OLIVER WYMAN

AIRLINE ECONOMIC ANALYSIS

FOR THE RAYMOND JAMES GLOBAL AIRLINE BOOK

2015–2016

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MARSH & McLENNAN COMPANIES

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US CARRIERS INCLUDED AND METHODOLOGY

All US value carriers and network carriers are included in this analysis.[1]

Our set of value carriers (low-cost):

1. Allegiant
2. Frontier
3. JetBlue
4. Southwest (including AirTran)
5. Spirit
6. Virgin America

Our set of network carriers:

7. Alaska
8. American (including US Airways and America West)
9. Delta (including Northwest)
10. Hawaiian
11. United (including Continental)

We have divided airlines into two broad groups – network carriers and value carriers – recognizing that each group includes airlines with a range of business models. Especially within the value carrier grouping, there is a divide between more traditional value carriers and those with lower revenue and costs that are increasingly referred to as ultra-low-cost carriers.

However, over the past several years, the ability to divide US airlines into these categories has become more difficult. The lines that once divided the carriers continue to blur with structural changes to both groups.

This year, both the domestic cost gap and revenue gap narrowed between the two groups. Value carriers continue to expand their networks by adding domestic services and growing their international operations.

1 The primary category excluded is regional carriers, which provide most of their capacity under capacity purchase agreements (CPAs). Regional carriers operated about 12% of domestic ASMs in 2014 and have different expense payment arrangements in the CPAs with their mainline partners. The number of expense categories paid directly by mainlines and not appearing in the regional carriers' costs has increased over time. Fuel and aircraft ownership were among the first to be directly paid in some CPAs; more recently, some mainlines have taken over payment for ground handling and engine maintenance. As a result, comparing total CASM across regional carriers and aircraft may be misleading.

Recognizing that many historical structural differences between carrier groupings have converged, we still believe our traditional groupings remain valid. If recent trends continue, however, the industry will be redefined, with carriers switching groups or new groupings altogether.

Additionally, as in past years, this report focuses largely on US carriers based on the regulatory data that is available. In the World Capacity section, we have expanded sections by geographic region as well as analyses around US carrier international share and a revenue/cost by available seat kilometer (RASK/CASK) analysis for non-US carriers.

Throughout the report, annual GDP estimates from the International Monetary Fund are a proxy for full-year values, and our analysis uses nominal GDP references.

INTRODUCTION AND EXECUTIVE SUMMARY

Thanks to cost reductions led by the decline of energy prices, industry consolidation, and capacity discipline, the US airline industry is enjoying a 15-year high in operating margins – a healthy margin for most industries, but particularly for airlines, which have struggled in years past to turn a profit at all.

Even more impressive, margins remained strong despite recent revenue challenges. During second quarter 2015, margins for network and value carriers increased 6.8 points and 6.2 points, respectively, compared with the same period in 2014. These margin increases came at a time of declining revenue and yields, reflecting a combination of a favorable cost environment and skilled airline management.

In last year's *Airline Economic Analysis*, we wondered about clouds on the horizon, and the discussion of industry capacity growth compared with economic expansion (gross domestic product growth) was, and remains, top of mind for most industry observers.

Unsurprisingly, the recent yield declines appear to coincide with creeping capacity growth for US carriers systemwide, but particularly in the domestic market. Recent capacity growth in the domestic markets, once significantly slower than economic growth forecasts, is now closer to growth estimates for gross domestic product (GDP).

The recent decline in airline yields, from a peak in second quarter 2014, coincides with a slight relaxation of recent capacity restraint in the industry. Historically, the industry has seen a high correlation between industry demand and nominal GDP growth, and recent years has seen strong industry focus on constraining capacity at or below the growth of GDP.

However, in the last 12 months, capacity growth in ASMs (available seat miles) has exceeded GDP growth on a system and US domestic basis. The IMF estimates North American GDP growth for 2015 at 2.9 percent. In 2015, US domestic capacity has increased 6.2 percent for value carriers and 2.1 percent for network carriers, with overall ASM growth for the domestic market at 3.3 percent.

The increased capacity, combined with significant fare competition in the US domestic market, has resulted in softening yields.

Systemwide passenger yield declined 5.1 percent during second quarter 2015, compared with the same period a year earlier. The drop continues a trend emerging after a five-year period of yield growth, from mid-2009 to mid-2014. Revenue also peaked in mid-2014 before turning down. Network carrier systemwide revenue per available seat mile declined 5.6 percent during second quarter 2015. Value carriers dropped 4.9 percent during the same period.

Ancillary revenue continues to be an important revenue stream for the airlines, led by miscellaneous revenue including priority boarding and in-flight entertainment. Bag fees, now charged by all carriers, are a close second.

Despite revenue challenges, the airlines have sustained and even grown profit margins, aided by unit cost declines outpacing unit revenue declines. The cost declines are driven not only by lower fuel prices, but also by non-fuel unit cost decreases.

US airline costs declined 12.6 percent year-over-year to 11.5 cents per available seat mile in second quarter 2015, marking the largest overall cost decline since 2009. Fuel prices, of course, drove the decline, but other costs also dropped, such as aircraft ownership and maintenance costs.

Labor, rather than fuel, is now the largest cost for airlines, increasing for all carriers except Delta. This represents a return to the days before fuel spikes, as labor costs have historically been the highest cost category for airlines.

Finally – and a significant continuing trend from last year's report – an increase in ASMs, driven by greater seat density in airplanes, has contributed to the reduction in unit costs.

Airlines have become better at matching capacity to consumer demand during the past decade, maintaining high load factors in both peak and off-peak times. Record load factors in the past two years are largely the result of airlines stimulating off-peak demand and maintaining or reducing unnecessary off-peak capacity. For network carriers' domestic operations, the seasonal high load factors have remained virtually unchanged since 2009, while off-peak lows have increased by nearly 6 points.

Around the world, airline capacity is growing faster than the economy. Capacity, measured in available seat miles, increased 6.3 percent worldwide; every major world region experienced ASM growth at or above 4.6 percent. All regions exceeded their respective GDP forecasts.

The highest growth regions were Africa/Middle East at 10.3 percent ASM growth and Asia/Oceania at 8.4 percent growth. North America and Latin America had the lowest ASM growth yet exceeded GDP estimates. Whether the world's economies can sustain these growth levels is certainly debatable.

In closing, the airline industry's ability to maintain healthy profits despite competition is encouraging. But questions remain: Will the profits outlast the low fuel cycle? Will a renewed focus on customers affect the industry's costs? Will carriers succumb to the temptation to flood the market with capacity that is unsustainable, given economic growth estimates? Will weakness currently masked by low energy prices be exposed?

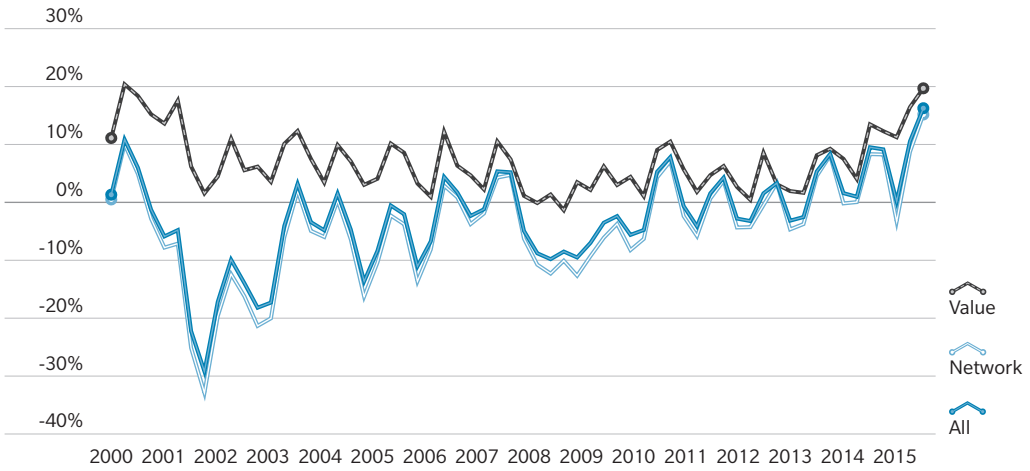
PROFIT/MARGIN

1. MARGIN GROWTH

Strengthening passenger yields over the past few years, combined with rapidly falling fuel prices, have resulted in record profits. Operating margins are above 15% for both US network and value airlines.

While recent results are encouraging for the airlines, since 2000, US network and value carriers have collectively produced a 1.3% operating loss. For the past 10 years, operating margins at US value airlines have stagnated at or below 10%. Thanks to the upturn starting in mid-2014, their margins continued to increase and peaked at 19.7% during second quarter 2015. Meanwhile, network carriers returned to modest profitability during the last half of 2013 and similarly peaked during the same period at 15.2%

Exhibit 1: System Long-term Operating Margin Trend, Q1 2000–Q2 2015



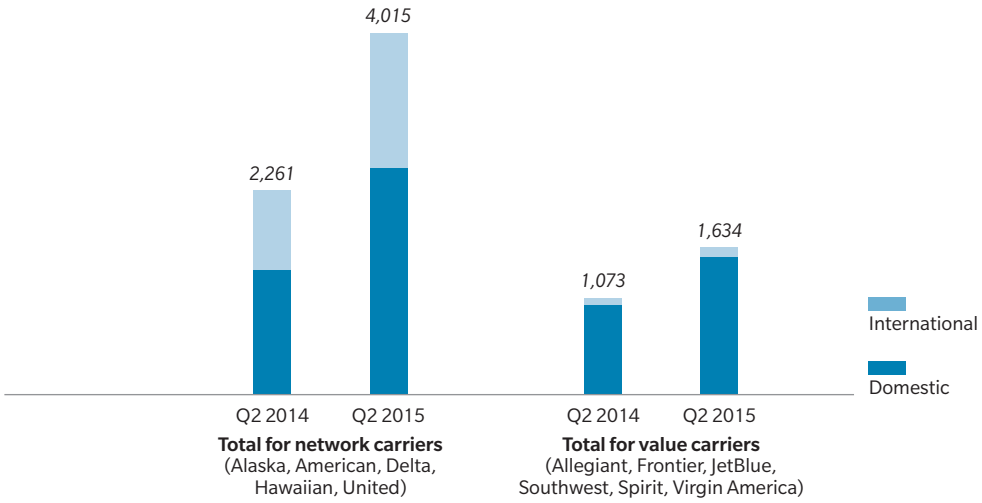
Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

In second quarter 2015, operating profit for US network airlines increased 77.5% over the same period in 2014 to $4.0 billion. Domestic operating margin increased to 15.8% for the group, up 7.3 points over the 2014 results. The operating margin for international operations was up by 6.2 points to 14.2% for the network group. Operating profits for US value airlines increased 55.2% to $1.6 billion during the second quarter 2015. Domestic operations for the value group resulted in a 19.5% operating margin (up 6.2 points), and international operations produced an impressive 24.1% margin (up 6.4 points).

