by airspace restrictions. A major impact stems from delivery delays and other issues in the supply chain. Airlines are forced to keep flying older airplane models, which negatively affects fuel efficiency and increases maintenance costs. The bottom line is projected to generate a net profit of USD 31.5 billion in 2024 with a 3.3% net profit margin.
- In 2025, we expect airlines' revenues to surpass the evocative USD 1 trillion mark. The top-line growth and lower fuel prices should translate into higher profitability. We forecast a net profit of USD 36.6 billion—a record high for the industry—at a still meager 3.6% net profit margin. Load factors are likely to remain high as supply chain issues will continue to impact 2025 and beyond.

Table 1: Net profit per passenger, USD

Net profit per departing passenger (USD)	2024	2025
Africa	0.9	1.0
Asia Pacific	1.8	1.8
Europe	8.2	9.2
Latin America	3.2	3.8
Middle East	23.1	23.9
North America	10.3	11.8
Industry	**6.4**	**7.0**

Source: IATA Sustainability and Economics

2. A World with Lower Oil Prices?

The world has the ambition to wean itself off most of its fossil fuel use as it aims to limit global warming, and as many as 196 countries have signed on to this mission in the form of the Paris Agreement of 2015.

Airlines have been on this course since 2016 when the United Nation's specialized agency for civil aviation, ICAO (International Civil Aviation Organization), created the world's first sectoral global market-based measure to reduce emissions from international air transportation. IATA and ICAO committed to reaching net-zero CO2 emissions by 2050 in 2021 and 2022, respectively, making air transportation uniquely aligned across the private and public sectors.

Fossil-based jet fuel is the largest cost component of airlines, representing around 30% of total costs in 2024 for the industry globally. The challenge for the airline industry is to replace this with mostly renewable fuel, known as sustainable aviation fuel, or SAF. Airlines' quest for renewable alternatives is not unique to our industry. It concerns each and every industry in the global economy. As of 2023, coal, oil, and natural gas comprise 80% of the global energy mix (2023).[1] This share needs to decline to around 20% on the 2050 horizon. We are all part of the global energy transition, and all parts of the global economy must find renewable and cleaner energy alternatives to fossil fuels in their products and processes.

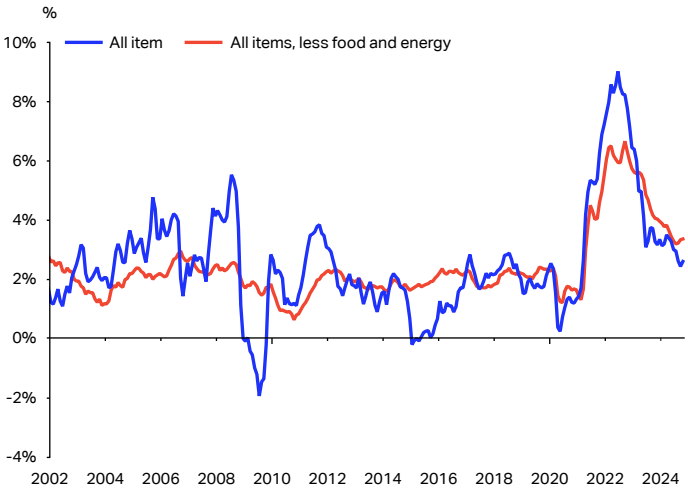
Airlines cannot use solar or wind energy, the cheapest energies in the world today,[2] to fly aircraft. Airlines still need liquid fuel to combust for propulsion, and the switch from fossil fuel to SAF involves a staggering price increase, as SAF is between 2-5 times more expensive than fossil-based jet fuel. In our Financial Roadmap,[3] we estimate that the fuel share of airlines' costs could reach 45% in 2050. Clearly, this SAF-jet fuel price differential must shrink for air transportation's wholesale energy-source shift to occur. This will not happen unless policymakers focus on implementing long-term plans for the whole economy's decarbonization and implementing incentives reflecting all economic sectors' requirements. Airlines are an integral part of that whole, and importantly, solving air transportation's challenges will go a long way toward solving those of the broader economy.

Any savings on the fossil fuel bill can, of course, help airlines pay for SAF and assist public and private sector investors in raising the necessary capital to enable future production of SAF and other decarbonization levers. At the time of writing, the Brent crude oil price stood at USD 74 per barrel, which is about USD 20 lower than a year ago, a 20% decrease. The US presidential election result adds a further downward bias to the oil price (Box 1), as the President elect Donald Trump has promised to "drill baby, drill". It is, therefore, important to consider the possible implications of lower oil prices on the global economy and the airline industry, especially in the context of the global energy transition.

Lower oil prices can lower inflation

The most direct impact of lower oil prices is seen in headline consumer price inflation (Chart 1). In September, the energy component of the US consumer price index (CPI) fell by 6.8% year-on-year (YoY), allowing the all-items CPI inflation to moderate to 2.4% YoY, while excluding food and energy, the rate of inflation was 3.3% YoY. Depending on how transitory central banks might deem the lower oil prices to be, the lower headline inflation should allow for more monetary policy easing, all things being equal.

Chart 1: Average US consumer prices, 2000-2024, % YoY



Source: Macrobond, US Bureau of Labor Statistics

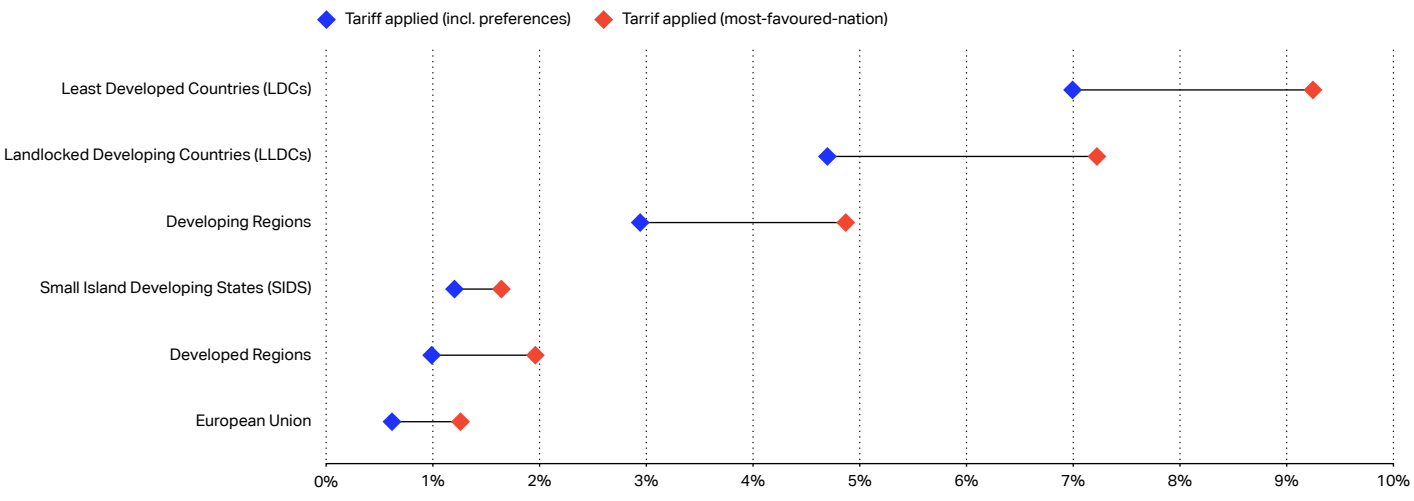
1 IEA, World Energy Outlook 2024, data for 2023.
2 IEA, Renewables 2023 report.
3 IATA Finance – Net Zero CO2 Emissions Roadmap (September 2024).

The disinflationary impact of lower oil prices will be offset to some degree by what action the new US administration might take on tariffs. There are three main effects of tariffs: on the price, on the imported volume, and on substitution for other goods and suppliers. Tariffs act like a tax on imports, paid by the importing country's consumers. As such, tariffs drive up prices and add to inflation. What happens to the volume of imports depends on the nature of the imported goods. If the products are necessary for the importing country, the volumes might not decrease—the most inflationary scenario. If there is a possibility of substituting for tariff-free alternatives, imported volumes might also remain broadly unchanged. In this case, prices paid by consumers might be relatively unaffected, but consumers will be deprived of the benefit of consuming that particular product to which the tariff applies. If the product is not necessary and if there are no viable alternatives, the imported volumes would fall, if the tariff is high enough. This is the most deflationary scenario, dampening demand and slowing the business cycle, potentially with global ramifications.

We can look to the Smoot-Hawley Tariff Act, adopted in the US in 1930, for what can happen when a country unilaterally increases tariffs.[4] Tariffs had already been raised in the US in 1922, bringing the average tax on imports to around 40%. The stock market crash occurred in 1929, so the Smoot-Hawley act was not the cause of the Great Depression, but it certainly made it both deeper and longer. Despite a petition from more than 1,000 economists urging him to veto the legislation, then-President Hoover signed the bill into law, raising the average tariff by around 20%. Foreign governments promptly retaliated. US imports from and exports to Europe fell by around 60% between 1929 and 1932, and global trade too contracted by the same magnitude in the four years that the legislation was in effect. In 1934 President Franklin D. Roosevelt signed the Reciprocal Trade Agreements Act, reducing tariff levels and promoting trade liberalization and cooperation with foreign governments. The Great Depression came to an end in 1939.

What the effects would be this time around depends on the size of the tariff, the number of products and countries affected, and the nature of the anticipated retaliation. One advantage in today's world economy is that average tariffs are generally speaking much lower than in the depression era (Chart 2). However, with two-thirds of international trade free of tariffs in 2022, the remaining tariffs are still high.

Chart 2: Weighted average tariffs, %, 2022



Source: IATA Sustainability and Economics, UNCTAD calculations based on UNCTAD (2024), ITC (2024) and WTO (2024)

4 Douglas A. Irwin, Clashing over Commerce: A History of U.S. Trade Policy, National Bureau of Economic Research, University of Chicago Press, (p. 371-410), November 2017.

Lower oil prices can lower interest rates and weaken the US dollar

Assuming limited action on tariffs, lower oil prices would, on balance, favor more monetary policy easing. Lower interest rates in the US allow other countries, notably those with their currencies linked to the US dollar, to follow suit with less risk to their own currencies' external value. Lower interest rates in the US should also lead to a weakening of the US dollar against other currencies, all else being equal. That can help to reduce the local currency bill of large fossil fuel importers in particular (Chart 3), as well as make any debt denominated in US dollars less costly to service.

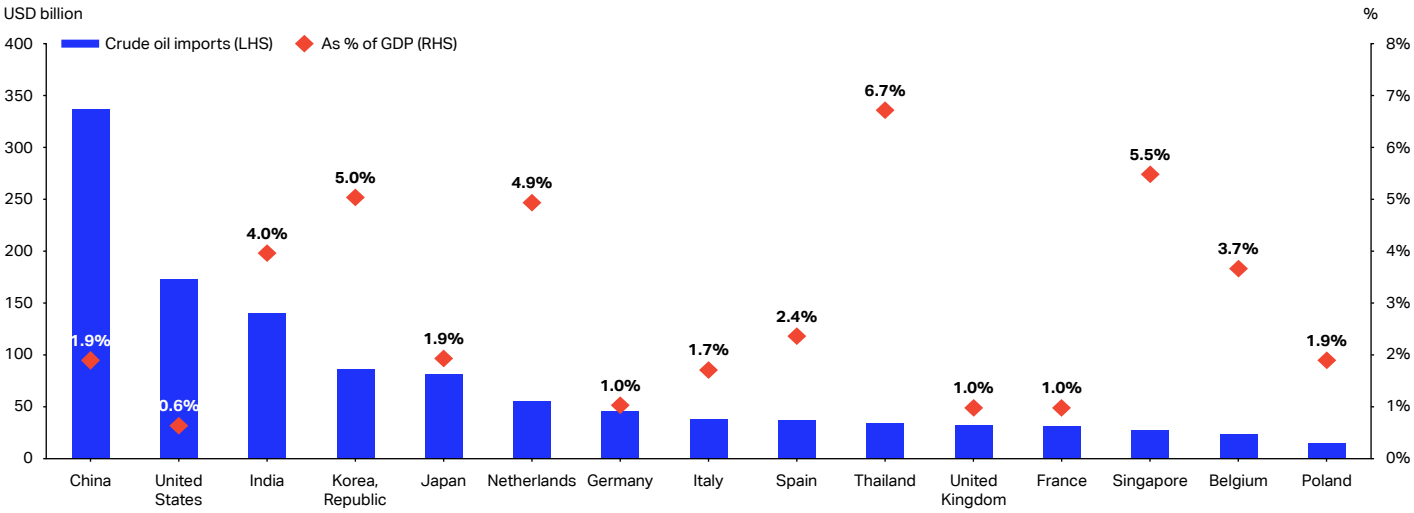
Lower oil prices can promote economic growth

The basic idea is that if households spend less money on fuel for their cars and on heating their homes, they will have more money to spend on other goods and services, which could boost GDP growth. It is important to note that fossil fuels are also a crucial input in the production of non-energy goods, which can amplify this effect.[5] For instance, in Europe, two-thirds of total oil consumption is allocated toward the production of non-energy goods. However, the potential benefit of lower oil prices may be mitigated if the suppliers choose not to pass on the lower oil prices to consumers. Assuming a low degree of such pass-through, a rough estimate would see a 10% decrease in oil prices lead to a 0.1 percentage point (ppt) rise in global GDP.[6] On that basis, the current 20% drop in oil prices might increase global GDP by 0.2 ppt. With nominal world GDP likely to reach around USD 110 trillion in 2024,[7] a gain of 0.2 ppt would equate to USD 220 billion, which is comparable to the GDP of Greece or Kazakhstan—certainly not a trivial amount.

Clearly, lower oil prices negatively impact oil-exporting countries. These countries accounted for 12% of global GDP in 2016, according to the IMF. Furthermore, lower oil prices harm the oil sectors of all countries. In Saudi Arabia, the oil and gas sector represent 40% of the nation's GDP.[8] For Russia, this figure is 19%, while it is 14% in Norway, 10% in Brazil and Nigeria, and 8% in the US. Decreased oil prices lead to reduced capital investments in these countries' oil and gas sectors. In such countries, the decline in investments can outweigh the benefit of the lower fuel prices on households' spending capacity. Hence, the most significant increase in GDP from lower oil prices is expected in oil-importing countries that have relatively small domestic oil and gas sectors.

The effects on current account balances will be more evident. Most developing countries will benefit from lower oil prices because reduced oil imports will enhance their trade balances, decrease foreign currency payments, and strengthen their foreign exchange reserves and debt-payment capacity. The countries that rely heavily on oil imports and that will see the most benefit, are not necessarily the world's poorest. In fact, China was the largest importer of crude oil in 2023.[9] The US, India, the Republic of Korea, and Europe are also among the world's greatest oil importers (Chart 3).

Chart 3: Countries with the highest crude oil imports, USD billion, and share of crude imports in GDP, %, 2023



Source: IATA Sustainability and Economics using International Trade Centre and World Bank data

5 ECB (2018), Oil prices, the terms of trade and private consumption.
6 IMF (2015), Global Implications of Lower Oil Prices.
7 IMF (October 2024), World Economic Outlook.
8 IMF (2022), Saudi Arabia: Selected Issues.
9 EIA (April 2024), In-Brief Analysis: China imported record amounts of crude oil in 2023.

Fossil fuel subsidy reform can narrow the jet fuel-SAF price gap

Important savings can be realized on the fiscal side of oil-importing economies, while oil-exporting countries will likely see their fiscal balances worsen, all else being equal. Between 2019 and 2020, USD 136 billion was saved globally due to lower fuel subsidies stemming from lower oil prices. If such savings were redirected towards constructing renewable energy refineries, it would cover one year's worth of average annual capex needed for air transportation's decarbonization in our worst-case scenario.[10]

Consumer fuel subsidies are essentially welfare programs, which aim to insulate the consumer from high energy prices, often through price controls. While these subsidies could be rendered more effective, the more irksome subsidies are those that directly benefit the oil and gas sector companies, often through tax rebates. Many of such policies are legacy policies, some stemming from the early 1900s—an era with very different economic circumstances and policy priorities. With net profit margins in the oil and gas sector of around 20%, there are few signs that the industry needs any kind of fiscal support or favorable tax treatment. In the US, oil companies can subtract most of their operating costs from their earnings and thereby pay less tax (IDC[11] deduction).[12] As much as 60-80% of costs can be deducted in this way. If total deductions are already maximized, a 15% depletion allowance (PDA)[13] can also be deducted from earnings and carried over until the next year. The Environmental and Energy Study Institute (EESI) puts the value of US fossil fuel explicit producer subsidies at USD 3 billion per year. Globally, producer fuel subsidies represent more than USD 1 trillion per year.[14] If redirected, producer fuel subsidies could cover the airline industry's entire capital investment needs over the whole transition period until 2050 within the space of four to eight years. IATA estimates these needs at between USD 3.8 and 7.9 trillion.[15] Consumer and producer fuel subsidies together amount to USD 7 trillion per year, globally.[16] With one year's worth of global fossil fuel subsidies, the world could cover air transportation's entire capital investment needs between now and 2050, and net-zero CO2 emissions flying would be a reality.

It is important, in this context, to note that the renewable fuel plants would produce a wide range of biofuels and not only SAF. Aviation would only consume a minor share, and the vast majority of the renewable fuel would benefit all other industries in the global economy.

Clearly, governments can choose to allocate their windfall fiscal savings to a number of important priorities, and it is unlikely that they would be directed exclusively toward renewable energy production. Nevertheless, lower oil prices and a potentially higher GDP growth rate could make previously unavailable resources available, and near-term policy making should make the most of this opportunity.

10 IATA Finance – Net Zero CO2 Emissions Roadmap (September 2024).
11 Intangible deduction cost.
12 US Department of the Treasury (2023), General Explanations of the Administration's Fiscal Year 2024 Revenue Proposals.
13 Percentage depletion allowance.
14 IMF (August 2023), Chart of The Week, Fossil Fuel Subsidies Surged to Record $7 Trillion.
15 IATA Finance – Net Zero CO2 Emissions Roadmap (September 2024).
16 IMF (August 2023), Chart of The Week, Fossil Fuel Subsidies Surged to Record $7 Trillion.

Box 1: Policy implications of the US presidential election outcome

In addition to President-elect Trump's clearly stated energy policy, which intends to maximize US oil and gas exploration and production, there are many other areas where change has been announced. Whether these policy changes will actually be implemented is, of course, far from certain. However, with control over the White House, the Senate, and the House of Representatives, onlookers have every reason to take Mr. Trump's stated plans seriously. A shortlist of areas where change is to be expected includes:

- **Tariffs**
- **Immigration**
- **Taxes**
- **Ukraine and defense**
- **Climate change**
- **The Supreme Court**

The suggested tariffs include around 10-20% on most imports and 60% on imports from China. This would, of course, exacerbate the US trade deficit, in addition to the many other negative consequences of such a policy.

