

The background of the entire page is a dark blue-tinted photograph of an airplane. On the right side, a large jet engine is prominently featured, showing its complex internal fan blades. To the left, the fuselage of the aircraft is visible, with several windows and structural details. In the lower-left corner, a ground support vehicle and a few people walking on the tarmac are visible, providing a sense of scale and activity at an airport.

CFRA

Industry Surveys

Airlines

DECEMBER 2022

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NEW THEMES



What's Changed: We expect U.S. airlines will see healthy volume and revenue growth continue in 2023 as business and international travels continue to recover. Read more on this on pages 13-14.



What's Changed: We think European airlines will see better airfare pricings in the near to medium term. However, we see a risk of curtailed travel demand and airfare pricings if Europe slides into a deeper-than-anticipated recession. Check out pages 17-18.

EXECUTIVE SUMMARY

CFRA has a neutral fundamental outlook on the Airlines industry for 2023. We expect an industry downturn to continue in 2023 for most airline markets, hit by the expansion challenges due to higher capacity-related cost. For U.S. airlines, we expect revenue trends to remain strong in 2023, but profit growth could be limited by higher costs. As for China, we expect cross-border passenger traffic to see small-scale improvements given China's less aggressive Covid-19 control policy pivot.

Global Capacity Growth and Air Traffic Demand Plunge

According to data from the International Air Transport Association (IATA), worldwide airlines' revenue passenger kilometers (RPK) and available seat kilometers (ASK) remained weak in October 2022 at -25.8% and -25.7% of October 2019's level, respectively. It is difficult to say with any certainty when air traffic will return, but CFRA expects that with improving consumer confidence, air traffic demand and capacity will gradually bounce back in 2023 as the impact of the virus fades; however, fundamental travel demand will remain broadly weak given the limited visibility for sustainable border reopening.

U.S. Airlines Generating Record Revenues Despite Severe Capacity Constraints

U.S. air travel made a strong recovery during 2022 as the pandemic tapered. U.S. passenger volume for the month of October 2022 was 95% of October 2019 level, with record domestic leisure volume partially offset by still recovering business and international volumes, by CFRA's estimates. Notably, 2022 volume has been limited by shortages of pilots, planes, and other assets after the pandemic downsizings of 2020-2021, and with severe labor and equipment shortages plaguing the aviation industry in 2022. The result has been a severely capacity-constrained environment for U.S. airlines, with industry revenues for third-quarter 2022 up an estimated 14% vs. third-quarter 2019 despite industry capacity still down roughly 10%. We expect U.S. airlines will continue to generate healthy revenue growth in 2023 from 2022's record levels, as advanced booking trends remained unusually robust entering the typically slow Winter season, and industry capacity should steadily improve. CFRA also expects U.S. international travel lanes to continue recovering during 2023, and that the fast-growing category of work-leisure trips (made possible by remote work) will more than offset any permanent drop in traditional business travel post-pandemic.

More Airports and More Than Just Airports

IATA reported that there are more than 200 airports worldwide with inadequate capacity to meet demand at all hours of the day. In the long run, we think broader development should focus on better integration between airports and overland transportation, such as high-speed rail networks, to improve transit efficiency in and out of the airports. In our opinion, complacency in existing infrastructure is the key limitation in many developed markets.

Chinese Airlines Set to Top the Global Aviation Market

According to IATA's latest 20-Year Passenger Forecast, passenger volume in the Asia-Pacific region is projected to register a compound annual growth rate of 4.5% from 2019 through 2040, outperforming global growth of 3.3%. The shift of anchor aviation market to China has accelerated through the Covid-19 pandemic, backed by the country's strong domestic market.

More Consolidated Market Will Benefit European Airline Industry

In contrast to North America, the European airline industry remains highly fragmented, which explains its relatively lower profitability. Breakeven load factors are high in Europe as stiff competition (especially in the short- and medium-haul segment) and high regulatory costs have resulted in lower passenger yields. As a result, many smaller airlines have been unprofitable and facing cash flow issues. The Covid-19 crisis has resulted in bankruptcies of smaller and uncompetitive airlines. We believe that a more consolidated market will benefit the European airlines, though we think that consolidation will take a longer time due to national interests keeping certain airlines afloat via state aids.

AIRLINES

Outlook: Neutral

MARKET CAP BREAKDOWN*

RANK NO.	COMPANY NAME	MARKET CAP (\$ billion)
1	Southwest Airlines	25.9
2	Delta Air Lines	23.7
3	Air China	22.6
4	United Airlines	18.3
5	China Southern Airlines	16.9
	Others†	194.3

Source: CFRA, S&P Global Market Intelligence.

*Data as of November 30, 2022.

†Refer to the "Comparative Company Analysis" section of this survey for the list of companies.

BY THE NUMBERS

63%
of the world's population are fully vaccinated against Covid-19 as of November 2022

82%
Global passenger load factor in October 2022

-25.8%
Y/Y October 2022 global air traffic vs. 2019 represented by RPK

91.2%
Increase in jet fuel prices in the first 10 months of 2022

-13.6%
Y/Y global cargo tonne kilometers in October 2022

428 and 647
Q3 2022 YTD net orders for Boeing and Airbus, respectively

ETF FOCUS

JETS U.S. Global Jets	AUM (\$M) 2,183.5	Expense Ratio 0.60
IYT iShares Transportation Average	AUM (\$M) 772.4	Expense Ratio 0.39
XTN SPDR S&P Transportation	AUM (\$M) 423.5	Expense Ratio 0.35

HISTORICAL INDEX PERFORMANCE



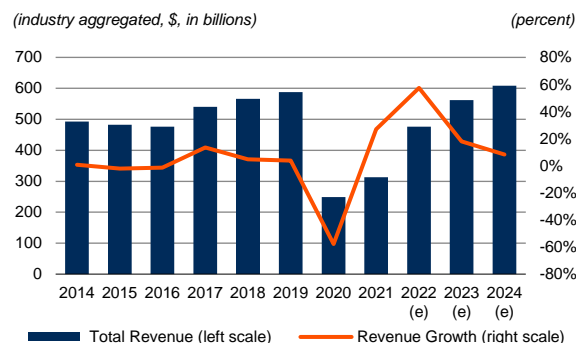
Data through November 30, 2022.

*Market-cap weighting of U.S., European, and Asia-Pacific airlines listed in the "Comparative Company Analysis" section of the survey.

Source: CFRA, S&P Global Market Intelligence.

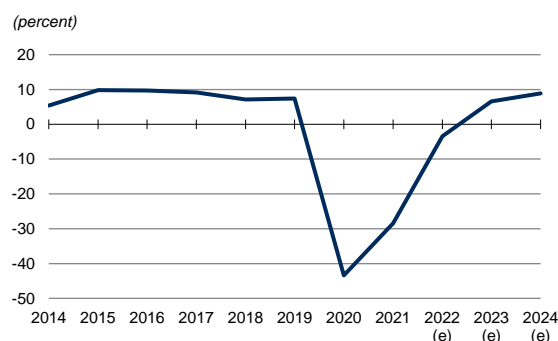
FINANCIAL METRICS

Revenue Growth



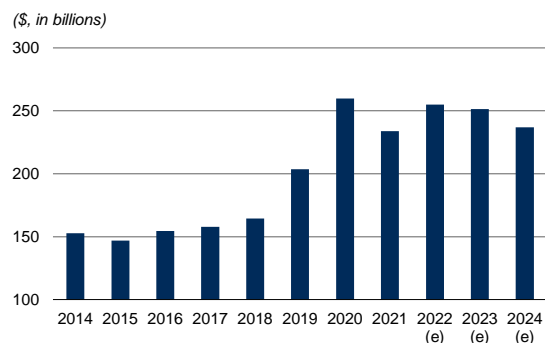
- ◆ We see meaningful revenue recovery from 2022 through 2024 as air travel demand continues to show resiliency recovering from the pandemic. However, we see risk to the recovery if a severe recession hits North America and European regions.
- ◆ After a couple of depressed years, air travel demand is expected to rebound strongly in 2022. IATA forecasts global air traffic to grow 69.4% in 2022 (and more than double 2020's level), followed by a 21.1% growth in 2023.

EBIT Margin



- ◆ CFRA expects EBIT margin to turn positive in 2023 and 2024, largely driven by an improvement in passenger yields and increase in passenger counts. However, CFRA thinks profit growth could be severely limited by much higher labor, fuel, and equipment costs vs. pre-pandemic as airlines try to grow capacity amid severe labor and equipment shortages in the U.S. and Europe.
- ◆ The consensus sees the industry's EBIT margin to remain in negative territory at -3.4% in 2022, despite a recovery, before recovering to 6.6% and 8.9% in 2024.

Total Net Debt



- ◆ Airlines' net debt has risen significantly since the pandemic, lifted by their need to support fixed costs such as aircraft maintenance, depreciation, rental, and personnel costs.
- ◆ We expect the total debt to decrease in 2023 and 2024 as operating profits recover and pandemic debt is gradually paid down. Current high interest rate regimes will provide strong incentive for airlines to pay down debt rather than refinance at higher rates, in our view.
- ◆ The consensus sees the net debt to increase to \$255 billion in 2022, versus \$234 billion in 2021, before decreasing to \$251 billion in 2023 and \$237 billion in 2024.

KEY INDUSTRY DRIVERS

Consumer Confidence Index

(US: 2016=100, Europe: Long-Term Average=100; China: 2006=100)



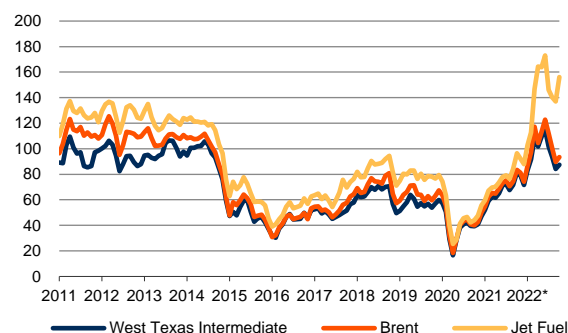
*Data through October, data for China through September.

Source: The Conference Board, OECD, National Bureau of Statistics of China.

- ◆ In September 2022, the Consumer Confidence Index (CCI) in the U.S. improved 2.9% Y/Y, while the CCI of OECD-Europe experienced a 12-month straight decline over concerns about the war in Ukraine and sky-high energy prices.
- ◆ The CCI for China also declined 28.1% Y/Y in September 2022 on the back of property downturn, slower economic growth, and prolonged Covid-19 lockdowns.

Fuel Costs

(\$ per barrel, \$ per gallon for Jet Fuel)



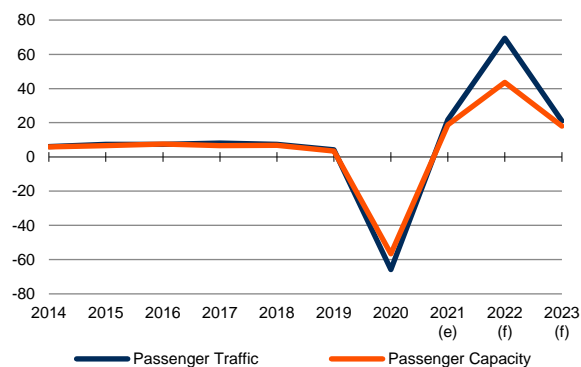
*Data through October 2022.

Source: U.S. Energy Information Administration.

- ◆ In October 2022, the U.S. West Texas Intermediate (WTI) averaged \$87.6 per barrel (bbl), up 7.6% from the prior-year period. Likewise, the price of Brent crude oil increased 11.7% to an average of \$93.3/bbl. Jet fuel continues to rally, increasing 61.8% Y/Y on the back of strong demand and high oil prices.
- ◆ WTI crude prices are expected to average \$95.88/bbl in 2022 and \$89.33/bbl in 2023, while Brent crude prices are forecast to average \$102.13/bbl in 2022 and \$95.33/bbl in 2023, according to the forecast released by the U.S. Energy Information Administration on November 8, 2022.

Global Airline Traffic Growth

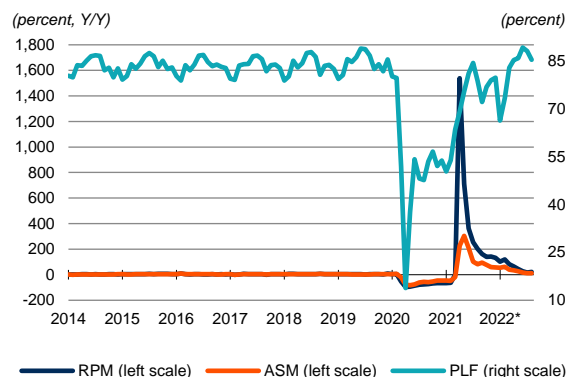
(percent, Y/Y)



Source: International Air Transport Association.

- ◆ Global commercial airline passenger traffic, represented by revenue passenger kilometers (RPK), is expected to increase by 69.4% in 2022 and 21.1% in 2023. According to IATA, North America is expected to turn to profitability, while the other regions are expected to operate under losses in 2022.
- ◆ Meanwhile, passenger capacity, represented by available seat kilometers (ASK), is expected to improve 43.6% in 2022 and 18.0% in 2023. After taking cargo into account as well, the overall weight load factor is forecast to rise to 67.5% in 2022 and 68.9% in 2023 – below the 68.3% to be break-even on profitability in 2022 and 68.6% in 2023, according to IATA.

U.S. Airline Traffic Statistics

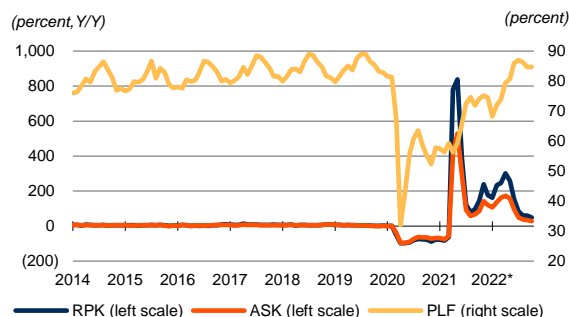


*Data through August.

Source: U.S. Bureau of Transportation Statistics.

- ◆ IATA expects North America revenue passenger kilometers (RPK) to improve 51.9% in 2022 and 51.9% in 2023, compared to -69.5% in 2020 and 74.7% in 2021.
- ◆ U.S. passenger volumes improved from April 2020 lows as the country lifted domestic travel restrictions. Revenue passenger miles (RPM) saw a rebound to \$88 million in August 2022 from -\$2.9 million in April 2020.
- ◆ In August 2022, U.S. available seat miles (ASM) rebounded to 103 million versus 21 million in April 2020. As a result, the passenger load factor (PLF) rose to 85.3% in August 2022 versus 13.8% in April 2020.

European Airline Traffic Statistics

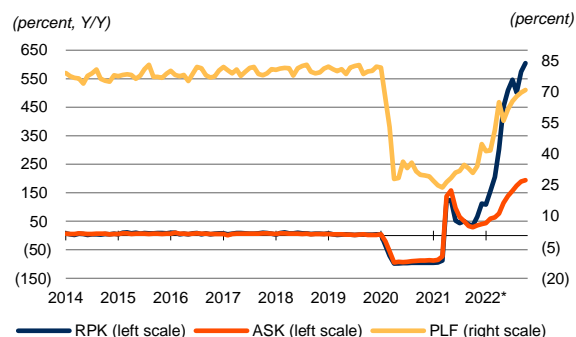


*Data through October.

Source: International Air Transport Association.

- ◆ IATA expects European RPK to improve 109.6% in 2022 and 8.9% in 2023, compared to -69.5% in 2020 and 27.5% in 2021.
- ◆ European RPK rebounded 48.7% Y/Y in October 2022, from -98.1% in April 2020. Meanwhile, passenger capacity (ASK) also improved 28.1% in October, leading to a PLF of 84.8% during the same period.

Asia-Pacific Airline Traffic Statistics

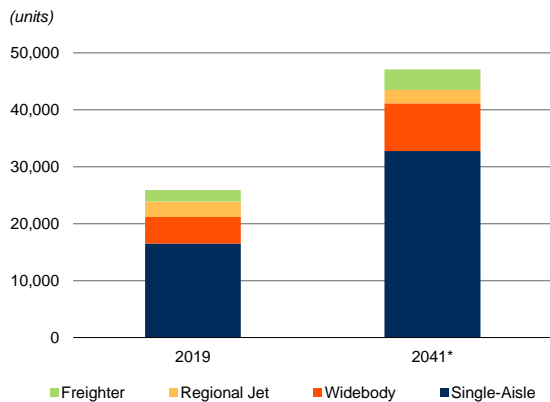


*Data through October.

Source: Association of Asia Pacific Airlines.

- ◆ IATA expects Asia-Pacific RPK to improve 33.6% in 2022 and 59.8% in 2023, following -62% in 2020 and -12.8% in 2021.
- ◆ Asia-Pacific airlines' RPK in October 2022 improved 604.7% Y/Y versus a 98.1% decline recorded in April 2020. Passenger capacity increased 194.3% in October from a 94.6% decline in April 2020, while PLF also improved to 70.8% during the same period.

World Aircraft Fleet Forecast

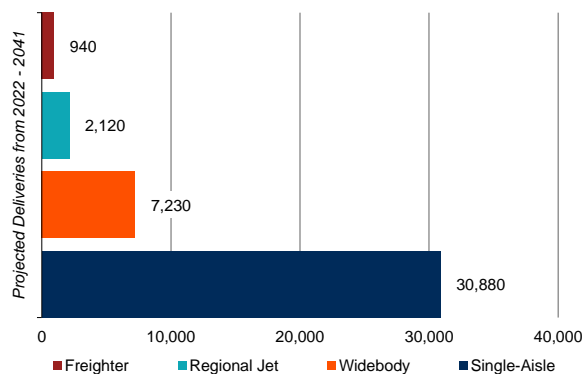


*Forecast.

Source: Boeing's "Commercial Market Outlook 2022-2041".

- ◆ The global aircraft fleet is projected to grow at a CAGR of 2.9% over the 22-year period ending 2041, from 25,900 in 2019 to 47,080 by 2041, according to Boeing's 2022-2041 Commercial Market Outlook.
- ◆ The Asia-Pacific region is likely to achieve the highest fleet growth at 4.2%, followed by the Middle East at 4.1% by 2041. In terms of fleet size, the Asia-Pacific region is expected to expand the most, adding 11,140 aircraft by 2041.
- ◆ The share of single-aisle airplanes is expected to increase from 64% in 2019 to 70% by 2041 due to the fast growth of low-cost carriers (which favor single-aisle airplanes) and stronger demand from airlines operating in emerging markets.

Total New Airplane Deliveries



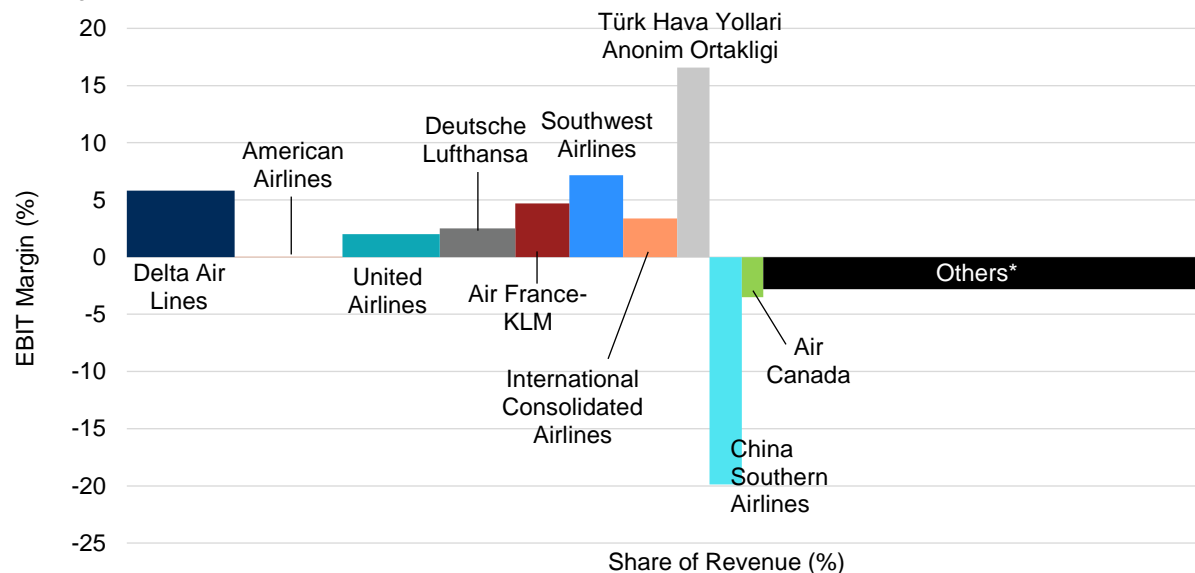
Source: Boeing's "Commercial Market Outlook 2022-2041".

