ECONOMIC PERFORMANCE OF THE AIRLINE INDUSTRY

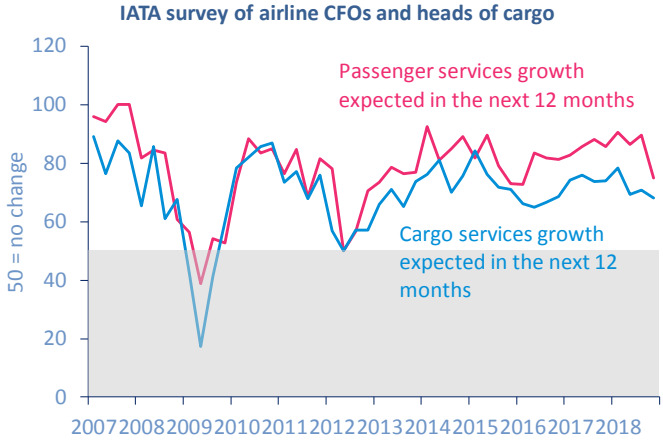
This semi-annual report takes a broad look at how the airline industry is adding value for its consumers, the wider economy and governments, as well as for its investors.

KEY POINTS

- Consumers benefit from lower real travel costs, more routes, and will spend 1% of world GDP on air transport in 2019.
- Economic development is a big winner from the doubling of city pairs and halving of air transport costs over the past 20 years.
- Governments gain substantially from $136bn of tax in 2019 and from over 70 million 'supply chain' jobs.
- Strong economic growth is keeping traffic ahead of capacity growth, but breakeven loads are rising as unit costs grow significantly.
- Equity owners see further gains in 2019; industry ROIC falls from record 2016 levels, but remains above the cost of capital.
- Credit metrics in 2018-19 are not quite as good as 2017, but free cash flow yield is positive and balance sheet metrics are stable.
- Jobs in the industry should exceed 2.9 million, and GVA per employee is over $104,000.
- N American airlines perform best with a forecast 6% net post-tax profit margin in 2019. Africa is the weakest with a 2.1% loss.

CONSUMERS

Consumers will see a substantial increase in the value they derive from air transport in 2019, including stability in what they pay airlines, after allowing for inflation. The number of new destinations is forecast to rise further next year, with frequencies up too; both boosting consumer benefits. We expect 1% of world GDP to be spent on air transport in 2019, totaling $919 billion. RPK growth, which has been running well above trend helped by the economic upturn, is forecast to remain strong in 2019 as still strong economic growth partly offsets the drag from the rise in unit costs. Falling travel costs had been adding several % points to RPK growth over the past several years. The average return fare (before surcharges and tax) of $324 in 2019 is forecast to be 61% lower than in 1998, after adjusting for inflation.



Source: IATA

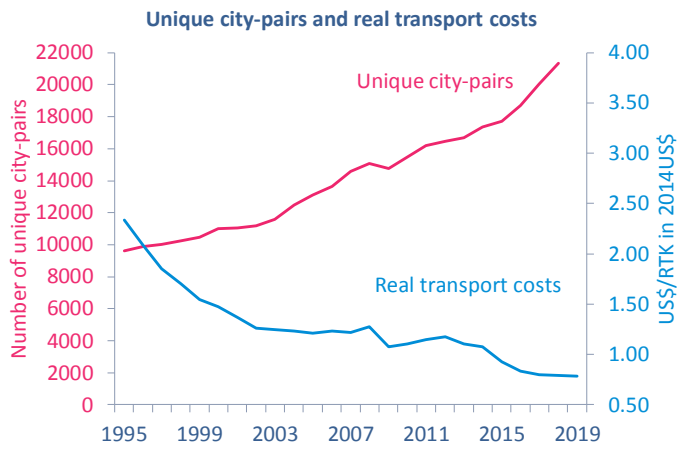
Worldwide airline Industry	2017	2018E	2019F
Spend on air transport*, $billion	787	854	919
% change over year	6.3%	8.6%	7.6%
% global GDP	0.9%	1.0%	1.0%
Return fare, $/pax. (2018$)	345	331	324
Compared to 1998	-58%	-60%	-61%
Freight rate, $/kg (2018$)	1.77	1.89	1.86
Compared to 1998	-64%	-61%	-62%
Passenger departures, million	4,093	4,343	4,588
% change over year	7.3%	6.1%	5.6%
RPKs, billion	7751	8255	8754
% change over year	8.0%	6.5%	6.0%
FTKs, million	254	265	275
% change over year	9.7%	4.1%	3.7%
World GDP growth, %	3.2%	3.2%	3.1%
World trade growth, %	5.4%	4.4%	4.1%

