



Economic Performance of the Airline Industry

This semi-annual report takes a broad look at how the airline industry is adding value for its consumers, the wider economy and governments, as well as for its investors.

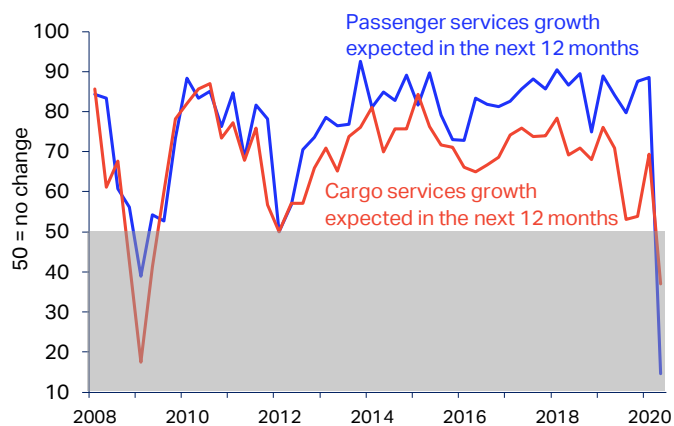
Key Points

- The impact of COVID-19 on the global economy will be severe. Global GDP growth is expected to contract by 5.0% in 2020.
- COVID-19 will have a significant impact on international trade (13% decline) which has been suffering from the US-China trade war.
- 2020 will be the worst year in history for airlines (net loss of \$84.3bn) and losses will continue in 2021, albeit to a lesser extent.
- Airlines in all regions are expected to record negative operating income in 2020.
- Revenues are expected to fall by more than demand as airlines are significantly discounting ticket prices to help stimulate travel.
- The sharp fall in revenue led to high cash burn due to fixed and semi fixed costs. Airlines face pressure to reduce operating costs.
- 32 million jobs supported by aviation (including tourism) are at risk.
- Restoring air transport connectivity will be critical in the post-COVID period to support the recovery in economic development.

Consumers

In the near-term, consumers will face lower real travel costs as airlines are significantly discounting ticket prices to stimulate demand. The average return fare (before surcharges and tax) of \$254 in 2020 is forecast to be 68% lower than in 1998, after adjusting for inflation. We expect the share of world GDP spent on air transport to be halved in 2020, totaling \$434 billion (0.5% of GDP) amidst widespread lockdowns. RPKs are estimated to plummet by 55% in 2020 compared to last year. The recovery in the second half of 2020 is predicted to come initially from domestic markets and then via a gradual opening of international markets. However, the global recession and weak consumer confidence will put pressure on the recovery in air travel demand. World trade is also forecast to fall by 13% in 2020 indicating a steep decline in air cargo volumes. However, trade is expected to rebound strongly next year, which will be supportive for air cargo volumes in 2021.

IATA survey of airline CFOs and heads of cargo



Source: IATA

Worldwide airline Industry	2019	2020F	2021F
Spend on air transport*, \$billion	876	434	598
% change over year	3.6%	-50.4%	37.7%
% global GDP	1.0%	0.5%	0.6%
Return fare, \$/pax. (2018\$)	317	254	257
Compared to 1998	-61%	-68%	-68%
Freight rate, \$/kg (2018\$)	1.82	2.31	2.26
Compared to 1998	-64%	-54%	-55%
Passenger departures, million	4,543	2,246	3,384
% change over year	3.8%	-50.6%	50.6%
RPKs, billion	8680	3929	6099
% change over year	4.2%	-54.7%	55.2%
CTKs, million	254	211	263
% change over year	-3.2%	-16.8%	24.6%
World GDP growth, %	2.5%	-5.0%	7.1%
World trade growth, %	0.9%	-12.9%	21.3%