- ◆ An estimated 41,170 aircraft are expected to be delivered globally from 2022 to 2041. Boeing's 2022 forecast showed that 49% of overall deliveries would involve replacements over the next 20 years. Despite the disruption from Covid-19, Boeing expects replacements will account for 51% by the end of 2041.
- ◆ Asia-Pacific, Europe, and North America, which control nearly 87% of global low-cost carrier (LCC) capacity, are expected to account for 86% of all single-aisle airplane deliveries from 2022 through 2041, according to Boeing.

INDUSTRY TRENDS

PROFIT-POOL MAP OF AIRLINES INDUSTRY

(trailing twelve months data ended third quarter of 2022)



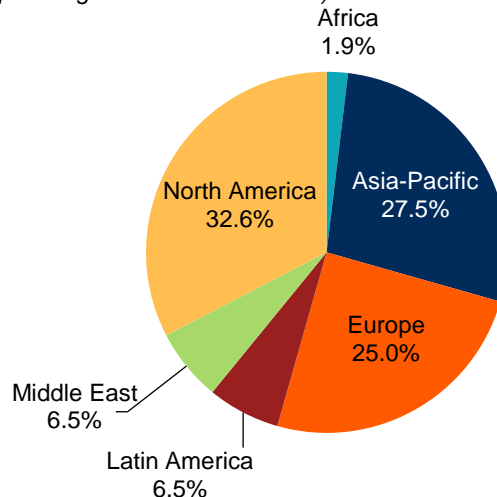
*Refer to the “Comparative Company Analysis” section of this survey for companies in the industry.

Source: CFRA, S&P Global Market Intelligence.

During the pre-pandemic period, a significant portion of the profit pool was captured by leading U.S.-based carriers, driven by the strong U.S. dollar and increased economies of scale. However, the Covid-19 crisis changed the profit picture. Out of the 54 airlines under our analysis, the four largest airlines in the U.S. (American Airlines, Delta Air Lines, United Airlines Holdings, and Southwest Airlines) collectively accounted for 35.4% of total revenues in the last 12 months ended third quarter of 2022. In terms of earnings before interest and tax (EBIT) margins, our universe of global airlines registered negative EBIT margins in the last 12 months ended third quarter of 2022.

REGIONAL MARKET SHARE

(based on industry's revenue passenger kilometers in 2022*)



*As of October 2022.

Source: International Air Transport Association.

As depicted above, the Asia-Pacific, European, and North American regions collectively accounted for 85.1% of the global airline market share. As such, this survey will focus on the landscape of the airline industry in these regions.

Competitive Environment

Below, we use the Porter's Five Forces framework as a tool to analyze the competitive environment of the global airline industry.

Porter's Five Forces Analysis	
Threat of New Entrants or New Entry (Low to Moderate)	<p>Barriers to entry are low to moderate due to the ease of leasing planes to start an airline, which significantly reduces initial investment. However, building up to scale and succeeding is extremely difficult as the industry is broadly capital-intensive and highly competitive. To establish itself as a viable competitor, a new entrant must secure airport slots and invest in marketing and promotion activities. Additional hurdles include absolute cost advantages, government policies and regulations, operational licensing, access to suppliers (such as Boeing and Airbus), product distinction, and brand loyalty. Over the past decade, new airlines have rarely survived. The number of airline bankruptcy cases in the U.S. and Europe (including Wow Airlines, Via Airlines, and California Pacific Airlines) reflects the tough operating environment in these regions. In addition, full-service carriers (FSCs) have attempted to break into low-cost segments but have not seen fruitful contributions due to the intense competition.</p>
Bargaining Power of Suppliers (Low to Moderate)	<p>The bargaining power of aircraft manufacturers is low to moderate. Recently, Boeing and Airbus have seen a spike in jetliner cancellations as airlines had revised their fleet plans in response to the Covid-19 travel slump. However, CFRA thinks the fleet revision is only temporary and this duopoly will have stronger bargaining power once travel demand recovers. The biggest growth market, China, is stepping up the deployment of planes made by Commercial Aircraft Corp. (Comac), the state-owned aircraft manufacturer. Comac's single-aisle C919 is designed to compete with the Boeing 737 and Airbus A320. As such, Boeing and Airbus must manage their offerings competitively to cater to airlines that operate in a highly price-sensitive passenger market. In addition, airlines that operate a single type of aircraft (such as AirAsia Group) will be able to enjoy economies of scale by arranging for lower procurement costs at the expense of aircraft manufacturers. Nevertheless, airlines have entrenched reasons to stay with their historic aircraft maker. First, changing planes requires retraining pilots and sourcing for different parts, which are costly. Second, Boeing and Airbus have multi-year backlogs of aircraft orders, meaning switching to a new supplier generally can't be done in the near term. Although there is a risk of new order withdrawal or deferral due to Covid-19 disruption, airlines will still need to focus on replacing older passenger airplanes with new fleet as travel demand recovers. For other suppliers, providing inflight meals, maintenance, and repair and overhaul (MRO), airlines have enjoyed low switching costs as these suppliers typically offer similar products or services.</p>

Bargaining Power of Customers (High)	Buyers/customers also have relatively strong bargaining power. For budget travelers, switching airlines is a question of how much value they can extract from the ticket prices they pay for flying. Real-time price comparison enables customers to make quick decisions, while airlines have trouble managing the resulting fragmented demand. However, corporate travelers are often members of a specific airline's loyalty/points program and may be more likely to favor that airline as a result, especially if they can personally keep points accrued from business travel.
Degree of Rivalry/Competition (High)	The airline industry is highly competitive . The industry is segmented into full-service carriers (FSCs) and low-cost carriers (LCCs), where major firms in both segments offer a wide variety of different value-added packages, loyalty programs, and destination networks. Price wars, where dominant carriers push down ticket prices to fill seats and expand market share, are common. The industry also suffers from thin margins, given the inherent volatility of the business (including jet fuel prices and seasonal demand). Companies can position themselves through product innovation and flexible pricing. In recent years, airlines have re-engineered flying classes (such as premium economy, basic economy, and flatbed) to enhance the use of cabin space and attract a new generation of more-informed consumers. Both LCCs and major airlines have squeezed more seats into the cabin at the expense of seat dimensions and legroom, achieving lower cost per available seat mile. However, unlike LCCs, FSCs are exposed to the risk of public scrutiny for excessive cost-cutting measures.
Threat of Substitutes (Moderate)	The threat of substitutes is moderate . Travelers must consider several factors when deciding their mode of transportation, such as the travel distance and availability of airports and/or train stations. Air transportation typically has the shortest traveling time, and the average price of air tickets has declined in recent years, driven by the proliferation of LCCs that lower ticket prices to fill empty seats. Thus, it might be cheaper to fly than to take a bus or train. Air transportation remains the primary mode of transportation to travel within the Asia-Pacific region due to underdeveloped cross-border railway networks. Overland trips in the region are subject to additional limitations like time, vehicle eligibility, and safety.

Operating Environment

Global Airline Industry Takes a Beating from Covid-19

The world's airlines and other aviation businesses are not likely to see a strong return in demand any time soon, as the recovery so far has been mainly from short-distance domestic travels, while the demand for more lucrative medium and long-distance flights remains muted. The International Air Transport Association (IATA) projects North America to be the only region to return to profitability in 2022 due to its large domestic market, while Asia-Pacific, Europe, Latin America, and the Middle East operate at losses. Worldwide passenger demand, in terms of RPK, is expected to improve 97.6% in 2022 (down 17.6% versus 2019), supported by the ramp-up of vaccinations and easing Covid-19 shocks. The International Monetary Fund (IMF) projects the global economy will grow by 3.2% in 2022, roughly 0.4 percentage point down the forecast made in January 2022, affected by the cost-of-living crisis, tightening financial conditions in most regions, Russia's invasion of Ukraine, and the lingering Covid-19 pandemic.

Domestic air travel still leads the recovery in all regions, so countries with large domestic markets and faster vaccination ramp up are expected to have faster recovery than other parts of the world. According to IATA, North America is forecast to record a net profit of \$8.8 billion in 2022, while other regions are projected to record narrower net losses compared to 2021.

In China, its domestic air traffic had been hit by a surge in Covid-19 cases, triggering stricter lockdowns under China's zero Covid-19 policy. While China's latest relaxed stance on Covid-19 control should provide some much needed support to domestic passenger traffic, we think the damage to domestic passenger traffic in 2022 has been done at this point, as China has remained largely restricted throughout 2022 due to the "zero Covid-19 policy" on a resurgence of Covid-19. That said, we should see domestic air traffic rebound and sustain through the first half of 2023 given China's pivot from zero Covid-19 policy.

The Landscape of the U.S. Commercial Airline Industry

The U.S. airline industry (the majors, nationals, and large regionals) generated total operating revenues of \$131.3 billion in the first half of 2022, up 7.9% compared to the first half of 2019, according to the U.S. Department of Transportation (DOT). Based on domestic revenue passenger miles, American Airlines is the largest U.S. airline with a market share of 17.9% from September 2021 to August 2022, followed by Delta Air Lines with 17.1%, Southwest Airlines with 17.0%, and United Airlines with 15.0%.

U.S. AIRLINE MARKET SHARE LEADERS <i>(based on domestic revenue passenger-miles; 12 months ended August 2022, in percent)</i>		
RANK NO.	COMPANY NAME	MARKET SHARE (%)
1	American	17.9%
2	Delta	17.1%
3	Southwest	17.0%
4	United	15.0%
5	Alaska	5.9%
6	JetBlue	5.3%
7	Spirit	4.8%
8	Frontier	3.2%
9	SkyWest	3.1%
10	Hawaiian	1.8%
	Other	8.9%

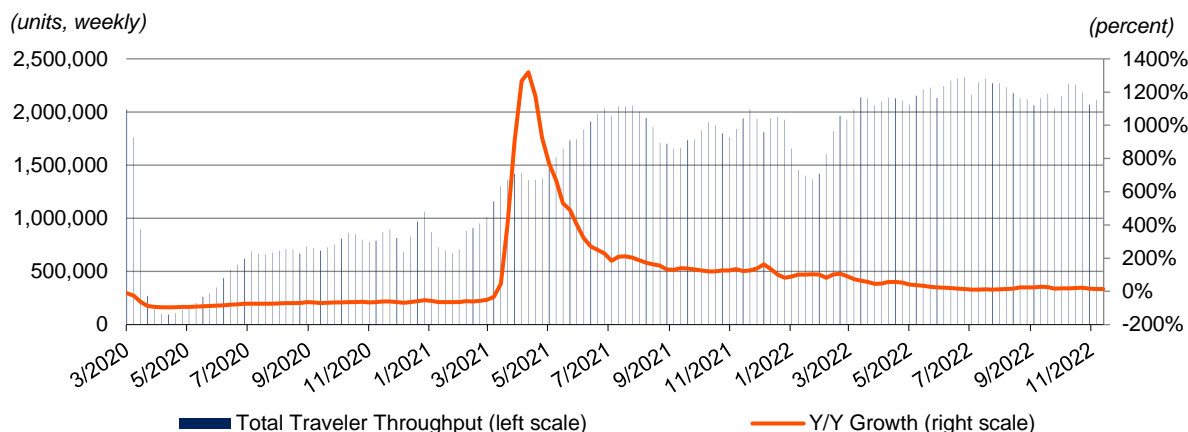
Source: U.S. Bureau of Transportation Statistics.

As Covid-19 vaccines and natural immunity lessened the severity of the pandemic over time, a pent-up demand boom for travel was unleashed in Spring 2022. However, even by late 2022, governments of some key international markets for U.S. airlines, such as China, were still requiring onerous Covid-19 testing and quarantine protocols before entry, limiting recoveries in international lanes. Additionally, some businesses are not spending on employee travel as much as they did before the pandemic, finding that virtual meetings can often suffice. These dynamics have led to a divergence in the recoveries for U.S. domestic leisure travel, for which we estimate passenger volumes set new records during Spring and Summer 2022, versus business and international travel, which are still below pre-pandemic peak levels, by our estimate.

Overall, total U.S. air passenger volume steadily recovered from down around 30% vs. 2019 levels (Y/3Y) at the start of 2022, to down just 5% Y/3Y for the month of October 2022 with an upward trend heading into Winter 2022/2023. The record U.S. domestic leisure passenger counts were being offset by still-recovering business and international travel volumes during the fourth quarter of 2022, in our view.

However, despite its less than full recovery in passenger volumes, the U.S. airline industry generated record revenues during the third quarter of 2022 (up 14% Y/3Y). This dynamic of lower volume but higher revenue was caused by robust air travel demand coming up against severe pilot and aviation equipment shortages that limited the capacity recovery, leading to record U.S. air fare prices that more than offset the passenger volume shortfall.

WEEKLY U.S. AIR PASSENGER VOLUME SINCE 2019



*Data through November 19, 2022.

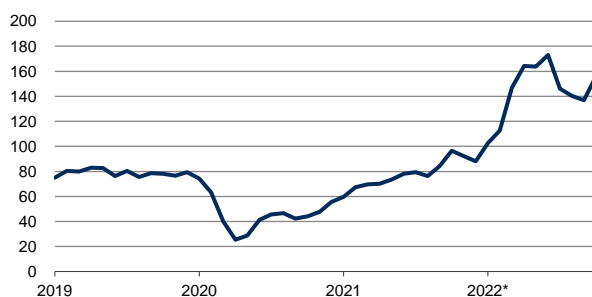
Source: Transportation Security Administration.

We expect U.S. airlines will see healthy volume and revenue growth continue in 2023 as business and international travels continue to recover, aided by a relatively new category of work-leisure trips offsetting much of the loss of traditional business travel. Work-leisure trips are a fast-growing category for U.S. airlines as more of the U.S. labor force works remotely post-pandemic. CFRA also expects U.S. airline industry capacity will steadily improve during 2023 as more pilots are trained up and as new plane deliveries from Boeing and Airbus are able to ramp up on an improving supply chain environment.

While most U.S. airlines were generating record revenues in Spring and Summer 2022, their net profits were not nearly as robust as they would have been with pre-pandemic fuel, labor, and debt costs. The figures below show how much more airlines are paying for jet fuel this year vs. 2019, with the October 2022 average price per gallon up 100% vs. October 2019. Further, aggregate debt for U.S. airlines at the third quarter of 2022 was up an estimated \$54 billion vs. year-end 2019, materially adding to their interest expenses. Refinancing these debts is also becoming materially more expensive as interest rates rise. Given these large cost increases vs. pre-pandemic, we expect it will take until the second half of 2024 or later for most U.S. airlines to match record revenues with record profits.

KEROSENE-TYPE JET FUEL PRICES

(\$ per gallon)

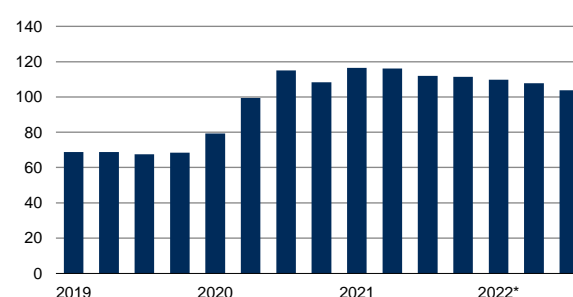


Data through October.

Source: U.S. Energy Information Administration.

TOTAL DEBT OF PUBLICLY TRADED U.S. AIRLINES

(industry aggregated, \$, in billions)



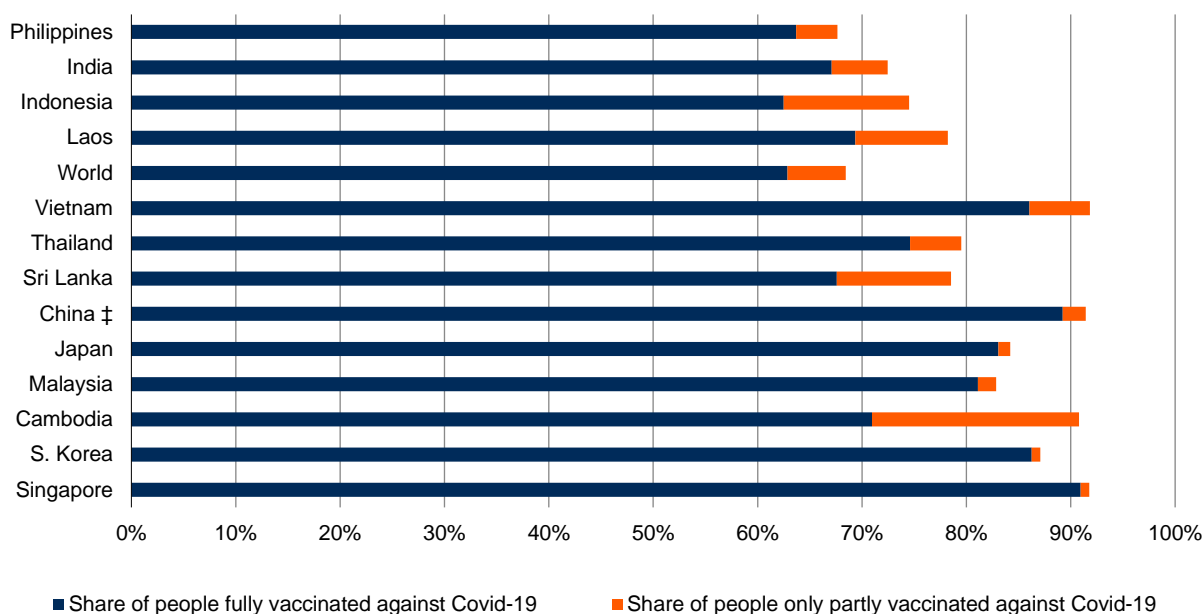
*Data through Q3 2022.

Source: U.S. Energy Information Administration.

to passenger load factor increasing to 70.8%. As the Covid-19 pandemic continues to crater demand for air travel, Asia-Pacific carriers only transported 74.4 million international passengers in the first 10 months of 2022, an increase compared to the prior-year period by 448.7%, though at a very low base (down 77.3% Y/Y vs. 2019).

CFRA expects selective Asian airlines to undergo initial recovery in the second half of 2022, albeit at a slower pace, backed by targeted border reopening in Japan, Malaysia, Thailand, and Singapore. We believe a key driver to Asia-Pacific airlines would be the vaccination rate. As of November 23, 2022, most of the major APAC markets have vaccination rates above 75%, compared to the world's average of 68.5%. We expect the recovery to continue in 2023, but largely offset by Covid-19 outbreak and strict and prolonged travel restrictions in China, despite a recent relaxation in those restrictions.

SHARE OF PEOPLE VACCINATED AGAINST COVID-19*



* Data as of November 23, 2022. If no data available for November 23, showing closest available data point.
Source: Our World in Data (OWID).

ASIA-PACIFIC CARRIERS' INTERNATIONAL PASSENGER TRAFFIC

YEAR	REVENUE		AVAILABLE		PASSENGER
	PASSENGER KILOMETERS		SEAT KILOMETERS		LOAD FACTOR
	(in billions)	(% change)	(in billions)	(% change)	(in percent)
2022*	319.5	443.3	450.9	133.1	70.8
2021	76.5	30.1	239.0	23.5	32.0
2020	272.0	(80.6)	446.7	(74.2)	60.9
2019	1,402.2	5.4	1,732.2	5.0	80.9
2018	1,329.9	7.8	1,649.9	6.9	80.6
2017	1,234.1	12.8	1,543.0	11.0	80.0
2016	1,094.4	9.4	1,390.7	9.0	78.7
2015	1,000.7	8.2	1,275.8	6.3	78.4
2014	924.8	4.7	1,200.5	6.0	77.0
2013	883.3	14.3	1,132.9	14.2	78.0
2012	773.1	5.8	992.4	3.7	77.9
2011	731.0	4.6	956.5	7.3	76.4

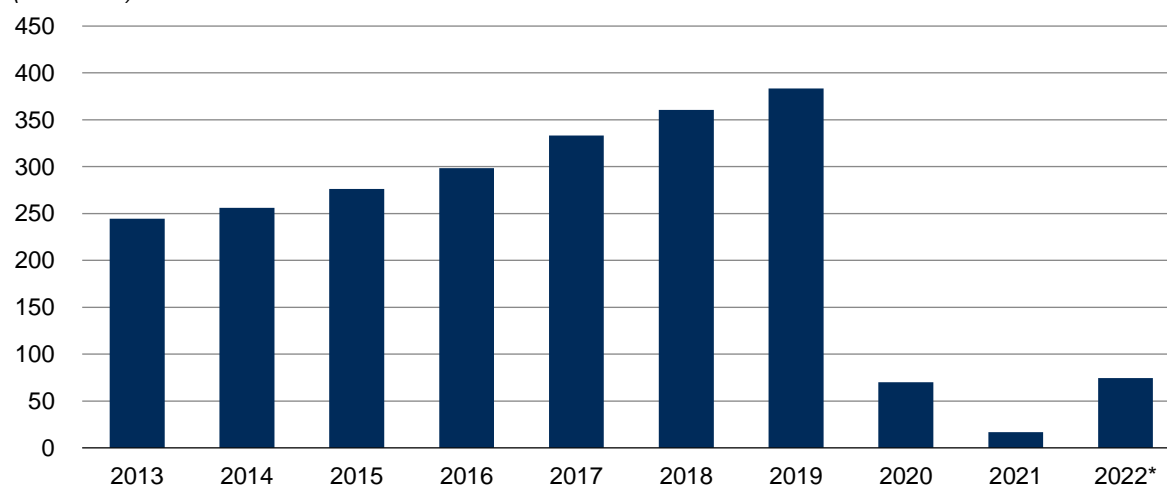
*Data through October.