Exhibit 2: Operating Profit and Operating Margins, Q2 2014/2015

MILLIONS (DOLLARS)



Operating margins	2014	2015	2014	2015
System	8.4%	15.2%	13.5%	19.7%
International	8.1%	14.2%	17.6%	24.1%
Domestic	8.6%	15.8%	13.3%	19.5%

Source: PlaneStats.com

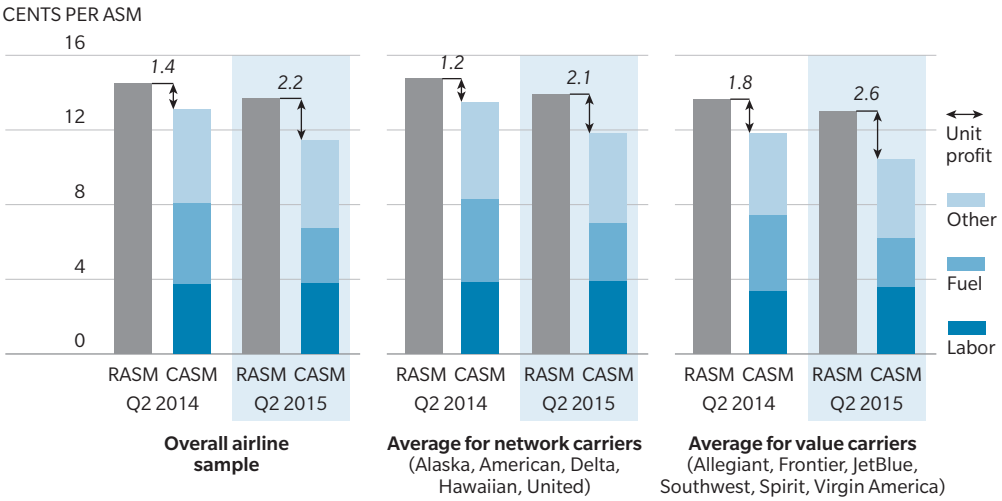
Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

2. UNIT PROFITABILITY

Unit profits (defined as operating profit in US cents per available seat mile) rose 61.6% for US airlines systemwide to 2.23¢ during the second quarter of 2015. The upswing in profitability can be largely attributed to the dramatic decline in fuel costs – unit fuel cost decreased 31.5% – combined with other declining non-labor unit costs. A portion of the second-quarter unit cost savings was offset by declining unit revenue during the period. Detailed analysis of US airline revenues and expenses follows in subsequent sections of this report.

Network carrier unit profitability increased 70.2% to 2.11¢ during second quarter 2015. Unit costs for network carriers declined 12.6%, a savings that was partially offset by unit revenues declining 5.6%. Value carrier unit profitability of 2.56¢ during the same period was 21.3% higher than that of the network carrier counterparts. Value carrier unit revenues fell 4.9%, which countered a unit cost savings of 11.7%.

Exhibit 3: Comparison of System RASM and CASM, Q2 2014/2015



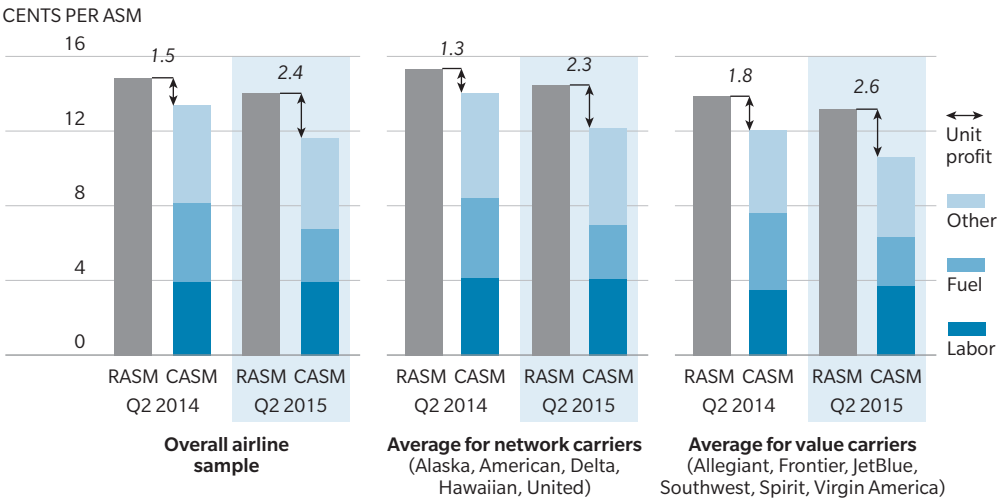
Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

Domestic unit profits for US airlines rose 59.3% to 2.39¢ during second quarter 2015. Domestic unit costs declined 12.9% for all US airlines, with a corresponding 5.6% decline in unit revenue.

Value airline unit profitability of 2.56¢ was 11.8% higher than that of US network carriers, a difference that is narrowing as network carriers' domestic profitability improves. Value carriers' unit profitability was 40.5% greater than its network counterparts' results from just one year ago.

Exhibit 4: Comparison of Domestic RASM and CASM, Q2 2014/2015



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

3. INDIVIDUAL AIRLINE PROFITABILITY

In second quarter 2015, Alaska Airlines had the highest operating margin at 24.0%, 7.7 points higher than our airline sample average. Alaska's impressive performance during the quarter is not an anomaly as the carrier has produced double-digit operating margins since second quarter 2013. Spirit, Southwest and Delta also produced margins higher than 20%. United was the only airline in the study that had operating margins below 10%.

Meanwhile, Delta's 3.14¢ unit profit was the highest during the second quarter and was 31.4% higher than the sample average. Delta's impressive performance follows two years of strong summer margins in Q2 and Q3.

Exhibit 5: System RASM/CASM by Airline, Q2 2015

	RASM (CENTS)	CASM (CENTS)	MARGIN (CENTS)	MARGIN
Alaska	12.7	9.7	3.1	24.0%
Spirit	10.6	8.3	2.3	22.1%
Southwest	13.9	11.0	3.0	21.4%
Delta	15.0	11.9	3.1	20.9%
Frontier	10.6	8.6	2.1	19.4%
Allegiant	10.0	8.4	1.6	15.8%
JetBlue	12.8	10.9	2.0	15.5%
Virgin	12.2	10.4	1.8	15.1%
American	13.8	11.8	2.0	14.2%
Hawaiian	12.3	10.6	1.7	13.7%
United	13.3	12.2	1.1	8.5%

Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

Allegiant reported the largest absolute change in unit profit, albeit from the smallest base in Q2 2014. Both Delta and JetBlue improved quarterly unit profitability by more than 1.0¢. Only Spirit Airlines posted a year-over-year decline in unit profit.

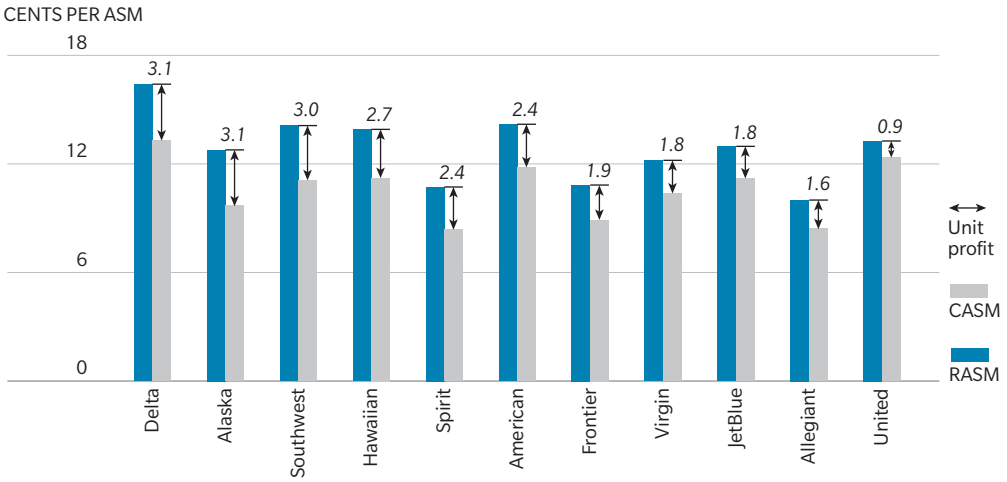
Exhibit 6: Change in Unit Profit, Q2 2014/2015

	Q2 2014	Q2 2015	DIFFERENCE IN CENTS
Allegiant	0.3	1.6	1.3
Delta	2.0	3.1	1.2
JetBlue	0.9	2.0	1.1
American	1.1	2.0	0.9
Alaska	2.3	3.1	0.8
Hawaiian	1.0	1.7	0.7
Southwest	2.3	3.0	0.7
United	0.5	1.1	0.6
Virgin	1.2	1.8	0.6
Frontier	1.6	2.1	0.5
Spirit	2.6	2.3	-0.2

Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

Exhibit 7: Domestic RASM/CASM by Airline, Q2 2015



Source: PlaneStats.com

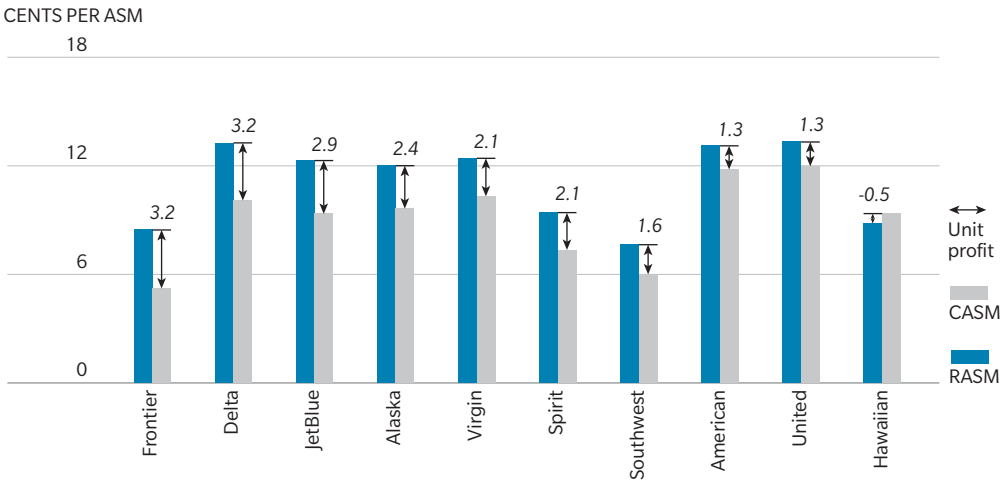
Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

Delta's 16.0¢ RASM (revenue per available seat mile) helped to produce the highest unit profit in domestic US operations.

According to US DOT data, Frontier's service to the Caribbean and Mexico produced the highest international profit margin among US carriers, a staggering 38.3% operating margin. Declining Pacific region passenger yields and the strong US dollar largely accounted for Hawaiian's losses for its international network.

JetBlue and Frontier had substantially better international results during the second quarter compared with their domestic operations. Conversely, Hawaiian and Southwest enjoyed substantially improved results from their domestic networks.

Exhibit 8: International RASM/CASM by Airline, Q2 2015



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (which is mostly regional operations).

4. OPERATING PROFIT TREND; BREAK-EVEN LOAD FACTORS

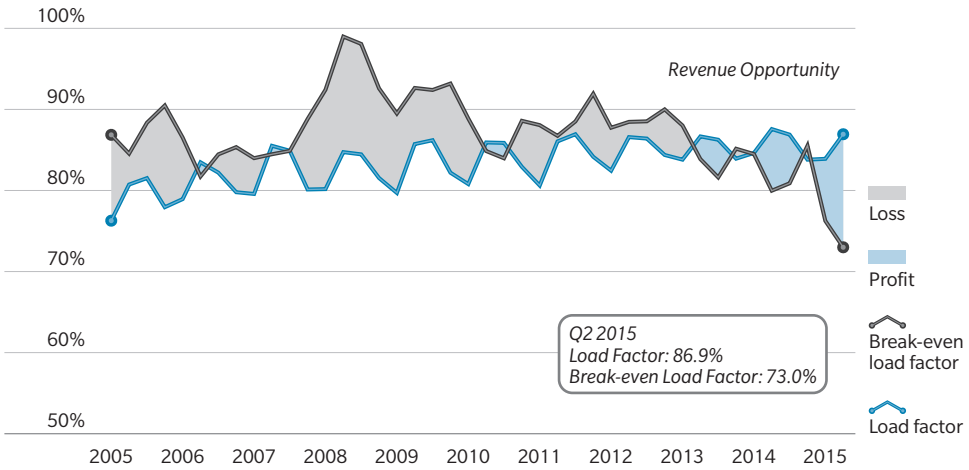
For the past 10 years, the domestic operations of US network carriers have been largely unprofitable. Network carriers' domestic break-even load factor (the percent of seats that need to be filled to cover expenses) has exceeded actual load factor for most of the past decade.