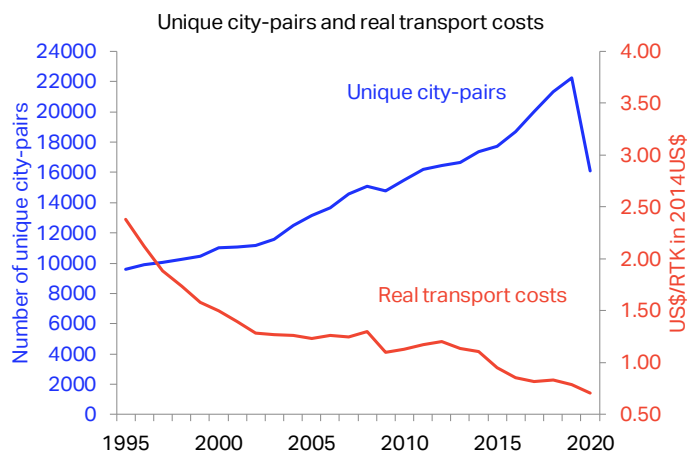
Note: RPK = Revenue Passenger Km, CTK = Cargo & mail Tonne Km
 GVA = Gross Valued Added (firm-level GDP). *Airline revenue + indirect taxes.
 Sources: IATA, ICAO, OE, CPB, PaxIS, CargoIS, WTO

Industry sentiment regarding the prospects for both passenger travel and cargo declined abruptly in April. The impact of the pandemic on the passenger side is more severe and volumes are not expected to be fully restored within a year. Even though current demand is more resilient on the cargo side with the support of shipments of necessities, such as medical supplies, expectations for air cargo also turned negative for the first time since April 2009.

Wider Economy

Air transport is key to global economic development. This wider economic benefit is underpinned by both the direct connections between cities - enabling the flow of goods, people, capital, technology and ideas - and falling air transport costs. However, COVID-19 has caused a significant loss in city-pair connectivity. As of the end of April, the number of unique city-pairs was 67% lower than its level of a year ago.

For 2020 overall, unique city-pair connectivity is expected to decline for the first time since the global financial crisis. Moreover, there is a risk that the number of unique city-pair connections is not fully recovered, which would undo some of the gains of recent years.



Government

Over the past decade, governments benefited from the solid performance of the airline industry with airlines and their customers generating \$111 billion per year on average in tax revenues. During the COVID-19 crisis, airlines sought support from governments to help survive and overcome this period of unprecedented turmoil. As of mid-May, airlines worldwide are estimated to have received \$123bn of government aid.

Government aid has been unevenly distributed across regions. Airlines in North America and Europe have received aid equivalent to 25% and 15% of their revenues, respectively. On the other hand, the support received by airlines in Latin America, the Middle East and Africa has been only about 1% of their revenues.

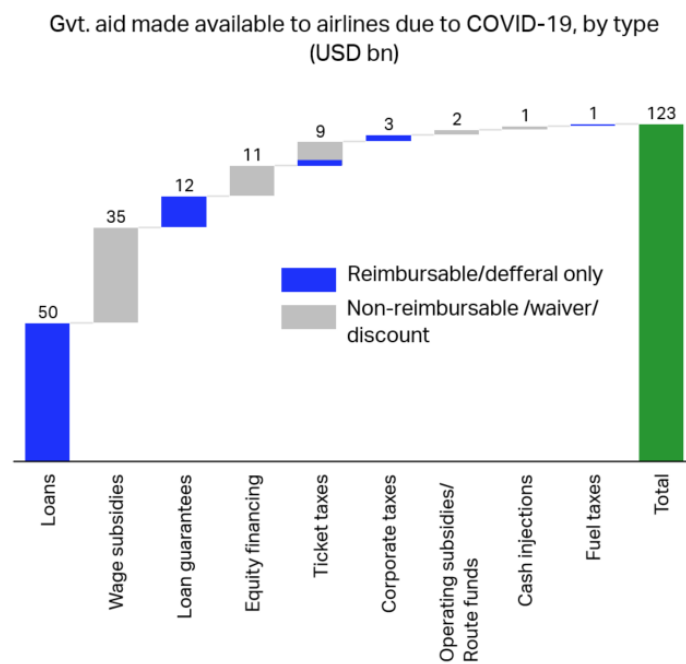
Support from governments has taken a variety of forms, including capital injections, the provision of loans, deferring the payment of taxes and reducing tax liabilities. Some governments have also provided wage subsidies to preserve jobs. We estimate that governments have subsidized the salaries of more than 800 thousand airline employees so far.