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

Airline CFOs and heads of cargo reported in October that they were significantly less positive about future growth in air travel, and were less positive about cargo. This reflects increasing worries amongst business worldwide about economic prospects. Despite rising trade tensions between the US and China, the easing in fiscal policy as well as still loose monetary policy has kept economic growth growing close to its trend growth rate.

WIDER ECONOMY

Economic development worldwide is getting a significant boost from air transport. This wider economic benefit is being generated by increasing connections between cities - enabling the flow of goods, people, capital, technology and ideas - and falling air transport costs. The number of unique city-pair connections has exceeded 21,000 this year, more than double the connectivity by air twenty years ago. The price of air transport for users continues to fall, after adjusting for inflation. Compared to twenty years ago real transport costs have more than halved.



Lower transport costs and improving connectivity have boosted trade flows; trade itself has resulted from globalizing supply chains and associated investment.

Worldwide airline Industry	2017	2018E	2019F
Unique city pairs	20032	21332	
Compared to 1998	95%	108%	
Transport cost, US$/RTK (2018$)	79.7	79.3	78.2
Compared to 1998	-53%	-53%	-54%
Value of trade carried, $billion	6,052	6,674	7,006
% change over year	10.8%	10.3%	5.0%
Value of tourism spend, $billion	764	843	908
% change over year	13.9%	10.3%	7.7%
Supply chain jobs, million	67.1	68.7	70.4
% change over year	2.5%	2.4%	2.4%
Supply chain GVA, $ trillion	2.8	3.0	3.1
% change over year	5.5%	5.2%	5.0%

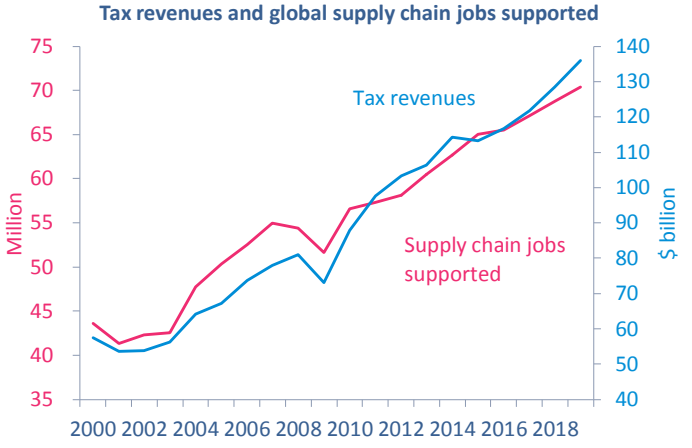
Note: RTK = Revenue Tonne Kilometers, GVA = Gross Value Added. The total number of 'routes' or airport pairs is much higher because of multiple airports in some cities and connections are counted both ways. City-pairs: jets + turbo-props larger than 19 seats, at least 1 flight a week from SRS Analyser.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

Air transport is vital for manufactures trade, particularly trade in components which is a major part of cross border trade today. We forecast that the value of international trade shipped by air next year will be $7 trillion. Tourists travelling by air in 2019 are forecast to spend $908 billion.

Another impact on the wider economy comes through the influence increased airline activity has on jobs in the sector, in its supply chain, and the jobs generated as spending ripples through the economy. These 'supply chain' jobs around the world are estimated to rise to more than 70 million in 2019.