Improving unit revenue and decreasing costs have shrunk the break-even requirement 13.9 percentage points to 73% for US network airlines' domestic operations. Break-even load factors for this group have consistently declined since 4Q 2012.

Also evident in Exhibit 9 is the upward trend in actual domestic load factor. Network carrier load factor for 2Q 2015 was 86.9%, the second highest average load factor over the past 10 years. The average annual load factor for the year ending 2Q 2015 was 85.4%, nearly 6 points higher than in the same period in 2006.

Increasing load factors have certainly helped create a profitable environment for the network carriers' domestic sector. However, it remains to be seen how much average load factors can further increase without adding to unfulfilled passenger demand or spill at peak times and seasons.

Exhibit 9: Network Carrier Domestic Load Factor and Break-even Load Factor, Q1 2005–Q2 2015



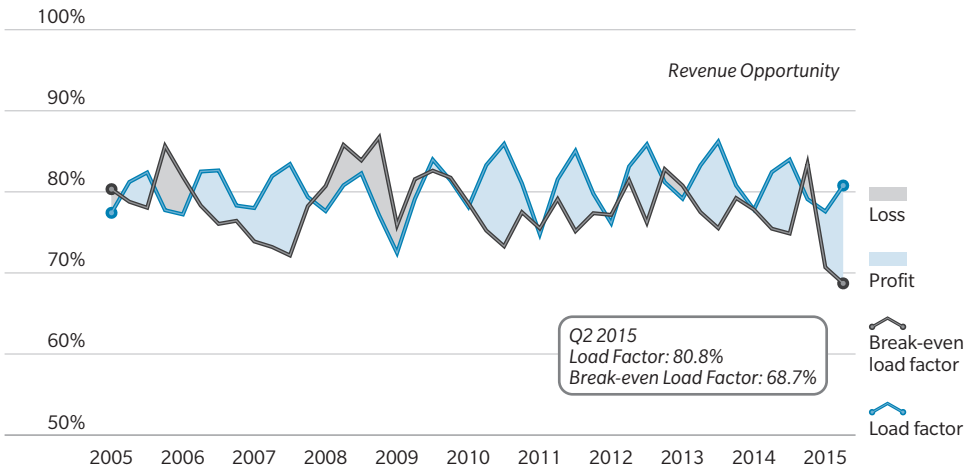
Source: PlaneStats.com

Note: Break-even load factor calculated without transport (which is mostly regional operations); ancillary revenue is included in calculation.

For most of the past 10 years, international operations of the US network airlines have been profitable in the summer quarters. Decreasing costs have improved profitability over the past several quarters as the international break-even load factor dropped to 68.7% in the second quarter, 6.8 points lower than in the previous year.

Unlike with their domestic operations, network carriers have not captured increased revenue opportunity through higher international load factors. Average load factor for the year ended second quarter 2015 was 80.5%. International load factor declined 1.5 points from the same period in 2014 and is up less than a point since 2006.

Exhibit 10: Network Carrier International Load Factor and Break-even Load Factor, Q1 2005–Q2 2015



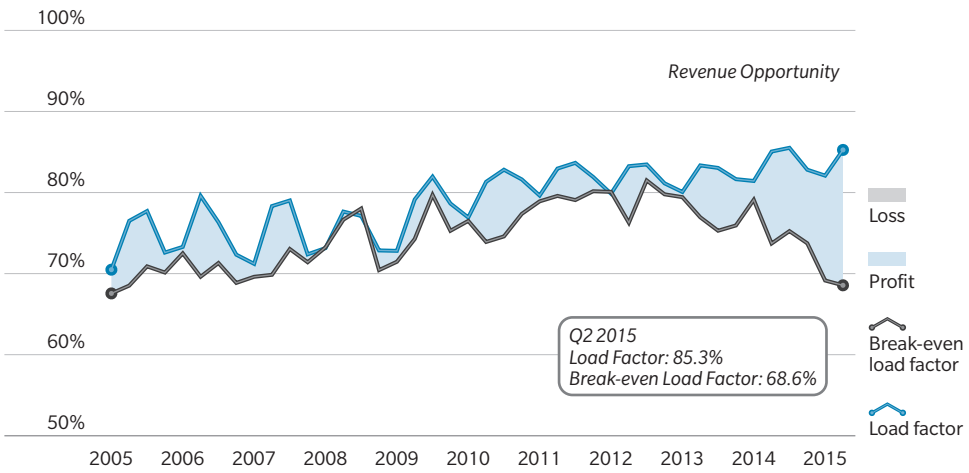
Source: PlaneStats.com

Note: Break-even load factor calculated without transport (which is mostly regional operations); ancillary revenue is included in calculation.

Except for two quarters, the value carrier group has reported profitable domestic results since 2005. An improving revenue environment over the past several years, coupled with decreasing costs, has lowered the break-even requirement to 68.2% for domestic operations.

Value carriers have greatly improved domestic load factors the past 10 years. The average annual load factor has increased 9.0 points since 2006 and peaked at 84.0% for the year ending in the second quarter.

Exhibit 11: Value Carrier Domestic Load Factor and Break-even Load Factor, Q1 2005–Q2 2015



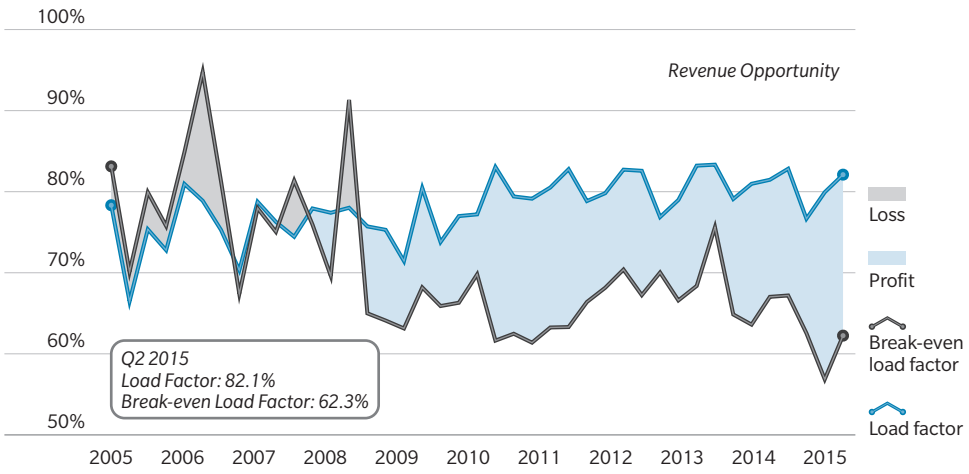
Source: PlaneStats.com

Note: Break-even load factor calculated without transport (which is mostly regional operations); ancillary revenue is included in calculation.

Although international operations remain relatively small for US value airlines, growth has been significant. The large profit margins that began in third quarter 2008 were maintained through second quarter 2015. The value carrier group recorded an 82.1% load factor in second quarter 2015, compared with a break-even load factor of 62.3%.

It is interesting to note that value carriers have comparable seasonal peaks for their international operations to those of their network peers.

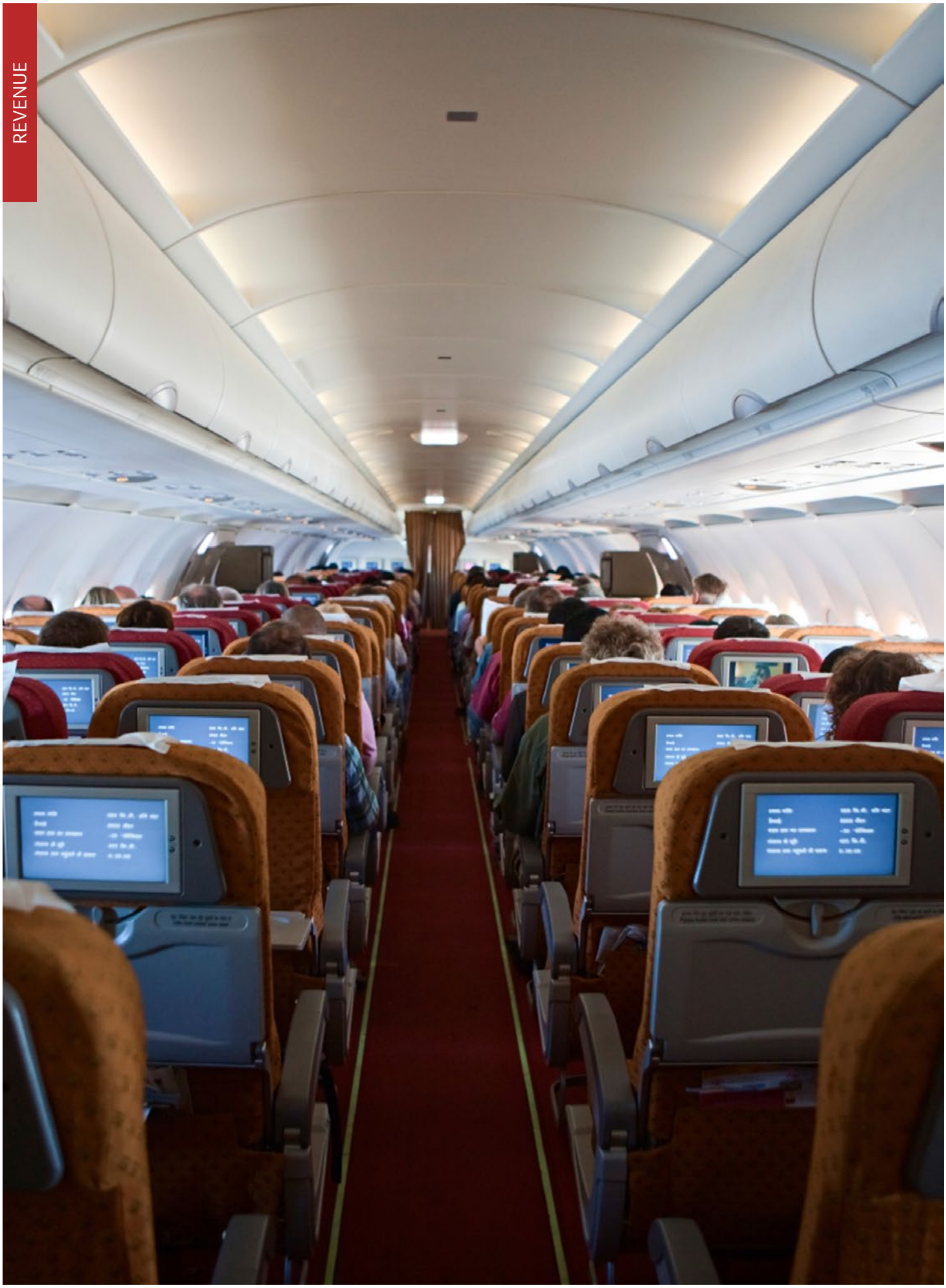
Exhibit 12: Value Carrier International Load Factor and Break-even Load Factor, Q2 2005–Q2 2015



Source: PlaneStats.com

Note: Break-even load factor calculated without transport (which is mostly regional operations); ancillary revenue is included in calculation.