Worldwide airline Industry	2019	2020F	2021F
Unique city pairs	21187	16102	
Compared to 1998	107%	57%	
Transport cost, US\$/RTK (2018\$)	78.4	70.5	68.0
Compared to 1998	-55%	-59%	-61%
Value of trade carried, \$billion	6,504	5,543	6,234
% change over year	-2.5%	-14.8%	12.5%
Value of tourism spend, \$billion	902	457	706
% change over year	7.1%	-49.3%	54.5%

Note: RTK = Revenue Tonne Kilometers, GVA = Gross Value Added. The total number of 'routes' or airport pairs is much higher due to multiple airports in some cities and connections are counted both ways. City-pairs: jets + turbo-props larger than 19 seats, at least 1 flight a week from SRS Analyser. Supply chain jobs and GVA from ATAG ABBB 2018 report appendix.

Air transport is vital for international trade in manufactured goods, particularly for the components industry which accounts for a major part of cross border trade today. We forecast that the value of international trade shipped by air this year will be \$5.5 trillion, around 15% lower compared to 2019. Tourists travelling by air in 2020 are forecast to spend \$457 billion, 49% less than the previous year.

Another adverse impact of the crisis will be on jobs. Total employment supported (directly and indirectly) by the air transport sector is expected to decline to 38.4 million in 2020; a 45% reduction relative to the estimated 70.4 million jobs supported by aviation in 2019.



Sources: IATA, ATAG, Oxford Economics, ICAO, UNWTO, WTO, public information and data from SRS Analyser, DDS, FlightRadars 24, TTBS, ACIC, Platts, Airline Analyst, annual reports. In the gvt. aid chart, measures included up to 15 May 2020.

Capital Providers

Historically, debt providers to the airline industry have been rewarded for their capital, usually invested with the security of a very mobile aircraft asset to back it. On average during previous business cycles, the airline industry has been able to generate enough revenue to pay its suppliers' bills and service its debt.

On the other hand, even prior to the COVID-19 crisis, equity owners had not been rewarded adequately for risking their capital in all regions. In normal times, investors should expect to earn at least the return generated by assets of a similar risk profile; the weighted average cost of capital (WACC). Such has been the intensity of competition, and the challenges to doing business, that average airline returns have rarely been as high as the industry's cost of capital.

That said, for North America and Europe in the last four years, equity investors have received a return above the cost of capital. In North America, structural improvements combined with low fuel prices boosted the return on invested capital (ROIC) above the cost of capital, creating value for investors. In Europe, although rising competition put pressure on yields, airlines overall created value for investors by managing their costs effectively and focusing on ancillaries as an additional source of revenue. On the other hand, airlines in the Asia Pacific and Latin America regions have consistently generated below-WACC returns. The highly competitive nature of the market in Asia Pacific has prevented airlines from fully reflecting the increase in costs resulting in narrower operating margins.

The situation has changed considerably this year. With the impact of the pandemic, all regions are facing negative ROIC outcomes and we forecast the industry to generate an overall ROIC of -16.9%. Next year, we expect to see a moderate improvement stemming from the gradual recovery in demand conditions. Nonetheless, the return to investors is still expected to remain in negative territory.