Source: Association of Asia Pacific Airlines.

According to IATA, Asia-Pacific airlines have seen air cargo demand, as measured in cargo tonne kilometers (CTK), recover to about 94% of 2019's level in October 2022. The main culprit is that the number of passenger carriers remains muted amid the resurgence of Covid-19; many passenger carriers usually (in a world unaffected by Covid-19) carry cargo as well. We think the airline industry trough will soon be over, with recovery expected in 2023-2024 and an industry expansion forecasted in 2025. We see improvements in international passenger traffic in 2023 compared to 2022, followed by a material resumption of leisure travel in 2024. The key factors supporting our view are South East Asia reopening and loosening of Covid-19 arrival screening and quarantine around the globe, as global Covid-19 vaccination rates continue to improve while death rates fall.

ASIA PACIFIC CARRIERS' INTERNATIONAL PASSENGER VOLUME

(in millions)



*Data through October.

Source: Association of Asia Pacific Airlines.

European Commercial Aviation Industry

After going through high level of uncertainties in 2020 and 2021, we believe that European airlines will experience a smoother recovery in volumes and air fares. Our view should be supported by many countries' positive actions to ease travel restrictions as the number of Covid-19 cases continues to fall globally. Given that vaccination rates continue to improve globally and the numbers of severe cases and death rates remain low, the world is moving into an endemic stage and a full lockdown in Europe is unlikely at this point, in our view.

Eurocontrol data shows that the daily traffic volume in Europe has improved to about 87% of 2019 level in November 2022. Monthly data from IATA also shows consistent improvement in air traffic demand in terms of revenue passenger kilometer (RPK) across all regions in October 2022. In October 2022, total international RPK in North America reached 96% of 2019 level (vs. 51% in January 2022). Similarly, Europe's international RPK improved to 84% of 2019 level (vs. 54% in January 2022). We view this as a positive read-across for European legacy airlines as Transatlantic routes are crucial for these airlines' profitability. Similarly, we expect the ongoing improvement in Intra-Europe air travel demand to benefit budget short-haul airlines. We expect the recovery of Transatlantic routes and strong travel demand in Summer 2022 and 2023 will be key drivers to support air fares.

We believe that the key developments of the industry include the impact of the war in Ukraine on oil price and air travel demand, the sustainability of air traffic recovery, and the strength of air fares. Many countries from the West have imposed punitive sanctions on Russia's economy due to its military invasion of Ukraine in February. As Russia is a major crude oil producer, the disruption of global oil supply has caused spikes in jet fuel prices. Unlike other regional airlines, European airlines have fuel hedging programs that have hedged more than 70% of fuel consumptions for 2022 (some even hedged more than half of their expected consumption into 2023 and 2024), mitigating the fuel price volatility in the near term. Therefore, we think European airlines still have room to manage higher fuel prices in the near term without risking higher fares, which will stifle demand recovery.

Direct air traffic exposure to Ukraine and Russia is low and manageable. Based on IATA's data, Ukraine accounted for 3.3% of total air passenger traffic in Europe and 0.8% of total traffic globally in 2021. International air passengers between Russia and Europe accounted for 5.7% of total European traffic in 2021 and 1.3% of total global traffic. Similarly, we understand that European airlines under our coverage have less than 2%-3% of their total passenger capacity exposed to these regions. Therefore, we believe that the airlines can easily re-route the capacity to other countries where air travel demand is improving.

The European airline industry is an oversupplied market, with nearly 200 airlines competing for market share in the region. According to OAG's data, the top six European airlines' total market share in the Intra-Europe capacity was around 50% in 2019. This contrasts with the Intra-North America market where the top six airlines' market share totaled 82%. This shows the intra-European market is much more fragmented. Prior to the Covid-19 outbreak, European airlines were more focused on expanding their market share as opposed to improving profitability, which resulted in price wars and declining passenger yields across both FSCs and LCCs. However, the Covid-19 crisis has resulted in bankruptcies of smaller and uncompetitive airlines. Most European airlines have been trying to keep weekly cash burn as low as possible to preserve liquidity. As the industry is now recovering from Covid-19, we believe that a more consolidated market will benefit the European airlines, though we think that consolidation will take a longer time due to national interests keep certain airlines afloat via state aids. As airlines are emerging from the Covid-19 crisis, we believe that European airlines will be more sensible in pricing competition to focus on profitability and to recoup huge losses during 2020-2021.

In addition, limited outputs of aerospace manufacturers due to supply chain constraints, as well as industry-wide personnel shortages, should further limit the capacity addition of the industry. This should translate into better pricings for airfare, hence, better profitability in the near to medium term, in CFRA's

view. However, given that the European Union (EU) is expecting recession in 19 EU countries heading to the fourth quarter of 2022, we see a risk of curtailed travel demand and airfare pricings if Europe slides into a deeper-than-anticipated recession.

Airline Bankruptcies Pave Way for New Market Dynamics

Airlines around the globe are facing an unprecedented threat as the Covid-19 pandemic halts global travel, causing waves of bankruptcy of air carriers. We expect the bankruptcy wave to continue in 2023, but on a smaller scale, as many distressed airlines are still struggling to stay afloat. We believe that with the mounting debts of these airlines in a rising interest rate environment, full pay-offs would be difficult given their limited liquidity and cash, and debt rollovers would be expensive. Even if they eventually avoid bankruptcy, they will have to downsize significantly to pay off debtors. Consequently, we think there will be new market dynamics where the cash-rich airlines will emerge so strongly that they could monopolize larger selective markets in the next two to three years, while the weaker ones that made it through earlier will either remain as a non-threat or end up being acquired.

Regulatory Updates

China International Flight Restrictions Loosened Again Despite Record Number of Covid-19 Surge

Since the second quarter of 2020, the Civil Aviation Administration of China (CAAC) had been relaxing international flight restrictions by allowing more foreign carriers to fly and increased the number of international flights from qualified countries provided that risks were controlled.

However, after a series of restriction easing, China turned to tightening flight restriction to keep new Covid-19 outbreaks in check. In October 2021, the CAAC announced the reduction of the number of international passenger flights in and out of China to 408 per week from the period between October 31, 2021 and March 26, 2022. In April 2022, the CAAC doubled down on the “circuit breaker” measures it imposes on inbound flights, in order to contain the number of passengers with Covid-19 that arrive in China. Under the “circuit breaker” measures, the CAAC suspends inbound flights if a certain number of passengers on a given route are found to have tested positive for Covid-19 after arriving in China.

China lifted the “circuit breaker” measures in November 2022. China also reduced quarantine requirements for close contacts of confirmed cases from seven days of centralized quarantine and three days of health observation at home to five days of quarantine and three days of observation. China’s international flight restrictions are loosened again despite the record number of daily Covid-19 cases. We have seen several signals that China is pivoting away from its “zero Covid-19” policy. CFRA thinks there is a possibility that these signs will translate into loosening arrival restrictions, which will improve visibility for a more flexibly-managed and toned-down zero Covid-19 policy that is favorable for international flights to operate in the next season in 2023. However, we remain conservative at this juncture on the actual yield from these relaxations, particularly given the uncertainties over provincial travel within China.

Chinese Aviation Industry Can Count on Government to Weather Covid-19 Storm

China rolled out supportive government policies on March 13, 2020, aiming to cut fees and reduce tax for carriers. Also, effective from January 2020 onwards, airlines are exempt from payment to the civil aviation development fund, which could reduce the burden on airline companies by about 600 million yuan (\$84.7 million) per month, and necessary compensation will be granted to airlines to fight the loss of demand from Covid-19. In addition, revenues generated from transporting essential items will be exempted from value-added tax (VAT). In May 2022, the Ministry of Finance and China’s civil aviation regulator launched a two-month subsidizing plan to aid domestic airlines. According to the plan, a maximum of \$3,573 per hour of flight will be granted to Chinese civil aviation carriers if the average daily domestic passenger flights are less than or equal to 4,500 flights per week. In July 2022, the Chinese government announced

\$1.64 billion grants in Covid-19 compensation to Air China, China Eastern Airlines, China Southern Airlines, and Beijing's Capital Airport over recent prolonged lockdowns.

For China, the aviation industry plays a crucial role. It is the second-largest market in the world behind the U.S. China's air traffic growth is expected to grow at 4.9% between 2019 and 2041, according to Boeing's "Commercial Market Outlook 2022–2041". CFRA believes the Chinese government's initiatives and aviation policies to help support the airline industry fight the Covid-19 crisis will play a major role in achieving this forecast.

HOW THE INDUSTRY OPERATES

Providing Transportation

The airline industry is highly cyclical, with growth closely tied to changes in gross domestic product (GDP). As economic activity improves, business travel tends to increase. Higher wages and stronger employment lead to more leisure travel. Freight traffic also increases as more goods are transported. Conversely, in periods of economic weakness, business travel falls. As unemployment grows, leisure travel also declines because consumers become less likely to take costly vacations that involve flying. Fewer goods are transported as economic activity slackens. Non-economic events, such as a pandemic, political changes, natural disasters, or shifts in safety concerns, can also have a major impact on the airline industry.

Airlines today derive most of their revenues from the fares charged to passengers, but they also generate revenues by carrying mail and cargo, selling alcoholic beverages, and offering in-flight entertainment and services to passengers. In addition, airlines sell frequent-flyer credits to hotels, auto rental agencies, credit card issuers, and other organizations, which offer these credits as premiums or to build goodwill. Many airlines sell food on the plane, replacing the long-time custom of supplying it free of charge. Many airlines charge to check baggage or for window and aisle seats or exit row seats with extra legroom.

Business Travelers: Corporations Growing More Cost-Conscious

The airline industry has promoted the globalization of commerce, turning the world into one big marketplace. Many businesspeople use air travel to conduct sales trips, visit remote factories, and attend industry conventions. Business trips are often scheduled within seven days of the flight, so business fares have historically been the highest, whether for the coach or first-class seats. Because their firms pick up the tab, business travelers tend to be relatively price insensitive.

As a result, business fares have risen significantly faster than leisure fares; however, in recent years, corporations have become more cost-conscious. As part of their cost-cutting efforts, some companies direct employees to travel coach or to patronize low-fare carriers. To reduce travel costs further, many companies negotiate travel deals, under which they promise to do most of their travel with a certain airline in exchange for sharp fare discounts. The rising prominence of online ticket distribution has also made it far easier to obtain a lower fare for travel—even on short notice.

Airlines actively solicit the business traveler. Many larger aircraft contain designated business sections, which offer roomier seats and premium food service. Some airlines have expanded their business-class sections. Airlines compete for business passengers by offering priority check-in, expedited baggage handling, luxurious airport lounges, and in-flight amenities such as telephones and power outlets for recharging laptop computers. To appeal to this class of travelers, airlines must provide frequent flights, reliable on-time performance, and strong safety records.

Leisure Travelers Look for Price Breaks

Compared with the business traveler, the leisure traveler is highly price sensitive. Cheaper fares resulting from deregulation have allowed people from all walks of life to travel by air to visit distant friends and relatives or to take vacations more frequently.

Leisure travelers can secure discount fares in two ways. First, low fares are available to individuals who book flights at least 14 days in advance. Second, deeply discounted tickets are available, mainly via the internet, a few days before departure. Many leisure travelers defer making trip arrangements until a fare sale is offered. The upshot of these patterns is that over short periods, leisure travel can be erratic. Over

the longer term, leisure travel is more cyclical than business travel; it waxes and wanes together with consumer sentiment and disposable income levels.

International Travel

International travel (defined here as flights that cross national borders) encompasses both business and leisure travel. International travel can be significantly affected by natural catastrophes, pandemics, political turmoil, international hostilities, or terrorist attacks. Since Asia-Pacific airlines rely greatly on international traffic, these issues are of special concern. Meanwhile, international travel for U.S. airlines generates a disproportionately high level of revenue passenger miles (RPMs) because the average stage (or flight) length is nearly four times longer for international than for domestic flights.

Freight and Other Revenues

All passenger aircraft can carry cargo, but most freight moves on wide-body jets on long stage lengths. Major airlines carry significantly more mail and cargo in the belly space under the passenger cabin than regional and commuter airlines. Passenger airlines view freight transport as a sideline to their main business. They garner freight business by offering discounted rates compared with those charged by specialized air freight carriers and do not rely on large sales forces to pursue this business. Airlines often accept freight from only a few air forwarders.

Airlines in the Asia-Pacific region rely more on revenue from cargo transportation than airlines in Europe or North America. Asia-Pacific carriers' market share of global cargo traffic in October 2022 was estimated at 32.6%, compared to 22.8% in Europe and 27.2% in North America, according to the International Air Transport Association (IATA). In North America and Europe, rail and trucking companies are strong competitors in the freight segment, whereas in the Asia-Pacific region, rail and truck services are less feasible, given the region's geography and underdeveloped infrastructure.

Sales of inflight alcoholic beverages, various amenities and services, and logistics support also provide revenue streams for airlines. Other revenue streams may also include income from international code-sharing programs. Additionally, most airlines have added various fees to check bags, make ticket changes, make phone reservations, and for just about any other services involving air travel. On long-haul flights, most carriers provide telephone, ATM, and entertainment services for a fee. Some international flights even offer video gambling. Although such supplementary sales carry high margins, they account for a relatively small portion of industry revenues.

Various airlines have, at times, owned other businesses such as hotels, rental car companies, catering businesses, tour operators, and other ventures, as well as maintenance operations. However, the general trend among airlines globally has been away from this type of diversification, except for freight operations.

Airline Fares: Variable Pricing

Perishable Inventory

Airline seats are perishable inventory: once a plane is aloft, its empty seats can no longer be sold. To minimize such losses, the industry has developed sophisticated computer programs to help determine how much demand there will be for each route at different times of the day, days of the week, and seasons of the year.

Airlines attempt to calculate how much of a flight should be booked at a given point in time through a practice known as yield management. Yield management alerts the carrier to abnormal booking patterns, to which it can react by either cutting or raising fares well before a flight is scheduled to depart. By offering deeply discounted last-minute fares via the internet, airlines can now fill seats that otherwise would have gone empty. The downside is that the internet is making consumers even more price-conscious, which exerts downward pressure on yields.

Yield management also helps carriers estimate the number of passengers who will cancel their flights and how many seats can be overbooked without the risk of having to bump customers (deny them seating on an overcrowded flight). The industry tries to avoid bumping; by law, airlines must compensate the passengers who are denied boarding involuntarily. Carriers use computer programs to redeploy smaller aircraft to routes where sales are slower than anticipated and put their larger-capacity jets into more popular markets.

Airlines' bumping and overbooking policies came under fire after a controversial incident in April 2017, during which airport officials forcibly removed a passenger from an overbooked United Airlines flight, leading to public condemnation of the airline. Weeks after the incident, United said it would offer bumped passengers up to \$10,000 in compensation and vowed to stop forcing passengers to deplane, while Southwest Airlines ended its policy of overbooking flights in May 2017.

Igniting Fare Wars

Since deregulation, the airline industry has been prone to periodic bursts of destructive fare wars. Much of the blame lies in the aggressive pricing tactics of start-up and low-cost carriers, which operate with substantially lower costs than the major airlines and are eager to gain a foothold in the market. In general, the industry is susceptible to fare wars when capacity levels far exceed demand. Because airlines have high fixed costs (for equipment and maintenance facilities) relative to their marginal costs (the cost of flying one additional passenger), fare wars can reach extremes before the order is restored.

Regulation Under Deregulation

Federal regulation of U.S. airline fares and markets ended with the Airline Deregulation Act of 1978. However, the U.S. Department of Transportation (DOT) and its affiliated agency, the Federal Aviation Administration (FAA), continue to regulate the industry regarding safety, labor, operating procedures, aircraft fitness, and emission levels. The International Civil Aviation Organization (ICAO), an entity affiliated with the United Nations, proposes noise standards, although the standards are not legally binding in each country unless the country has formally agreed to them.

The FAA, established in 1958, primarily promotes safe air travel. It does this by monitoring the industry's maintenance and operating practices. The FAA certifies aircraft and airlines and establishes age and medical requirements for pilots. The FAA provides air traffic services to tens of thousands of aircraft every day through the National Airspace System.

The DOT levies civil penalties against airlines that engage in fraudulent marketing practices or violate code-sharing rules. It also oversees compliance with denied boarding (bumping) compensation rules and renders decisions on airline ownership and control issues. The DOT plays an important role in negotiating bilateral aviation treaties with foreign nations.

In Europe, the liberalization of air transport involved consolidating several distinct national markets, previously connected by a web of bilateral air services agreements, into a single market. The European Civil Aviation Conference (ECAC) initiated the liberalization process in 1987, with the development of two international agreements which authorized partial capacity and tariff liberalization. In 1993, the common licensing criteria for air carriers across the EU was introduced. In order to be granted an operating license by a member state, the air carrier must be majority-owned and controlled by EU member states, and/or nationals of EU member states, with its registered office and principal place of business located in that member state. Airlines with the operating license can exercise traffic rights on virtually any route within the EU, in accordance with the Market Access Regulation. The EU air transport industry was completely liberalized in 1997.

The Asian airline industry has not moved toward liberalization as swiftly as its counterparts in the U.S. and Europe, which both had the advantage of a centralized body coordinating the process. In the Asia-Pacific region, each country is moving at its own pace, according to its own needs. In the Association of South East Asian Nations (ASEAN) grouping, the Single Aviation Market policy (or Open Skies Agreement) achieved full ratification by all 10 member states in May 2016.

The major markets are relatively open, with privately-owned upstarts beginning to compete. Australia and New Zealand progressed through the process swiftly; the former country has among the most liberal policies in the world. Japan's airline industry was deregulated in the 1990s, allowing LCCs to enter and the eventual merger of two key players, Japan Airlines and Japan Air System. The Malaysian government liberalized its air transport segment in August 2006. It ended subsidies to the national carrier, Malaysian Airlines, and opened the domestic market to low-cost carrier AirAsia, which gained the right to fly any domestic Malaysian route and to determine scheduling and price.

Privatization remains an ongoing concern in the region. New Zealand was forced to renationalize Air New Zealand in 2002, following the airline's financial difficulties. The Malaysian government nationalized Malaysia Airlines (MAS) in August 2014, after the airline was hit by two disasters earlier in the year. MAS was already in a poor financial condition prior to the disasters; the airline last made a profit in 2010 and lost a total of MYR4.1 billion from 2011 to 2013. Several major Asia-Pacific carriers remain in state hands, including Singapore Airlines and Thai Airways International. The major Chinese airlines are also state-owned and state-operated.

When airlines operate in international markets, they are subject to economic regulation by individual foreign governments and collective organizations such as the European Commission. The degree of regulation varies for each country, and rules are laid out through formal bilateral aviation treaties. These accords govern reciprocal landing rights and typically limit the number of carriers that can operate in a country, the level of rates, the type of aircraft, and the frequency of flights.

The Nine 'Freedoms of the Air'

International air transport is governed by bilateral air service agreements between individual countries. The biggest exception is the 28-member of the EU, which attempts to negotiate air travel agreements for its entire membership. These agreements are negotiated to utilize nine "freedoms of the air." The ICAO notes that only the first five freedoms have been recognized in international treaties.

The first two freedoms, otherwise known as "transit rights," are essentially universally recognized. They grant airlines the right to fly in a foreign country's air space and to land for refueling or maintenance. The third through seventh freedoms involve loading and unloading passengers on international flights.

The eighth and ninth freedoms (the ninth being stand-alone cabotage, or the right to fly domestic routes in a foreign country) are granted in very rare cases. The EU carriers can fly domestic routes in other EU countries. In 1986, Australia and New Zealand created a single aviation market, which allows their airlines to operate domestic routes in both countries.

Although the Asia-Pacific airline market is huge and thriving, it is hampered by a lack of uniformity of air transport rules. In some countries, such as Thailand and Malaysia, regulators place few restrictions on the industry, allowing for the growth of budget carriers and increased competition on international routes. Other governments, including those of China, Indonesia, and India, limit the number of international routes foreign carriers may fly and may set fare levels on certain routes. These rules inhibit network expansion and make it less likely that carriers will lower prices and improve services.

Open Skies Agreements

As the global airline industry increasingly moved toward deregulation, bilateral agreements typically became more liberalized. The trend was started by the U.S. in the early 1990s, when it began negotiating “open skies” agreements with several countries. These pacts are now being negotiated worldwide, both bilaterally and among groups of countries. Essentially, the agreements grant unlimited third and fourth freedoms concerning loading and unloading passengers in foreign countries—to all carriers from the countries involved.