GOVERNMENT

Governments have also gained substantially from the good performance of the airline industry. Airlines and their customers are forecast to generate $136 billion in tax revenues next year. That's the equivalent of 44% of the industry's GVA (Gross Value Added, which is the firm-level equivalent to GDP), paid to governments in payroll, social security, corporate and product taxes (note that charges for services are excluded). In addition the industry continues to create high value added jobs.



Worldwide airline Industry	2017	2018E	2019F
Tax revenues, $billion	122	129	136
% change over year	4.4%	5.5%	5.8%
% GVA	44.7%	44.5%	44.2%
# of ticket taxes	236	239	
% of countries requiring full visas	58	53	

Note: GVA = Gross Value Added (firm-level GDP). Source: IATA, OE.

But in many countries the value that aviation generates is not well understood. The commercial activities of the industry remain highly constrained by bilateral and other regulations. Moreover, regulation is far from 'smart', leading to unnecessarily high costs. Visa requirements discourage inbound tourism and business travel. Encouragingly visa openness levels are improving. Unfortunately, the number of individual ticket taxes has risen to 239 this year, while the level of many existing taxes continues to ratchet upwards.

Sources: IATA, ATAG, Oxford Economics, ICAO, SRS Analyser, UNWTO, WTO.

CAPITAL PROVIDERS

Debt providers to the airline industry are well 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. Credit metrics have improved with recent significant free cash flows, particularly in North America, and a decline in debt ratios.

In contrast, until 2015 equity owners had not been rewarded adequately for risking their capital in most years, except at a handful of airlines. Investors should expect to earn at least the normal 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 are rarely as high as the industry's cost of capital. Equity investors have typically seen their capital shrink. But next year we forecast the industry to generate a return on invested capital (ROIC) of 8.6%, which does, for the fifth consecutive year, adequately reward equity owners. On invested capital of over $700 billion, the industry is forecast to generate $5 billion of value for investors next year. But it should be clear that $35.5 billion net profit, while exceptional for the airline industry, is only a little higher than a 'normal' return for risking their capital. Moreover, above-WACC returns have only started to be generated outside North America in the past year or two and are still not widespread across all regions.

The stability in airline margins and ROIC in 2019 is being driven by a still strong economy allowing unit cost increases to be recovered through higher load factors and some rise in yields. The full benefit of lower oil prices will be delayed by hedging. Profitability is the fourth highest on record; a performance brought about by changes to industry structure and behavior, with much more focus on generating an adequate ROIC.

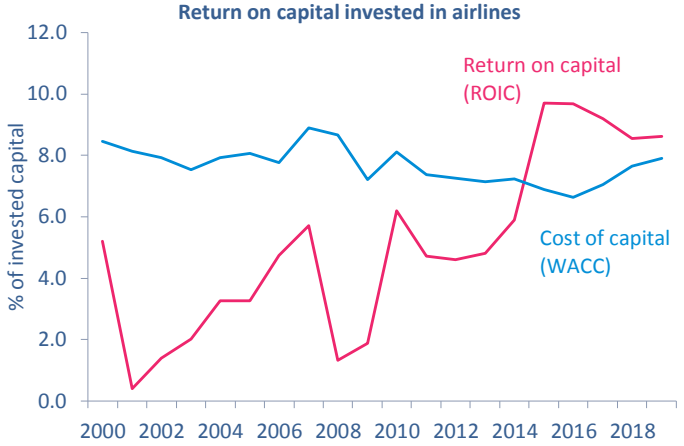
AIRCRAFT

This year commercial airlines are expected to take delivery of over 1,780 new aircraft, a substantial investment of around $80 billion by the industry. The trend improvement in average returns (ROIC) has given the industry the confidence to invest on this scale. Sustained high fuel costs had also made it economic to retire older aircraft at a higher rate, but that effect has weakened. Around half of this year's deliveries will replace existing fleet, making a significant contribution to increasing fleet fuel efficiency, as described below.