On the immigration front, it is the purported mass deportations that are the most disconcerting. The US has more job vacancies than people to deport, and any such drives will exacerbate labor shortages and add to wage pressure, not to mention the human drama.

It seems unlikely that corporate taxes will be cut further. The federal corporate tax rate has been 21% since 2017, and in the year after the change, the effective tax rate fell to 9% for large US corporations, according to the US Government Accountability Office. Corporates are more likely to benefit from deregulation than from further tax cuts.

Changes are to be expected in the geopolitical sphere and these are quite unpredictable. The result is likely to be more spending on defense, and more inward-looking economic policies in general.

Action to prevent climate change will be curtailed under the new administration. The US could leave the Paris Agreement, again, though it can be hoped that such flip-flopping might be avoided. In any case, much of the world stands potentially ready to fill the vacuum that the US will leave in this area, and progress will likely still be made on a global scale – but less progress in the US seems certain.

President-elect Trump already nominated 3 of the Supreme Court's 9 judges, giving it a 6-3 conservative majority. The three elder judges; Clarence Thomas, Samuel Alito, and Chief Justice John Roberts, are 76, 74, and soon 70 years old, respectively. They could hypothetically retire from the Court and leave Mr. Trump with the opportunity to appoint three younger judges. It would not change the majority, but it would cement conservative influence over the US economy and society for decades to come.

Box 2: Recent fossil fuel subsidies reforms

Despite the longstanding barriers to fossil fuels subsidy reform, the momentum is shifting. With the expansion of renewable energy, governments are better positioned to reduce subsidies without threatening energy security or affordability. The Intergovernmental Panel on Climate Change finds that "fossil fuel subsidy removal is projected to reduce global CO2 emissions by 1-4%, and greenhouse gas emissions by up to 10% by 2030, varying across regions".[17] The Group of 20 (G20) and the Asia-Pacific Economic Cooperation (APEC) committed back in 2009[18] to phase out and rationalize "inefficient" fossil fuel subsidies.[19] Similarly, in 2021[20], parties to the Glasgow Climate Pact at COP26 agreed to phase out these subsidies. However, despite this broad agreement, only a few subsidy reform measures have been successful so far.

Examples of key **extraction and production** subsidy reforms, which led to the reallocation of funding to more sustainable energy sources are:

- **India:** The country significantly cut its oil and gas subsidies by 85% from 2013 to 2023. This was achieved by phasing out petrol and diesel subsidies. The extra revenue from these subsidy lifts funded renewable energy projects, electric vehicles, and LPG usage among the rural areas, reshaping India's energy landscape.[21]

- **Germany:** The country aims to reduce subsidies for fossil fuel extraction, particularly for coal, in order to curb carbon-heavy energy investments and redirect funds toward renewable technologies such as wind and solar. This transition aligns with Germany's ambitious renewable energy targets and its goal of achieving net-zero emissions by 2045, marking a significant shift toward sustainable energy sources.[22] Already in 2023, 50% of the country's electricity was generated from renewable sources, up from 25% in 2010 and since 2020 Germany has allocated EUR 4.6 billion to green hydrogen projects with a plan to double it in near future.[23]

Key consumption subsidy reforms that led governments to reallocate funding to more sustainable energies, include:

- **Nigeria:** Nigeria is one of the largest oil producers in Africa, and the country took a bold step in 2023 to remove fuel subsidies entirely. This reform faced significant pushbacks but was ultimately driven by the need to stabilize public finances and promote investments in other, more sustainable sectors. The removal of fuel subsidies is expected to save the Nigerian government between USD 10 billion and USD 15 billion annually. To soften the risk of higher fuel prices, the government introduced mitigation measures and economic reforms aimed at supporting the most vulnerable (including direct cash transfers to low-income households and investments in public transportation). The government has expressed intentions to reform the energy sector further, particularly by expanding local refining capacity. Nigeria's dependence on imported refined fuel has been a significant factor in the subsidy burden, and there are hopes that expanding the domestic refining sector through investments in projects such as the Dangote Refinery will reduce the need for expensive fuel imports.[24]

- **Indonesia:** In 2023, the government raised fuel prices by more than 10%, effectively reducing the gap between market prices and subsidized prices, generating government savings of around USD 15.6 billion. This is part of Indonesia's broader strategy to address the fiscal pressures created by high global fuel prices while promoting a more sustainable energy system. The subsidies were reallocated toward critical areas such as infrastructure and social services, reflecting Indonesia's strategic shift toward more sustainable development. For instance, funding for infrastructure projects grew by more than 50%, supporting goals including expanded transportation network and clean water access. The savings also redirected substantial support to ministries involved in agriculture, public works, and housing, aligning with Indonesia's broader development goals.[25]

17 IPCC. Summary for policymakers. In Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (eds. Shukla, P. R. et al.) 3–48 (Cambridge University Press, Cambridge, 2022).
18 IMF (August 2023), Fossil Fuel Subsidies Data; 2023 Update.
19 The original G20 commitment describes inefficient fossil fuel subsidies as those that "encourage wasteful consumption, reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change", International Institute for Sustainable Development.
20 IMF, Fossil Fuel Subsidies.
21 Asian Development Bank (ADB) report (October 2024), Asia-Pacific Climate Report.
22 Clean Energy Wire (October 2023) Journalism for the energy transition, Factsheet, Germany's climate action programme 2023.
23 Enerdata (July 2024), Germany allocates €4.6bn to 23 green hydrogen projects (1.4 GW).
24 United Nations, Economic Development (August 2023), newsletter Africa Renewal, August 2023.
25 Asian Development Bank (ADB) (2015), Fossil Fuel Subsidies in Indonesia: Trends, Impacts, and Reforms, October 2015.

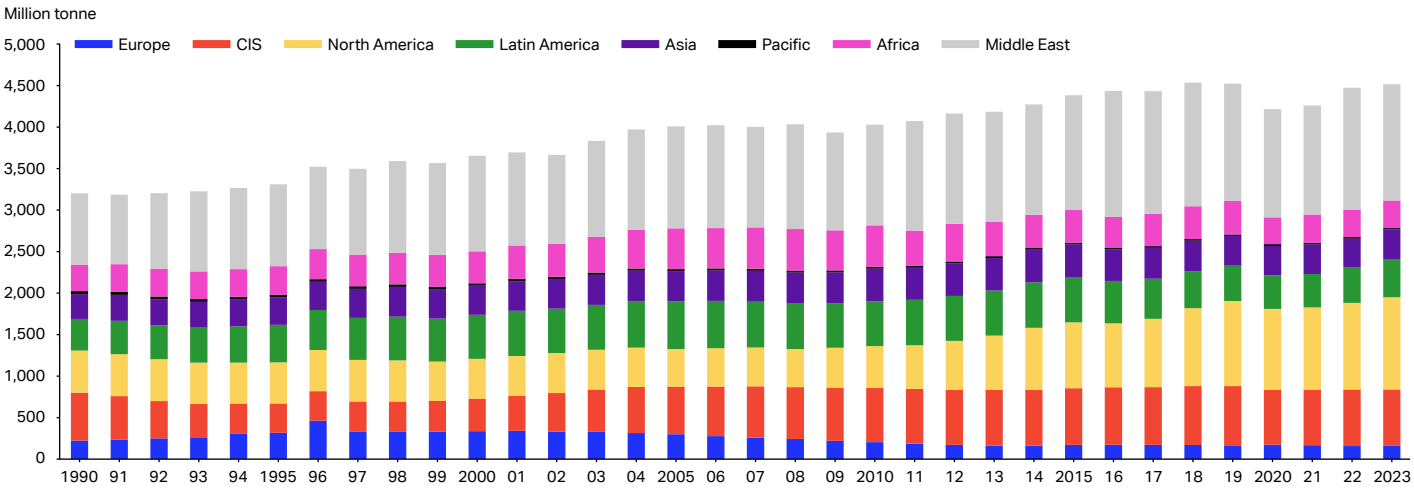
Why are oil prices falling?

It is imperative to highlight that the recent decline in oil prices is not caused by a weakening global business cycle.[26] Indeed, any form of price deflation does often result from lower demand, unless associated with technological progress or other structural change. Currently oil prices are set against a backdrop of a stable global economy, high oil production, and structural shifts in demand away from oil.

The global economy is showing remarkable stability in delivering an identical 3.2% GDP growth rate in each of the years 2023, 2024, and 2025, most likely. This stability is rather exceptional and is supported by the record number of working people in the world.

Oil production is high and exceeds demand (Chart 4), which has slowed notably in China after that country's exceptional covid-reopening driven demand surge in 2023. More structurally, China's energy demand is shifting away from oil and refined output in favor of non-refined products such as natural gas liquids (NGLs), especially regarding road transport. Asia is still the single source of oil demand growth, and China and India are the most important economies in this respect. Oil demand is falling in mature economies, where the substitution to other energy sources is more advanced.[27] The International Energy Agency (IEA) forecasts supply capacity to exceed demand by eight million barrels per day in 2030. This structural downward pressure on oil prices will no doubt be impacted by cyclical and geopolitical influences that will cause volatility and a smooth declining path cannot be expected. Moreover, while the US has emerged as the world's leading oil producer, output levels could fall as the US shale producers are particularly vulnerable to lower oil prices. All in all, the IEA's low-price scenario sees a Brent price of USD 69 per barrel in 2030. This price moderation could increase demand for oil by 1.1 million barrels per day in 2030, pushing peak oil demand further out on the time horizon. In that light, using the windfall savings from lower oil prices to invest in the global energy transition without delay becomes essential.

Chart 4: Crude oil production by country, million tonne



Source: Enerdata

26 Diego A. Cerdeiro and Dmitry Plotnikov, Taking Stock: Who Benefited from the Oil Price Shocks? IMF Working Paper WP/17/104, 2017.
27 IEA (2024), Oil: Analysis and forecast to 2030.

Lower oil prices and airlines' profit

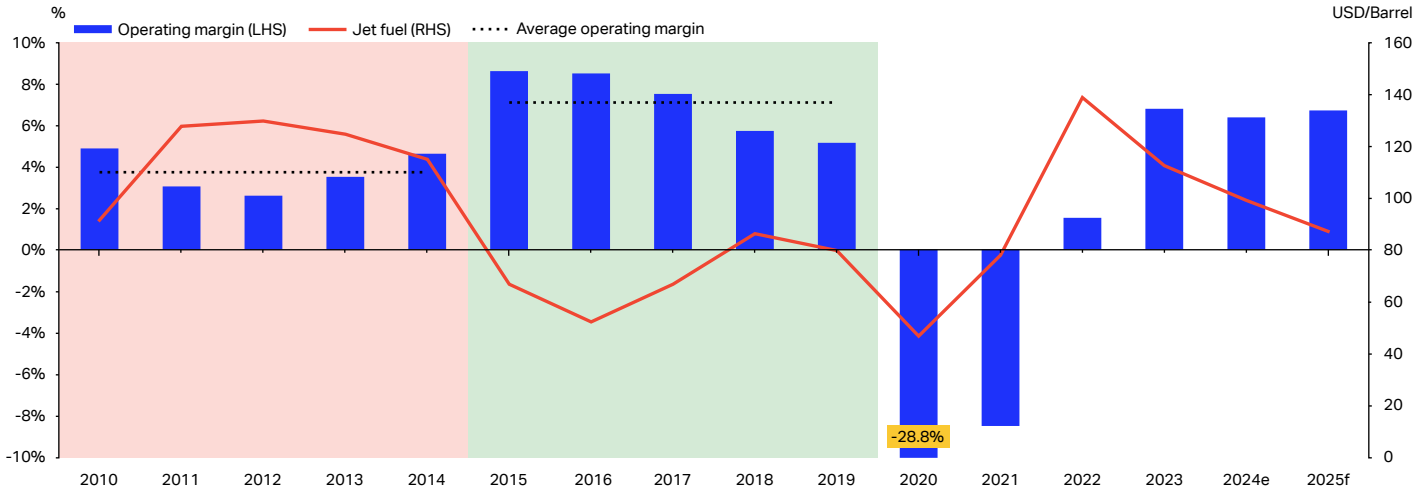
Lower oil prices will help reduce costs for airlines, which would be most welcome as airlines' net profits are expected to be limited to around 3% in 2024. Lower fossil fuel costs can enable some airlines to invest in decarbonization solutions directly and allow them to gain greater control over their destiny rather than being the final consumers and likely price-takers (as opposed to price-setters) of such solutions.

Historically, lower fuel prices have contributed to improving airlines' average operating profitability. When the average jet fuel price dropped from USD 120 per barrel to USD 70 per barrel over 2010-2014, passengers were the first to benefit from falling yields, and on the airline side, it helped to double the average operating margin over the next four years (Chart 5). Currently, the price of jet fuel has dropped from USD 139 per barrel in 2022 to USD 87 per barrel assumed for 2025 (Chart 5).

One would also expect demand for air transportation to be bolstered by the lower ticket prices that could come with lower oil prices. This, in turn, depends on airlines' hedging policies and how sensitive demand is to price fluctuations. Higher demand cannot always be catered to, though. Airlines' capacity to expand their fleet is limited today because supply chain issues are likely to persist.

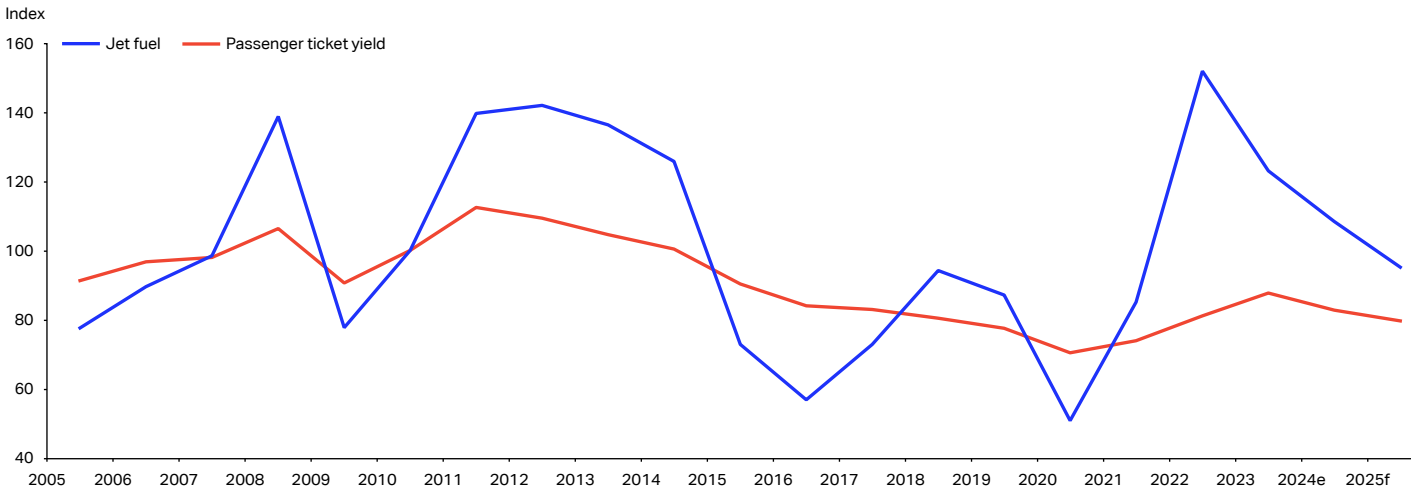
The limited capacity will protect yields against the impact of lower ticket prices in response to lower jet fuel prices. This latter effect was apparent over the two decades preceding the pandemic. Over that period, we estimate that each 10% decline in the jet fuel price translated into a 4-5% decline in passenger yields (Chart 6).[28,29] Considering the estimated jet fuel price drop of 15% to 25% from 2023 to 2025 and the delayed impact because of hedging, this could cause yields to decline by 7.5% to 12.5% over 2024 and 2025. However, capacity constraints will counteract much of this effect. It remains the case, nevertheless, that all other things being equal, lower oil prices are a boon for airlines.

Chart 5: Operating (EBIT) margin of the global airline industry, average jet fuel price, and average operating margin



Source: IATA Sustainability and Economics using data from Airfinance Global

Chart 6: Passenger ticket yield and jet fuel price, index, 2010 = 100



Source: Platts, IATA Sustainability and Economics

28 Wadud Z., (2015) Imperfect reversibility of air transport demand: Effects of air fare, fuel prices and price transmission.
29 Based on IATA internal research over 2000-2019 real change in jet fuel prices and real changes in passenger ticket yields.

3. Traffic to reach an all-time high

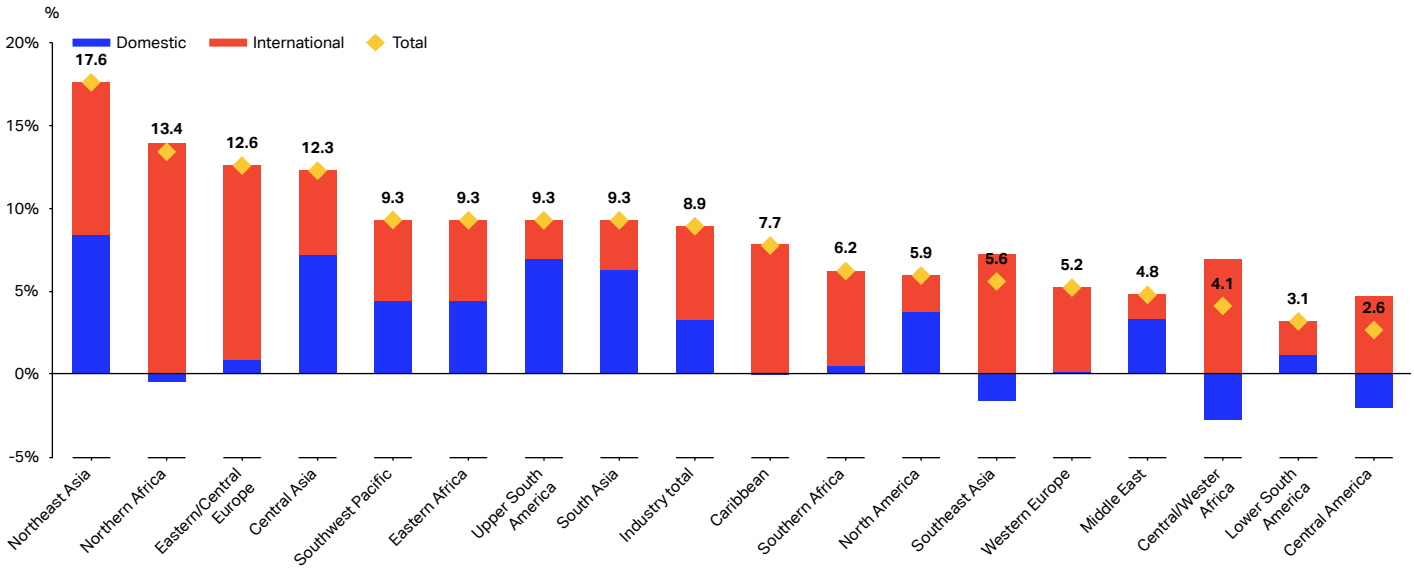
3.1 Air passenger traffic

Over the past year, the global economy has been remarkably stable. Unemployment rates in OECD countries were below historical averages, global inflation rates continued to fall, and ticket prices moderated, fueling demand. Of course, uncertainties persist because of wars, and the policy shifts that the new US administration likely imply. As for the approaching end of 2024, demand for air travel is not only strong, but has set a new all-time high.