The open skies agreements allow international carriers to create alliances and code-sharing arrangements, and to gain antitrust immunity. Airlines benefit by gaining greater access to international routes, which are more lucrative than domestic routes. The pacts permit airlines to set their own prices and offer discount rates, paving the way for low-cost airlines to provide international service. They also set no limit on the number of foreign carriers, or the number of flights permitted into the partner countries.

Open skies agreements can create major problems for countries attempting to protect a state-owned airline or a burgeoning (but still small) airlines industry. Because traffic would likely move to lower-cost and more efficient foreign airlines, countries with weaker and less efficient airline industries are far less likely to reach these types of accords.

These agreements also leave some problems unresolved. If a foreign owner acquires an airline, it remains unclear whether previous agreements still hold and allow the acquired airline to continue to provide service on all its international routes. This lack of clarity is one reason international mergers in the airline industry remain difficult. In addition, the agreements do not allow airlines to operate domestic routes in foreign countries.

The Kona Agreement, or Multilateral Agreement on the Liberalization of International Air Transportation (MALIAT), signed in 2002, may provide a blueprint for future multilateral open skies accords. Five countries—the U.S., Singapore, New Zealand, Brunei, and Chile—agreed to create open traffic rights, capacity, and pricing rules, as well as code-sharing allowances for all their carriers. In an attempt to promote foreign ownership, the agreement loosened but did not remove domestic ownership rules. Samoa, Tonga, Cook Islands, and Peru later signed this accord (though Peru and Samoa withdrew in 2005 and 2019, respectively). Viewed as a model for multilateral agreements, it could streamline the process of liberalizing the skies and creating stronger economic relations.

HOW TO ANALYZE A COMPANY IN THIS INDUSTRY

At CFRA, we recommend a top-down approach to valuation. An examination of the industry drivers outlined from page 7 to page 9—Consumer Confidence Index, crude and jet fuel costs, passenger traffic growth, and airline traffic statistics, as well as projections for aircraft fleet and total new deliveries—is a good starting point.

Industry Drivers

Trade associations provide a wide variety of data offering clues about the health and outlook of the airlines industry. The following section discusses some of the most important indicators.

◆ **Consumer confidence.** Consumers from every geographic region are surveyed about their near-term spending plans and overall economic expectations. One component of consumer confidence that has direct relevance for airlines is consumers' plans for vacation travel, along with the percentage of consumers planning to travel by air.

◆ **Jet fuel prices.** Changes in jet fuel prices are often the swing factor in airline profits. It is important to remember, however, that because of purchase contracts and hedging strategies, airlines buy very little of their fuel at the spot market price.

◆ **Passenger traffic.** This statistic is usually reported in two forms: the total number of passengers transported and revenue passenger kilometers (RPKs) or revenue passenger miles (RPMs), the number of fare-paying passengers multiplied by the number of kilometers or miles flown. RPK or RPM figures are closely followed by the industry. Most major airlines report traffic statistics on a monthly basis. This data is not seasonally adjusted, so the year-over-year change, rather than the monthly changes, is the best gauge of an airline's health.

◆ **Flight capacity.** Capacity is reported in available seat kilometers (ASKs) or available seat miles (ASMs), which is the total number of seats multiplied by the kilometers or miles flown. Most airlines report ASKs or ASMs monthly. During times of economic weakness, when demand shrinks or grows slowly, airlines attempt to reduce capacity or to transfer capacity to regions where demand is stronger. Likewise, during times of economic growth, airlines attempt to increase capacity.

◆ **Load factor.** Load factor, the percentage of ASKs or ASMs that are being used by paying passengers, is a measure of capacity utilization. When RPKs or RPMs increase at a faster rate than ASKs or ASMs, capacity utilization rises. This figure is also reported by most airlines on a monthly basis. While load factor in isolation does not indicate that an airline is profitable, a higher percentage generally means greater profitability.

◆ **Overall yields.** Yields measure the average revenue generated from passenger and freight operations. Higher yields generate increased profitability if costs are stable. If prices are under pressure, yields will fall. Sometimes airlines break out passenger yields from freight yields. Passenger yields reflect fares, while freight (or cargo) yields represent freight prices. Overall yield is measured as airline operating revenue per RPK or RPM for both passenger and freight services.

Company Analysis

Factors to examine when analyzing an airline include its traffic and pricing, market share, costs, profitability and load factor, balance sheet stability, service and safety record, and equity valuation, as discussed below. Other important factors are managerial strength and employee morale. Although difficult to quantify, these characteristics are typically reflected in an airline's cost and asset performance measures.

Revenue-Related Factors

Traffic is the starting point in analyzing a passenger airline. It can be measured in terms of revenue passenger kilometers (RPKs) or enplanements (the total number of people carried). Both provide useful measures of a carrier's market share. Traffic levels and yield, a measure of pricing trends, are the two determinants of revenues.



Watch Out! Companies may make a business decision to modify ticketing policies, or have pricing agreements with other airlines, which may result in acceleration or delay in the recognition of deferred revenues on the balance sheet to passenger revenue on the income statement. A change in ticketing policy may enable management to pull forward revenues that had previously been deferred. The pulling forward of revenues in the current period often occurs at the expense of future period revenues. Airlines may also have pricing agreements with other airlines such as when a passenger requires travel on two different airlines to reach a destination but is charged a single price from one of the airlines. As a result of these agreements, estimated revenues are recorded at the time the service is provided and may be subsequently adjusted for after that time.

Traffic: RPKs or RPMs

For any given period, RPKs or RPMs equals the total number of passengers enplaned, multiplied by the average distance flown. This measure is superior to enplanements as an analytical tool because airline revenues closely correspond to RPK or RPM levels. Short-haul carriers sometimes rank high based on total enplanements but appear smaller when measured by RPKs or RPMs, or revenues. Changes in RPKs should be compared with industry averages to determine whether a carrier is gaining or losing market share.

Traffic performance must be viewed in conjunction with yield analysis to determine whether a carrier is "buying" market share at the cost of profits. Publicly listed carriers typically release their monthly traffic data via press releases, stock exchange announcements, or on their websites. Growth rates should not be confused with profitability. Seasonality is another factor. Leisure travel tends to increase during public holidays and school vacation periods, though these times vary from country to country in Asia.

Yield: A Look at Pricing Trends

The other component of revenues is pricing or fare levels. The passenger revenue generated per RPK or RPM is commonly referred to as the yield. It is useful to compare the trend in a carrier's yield with the trend in yield for other airlines; however, comparing the yield levels for different carriers is useful only if the carriers provide a similar mix of flights.

Although international flights have yields that tend to be lower than those on domestic routes, they may be more profitable. Thus, one should take into consideration the percentage of domestic versus international travel in a carrier's mix. In addition, airlines that have a larger mix of business or first-class seats will report yields that are higher than carriers flying the leisure trade on identical routes. While short-haul flights tend to have higher yields, their costs are also greater, and their load factors tend to be lower.

Market Share and Geographic Mix

The best method for determining a carrier's relative market performance is to look at the specific city pairs that it serves—its share of total enplanements at the airports where it operates. An analysis of city-pair traffic can pinpoint exactly where a carrier is facing the greatest degree of competitive pressure. Carriers that have low market share—or that serve cities where no single airline dominates—will face greater competitive pressure on fares.

An airline's geographic mix is also important. Economic growth and the level of discretionary spending—and, hence, air travel—vary from region to region and nation to nation. Airlines that serve a limited market can see their traffic diverge from overall industry trends. Likewise, carriers that derive a high percentage of their total RPKs or RPMs from international travel may see their traffic occasionally out of step with those that serve domestic markets exclusively.

Whatever markets an airline serves; however, it is not locked into them in the same way that a railroad is because airlines can reposition their assets depending on where the best growth opportunities lie. Airlines can shift resources out of weaker international routes and into stronger ones, or, on the domestic side, out of weak, underperforming, or money-losing markets into those with better growth potential. There are limits to this strategy, however, since not all aircraft types can be operated in every market. For example, jumbo jets need dense, long-haul routes for profitable operation and require airports with long runways. Additionally, in China, regulators may compel airlines to service an unprofitable domestic route.

Costs

When evaluating an airline, it is often more important to analyze its cost performance than its traffic. Among startup airlines, the aggressive, high-growth carrier is frequently the one to suffer defeat. In contrast, carriers that pursue a manageable level of growth while controlling costs tend to thrive.



Watch Out! Most companies in the airline industry offer frequent flyer programs to reward passengers for their loyalty in utilizing an airline or for purchasing the services or products of its partners. Airlines are required to provide an accrual for the obligation to transport a passenger utilizing miles or points. The accrual is typically based on estimates of (1) marginal costs such as fuel, food, and reservations associated with flying a passenger redeeming miles or points and (2) "breakage" or the probability that miles accrued will expire unused. CFRA notes a company could adjust these assumptions to help manipulate earnings by either (1) underestimating the marginal cost per passenger or (2) increasing breakage assumptions.

Labor: Under normal circumstances, fuel costs are the largest cost category for many carriers. However, due to Covid-19 outbreak, the demand for air travel has reduced significantly. Fuel costs as a variable cost component has diminished as a result. Together with the recent decline in fuel prices, in CFRA's view, labor costs will surpass fuel costs as the largest cost component for the airlines given the conditions.

Airlines face pressure to limit their rate of cash burn, particularly after the Covid-19 outbreak. To preserve cash, many airlines are laying off workers as air travel demand plunges. However, to a certain extent, the airlines still need to retain a fair amount of labor to maintain productivity. How much an airline spends on labor depends on its efficiency and the labor intensity of its routes. For example, short routes on which meals are not served have lower personnel and cleaning costs than those that require meal service. They also have lower gate rental fees. Aircraft can be turned around quickly because they do not require catering entrances and other facilities needed by long-haul flights; also, they do not need to refuel as often. Thus, short-haul operators typically incur lower labor costs than do the major national airlines.

Outsourcing certain functions, such as maintenance or reservation services, reduces labor costs as a percentage of the total and can cut total costs as well. Similarly, a technology-intensive airline—one with

a high percentage of sales booked over the internet, for example, and/or electronic ticketing and self-service check-in kiosks—will enjoy high labor productivity.

While most airline employees are union members, wages and work rules differ from carrier to carrier. Aircraft type and design will determine the size of the flight crew: some aircraft require two co-pilots, while others need only one. Non-union airlines instruct flight attendants to perform tasks that are restricted to fleet service operators in union airlines. Some airlines offer sizeable profit-sharing programs or may have employee stock ownership programs (ESOPs) in addition to salaries and benefits. Although these programs may not be recognized as an expense category on the income statement, airlines that offer them will record a charge to earnings to cover distributions under the ESOP plan.



Watch Out! *The various assumptions used to determine pension expense and pension liability enable companies to manage earnings. The use of both an expected rate of return assumption and a market-related value for plan assets can result in a considerable difference between the asset returns earned on the plan and the asset returns used in calculating pension expense. Additionally, the selection of an aggressive expected return assumption can significantly boost a company's earnings. Finally, the application of estimates for items such as discount rates, mortality assumptions, increases in employee compensation levels, and gain/loss amortization periods create additional room for management manipulation or errors.*

Fuel: Airlines are energy-intensive operations; fuel accounted for roughly 24% of an airline's operating costs in 2019 (pre-pandemic), but is estimated to drop to around 19% in 2021, and is forecast to be 19.5% in 2022, according to the IATA. Along with the number of engines, the age of a carrier's aircraft greatly influences fuel consumption rates, as newer planes are more fuel-efficient than older models.

Carriers specializing in short hauls, which involve frequent departures, consume more fuel than do long-haul airlines, due to a disproportionate amount of fuel burned during take-off and landing. However, short-haul carriers operating turboprop aircraft consume less fuel than those employing jets.

Most airline managers now see the value of using futures and swaps to hedge a majority of their fuel price exposure. Thus, under normal conditions, the average price per gallon of jet fuel may vary 10%–15% from carrier to carrier, as airlines engage in fuel hedging to varying degrees. In some countries (such as China), the government determines fuel prices, so fuel hedging would not be available. In addition, with many carriers suffering significant hedging losses following the retreat in oil prices from the July 2008 highs and again at the end of 2014, airlines have been more cautious.



Watch Out! *Since companies typically gain from fuel hedges against fuel expense, the decision to report these gains as non-operating items may lead to inconsistencies when comparing across airlines. From an accounting perspective, gains or losses recognized on hedging instruments are generally deferred in accumulated other comprehensive income until the cost of the jet fuel being hedged is recognized in earnings. However, any hedging ineffectiveness is recognized in earnings immediately. The impact of the hedging activity is usually reported net of fuel expenses in the operating section of the income statement. However, there is diversity in practice in presenting the impact of hedging activities due to lack of specific guidance prior to the issuance of ASU 2017-12. Therefore, certain operating metrics may not be comparable across airline companies.*

Maintenance: Aircraft age greatly influences the level of maintenance required. Just as important, however, is the spacing of fleet ages. Every five years or so, each aircraft must undergo an intensive maintenance program known as the D-check. Airlines that fail to space orders evenly, or that buy second-hand aircraft of the same age, will face a bunched-up maintenance program at some point. If this happens, it will distort the results of a comparative analysis.



Watch Out! Different accounting choices with respect to capitalization versus expensing of maintenance costs can have a significant impact on earnings. Maintenance expense for airlines that own or lease aircrafts consists of regular recurring maintenance in addition to more periodic "heavy" maintenance where an aircraft may be taken out of service for an extended period of time. Companies may choose to expense all maintenance as incurred or elect to expense recurring maintenance as incurred and capitalize and amortize "heavy" maintenance expenditures between expected "heavy" maintenance visits.

Profitability and Load Factor

A key determinant of profitability is capacity utilization, as measured by load factor: a carrier's RPKs or RPMs divided by its ASKs or ASMs. ASKs or ASMs are calculated as aircraft kilometers or miles flown, multiplied by the number of seats available for revenue passenger use. Given airlines' high fixed costs, the more passengers that can be boarded before each departure, the more profitable the flight will be, provided variable costs are covered. It is important to realize, however, that rising load factors show only that capacity utilization is increasing, not necessarily that passenger volumes or profitability are improving.

RASM Versus CASK

Comparing passenger revenues per ASK or ASM (RASK or RASM) with costs per ASK or ASM (CASK or CASM) is a common way of measuring airline profitability. RASK or RASM is the indicator most closely watched by financial analysts, but both measures are crucial. In the past, United Airlines and American Airlines demonstrated that simply removing seats could increase RASM.

Since airlines often earn ancillary income from other sources, CFRA also likes to consider a total RASK or RASM measure that includes cargo operations, sales of frequent-flyer miles, in-flight liquor, entertainment or telephone services, and other amenities. These non-passenger revenue sources can make the difference between an operating loss and a profit.

Balance Sheet Stability and Cash Burn

Given the high debt levels carried by many airlines and the frequency of large operating losses, it is important to assess the strength of an airline's balance sheet. Metrics such as debt-to-equity and debt-to-total-capitalization should be examined, as should cash on hand to cover interest payments, and other liquidity needs.

During times of industry losses, it is important to determine how quickly an airline may be using its available cash (its cash burn rate). In such cases, it is important to gauge how long an airline can withstand a downturn and remain solvent.



Watch Out! Supplier financing arrangements (also known as reverse factoring) can delay a company's payments to its suppliers. There are several variations of these programs, but basically, a company arranges for a financial institution to pay its suppliers and the company repays the financial institution later. This effectively lengthens the supplier payment terms and improves working capital. However, operating cash flows can be overstated if the cash payments to the financial institution are presented as financing outflows rather than operating cash flows, which would be the case if the company pays the supplier directly. Furthermore, companies may not reclassify accounts payable under reverse factoring programs into financial liabilities, which may understate leverage ratios.

Service and Safety Record

One way to measure an airline's service performance is by the percentage of its flights that arrive on time. Carriers that route passengers through hubs into connecting flights are more likely to have a lower on-time performance than those offering direct point-to-point flights.

On-time performance is generally worse during the winter when the weather can wreak havoc with schedules. In addition, airlines serving congested metropolitan markets often suffer from poor on-time performance caused by air traffic control-related delays. The on-time numbers are not an infallible measure, though, because some airlines lengthen their estimated flight times to allow for delays.

Another way to assess service is to look at the bumping ratio—the percentage of passengers denied boarding. Airlines that overbook flights will have high bumping ratios. Bumped passengers are compensated for their inconvenience, often with cash, vouchers, or frequent-flyer credits. Consequently, airlines with high levels of overbooking still may have high levels of consumer satisfaction. A case could even be made that high bumping ratios coincide with wider profit margins, because it indicates that flights are fully loaded with passengers.

A carrier's safety performance can sometimes play an important role in determining consumers' choice of airline.

GLOSSARY

Alliance—Partnerships between multiple international airlines to expand networks and offer customers more convenient travel options.

Available seat kilometer (ASK)/ Available seat miles (ASMs)—A measure of airline capacity; calculated as aircraft kilometers/miles flown multiplied by the number of seats available for revenue passenger use.

Available tonne kilometer (ATK)—A measure of airline cargo capacity; calculated as aircraft kilometers flown multiplied by the space available for revenue cargo use.

Break-even load factor—The load factor at which operating revenue will equal costs.

Bumping—The practice of denying ticketed passengers the right to board an overbooked flight. Bumped passengers typically receive compensation.

Cabotage rights—The rights granted to a carrier to fly domestic routes within a foreign country.

Cargo—Anything transported by an airline, except people, for a payment. It includes mail and freight.

City Pair—The departure and arrival cities of a flight itinerary.

Code sharing—Agreement in which one carrier's flight schedule is listed under another airline's code on a computer reservation system, eliminating the need for multiple tickets.

Enplanements—The total number of passengers, both originating and connecting, who board an aircraft.

Freight tonne kilometer (FTK)—Calculated as the distance aircraft flown in kilometers multiplied by the number of tonne of freight transported.

Frequent-flyer program—Awards system designed to win loyalty by giving customers points based on the number of kilometers flown.

Full-service carriers (FSCs)—The FSCs usually operate long-haul routes and between the major airports. Air fares are generally more expensive than the low-cost carriers, but perks such as loyalty programs, lounge access, luggage allowance, food and beverages, and inflight entertainment are included in the ticket prices. The FSCs also offer better cabin environment (more legroom space and wider seat pitch) and passengers can choose between economy, basic economy, premium economy, business class, or first class.

Load factor—A measurement of total aircraft seating capacity that is sold; calculated as revenue passenger kilometers (RPK) divided by available seat kilometers (ASKs) and reported on a percentage basis.

Low-cost carriers (LCCs)—Air fares of the LCCs are usually cheaper than the FSCs, but the standard luxuries offered by the FSCs are excluded. Historically, the LCCs offer only a single class cabin; however, in recent years, many LCCs have included premium seats, extra legroom, and priority boarding privileges for an additional fee. LCCs typically operate short-haul routes and between secondary airports, as to avoid the pricey landing fees at major airports.

Open skies accord—An aviation agreement between two nations giving their respective air carriers greater access to each other's markets and freedom to set fares.

Revenue passenger kilometer (RPK)/ Revenue passenger miles (RPM)—A measure of passenger traffic, defined as number of passengers multiplied by the distance travelled.

Pitch—Passenger legroom; the distance between seats in an airline cabin. Recently, carriers eager to differentiate their service have touted expanded pitch as a selling strategy.

Revenue tonne kilometer (RTK)—Measurement representing one tonne of cargo transported one kilometer in revenue service.

Slot—A rationed position in an airport's schedule for takeoff or landing. Only a handful of airports—those that are at designed capacity—use a slot system.

Yield—A measure of unit revenue, computed by dividing passenger revenues by RPK or RPM. Yields on freight routes are calculated by dividing freight revenue by RTKs.

INDUSTRY REFERENCES

PERIODICALS

Airport Technology

airport-technology.com

Online daily trade publication covering airport news and trends.

Aviation Week

aviationweek.com

Provides coverage on all aspects of global aviation and flight; includes *Aviation Week & Space Technology* and *Aerospace Daily*.

Central News Agency (CNA)

cna.com.tw

Taiwan's semi-official wire service.

Flight Airline Business

flightglobal.com

Provides in-depth coverage of the global airlines industry.

TRADE ASSOCIATIONS

Airlines for America (A4A)

airlines.org

Primarily represents larger passenger airlines and leading air cargo companies; produces the Air Transport Annual Report, a detailed annual summary of operating and financial statistics of leading carriers and the monthly Scheduled Passenger Traffic Statistics. Formerly the Air Transport Association of America Inc. (ATA).

Airports Council International (ACI)

aci.aero

International organization representing 535 airports, including 54 airports in the Asia-Pacific region; provides airport traffic statistics and advocates policies to global bodies in support of its members. Also fosters cooperation among airports.

Association of Asia Pacific Airlines (AAPA)

aapairlines.org

Trade association representing 15 airlines based in the Asia-Pacific region, including Japan Airlines, Qantas, and Singapore Airlines. The organization provides monthly traffic statistics and offers advocacy services for its members on global policy issues.

International Air Transport Association (IATA)

iata.org

International trade association representing the global interests of member carriers; provides a variety of international flight statistics.

REGULATORY AGENCIES

Bureau of Transportation Statistics

bts.gov

Part of the U.S. Department of Transportation that compiles, analyzes, and releases information on the nation's transportation systems.