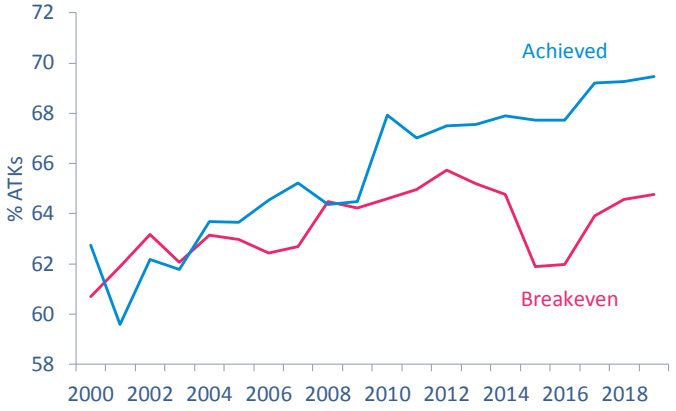
Worldwide airline Industry	2017	2018E	2019F
ROIC, % invested capital	9.2%	8.6%	8.6%
ROIC-WACC, % invested capital	2.1%	0.9%	0.7%
Investor value, $ billion	13.4	6.0	5.0
EBIT margin, % revenue	7.7%	6.8%	6.8%
Net post-tax profits, $billion	37.7	32.3	35.5
% revenues	5.0%	3.9%	4.0%
$ per passenger	9.21	7.45	7.75
Free cash flow, % invested capital	1.3%	1.0%	1.4%
Adjusted net debt/EBITDAR	3.80	3.85	3.80

Note: ROIC = Return on Invested Capital, WACC = Weighted Average Cost of 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**.

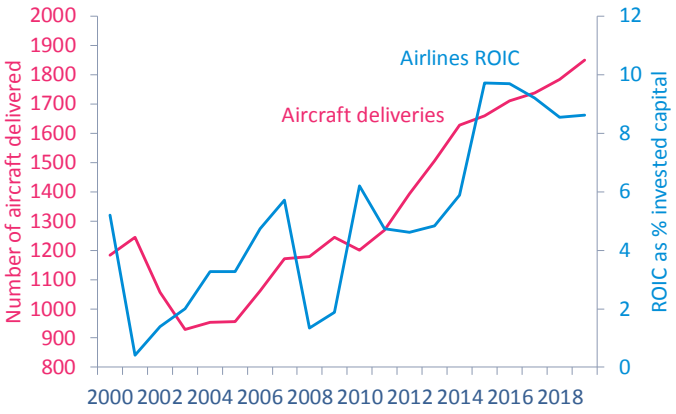
Return on capital invested in airlines



Breakeven and achieved load factor



Aircraft deliveries and airline industry ROIC



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

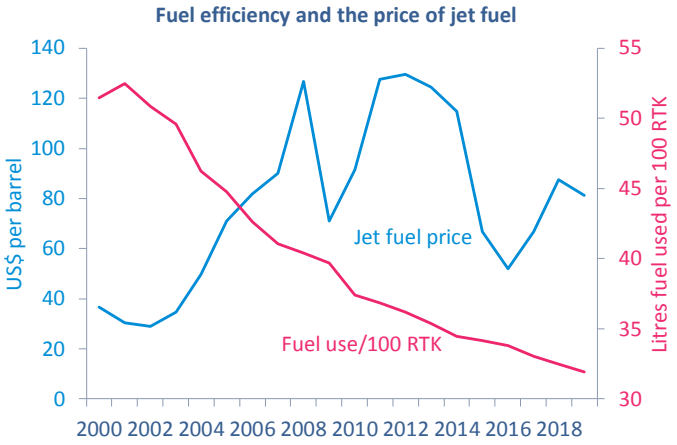
The fleet is forecast to increase by over 1000 aircraft to end next year at almost 31,000 aircraft; expansion continues as markets have expanded strongly and the outlook remains positive. The average size of aircraft in the fleet is continuing to rise slowly. So by the end of 2019 there will be around 4.8 million available seats. These seats are also being used more intensively, which is critical for profitability in a capital intensive industry – and it also helps to reduce environmental impact. Passenger load factors are expected to rise from 2018 levels to 82.1% on average in 2019. Aircraft are also being flown more intensively. The number of scheduled aircraft departures is forecast to reach 39.8 million next year. That's an average of 76 aircraft departing each minute of 2019.

