



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 oil prices with lower fares, more routes, and spend 1% of world GDP on air transport.
- Economic development big winner from the doubling of city pairs and halving of air transport costs in past 20 years.
- Governments gain substantially from \$118bn of tax next year and from more than 58 million 'supply chain' jobs.
- Equity owners see a far better 2015&16 with a >8% average airline ROIC, above the cost of capital for the first time.
- Fuel use per ATK to fall a further 1.8% y-o-y, saving 14 million tonnes of CO₂ emissions and \$2 billion of fuel costs.
- Load factors forecast to slip a little as capacity rises; new aircraft deliveries represent a \$180 billion investment.
- Jobs in the industry should reach 2.5 million, productivity will be up 2.9% and GVA/employee over \$100,000.
- Infrastructure use costs are rising, plus inefficiencies in Europe alone add €2.9bn to airline costs next year.
- N American region performs best with a 9.5% net post-tax profit margin in 2016. Africa weakest with 0.5% loss.

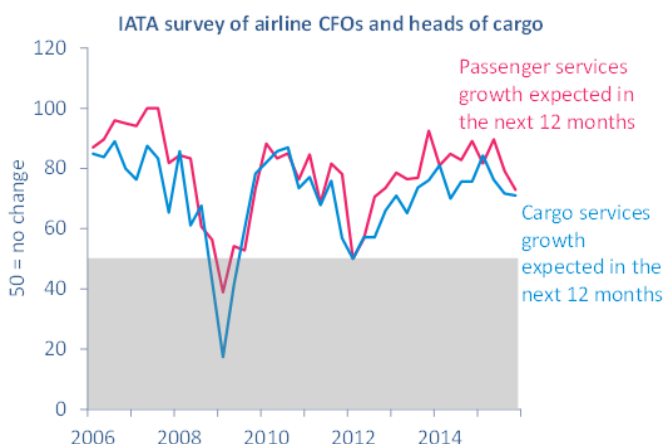
CONSUMERS

Consumers will see a substantial increase in the value they derive from air transport this year, though in \$-terms measures have been distorted downwards by the sharp rise of the US\$. New destinations should rise 2.2% this year, with frequencies up too. We expect almost 1% of world GDP to be spent on air transport in 2016, totaling almost \$750 billion. Air travel is accelerating, with growth of 6.9% expected next year, the best since 2010, well above the 5.5% trend of the past 20 years. This is being driven mainly by forecast stronger economic growth. But price is also attracting consumers. The average return fare (before surcharges and tax) of \$375 in 2016 is forecast to be 61% lower than 21 years earlier, after adjusting for inflation.

Worldwide airline Industry	2014	2015	2016
Spend on air transport*, \$billion	792	742	749
% change over year	5.0%	-6.3%	1.0%
% global GDP	0.98%	0.97%	0.94%
Return fare, \$/pax. (2015\$)	472	407	375
Compared to 1995	-50%	-57%	-61%
Freight rate, \$/kg (2015\$)	2.22	1.78	1.63
Compared to 1995	-52%	-61%	-65%
Passenger departures, million	3,327	3,545	3,782
% change over year	5.8%	6.5%	6.7%
RPKs, billion	6190	6608	7062
% change over year	6.0%	6.7%	6.9%
Freight tonnes, million	50.4	51.3	52.7
% change over year	3.9%	1.7%	2.8%
World GDP growth, %	2.6%	2.5%	2.7%
World trade growth, %	3.0%	2.2%	3.0%

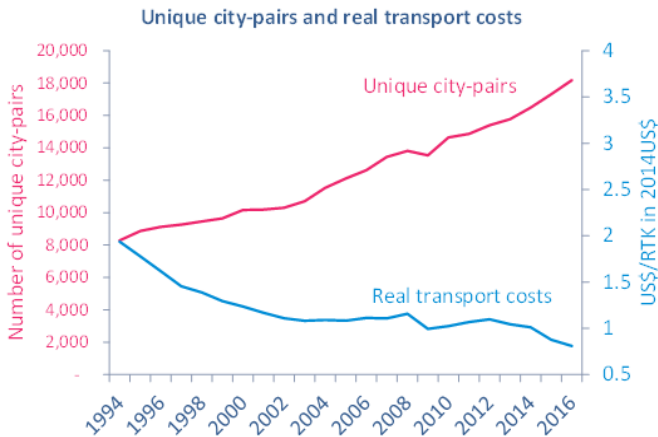
Note: RPK = Revenue Passenger Km, FTK = Freight Tonne Km, y-o-y = year on year change. GVA = Gross Valued Added (firm-level GDP). *Airline revenue + indirect taxes. Sources: IATA, ICAO, EIU, Neth CPB, PaxIS, CargoS.