Civil Aviation Administration of China (CAAC)

caac.gov.cn/en/SY/

Aviation regulator of the People's Republic of China.

European Union Aviation Safety Agency (EASA)

easa.europa.eu

A European Union authority responsible for civil aviation safety.

Federal Aviation Administration (FAA)

faa.gov

Agency within the U.S. Department of Transportation (DOT) that monitors commercial and general aviation safety, records and investigates complaints filed against airlines, certifies carriers, compiles statistics, promotes aviation education, and crafts regulations governing aviation safety.

U.S. Department of Transportation (DOT)

transportation.gov

Federal agency responsible for the regulation of all transport modes, including airlines. The DOT produces various performance, budget, and planning reports that summarize the agency's activities during the past fiscal year.

U.S. Energy Information Administration (EIA)

eia.gov

A statistical agency of the U.S. Department of Energy; provides independent data, forecasts, and analysis regarding energy and its interaction with the economy and the environment.

OTHERS

Air Carrier Financial Statistics

bts.gov

Presents airline financial statistics obtained from airline company reports to the U.S. Department of Transportation.

Centre for Aviation (CAPA)

centreforaviation.com

An independent aviation market intelligence provider.

European Organisation for the Safety of Air Navigation (EUROCONTROL)

eurocontrol.int

A pan-European, civil-military organization dedicated to supporting European aviation.

International Civil Aviation Organization (ICAO)

icao.int

A United Nations agency for civil aviation.

OAG Aviation Worldwide Limited

oag.com

Provider of flight schedule information and overseer of gigantic schedule database; offers a variety of useful statistics monitoring flight trends throughout the world.

COMPARATIVE COMPANY ANALYSIS

Company	Yr. End	Operating Revenues							CAGR(%)			Index Basis (2008=100)					
		Million \$							10-Yr.	5-Yr.	1-Yr.	2021	2020	2019	2018	2017	2016
		2021	2020	2019	2018	2017	2016	2015									
GLOBAL AIRLINES																	
AIR CANADA	DEC	5,057.3	4,577.8	14,749.8	13,193.5	12,959.3	10,926.7	9,995.1	(5.8)	(15.3)	9.7	51	46	148	132	130	109
AIR CHINA LIMITED	DEC	11,732.5	10,646.0	19,558.0	19,886.6	18,652.0	16,227.9	16,777.7	(2.6)	(7.9)	7.2	70	63	117	119	111	97
AIR FRANCE-KLM SA	DEC	16,280.0	13,563.3	30,511.7	30,028.6	31,060.3	26,228.2	27,902.3	(5.2)	(10.4)	29.1	58	49	109	108	111	94
AIR NEW ZEALAND LIMITED	JUN	1,755.1	3,121.6	3,883.9	3,723.4	3,740.7	3,729.6	3,337.3	(5.3)	(13.6)	(48.0)	53	94	116	112	112	112
CAPITAL A BERHAD	DEC	459.6	853.0	2,972.0	2,703.3	2,460.1	1,580.5	1,521.2	(8.2)	(23.0)	(44.1)	30	56	195	178	162	104
ALASKA AIR GROUP, INC.	DEC	6,176.0	3,566.0	8,781.0	8,264.0	7,894.0	5,925.0	5,598.0	3.6	0.8	73.2	110	64	157	148	141	106
AMERICAN AIRLINES GROUP INC.	DEC	29,882.0	17,337.0	45,768.0	44,541.0	42,622.0	40,142.0	40,990.0	2.2	(5.7)	72.4	73	42	112	109	104	98
ANA HOLDINGS INC.	# MAR	8,402.3	6,588.5	18,347.4	18,575.1	18,566.0	15,831.9	15,941.5	(6.0)	(16.5)	(63.1)	53	41	115	117	116	99
ASIANA AIRLINES, INC.	DEC	3,643.3	3,563.6	5,965.3	6,452.6	6,172.8	4,787.4	4,708.5	(2.5)	(5.5)	11.9	77	76	127	137	131	102
AVIANCA HOLDINGS S.A.	# JAN	NA	1,711.6	4,621.5	4,890.8	4,441.7	4,138.3	4,361.3	NA	NA	NA	NA	39	106	112	102	95
AZUL S.A.	DEC	1,790.4	1,106.1	2,846.6	2,339.5	2,325.9	2,049.6	1,579.8	19.2	8.4	73.7	113	70	180	148	147	130
CATHAY PACIFIC AIRWAYS LIMITED	DEC	5,846.2	6,053.4	13,733.7	14,181.5	12,450.8	11,961.5	13,205.3	(7.4)	(13.2)	(2.9)	44	46	104	107	94	91
CEBU AIR, INC.	DEC	305.7	470.8	1,672.1	1,413.0	1,361.1	1,249.5	1,204.2	(7.4)	(24.0)	(30.4)	25	39	139	117	113	104
CHINA AIRLINES, LTD.	DEC	5,010.0	4,102.5	5,630.8	5,577.0	5,262.7	4,353.5	4,399.0	(0.2)	(0.3)	20.5	114	93	128	127	120	99
CHINA EASTERN AIRLINES CORPORATION LIMITED	DEC	10,566.9	8,981.9	17,357.7	16,710.5	15,633.3	14,194.8	14,454.2	(2.2)	(7.4)	14.5	73	62	120	116	108	98
CHINA SOUTHERN AIRLINES COMPANY LIMITED	DEC	16,000.4	14,177.8	22,163.5	20,882.4	19,593.5	16,534.1	17,173.7	0.9	(2.4)	9.8	93	83	129	122	114	96
COPA HOLDINGS, S.A.	DEC	1,509.9	801.0	2,707.4	2,677.6	2,521.8	2,219.2	2,253.7	(1.9)	(7.4)	88.5	67	36	120	119	112	98
DELTA AIR LINES, INC.	DEC	29,899.0	17,095.0	47,007.0	44,438.0	41,138.0	39,450.0	40,704.0	(1.6)	(5.4)	74.9	73	42	115	109	101	97
DEUTSCHE LUFTHANSA AG	DEC	19,155.0	16,664.2	40,959.5	40,780.9	42,808.6	33,474.1	34,821.6	(5.2)	(11.9)	23.6	55	48	118	117	123	96
EASYJET PLC	SEP	1,968.5	3,891.1	7,853.2	7,694.3	6,766.7	6,079.7	7,090.9	(8.3)	(20.8)	(51.5)	28	55	111	109	95	86
EVA AIRWAYS CORP.	DEC	3,748.1	3,169.8	6,059.7	5,877.4	5,513.4	4,464.6	4,159.8	(0.9)	(6.4)	16.6	90	76	146	141	133	107
FINNAIR OYJ	DEC	953.5	1,014.3	3,476.3	3,247.2	3,084.1	2,445.7	2,448.5	(9.4)	(18.4)	1.1	39	41	142	133	126	100
GOL LINHAS AÉREAS INTELIGENTES S.A.	DEC	1,334.1	1,227.0	3,449.3	2,947.7	3,118.1	2,987.0	2,468.4	(0.1)	(5.2)	16.7	54	50	140	119	126	121
GRUPO AEROMÉXICO, S.A.B. DE C.V.	DEC	2,217.6	1,433.4	3,645.9	3,575.7	3,126.8	2,617.8	2,724.9	2.5	(3.4)	59.4	81	53	134	131	115	96
HAINAN AIRLINES HOLDING CO., LTD.	DEC	5,352.5	4,503.4	10,396.4	9,852.7	9,206.5	5,858.5	5,425.6	2.6	(3.5)	15.6	99	83	192	182	170	108
HAWAIIAN HOLDINGS, INC.	DEC	1,596.6	844.8	2,832.2	2,837.4	2,675.1	2,432.4	2,317.5	(0.3)	(8.1)	89.0	69	36	122	122	115	105
INTERGLOBE AVIATION LIMITED	# MAR	3,416.9	2,001.2	4,748.5	4,113.0	3,537.6	2,867.6	2,435.3	14.3	(1.9)	(59.1)	140	82	195	169	145	118
INTERNATIONAL CONSOLIDATED AIRLINES GROUP S.A.	DEC	9,615.6	9,548.6	28,623.1	27,774.2	27,473.6	23,822.4	24,825.4	(6.2)	(17.8)	8.3	39	38	115	112	111	96
JAPAN AIRLINES CO., LTD.	# MAR	5,809.4	4,351.1	13,115.3	13,421.7	13,024.4	11,560.2	11,896.2	NA	(18.5)	(65.9)	49	37	110	113	109	97
JEJU AIR CO., LTD.	DEC	229.3	346.5	1,198.8	1,131.3	932.7	621.0	516.7	NA	(18.2)	(27.6)	44	67	232	219	180	120
JET2 PLC	# MAR	NA	544.7	4,463.0	3,860.4	3,340.6	2,165.6	2,024.2	(3.1)	(22.4)	(89.0)	NA	27	220	191	165	107
JETBLUE AIRWAYS CORPORATION	DEC	6,037.0	2,957.0	8,094.0	7,658.0	7,012.0	6,584.0	6,416.0	3.0	(1.7)	104.2	94	46	126	119	109	103
JUNEYAO AIRLINES CO., LTD	DEC	1,852.3	1,547.3	1,547.3	2,088.8	1,907.5	1,429.9	1,256.6	11.3	3.5	16.5	147	123	123	166	152	114
KOREAN AIR LINES CO., LTD.	DEC	7,569.8	6,993.2	10,727.0	11,688.0	11,319.5	9,745.0	9,810.8	(3.0)	(5.1)	18.5	77	71	109	119	115	99
LATAM AIRLINES GROUP S.A.	DEC	4,884.0	3,923.7	10,070.1	9,895.5	9,613.9	8,988.3	9,740.0	(1.3)	(11.5)	24.5	50	40	103	102	99	92
NORWEGIAN AIR SHUTTLE ASA	DEC	575.2	1,061.2	4,950.9	4,646.0	3,780.8	3,015.7	2,540.9	(7.1)	(27.9)	(44.3)	23	42	195	183	149	119
PAL HOLDINGS, INC.	DEC	1,140.0	1,150.4	3,046.4	2,869.0	2,591.2	2,310.3	2,310.3	(2.4)	(12.5)	6.2	49	50	132	124	112	100
PEGASUS HAVA TASIMACILIGI ANONIM SIRKETI	DEC	807.7	646.8	1,852.9	1,563.1	1,413.0	1,053.3	1,196.2	21.8	23.5	122.0	68	54	155	131	118	88
PT. GARUDA INDONESIA (PERSERO) TBK	# JAN	NA	1,492.3	4,572.6	4,330.4	4,177.3	3,863.9	3,815.0	NA	NA	NA	NA	39	120	114	109	101
PUBLIC JOINT STOCK COMPANY AEROFLOT - RUSSIAN AIRLINES	DEC	6,552.9	4,086.3	10,918.3	8,807.0	9,265.5	8,101.3	5,773.9	57.1	(0.2)	62.7	113	71	189	153	160	140

Operating Revenues																	
Company	Yr. End	Million \$							CAGR(%)			Index Basis (2008=100)					
		2021	2020	2019	2018	2017	2016	2015	10-Yr.	5-Yr.	1-Yr.	2021	2020	2019	2018	2017	2016
GLOBAL AIRLINES																	
QANTAS AIRWAYS LIMITED	JUN	4,448.9	9,843.3	12,597.1	12,668.6	12,322.2	12,068.4	12,172.2	(8.6)	(18.2)	(58.4)	37	81	103	104	101	99
SAS AB (PUBL)	OCT	1,624.9	2,308.0	4,780.0	4,887.6	5,089.0	4,374.9	4,665.4	(10.3)	(18.8)	(32.0)	35	49	102	105	109	94
SINGAPORE AIRLINES LIMITED	# MAR	5,624.3	2,837.4	11,235.9	12,049.9	12,063.0	10,644.5	11,329.0	(12.5)	(24.2)	(76.1)	50	25	99	106	106	94
SKYWEST, INC.	DEC	2,713.5	2,127.1	2,972.0	3,221.7	3,122.6	3,063.7	3,095.6	(2.9)	(2.4)	27.6	88	69	96	104	101	99
SOUTHWEST AIRLINES CO.	DEC	15,790.0	9,048.0	22,428.0	21,965.0	21,146.0	20,289.0	19,648.0	0.1	(4.9)	74.5	80	46	114	112	108	103
SPICEJET LIMITED	# MAR	NA	706.9	1,643.4	1,316.5	1,192.5	955.5	767.7	6.0	0.3	(58.2)	NA	92	214	171	155	124
SPIRIT AIRLINES, INC.	DEC	3,230.8	1,810.0	3,830.5	3,323.0	2,643.6	2,320.0	2,141.5	11.7	6.8	78.5	151	85	179	155	123	108
SPRING AIRLINES CO., LTD.	DEC	1,709.2	1,435.7	2,126.1	1,906.7	1,686.0	1,214.0	1,246.6	9.3	5.2	15.8	137	115	171	153	135	97
THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED	DEC	649.7	1,589.5	6,184.1	6,102.6	5,855.2	5,023.8	5,112.5	(19.6)	(34.6)	(54.8)	13	31	121	119	115	98
TÜRK HAVA YOLLARI ANONİM ORTAKLIĞI	DEC	7,375.4	6,254.4	12,624.0	11,870.3	10,509.1	8,371.6	9,859.7	23.5	27.0	109.6	75	63	128	120	107	85
UNITED AIRLINES HOLDINGS, INC.	DEC	24,634.0	15,355.0	43,259.0	41,303.0	37,784.0	36,558.0	37,864.0	(4.0)	(7.6)	60.4	65	41	114	109	100	97
VIETJET AVIATION JOINT STOCK COMPANY	DEC	563.0	784.6	2,179.8	2,179.8	2,309.3	1,863.6	1,207.5	NA	(14.1)	(29.3)	47	65	181	181	191	154
VIETNAM AIRLINES JSC	DEC	1,220.4	1,745.7	4,231.3	4,172.8	4,172.8	3,654.2	3,077.6	NA	(16.8)	(31.1)	40	57	137	136	136	119
WIZZ AIR HOLDINGS PLC	# MAR	NA	867.4	3,034.4	2,602.8	2,388.8	1,680.1	1,627.6	NA	(12.4)	(73.2)	NA	53	186	160	147	103
Note: Data as originally reported. CAGR-Compound annual growth rate. #																	
Source: S&P Capital IQ.																	

Note: Data as originally reported. CAGR-Compound annual growth rate. #
Source: S&P Capital IQ.

Company	Yr. End	Net Income							CAGR(%)			Index Basis (2008=100)					
		Million \$							10-Yr.	5-Yr.	1-Yr.	2021	2020	2019	2018	2017	2016
		2021	2020	2019	2018	2017	2016	2015									
GLOBAL AIRLINES																	
AIR CANADA	DEC	(2,846.3)	(3,647.0)	1,138.0	27.1	1,617.9	652.2	218.4	30.3	NM	(22.5)	NM	NM	521	12	741	299
AIR CHINA LIMITED	DEC	(2,619.8)	(2,207.1)	920.4	1,066.7	1,112.7	981.4	1,043.4	NA	NM	15.5	(251)	(212)	88	102	107	94
AIR FRANCE-KLM SA	DEC	(3,743.9)	(8,685.0)	325.4	480.9	195.7	836.1	128.2	15.1	NM	(53.6)	NM	NM	254	375	153	652
AIR NEW ZEALAND LIMITED	JUN	(201.8)	(293.1)	185.3	264.3	279.7	330.1	221.6	NA	NM	(36.3)	(91)	(132)	84	119	126	149
CAPITAL A BERHAD	DEC	(717.9)	(1,271.9)	(77.1)	475.6	400.5	361.6	126.0	NA	NM	(41.5)	(570)	NM	(61)	378	318	287
ALASKA AIR GROUP, INC.	DEC	478.0	(1,324.0)	769.0	437.0	960.0	797.0	848.0	6.9	(9.7)	NM	56	(156)	91	52	113	94
AMERICAN AIRLINES GROUP INC.	DEC	(1,993.0)	(8,885.0)	1,686.0	1,412.0	1,282.0	2,584.0	7,610.0	0.1	NM	(77.6)	(26)	(117)	22	19	17	34
ANA HOLDINGS INC.	# MAR	(1,182.8)	(3,658.5)	257.0	999.7	1,354.8	886.3	695.7	NA	NM	NM	(170)	(526)	37	144	195	127
ASIANA AIRLINES, INC.	DEC	(304.3)	(367.4)	(680.2)	(177.8)	235.8	40.9	(117.3)	27.9	NM	(9.3)	259	313	580	151	(201)	(35)
AVIANCA HOLDINGS S.A.	# JAN	NA	(1,086.9)	(913.7)	(24.8)	48.2	17.0	(154.1)	NA	NA	NA	NA	705	593	16	(31)	(11)
AZUL S.A.	DEC	(756.2)	(2,086.3)	(597.8)	(164.2)	128.1	(38.8)	(271.4)	44.6	101.7	(61.1)	279	769	220	61	(47)	14
CATHAY PACIFIC AIRWAYS LIMITED	DEC	(708.8)	(2,792.1)	217.1	299.4	(161.1)	(74.2)	774.2	NA	57.2	(74.5)	(92)	(361)	28	39	(21)	(10)
CEBU AIR, INC.	DEC	(483.6)	(462.9)	179.9	74.8	158.2	196.9	93.5	NA	NM	12.0	(517)	(495)	192	80	169	211
CHINA AIRLINES, LTD.	DEC	338.5	5.0	(40.1)	58.5	74.4	17.6	174.8	NA	75.0	6599.9	194	3	(23)	33	43	10
CHINA EASTERN AIRLINES CORPORATION LIMITED	DEC	(1,922.7)	(1,812.8)	458.9	393.9	976.2	649.2	699.4	NA	NM	3.2	(275)	(259)	66	56	140	93
CHINA SOUTHERN AIRLINES COMPANY LIMITED	DEC	(1,905.2)	(1,660.7)	380.7	433.7	908.9	728.2	599.5	NA	NM	11.6	(318)	(277)	64	72	152	121
COPA HOLDINGS, S.A.	DEC	43.8	(607.1)	247.0	88.2	362.6	323.4	(225.0)	(17.8)	(32.9)	NM	(19)	270	(110)	(39)	(161)	(144)
DELTA AIR LINES, INC.	DEC	280.0	(12,385.0)	4,767.0	3,935.0	3,205.0	4,195.0	4,526.0	(10.6)	(41.8)	NM	6	(274)	105	87	71	93
DEUTSCHE LUFTHANSA AG	DEC	(2,491.8)	(8,226.3)	1,361.2	2,476.5	2,809.8	1,874.8	1,844.1	67.0	NM	(67.4)	(135)	(446)	74	134	152	102
EASYJET PLC	SEP	(1,158.4)	(1,395.3)	429.3	467.0	408.9	569.0	829.2	NA	NM	(20.5)	(140)	(168)	52	56	49	69
EVA AIRWAYS CORP.	DEC	238.5	(119.7)	133.1	214.1	193.9	107.3	195.2	41.3	13.7	NM	122	(61)	68	110	99	55
FINNAIR OYJ	DEC	(528.0)	(640.0)	83.6	116.3	203.4	89.8	97.1	18.1	NM	(11.3)	(544)	(659)	86	120	209	93
GOL LINHAS AÉREAS INTELIGENTES S.A.	DEC	(1,296.1)	(1,153.1)	(29.2)	(280.4)	5.7	260.0	(1,126.1)	25.4	NM	20.6	115	102	3	25	(1)	(23)
GRUPO AEROMÉXICO, S.A.B. DE C.V.	DEC	(916.2)	(2,137.3)	(125.6)	(95.6)	(3.5)	54.0	67.3	NA	NM	(55.8)	NM	NM	(187)	(142)	(5)	80
HAINAN AIRLINES HOLDING CO., LTD.	DEC	743.1	(9,803.5)	74.5	(522.2)	510.7	452.0	462.5	6.0	8.5	NM	161	NM	16	(113)	110	98
HAWAIIAN HOLDINGS, INC.	DEC	(144.8)	(510.9)	224.0	233.2	330.6	224.1	182.6	49.2	NM	(71.7)	(79)	(280)	123	128	181	123
INTERGLOBE AVIATION LIMITED	# MAR	(811.9)	(793.7)	(31.0)	22.7	344.6	256.1	300.2	NA	NM	2384.8	(270)	(264)	(10)	8	115	85
INTERNATIONAL CONSOLIDATED AIRLINES GROUP S.A.	DEC	(3,335.6)	(8,483.2)	1,924.6	3,303.2	2,388.3	2,038.4	1,623.7	NA	NM	(57.7)	(205)	(522)	119	203	147	126
JAPAN AIRLINES CO., LTD.	# MAR	(1,462.1)	(2,592.2)	496.3	1,361.0	1,274.9	1,472.4	1,552.8	NA	NM	NM	(94)	(167)	32	88	82	95
JEJU AIR CO., LTD.	DEC	(228.6)	(281.6)	(28.7)	63.7	72.8	44.0	40.1	NA	NM	(11.2)	(570)	(703)	(72)	159	182	110
JET2 PLC	# MAR	NA	(373.6)	144.4	182.2	150.3	96.1	127.9	NA	NM	NM	NA	(292)	113	142	118	75
JETBLUE AIRWAYS CORPORATION	DEC	(182.0)	(1,354.0)	569.0	189.0	1,140.0	727.0	677.0	NA	NM	(86.6)	(27)	(200)	84	28	168	107
JUNEYAO AIRLINES CO., LTD	DEC	(78.3)	(72.6)	(72.6)	179.3	203.7	179.9	161.3	NA	NM	5.0	(49)	(45)	(45)	111	126	112
KOREAN AIR LINES CO., LTD.	DEC	485.0	(194.4)	(544.9)	(151.3)	740.9	(469.2)	(480.1)	NA	NM	NM	(101)	40	113	32	(154)	98
LATAM AIRLINES GROUP S.A.	DEC	(4,647.5)	(4,545.9)	190.4	309.8	155.3	69.2	(219.3)	NA	NM	2.2	2,119	2,073	(87)	(141)	(71)	(32)
NORWEGIAN AIR SHUTTLE ASA	DEC	212.3	(2,689.3)	(183.8)	(168.6)	(219.2)	131.9	27.8	31.4	10.5	NM	763	NM	(661)	(606)	(788)	474
PAL HOLDINGS, INC.	DEC	1,147.6	(1,494.8)	(203.3)	(82.6)	(146.7)	83.4	83.4	37.0	70.2	NM	1,376	NM	(244)	(99)	(176)	100
PEGASUS HAVA TASIMACILIGI ANONIM SIRKETI	DEC	(149.4)	(264.6)	224.1	95.8	132.7	(38.0)	38.8	62.5	71.3	0.4	(385)	(682)	578	247	342	(98)
PT. GARUDA INDONESIA (PERSERO) TBK	# JAN	NA	(2,443.0)	(38.9)	(231.2)	(216.6)	8.1	76.5	NA	NA	NA	NA	NM	(51)	(302)	(283)	11
PUBLIC JOINT STOCK COMPANY AEROFLOT - RUSSIAN AIRLINES	DEC	(454.5)	(1,590.4)	171.5	(782.8)	397.6	611.7	(81.1)	NA	NM	(71.0)	561	1,962	(212)	966	(491)	(755)