Worldwide airline Industry	2017	2018E	2019F
Aircraft fleet	28,340	29,754	30,968
% change over year	3.5%	5.0%	4.1%
Available seats, million	4.1	4.5	4.8
% change over year	5.2%	7.5%	6.9%
Average aircraft size, seats	146	150	154
% change over year	1.7%	2.4%	2.7%
Scheduled flights, million	36.4	38.1	39.8
% change over year	3.6%	4.5%	4.6%
ASKs, % change over year	6.6%	6.0%	5.8%
Passenger load factor, % ASK	81.5%	81.9%	82.1%
Freight load factor, % AFTK	49.6%	49.3%	49.3%
Weight load factor, % ATK	69.2%	69.3%	69.5%
Breakeven load factor, % ATK	63.9%	64.6%	64.8%

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

FUEL

Next year we forecast the airlines fuel bill will rise to $200 billion, which will represent 24.2% of average operating costs. This rise is due to the delaying effect of hedging. Jet fuel prices have fallen with oil prices and we base our forecast on an average price of $81.3/b next year, and $65/b for the Brent crude oil price. The fall from the peaks of 2018 have been driven by an over-supply of crude oil, partly from shale oil production in the US. OPEC is expected to limit their output at these prices levels, which are below fiscal breakeven points.



Fuel is such a large cost that it focuses intense effort in the industry to improve fuel efficiency, through 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	2017	2018E	2019F
Fuel spend, $billion	149	180	200
% change over year	10.3%	20.5%	11.2%
% operating costs	21.4%	23.5%	24.2%
Fuel use, billion litres	341	355	368
% change over year	5.9%	4.2%	3.5%
Fuel efficiency, litre fuel/100atk	22.9	22.5	22.2
% change over year	-0.2%	-1.5%	-1.5%
CO_2, million tonnes	859	895	927
% change over year	5.9%	4.2%	3.5%
Fuel price, $/barrel	66.7	87.6	81.3
% change over year	28.0%	31.3%	-7.2%
% spread over oil price	21.5%	20.0%	25.0%
Upstream oil profits, $billion	14	16	16

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 1.5% in 2019 as deliveries of new aircraft grow and as fuel prices rise sharply. The annual average per RTK fuel efficiency improvement from 2009-14 stands at 2.4%, versus the 1.5% industry target.

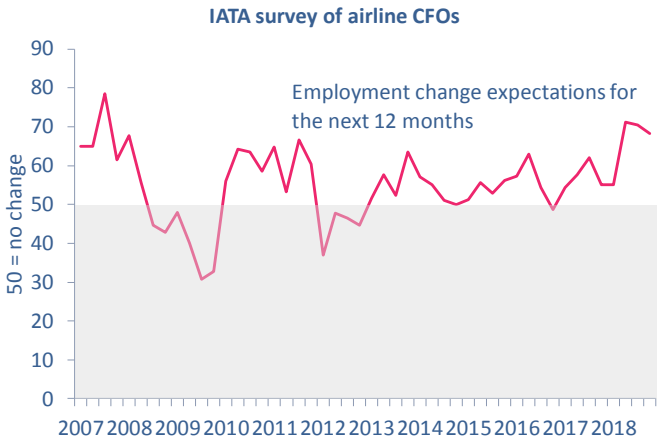
Continued fuel efficiency gains have partially decoupled CO_2 emissions from expanding air transport services. Without the expected fuel efficiency gain this year, fuel burn and CO_2 emissions would be 1.5% higher in 2019. That represents a saving of over 16 million tonnes of CO_2, as well as saving on fuel that would have cost the industry and its consumers an additional $3.7 billion.