That momentum has been carried by the buoyant performance in the largest passenger markets and the rise in international traffic across the board. Northeast Asia led in terms of passenger traffic growth, reflecting the ongoing ramp-up of international traffic from China to nearby sub regions, along with a substantial uptick in domestic tourism within the country. Meanwhile, resilient demand in established aviation markets in Western Europe and North America made solid contributions to industry-wide growth (Chart 7).

Emerging aviation markets grew the most in 2024 and continue to show great potential. Countries in Northern Africa, Eastern and Central Europe, and Central Asia have outpaced the industry average. Traffic in the Southwest Pacific also exceeded the global mean, reflecting a resurgence in travel within the broader Asia Pacific region. In contrast, while the Middle East has become a crucial part of global air traffic, the region has seen only modest growth in international passengers in 2024. This limited increase is mainly due to a decline in traffic relating to Israel and its neighboring countries.

Chart 7: Total passenger growth rate by sub-region of traffic origin, Jan-Aug 2024 versus the same period in 2023

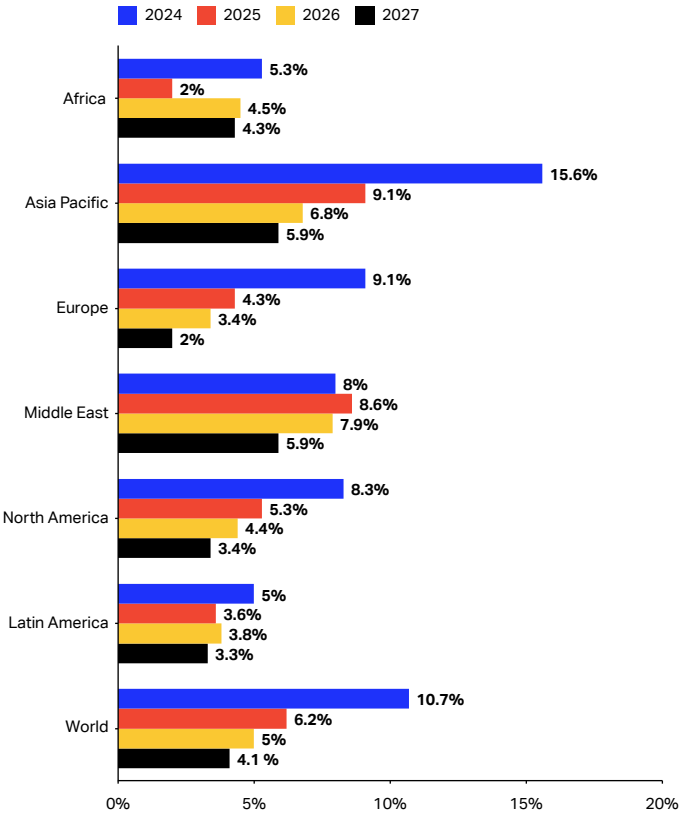


Note: The bar segments represent international or domestic traffic's contribution to regional total growth.
Source: IATA Sustainability and Economics using data from DDS

This buoyant aviation activity has pushed industry wide passenger traffic to new record highs in spite of capacity constraints in 2024. The growth in RPK and ASK have aligned with the trend observed in the decade leading up to the pandemic (Chart 8). In the near future, the rise in passenger traffic is expected to follow this trajectory, supported by persistent demand and the expansion of airline operations in key emerging economies. Supply chain issues, however, could cap the potential growth in traffic, as passenger load factors reached all-time highs across the different regions and at the industry level, while in 2024, the rise in RPK matched that in ASK.

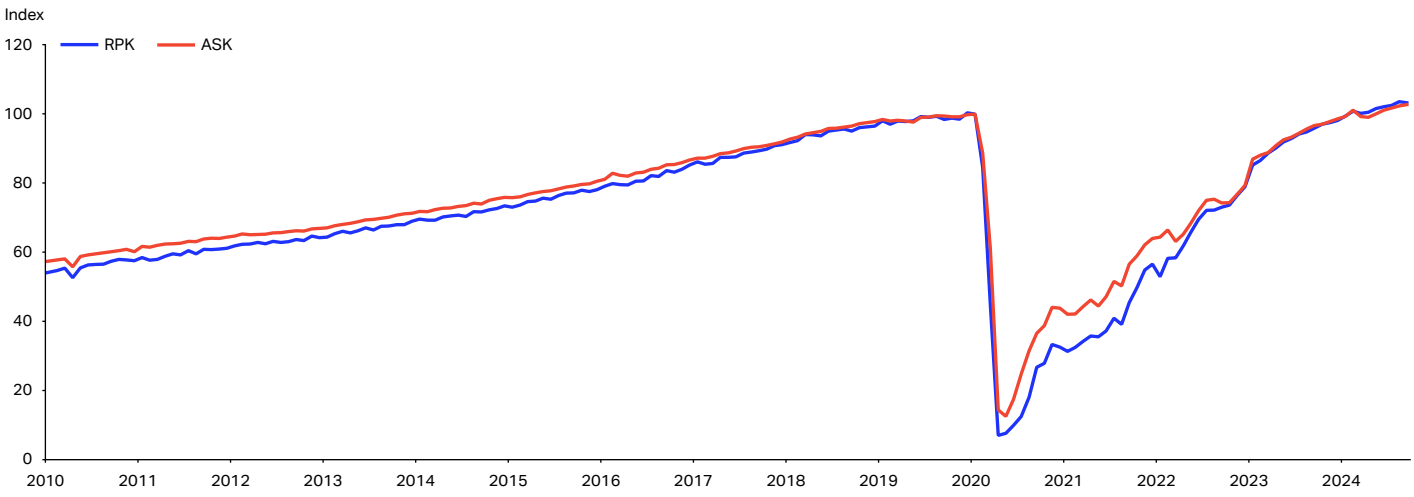
In terms of origin-destination passenger traffic, the growth in the regions in 2024 is from a low base in 2023. Global passenger numbers are projected to rise by 10.7% YoY in 2024, reminiscent of the levels observed over the 2010-2019 period. Europe and North America are anticipated to maintain stable growth in the coming years, primarily due to international traffic from other parts of the world. The Asia Pacific and the Middle East regions are expected to see the strongest gains in passenger numbers over the next few years. Latin America's increase in 2024 will likely be maintained over the coming years, as the region has already seen a significant ramp-up in traffic and should continue to grow from this elevated base. Africa's traffic increase will be driven mainly by the established aviation markets on the continent (Chart 9).

Chart 9: Regional and global yearly forecast growth rates in total passenger numbers, % YoY



Note: Regions represent geographical regions of traffic origin
Source: Air Passenger Forecasts, August 2024 update

Chart 8: Industry Revenue Passenger-Kilometers (RPK) and Available Seat-Kilometers (ASK), seasonally adjusted



Source: IATA Sustainability and Economics using data from IATA Information and Data – Monthly Statistics

Over the next two decades, the number of global passengers is projected to increase at an average annual rate of 3.8%, leading to a net addition of over 4.1 billion passenger journeys by 2043 compared to 2023. This would bring the total global number of passenger journeys to 7.9 billion in 2043. The European and North American markets are expected to see a more modest increases in demand, with compound annual growth rates (CAGR) of 2.3% and 3.0%, respectively. In contrast, the Asia Pacific region is forecasted to record the most significant rise in passenger numbers, contributing more than half of the net increase in global passenger numbers by 2043, with an average yearly growth rate of 5.1% (Table 2). Economic expansion, improved living standards, and favorable demographic trends are expected to contribute to the region's increase in passenger traffic. In 2023, slightly over one-third of total passenger trips originated or ended in Asia Pacific. This share will rise to 46% by 2043 (Chart 10). The Middle East's share will increase by a modest 0.1 percentage point, reaching 5.7% in 2043. This region is expected to remain a key hub for global traffic and continue to develop as a popular tourist destination. The remaining regions' respective shares will diminish as Asia Pacific grows more rapidly.

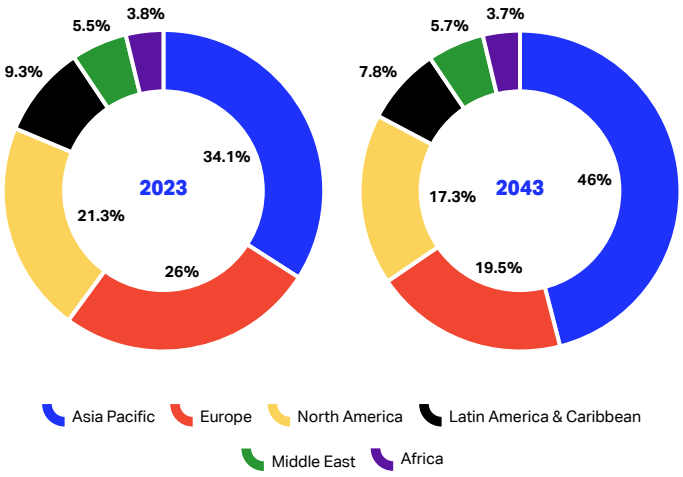
Our forecast includes an upside potential if a positive surprise were to occur, such as peace in Ukraine and the Middle East. The downside risks include a deteriorating geopolitical environment and greater policy instability. The balance of risks remains skewed to the downside, both in the near term and over the longer horizon, influenced by unfavorable long-term trends (Chart 11).[30]

Table 2: Compound annual growth rate (CAGR) and net growth in passenger numbers, 2023-2043

Region	CAGR (2023 – 2043)	Additional passengers by 2043, million
Africa	3.7%	182
Asia Pacific	5.1%	2,609
Europe	2.3%	662
Middle East	4.1%	314
North America	3.0%	763
Latin America	3.0%	200
World	**3.8%**	**4,138**

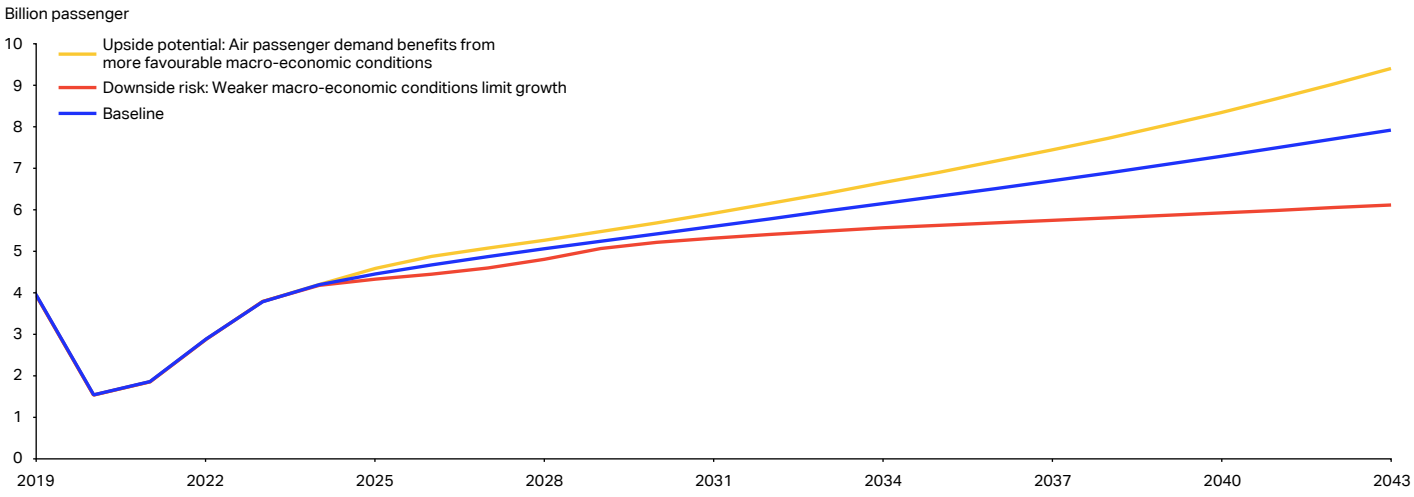
Source: Air Passenger Forecasts, February 2024 update

Chart 10: Regional passenger traffic, share of total, %, 2023 and 2043 forecast



Note: Regions represent geographical regions of traffic origin
Source: Air Passenger Forecasts, August 2024 update

Chart 11: Global air passenger journeys, billion passengers adjusted



Note: Regions represent geographical regions of traffic origin
Source: Air Passenger Forecasts, August 2024 update

30 IATA Global Outlook, December 2023.

3.2 Traffic, connectivity, and contribution to the broader economy

Traffic numbers are not the only way to look at activity in the airline industry—connectivity adds a further fundamental dimension to the analysis. Air transport plays a crucial role in global economic development by connecting people, cities, and countries. This connectivity facilitates the fastest and safest flow of goods, people, and ideas necessary to support the global business cycle. In 2024, there were over 22,000 unique city pairs served by airlines, reflecting a 5% YoY growth and surpassing 2019 levels to reach an all-time high (Table 3). This restoration of service comes in the wake of the covid pandemic which cut the number of unique city pairs by more than 28% and eliminated over 6,000 routes at its peak in 2019.

In addition to the number of unique city pairs, we also need to understand the frequency of service and the seat capacity provided on these routes. The IATA Air Connectivity Index assesses how well countries worldwide are interconnected through air transportation. The index reflects the available seat capacity of direct flights to each destination at the airport level, weighted by the size of the destination, which is measured by the seat capacity handled. On a global scale, both domestic and international air connectivity saw an increase during the first three quarters of 2024 (Chart 12).

Domestic air connectivity reached pre-pandemic levels in 2023 and has since increased by a further 7.7% YoY in 2024. This growth has been observed in all regions except Africa, where connectivity held steady. In Asia Pacific, the largest air passenger market, domestic air connectivity experienced robust growth of 13.8% YoY, reflecting the delayed post-pandemic reopening of key markets.

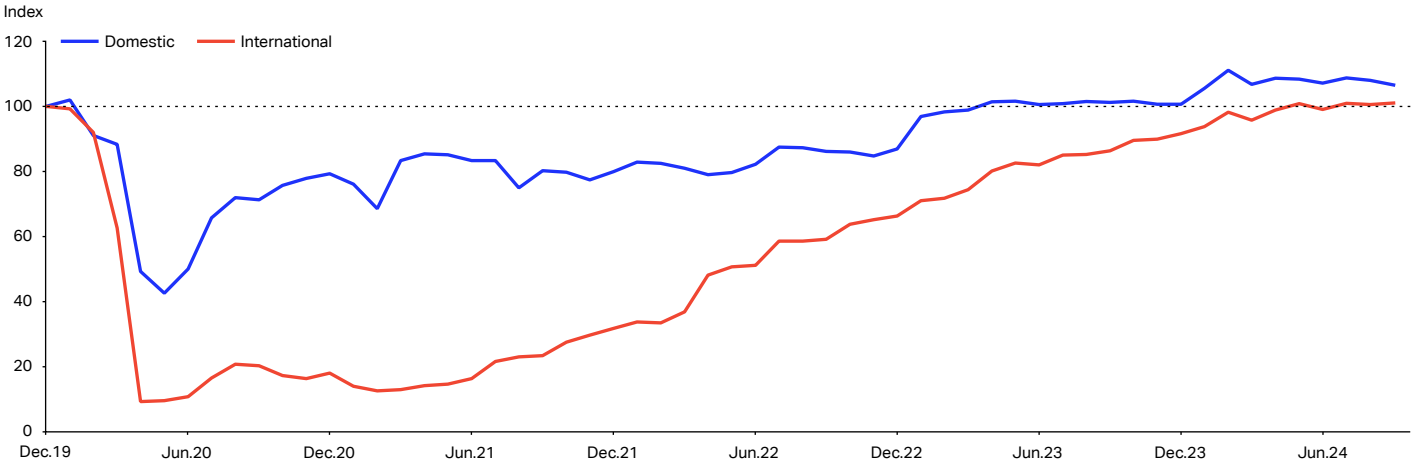
In contrast, international air connectivity saw a substantial increase of 23.7% YoY, returning to 2019 levels. This growth was mostly driven by developments in the Asia Pacific region, where international connectivity surged by an extraordinary 52.3% YoY. Additionally, all other regions reported double-digit increases in international connectivity, ranging from 10% to 14% YoY.