		Net Income															
Company	Yr. End	Million \$							CAGR(%)			Index Basis (2008=100)					
		2021	2020	2019	2018	2017	2016	2015	10-Yr.	5-Yr.	1-Yr.	2021	2020	2019	2018	2017	2016
GLOBAL AIRLINES																	
QANTAS AIRWAYS LIMITED	JUN	(1,295.5)	(1,356.0)	589.0	704.9	653.8	766.6	428.7	NA	NM	(12.0)	(302)	(316)	137	164	153	179
SAS AB (PUBL)	OCT	(759.4)	(1,038.7)	64.4	174.3	137.1	146.5	112.5	14.5	NM	(29.3)	(675)	(923)	57	155	122	130
SINGAPORE AIRLINES LIMITED	# MAR	(710.5)	(3,175.5)	(149.1)	504.0	993.4	258.0	598.0	NA	NM	1914.5	(119)	(531)	(25)	84	166	43
SKYWEST, INC.	DEC	111.9	(8.5)	340.1	280.4	428.9	(161.6)	117.8	NA	NM	NM	95	(7)	289	238	364	(137)
SOUTHWEST AIRLINES CO.	DEC	977.0	(3,074.0)	2,300.0	2,465.0	3,357.0	2,183.0	2,181.0	18.6	(14.9)	NM	45	(141)	NM	113	154	100
SPICEJET LIMITED	# MAR	NA	(140.8)	(124.4)	(43.6)	85.6	65.9	67.9	NA	NM	10.0	NA	(207)	(183)	(64)	126	97
SPIRIT AIRLINES, INC.	DEC	(472.6)	(428.7)	335.3	155.7	415.5	263.5	317.2	NA	NM	10.2	(149)	(135)	106	49	131	83
SPRING AIRLINES CO., LTD.	DEC	6.2	(90.1)	264.4	218.5	193.9	136.9	204.5	(22.2)	(47.2)	NM	3	(44)	129	107	95	67
THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED	DEC	1,660.0	(4,702.7)	(404.6)	(359.6)	(64.7)	0.4	(362.7)	NA	415.5	NM	(458)	1,296	112	99	18	(0)
TÜRK HAVA YOLLARI ANONİM ORTAKLIĞI	DEC	622.1	(752.4)	762.1	763.9	168.8	(13.4)	1,026.4	83.9	NM	NM	61	(73)	74	74	16	(1)
UNITED AIRLINES HOLDINGS, INC.	DEC	(1,964.0)	(7,069.0)	3,009.0	2,122.0	2,143.0	2,234.0	7,340.0	NA	NM	(72.2)	(27)	(96)	41	29	29	30
VIETJET AVIATION JOINT STOCK COMPANY	DEC	3.3	3.0	164.0	164.0	230.0	223.5	109.6	NA	(50.4)	8.7	3	3	150	150	210	204
VIETNAM AIRLINES JSC	DEC	(564.4)	(470.6)	101.0	100.6	100.6	104.4	90.2	NA	NM	18.1	(626)	(522)	112	112	112	116
WIZZ AIR HOLDINGS PLC	# MAR	NA	(671.5)	308.9	138.0	338.9	263.0	219.7	NA	NM	NM	NA	(306)	141	63	154	120

Note: Data as originally reported. CAGR-Compound annual growth rate. #Of the following calendar year.
Source: S&P Capital IQ.

Company	Yr. End	Return on Revenues (%)						Return on Assets (%)						Return on Equity (%)					
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016
GLOBAL AIRLINES																			
AIR CANADA	DEC	NM	NM	7.7	0.2	12.5	6.0	NM	NM	5.3	0.2	11.4	5.8	NM	NM	38.5	1.1	87.4	139.2
AIR CHINA LIMITED	DEC	NM	NM	4.7	5.4	6.0	6.0	NM	NM	2.2	3.0	3.1	3.0	NM	NM	7.2	8.4	10.1	10.9
AIR FRANCE-KLM SA	DEC	NM	NM	1.1	1.6	0.6	3.2	NM	NM	0.9	1.4	0.5	3.5	NM	NM	14.3	20.0	9.2	66.5
AIR NEW ZEALAND LIMITED	JUN	NM	NM	4.8	7.1	7.5	8.9	NM	NM	3.6	5.0	5.3	6.4	NM	NM	13.2	18.7	18.7	22.7
CAPITAL A BERHAD	DEC	NM	NM	NM	17.6	16.3	22.9	NM	NM	NM	10.6	7.5	7.4	NM	NM	NM	26.3	23.6	29.2
ALASKA AIR GROUP, INC.	DEC	7.7	NM	8.8	5.3	12.2	13.5	3.4	NM	5.9	4.0	8.9	8.0	14.1	NM	19.0	12.1	30.0	29.8
AMERICAN AIRLINES GROUP INC.	DEC	NM	NM	3.7	3.2	3.0	6.4	NM	NM	2.8	2.3	2.4	5.0	NM	NM	NM	NM	85.3	54.9
ANA HOLDINGS INC.	# MAR	NM	NM	1.4	5.4	7.3	5.6	NM	NM	1.1	4.1	5.6	4.3	NM	NM	2.4	10.6	15.1	11.6
ASIANA AIRLINES, INC.	DEC	NM	NM	NM	NM	3.8	0.9	NM	NM	NM	NM	2.9	0.6	NM	NM	NM	NM	22.4	5.4
AVIANCA HOLDINGS S.A.	# JAN	0.0	0.0	NM	NM	NM	1.1	NA	NA	NM	NM	NM	0.7	0.0	0.0	NM	NM	0.1	5.9
AZUL S.A.	DEC	NM	NM	NM	NM	5.5	NM	NM	NM	NM	NM	3.1	NM	NM	NM	NM	NM	139.0	NM
CATHAY PACIFIC AIRWAYS LIMITED	DEC	NM	NM	1.6	2.1	NM	NM	NM	NM	0.8	1.2	NM	NM	NM	NM	2.7	4.4	NM	NM
CEBU AIR, INC.	DEC	NM	NM	10.8	5.3	11.6	15.8	NM	NM	5.8	3.0	7.2	9.7	NM	NM	21.5	9.8	21.6	33.4
CHINA AIRLINES, LTD.	DEC	6.8	0.1	NM	1.0	1.4	0.4	3.2	0.0	NM	0.8	1.0	0.3	13.0	NM	NM	3.8	4.3	1.2
CHINA EASTERN AIRLINES CORPORATION LIMITED	DEC	NM	NM	2.6	2.4	6.2	4.6	NM	NM	1.1	1.1	2.8	2.1	NM	NM	5.4	5.1	12.8	11.3
CHINA SOUTHERN AIRLINES COMPANY LIMITED	DEC	NM	NM	1.7	2.1	4.6	4.4	NM	NM	0.9	1.2	2.7	2.5	NM	NM	4.0	4.9	11.7	11.3
COPA HOLDINGS, S.A.	DEC	2.9	NM	9.1	3.3	14.4	14.6	1.0	NM	5.7	2.0	8.2	8.4	3.4	NM	13.2	4.8	19.6	18.9
DELTA AIR LINES, INC.	DEC	0.9	NM	10.1	8.9	7.8	10.6	0.4	NM	7.4	6.5	6.0	8.2	10.3	NM	32.8	30.0	25.8	36.3
DEUTSCHE LUFTHANSA AG	DEC	NM	NM	3.3	6.1	6.6	5.6	NM	NM	2.8	5.7	6.5	5.1	NM	NM	12.6	23.5	29.2	27.8
EASYJET PLC	SEP	NM	NM	5.5	6.1	6.0	9.4	NM	NM	4.3	5.1	5.1	8.0	NM	NM	11.2	11.9	11.1	17.7
EVA AIRWAYS CORP.	DEC	6.4	NM	2.2	3.6	3.5	2.4	2.0	NM	1.1	2.7	2.5	1.6	7.9	NM	6.5	10.7	10.2	6.9
FINNAIR OYJ	DEC	NM	NM	2.4	3.6	6.6	3.7	NM	NM	1.9	2.6	5.9	3.4	NM	NM	7.9	10.5	18.1	10.7
GOL LINHAS AÉREAS INTELIGENTES S.A.	DEC	NM	NM	NM	NM	0.2	8.7	NM	NM	NM	NM	0.2	10.1	NM	NM	NM	NM	NM	NM
GRUPO AEROMÉXICO, S.A.B. DE C.V.	DEC	NM	NM	NM	NM	NM	2.1	NM	NM	NM	NM	NM	1.6	NM	NM	NM	NM	NM	8.9
HAINAN AIRLINES HOLDING CO., LTD.	DEC	13.9	NM	0.7	NM	5.5	7.7	3.3	NM	0.2	NM	1.7	2.1	NM	NM	1.1	NM	5.5	6.4
HAWAIIAN HOLDINGS, INC.	DEC	NM	NM	7.9	8.2	12.4	9.2	NM	NM	5.4	7.3	11.5	8.3	NM	NM	22.1	26.0	43.3	39.8
INTERGLOBE AVIATION LIMITED	# MAR	NM	NM	NM	0.6	9.7	8.9	NM	NM	NM	0.6	10.6	10.9	NM	NM	NM	2.2	41.3	59.1
INTERNATIONAL CONSOLIDATED AIRLINES GROUP S.A.	DEC	NM	NM	6.7	11.9	8.7	8.6	NM	NM	4.8	10.3	7.3	7.1	NM	NM	25.3	42.4	31.9	34.9
JAPAN AIRLINES CO., LTD.	# MAR	NM	NM	3.8	10.1	9.8	12.7	NM	NM	2.9	7.4	7.3	9.5	NM	NM	4.9	13.5	13.4	18.2
JEJU AIR CO., LTD.	DEC	NM	NM	NM	5.6	7.8	7.1	NM	NM	NM	6.9	9.7	8.8	NM	NM	NM	19.9	25.8	21.0
JET2 PLC	# MAR	0.0	NM	3.2	4.7	4.5	4.4	NA	NM	3.4	4.4	4.4	3.3	0.0	NM	18.4	25.0	22.7	20.5
JETBLUE AIRWAYS CORPORATION	DEC	NM	NM	7.0	2.5	16.3	11.0	NM	NM	4.8	1.7	11.7	7.8	NM	NM	12.0	4.0	26.1	20.1
JUNEYAO AIRLINES CO., LTD	DEC	NM	NM	5.9	8.6	10.7	12.6	NM	NM	3.0	5.7	6.6	7.2	NM	NM	9.0	13.5	16.4	22.3
KOREAN AIR LINES CO., LTD.	DEC	6.4	NM	NM	NM	6.5	NM	2.2	NM	NM	NM	3.2	NM	11.4	NM	NM	0.0	28.5	NM
LATAM AIRLINES GROUP S.A.	DEC	NM	NM	1.9	3.1	1.6	0.8	NM	NM	0.9	1.5	0.8	0.4	NM	NM	6.0	8.9	4.7	3.1
NORWEGIAN AIR SHUTTLE ASA	DEC	36.9	NM	NM	NM	NM	4.4	9.9	NM	NM	NM	NM	3.0	NM	NM	NM	NM	NM	32.4
PAL HOLDINGS, INC.	DEC	100.7	NM	NM	NM	NM	3.6	30.5	NM	NM	NM	NM	2.5	NM	NM	NM	NM	NM	26.3
PEGASUS HAVA TASIMACILIGI ANONIM SIRKETI	DEC	NM	NM	12.1	6.1	9.4	NM	NM	NM	6.3	3.7	6.2	NM	NM	NM	29.5	16.2	24.7	NM
PT. GARUDA INDONESIA (PERSERO) TBK	# JAN	0.0	0.0	NM	NM	NM	NM	NA	NA	NM	NM	NM	NM	0.0	0.0	NM	NM	NM	NM
PUBLIC JOINT STOCK COMPANY AEROFLOT - RUSSIAN AIRLINES	DEC	NM	NM	1.6	NM	4.3	7.6	NM	NM	1.1	NM	7.1	12.5	NM	NM	NM	NM	42.7	1670.3

Company	Yr. End	Return on Revenues (%)						Return on Assets (%)						Return on Equity (%)					
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016
GLOBAL AIRLINES																			
QANTAS AIRWAYS LIMITED	JUN	NM	NM	4.7	5.6	5.3	6.4	NM	NM	4.1	5.1	4.9	6.2	NM	NM	24.1	25.4	25.1	30.7
SAS AB (PUBL)	OCT	NM	NM	1.3	3.6	2.7	3.3	NM	NM	1.8	4.7	3.5	4.2	NM	NM	9.8	20.8	16.3	21.4
SINGAPORE AIRLINES LIMITED	# MAR	NM	NM	NM	4.2	8.2	2.4	NM	NM	NM	2.2	5.0	1.5	NM	NM	NM	5.4	10.1	3.3
SKYWEST, INC.	DEC	4.1	NM	11.4	8.7	13.7	NM	1.6	NM	5.1	4.4	7.8	NM	5.1	NM	16.4	15.1	27.6	NM
SOUTHWEST AIRLINES CO.	DEC	6.2	NM	10.3	11.2	15.9	10.8	2.7	NM	8.9	9.4	13.4	9.4	10.1	NM	23.4	25.3	37.1	27.6
SPICEJET LIMITED	# MAR	0.0	NM	NM	NM	7.2	6.9	NA	NM	NM	NM	13.9	14.3	0.0	NM	NM	NM	NM	NM
SPIRIT AIRLINES, INC.	DEC	NM	NM	8.8	4.7	15.7	11.4	NM	NM	4.8	3.0	10.0	8.4	NM	NM	16.0	8.4	26.3	20.1
SPRING AIRLINES CO., LTD.	DEC	0.4	NM	12.4	11.5	11.5	11.3	0.1	NM	6.3	5.7	6.1	4.8	0.3	NM	NM	13.8	16.0	13.7
THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED	DEC	255.5	NM	NM	NM	NM	0.0	34.2	NM	NM	NM	NM	0.0	NM	NM	NM	NM	NM	0.1
TÜRK HAVA YOLLARI ANONİM ORTAKLIĞI	DEC	8.4	NM	6.0	6.4	1.6	NM	2.3	NM	3.1	3.7	0.9	NM	12.6	NM	12.6	15.7	3.4	NM
UNITED AIRLINES HOLDINGS, INC.	DEC	NM	NM	7.0	5.1	5.7	6.1	NM	NM	5.7	4.3	5.1	5.6	NM	NM	27.9	22.6	24.6	25.4
VIETJET AVIATION JOINT STOCK COMPANY	DEC	0.6	0.4	7.5	10.0	12.0	9.1	0.1	0.2	7.8	13.6	16.0	12.4	0.5	0.5	26.3	43.3	66.2	72.5
VIETNAM AIRLINES JSC	DEC	NM	NM	2.4	2.4	2.9	2.9	NM	NM	3.1	2.8	2.7	2.1	NM	NM	13.6	14.4	15.8	14.8
WIZZ AIR HOLDINGS PLC	# MAR	0.0	NM	10.2	5.3	14.2	15.7	NA	NM	6.5	3.1	12.8	14.5	0.0	NM	23.0	10.4	25.2	30.0

Note: Data as originally reported. CAGR-Compound annual growth rate. #
Source: S&P Capital IQ.