The record profits detailed here are the result of several favorable market conditions the past several years that have helped both the cost and revenue sides of the industry. The following sections will detail recent changes in revenue, cost and capacity.



REVENUE

5. AIRLINE REVENUE VS. GDP

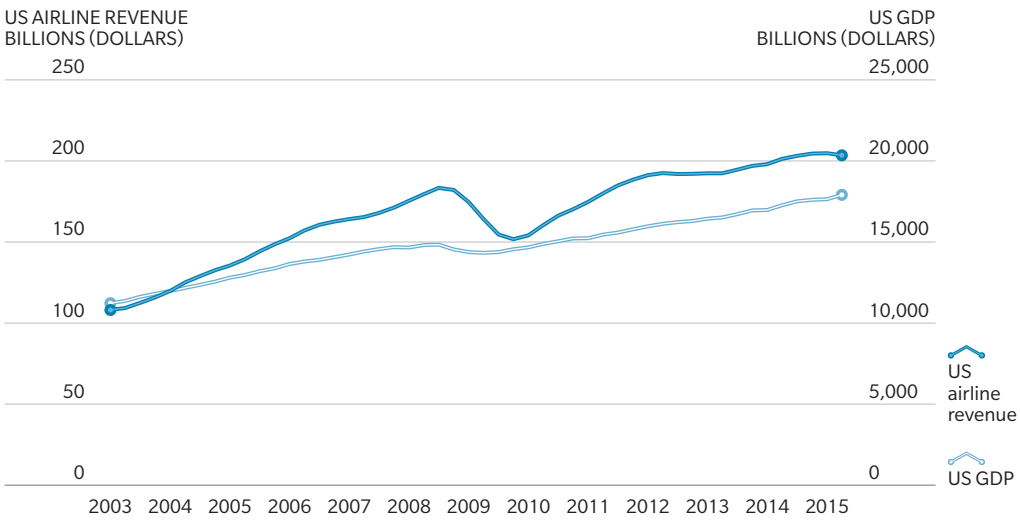
The exhibit below details total US airline industry revenue (all carriers, not limited to network and value groups) compared with US GDP. Airline revenue growth slowed during the first half of 2015, indicating a change in recent patterns.

Over the 24-month period between January 2013 and December 2014, US airline revenue closely matched GDP growth. That trend was slightly disrupted in the first half of 2015, with GDP growing 3.8% over 2014 while airline revenue rose only 2.2%. During the steady growth from 2013 to 2014, US airline revenue as a percent of GDP ranged from 1.16% to 1.17%. That percentage dropped to 1.14% in second quarter 2015.

A year ago, industry analysts called for sub-GDP domestic capacity growth (measured in ASMs) to maintain a positive passenger yield environment. The theory is that domestic airline revenue is largely a function of GDP, and, therefore, unit revenue (yield) will be diluted to the extent that capacity increases at a more rapid rate than GDP.

Last year, this report said this theory would be tested in the subsequent years. Indeed, we have seen signs of weakening revenue that may be the result of capacity growing faster than the GDP. There is also significant fare competition between and among network and value carriers that could result in additional yield weakness. The challenge will be to understand what is capacity-driven and what is driven by the industry's intense competition.

Exhibit 13: US Airline Revenue and GDP, Q1 2003–Q2 2015



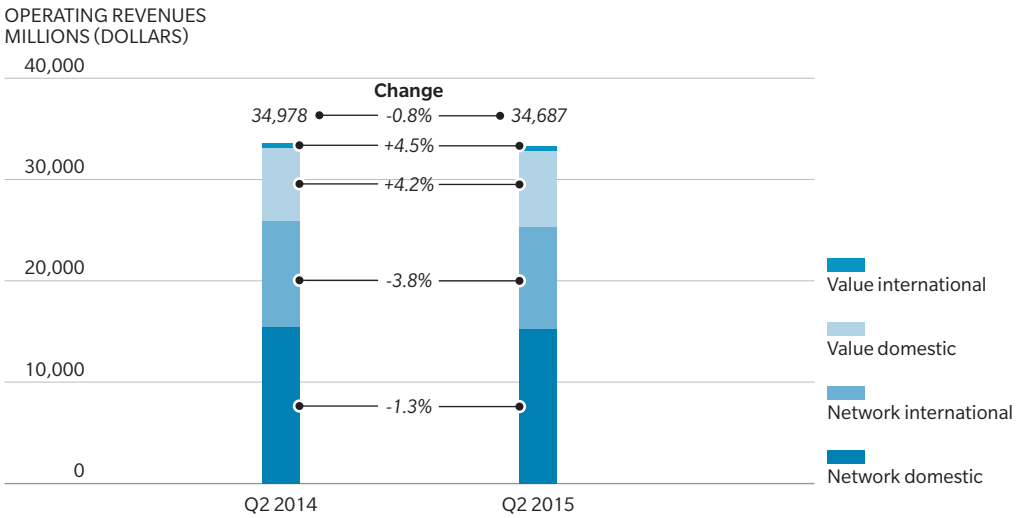
Source: Planestats.com > Form 41 Financials > P 1.2 Income Statement, US Bureau of Economic Analysis

6. CHANGE IN OPERATING REVENUE

Network and value carrier combined operating revenue declined 0.8% during second quarter 2015 compared with the same period of 2014. Revenue from network carrier international operations was down 3.8% year-over-year, or $417 million. Operating revenue also declined year-over-year for the group's domestic operation (down 1.3%, or $209 million). Systemwide, revenue was down 2.3% for network carriers.

Value carrier revenue increased 4.2% ($335 million) systemwide during the second quarter. International revenue grew at a slightly greater pace at 4.5%.

Exhibit 14: Change in Operating Revenue, Q2 2014/2015



Source: PlaneStats.com

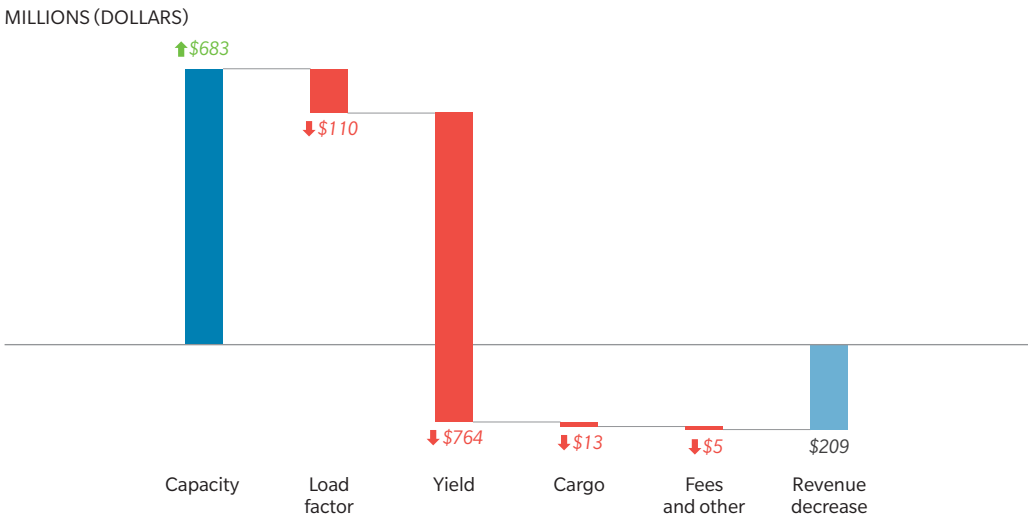
Note: Mainline operations only, excludes transport-related revenue (regionals).

A combination of factors drives changes in airline revenue, including capacity, load factor (passenger demand), yield, cargo revenue, and fees (ancillary revenue) among others. We analyzed these price and volume drivers independently to account for changes in revenue.

Exhibits 15 to18 quantify how much each of these drivers impacted year-over-year revenue changes for domestic and international operations. The analysis generally captures the effect of each driver. In reality, each driver is dependent on other drivers and does not act independently, as the graphs may suggest. For example, load factor is relative to capacity and demand. Similarly, yield is impacted by available capacity. Later in this section, we will examine the underlying factors of each driver.

Increased capacity during second quarter 2015 represented the only positive driver for network carriers' domestic revenue production. Passenger demand increased during the quarter; however, it did not keep pace with capacity, causing a minimal decline in load factor. Capacity-related revenue gains were more than offset by declining passenger yield.

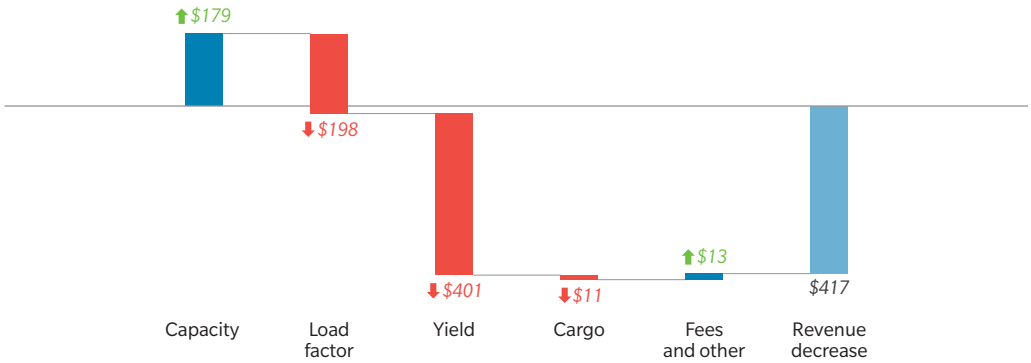
Exhibit 15: Network Carrier Domestic Revenue Decrease – Price and Volume Drivers, Q2 2014/2015



Source: PlaneStats.com, Oliver Wyman analysis

Network carriers added capacity to international markets, and again demand did not keep pace, creating slightly lower load factors. As a result, declining passenger yield was the major influencing factor for the network carriers' $417 million revenue change for the period.

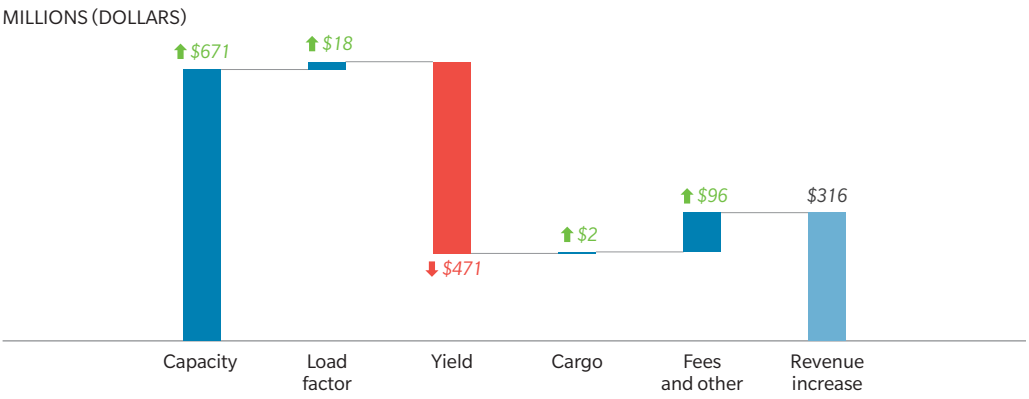
Exhibit 16: Network Carrier International Revenue Decrease – Price and Volume Drivers, Q2 2014/2015



Source: PlaneStats.com, Oliver Wyman analysis

Increased capacity combined with slightly better passenger demand resulted in $689 million more revenue for US value carriers' domestic operations. More than two-thirds of the gain was offset by declining passenger yield during the period. Ancillary fees helped the group's domestic revenue production by making up nearly one-third of the net revenue increase.