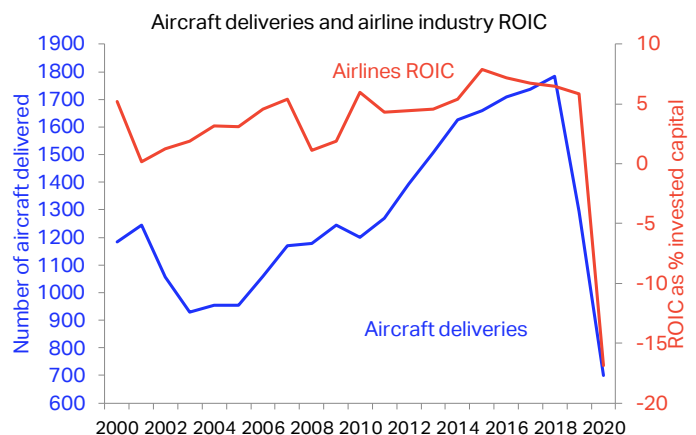
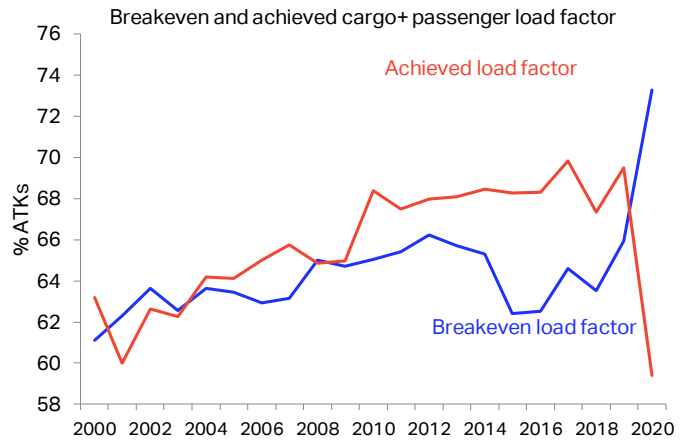
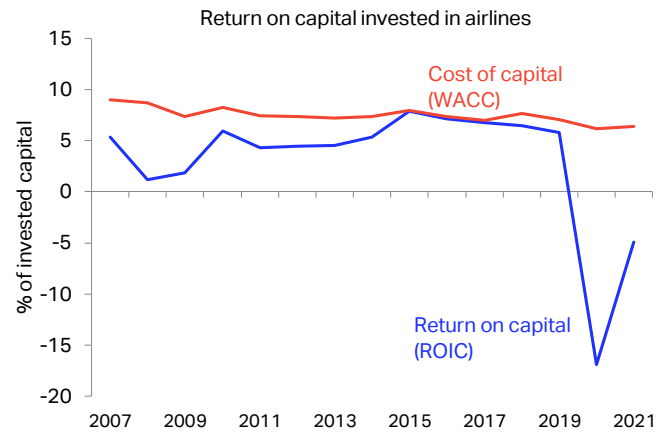
Aircraft

For 2020, commercial airlines currently have around 960 new aircraft scheduled for delivery. This is approximately 40% lower than the number originally planned at the beginning of this year. In light of the very challenging industry outlook, we expect that airlines will consider further cancellations or postponements over the second half of the year. As at the end of May, just 235 new aircraft had been delivered, well down on the usual level.

Looking further forward, the investment appetite for new aircraft is likely to remain subdued into 2021. Moreover, airlines are also expected to consider the sale of their existing assets.