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

LABOUR

Airlines are expecting to continue hiring over the next twelve months, as capacity and traffic are expected to grow strongly, though the pace of expansion is slower than in 2017.

We estimate that total employment by airlines will exceed 2.9 million in 2019, a gain of 2.2% compared to 2018. Productivity is likely to slow a little, with the average employee generating just over 530,000 ATKs a year, which is a 2.9% improvement over this year. Wages and jobs will rise as employees share the benefits of improved performance. However, having declined or been stable in recent years, unit labour costs are now rising significantly and we forecast an average increase of 2.1% in 2019. Along with rising fuel costs this is one of the major contributions to the upward pressure on unit costs this year and the mid-year squeeze on airline profit margins.



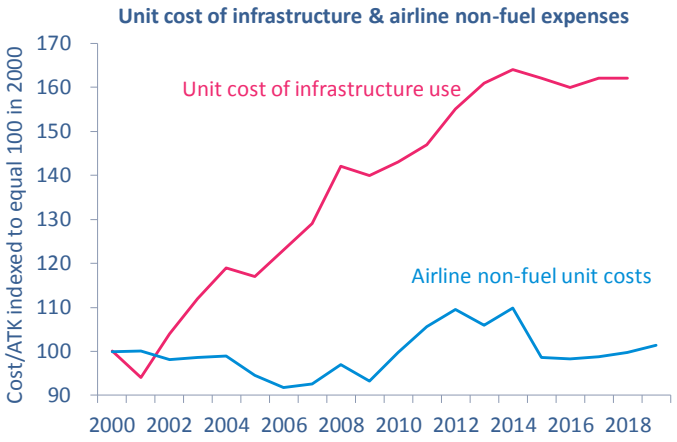
Worldwide airline Industry	2017	2018E	2019F
Labour costs, $ billion	171	185	198
% change over year	7.4%	8.1%	7.3%
Employment, million	2.79	2.88	2.94
% change over year	3.3%	3.1%	2.2%
Productivity, atk/employee	506,406	519,489	534,588
% change over year	2.7%	2.6%	2.9%
Unit labour cost, $/ATK	0.121	0.123	0.126
% change over year	1.2%	2.2%	2.1%
GVA/employee, $	97,655	100,251	104,511
% change over year	2.2%	2.7%	4.3%

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 rise 4.3% next year to over $104,000 a year, which is well above the economy-wide average. Additional jobs in the airline sector will raise average levels of productivity in an economy.

INFRASTRUCTURE

Infrastructure partners play an important role in the service 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 passenger. Overall the cost of using airport and ANSP infrastructure has risen steeply over the past decade, partly because competitive pressures are very weak in this part of the supply chain. This contrasts with the relatively limited rise in other non-fuel airline costs.

Airspace inefficiency increased dramatically in Europe this summer, with a 61% rise in delay minutes. Airline costs rose to over $2 billion and we estimate passengers lost time they value at $2.5 billion.

EU airspace inefficiency	2016	2017	2018
Delay minutes, million	15.6	15.9	25.7
% change over year	10.7%	2.0%	61.8%
Operating cost to airlines, US$m	1,402	1,398	2,159
Passenger time value loss, US$m	1,513	1,583	2,526

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

REGIONS

The strongest financial performance is being delivered by airlines in North America. Net post-tax profits will be the highest at $16.6 billion next year. That represents a net profit of $16.77 per passenger, which is a marked improvement from just 6 years earlier. Net margins, forecast at 6%, are up from 2018 as low hedging allows lower fuel prices to impact immediately. The limited downside has been underpinned by consolidation, helping to sustain load factors (passenger + cargo) above 63%, and ancillaries, which limits the impact of higher fuel costs, keeping breakeven load factors close to 57% next year.