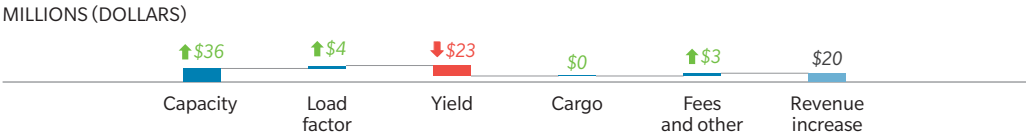
Exhibit 17: Value Carrier Domestic Revenue Increase – Price and Volume Drivers, Q2 2014/2015



Source: PlaneStats.com, Oliver Wyman analysis

Like the domestic sector, international revenue gains from capacity additions and increased demand were partially offset by falling passenger yields for the value group.

Exhibit 18: Value Carrier International Revenue Increase – Price and Volume Drivers, Q2 2014/2015



Source: PlaneStats.com, Oliver Wyman analysis

7. REVENUE DRIVER: US CARRIER CAPACITY

Increasing capacity alone does not directly boost revenue. Increased capacity does, however, create a greater revenue opportunity. To understand the impact of adding or subtracting capacity, our analysis calculates the revenue impact using the change in capacity and the previous period's demand and yield data. The resulting impact is hypothetical as all other drivers are changing at the same time.

US network and value carriers increased ASMs 5.0% during second quarter 2015. Network carriers added 4.7% more domestic ASMs over second quarter 2014, equating to $683 million in revenue (or revenue opportunity). The group's international operation expanded by only 1.9%, increasing revenue by $179 million.

Value carriers were significantly more aggressive in capacity growth in second quarter 2015. Domestic ASMs for value carriers increased 9.6%, for a revenue impact of $671 million. The smaller international operation grew 9.0%, yet the revenue impact was only $36 million.

Exhibit 19: Percent Change in Capacity, Q2 2014/2015

	% CHANGE
Network domestic	4.7%
Network international	1.9%
Value domestic	9.6%
Value international	9.0%

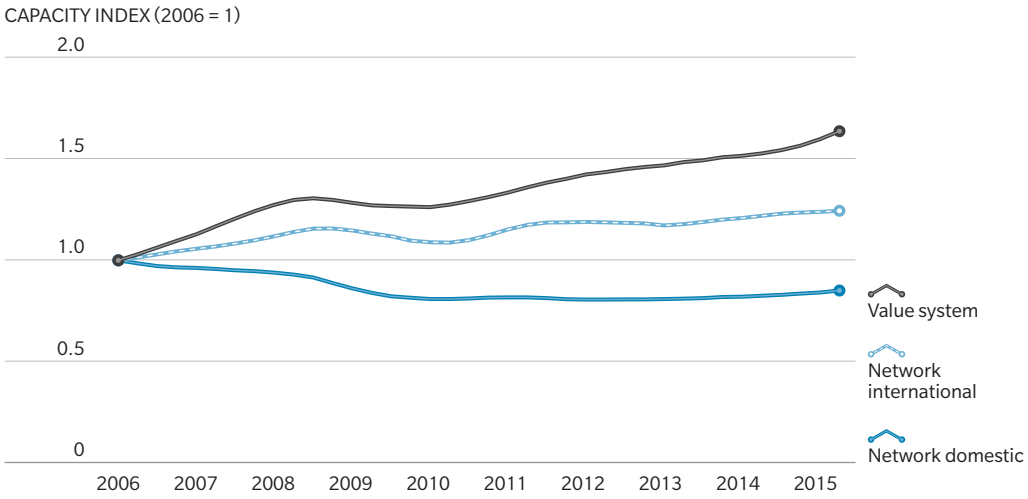
Source: PlaneStats.com > Form 41 T2 Traffic
Note: Mainline operations only.

Exhibit 20 examines capacity trends over the past 10 years by indexing rolling 12-month periods to 2006 levels. Domestic US capacity for network carriers remains about 15% below 2006 levels. However, moderate growth over the past 18 months has returned domestic operations to near 2008 levels for network carriers.

Network carrier international capacity has increased nearly 25% since 2006 (compound annual growth rate or CAGR 2.27%). Year-over-year capacity changes indicate that the international growth trend is slowing somewhat for US carriers.

Value carriers continue to increase domestic capacity. Value carriers have added 53% more capacity to their domestic operations (CAGR 4.83%) over the past 10 years.

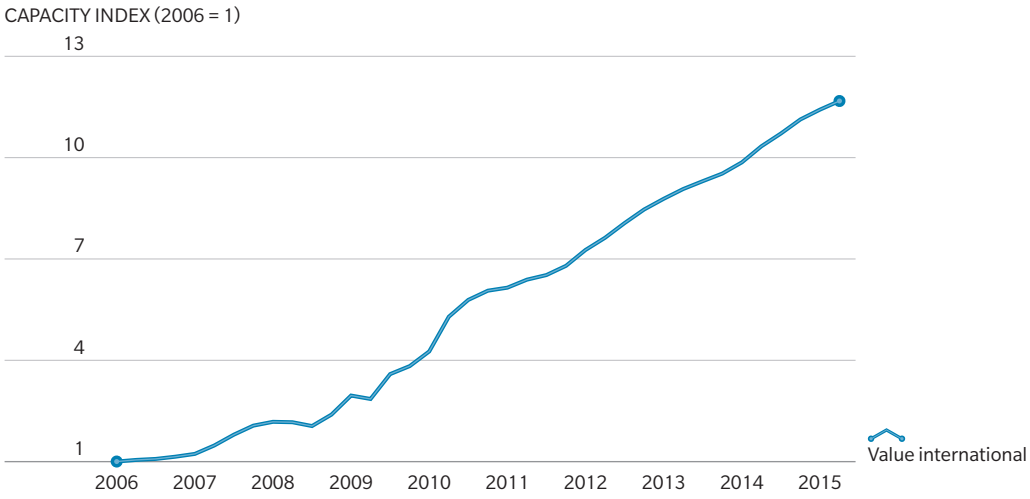
Exhibit 20: Long-term Capacity Index, Q1 2006–Q2 2015



Source: PlaneStats.com > Form 41 T2 Traffic
Note: Mainline operations only.

In 2006, international operations represented only 1% of value carriers' total capacity. Rapid growth over the past 10 years has increased the international share to 7.0%. While still relatively small relative to their network counterparts, international operations have produced substantial margins for the value group, as detailed earlier.

Exhibit 21: Long-term Capacity Index – Value International, Q1 2006–Q2 2015



Source: PlaneStats.com > Form 41 T2 Traffic
Note: Mainline operations only.

8. REVENUE DRIVER: LOAD FACTOR

Changes in capacity can create or reduce the revenue opportunity for airlines. Airlines constantly manage capacity to provide adequate service to satisfy demand while minimizing empty seats.

Our analysis measures the load factor impact on revenue by combining the change in load factor with the previous year's yield data measured against current capacity. The result is hypothetical, given that current fare levels (passenger yield) impact demand.

Domestic load factor for network carriers fell 0.64 points for the second quarter 2015 compared with second quarter 2014. The decline in load factor hurt revenue performance by $110 million. Declining international demand for network carriers in the second quarter led to a load factor decline of 1.65 points to 80.8%. Even with the added capacity, the decline in demand resulted in a $19 million net revenue decline for capacity and load factor.

Value carriers more effectively matched capacity growth with demand during the second quarter. The group increased both domestic and international load factors, capturing $18 million in additional revenue for each region.

Exhibit 22: Change in Load Factor, Q2 2014/2015

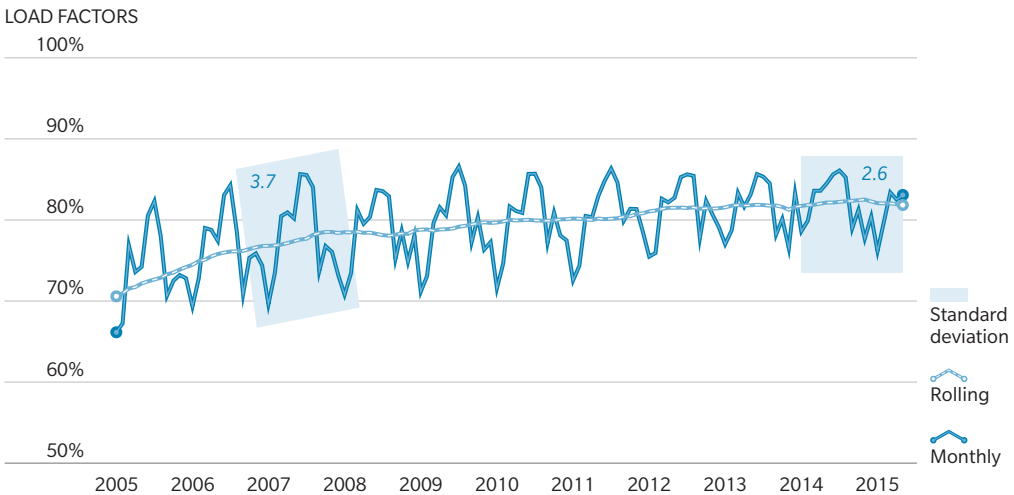
	Q2 2014	Q2 2015	PTS CHANGE
Network domestic	87.6%	86.9%	-0.64
Network international	82.4%	80.8%	-1.65
Value domestic	85.1%	85.3%	0.20
Value international	81.5%	82.1%	0.63

Source: PlaneStats.com > Form 41 T2 Traffic
Note: Mainline operations only.

As stated earlier, network carriers have increased domestic load factor more than 6 points since 2006. Certainly, domestic capacity reductions by the group over the past 10 years have improved load factors. In addition to capacity reductions, network carriers have more effectively managed seasonal capacity and demand. Exhibit 23 compares the actual monthly load factor to a rolling average load factor for the previous 12 months. The rolling 12-month line clearly demonstrates the gradual increase in loads, while the deviation between the monthly and rolling load factors demonstrates the airlines' ability to reduce seasonal highs and lows.

During 2007, the standard deviation between the rolling average and the seasonal peaks was 3.7 (shaded area). That deviation fell to 2.6 for the latest 12-month period, ending second quarter 2015.

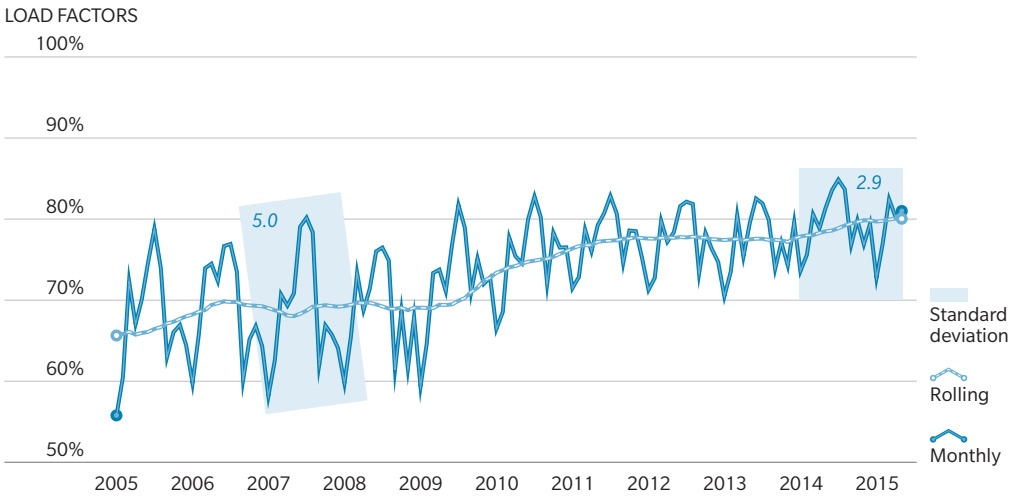
Exhibit 23: Network Carrier Domestic Load Factors, January 2005–May 2015



Source: US DOT T100, PlaneStats.com

Domestic seasonality has affected value carriers to a greater degree than network carriers over the past 10 years. This is likely due to more leisure passengers in their customer mix. During 2007, the group recorded monthly load factors as high as 84.2% and as low as 66.5%, for a standard deviation of 5.0 for the year. The group reduced seasonal deviation to 2.9 by the year ended second quarter 2015. For value carriers, this contrasts with international operations, for which seasonality had a smaller impact.