Table 3: Measures of connectivity and economic contribution of air transportation

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
Unique city pairs	**21,736**	**15,621**	**16,846**	**19,665**	**21,006**	**22,056**	**22,718**
compared to 2014	25.9%	-9.5%	-2.4%	13.9%	21.7%	27.8%	31.6%
Spend on air transport, incl. taxes, USD billion	**1,019**	**436**	**575**	**871**	**1,125**	**1,192**	**1,244**
% change YoY	2.6%	-57.3%	31.9%	51.6%	29.1%	6.0%	4.3%
% of global GDP	1.2%	0.5%	0.6%	0.9%	1.1%	1.1%	1.1%
Trips per capita	**0.52**	**0.20**	**0.26**	**0.37**	**0.47**	**0.52**	**0.55**
compared to 2014	28.0%	-50.3%	-36.4%	-7.8%	17.6%	29.0%	35.8%
Real return fare incl. ancillaries, 2014 USD/PAX	**308.6**	**255.3**	**235.8**	**261.4**	**275.8**	**249.7**	**234.9**
compared to 2014	-26.4%	-39.1%	-43.8%	-37.7%	-34.2%	-40.5%	-44.0%
Real freight rate, 2014 USD cents/CTK	**33.9**	**50.8**	**61.1**	**60.1**	**38.4**	**35.0**	**33.3**
compared to 2014	79.2%	118.6%	142.7%	140.4%	89.8%	81.8%	77.8%
Freight carried by air, million tonnes	**62.7**	**56.5**	**65.0**	**60.9**	**61.4**	**68.5**	**72.5**
% change YoY	-99.2%	-9.8%	15.1%	-6.3%	0.7%	11.5%	5.8%

Source: IATA Sustainability and Economics

Chart 12: IATA Global Air Connectivity Index, January 2020 – September 2024, 2019 = 100



Source: IATA Sustainability and Economics

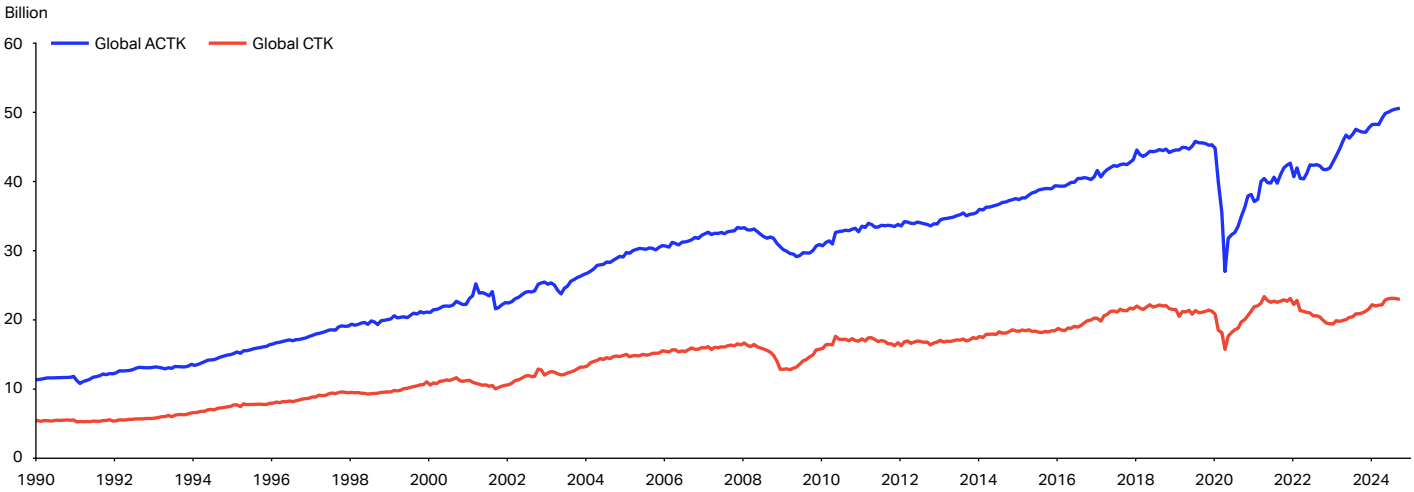
3.3 Air cargo traffic

Airlines are projected to achieve an all-time high in cargo tonne-kilometers (CTK), with demand expected to increase by an impressive 11.8% YoY in 2024. This remarkable growth follows two consecutive years of declining air cargo volumes as the industry adjusted after the exceptional pandemic peak (Chart 13).

The surge in demand has been primarily driven by robust cross-border e-commerce and, to a lesser extent, capacity limitations in ocean shipping. Given these strong growth catalysts, along with a relatively positive macro-economic outlook, demand is expected to continue to rise significantly in 2025.

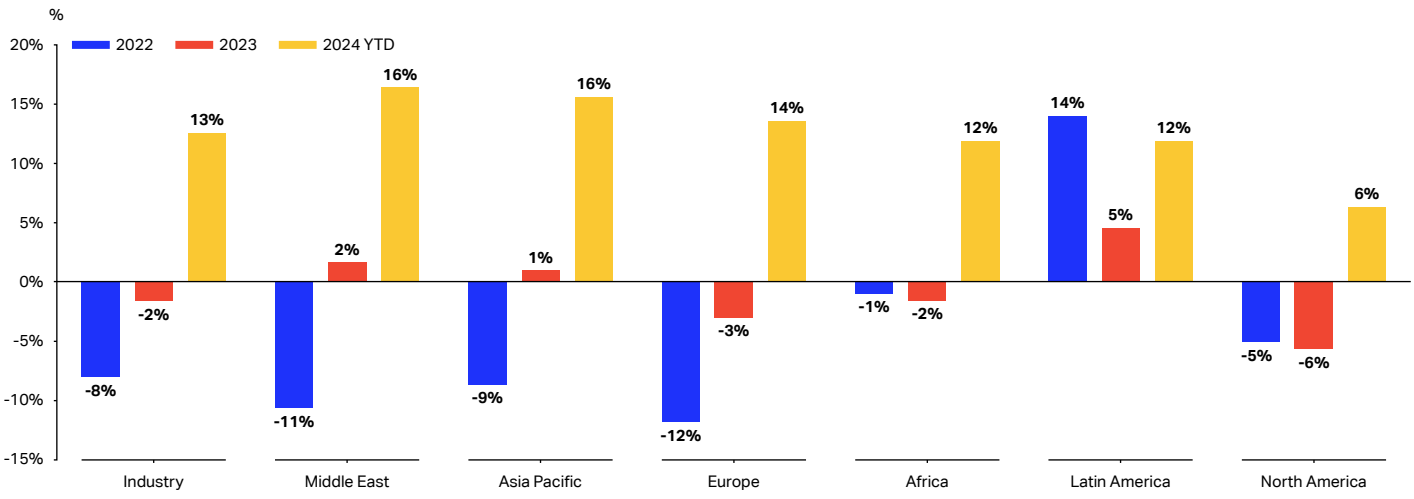
The expansion in air cargo traffic is supported by all regions, with YTD growth rates ranging from 6% to 16% (Chart 14). The strongest rise has been observed among airlines registered in the Middle East and Asia Pacific. In addition to the influence of e-commerce and of ocean shipping disruptions, some of these airlines also benefit from unrestricted access to Russian airspace.

Chart 13: Global seasonally adjusted ACTK and CTK, billion, 1990-2024 (until September 2024)



Source: IATA Sustainability and Economics using data from IATA Information and Data – Monthly Statistics

Chart 14: Global CTK, % YoY, 2022-2024 YTD (January to September 2024)

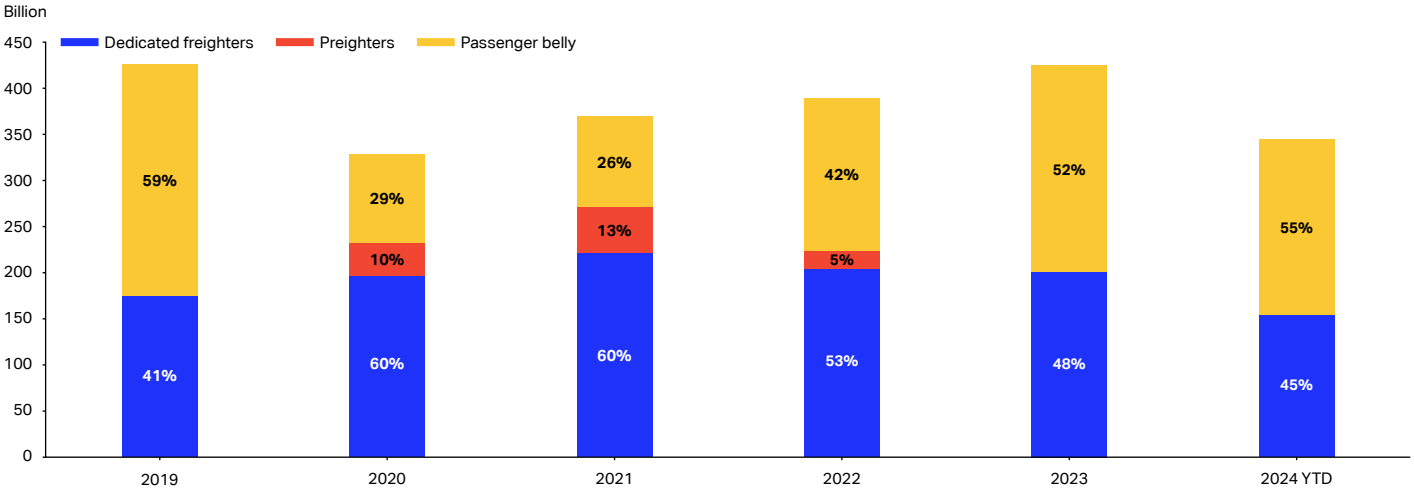


Source: IATA Sustainability and Economics using data from IATA Information and Data – Monthly Statistics

Global air cargo capacity, measured in available cargo tonne-kilometers (ACTK), recovered to 2019 levels in 2023. The reopening of China's borders allowed passenger aircraft to provide belly-hold capacity once again on international routes. Consequently, the global share of air cargo transported on dedicated freighters is dropping to pre-pandemic levels (Chart 15). This trend of normalization of the ratio between dedicated freighters and passenger aircraft's belly capacity is expected to continue through 2025. Overall, global ACTK kept growing in 2024 and should continue to expand in 2025, though at a gradually decelerating rate.

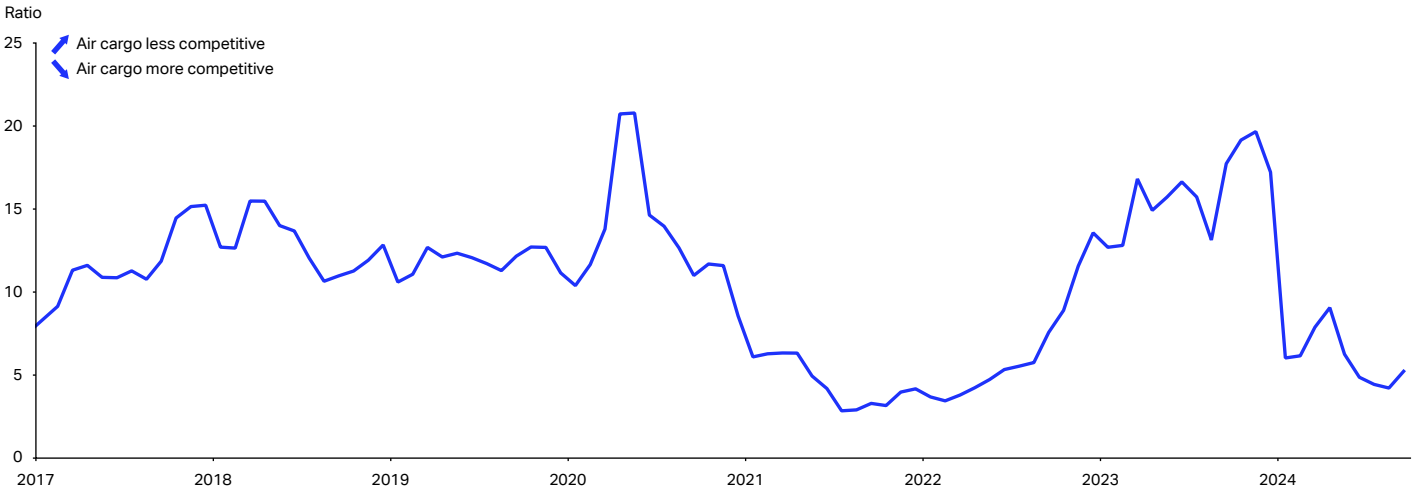
The widespread disruptions in global supply chains during and after the pandemic led to significant volatility in both sea and air transportation rates. Air cargo rates reached their peak in December 2021 and then experienced a nearly two-year decline as the industry adjusted to the recovery in passenger aircraft belly capacity. However, competition for capacity has intensified between e-commerce companies and shippers, shifting from sea to air transport and traditional air cargo clients. As a result, the global yield for air cargo stopped falling in the second half of 2023. Only a slight decline is expected in 2024, and the yield should remain relatively stable in 2025. Disruptions in container shipping reemerged in late 2023, putting extensive upward pressure on ocean shipping rates. Although maritime rates did not reach the heights of 2021, this situation still resulted in another sharp drop in the relative air cargo rates over maritime shipping, boosting air cargo's competitiveness over sea transport (Chart 16). However, this increased competitiveness could wane once all key nautical passages such as the Suez Canal and the Red Sea route are deemed safe for passage, or if shippers manage to introduce a substantial amount of new vessel capacity.

Chart 15: Global international ACTK by cargo business type, billion, and share of total, %, 2019-2024 YTD (January to September 2024)



Source: IATA Sustainability and Economics using data from IATA Information and Data – Monthly Statistics

Chart 16: The relative price of shipping by air over maritime cargo, USD per kg, 2017-2024 YTD (until September 2024)



Source: IATA Sustainability and Economics using data from IATA Information and Data – Monthly Statistics

4. Airline financial performance

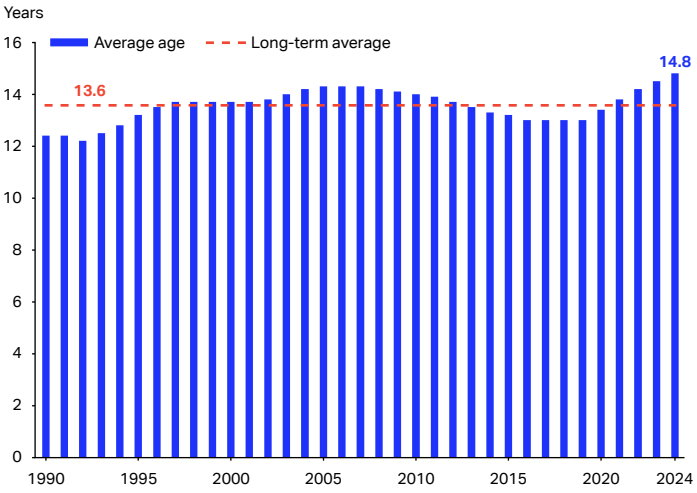
2024 has remained a strong year in the global airlines industry despite declining yields and significant cost pressures.

The 2024 numbers are also affected by our upward revision of the profitability in 2023, a year that turned out to be exceptionally strong—actually the fourth best in 30 years. Moreover, 2023 was the first year after the pandemic when capacity utilization and load factors were restored to pre-pandemic levels, bringing the unit cost down with them. The estimated operating margin for 2024 is 6.4%, which is 3 percentage points above the 20-year median (Chart 17).

Costs have risen across all non-fuel areas. Following the remarkable profit recovery in 2023, airlines faced demands for salary increases, exacerbated by persistent labor shortages. Other costs have been impacted by supply chain issues, in turn limiting capacity expansion.

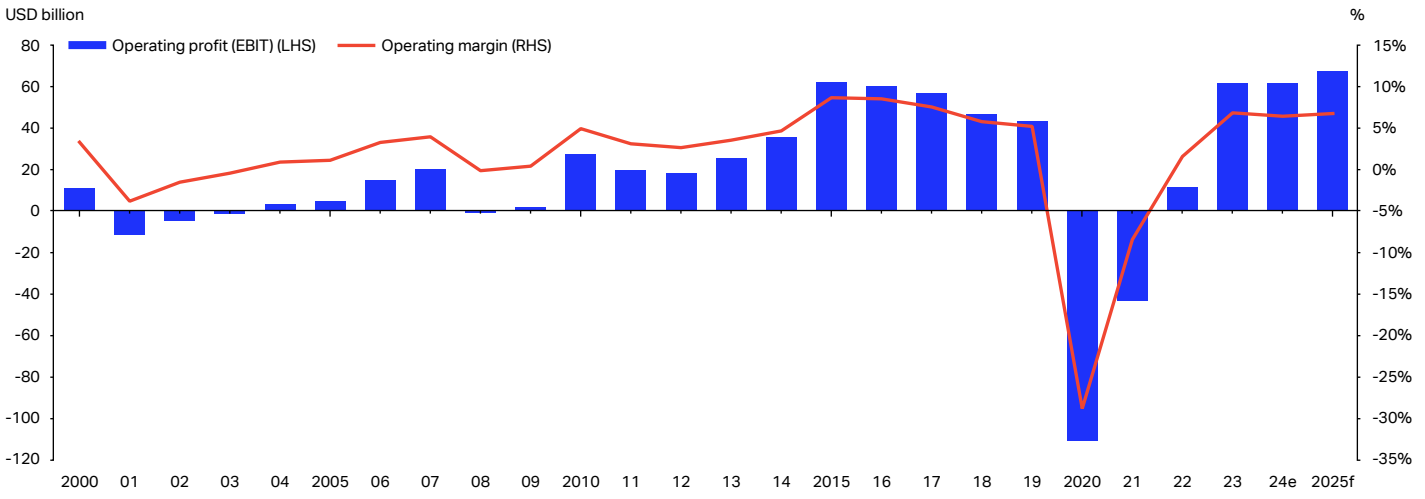
One such cost area is maintenance costs, which have risen because of engine-related aircraft groundings and an ageing global fleet. As of 2024, the average aircraft age of the global commercial fleet has reached 14.8 years, the highest on record (Chart 18). An older fleet means more expensive maintenance, higher fuel burn, and additional capex for unplanned retrofits of aircraft that were originally planned to retire already. Since replacements are not available, existing aircraft's lifetime are extended. We also note a sharp increase in aircraft ownership costs, driven by the lagged impact of earlier interest rate increases and a sharp rebound in leasing costs amid delays in new fleet deliveries.

Chart 18: Average age of global commercial fleet, years



Source: IATA Sustainability and Economics using Cirium

Chart 17: Global airline operating profit in USD billion and operating margin, as % of revenue



Source: IATA Sustainability and Economics using data from Airfinance Global

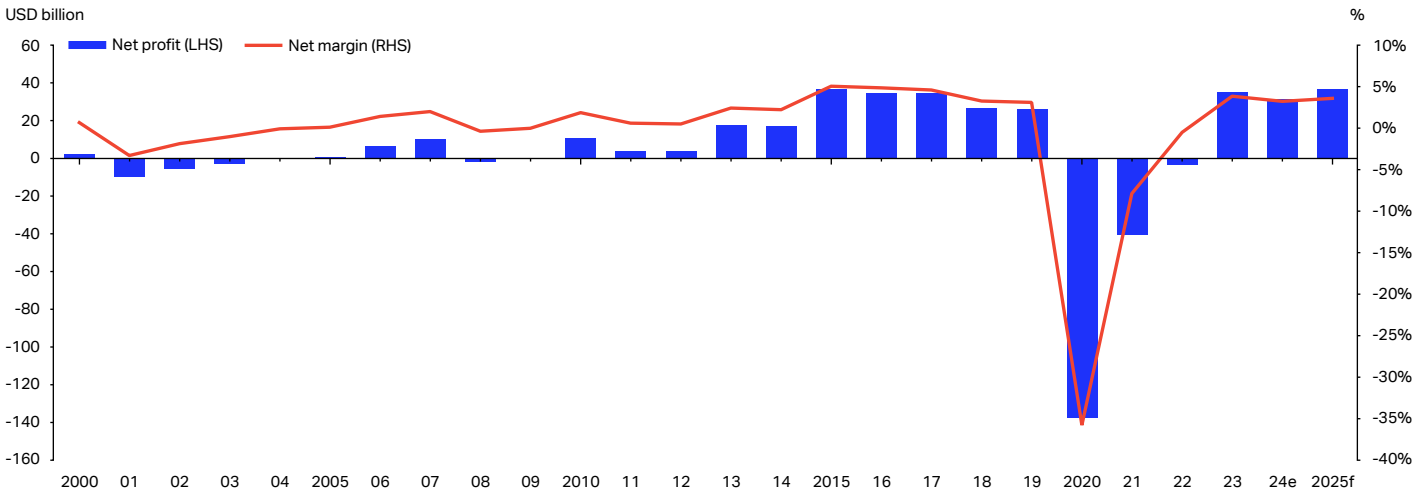
All in all, we estimate a 2024 operating profit of USD 61 billion, implying a 6.4% operating (EBIT) margin. This result is a slight improvement on our previous forecast. However, the composition of the profit has altered. We have revised down our expectations for passenger yields because their return to the long-term declining trend started earlier than expected. Yields have also declined to the extent that lower fuel prices have brought about lower ticket prices. Cargo volumes and yields, supported by the Red Sea crisis and the substantial demand boost from e-commerce and semiconductor industries, have been revised up significantly.[31] Overall, we estimate a net result of USD 31.5 billion, implying a net profit margin of 3.3% (Chart 19).