Airline CFOs and heads of cargo reported in October that they had become more cautious about future growth, but responses indicate expectations for similar growth rates to recent years. The upturn in economic activity driving these expectations is fragile, as recent weakness in commodity exporting economies has shown – and we have lowered our economic growth forecast for 2016. The consensus remains that 2016 should be slightly better than this year, as continued low energy costs boost consumer incomes and spending.



WIDER ECONOMY

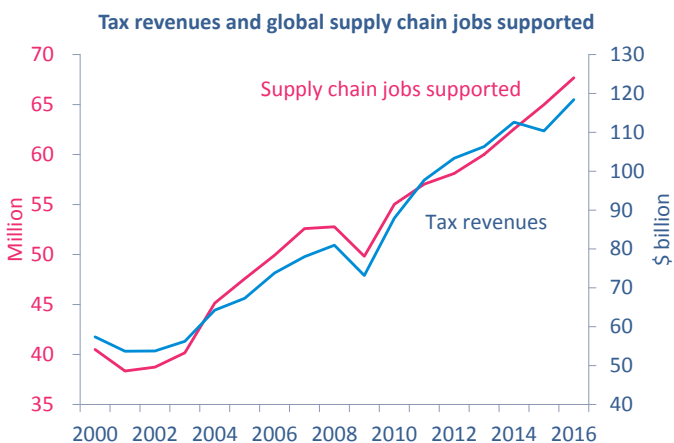
Economic development worldwide is getting a significant boost from air transport. This wider economic benefit is being generated by increasing connections between cities – enabling the flow of goods, people, capital, technology and ideas - and reducing air transport costs. The number of unique city-pair connections is expected to reach more than 17,000 in 2016, double the connectivity by air twenty years ago. The price of air transport to 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.

GOVERNMENT

Governments have also gained substantially from the good performance of the airline industry. Airlines and their customers are forecast to generate \$118 billion in tax revenues next year. That's the equivalent of 45% 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	2014	2015	2016
Unique city pairs	16265	16618	17116
Compared to 1995	183%	187%	193%
Transport cost, US\$/RTK (2015\$)	101.0	87.6	80.9
Compared to 1995	-43%	-51%	-54%
Value of trade carried, \$billion	6,442	5,712	5,911
% change over year	1.2%	-11.3%	3.5%
Value of tourism spend, \$billion	662	624	634
% change over year	6.3%	-5.7%	1.5%
Supply chain jobs, million	58.1*		
% change over year	2.3%		
Supply chain GVA, \$ billion	2434*		
% change over year	3.6%		

Note: RTK = Revenue Tonne Kilometers, GVA = Gross Value Added. The total number of 'routes' or airport pairs is much higher because of multiple airports

Air transport is vital for manufactures trade today, 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 this year will be \$5.9 trillion (down from 2014 only because of the stronger \$). Tourists travelling by air next year will spend a forecast \$634 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 other sectors of the economy. These 'supply chain' jobs around the world are estimated to have been 58.1 million in 2012.

Worldwide airline Industry	2014	2015	2016
Tax revenues, \$billion	113	110	118
% change over year	5.9%	-2.0%	7.3%
% GVA	47%	46%	45%
# of consumer protection regimes	59	63	

Note: GVA = Gross Value Added (firm-level GDP).

Source: IATA, Oxford Economics.

But in many countries the value of aviation for governments, and the wider economy, is not well understood. The commercial activities of the industry remain highly constrained by bilateral and other regulations. Moreover, regulation is far from 'smart' with unnecessarily high costs in many situations. Passenger rights/consumer protection laws are one example of well-intentioned but often badly designed regulation that can lead to disproportionate, inconsistent and badly targeted costs. There are now 63 regimes currently in force around the world, based on information currently available.

Sources for charts on this page: ATAG, Oxford Economics, IATA, ICAO, OAG.

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 the business cycle the airline industry has been able to generate enough revenue to pay its suppliers' bills and service its debt. But typically net post-tax profit margins have been small, leaving little to pay equity investors.