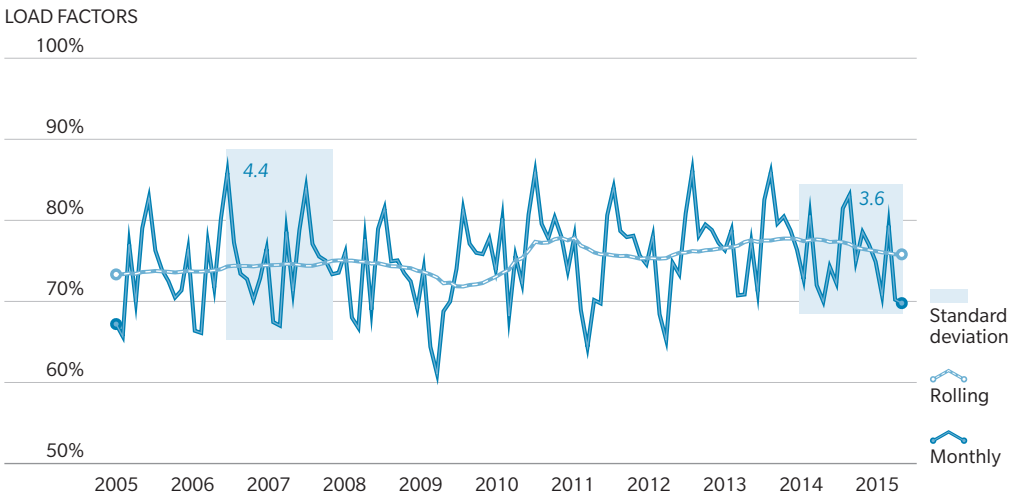
Exhibit 24: Value Carrier Domestic Load Factors, January 2005–May 2015



Source: US DOT T100, PlaneStats.com

Together, both groups have not had the same degree of success in "de-peaking" seasonal international traffic; however, there has been some improvement. Seasonal deviation was down to 3.6 for the most recent period.

Exhibit 25: International Load Factors, January 2005–February 2015



Source: US DOT T100, PlaneStats.com

9. REVENUE DRIVER: PASSENGER YIELD

Declining passenger yield has been the most significant factor impacting US airline revenue. Systemwide passenger yield declined 5.1% during the second quarter 2015 compared with the same period in 2014.

Domestic passenger yield was down 5.1% for network carriers, equating to a $764 million drop in revenue in the quarter. International passenger yield fell 4.2%, the smallest decline recorded for both network and value carrier operations. The corresponding revenue decrease was $401 million during the second quarter.

Value carriers seemingly bought a bigger piece of domestic market share, with aggressive pricing and increasing capacity. As a result, passenger yield fell 6.1% in second quarter 2015. Similarly, international passenger yield declined at a greater rate during the period compared with network carriers, with the group down 5.2%.

Exhibit 26: Change in Passenger Yield, Q2 2014/2015

	Q2 2014	Q2 2015	PTS CHANGE
Network domestic	15.75	14.95	-5.1%
Network international	15.02	14.39	-4.2%
Value domestic	15.14	14.21	-6.1%
Value international	12.29	11.65	-5.2%

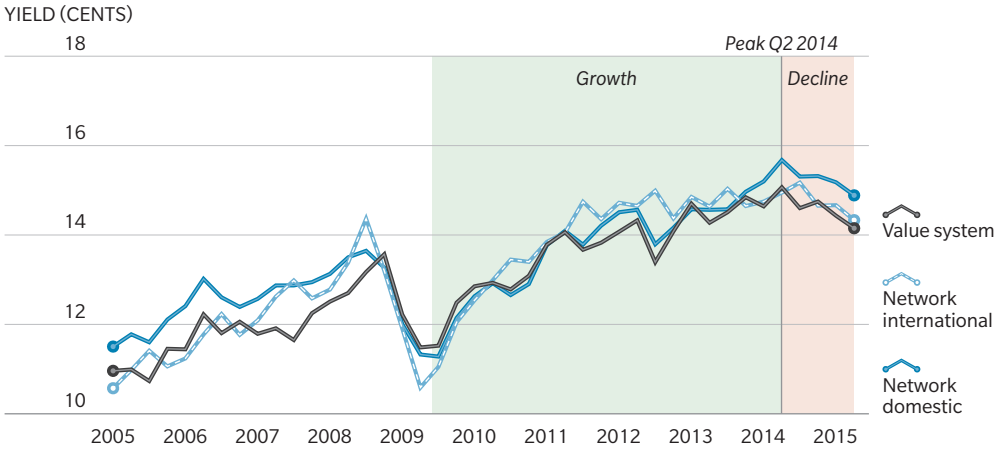
Source: PlaneStats.com
Note: Mainline operations only.

The record industry profits reported during 2015 would not be possible without longer-term structural changes driving increases in passenger yield. After reaching collective lows during mid-2009, capacity reductions and moderated growth helped increase passenger yield to a peak in mid-2014.

During that 5-year growth period, domestic passenger yield increased 39% for the network carrier group (not stage-length adjusted). At the same time, network carrier capacity reductions and moderate growth seemed to aid the value carrier group, with domestic yield increasing more than 40% during the period.

International passenger yields grew rapidly from 2009 to first quarter 2011, but slowed between 2011 and mid-2014.

Exhibit 27: Long-term Passenger Yield Trend, Q1 2005–Q2 2015



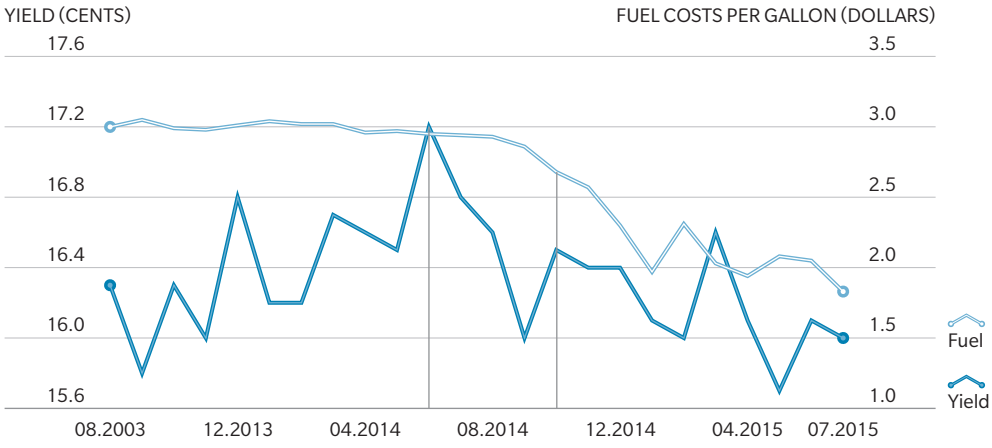
Source: PlaneStats.com

Note: Mainline operations only.

After 19 quarters of strong growth, passenger yields have recently declined. Lower costs, driven mainly by less expensive fuel, have allowed US carriers to become more competitive on fares. However, Airlines for America's passenger yield data indicate that the drop in passenger yield began before fuel prices dived. Between June 2014 and September 2014, passenger yield dropped 7.0%, yet fuel cost dropped only 3.1%.

It is virtually impossible to quantify what portion of yield declines can be attributed to the change in the cost structure of the airlines and what portion is related to other market conditions. However, it will be interesting to see if yield continues to deteriorate as airlines adjust to fuel prices below $2.00. Since we will soon enter a period where results will lap the fuel declines, some of the impact of structural changes may become more apparent.

Exhibit 28: Short-term Yield and Fuel Trend, August 2013–July 2015



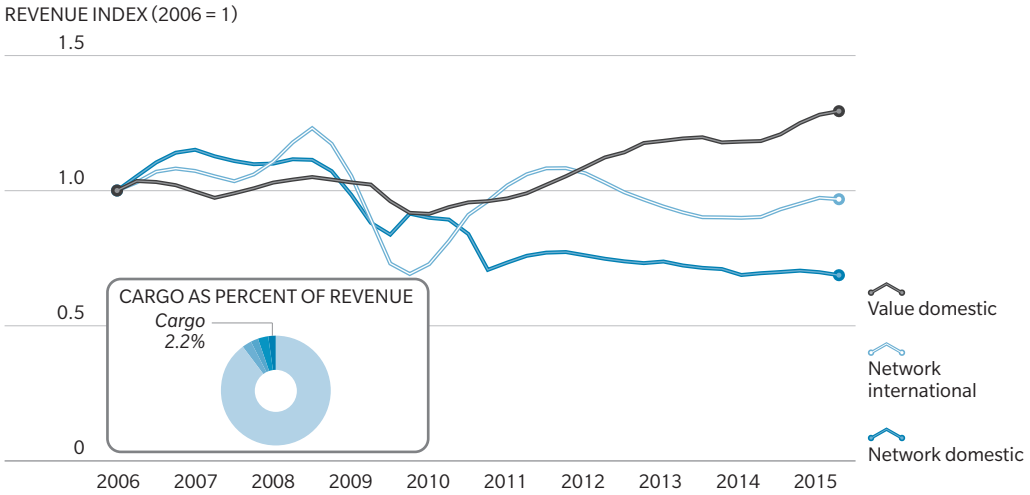
Source: PlaneStats.com, US DOT Fuel Cost and Consumption, A4A Monthly Passenger Yields

10. REVENUE DRIVER: CARGO

Cargo revenue declined about $22 million in second quarter 2015 collectively for the network and value airlines. Value carriers had a slight increase during the period.

Cargo revenue generated from freight and mail services accounts for only 2.2% of total airline revenue. International cargo revenue has fluctuated more than 20% above or below 2006 levels and has currently returned to 2006 levels. Domestic cargo revenue began a downward trend in 2008 and is now more than 30% below 2006 levels.

Exhibit 29: Long-term Cargo Revenue Index, Year-end Q1 2006–Q2 2015



Source: PlaneStats.com

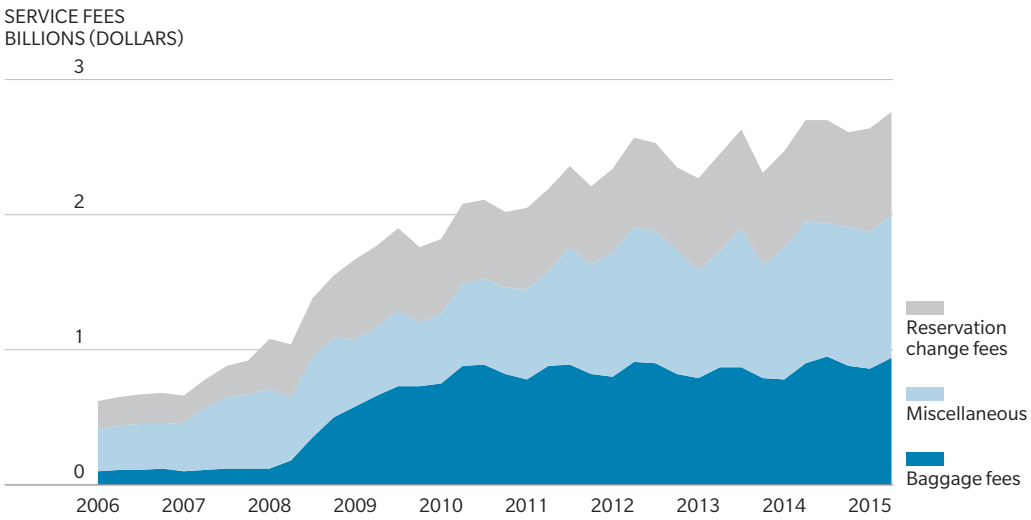
Note: Mainline operations only. Cargo includes freight and mail.