The final 2023 estimate, benefiting from the inclusion of surprisingly profitable late-reporting airlines (smaller regional airlines and some Gulf carriers) previously not included in our data, lifts that year's operating margin from 5.7% to 6.8%. Moreover, high jet fuel price volatility throughout 2023 allowed airlines to hedge at more favorable rates than expected. 2023 was favorable for all types of airlines, including small and local airlines, many of which turned profitable for the first time.

In 2025 we expect airlines to improve their margins on the back of lower jet fuel prices and forced capacity discipline. A weaker US dollar and a shift in the interest rate cycle should further support results. However, aircraft delivery issues are likely to keep leasing prices high, which may strain profitability. Moreover, airlines are expected to exhaust their tax losses carry forwards from the pandemic era, leading to an increase in tax rates in 2025. The operating profit in 2025 is forecasted at USD 68 billion, representing an operating margin of 6.7%. Although such a result seems more robust than in recent years, the implied return on invested capital (ROIC) of 6.8% falls short of covering the cost of capital (WACC). This ongoing negative disparity between ROIC and WACC remains challenging in terms of the industry's capacity to attract equity investors.

The improvement in the air transport industry's financial health is also reflected in the balance sheets. We estimate that airlines saw solid cash flow over 2023, primarily thanks to recovering results and a sharp increase in traffic. Airlines can enhance their cash position when revenue grows rapidly as they normally have negative working capital. Strong cash flow and high borrowing costs encouraged airlines to reduce their debt levels significantly, both in gross and net terms when adjusted for cash. This decline in debt is a relief for the net result, and we estimate that the net interest burden remained stable in nominal terms in 2024, despite higher interest rates. Our 2024 adjusted net debt/EBITDAR ratio estimate is 3.3x, below the 2023 level (3.6x) and significantly below the 2017-19 average of 4x.

Chart 19: Global airline operating profit in USD billion and operating margin, as % of revenue



Source: IATA Sustainability and Economics using data from Airfinance Global

31 FedEx Business Insights, What's Moving The Cargo Aviation Industry In 2024?

The key assumptions underpinning our financial forecast include:

- Global real GDP growth rate will likely remain stable at 3.2% in 2024 and 2025, broadly in line with the long-term average.
- Inflation rates will ease gradually throughout 2024 and 2025, having peaked in 2022, though still exceed some central banks' target of 2%.
- Real interest rates will drop slightly in 2025 thanks to interest rate cuts.
- Labor markets will remain tight, producing pockets of labor shortages and wage pressure.
- The average Brent crude oil price is assumed to be USD 75 per barrel in 2025. The jet fuel crack spread is anticipated at USD 12 per barrel, close to the long-term average. This yields an average jet fuel price of USD 87 per barrel in 2025.
- CORSIA should cost the airlines an additional USD 0.7 billion in 2024 and USD 1 billion in 2025.
- In our baseline scenario SAF price for 2025 is estimated at USD 2,500 per tonne.
- Passenger and fleet growth rates will depend on supply chain and aircraft quality issues, which could cause further delivery delays.
- The outlook for the airline industry also depends critically on the geopolitical situation. The wars in the Middle East and Eastern Europe have had a limited impact on the global industry. In our central scenario, we assume these conflicts will neither spread nor de-escalate significantly. However, any escalation and consequent impact are hard to predict. Therefore, geopolitical developments remain critical. We also assume the Red Sea crisis will continuously impact ocean freight in 2025.

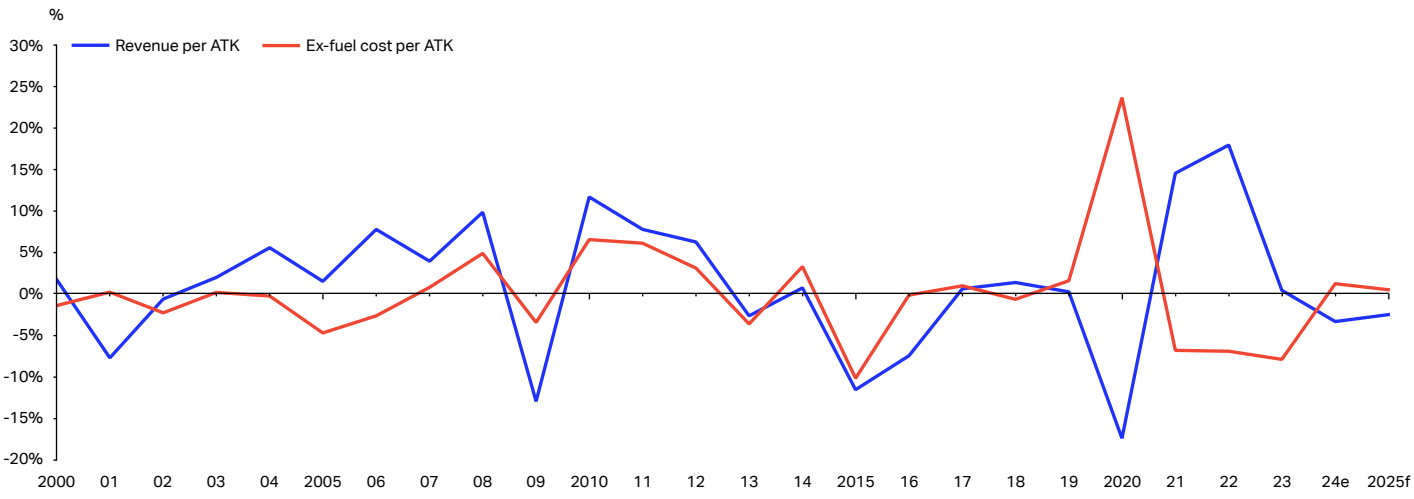
4.1 Revenue developments

While traffic growth has decelerated in 2024, we expect it to remain above the long-term average at 11.2% YoY (the 2010-2019 average is 6.6% YoY). Despite falling yields, passenger ticket revenue is expected to grow by 5.0% YoY, reaching a record level of USD 678 billion (Chart 20).

In 2025, we forecast a further decline in yields, but at a slower pace than in 2024. Continuously tight capacity should keep rates relatively high despite the ongoing drop in jet fuel prices. A potentially weaker US dollar could also provide some support for yields, especially in domestic markets.

Total passenger revenue, which encompasses ancillaries and other sources, is estimated to increase by 6.0% YoY in 2024. The growth in ancillary revenue per passenger is attributed to an increase in the market share of LCC and to more network carriers unbundling their services. This trend is expected to continue in 2025, when total passenger revenue is forecasted to grow by 4.3% YoY.

Chart 20: Revenue and cost of air travel, annual change in unit revenue and cost per ATK, % YoY



Source: IATA Sustainability and Economics

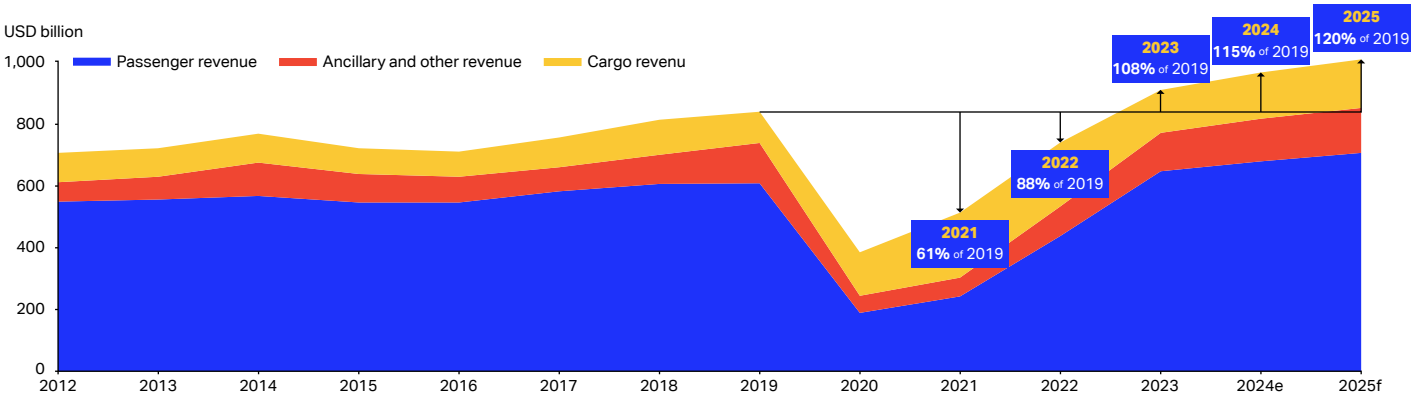
Cargo revenue remains a vital component of the overall revenue mix. Cargo traffic has performed remarkably well in 2024, with a growth rate of 11.8% YoY. This increase has been driven by a decline in the relative price of air transport compared to ocean freight and by delays in maritime transport caused by the Red Sea crisis.[32] Another notable trend is the stabilization of air cargo yields, which remain 35% above pre-pandemic levels. Moreover, cargo also benefits from robust demand, notably pertaining to Asian e-commerce traffic. We expect yields in 2025 will broadly remain stable YoY.

Overall, the airline industry's revenue is estimated to reach USD 965 billion in 2024, marking a 6.2% YoY growth (Chart 21).

This represents a slight downward revision from our previous forecast in June 2024, as we did not anticipate such a decline in jet fuel prices, which led to a drop in passenger yields in 2024. 2024 revenues have been significantly bolstered by stronger-than-anticipated cargo yields, partially offsetting the weaker passenger yields.

In 2025, total industry revenue is forecast to reach USD 1,007 billion (4.4% YoY). This would be the first time in history that revenue will exceed the psychologically important threshold of USD 1 trillion. Revenue growth will largely be driven by passenger traffic growth, although it will be somewhat tempered by a decline in yields.

Chart 21: Passenger and cargo revenue, USD billion



Source: IATA Sustainability and Economics using data from Airfinance Global

Table 4: Key air finance figures

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
Nominal one-way fare, USD	**153**	**120**	**120**	**148**	**170**	**161**	**157**
% change YoY	-1.9%	-21.3%	-0.5%	23.2%	15.0%	-5.2%	-2.1%
Nominal return fare incl. ancillaries, USD/PAX	**361**	**308**	**298**	**359**	**404**	**387**	**380**
% change YoY	0.4%	-14.6%	-3.3%	20.5%	12.6%	-4.3%	-1.8%
Real return fare incl. ancillaries, 2014 USD/PAX	**309**	**255**	**236**	**261**	**276**	**250**	**235**
compared to 2014	-26.4%	-39.1%	-43.8%	-37.7%	-34.2%	-40.5%	-44.0%
Nominal freight rate, USD/kg	**1.61**	**2.48**	**3.23**	**3.39**	**2.26**	**2.18**	**2.17**
% change YoY	-10.9%	54.5%	30.0%	4.9%	-33.4%	-3.5%	-0.5%
Real freight rate, 2014 USD/kg	**1.38**	**2.06**	**2.56**	**2.47**	**1.54**	**1.40**	**1.34**
compared to 2014	-22.4%	16.1%	44.1%	39.1%	-13.2%	-20.8%	-24.4%
World GDP growth (real), % YoY	**2.8 %**	**-2.7 %**	**6.6 %**	**3.6 %**	**3.3 %**	**3.2 %**	**3.2 %**
World trade growth, % YoY	**0.2 %**	**-5.2 %**	**11.2 %**	**3.2 %**	**-0.8 %**	**2.6 %**	**3.3 %**
CPI, global, % YoY	**3.5 %**	**3.2 %**	**4.7 %**	**8.7 %**	**6.7 %**	**5.8 %**	**4.3 %**
RPK, billion	**8,688**	**2,974**	**3,623**	**5,973**	**8,172**	**9,091**	**9,814**
% change YoY	4.1%	-65.8%	21.8%	64.9%	36.8%	11.2%	8.0%
CTK, billion	**254**	**229**	**272**	**250**	**246**	**275**	**291**
% change YoY	-3.2%	-9.9%	18.8%	-8.1%	-1.7%	11.8%	6.0%
Aircraft departures, million	**37.5**	**19.7**	**24.2**	**29.0**	**35.7**	**38.2**	**40.0**
% change YoY	-0.8%	-47.5%	22.8%	19.8%	23.1%	7.2%	4.6%
ASK, % change YoY	**3.4%**	**-56.6%**	**18.7%**	**40.1%**	**31.1%**	**10.1%**	**7.5%**
Passenger load factor, % ASK	**82.6%**	**65.2%**	**66.9%**	**78.7%**	**82.2%**	**83.0%**	**83.4%**
Cargo load factor, % ACTK	**46.8%**	**53.8%**	**56.1%**	**50.0%**	**44.3%**	**45.1%**	**44.9%**
Total load factor, % ATK	**70.1%**	**59.8%**	**61.9%**	**67.2%**	**68.7%**	**69.6%**	**69.9%**

Source: IATA Sustainability and Economics

32 Maersk, Logistics Insights (July 2024).

4.2 Cost developments

Profitability

The year 2023 was a record year for the airline industry in terms of profitability. The operating margin reached 6.8%, the fourth-best result in the past 30 years. All continents and market segments improved, including smaller regional airlines, which typically report thin or negative margins. However, this trend has slowed in 2024. Higher costs across the board, outside of fuel, have led to a deterioration in the operating margin to 6.4%. In absolute terms, this margin remains significantly above the median of 3.7% seen over the past 20 years.

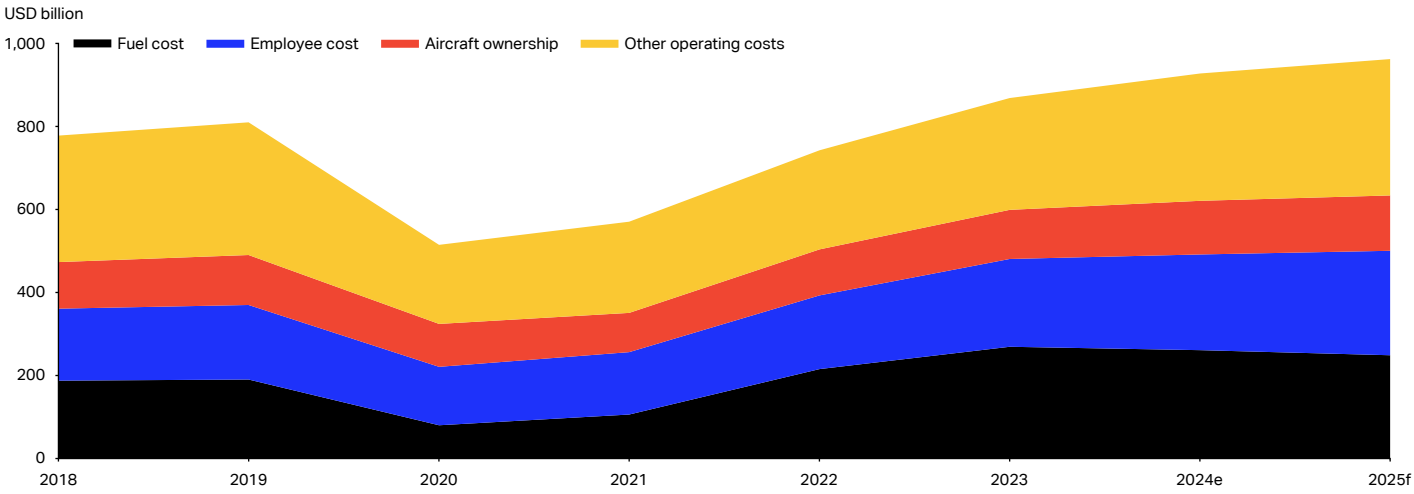
Key cost issues include intense salary pressure and one-off expenses related to several airline employee strikes in 2024 (Chart 22). Additionally, there has been a sharp increase in maintenance costs related to aircraft groundings and an aging global fleet.

On the net profit level, we estimate the margin to drop by 0.6 ppt YoY in 2024 to 3.3% (Table 5). Although such a net margin is comparable with 2019, it is coupled with a 1 ppt higher operating margin than prior to the pandemic. Airlines are currently facing additional non-operating costs related to growing interest rates. Higher interest rates may have reduced margins in the sector by 1% to 2% in 2024 compared to the pre-pandemic era.

Moreover, leasing costs are rising above pre pandemic levels due to supply constraints, which additionally puts pressure on margins.

In 2025, we forecast a slight recovery in profitability with an operating margin of 6.7% (adding 0.3 percentage points YoY). Lower fuel prices and a potentially weaker US dollar should lend support to margins.

Chart 22: Breakdown of costs, pre-tax level, USD billion



Source: IATA Sustainability and Economics using data from Airfinance Global

Table 5: Summary of key financial metrics

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
ROIC, % invested capital	**5.8%**	**-19.3%**	**-8.0%**	**2.0%**	**6.8%**	**6.6%**	**6.8%**
Operating profit, USD billion	**43.1**	**-110.9**	**-43.5**	**11.3**	**61.6**	**61.4**	**67.5**
% margin	5.1%	-28.8%	-8.5%	1.5%	6.8%	6.4%	6.7%
EBITDAR, USD billion	**148.1**	**-27.8**	**37.3**	**105.8**	**158.0**	**165.7**	**177.7**
% margin	17.7%	-7.2%	7.3%	14.3%	17.4%	17.2%	17.6%
Net profit, USD billion	**26.4**	**-137.7**	**-40.4**	**-3.5**	**35.2**	**31.5**	**36.6**
% margin	3.1%	-35.8%	-7.9%	-0.5%	3.9%	3.3%	3.6%
Net profit per passenger, USD	**5.8**	**-77.4**	**-17.5**	**-1.0**	**7.9**	**6.4**	**7.0**

Source: IATA Sustainability and Economics

Cost of capital

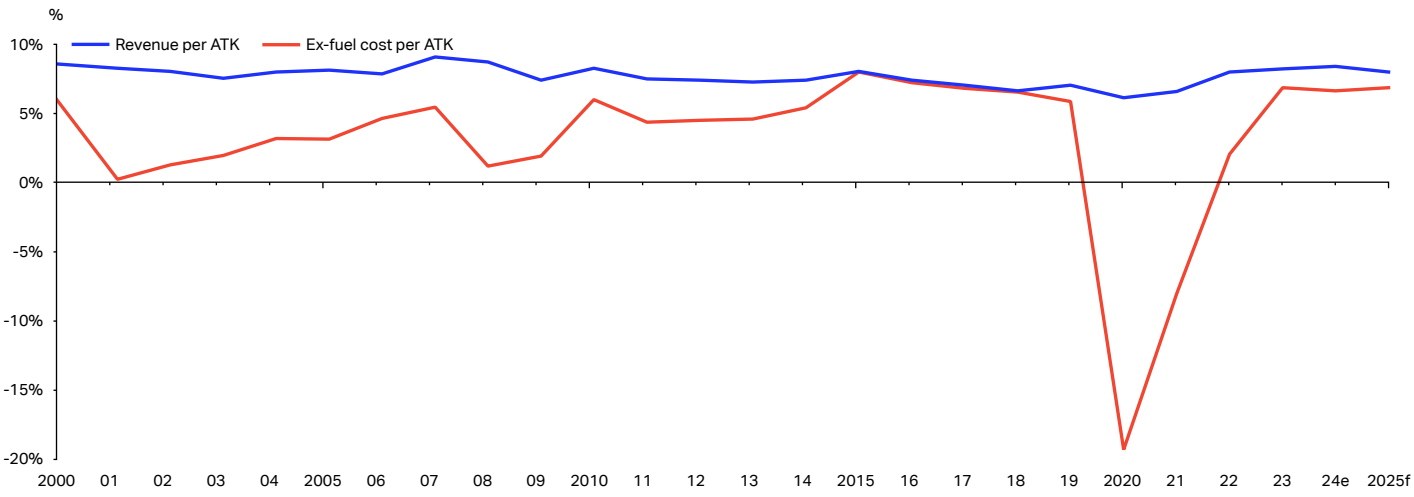
The global airline industry often struggles to deliver returns perceived as attractive to investors. Put another way, the return on invested capital (ROIC) has typically been lower than the weighted average cost of capital (WACC) in the airline industry.