Equity owners have 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 is 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 this year we expect the industry to generate a return on invested capital (ROIC) of 8.3%, which does, for the first time, adequately reward equity owners. On invested capital of almost \$700 billion, the industry is forecast to generate \$10.3 billion of value for investors this year. But it should be clear that \$33 billion net profit, while exceptional for the airline industry, is really only just sufficient to pay investors a 'normal' return for risking their capital. Moreover, high returns are not widely spread in the industry outside N America.

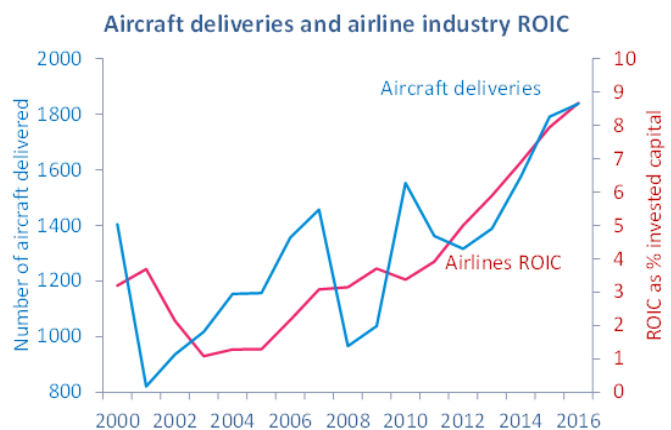
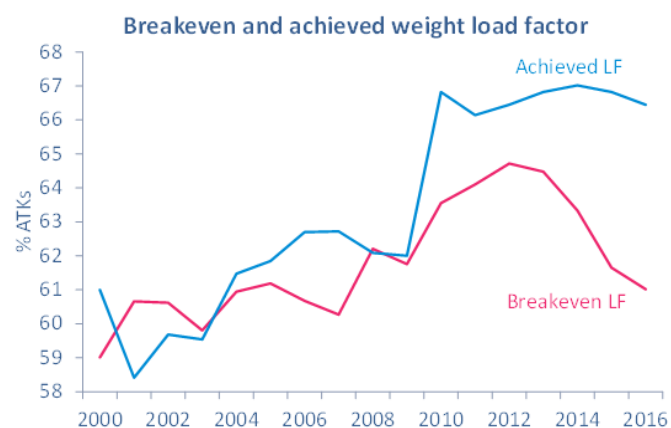
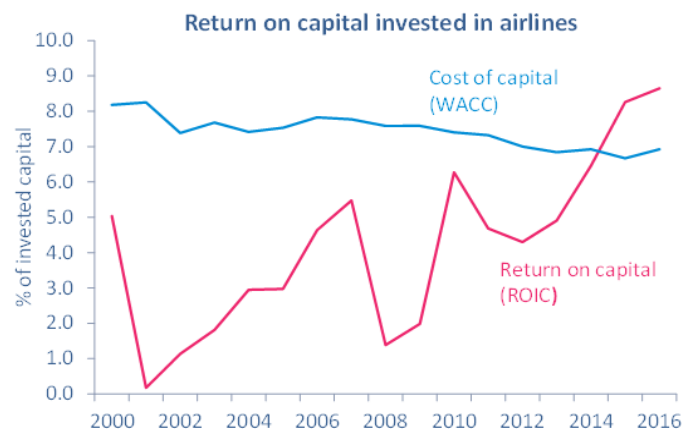
The trend improvement in returns is being driven by changes in industry structure and behavior. Breakeven load factors are usually on a painful upward trend as yields fall faster than cost reductions. They are falling this year because of lower fuel prices and increasing ancillary revenues. On top of that, consolidation and more returns-focused behavior have boosted load factors achieved.

AIRCRAFT

This year commercial airlines will take delivery of more than 1,700 new aircraft, representing an investment by the industry of over \$180 billion. 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 will clearly weaken this year. Over 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	2014	2015	2016
ROIC, % invested capital	6.5%	8.3%	8.6%
ROIC-WACC, % invested capital	-0.5%	1.6%	1.7%
Investor value, \$ billion	-3.3	10.3	11.1
EBIT margin, % revenue	5.5%	7.7%	8.2%
Net post-tax profits, \$billion	17.3	33.0	36.3
% revenues	2.3%	4.6%	5.1%
\$ per passenger	5.20	9.31	9.59

Note: ROIC = Return on Invested Capital, WACC = Weighted Average Cost of Capital, EBIT = Earnings Before Interest and Tax. **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.