11. REVENUE DRIVER: ANCILLARY REVENUE

Ancillary revenue is revenue generated from onboard sales, ticket change fees, excess baggage fees and other miscellaneous charges. During the second quarter of 2015, ancillary revenue accounted for 8.0% of total revenue. Ten years ago, ancillary revenue accounted for less than 3.0% of revenue.

These fees contributed $106 million in revenue during the second quarter, with most of it from value carriers' domestic operations. Network carrier ancillary revenue grew less than 1% year-over-year after making significant gains over the past 10 years.

Exhibit 30: System Baggage, Reservation Change and Miscellaneous Fees, Q1 2006–Q2 2015

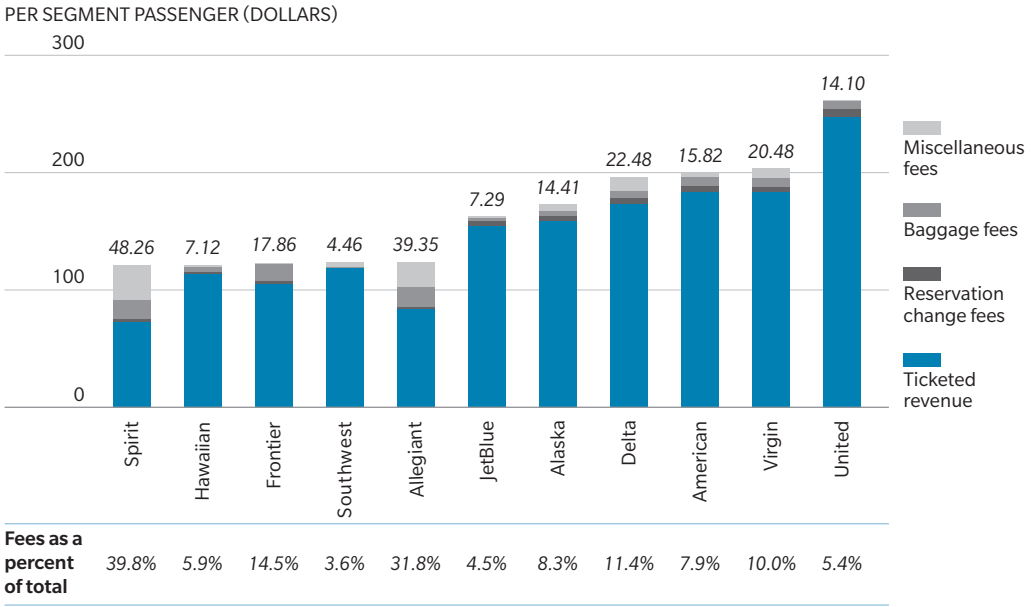


Source: PlaneStats.com > Form 41 Financials > P1.2 Income Statement for all carriers in study
Note: Adjustment made to Allegiant miscellaneous revenue, which is reported differently.

Ancillary fees vary greatly among US carriers. For example, Spirit Airlines generated nearly $50 per passenger from these fees, representing 39.8% of segment passenger revenue. Allegiant, operating with a similar business model, collected $39.35 per segment passenger. To date, Southwest has not participated in the addition of ancillary fees or unbundling passenger fares, and collected the industry's lowest ancillary revenue per passenger at $4.46.

Delta collected $22.48 per segment passenger, the highest among network airlines, while Hawaiian collects $7.12 per segment passenger.

Exhibit 31: System Service Fees and Ticketed Revenue, Q2 2015



Source: PlaneStats.com

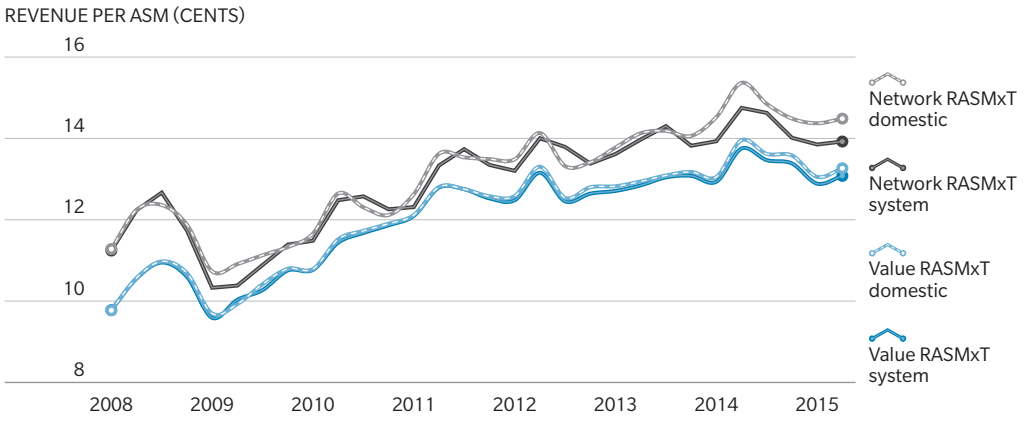
Note: Adjustment made to Allegiant miscellaneous revenue, which is reported as transport related revenue.

12. UNIT REVENUE CHANGES

Network carrier systemwide revenue per available seat mile (RASM) declined 5.6% during second quarter 2015. Value carriers dropped 4.9% during the same period.

Unit revenue peaked during the second quarter of 2014 for both groups after nearly five years of improvement. US network domestic RASM improved 40.9% between 2009 and 2014. During that period, yield also improved 38.9%.

Exhibit 32: RASM Growth by Carrier Group, Q1 2008-Q2 2015



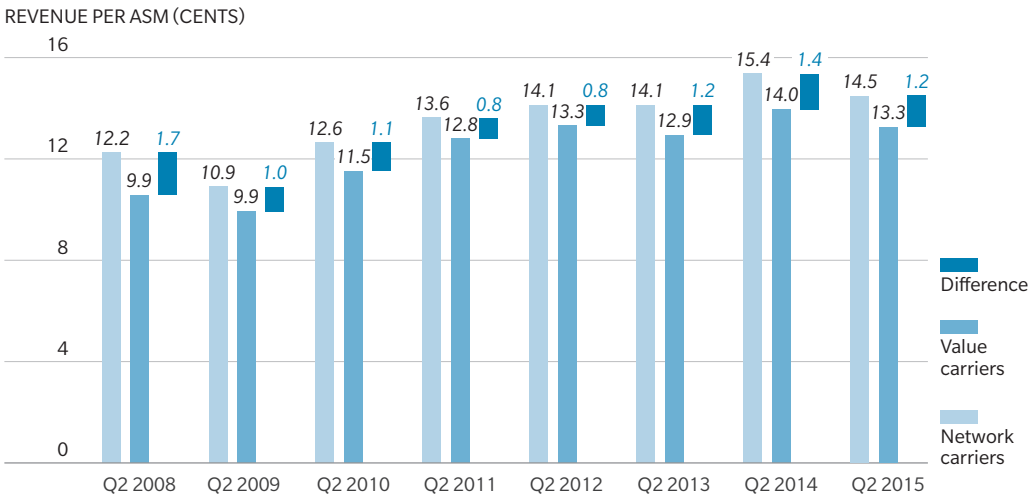
Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue (regionals). xT means excludes transport.

13. COMPARISON OF DOMESTIC RASM

After losing ground in 2014, this year value carriers reduced the domestic RASM advantage held by their network counterparts. During second quarter 2015, value carrier RASM was 13.3¢, only 1.2¢ below network carriers' 14.5¢ RASM. Over the past eight years, the network carrier RASM premium has been as high as 1.7¢ and as low as 0.8¢ compared with value carrier RASM.

Exhibit 33: Comparison of Domestic RASM Between Network and Value Carriers, Q2 2008–Q2 2015



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue (regionals).

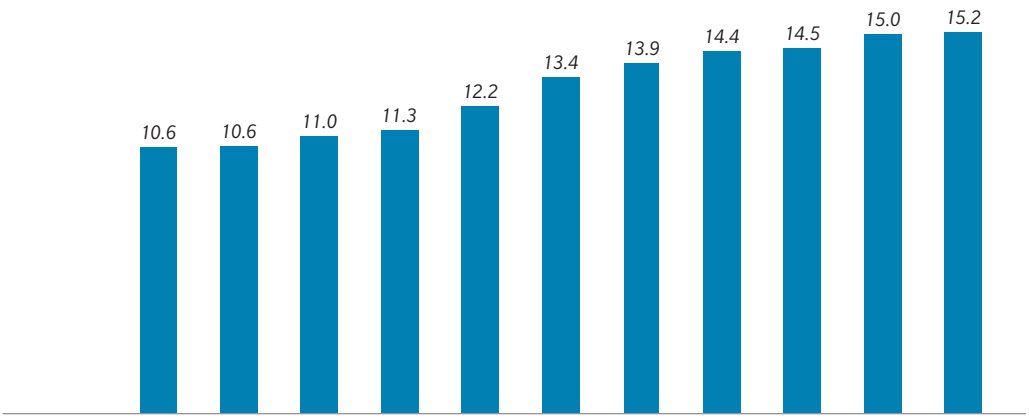
To accurately compare individual airline RASM performance, an adjustment should be made for average stage-length. Our study adjusts individual RASM results to a standard 1,000-mile stage-length using a slope of 0.5. Stage-length adjusting provides a benchmark. We recognize that there are other differences that also affect unit revenue, such as seating density.

Spirit's ultra-low fare model resulted in the carrier having the lowest domestic RASM (both stage-length adjusted and unadjusted). Delta's industry-leading unit revenue resulted from the carrier's ability to generate a significant revenue premium over other domestic carriers.

Overall, plotting stage-length adjusted RASM supports the division of our network and value carrier groups with the exception of Hawaiian and Virgin America. Hawaiian had the third lowest stage-length adjusted RASM at 11.01¢. Its unique combination of extremely short, intra-island service combined with extremely long hauls to the mainland makes comparisons difficult. Virgin America had the third highest adjusted RASM, resulting largely from an average stage-length 10% longer than any other domestic US airline.

Exhibit 34: Domestic RASM by Airline – Stage-length Adjusted to 1,000 Miles, Q2 2015

SLA DOMESTIC RASM (CENTS)



	Spirit	Frontier	Hawaiian	Allegiant	Southwest	JetBlue	Alaska	American	Virgin	United	Delta
RASM (not SLA)	*10.7*	*10.8*	*13.9*	*11.7*	*14.1*	*13.0*	*12.8*	*14.2*	*12.2*	*13.3*	*16.4*

Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue (regionals).