Worldwide airline Industry	2018	2019	2020F
Industry ROIC, % invested capital	6.5%	5.8%	-16.9%
North America	9.0%	9.9%	-10.5%
Europe	8.8%	7.0%	-14.3%
Asia Pacific	4.3%	3.5%	-12.7%
Latin America	5.0%	3.9%	-16.6%
EBIT margin, % revenue	5.7%	5.2%	-23.4%
Net post-tax profits, \$billion	27.3	26.4	-84.3
% revenues	3.4%	3.1%	-20.1%
\$ per passenger	6.22	5.80	-37.54
Adjusted net debt/EBITDAR	4.50	4.60	-7.13

Note: ROIC = Return on Invested Capital, EBIT = Earnings Before Interest and Tax. Debt adjusted for operating leases. **Current year or forward-looking industry financial assessments should not be taken as reflecting the performance of individual airlines, which can differ significantly.**



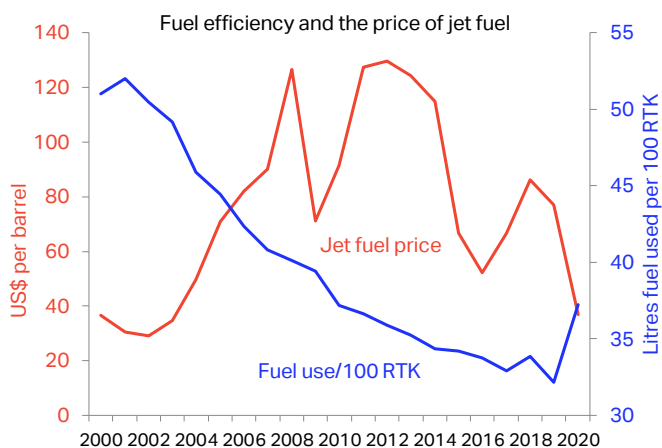
Sources for charts on this page: IATA, ICAO, McKinsey, Ascend.

In 2020 and 2021, new aircraft deliveries will be limited. Airlines will have less of an incentive to retire old aircraft in the current business conditions and with supportive low fuel prices. Nevertheless, airlines will look to retire or put their older aircraft into storage as the demand for air travel remains weak. Overall, this is expected make a positive contribution to improving fleet fuel efficiency, as described below.

The in-service fleet is expected to decrease to 20,261 aircraft this year. The average size of aircraft in the fleet will also decline as airlines focus on short and medium-haul travel initially. Hence, by the end of 2020, we estimate that there will be around 2.8 million available seats, more than one-third lower than in 2019. In addition, the passenger load factor is expected to ease substantially from 82.5% in 2019 to 62.7%, stemming from potential regulatory requirements and the decline in passenger confidence.

Fuel

This year, we forecast the industry fuel bill to decline to \$78 billion, which will represent around 15% of average operating costs. This decline is a reflection of less traffic (kilometers flown) given the collapse in demand and the sharp decrease in oil prices. In addition, jet fuel prices have declined more than oil prices following the downfall in demand and the crack spread has turned negative. We base our forecast on an average jet price of \$36.8/b and \$35/b for the Brent crude oil price for 2020. We expect the crack spread will widen next year resulting in an estimated fuel price of \$51.8/b for 2021.



Fuel is such a large cost for airlines that it is the focus of intense effort across the industry to find efficiency improvements. Such gains can take a variety of forms including replacing fleet with new aircraft, better operations and efforts to persuade governments to remove the airspace and airport inefficiencies that waste around 5% of fuel burn each year.

Worldwide airline Industry	2019	2020F	2021F
Aircraft fleet	29,697	20,261	
% change over year	0.7%	-31.8%	
Available seats, million	4.5	2.8	
% change over year	1.5%	-36.3%	
Average aircraft size, seats	150	140	
% change over year	0.9%	-6.6%	
Scheduled flights, million	38.9	23.1	
% change over year	2.2%	-40.7%	30.4%
ASKs, % change over year	3.4%	-40.4%	31.9%
Passenger load factor, % ASK	82.5%	62.7%	73.8%
Cargo load factor, % ACTK	54.9%	50.8%	46.2%
Weight load factor, % ATK	69.5%	59.4%	65.0%
Breakeven load factor, % ATK	65.9%	73.3%	67.7%

Note: ASK = Available Seat Kilometers, AFTK = Available Cargo Tonne Kilometers
ATK = Available Tonne Kilometers. Sources: Ascend, ICAO, IATA.