The fleet is forecast to increase by over 900 aircraft to end next year at almost 28,000 aircraft; lower fuel prices will lead to fewer older aircraft leaving the fleet. The average size of aircraft in the fleet is continuing to rise slowly. So by the end of next year there will be some 4 million available seats. These seats are also being used more intensively, which is critical for profitability in a capital intensive industry – and it also reduces environmental impact. Passenger load factors are expected to rise above 80% on average this year. Aircraft are also being flown more intensively. The number of scheduled departures is forecast to exceed more than 36 million next year. That’s an average of 69 aircraft departing each minute of 2015.

Worldwide airline Industry	2014	2015	2016
Aircraft fleet	25,854	26,842	27,889
% change over year	2.9%	3.8%	3.9%
Available seats, million	3.5	3.7	4.0
% change over year	4.8%	5.8%	5.9%
Average aircraft size, seats	137	140	142
% change over year	1.9%	1.9%	1.9%
Aircraft departures, million	33.0	34.4	36.5
% change over year	3.2%	4.3%	5.8%
ASKs, % change over year	5.8%	5.5%	7.1%
Passenger load factor, % ASK	79.8%	80.6%	80.4%
Freight load factor, % AFTK	45.6%	43.6%	42.5%
Weight load factor, % ATK	67.0%	66.8%	66.4%
Breakeven load factor, % ATK	63.3%	61.7%	61.0%

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

FUEL

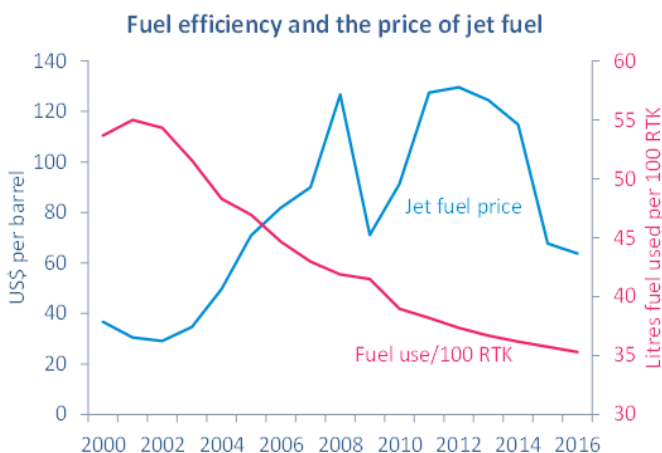
Next year we forecast the airlines fuel bill will fall to \$135 billion, which will represent 20.6% of their total operating costs. Jet fuel prices have fallen substantially and we base our forecast on an average price of \$63.8/b next year, and \$51/b for the Brent crude oil price. The future price of oil is highly uncertain, with some forecasters expecting \$20/b in 2016 while others expect a rise to \$60/b. Certainly record oil inventories suggest a significant rise in 2016 is highly unlikely, but expected stronger economic growth should pull prices up from current levels later next year.

Worldwide airline Industry	2014	2015	2016
Fuel spend, \$billion	226	180	135
% change over year	-1.8%	-20.5%	-24.7%
% operating costs	31.6%	27.4%	20.6%
Fuel use, billion litres	278	290	303
% change over year	4.2%	4.2%	4.6%
Fuel efficiency, litre fuel/100atk	24.3	23.9	23.5
% change over year	-1.1%	-1.5%	-1.8%
CO ₂ , million tonnes	739	771	806
% change over year	4.2%	4.2%	4.6%
Fuel price, \$/barrel	114.8	67.7	63.8
% change over year	-7.8%	-41.0%	-5.8%
% spread over oil price	14.9%	23.1%	25.0%
Upstream oil profits, \$billion	26	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 1.8% in 2016.

Continued fuel efficiency gains have partially decoupled CO₂ emissions from expanding air transport services. In the absence of the expected fuel efficiency gain this year, fuel burn and CO₂ emissions would be 1.8% higher in 2016. That represents a saving of over 14 million tonnes of CO₂, as well as saving on fuel that would have cost the industry and its consumers an additional \$2 billion.