Company	Yr. End	Current Ratio						Debt/Capital Ratio (%)						Debt as a % of Net Working Capital					
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016
GLOBAL AIRLINES																			
AIR CANADA	DEC	1.5	1.2	1.0	1.1	1.1	1.0	99.9	82.6	54.1	64.9	61.4	82.9	410.1	531.9	NM	969.1	1840.5	NM
AIR CHINA LIMITED	DEC	0.3	0.2	0.3	0.3	0.3	0.3	74.7	54.4	31.8	31.5	36.6	50.3	NM	NM	(71.1)	(75.5)	(84.0)	NM
AIR FRANCE-KLM SA	DEC	0.9	0.8	0.7	0.6	0.8	0.8	183.6	189.6	59.5	61.5	54.0	75.3	NM	NM	(82.1)	(63.0)	(94.8)	NM
AIR NEW ZEALAND LIMITED	JUN	0.4	0.5	0.7	0.8	0.8	0.9	48.1	49.7	40.6	40.0	36.9	28.5	(67.0)	NM	NM	NM	NM	NM
CAPITAL A BERHAD	DEC	0.3	0.3	0.7	1.3	0.8	1.0	(36.0)	(14.1)	4.7	9.6	51.3	55.2	(26.5)	(7.7)	(7.8)	33.5	NM	NM
ALASKA AIR GROUP, INC.	DEC	1.0	0.9	0.6	0.6	0.8	0.8	36.4	44.3	22.7	30.2	39.6	47.4	NM	NM	NM	NM	NM	NM
AMERICAN AIRLINES GROUP INC.	DEC	0.9	0.7	0.4	0.5	0.6	0.7	126.5	130.6	100.6	100.8	103.7	85.6	NM	NM	NM	NM	NM	NM
ANA HOLDINGS INC.	# MAR	1.9	2.4	1.1	1.0	1.2	1.2	69.6	63.3	40.3	37.4	40.6	39.2	265.2	217.6	1778.4	4631.5	662.9	632.2
ASIANA AIRLINES, INC.	DEC	0.5	0.3	0.3	0.4	0.3	0.4	360.2	204.7	100.4	55.0	63.8	62.7	NM	(84.8)	(45.7)	(61.3)	(61.7)	(62.0)
AVIANCA HOLDINGS S.A.	# JAN	NA	NA	0.2	0.6	0.5	0.7	NA	NA	(39.2)	103.7	80.0	72.1	NA	NA	(8.2)	NM	NM	NM
AZUL S.A.	DEC	0.5	0.5	0.6	0.7	0.8	0.5	(100.9)	(93.3)	(681.5)	190.7	122.1	76.4	NM	NM	NM	NM	NM	NM
CATHAY PACIFIC AIRWAYS LIMITED	DEC	0.7	0.6	0.5	0.6	0.8	0.7	35.1	34.1	40.7	39.1	44.5	39.4	NM	NM	NM	NM	NM	NM
CEBU AIR, INC.	DEC	0.7	0.4	0.6	0.7	0.7	0.5	90.5	74.8	52.8	54.1	46.8	51.6	NM	NM	NM	NM	NM	NM
CHINA AIRLINES, LTD.	DEC	1.6	1.0	0.7	0.9	0.8	0.7	56.6	65.8	56.0	59.8	59.6	57.7	300.9	NM	NM	NM	NM	NM
CHINA EASTERN AIRLINES CORPORATION LIMITED	DEC	0.3	0.2	0.3	0.2	0.2	0.2	83.6	90.4	48.8	56.9	73.5	70.4	NM	NM	(80.7)	(84.9)	(96.2)	NM
CHINA SOUTHERN AIRLINES COMPANY LIMITED	DEC	0.3	0.4	0.2	0.3	0.3	0.2	71.9	60.5	53.4	43.1	49.9	61.2	NM	NM	(61.4)	(67.8)	(80.0)	(83.0)
COPA HOLDINGS, S.A.	DEC	1.2	1.5	1.2	0.9	1.0	1.2	48.6	44.7	32.7	35.2	32.1	22.5	661.9	255.2	396.2	NM	2936.3	258.1
DELTA AIR LINES, INC.	DEC	0.8	1.1	0.4	0.3	0.4	0.5	89.9	98.5	37.5	41.7	39.1	35.2	NM	1870.8	(73.5)	(73.8)	(66.0)	(82.6)
DEUTSCHE LUFTHANSA AG	DEC	0.9	0.7	0.7	0.7	0.9	0.9	74.6	88.0	37.1	32.3	38.9	26.0	NM	NM	NM	(81.8)	NM	NM
EASYJET PLC	SEP	1.6	0.7	0.8	1.0	1.0	0.9	59.2	75.0	30.8	21.4	23.9	17.2	228.5	NM	NM	NM	1371.9	NM
EVA AIRWAYS CORP.	DEC	1.4	1.2	0.9	1.2	1.1	1.1	50.0	55.6	49.0	53.3	54.1	54.3	499.5	913.0	NM	531.7	879.9	993.4
FINNAIR OYJ	DEC	1.3	1.6	1.0	1.1	1.3	1.5	67.5	55.3	33.1	36.3	34.0	37.4	331.7	303.6	1787.3	555.8	160.8	121.2
GOL LINHAS AÉREAS INTELIGENTES S.A.	DEC	0.2	0.3	0.5	0.5	0.6	0.4	(116.5)	(136.9)	(527.3)	699.7	299.8	579.7	NM	NM	NM	NM	NM	NM
GRUPO AEROMÉXICO, S.A.B. DE C.V.	DEC	0.3	0.1	0.4	0.6	0.7	0.6	(18.6)	(53.9)	65.0	38.5	65.1	50.0	(11.7)	(13.9)	(43.6)	(53.0)	NM	NM
HAINAN AIRLINES HOLDING CO., LTD.	DEC	1.3	0.4	0.5	0.4	0.6	0.9	81.6	(165.7)	63.2	48.5	63.3	45.2	707.8	(32.8)	(60.2)	(48.5)	NM	NM
HAWAIIAN HOLDINGS, INC.	DEC	1.8	1.1	0.8	0.7	0.8	1.0	75.0	63.3	33.6	28.5	30.0	42.3	188.8	908.3	NM	NM	NM	NM
INTERGLOBE AVIATION LIMITED	# MAR	0.9	1.1	1.4	2.3	2.4	2.0	(69.9)	508.8	5.6	7.8	6.7	10.9	NM	132.6	5.8	5.8	6.0	9.9
INTERNATIONAL CONSOLIDATED AIRLINES GROUP S.A.	DEC	0.8	0.7	0.9	0.9	1.0	1.0	92.1	82.1	30.9	17.5	19.1	23.7	NM	NM	NM	NM	2690.2	392.9
JAPAN AIRLINES CO., LTD.	# MAR	1.6	1.2	1.5	1.7	1.7	1.7	49.9	29.0	13.4	9.3	8.7	8.4	300.6	440.4	104.4	40.2	35.9	34.8
JEJU AIR CO., LTD.	DEC	0.8	0.7	0.8	1.2	1.2	1.7	95.4	84.0	15.0	14.5	2.4	7.5	NM	NM	(56.8)	86.7	9.7	11.5
JET2 PLC	# MAR	NA	1.8	1.1	1.2	1.2	1.1	NA	49.9	44.0	41.8	35.9	36.5	NA	102.7	189.1	180.0	146.7	327.0
JETBLUE AIRWAYS CORPORATION	DEC	1.0	1.3	0.7	0.5	0.6	0.6	46.2	50.5	28.7	21.4	17.5	22.9	NM	601.3	NM	NM	NM	NM
JUNEYAO AIRLINES CO., LTD	DEC	0.2	0.4	0.5	0.6	0.7	0.6	86.7	72.5	51.9	56.9	54.3	53.3	NM	NM	NM	NM	NM	NM
KOREAN AIR LINES CO., LTD.	DEC	0.7	0.4	0.4	0.5	0.5	0.4	40.0	81.9	73.9	70.6	63.9	92.1	NM	NM	NM	NM	NM	(74.7)
LATAM AIRLINES GROUP S.A.	DEC	0.2	0.4	0.6	0.6	0.6	0.6	(61.0)	199.7	64.1	62.5	60.6	61.8	(28.2)	NM	NM	NM	NM	NM
NORWEGIAN AIR SHUTTLE ASA	DEC	1.6	0.7	0.6	0.4	0.6	0.4	54.9	(6.6)	84.3	97.6	94.1	83.6	104.9	(2.8)	NM	NM	NM	NM
PAL HOLDINGS, INC.	DEC	0.8	0.2	0.5	0.4	0.4	0.5	99.3	(34.7)	139.8	127.5	111.0	63.5	NM	(12.5)	(87.5)	(82.9)	(80.8)	(80.1)
PEGASUS HAVA TASIMACILIGI ANONIM SIRKETI	DEC	1.0	0.8	1.3	1.2	1.7	1.4	70.9	38.0	14.2	21.5	21.8	0.0	103455.1	NM	57.3	93.0	43.9	0.0
PT. GARUDA INDONESIA (PERSERO) TBK	# JAN	NA	NA	0.1	0.3	0.4	0.5	NA	NA	(72.9)	169.0	163.2	95.4	NA	NA	(31.9)	(49.5)	(67.4)	NM
PUBLIC JOINT STOCK COMPANY AEROFLOT - RUSSIAN AIRLINES	DEC	0.7	0.7	0.6	0.6	1.2	1.1	(417.4)	(143.8)	305.2	(6.0)	4.5	30.2	NM	(92.1)	(17.4)	(3.5)	11.7	166.1

Company	Yr. End	Current Ratio						Debt/Capital Ratio (%)						Debt as a % of Net Working Capital					
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016
GLOBAL AIRLINES																			
QANTAS AIRWAYS LIMITED	JUN	0.5	0.6	0.5	0.5	0.4	0.5	91.9	79.2	60.0	44.5	47.0	48.4	NM	NM	(93.7)	(79.9)	(79.1)	(85.6)
SAS AB (PUBL)	OCT	0.5	0.7	0.8	0.9	0.8	0.8	73.2	59.5	70.8	42.4	42.0	58.5	NM	NM	NM	NM	NM	NM
SINGAPORE AIRLINES LIMITED	# MAR	2.2	1.7	0.4	0.7	0.8	0.9	33.3	39.4	42.6	32.0	19.0	10.3	116.2	266.9	NM	NM	NM	NM
SKYWEST, INC.	DEC	0.9	1.0	0.8	1.1	1.2	1.2	54.5	56.7	54.7	58.9	57.5	62.4	NM	6819.7	NM	2927.8	1363.9	1313.6
SOUTHWEST AIRLINES CO.	DEC	2.0	2.0	0.7	0.6	0.7	0.7	48.7	52.1	11.7	16.4	25.7	25.3	111.6	126.0	(43.8)	(67.4)	NM	NM
SPICEJET LIMITED																			
SPICEJET AIRLINES, INC.	# MAR	NA	0.3	0.3	0.4	0.3	0.3	NA	(31.2)	(77.9)	471.6	169.5	629.3	NA	(13.9)	(20.2)	(43.3)	(46.8)	(58.4)
SPRING AIRLINES CO., LTD.	DEC	1.4	1.8	1.2	1.6	1.9	1.8	58.5	57.7	46.4	51.2	44.0	39.2	524.8	302.3	716.6	396.3	224.6	202.2
THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED	DEC	0.9	0.9	1.1	1.3	1.2	1.3	60.1	57.6	40.6	42.9	51.8	54.6	NM	NM	739.0	361.8	625.5	484.7
TÜRK HAVA YOLLARI ANONİM ORTAKLIĞI	DEC	0.5	0.1	0.6	0.5	0.6	0.7	(983.4)	(11.7)	91.3	81.7	76.8	77.3	NM	(5.3)	NM	NM	NM	NM
	DEC	0.7	0.6	0.8	0.9	0.8	0.8	35.3	52.4	34.7	32.6	15.5	28.1	NM	NM	NM	NM	NM	NM
UNITED AIRLINES HOLDINGS, INC.																			
VIETJET AVIATION JOINT STOCK COMPANY	DEC	1.2	1.2	0.5	0.5	0.6	0.6	85.8	80.6	53.3	54.9	57.3	53.4	860.1	1196.9	NM	NM	NM	NM
VIETNAM AIRLINES JSC	DEC	1.7	1.3	1.2	1.3	1.3	1.0	55.5	54.0	63.3	37.4	66.5	124.0	122.3	158.9	252.0	132.1	198.5	NM
WIZZ AIR HOLDINGS PLC	# MAR	0.3	0.3	0.6	0.6	0.6	0.8	258.1	105.3	34.3	41.0	48.2	66.5	(57.5)	(58.9)	(74.5)	(94.6)	NM	NM
	MAR	NA	1.3	1.2	1.5	1.9	1.8	NA	37.3	2.1	2.2	2.1	2.7	NA	152.0	10.5	5.0	4.6	6.2

Note: Data as originally reported. CAGR-Compound annual growth rate. #Of the following calendar year.
Source: S&P Capital IQ.

Company	Yr. End	Price/Earnings Ratio (High-Low)						Dividend Payout Ratio (%)						Dividend Yield (High-Low, %)					
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016
GLOBAL AIRLINES																			
AIR CANADA	DEC	NM - NM	NM - NM	9 - 5	213 - 152	4 - 2	5 - 2	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
AIR CHINA LIMITED	DEC	NM - NM	NM - NM	22 - 13	24 - 11	18 - 9	12 - 8	NM	NM	97	60	71	70	0.0 - 0.0	1.0 - 0.0	2.5 - 0.8	2.1 - 1.2	2.2 - 1.1	2.4 - 1.4
AIR FRANCE-KLM SA	DEC	NM - NM	NM - NM	20 - 12	15 - 7	38 - 13	3 - 2	0	0	9	9	23	5	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
AIR NEW ZEALAND LIMITED	JUN	NM - NM	NM - NM	14 - 9	10 - 8	10 - 5	8 - 5	0	NM	94	67	62	50	0.0 - 0.0	0.0 - 0.0	14.3 - 0.0	9.9 - 6.5	7.6 - 5.6	11.7 - 6.6
CAPITAL A BERHAD	DEC	NM - NM	NM - NM	NM - NM	8 - 4	7 - 4	6 - 2	0	0	NM	20	49	7	0.0 - 0.0	0.0 - 0.0	21.8 - 0.0	14.5 - 3.6	5.0 - 2.6	4.1 - 1.3
ALASKA AIR GROUP, INC.	DEC	19 - 12	NM - NM	12 - 9	21 - 16	13 - 8	14 - 9	0	NM	22	36	15	17	0.0 - 0.0	0.0 - 0.0	5.9 - 0.0	2.6 - 1.8	2.2 - 1.6	1.9 - 1.1
AMERICAN AIRLINES GROUP INC.	DEC	NM - NM	NM - NM	10 - 6	19 - 10	21 - 15	11 - 5	0	NM	11	13	15	9	0.0 - 0.0	0.0 - 0.0	4.3 - 0.0	1.6 - 1.0	1.3 - 0.7	1.0 - 0.7
ANA HOLDINGS INC.	#	MAR	NM - NM	49 - 30	14 - 11	11 - 8	13 - 9	0	0	91	18	15	18	0.0 - 0.0	3.4 - 0.0	2.6 - 1.7	2.0 - 1.4	1.8 - 1.3	2.3 - 1.5
ASIANA AIRLINES, INC.	DEC	NM - NM	NM - NM	NM - NM	NM - NM	5 - 3	24 - 16	NM	NM	NM	NM	1	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
AVIANCA HOLDINGS S.A.	#	JAN	NM - NM	NM - NM	NM - NM	78545 - 31935	229008 - 84850	0	0	0	NM	NM	53	0.0 - 0.0	3.8 - 0.0	6.3 - 2.6	6.1 - 2.3	3.2 - 1.6	14.9 - 1.6
AZUL S.A.	DEC	NM - NM	NM - NM	NM - NM	NM - NM	23 - 16	NA - NA	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
CATHAY PACIFIC AIRWAYS LIMITED	DEC	NM - NM	NM - NM	32 - 22	25 - 17	NM - NM	NM - NM	0	0	88	25	0	NM	0.0 - 0.0	0.0 - 0.0	4.1 - 0.0	4.2 - 0.7	1.0 - 0.3	5.3 - 0.0
CEBU AIR, INC.	DEC	NM - NM	NM - NM	NM - NM	16 - 9	NM - NM	NM - NM	0	0	13	44	8	6	0.0 - 0.0	0.0 - 0.0	8.1 - 0.0	12.1 - 4.9	7.3 - 2.7	2.9 - 1.8
CHINA AIRLINES, LTD.	DEC	18 - 6	501 - 213	NM - NM	39 - 27	33 - 22	115 - 87	0	0	NM	67	0	439	3.4 - 2.8	2.1 - 1.6	3.8 - 2.1	2.4 - 1.9	2.4 - 0.0	5.0 - 0.0
CHINA EASTERN AIRLINES CORPORATION LIMITED	DEC	NM - NM	NM - NM	39 - 22	46 - 24	19 - 15	24 - 17	NM	NM	172	188	70	87	0.0 - 0.0	1.1 - 0.0	1.2 - 0.0	1.1 - 0.0	1.5 - 0.6	1.7 - 1.3
CHINA SOUTHERN AIRLINES COMPANY LIMITED	DEC	NM - NM	NM - NM	45 - 30	46 - 21	21 - 12	17 - 11	NM	NM	288	176	80	68	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
COPA HOLDINGS, S.A.	DEC	91 - 64	NM - NM	19 - 13	68 - 33	16 - 11	12 - 6	0	NM	45	167	29	27	0.0 - 0.0	0.0 - 0.0	11.6 - 0.0	4.8 - 2.3	5.1 - 2.1	2.5 - 1.5
DELTA AIR LINES, INC.	DEC	117 - 76	NM - NM	9 - 6	11 - 8	13 - 10	9 - 6	0	NM	21	23	23	12	0.0 - 0.0	0.0 - 0.0	2.9 - 0.0	3.1 - 2.3	2.8 - 2.0	2.7 - 1.5
DEUTSCHE LUFTHANSA AG	DEC	NM - NM	NM - NM	9 - 5	7 - 4	NA - NA	NA - NA	0	0	31	16	10	13	0.0 - 0.0	0.0 - 0.0	9.7 - 0.0	6.2 - 3.4	4.6 - 1.6	4.4 - 1.7
EASJET PLC	SEP	NM - NM	NM - NM	15 - 10	20 - 13	18 - 11	16 - 9	0	NM	67	45	70	50	0.0 - 0.0	9.3 - 0.0	9.2 - 2.8	6.9 - 2.7	4.7 - 2.3	6.3 - 3.8
EVA AIRWAYS CORP.	DEC	23 - 9	NM - NM	19 - 16	11 - 9	12 - 10	21 - 15	0	NM	59	13	14	33	2.0 - 0.0	2.1 - 0.0	5.7 - 1.9	3.6 - 1.2	1.4 - 1.2	2.0 - 1.2
FINNAIR OYJ	DEC	NM - NM	NM - NM	18 - 11	19 - 8	11 - 3	11 - 7	NM	NM	68	53	17	22	0.0 - 0.0	0.0 - 0.0	8.2 - 4.2	4.7 - 3.2	5.1 - 0.8	2.4 - 0.8
GOL LINHAS AÉREAS INTELIGENTES S.A.	DEC	NM - NM	NM - NM	NM - NM	NM - NM	288 - 83	3 - 0	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
GRUPO AEROMÉXICO, S.A.B. DE C.V.	DEC	NM - NM	NM - NM	NM - NM	NM - NM	NM - NM	27 - 22	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
HAINAN AIRLINES HOLDING CO., LTD.	DEC	1 - 1	NM - NM	68 - 39	NM - NM	3 - 3	3 - 3	2	NM	1084	NM	178	116	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.9 - 0.0	1.5 - 0.6	1.4 - 1.2
HAWAIIAN HOLDINGS, INC.	DEC	NM - NM	NM - NM	7 - 5	9 - 5	10 - 5	14 - 7	0	NM	10	10	2	0	0.0 - 0.0	0.0 - 0.0	5.6 - 0.0	2.1 - 1.2	1.5 - 1.1	1.5 - 1.1
INTERGLOBE AVIATION LIMITED	#	MAR	NM - NM	NM - NM	368 - 177	22 - 17	24 - 17	0	0	NM	147	55	33	0.0 - 0.0	0.6 - 0.0	0.5 - 0.3	3.2 - 0.5	3.3 - 1.3	1.9 - 0.0
INTERNATIONAL CONSOLIDATED AIRLINES GROUP S.A.	DEC	NM - NM	NM - NM	8 - 5	5 - 4	7 - 5	7 - 4	0	0	36	20	26	23	0.0 - 0.0	0.0 - 0.0	14.6 - 0.0	7.3 - 3.8	4.6 - 3.3	4.5 - 3.3
JAPAN AIRLINES CO., LTD.	#	MAR	NM - NM	25 - 12	10 - 9	12 - 8	9 - 6	NM	NM	71	26	38	26	0.0 - 0.0	6.3 - 0.0	4.1 - 2.7	2.9 - 2.4	2.8 - 2.3	4.1 - 2.5
JEJU AIR CO., LTD.	DEC	NM - NM	NM - NM	NM - NM	19 - 11	13 - 8	20 - 12	NM	NM	NM	22	17	20	0.0 - 0.0	0.0 - 0.0	3.5 - 0.0	2.8 - 2.6	0.0 - 0.0	0.0 - 0.0
JET2 PLC	#	MAR	NM - NM	25 - 4	11 - 8	12 - 7	13 - 7	0	0	13	9	7	9	0.0 - 0.0	3.3 - 0.0	1.4 - 0.5	1.0 - 0.6	1.1 - 0.6	1.1 - 0.4
JETBLUE AIRWAYS CORPORATION	DEC	NM - NM	NM - NM	10 - 8	38 - 25	7 - 5	11 - 7	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
JUNEYAO AIRLINES CO., LTD.	DEC	NM - NM	NM - NM	31 - 22	26 - 16	24 - 18	36 - 21	NM	NM	50	63	51	49	0.8 - 0.0	1.0 - 0.6	1.1 - 0.0	1.9 - 0.0	2.7 - 1.3	2.7 - 2.0
KOREAN AIR LINES CO., LTD.	DEC	20 - 15	NM - NM	NM - NM	NM - NM	4 - 3	NM - NM	3	NM	NM	NM	4	NM	0.0 - 0.0	0.0 - 0.0	1.4 - 0.0	1.1 - 0.9	0.0 - 0.0	0.0 - 0.0
LATAM AIRLINES GROUP S.A.	DEC	NM - NM	NM - NM	28641 - 17766	20487 - 11554	34951 - 21765	51010 - 25870	0	0	29	15	13	0	0.0 - 0.0	6.7 - 0.0	10.8 - 0.8	1.2 - 0.6	0.9 - 0.2	0.4 - 0.2
NORWEGIAN AIR SHUTTLE ASA	DEC	27 - 3	NM - NM	NM - NM	NM - NM	NM - NM	12 - 8	20	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
PAL HOLDINGS, INC.	DEC	1 - 1	NM - NM	NM - NM	NM - NM	NM - NM	38 - 25	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
PEGASUS HAVA TASIMACILIGIANONIM SIRKETI	DEC	NM - NM	NM - NM	7 - 2	8 - 4	7 - 3	NM - NM	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
PT. GARUDA INDONESIA (PERSERO) TBK	#	JAN	NM - NM	NM - NM	NM - NM	NM - NM	1919355 - 958065	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0
PUBLIC JOINT STOCK COMPANY AEROFLOT - RUSSIAN AIRLINES	DEC	NM - NM	NM - NM	11 - 9	NM - NM	NA - NA	NA - NA	0	NM	31	NM	82	0	0.0 - 0.0	0.0 - 0.0	2.9 - 0.0	13.2 - 2.4	14.0 - 8.8	11.8 - 7.8

Company	Yr. End	Price/Earnings Ratio (High-Low)								Dividend Payout Ratio (%)						Dividend Yield (High-Low, %)					
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016		
GLOBAL AIRLINES																					
QANTAS AIRWAYS LIMITED	JUN	NM - NM	NM - NM	13 - 10	12 - 9	12 - 6	8 - 6	0	NM	43	26	31	0	0.0 - 0.0	6.5 - 0.0	12.1 - 3.5	4.6 - 2.0	2.9 - 2.2	3.9 - 2.0		
SAS AB (PUBL)	OCT	NM - NM	NM - NM	16 - 8	7 - 4	11 - 6	10 - 5	NM	NM	4	14	30	26	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0		
SINGAPORE AIRLINES LIMITED	# MAR	NM - NM	NM - NM	NM - NM	10 - 9	38 - 32	18 - 14	0	0	NM	66	19	145	0.0 - 0.0	7.5 - 0.0	4.4 - 3.1	4.4 - 1.7	4.4 - 1.7	4.6 - 1.9		
SKYWEST, INC.	DEC	27 - 17	NM - NM	10 - 6	12 - 8	7 - 4	NM - NM	0	NM	7	7	4	NM	0.0 - 0.0	0.0 - 0.0	4.6 - 0.0	1.0 - 0.7	0.8 - 0.6	1.1 - 0.5		
SOUTHWEST AIRLINES CO.	DEC	39 - 24	NM - NM	14 - 11	15 - 10	12 - 9	15 - 10	0	NM	16	13	8	10	0.0 - 0.0	0.0 - 0.0	3.0 - 0.0	1.5 - 1.1	1.3 - 0.8	1.0 - 0.7		
						NM - NM	NM														
SPICEJET LIMITED	# MAR	NM - NM	NM - NM	NM - NM	17 - 10	14 - 8	12 - 2	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0		
SPIRIT AIRLINES, INC.	DEC	NM - NM	NM - NM	NM - NM	NM - NM	10 - 5	NM - NM	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0		
SPRING AIRLINES CO., LTD.	DEC	1715 - 1187	NM - NM	23 - 15	24 - 18	26 - 19	53 - 31	1223	NM	31	30	34	55	0.0 - 0.0	0.4 - 0.0	0.7 - 0.4	0.6 - 0.4	0.6 - 0.4	0.7 - 0.4		
THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED	DEC	0 - 0	NM - NM	NM - NM	NM - NM	NM - NM	NM - NM	0	NM	NM	NM	NM	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0		
TÜRK HAVA YOLLARI ANONİM ORTAKLIĞI	DEC	4 - 2	NM - NM	5 - 3	7 - 4	33 - 10	NM - NM	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0		
UNITED AIRLINES HOLDINGS, INC.	DEC	NM - NM	NM - NM	8 - 7	13 - 8	12 - 8	11 - 6	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0		
VIETJET AVIATION JOINT STOCK COMPANY	DEC	987 - 761	1132 - 722	21 - 16	19 - 12	13 - 7	NA - NA	0	0	14	38	17	0	0.0 - 0.0	0.0 - 0.0	3.2 - 2.0	3.3 - 2.1	2.9 - 1.1	3.3 - 0.8		
VIETNAM AIRLINES JSC	DEC	NM - NM	NM - NM	27 - 20	NA - NA	NA - NA	NA - NA	NM	NM	73	56	43	21	0.0 - 0.0	0.0 - 0.0	5.6 - 2.8	3.1 - 0.0	0.0 - 0.0	0.0 - 0.0		
WIZZ AIR HOLDINGS PLC	# MAR	NM - NM	12 - 5	22 - 14	9 - 4	5 - 3	6 - 4	0	0	0	0	0	0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0	0.0 - 0.0		

Note: Data as originally reported. CAGR-Compound annual growth rate. #Of the following calendar year.
Source: S&P Capital IQ.