While this trend applies to the global airline sector, it is not necessarily the case for every region or country or market segment. We estimate that ROIC was the highest in Europe, the Middle East, and Latin America, exceeding the WACC level, based on our global historical financial data Conversely, ROIC in North America, Asia & Pacific, and Africa did not exceed the WACC. This is a significant shift compared with the pre-pandemic period when only Europe and North America received returns above the cost of capital.

After hitting a low point in 2020, ROIC returned to positive in 2022 and reached 6.8% in 2023, the highest level since 2017. While this was sufficient to exceed the cost of capital in some previous years, it was insufficient in 2023, as the cost of capital rose to 8.3% on the back of rising interest rates—the highest level in more than a decade.

In 2024, we estimate a drop in ROIC in line with a decline in profitability and the rising tax rate. The decline in ROIC should not be as significant as the decline in profitability, as airlines have managed to reduce their invested capital by repaying a substantial part of the debt from robust cash flows generated in 2023. For 2025 we expect ROIC to increase from 6.6% to 6.8%. Nevertheless, a negative gap persists between ROIC and WACC despite the improvement in the former (Chart 23).

Chart 23: Return on capital invested in airlines globally, 2000-2025f, % of invested capital



Source: IATA Sustainability and Economics using data from Airfinance Global

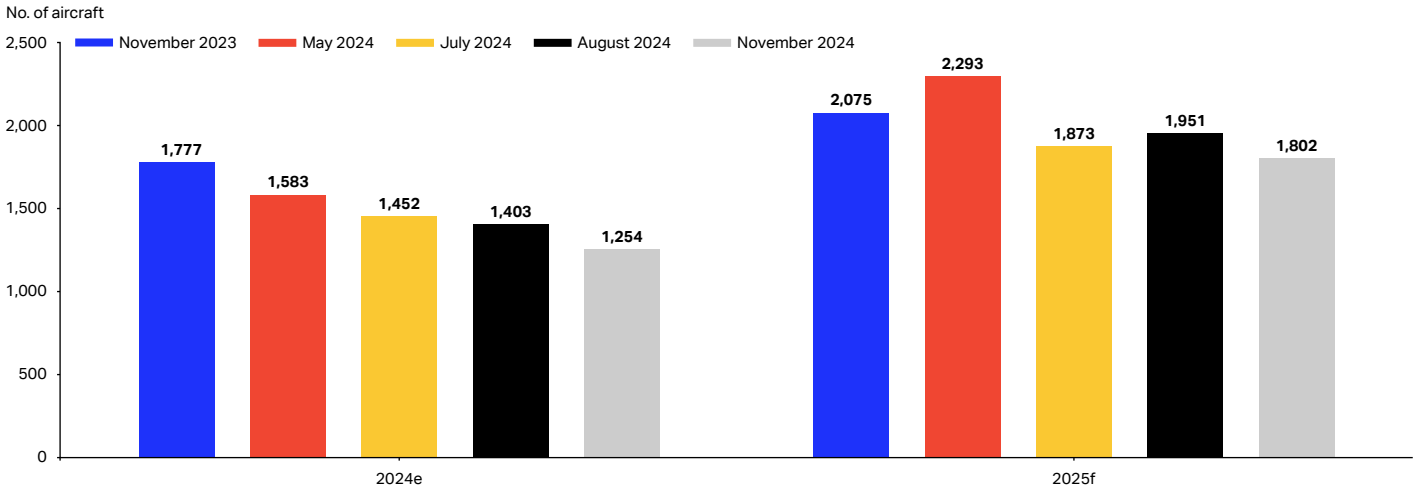
Aircraft and Ownership

Aircraft deliveries in 2024 have fallen well short of expectations and remain far from the peak delivery numbers reported in 2018. The supply issues forced production limits, exacerbated by employee strikes, resulting in major delays in 2024 deliveries. Current projections indicate a total of 1,254 aircraft deliveries in 2024 (Chart 24). This figure falls 30% below the estimate from a year ago.

Looking ahead to 2025, the delivery forecast is optimistic, at 1,802 aircraft deliveries (Chart 24) which would mark a new record high in aviation history. This estimate has been also revised down due to ongoing production problems (the peak estimate for 2025 was 2,293 aircraft). Further downward revisions are quite possible given that supply chain issues are expected to persist in 2025 and beyond.

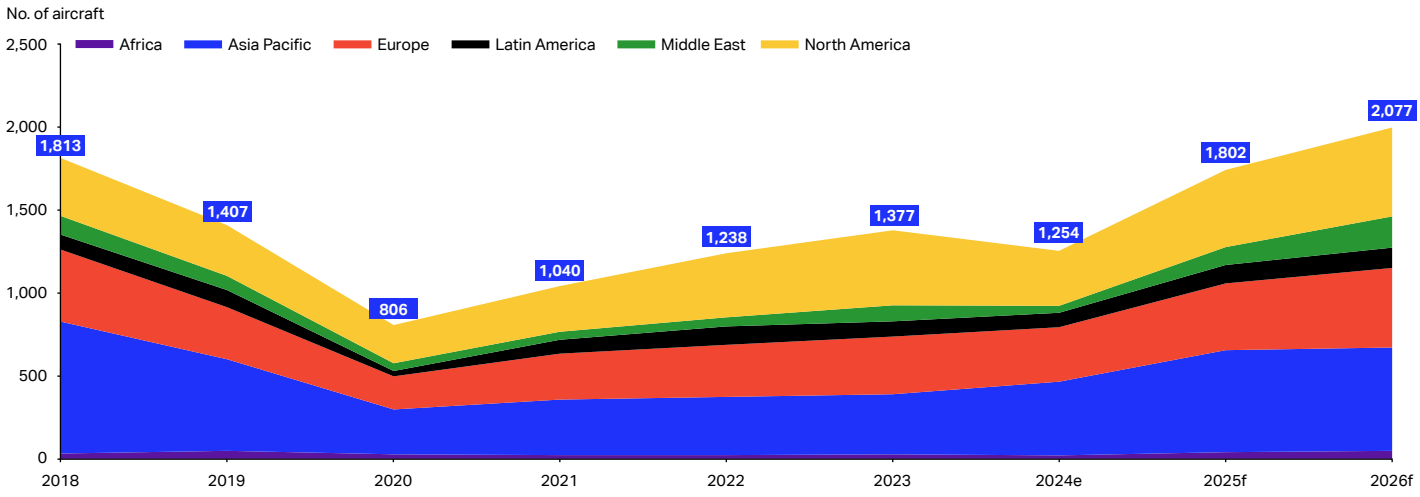
The ongoing delays in deliveries have increased the average age of the global fleet to a record high of 14.8 years, compared to an average age of 13.6 years during 1990-2024. These delays not only result in higher maintenance costs and unplanned retrofits of older aircraft types, but prevent airlines benefiting from improved fuel efficiency, lower CO2 emissions, and improved customer experience. Our estimates indicate that fuel efficiency, measured in liters per 100 ATK remained almost unchanged in 2024 as opposed to a long-term average improvement of 1.5%-2% over the 20-year period before the pandemic (Table 7).

Chart 24: Revision of scheduled aircraft deliveries



Source: Cirium, IATA Sustainability and Economics

Chart 25: Aircraft deliveries by region (placed and scheduled), Cirium estimate



Source: Cirium estimate, November 2024, IATA Sustainability and Economics

The surge in new aircraft orders seen in 2023 is slowly ending, as the backlog (cumulative number of unfilled orders) has reached the highest level in history—17,000 planes. Additionally, production capacity constraints have led to record-long waiting times for the delivery of new aircraft. Assuming present delivery rates, the current backlog will be filled in 14 years. This ratio averaged six years from 2013 to 2019 (Chart 26).

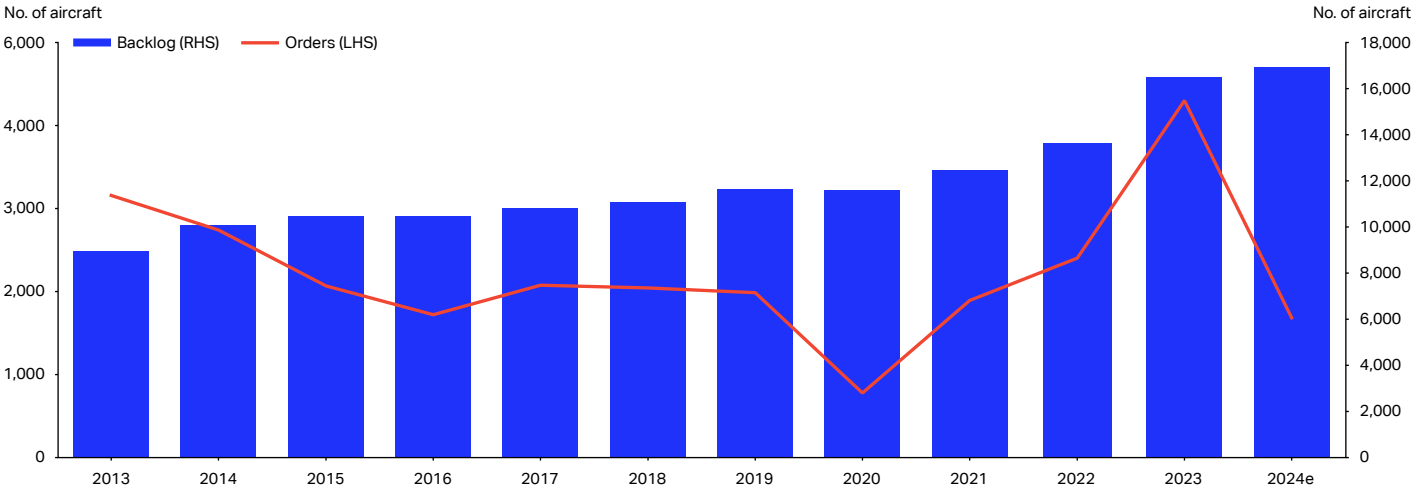
Due to long waiting times, several airlines have stopped ordering new aircraft and are prioritizing the acquisition of any available aircraft to meet growing demand. Strong demand and rising interest rates (Chart 27) have resulted in a sharp increase in leasing rates for used aircraft, which are currently 20% to 30% higher than in 2019. This increase is particularly notable for narrow bodies, where production capacity constraints are most pronounced.

High traffic demand, coupled with capacity constraints, has led to an increased demand for used aircraft, and in turn, to a significant decline in the share of parked fleet, which dropped to 14%, the lowest share since 2019. However, this share is four percentage points above pre-pandemic levels, implying 1,600 more aircraft in storage today compared to 2019. One of the reasons for the higher share of grounded fleets is engine inspections (currently around 700 aircraft, 2% of the global fleet), which might persist in 2025.

However, the number of parked aircraft among types impacted by engine issues has started to drop. Should this trend continue, capacity might quickly increase by around 2% next year, adding some relief to the constrained market. Key beneficiaries may include LCCs, which often utilize single-type fleets, which are commonly dominated by the impacted aircraft types.

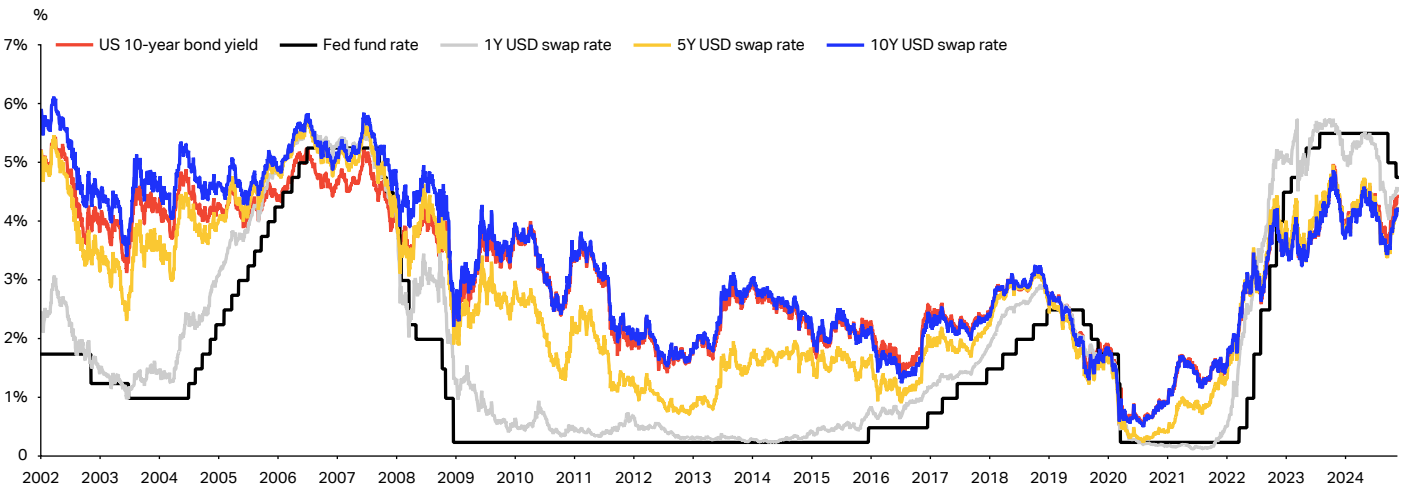
It is also important to note that some parked aircraft might never return to service, especially regional jets, due to a pilot shortage. Furthermore, the average age of some popular narrowbodies and widebodies being parked exceeds 25 years, making their return to service less likely.

Chart 26: Global backlog (cumulative orders) of commercial aircraft and orders placed in a given year



Source: Cirium, IATA Sustainability and Economics

Chart 27: USD interest rates, %



Source: Macrobond, IATA Sustainability and Economics

Labor

The average salary in the airline industry in 2023 was only 16% higher than in 2019, while global inflation over this period totaled 25%. As inflation drove up living expenses, airlines had to increase pay to attract and retain skills. However, recently the growth in wages has outpaced consumer price, which could dampen this trend going forward (Table 6).

Increasing number of employee strikes at airlines and airplane manufacturers caused numerous disruptions in the industry in 2024. Apart from delays in aircraft deliveries and poor passenger experiences, these strikes are significant one-off costs impacting profitability in 2024 and 2025.

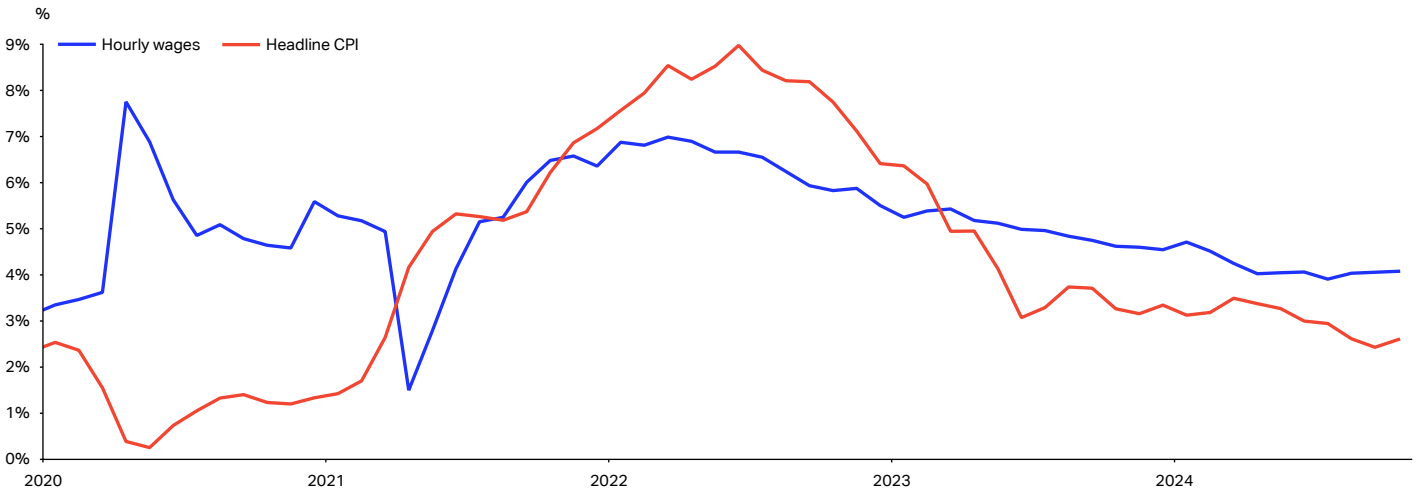
The industry still grapples with a labor shortage, especially among pilots, mechanics, and aircraft maintenance workers. The workforce has been ageing substantially, and there is a lack of younger workers to replace those who are retiring. In the meantime, the unemployment rate in the EU stands at a record low of 6%, while in the US it is around 4%, among the lowest in history. This tight labor market has intensified labor shortages, granting employees and unions more bargaining power.