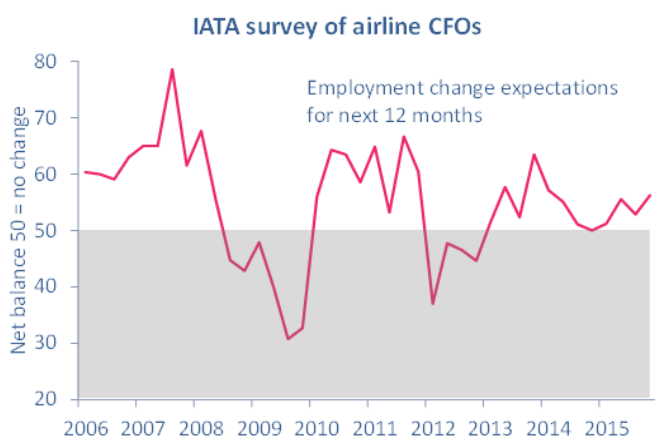
Fuel is such a large cost that it focuses intense effort in the industry to improve fuel efficiency, through replacing fleet with new aircraft, better operations and efforts to persuade governments to remove the airspace and airport inefficiencies that waste around 5% of fuel burn each year.

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

LABOUR

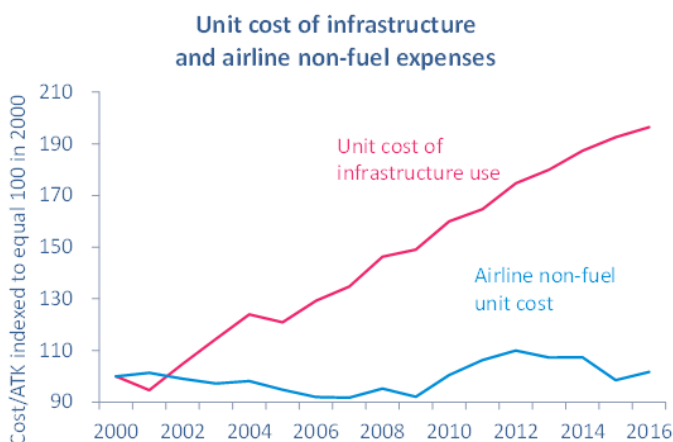
Airlines are expecting to accelerate the pace of hiring over the next year. Growth in employment was strong in 2014, and IATA's survey of airline CFOs in October showed a rising net balance of those saying they would increase hiring over the next 12 months.

We estimate that total employment by airlines will reach 2.55 million next year, a gain of almost 3% compared to 2014. Productivity is expected to be strong, as capacity growth accelerates in 2016, with the average employee generating over 500,000 ATKs, which is a 2.9% improvement over last year. Wages and jobs will rise as employees share the benefits of improved performance. But there are dangers if labour costs become unsustainable when the next downturn arrives. We expect a small rise in unit labour costs in 2016.



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.



Worldwide airline Industry	2014	2015	2016
Labour costs, \$ billion	140	140	150
% change over year	4.8%	0.0%	6.7%
Employment, million	2.43	2.48	2.55
% change over year	2.9%	2.2%	2.9%
Productivity, atk/employee	472,820	489,391	506,437
% change over year	2.7%	3.2%	2.9%
Unit labour cost, \$/ATK	0.122	0.116	0.116
% change over year	-0.5%	-5.5%	0.2%
GVA/employee, \$	98,689	96,302	102,556
% change over year	5.5%	-2.4%	6.5%

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 rise 6.5% this year to over \$100,000 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.

Worldwide airline Industry	2014	2015	2016
European airspace inefficiency			
Airline costs, € million	2,720	2,759	2,845
Passenger time loss, € million	4,608	4,682	4,789

Sources: IATA 2015-16 forecast Eurocontrol PRC's European ANS Performance Review for the 2014 airline cost estimate. Value of time from Eurocontrol.

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. Moreover, inefficiencies causing delay and inefficient routings add to the direct cost. We forecast that the delays caused by inefficient airspace management in Europe alone will cost the industry €2.9 billion next year, as well as generating unnecessary CO₂ emissions. The time passengers waste in these delays is a consumer cost worth an estimated €4.8 billion.

Sources for charts on this page: ACI (aeronautical revenues), ICAO (en-route charges, ATK), IATA.