Breakeven load factors are highest in Europe at 70%, caused by low yields due to the competitive open aviation area, and high regulatory costs. Growth in this region was damaged in 2016 by terrorist attacks, but a rebound has been seen since. Net profits are forecast to be $7.4 billion in 2019, representing $6.40 per passenger and a margin of 3.4%.

Airlines in Asia-Pacific have very diverse performances. Average profit per passenger next year is forecast at $6.15 as lower fuel costs and strong regional economic growth help to boost net profits to $10.4 billion and keep net margins at 3.8%.

Middle Eastern airlines have one of the lower breakeven load factors. However, the region has been challenged by the earlier impact of low oil revenues and conflict leading to a sharp slowdown in capacity growth, forecast at 4.1% next year. Post-tax profits are expected to recover a little to $0.8 billion in 2019, representing profit of $3.33 per passenger.

Latin American airlines have faced a slowly improving environment, with the Brazilian economy recovering, but the 2018 rise in oil prices and the US$ squeezed profits. A net profit of $0.7 billion is forecast next year, following profits of $0.4 billion this year.

Africa is the weakest region, as in the past 4 years. Losses have widened this year as fuel costs increased. Breakeven load factors are relatively low, as yields are a little higher than average and costs are lower. However, few airlines in the region are able to achieve adequate load factors, which average the lowest globally at 60.7% in 2018. Overall, industry performance is improving, but only slowly.

12th December 2018

IATA Economics, economics@iata.org

Worldwide airline Industry	2017	2018E	2019F
Africa			
Net post-tax profit, $billion	-0.3	-0.4	-0.3
Per passenger, $	-3.32	-4.18	-3.51
% revenue	-2.3%	-2.7%	-2.1%
RPK growth, %	7.3%	3.6%	5.0%
ASK growth, %	4.0%	1.4%	4.9%
Load factor, % ATK	60.0%	60.7%	60.6%
Breakeven load factor, % ATK	59.5%	60.3%	60.2%
Asia-Pacific			
Net post-tax profit, $billion	9.9	9.6	10.4
Per passenger, $	6.70	6.01	6.15
% revenue	4.4%	3.8%	3.8%
RPK growth, %	10.9%	8.5%	7.5%
ASK growth, %	9.1%	7.6%	7.1%
Load factor, % ATK	72.4%	72.5%	72.9%
Breakeven load factor, % ATK	66.8%	67.4%	67.7%
Middle East			
Net post-tax profit, $billion	0.7	0.6	0.8
Per passenger, $	3.24	2.77	3.33
% revenue	1.3%	1.1%	1.2%
RPK growth, %	6.8%	4.6%	5.5%
ASK growth, %	6.7%	4.7%	4.1%
Load factor, % ATK	64.0%	63.5%	64.1%
Breakeven load factor, % ATK	63.0%	62.7%	63.3%
Latin America			
Net post-tax profit, $billion	0.5	0.4	0.7
Per passenger, $	1.57	1.41	2.14
% revenue	1.3%	1.1%	1.6%
RPK growth, %	7.3%	6.0%	6.0%
ASK growth, %	5.5%	6.5%	5.9%
Load factor, % ATK	66.2%	66.7%	66.9%
Breakeven load factor, % ATK	61.6%	63.0%	63.1%
North America			
Net post-tax profit, $billion	18.7	14.7	16.6
Per passenger, $	19.89	15.08	16.77
% revenue	7.9%	5.7%	6.0%
RPK growth, %	3.9%	5.0%	4.5%
ASK growth, %	3.8%	4.8%	4.3%
Load factor, % ATK	63.7%	63.6%	63.6%
Breakeven load factor, % ATK	56.7%	57.4%	57.3%
Europe			
Net post-tax profit, $billion	8.2	7.5	7.4
Per passenger, $	7.63	6.65	6.40
% revenue	4.3%	3.7%	3.4%
RPK growth, %	8.9%	6.4%	5.5%
ASK growth, %	6.6%	5.7%	6.1%
Load factor, % ATK	74.2%	74.5%	74.2%
Breakeven load factor, % ATK	69.1%	70.0%	70.1%

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.