Table 6: Key industry labor metrics

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
Labor costs, USD billion	**180**	**141**	**150**	**178**	**211**	**235**	**253**
% change YoY	3.5%	-21.5%	6.5%	18.5%	18.8%	11.3%	7.6%
Employment, million	**2.9**	**2.8**	**2.6**	**2.8**	**3.0**	**3.1**	**3.3**
% change YoY	0.3%	-6.2%	-5.5%	7.1%	7.2%	5.0%	4.0%
Productivity, thousand ATK/employee	**525**	**311**	**383**	**437**	**499**	**522**	**537**
% change YoY	2.6%	-40.8%	23.1%	14.0%	14.2%	4.7%	3.0%
Unit labor costs, USD/ATK	**11.7**	**16.5**	**15.1**	**14.6**	**14.2**	**14.4**	**14.5**
% change YoY	0.6%	41.4%	-8.5%	-3.0%	-3.0%	1.3%	0.5%

Source: IATA Sustainability and Economics

Chart 28: US wage growth and inflation, %



Source: IATA Sustainability and Economics, using data from US Bureau of Labor Statistics (BLS)

Jet Fuel

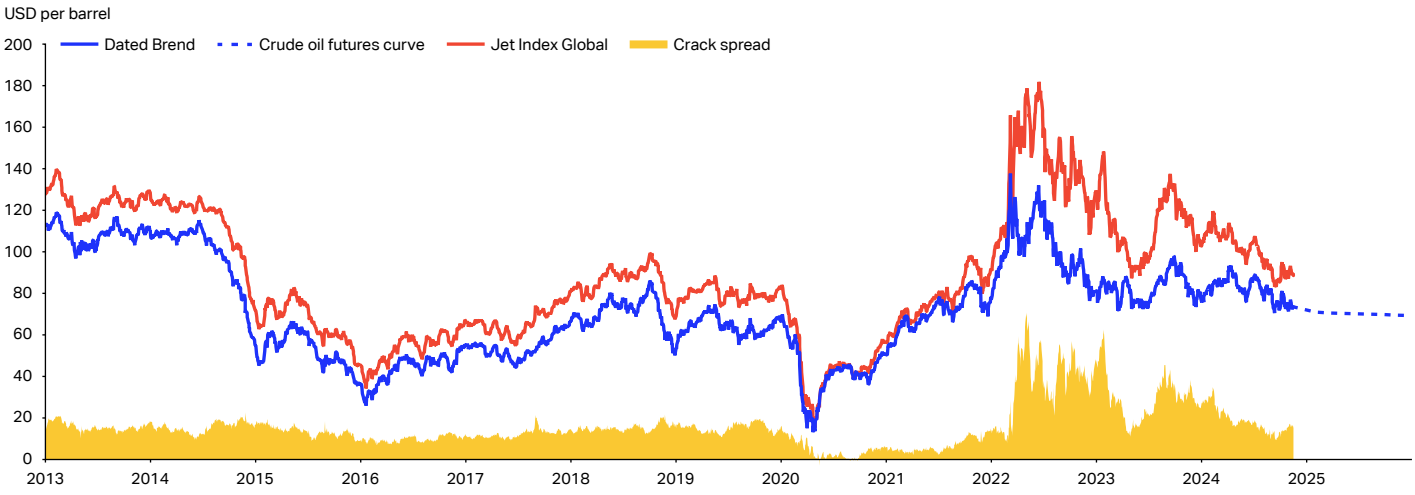
The downward trend in global oil prices has accelerated recently, with Brent crude oil prices falling to USD 70 per barrel in September 2024 for the first time since the outbreak of war in Europe in February 2022.

The average crude oil price in 2023 ended at USD 82.6 per barrel (18% lower YoY), while in 2024, it averages around USD 80 per barrel. Regarding 2025, the futures curve has recently ranged between USD 72 and USD 75 per barrel (Chart 29).

The decline in jet fuel prices has outpaced the decline in crude oil prices. The spread between jet fuel prices and crude oil prices (jet fuel crack spread) has recently narrowed to below USD 20 per barrel, even hitting USD 10 per barrel in September. This is significantly below the 2023 average of USD 30 per barrel and also below the 25-year average of USD 12 per barrel.

Jet fuel prices in 2024 should average at USD 99 per barrel, implying a 12% drop YoY, which may translate into a 3.5% lower cost base for airlines (assuming a 30% share of fuel in the cost base). The delayed effect of hedging implies an additional overhang of a 19% decline in jet fuel price in 2023 that was not passed onto the airlines in that year. In 2025, jet fuel may reach USD 87 per barrel, based on a jet fuel crack spread of USD 12 per barrel and a crude price of USD 75 per barrel.

Chart 29: Brent crude oil price with futures curve, jet fuel price, and jet crack spread, USD per barrel



Source: Platts, ICE, IATA Sustainability and Economics

Table 7: Key industry fuel metrics

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
Fuel spend, USD billion	**190**	**80**	**106**	**215**	**269**	**261**	**248**
% change YoY	1.5%	-58.0%	32.3%	103.6%	25.2%	-3.2%	-4.8%
% of operating costs	23.9%	16.1%	19.0%	29.6%	31.8%	28.9%	26.4%
Fuel use, billion gallon	**96**	**52**	**62**	**76**	**92**	**101**	**107**
% change YoY	2.2%	-45.9%	19.9%	22.9%	20.3%	9.8%	6.0%
Fuel efficiency, liter/100 ATK	**0.24**	**0.23**	**0.24**	**0.24**	**0.23**	**0.23**	**0.23**
% change YoY	-0.6%	-2.7%	3.0%	0.7%	-1.8%	-0.1%	-1.0%
Fuel consumption, liter per 100 km/passenger	**4.2**	**6.6**	**6.5**	**4.8**	**4.3**	**4.2**	**4.1**
% change YoY	-1.8%	58.0%	-1.6%	-25.4%	-12.1%	-1.3%	-1.8%
Fuel market price, USD/barrel	**80**	**47**	**78**	**139**	**112**	**99**	**87**
% change YoY	-7.4%	-41.5%	67.0%	78.1%	-18.9%	-11.9%	-12.1%
Spread over crude oil price, USD/barrel	**15**	**5**	**7**	**38**	**30**	**19**	**12**
CORSIA cost, USD million	**-**	**-**	**-**	**-**	**-**	**700**	**1,000**

Source: IATA Sustainability and Economics

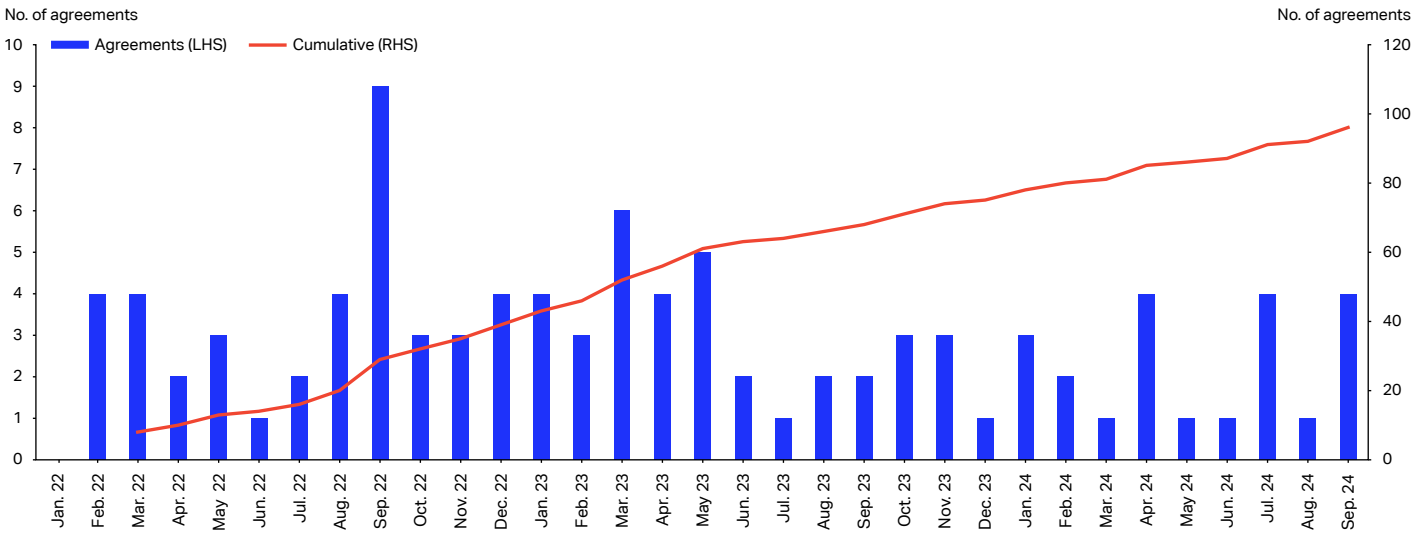
Sustainable Aviation Fuel and CORSIA

Sustainable Aviation Fuel (SAF) is of critical importance in the aviation industry's decarbonizing efforts. How much of the world's total renewable energy production will be in the form of SAF will depend on the production pathway, operators' optimization of the product mix at refineries, and policy drivers. According to our estimates, SAF production has been around 1 Mt in 2024. The airline industry has consumed all of the SAF produced at a hefty price tag of USD 2,350 per tonne (or 3.1x jet fuel) in 2024, adding an incremental USD 1.7 billion to the industry fuel bill. In 2025, we estimate that SAF production could rise to 2 Mt and or 0.6% of airlines' total fuel consumption, adding USD 3.8 billion to the fuel bill at USD 2,500 per tonne (or 3.8x conventional jet fuel).

Over the past two years, the aviation industry has signed 96 SAF offtake agreements to support the ramp-up of SAF production and secure supply (Chart 30). Of these, 70 are binding purchase commitments, and 26 are non-binding. Globally, 70 airlines, three aircraft manufacturers, and one airport publicly announced at least one SAF purchase agreement as of June 2024.

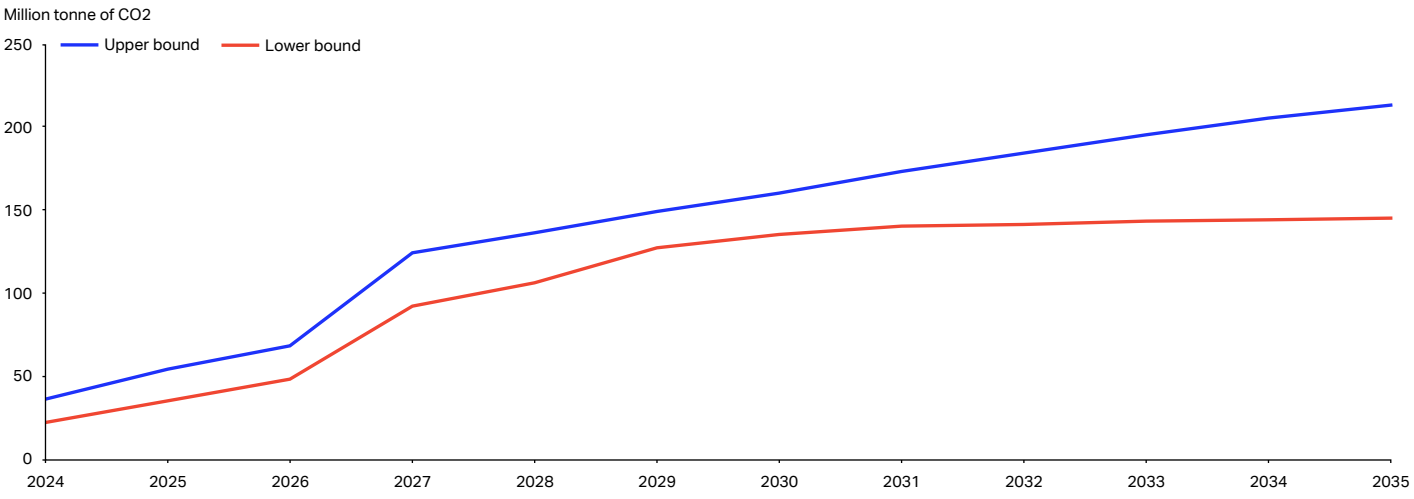
An additional cost will come from the carbon offsetting and reduction scheme for international aviation (CORSIA), a global market-based carbon offsetting mechanism designed to stabilize international aviation emissions. We estimate that the air transport industry will offset between 23 and 37 million tonnes of CO2 under CORSIA in 2024, costing airlines between USD 460 million and USD 925 million. For 2025 we forecast that the industry will offset between 36 and 55 million tonnes of CO2 at a cost USD 540 million and USD 1,375 million price range (Chart 31). In our forecast we use the mid-point of these two estimates (Table 7).

Chart 30: Number of SAF offtake agreements, as of June 2024



Source: IATA Sustainability and Economics

Chart 31: CORSIA offsetting requirements forecast (Sep24), million tonnes of CO2



Source: IATA Sustainability and Economics

4.3 Regions

Africa is estimated to have generated a modest yet encouraging net profit of approximately USD 0.1 billion in 2024. The region faces inherently high operational costs and a low propensity for air travel expenditure. A significant issue is a shortage of US dollars in some economies which, along with infrastructure and connectivity challenges hinder the airline industry's expansion and performance. Despite these obstacles, there is sustained demand for air travel, which is expected to help improve the region's profitability marginally from 0.8% in 2024 to 0.9% in 2025 (Table 8).

Asia Pacific is the largest market in terms of RPK, with China accounting for over 40% of the traffic. The region is experiencing an RPK growth rate of 18.6% and the industry has welcomed recent relaxations in visa requirements in several Asian countries, particularly China, Vietnam, Malaysia, and Thailand. However, the region is facing financial challenges due to overcapacity in China and restrictions on flights to the US, which are limited to 100 per week, down from 150 before the covid pandemic. Supply chain issues persist in this big market. Most major Chinese airlines reported net losses in the first half of 2024. Furthermore, after a significant recovery in yields in 2023, fares in the Asia Pacific have been falling at the fastest pace in the world in 2024. The third quarter brought more encouraging news when three major Chinese airlines reported net profit. Substantial investments in high-speed rail in China present both challenges and opportunities. While high-speed trains compete with short-haul domestic travel, they may generate feeder traffic to airports. We estimate a net profit for the region in 2024 at USD 3.2 billion, which corresponds to a 1.3% margin. In 2025, we expect profitability to improve further on the back of still-strong traffic growth and increasing load factors. This should bring the net profit to USD 3.6 billion, implying a 1.4% net margin (Table 8).

The **Middle East** is expected to achieve a solid financial performance in 2024, likely recording a net profit of around USD 5.3 billion (Table 8) and a 7.7% net profit margin. Middle Eastern carriers established their global position a decade ago but turned profitable only after the covid pandemic. They have benefitted from the region's robust economic performance, strong investment activity, and from the closure of Russian airspace to European airlines. Moreover, airlines in the region benefit from the lowest jet fuel prices in the world and run a more profitable long-haul network coupled with a high share of premium fares. Consequently, the region's airlines now have the highest net profit per passenger. The region continues to make significant infrastructure investments, and the long-term industry outlook remains strong. The Middle East was the only region to experience an increase in passenger yields in 2024. However, yields may stabilize in 2025 due to the expected expansion of FSCs and LCCs in the region. Despite the escalation of the conflict in Gaza, the Gulf carriers remained largely unaffected. This region has ambitious growth targets for 2025. However, delays in aircraft deliveries and engine availability issues could put a dent in those plans.

Europe has been facing numerous challenges in 2024, including rising wages, fleet groundings, noise-related flight restrictions, and increasing airport charges and national taxes. Economic growth has been sluggish, lagging the US and China. The ongoing war in Ukraine has continued to affect air transport in several ways. Currently, 20% of the European airspace remains closed, and the withdrawal of overflight rights over Russia for most Western airlines has resulted in significant rerouting of long-haul flights to Asia. Several European airlines have cut connections to China as they could not compete with non-European careers who retained overflight rights. This leads us to expect that net profits will decrease slightly to USD 10.0 billion in 2024, representing a net margin of 3.9% (Table 9). However, 2025 should benefit from healthy growth in RPKs at 7%, helped by the expansion of LCCs, as they turn their back on the 2024 peak in fleet groundings.

Latin America has seen a steady improvement in its financial performance since 2020. However, the performance of airlines across the region has been quite varied. While some airlines are thriving, others are facing significant financial difficulties, including being in or coming out of Chapter 11 bankruptcy proceedings. Latin America features several large domestic and short-haul markets, with prices set in local currencies. Many airlines encountered difficulties when certain local currencies depreciated against the US dollar. Despite achieving good operational results, debt servicing continues to pose a challenge. The net profit in 2024 is projected to reach USD 1.0 billion (Table 9), which would be broadly stable compared to the previous year. This figure is expected to improve in 2025 to USD 1.3 billion, thanks to the conclusion of several Chapter 11 proceedings and more favorable exchange rate movements.

North America continues to dominate in terms of absolute net profit results. However, it is the only region that has not yet fully recovered to pre-pandemic profitability levels. The weaker performance is mainly attributable to the LCC segment, which continues to lag since the pandemic. The low-cost business model has faced significant challenges, including fleet groundings and delivery delays. The slower next-gen aircraft deliveries and reliance on single aircraft types has particularly affected this segment. Additionally, rising wages have reduced LCC's competitive advantage against network carriers. Budget airlines are now seeking high-margin revenue streams to offset increasing expenses. This shift is prompting them to move away from their "no frills" models and attract customers willing to pay more for enhanced travel experiences. We now expect net profits to reach USD 11.8 billion in 2024, which implies a margin of 3.6% compared to an operating margin of 6.8% in 2019. For 2025, we forecast a slight recovery, projecting net profits at USD 13.8 billion and an operating margin of 4.2%, as several negative one-off events in 2024, including employee strikes and IT issues, will also affect 2025 (Table 9).