REGIONS

The strongest financial performance is being delivered by airlines in North America. Net post-tax profits will be the highest at \$19.2 billion next year. That represents a net profit of \$21.44 per passenger, which is a marked improvement from just 3 years earlier. Net margins forecast at 9.5% exceed the peak of the late 1990s. This improvement has been driven by consolidation, helping to raise load factors (passenger + cargo) over 64%, and ancillaries, which together with lower fuel costs push breakeven load factors down to 55.4% next year.

Breakeven load factors are highest in Europe, caused by low yields due to the competitive open aviation area, and high regulatory costs. But the region has achieved the second highest load factors and is generating solid growth. Net profits are forecast to rise to \$8.5 billion next year representing \$8.80 per passenger and a margin of 4.3%.

Airlines in Asia-Pacific have very diverse performances. Average profit per passenger next year is forecast at \$5.13 as lower fuel costs and stable cargo markets, particularly important in this manufacturing region, help boost net margins to 3.2% and net profits to \$6.6 billion.

Middle Eastern airlines have one of the lower breakeven load factors. Average yields are low but unit costs are even lower, partly driven by the strength of capacity growth; 12.2% next year. Post-tax profits are expected to grow to \$1.7 billion next year, representing a profit of \$7.97 per passenger and a net margin of 2.6%.

Latin American airlines have faced a harsh environment, with weak home markets and currencies, despite a degree of consolidation and some long-haul success. A net loss of \$0.3 billion is forecast this year, followed by some recovery in 2016 and net profits of \$0.4 billion.

Africa is the weakest region, as in the past 2 years. Losses have emerged again due to regional conflict and competitive challenges. 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 56% in 2015 and 2016. Performance is improving, but slowly.

10th December 2015

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Worldwide airline Industry	2014	2015	2016
Africa			
Net post-tax profit, \$billion	0.0	-0.3	-0.1
Per passenger, \$	-0.08	-3.84	-0.93
% revenue	0.0%	-2.1%	-0.5%
RPK growth, %	0.3%	1.2%	1.4%
ASK growth, %	2.5%	0.4%	1.6%
Load factor, % ATK	56.1%	56.1%	56.1%
Breakeven load factor, % ATK	56.0%	57.1%	56.2%
Asia-Pacific			
Net post-tax profit, \$billion	2.1	5.8	6.6
Per passenger, \$	1.94	4.89	5.13
% revenue	1.0%	2.9%	3.2%
RPK growth, %	6.9%	8.1%	8.0%
ASK growth, %	7.4%	6.0%	8.4%
Load factor, % ATK	66.9%	67.0%	67.1%
Breakeven load factor, % ATK	64.7%	62.0%	61.8%
Middle East			
Net post-tax profit, \$billion	0.9	1.4	1.7
Per passenger, \$	5.41	7.19	7.97
% revenue	1.6%	2.3%	2.6%
RPK growth, %	12.1%	11.6%	12.5%
ASK growth, %	10.9%	12.1%	12.2%
Load factor, % ATK	61.0%	59.5%	59.3%
Breakeven load factor, % ATK	59.8%	57.8%	57.4%
Latin America			
Net post-tax profit, \$billion	0.2	-0.3	0.4
Per passenger, \$	0.60	-1.05	1.26
% revenue	0.4%	-0.9%	1.1%
RPK growth, %	7.0%	6.0%	6.8%
ASK growth, %	4.7%	5.6%	7.5%
Load factor, % ATK	62.6%	61.7%	61.4%
Breakeven load factor, % ATK	61.1%	60.9%	59.4%
North America			
Net post-tax profit, \$billion	11.2	19.4	19.2
Per passenger, \$	13.30	22.48	21.44
% revenue	5.0%	9.5%	9.5%
RPK growth, %	2.7%	4.3%	4.4%
ASK growth, %	2.5%	3.7%	4.8%
Load factor, % ATK	65.1%	64.8%	64.5%
Breakeven load factor, % ATK	57.4%	55.5%	55.4%
Europe			
Net post-tax profit, \$billion	2.9	6.9	8.5
Per passenger, \$	3.28	7.55	8.80
% revenue	1.3%	3.5%	4.3%
RPK growth, %	5.7%	5.8%	5.9%
ASK growth, %	5.1%	3.9%	6.2%
Load factor, % ATK	67.2%	67.1%	67.0%
Breakeven load factor, % ATK	65.2%	63.5%	62.7%

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.

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