Worldwide airline Industry	2019	2020F	2021F
Fuel spend, \$billion	188	78	85
% change over year	4.7%	-58.8%	9.1%
% operating costs	23.7%	15.0%	13.6%
Fuel use, billion litres	363	228	297
% change over year	1.0%	-37.1%	30.3%
Fuel efficiency, litre fuel/100atk	22.4	22.1	21.9
% change over year	-1.9%	-1.0%	-1.1%
CO ₂ , million tonnes	914	574	748
% change over year	1.0%	-37.1%	30.3%
Fuel price, \$/barrel	77.0	36.8	51.8
% change over year	-10.6%	-52.3%	40.8%
% spread over oil price	18.5%	5.0%	15.0%

Note: ATK = Available Tonne Kilometers. Sources: Ascend, ICAO, IATA.

We forecast that fuel efficiency, in terms of capacity use i.e. per ATK, will improve by 1.1% in 2020 as older aircraft will be retired or put into storage. The annual average per RTK fuel efficiency improvement from 2009-14 stands at 2.4%, versus the 1.5% industry target. As much of the industry was grounded throughout the second quarter of the year, CO₂ emissions are expected to be 37.1% lower compared to 2019.

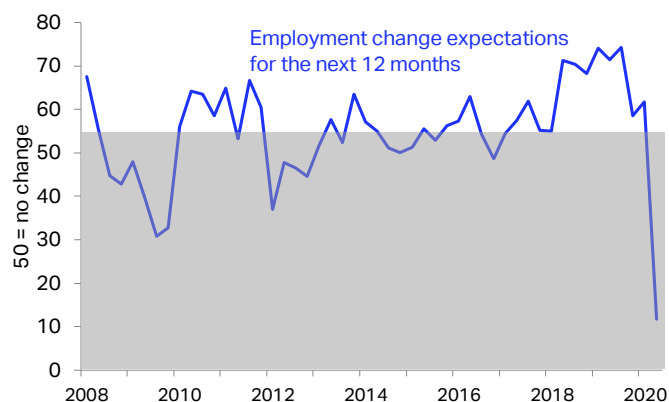
Sources for charts on this page: IATA, ICAO, Platts.

Labour

Airlines are facing pressure to limit their rate of cash burn (est. to be \$61bn in the second quarter of this year). As air traffic halted in the second quarter and is not expected to return to pre-crisis levels in a short time, total employment in the airline industry will also come under increasing pressure.

We estimate that total employment by airlines will decline to 1.9 million in 2020. Productivity is likely to fall with the average employee generating 521,348 ATKs a year. Wages will decline in the industry but despite declining unit labour costs, the squeeze on airline profit margins will continue.

IATA survey of airline CFOs



Worldwide airline Industry	2018	2019	2020F
Labour costs, \$ billion	174	187	103
% change over year	2.5%	7.5%	-45.1%
Employment, million	2.79	2.90	1.87
% change over year	-0.7%	4.2%	-35.5%
Productivity, atk/employee	536,079	529,688	521,348
% change over year	6.8%	-1.2%	-1.6%
Unit labour cost, \$/ATK	0.117	0.122	0.105
% change over year	-3.4%	4.4%	-13.6%
GVA/employee, \$	99,858	98,498	80,289
% change over year	5.1%	-1.4%	-18.5%