Company	Yr. End	Earnings per Share (\$)						Tangible Book Value per Share (\$)						Share Price (High-Low, \$)											
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016						
GLOBAL AIRLINES																									
AIR CANADA	DEC	(8.11)	(12.93)	4.18	0.10	5.83	2.31	(9.59)	(6.36)	0.37	6.94	8.16	1.62	24.50	- 15.26	41.37	- 7.27	39.37	- 19.08	21.54	- 14.90	22.89	- 9.96	11.06	- 5.07
AIR CHINA LIMITED	DEC	(0.19)	(0.16)	0.07	0.08	0.08	0.08	0.62	0.77	0.88	0.88	0.85	0.70	0.95	- 0.60	1.08	- 0.58	1.44	- 0.78	1.64	- 0.75	1.25	- 0.63	0.83	- 0.55
AIR FRANCE-KLM SA	DEC	(6.77)	(20.32)	0.69	1.05	0.44	2.38	(14.95)	(19.45)	0.94	(0.07)	1.32	(2.12)	6.78	- 4.11	12.56	- 3.20	14.29	- 8.37	16.61	- 7.61	17.59	- 5.74	9.33	- 4.87
AIR NEW ZEALAND LIMITED	JUN	(0.18)	(0.26)	0.16	0.23	0.25	0.29	0.58	0.65	1.08	1.21	1.20	1.26	1.30	- 0.96	2.20	- 0.58	2.23	- 1.50	2.30	- 1.74	2.56	- 1.48	2.27	- 1.19
CAPITAL A BERHAD	DEC	(0.19)	(0.38)	(0.02)	0.14	0.12	0.13	(0.26)	(0.14)	0.28	0.52	0.55	0.43	0.32	- 0.16	0.43	- 0.12	0.80	- 0.40	1.15	- 0.56	0.88	- 0.53	0.74	- 0.28
ALASKA AIR GROUP, INC.	DEC	3.77	(10.72)	6.19	3.52	7.75	6.41	13.95	7.55	18.42	13.65	11.25	6.92	74.25	- 46.26	68.79	- 20.02	72.22	- 53.39	75.46	- 57.42	101.43	- 61.10	91.89	- 54.51
AMERICAN AIRLINES GROUP INC.	DEC	(3.09)	(18.36)	3.79	3.03	2.61	4.65	(20.72)	(20.90)	(14.70)	(13.89)	(14.88)	(4.89)	26.09	- 14.71	30.78	- 8.25	37.23	- 24.23	59.08	- 29.59	54.48	- 39.21	50.64	- 24.85
ANA HOLDINGS INC.	# MAR	(2.51)	(9.78)	0.77	2.99	3.93	2.53	12.33	17.24	25.99	25.46	23.45	21.26	25.83	- 18.77	35.60	- 19.96	38.40	- 32.18	43.59	- 32.24	42.38	- 27.08	30.31	- 22.70
ASIANA AIRLINES, INC.	DEC	(4.09)	(4.94)	(9.42)	(2.60)	3.45	0.63	4.89	11.74	6.85	9.47	12.04	7.84	24.64	- 11.80	19.16	- 6.26	24.56	- 8.55	15.33	- 8.76	17.95	- 11.42	15.18	- 10.09
AVIANCA HOLDINGS S.A.	# JAN	NA	NA	(1.09)	(0.92)	(0.02)	0.05	NA	NA	(1.78)	(0.30)	0.66	0.99	0.08	- 0.01	0.62	- 0.01	0.61	- 0.32	1.06	- 0.49	1.27	- 0.79	1.36	- 0.48
AZUL S.A.	DEC	(2.19)	(6.10)	(1.75)	(0.49)	0.41	(0.17)	(10.22)	(8.58)	(3.36)	(1.65)	(1.22)	0.07	8.87	- 3.83	12.11	- 1.68	14.63	- 7.74	10.18	- 5.22	9.32	- 6.56	0.00	- 0.00
CATHAY PACIFIC AIRWAYS LIMITED	DEC	(0.12)	(0.55)	0.06	0.08	(0.04)	(0.02)	0.75	0.78	1.55	1.71	1.62	1.46	1.02	- 0.76	1.51	- 0.65	1.82	- 1.19	1.89	- 1.25	1.73	- 1.31	1.81	- 1.29
CEBU AIR, INC.	DEC	(0.82)	(0.77)	0.30	0.12	0.26	0.32	0.28	0.73	1.43	1.22	1.27	1.07	1.07	- 0.75	1.89	- 0.65	1.95	- 1.14	1.97	- 1.17	2.27	- 1.78	2.53	- 1.49
CHINA AIRLINES, LTD.	DEC	0.06	0.00	(0.01)	0.01	0.01	0.00	0.44	0.37	0.34	0.34	0.35	0.31	1.12	- 0.36	0.47	- 0.20	0.38	- 0.30	0.42	- 0.29	0.45	- 0.30	0.37	- 0.28
CHINA EASTERN AIRLINES CORPORATION LIMITED	DEC	(0.11)	(0.11)	0.03	0.03	0.07	0.05	0.33	0.40	0.49	0.45	0.45	0.36	0.93	- 0.67	0.90	- 0.61	1.18	- 0.66	1.29	- 0.64	1.29	- 0.99	1.15	- 0.78
CHINA SOUTHERN AIRLINES COMPANY LIMITED	DEC	(0.12)	(0.12)	0.03	0.04	0.09	0.07	0.57	0.63	0.70	0.73	0.70	0.59	1.15	- 0.80	1.15	- 0.76	1.39	- 0.92	1.88	- 0.80	1.91	- 1.07	1.28	- 0.81
COPA HOLDINGS, S.A.	DEC	1.03	(14.28)	5.81	2.08	8.55	7.63	28.93	27.94	43.00	39.92	41.71	41.83	94.91	- 64.66	114.00	- 24.00	116.88	- 77.31	141.34	- 67.38	138.72	- 90.85	97.00	- 42.61
DELTA AIR LINES, INC.	DEC	0.44	(19.49)	7.30	5.67	4.43	5.55	(18.63)	(22.38)	0.65	(1.36)	(3.00)	(3.23)	52.28	- 33.40	62.48	- 17.51	63.44	- 45.08	61.32	- 47.90	56.84	- 43.81	52.76	- 32.60
DEUTSCHE LUFTHANSA AG	DEC	(3.40)	(15.30)	2.86	5.24	5.98	4.02	2.79	(0.31)	19.67	18.57	18.52	12.28	14.74	- 5.96	20.52	- 8.38	26.55	- 14.12	35.79	- 19.52	37.45	- 13.46	16.27	- 9.61
EASYJET PLC	SEP	(2.15)	(3.43)	1.08	1.18	1.03	1.43	3.67	3.70	7.55	8.86	7.64	7.18	14.83	- 6.19	21.44	- 5.60	20.63	- 11.13	23.05	- 13.13	19.84	- 12.25	21.82	- 10.51
EVA AIRWAYS CORP.	DEC	0.05	(0.02)	0.03	0.04	0.04	0.02	0.59	0.51	0.48	0.44	0.42	0.35	1.10	- 0.43	0.52	- 0.27	0.52	- 0.44	0.53	- 0.43	0.51	- 0.43	0.50	- 0.36
FINNAIR OYJ	DEC	(0.39)	(0.63)	0.54	0.80	1.48	0.58	0.38	0.77	8.33	8.07	9.40	7.00	0.92	- 0.64	7.99	- 0.44	9.60	- 6.17	15.14	- 6.39	16.23	- 4.78	6.25	- 4.01
GOL LINHAS AÉREAS INTELIGENTES S.A.	DEC	(3.44)	(3.24)	(0.08)	(0.80)	0.02	0.75	(10.40)	(8.79)	(6.67)	(5.00)	(4.56)	(4.78)	5.16	- 2.62	7.56	- 0.93	11.10	- 5.00	6.75	- 2.37	4.79	- 1.35	2.60	- 0.35
GRUPO AEROMÉXICO, S.A.B. DE C.V.	DEC	(6.72)	(15.66)	(0.91)	(0.69)	(0.02)	0.38	(20.03)	(12.70)	1.45	3.51	4.45	4.49	0.93	- 0.22	1.78	- 0.50	3.60	- 3.35	0.00	- 0.00	10.32	- 10.05	9.71	- 9.32
HAINAN AIRLINES HOLDING CO., LTD.	DEC	0.04	(0.59)	0.00	(0.03)	0.03	0.03	0.03	(0.27)	0.43	0.49	0.52	0.47	0.28	- 0.14	0.30	- 0.17	0.43	- 0.22	0.54	- 0.29	0.64	- 0.52	0.74	- 0.58
HAWAIIAN HOLDINGS, INC.	DEC	(2.85)	(11.08)	4.71	4.62	6.19	4.15	10.84	12.19	20.85	17.04	14.13	10.43	31.38	- 16.84	30.76	- 7.55	34.15	- 22.84	44.25	- 24.81	59.45	- 32.40	60.90	- 28.40
INTERGLOBE AVIATION LIMITED	# MAR	(2.11)	(2.06)	(0.08)	0.06	0.92	0.71	(2.06)	0.02	2.01	2.59	2.81	1.59	31.94	- 20.16	24.47	- 10.56	26.68	- 14.71	21.84	- 9.93	21.10	- 12.72	20.20	- 10.28
INTERNATIONAL CONSOLIDATED AIRLINES GROUP S.A.	DEC	(0.67)	(2.40)	0.95	1.57	1.11	0.93	(0.55)	(0.40)	1.91	2.03	2.12	1.15	3.01	- 1.65	9.34	- 1.18	8.84	- 5.45	9.27	- 6.97	9.19	- 5.99	7.60	- 3.48
JAPAN AIRLINES CO., LTD.	# MAR	(3.35)	(6.92)	1.45	3.90	3.61	4.09	13.42	17.75	27.56	27.76	25.87	22.23	23.96	- 15.73	33.79	- 15.08	37.97	- 29.45	41.05	- 34.08	39.66	- 28.63	38.62	- 25.09
JEJU AIR CO., LTD.	DEC	(5.67)	(9.30)	(1.09)	2.42	2.77	1.69	2.53	4.66	9.76	12.23	11.17	8.55	24.89	- 12.97	25.04	- 10.06	40.71	- 19.23	46.71	- 24.79	37.91	- 22.56	34.01	- 20.60
JET2 PLC	# MAR	NA	(2.08)	0.97	1.22	1.01	0.64	NA	6.02	5.08	5.00	4.79	3.59	21.30	- 12.41	26.62	- 2.49	23.35	- 8.95	13.42	- 8.03	9.79	- 6.44	8.45	- 4.38
JETBLUE AIRWAYS CORPORATION	DEC	(0.57)	(4.88)	1.91	0.60	3.45	2.13	11.14	11.68	16.16	15.00	14.45	11.62	21.96	- 12.86	21.65	- 6.61	19.93	- 15.29	23.08	- 15.19	24.13	- 18.05	23.67	- 14.76
JUNEYAO AIRLINES CO., LTD	DEC	(0.04)	(0.04)	0.08	0.10	0.11	0.11	0.74	0.78	0.93	0.75	0.73	0.61	2.94	- 1.51	2.40	- 1.35	2.56	- 1.65	2.68	- 1.55	2.80	- 2.01	3.50	- 2.17
KOREAN AIR LINES CO., LTD.	DEC	1.40	(1.54)	(5.76)	(1.58)	8.09	(6.35)	15.64	15.50	21.32	25.64	2781.54	15.77	29.72	- 21.37	27.70	- 11.76	36.08	- 18.80	35.48	- 22.50	36.74	- 23.73	29.74	- 18.98
LATAM AIRLINES GROUP S.A.	DEC	(7.66)	(7.50)	0.31	0.51	0.26	0.13	(13.32)	(5.74)	(0.87)	(0.62)	(0.19)	(0.37)	2.58	- 0.16	11.16	- 0.96	11.98	- 7.35	15.13	- 8.44	14.83	- 9.05	9.84	- 4.65
NORWEGIAN AIR SHUTTLE ASA	DEC	0.30	(119.25)	(143.67)	(396.79)	(613.08)	365.71	0.38	(20.03)	271.45	374.54	643.87	1247.88	10.25	- 0.97	507.75	- 3.50	2133.49	- 325.00	3692.28	- 1857.68	3695.48	- 2070.69	4404.33	- 2783.21
PAL HOLDINGS, INC.	DEC	0.09	(0.13)	(0.02)	(0.01)	(0.01)	0.01	(0.01)	(0.13)	(0.01)	0.01	0.01	0.02	0.14	- 0.10	0.18	- 0.10	0.35	- 0.14	0.24	- 0.14	0.26	- 0.21	0.30	- 0.18
PEGASUS HAVA TASIMACILIGIANONIM SIRKETI	DEC	(1.46)	(2.59)	2.19	0.94	1.30	(0.37)	4.90	6.94	8.64	6.84	6.41	4.32	8.60	- 4.45	11.65	- 3.17	14.55	- 3.59	7.19	- 3.74	8.97	- 3.44	5.22	- 3.14
PT. GARUDA INDONESIA (PERSERO) TBK	# JAN	NA	NA	(0.09)	(0.00)	(0.01)	(0.01)	NA	NA	(0.07)	0.02	0.02	0.03	0.03	- 0.02	0.04	- 0.01	0.05	- 0.02	0.02	- 0.01	0.03	- 0.02	0.04	- 0.02
PUBLIC JOINT STOCK COMPANY AEROFLOT - RUSSIAN AIRLINES	DEC	(0.19)	(1.18)	0.16	(0.71)	0.37	0.58	(0.79)	(0.62)	(0.17)	(0.98)	0.89	0.53	0.99	- 0.77	1.64	- 0.69	1.82	- 1.44	2.38	- 1.29	3.91	- 2.37	2.65	- 0.82

Company	Yr. End	Earnings per Share (\$)						Tangible Book Value per Share (\$)						Share Price (High-Low, \$)											
		2021	2020	2019	2018	2017	2016	2021	2020	2019	2018	2017	2016	2021		2020		2019		2018		2017		2016	
GLOBAL AIRLINES																									
QANTAS AIRWAYS LIMITED	JUN	(0.69)	(0.89)	0.36	0.40	0.35	0.37	(0.13)	0.18	0.81	1.26	1.10	0.92	4.34 -	3.05	5.64 -	1.57	5.24 -	3.64	4.88 -	3.36	5.10 -	2.50	3.05 -	1.87
SAS AB (PUBL)	OCT	(0.11)	(2.41)	0.15	0.36	0.25	0.28	0.09	0.14	1.07	1.65	2.34	1.38	0.24 -	0.12	2.03 -	0.09	2.67 -	1.24	2.64 -	1.85	3.38 -	1.64	3.17 -	1.46
SINGAPORE AIRLINES LIMITED	# MAR	(0.24)	(0.86)	(0.13)	0.42	0.84	0.22	5.50	3.91	5.29	8.04	8.07	7.71	4.29 -	3.00	6.90 -	2.42	7.61 -	6.43	8.69 -	6.71	8.18 -	7.18	8.07 -	6.64
SKYWEST, INC.	DEC	2.20	(0.17)	6.62	5.30	8.08	(3.14)	45.01	42.64	43.22	38.22	33.90	25.94	61.16 -	36.35	66.52 -	10.58	66.04 -	42.72	65.80 -	42.38	54.85 -	30.40	39.60 -	13.23
SPICEJET LIMITED	# MAR	NA	(0.23)	(0.21)	(0.07)	0.14	0.11	NA	(0.60)	(0.35)	(0.09)	(0.02)	(0.16)	1.30 -	0.80	1.61 -	0.42	2.20 -	1.02	2.21 -	0.87	2.45 -	0.87	1.40 -	0.80
SPIRIT AIRLINES, INC.	DEC	(4.50)	(5.06)	4.89	2.28	5.99	3.74	19.50	23.03	33.03	28.25	25.85	20.12	40.77 -	19.52	47.50 -	7.01	64.76 -	32.97	65.35 -	34.36	60.28 -	30.32	60.40 -	35.17
SPRING AIRLINES CO., LTD.	DEC	0.01	(0.10)	0.29	0.24	0.24	0.17	2.23	2.24	2.35	2.10	1.61	1.32	10.84 -	7.16	8.61 -	4.42	6.85 -	4.34	5.92 -	4.29	6.43 -	4.61	8.79 -	5.17
THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED	DEC	0.76	(2.15)	(0.19)	(0.16)	(0.03)	0.00	(0.99)	(1.97)	0.18	0.28	0.44	0.42	0.14 -	0.05	0.26 -	0.09	0.47 -	0.22	0.55 -	0.37	0.74 -	0.51	0.89 -	0.22
UNITED AIRLINES HOLDINGS, INC.	DEC	(6.10)	(25.30)	11.58	7.67	7.06	6.76	(7.11)	(4.51)	15.92	8.74	2.34	1.60	63.70 -	38.88	90.57 -	17.80	96.03 -	77.02	97.85 -	60.44	83.04 -	56.51	76.80 -	37.41
VIETJET AVIATION JOINT STOCK COMPANY	DEC	0.01	0.01	0.31	0.42	0.42	0.24	1.36	1.23	1.23	1.12	0.86	0.41	6.06 -	4.63	6.41 -	4.01	6.34 -	4.62	8.24 -	4.97	5.41 -	2.83	0.00 -	0.00
VIETNAM AIRLINES JSC	DEC	(0.35)	(0.33)	0.07	0.08	0.08	0.07	0.03	0.19	0.54	0.55	0.60	0.56	1.50 -	0.87	1.49 -	0.75	1.95 -	1.38	0.00 -	0.00	0.00 -	0.00	0.00 -	0.00
WIZZ AIR HOLDINGS PLC	# MAR	NA	(7.85)	2.44	1.10	2.69	2.09	NA	12.02	15.53	18.28	20.73	17.55	75.76 -	48.75	66.95 -	24.45	55.15 -	35.80	48.75 -	29.31	49.82 -	20.87	24.95 -	17.04

Note: Data as originally reported. CAGR-Compound annual growth rate.
Source: S&P Capital IQ.

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