Table 8: Regional financial performance

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
Africa							
Operating profit, USD billion	**0.1**	**-1.0**	**-0.5**	**-0.4**	**0.5**	**0.6**	**0.6**
Operating margin	1.0%	-16.9%	-6.8%	-3.1%	3.6%	3.5%	3.7%
Net profit, USD billion	**-0.3**	**-1.8**	**-1.1**	**-0.8**	**0.1**	**0.1**	**0.2**
Net profit margin	-1.8%	-30.0%	-14.6%	-7.0%	0.5%	0.8%	0.9%
Per passenger, USD	**-2.2**	**-48.9**	**-20.5**	**-8.1**	**0.6**	**0.9**	**1.0**
RPK growth, %	**4.7%**	**-68.2%**	**17.0%**	**84.3%**	**36.5%**	**13.5%**	**8.0%**
ASK growth, %	**4.5%**	**-62.1%**	**18.5%**	**51.4%**	**35.6%**	**11.7%**	**7.7%**
Load factor, % ATK	**56.6%**	**48.8%**	**50.5%**	**60.0%**	**61.4%**	**61.1%**	**61.3%**
Asia Pacific							
Operating profit, USD billion	**8.4**	**-33.9**	**-12.7**	**-11.6**	**10.1**	**9.5**	**9.9**
Operating margin	3.3%	-29.6%	-9.7%	-7.2%	4.3%	3.9%	3.8%
Net profit, USD billion	**4.9**	**-45.0**	**-13.4**	**-13.8**	**3.1**	**3.2**	**3.6**
Net profit margin	1.9%	-39.3%	-10.2%	-8.6%	1.3%	1.3%	1.4%
Per passenger, USD	**2.9**	**-58.2**	**-16.9**	**-14.3**	**2.0**	**1.8**	**1.8**
RPK growth, %	**4.7%**	**-62.0%**	**-12.8%**	**32.3%**	**96.0%**	**18.6%**	**11.7%**
ASK growth, %	**4.4%**	**-53.8%**	**-6.1%**	**15.5%**	**75.1%**	**15.2%**	**10.8%**
Load factor, % ATK	**73.4%**	**65.0%**	**64.5%**	**66.2%**	**68.7%**	**70.3%**	**70.9%**
Middle East							
Operating profit, USD billion	**-1.9**	**-7.2**	**-6.8**	**3.9**	**8.0**	**8.0**	**8.9**
Operating margin	-3.2%	-25.9%	-20.7%	7.2%	12.4%	11.7%	12.4%
Net profit, USD billion	**-1.5**	**-9.6**	**-4.4**	**2.4**	**5.6**	**5.3**	**5.9**
Net profit margin	-2.6%	-34.7%	-13.4%	4.4%	8.6%	7.7%	8.2%
Per passenger, USD	**-7.9**	**-163.4**	**-58.9**	**14.6**	**27.7**	**23.1**	**23.9**
RPK growth, %	**2.3%**	**-72.1%**	**8.5%**	**144.4%**	**32.4%**	**10.2%**	**9.5%**
ASK growth, %	**0.1%**	**-63.0%**	**21.2%**	**67.2%**	**24.7%**	**9.9%**	**9.2%**
Load factor, % ATK	**63.9%**	**54.9%**	**54.9%**	**62.7%**	**63.3%**	**64.3%**	**64.4%**

Source: IATA Sustainability and Economics using data from Airfinance Global

Table 9: Regional financial performance

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
Europe							
Operating profit, USD billion	**10.0**	**-25.4**	**-11.2**	**7.6**	**16.0**	**15.3**	**18.8**
Operating margin	4.8%	-31.2%	-10.4%	3.9%	6.8%	6.0%	7.0%
Net profit, USD billion	**6.1**	**-34.2**	**-12.5**	**5.2**	**11.3**	**10.0**	**11.9**
Net profit margin	2.9%	-42.0%	-11.6%	2.7%	4.8%	3.9%	4.4%
Per passenger, USD	**5.1**	**-88.5**	**-24.1**	**5.3**	**9.9**	**8.2**	**9.2**
RPK growth, %	**4.2%**	**-69.5%**	**27.5%**	**103.9%**	**20.3%**	**8.7%**	**7.0%**
ASK growth, %	**3.5%**	**-62.3%**	**29.8%**	**69.6%**	**16.0%**	**8.6%**	**6.5%**
Load factor, % ATK	**74.0%**	**64.4%**	**65.7%**	**74.3%**	**76.0%**	**76.3%**	**76.5%**
Latin America							
Operating profit, USD billion	**1.1**	**-4.6**	**-2.4**	**-0.7**	**5.4**	**6.1**	**6.6**
Operating margin	2.9%	-30.0%	-11.0%	-1.9%	12.0%	12.1%	12.1%
Net profit, USD billion	**-0.7**	**-12.3**	**-7.0**	**-3.5**	**1.0**	**1.0**	**1.3**
Net profit margin	-1.8%	-80.2%	-32.0%	-9.5%	2.2%	2.1%	2.4%
Per passenger, USD	**-2.4**	**-114.5**	**-43.7**	**-13.1**	**3.2**	**3.2**	**3.8**
RPK growth, %	**4.2%**	**-62.5%**	**40.5%**	**62.9%**	**16.8%**	**8.5%**	**8.0%**
ASK growth, %	**3.0%**	**-59.0%**	**37.3%**	**54.4%**	**14.4%**	**8.3%**	**7.9%**
Load factor, % ATK	**68.8%**	**65.1%**	**67.4%**	**68.9%**	**69.4%**	**69.7%**	**69.8%**
North America							
Operating profit, USD billion	**25.4**	**-38.8**	**-9.9**	**12.6**	**21.5**	**21.9**	**22.7**
Operating margin	9.6%	-27.9%	-4.7%	4.5%	6.9%	6.7%	6.8%
Net profit, USD billion	**17.9**	**-34.7**	**-1.9**	**7.2**	**14.1**	**11.8**	**13.8**
Net profit margin	6.8%	-24.9%	-0.9%	2.6%	4.5%	3.6%	4.2%
Per passenger, USD	**16.5**	**-83.5**	**-2.7**	**7.2**	**12.9**	**10.3**	**11.8**
RPK growth, %	**4.0%**	**-65.1%**	**74.6%**	**45.7%**	**15.1%**	**5.3%**	**3.0%**
ASK growth, %	**2.9%**	**-50.3%**	**41.1%**	**28.7%**	**14.0%**	**5.1%**	**2.8%**
Load factor, % ATK	**66.1%**	**52.4%**	**59.3%**	**64.2%**	**65.0%**	**65.5%**	**65.5%**

Source: IATA Sustainability and Economics using data from Airfinance Global

5. Appendix

5.1 Industry statistics

Table 10: Industry statistics

Global airline industry	2019	2020	2021	2022	2023	2024E	2025F
Segment passengers, million	**4,560**	**1,779**	**2,304**	**3,472**	**4,439**	**4,893**	**5,221**
O-D passengers, million	3,974	1,570	2,017	2,962	3,808	4,216	4,477
Flights, million	37.5	19.7	24.2	29.0	35.7	38.2	40.0
Passenger growth, RPK, % YoY	4.1%	-65.8%	21.8%	64.9%	36.8%	11.2%	8.0%
Cargo growth, CTK, % YoY	-3.2%	-9.9%	18.8%	-8.1%	-1.7%	11.8%	6.0%
Capacity growth, ATK, % YoY	3.3%	-44.3%	16.6%	19.7%	21.7%	9.9%	7.1%
Total load factor, % ATK	70.1%	59.8%	61.9%	67.2%	68.7%	69.6%	69.9%
Passenger load factor, % ASK	82.6%	65.2%	66.9%	78.7%	82.2%	83.0%	83.4%
World economic growth, real, % YoY	2.8%	-2.7%	6.6%	3.6%	3.3%	3.2%	3.2%
CPI, world, % YoY	3.5%	3.2%	4.7%	8.7%	6.7%	5.8%	4.3%
Revenues, USD billion	**838**	**384**	**513**	**738**	**908**	**965**	**1,007**
% change YoY	3.2%	-54.1%	33.4%	44.1%	23.0%	6.2%	4.4%
Passenger, USD billion	607	189	242	437	646	678	705
Cargo, USD billion	101	140	210	206	139	149	157
Ancillary and other, USD billion	130	55	61	95	124	137	145
Passenger ticket yield, % YoY	-3.7%	-9.1%	4.9%	9.7%	8.0%	-5.6%	-3.7%
Passenger total yield, % YoY	-1.4%	-1.4%	2.0%	7.4%	5.8%	-4.7%	-3.4%
Cargo yield, % YoY	-8.2%	54.7%	25.9%	7.0%	-31.8%	-3.7%	-0.7%
Revenue per ATK, USD cents	54	45	51	61	61	59	58
% change YoY	0.3%	-17.4%	14.6%	18.0%	0.5%	-3.4%	-2.5%
Expenses, USD billion	**-795**	**-495**	**-556**	**-727**	**-847**	**-903**	**-940**
% change YoY	3.8%	-37.7%	12.3%	30.8%	16.4%	6.7%	4.0%
Fuel, USD billion	-190	-80	-106	-215	-269	-261	-248
% of expenses	23.9%	16.1%	19.0%	29.6%	31.8%	28.9%	26.4%
Crude oil price, Brent, USD/barrel	65	42	71	101	83	81	75
Jet fuel price, USD/barrel	80	47	78	139	112	99	87
Fuel consumption, billion gallons	96	52	62	76	92	101	107
Non-fuel, USD billion	-605	-415	-450	-512	-578	-643	-692
Cost per ATK excl. fuel, USD cents	39	49	45	42	39	39	39
% change YoY	1.6%	23.7%	-6.8%	-6.9%	-7.9%	1.3%	0.5%
EBITDAR, USD billion	**148.1**	**-27.8**	**37.3**	**105.8**	**158.0**	**165.7**	**177.7**
% EBITDAR margin	17.7%	-7.2%	7.3%	14.3%	17.4%	17.2%	17.6%
Operating profit, USD billion	**43.1**	**-110.9**	**-43.5**	**11.3**	**61.6**	**61.4**	**67.5**
% operating margin	5.1%	-28.8%	-8.5%	1.5%	6.8%	6.4%	6.7%
Net profit, USD billion	**26.4**	**-137.7**	**-40.4**	**-3.5**	**35.2**	**31.5**	**36.6**
% net profit margin	3.1%	-35.8%	-7.9%	-0.5%	3.9%	3.3%	3.6%
per departing passenger, $	5.8	-77.4	-17.5	-1.0	7.9	6.4	7.0
Return on invested capital, %	**5.8%**	**-19.3%**	**-8.0%**	**2.0%**	**6.8%**	**6.6%**	**6.8%**

Source: IATA Sustainability and Economics
Note: Bankruptcy reorganization and large non-cash one-off costs are excluded. Includes all commercial airlines. Historical data are subject to revision.
Updated: 12/2024 – Next update: 06/2025

Table 11: Regional financial results

Global airline industry	Operating margin, % of revenue					Net profit, USD billion				
	2021	2022	2023	2024E	2025F	2021	2022	2023	2024E	2025F
Global	-8.5%	1.5%	6.8%	6.4%	6.7%	-40.4	-3.5	35.2	31.5	36.6
Regions										
Africa	-6.8%	-3.1%	3.6%	3.5%	3.7%	-1.1	-0.8	0.1	0.1	0.2
Asia Pacific	-9.7%	-7.2%	4.3%	3.9%	3.8%	-13.4	-13.8	3.1	3.2	3.6
Europe	-10.4%	3.9%	6.8%	6.0%	7.0%	-12.5	5.2	11.3	10.0	11.9
Latin America	-11.0%	-1.9%	12.0%	12.1%	12.1%	-7.0	-3.5	1.0	1.0	1.3
Middle East	-20.7%	7.2%	12.4%	11.7%	12.4%	-4.4	2.4	5.6	5.3	5.9
North America	-4.7%	4.5%	6.9%	6.7%	6.8%	-1.9	7.2	14.1	11.8	13.8

Source: IATA Sustainability and Economics

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

Updated: 12/2024 – Next update: 06/2025

Table 12: Regional traffic results

Global airline industry	Passenger traffic (RPK)					Passenger capacity (ASK)				
	% change versus previous year					% change versus previous year				
	2021	2022	2023	2024E	2025F	2021	2022	2023	2024E	2025F
Global	21.8%	64.9%	36.8%	11.2%	8.0%	18.7%	40.1%	31.1%	10.1%	7.5%
Regions										
Africa	17.0%	84.3%	36.5%	13.5%	8.0%	18.5%	51.4%	35.6%	11.7%	7.7%
Asia Pacific	-12.8%	32.3%	96.0%	18.6%	11.7%	-6.1%	15.5%	75.1%	15.2%	10.8%
Europe	27.5%	103.9%	20.3%	8.7%	7.0%	29.8%	69.6%	16.0%	8.6%	6.5%
Latin America	40.5%	62.9%	16.8%	8.5%	8.0%	37.3%	54.4%	14.4%	8.3%	7.9%
Middle East	8.5%	144.4%	32.4%	10.2%	9.5%	21.2%	67.2%	24.7%	9.9%	9.2%
North America	74.6%	45.7%	15.1%	5.3%	3.0%	41.1%	28.7%	14.0%	5.1%	2.8%

Source: IATA Sustainability and Economics

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

Updated: 12/2024 – Next update: 06/2025

5.2 Glossary

ACTK	Available Cargo Tonne-Kilometers
ASK	Available Seat-Kilometers
ATJ	Alcohol-to-Jet
ATK	Available Tonne-Kilometers
BBL	Barrel
BLF	Breakeven Load Factor
CLF	Cargo Load Factor
CORSIA	Carbon offsetting and reduction scheme for international aviation
CTK	Cargo Tonne-Kilometers
EBIT	Earnings before interest and taxes
GDP	Gross Domestic Product
HEFA	Hydro-processed Esters and Fatty Acids
LCC	Low-cost carriers
LF	Load Factor
MMBtu	Million British thermal units
MoM	Month-on-month
NGL	Natural Gas Liquids
OEM	Original Equipment Manufacturer
OPEC	Organization of the Petroleum Exporting Countries
O-D	Origin-Destination
PAX	Passengers
PLF	Passenger Load Factor
PMI	Purchasing Managers' Index
PtL	Power-to-Liquid
PPP	Purchasing power parity
ppt	Percentage points
RPK	Revenue Passenger-Kilometers
RTK	Revenue Tonne-Kilometers
SA	Seasonally adjusted
SAF	Sustainable Aviation Fuel
QoQ	Quarter-on-quarter
USD	United States Dollar
YoY	Year-on-year
YTD	Year-to-date

Route areas abbreviations

AE	Africa – Europe
AF	Africa – Far East
AM	Africa – Middle East
CS	Central America/Caribbean – South America
EC	Europe – Central America/Caribbean
EF	Europe – Far East
EM	Europe – Middle East
EN	Europe – North America
ES	Europe – South America
FN	Far East – North America
FP	Far East – Southwest Pacific
MF	Middle East – Far East
MN	Middle East – North America
NC	North America – Central America/Caribbean
NS	North America – South America
PS	North/South America – Southwest Pacific
WC	Within Central America
WE	Within Europe
WF	With Far East
WS	Within South America

Notes

North America: Bermuda, Canada, St. Pierre and Miquelon, United States including Alaska and Hawaii, but excluding Puerto Rico and United States Virgin Islands

Central America/Caribbean: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Granada, Guadeloupe, Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Monserrat, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, St. Kitts-Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad & Tobago, Turks and Caicos Islands, United States Virgin Islands

South America: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela.

Europe: Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faeroe Islands, Finland, France, Georgia, Germany, Greece, Greenland, Hungary, Iceland, Ireland (Republic of), Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia (former Republic of Yugoslavia), Malta, Moldova, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

Middle East: Bahrain, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen

Northern Africa: Algeria, Egypt, Libya, Morocco, Sudan, Tunisia.

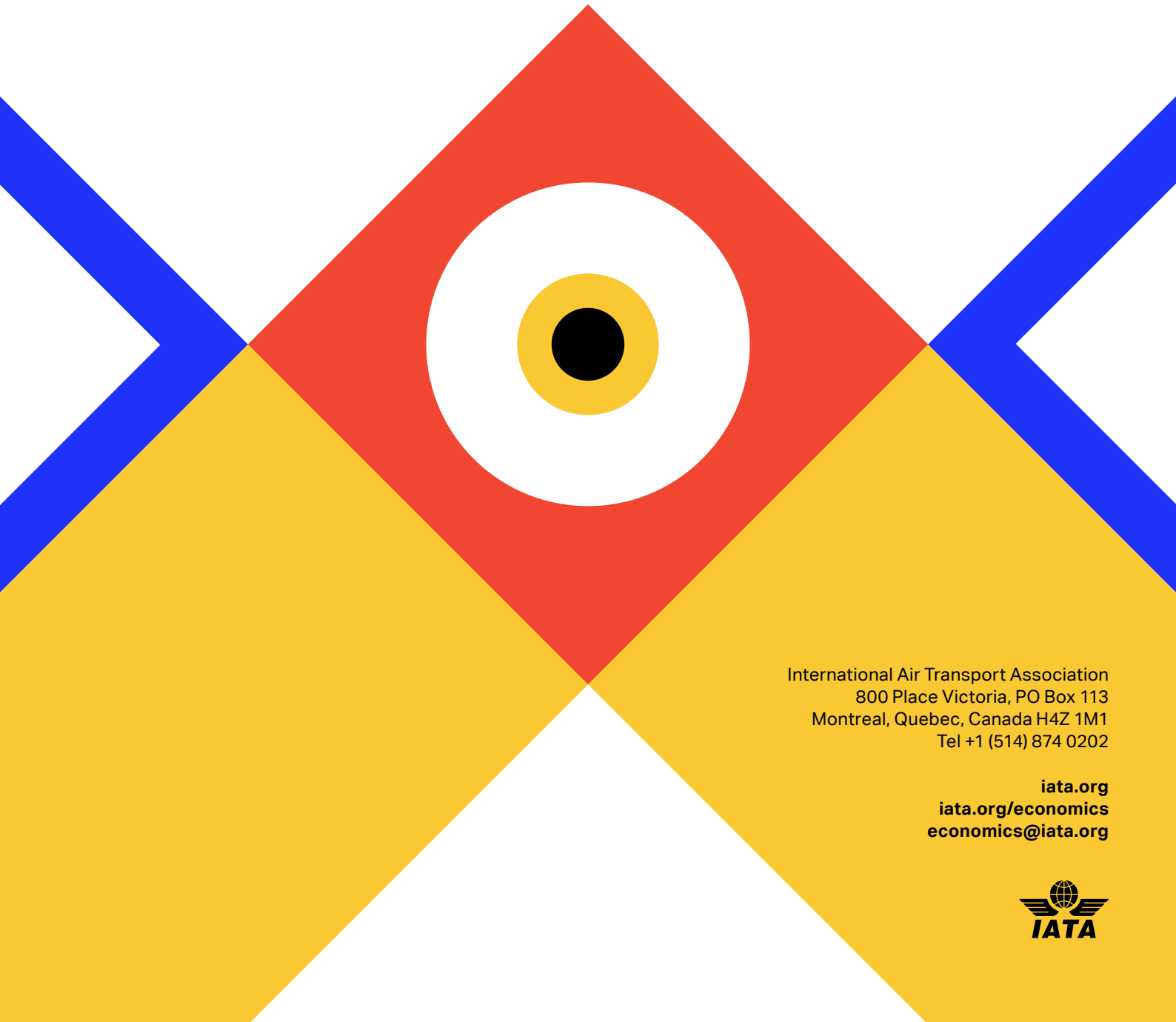
Southern Africa: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Eritrea, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Sao Tome & Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe.

Far East: Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, People's Republic of China, Hong Kong (SAR, China), India, Indonesia, Japan, Kazakhstan, Korea (Democratic People's Republic of), Korea (Republic of), Kyrgyzstan, Lao People's Democratic Republic, Macao (SAR, China), Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Chinese Taipei, Tajikistan, Thailand, Timor Leste, Turkmenistan, Uzbekistan, Vietnam.

Southwest Pacific: American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia, Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, United States Minor Outlying Islands, Vanuatu, Wallis & Futuna Islands.

5.3 List of charts

5.4 List of tables



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