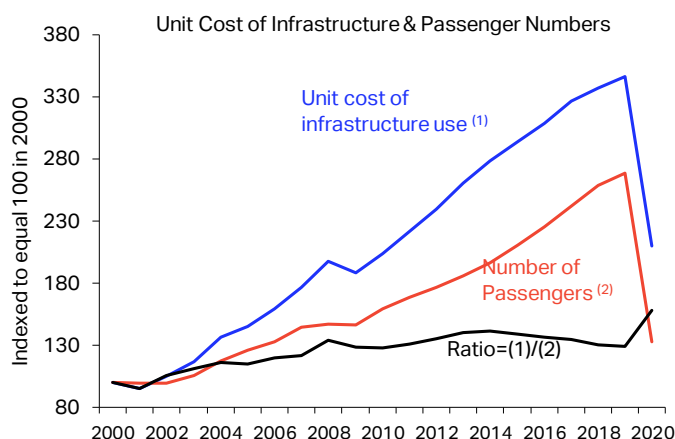
Note: ATK = Available Tonne Kilometers, GVA = Gross Value Added (firm-level GDP). Sources: IATA, ICAO, ATAG, Oxford Economics

The jobs being created are not just productive for their airline employers; they are also highly productive for the economies in which they are employed. We estimate that the direct GVA for national economies, generated by the average airline employee will decline year-on-year by 18.5% to \$80,289 in 2020.

Infrastructure

Infrastructure partners play an important role in the service that airlines provide to their customers, affecting the experience, the timeliness of the journey, and its cost.

The direct cost paid for using infrastructure has increasingly been transferred to the airlines and passengers. Overall the cost of using airport and ANSP infrastructure has risen steeply over past decades, partly because competitive pressures are very weak in this part of the supply chain. This sits in contrast with the relatively limited rise in non-fuel airline costs.



While the global passenger volume is forecast to contract by 50.6%, the unit cost of infrastructure use is estimated to fall by a lesser extent (-39.3%) in 2020.

Airspace inefficiency increased dramatically in Europe prior to the start of the COVID-19 crisis. Delays, as measured by total delay minutes, increased in January and February compared to the previous year and then fell sharply in March as the number of flights in Europe plunged with the spread of COVID-19 in the region.

EU airspace inefficiency	2018	2019	Jan 2020	Feb 2020	Mar 2020
Delay minutes, million	25.6	24.2	0.7	1.1	0.7
% change over year	61.2%	-5.7%	14.8%	48.9%	-44.4%
Operating cost to airlines, US\$m	2,152	2,151			
Passenger time value loss, US\$m	2,487	2,571			

Sources for charts on this page: ACI (aeronautical revenues), ICAO (en-route charges), Eurocontrol, IPRB, FAA, ATA.

Regions

The COVID-19 crisis has reached an unprecedented level for airlines in all regions. Airlines in North America, the strongest performer in the pre-crisis period, are estimated to deliver a net loss of \$23.1bn in 2020. That represents a net loss of \$38.15 per passenger, almost six times the loss per passenger recorded in the weakest performing region in the pre-pandemic period. The net margin for airlines in North America is estimated to be -16.8%, which is relatively better than elsewhere and due in part to the support received from the US government. As airlines will be lowering prices to bring back demand in the recovery period, breakeven load factors are expected to increase by 10ppts to 68.0%.

Breakeven load factors in Europe will rise to 75.7%, due to low yields. Intra-regional travel in Europe is expected to start in June and markets are expected to open in phases, which has the potential to support recovery. However, with the lock-down of air travel in the second quarter, net losses are estimated to be \$21.5 billion for the region in 2020, representing a loss of \$34.4 per passenger and a negative net margin of 22.1%.

Asia-Pacific was the first region exposed to the weakness coming from the disease outbreak and their losses will be larger compared to the other regions as current demand recovery is not coming with profitability. The average loss per passenger this year is expected to be \$30.1. Overall, net losses in 2020 are forecast to be \$29 billion and net margins to be -22.5%.

Middle Eastern airlines faced this crisis while a number were transitioning through a restructuring process which included a planned slowdown in capacity growth. Following the impact of the pandemic, Middle Eastern airlines are expected to see their losses rise to \$4.8 billion in 2020 (from a loss of \$1.5bn in 2019).

In Latin America, airline performance was mixed prior to the crisis, with some airlines facing an already difficult economic and operating backdrop which has been compounded by the COVID-19 impact. Overall, the region is expected to post a \$4.0 billion net loss in 2020.

Africa was the weakest region in the pre-crisis period. Few airlines in the region were able to achieve adequate load factors to generate a profitable performance. The pandemic has added to an already challenging operating environment and as a result airlines in the region are expected to post a \$2.0 billion net loss in 2020.

9th June 2020

IATA Economics, economics@iata.org

Worldwide airline Industry	2018	2019	2020F
Africa			
Net post-tax profit, \$billion	-0.1	-0.3	-2.0
Per passenger, \$	-1.09	-2.67	-42.02
% revenue	-0.7%	-1.8%	-30.5%
RPK growth, %	8.0%	4.5%	-58.5%
ASK growth, %	7.5%	4.2%	-50.4%
Load factor, % ATK	60.7%	59.7%	52.2%
Breakeven load factor, % ATK	59.8%	59.1%	67.3%
Asia-Pacific			
Net post-tax profit, \$billion	6.1	4.9	-29.0
Per passenger, \$	3.74	2.92	-30.09
% revenue	2.4%	1.9%	-22.5%
RPK growth, %	7.0%	4.8%	-53.8%
ASK growth, %	6.8%	4.5%	-39.2%
Load factor, % ATK	72.5%	71.8%	61.4%
Breakeven load factor, % ATK	68.5%	68.4%	78.3%
Middle East			
Net post-tax profit, \$billion	-1.5	-1.5	-4.8
Per passenger, \$	-6.69	-6.75	-37.03
% revenue	-2.7%	-2.7%	-14.8%
RPK growth, %	7.0%	2.3%	-56.1%
ASK growth, %	4.9%	0.1%	-46.1%
Load factor, % ATK	65.2%	65.1%	57.1%
Breakeven load factor, % ATK	68.2%	68.5%	69.1%
Latin America			
Net post-tax profit, \$billion	-0.8	-0.7	-4.0
Per passenger, \$	-2.78	-2.24	-27.83
% revenue	-2.3%	-1.8%	-22.8%
RPK growth, %	8.0%	4.1%	-57.4%
ASK growth, %	7.5%	3.0%	-43.3%
Load factor, % ATK	67.9%	67.7%	56.9%
Breakeven load factor, % ATK	66.0%	65.7%	69.3%
North America			
Net post-tax profit, \$billion	14.5	17.4	-23.1
Per passenger, \$	14.66	16.95	-38.15
% revenue	5.7%	6.6%	-16.8%
RPK growth, %	3.5%	3.9%	-52.6%
ASK growth, %	3.4%	2.9%	-35.2%
Load factor, % ATK	64.9%	64.8%	56.1%
Breakeven load factor, % ATK	59.0%	58.5%	68.0%
Europe			
Net post-tax profit, \$billion	9.1	6.5	-21.5
Per passenger, \$	7.94	5.42	-34.39
% revenue	4.5%	3.1%	-22.1%
RPK growth, %	6.0%	4.3%	-56.4%
ASK growth, %	5.5%	3.6%	-42.9%
Load factor, % ATK	74.8%	74.4%	62.3%
Breakeven load factor, % ATK	70.2%	70.8%	75.7%

Note: RPK = Revenue Passenger Kilometers, ASK = Available Seat Kilometers, ATK = Available Tonne Kilometers. **Current year or forward-looking industry financial assessments should not be taken as reflecting the performance of individual airlines, which can differ significantly.** Sources: ICAO, IATA.

Terms and Conditions for the use of this IATA Economics Report and its contents can be found at: www.iata.org/economics-terms

By using this IATA Economics Report and its contents in any manner, you agree that the IATA Economics Report Terms and Conditions apply to you and agree to abide by them. If you do not accept these Terms and Conditions, do not use this report.