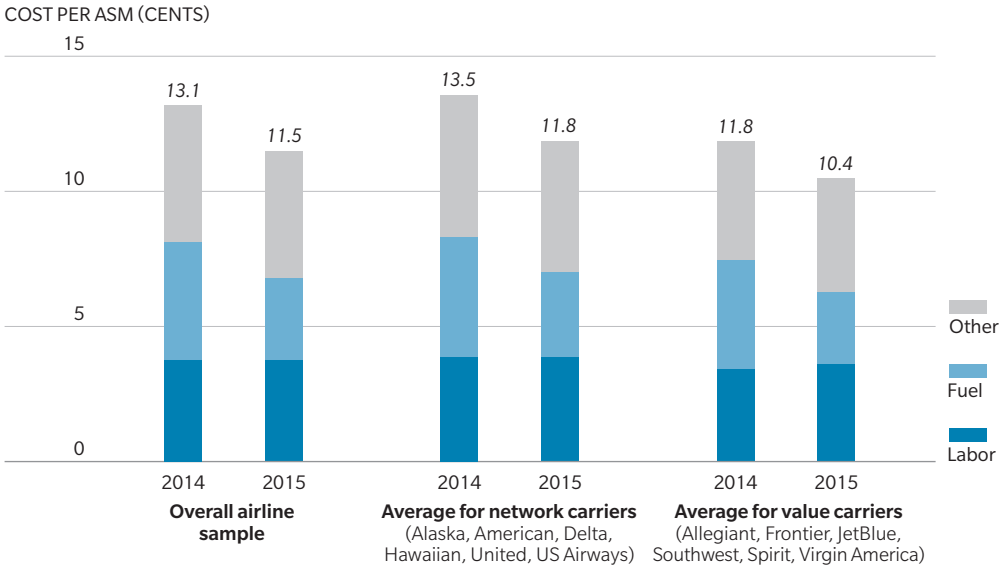
COST

14. DECLINE IN AIRLINE COSTS

US airline systemwide unit cost declined 12.6% year-over-year to 11.5¢ during second quarter 2015, marking the largest overall cost decline since 2009. Network carrier system cost slid 12.6%, falling from 13.5¢ to 11.8¢.

Value carriers reduced systemwide costs from 11.8¢ in 2014 to 10.4¢ in 2015, down 11.7%.

Exhibit 35: System CASM by Group (Excluding Regional Affiliates), Q2 2014/2015

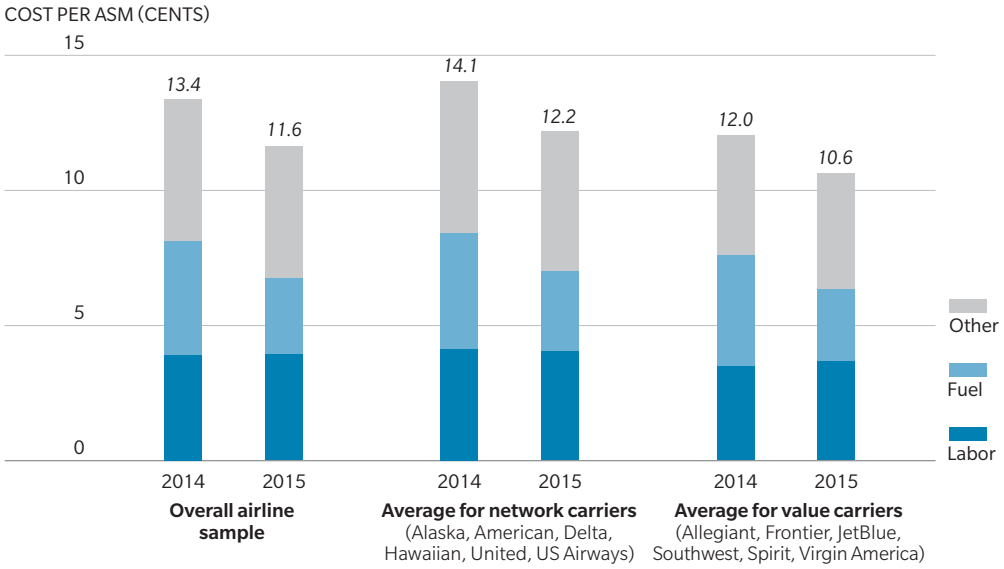


Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

The network carrier domestic unit cost declined 13.2% in second quarter 2015 from 14.1¢ to 12.2¢. Value carrier costs dropped at a slightly slower rate (11.7%), slipping from 12.0¢ in second quarter 2014 to 10.6¢ in 2015.

Exhibit 36: Domestic CASM by Group (Excluding Regional Affiliates), Q2 2014/2015



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

The rapid decline in cost was driven by falling fuel prices, with the network unit fuel cost falling 30.2% and value carrier unit fuel cost down 34.7%. After the decline, fuel cost represents 26.2% and 25.3% of unit cost for network and value carriers, respectively.

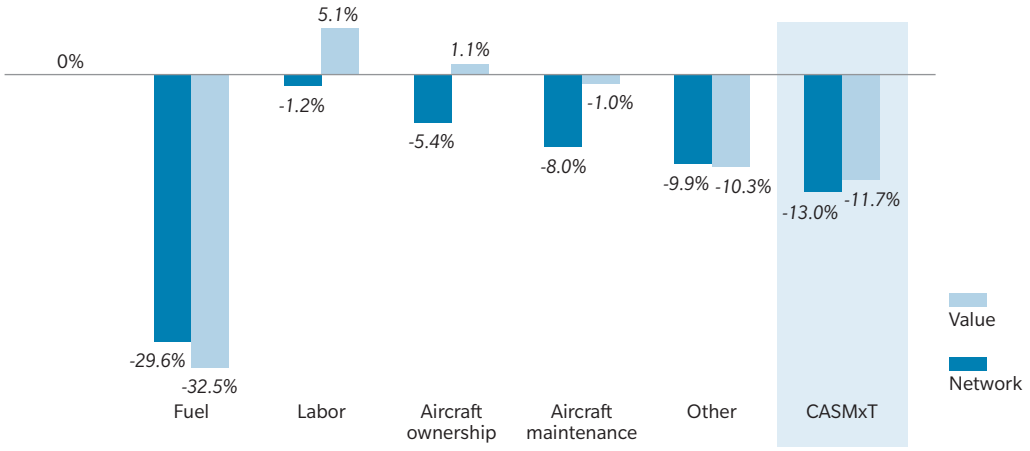
As a result of the significant decline in fuel cost, labor now represents the largest cost category for US airlines. It accounts for 32.9% of the network carrier systemwide unit cost and 34.5% of value carrier cost. Value carrier unit labor cost increased 5.6% year-over-year. During the same period, network unit labor cost increased only 0.5%.

Network carriers also reduced aircraft ownership unit cost (-5.9%) as well as aircraft maintenance unit cost (-7.1%) year-over-year in second quarter 2015. Additionally, aircraft maintenance is 9.8% of network carrier total unit cost and ownership is 6.8%.

Value carrier aircraft ownership unit cost decreased 4.7% and now represents 7.9% of total cost, while maintenance cost was down 3.0% year-over-year.

Both groups benefited from a decline in all other unit costs. All other costs represent 24.1% of network carrier cost and 23.1% of value carrier unit cost. Network carriers reported lower passenger food cost, commissions and landing fees. Value carriers reported lower landing fees and non-aircraft rentals.

Exhibit 37: Change in Domestic Unit Costs, Q2 2014/2015

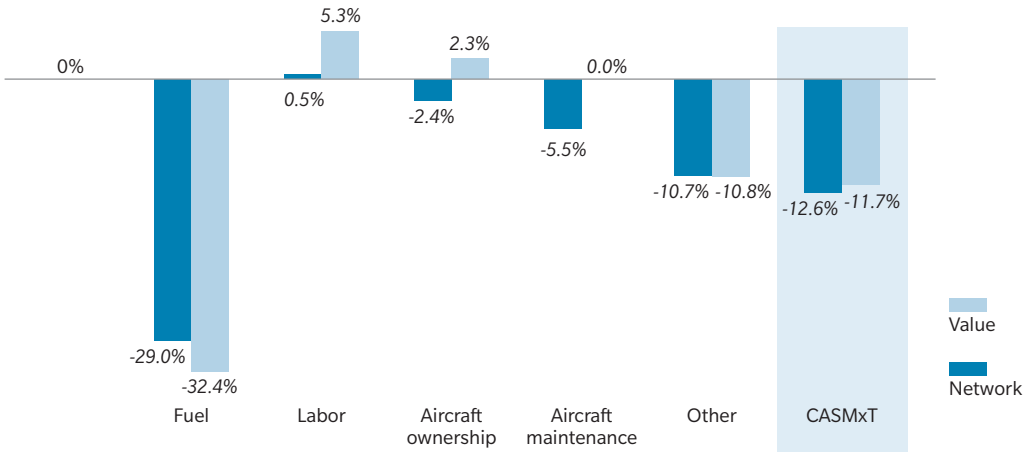


Percent of total costs	25.3%/26.0%	33.4%/34.7%	7.3%/8.4%	10.6%/9.5%	23.4%/21.4%

Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals); CASMxT = CASM (excluding transport-related expense).

Exhibit 38: Change in System Unit Costs, Q2 2014/2015



Percent of total costs	27.0%/26.1%	32.8%/34.4%	7.1%/8.4%	10.3%/9.6%	22.8%/21.5%

Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals); CASMxT = CASM (excluding transport-related expense).

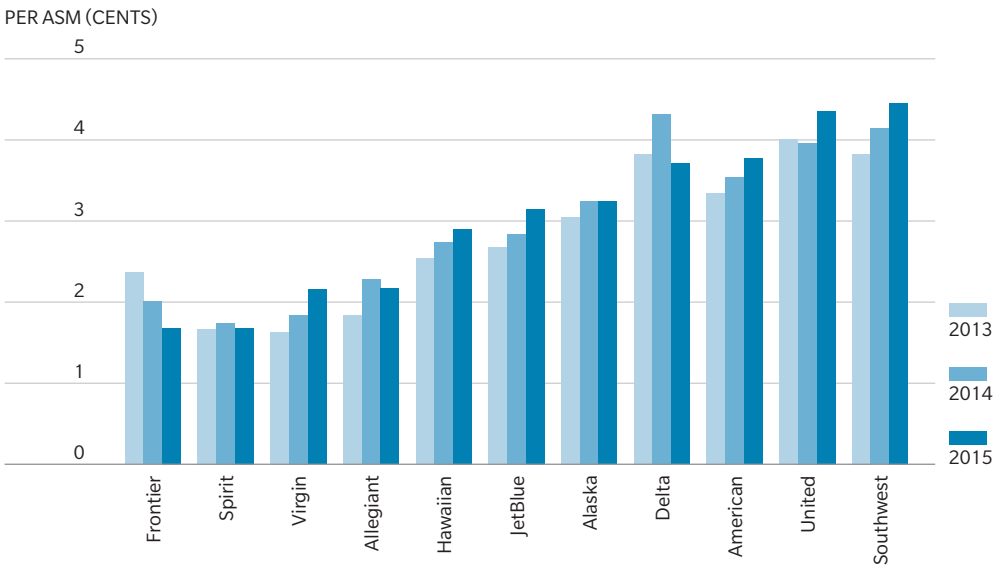
15. COST DRIVER: LABOR

As noted earlier, the labor unit cost is increasing at a greater rate for the value carrier group. The two largest value airlines, Southwest and JetBlue, reported labor unit cost increases exceeding 7% year-over-year. Over two years, labor costs have increased 16.4% percent at Southwest and 17.5% at JetBlue. Still low relative to the rest of the industry, Virgin America's labor cost has increased 32.5% since 2013.

For the first time, Southwest unit labor costs are the highest among US airlines at 4.46¢ per ASM. More than 40% of Southwest unit cost is labor-related. Delta's labor cost per ASM was down 14.1% from 2014, when the carrier had the highest labor cost in the US industry.

Spirit's rapidly growing operation (due to increased ASMs) has lowered labor cost over 2013 levels.

Exhibit 39: US Carrier System Labor Unit Costs, Q2 2013/2014/2015



	Frontier	Spirit	Virgin	Allegiant	Hawaiian	JetBlue	Alaska	Delta	American	United	Southwest
2015/2014	-16.4%	-3.4%	17.4%	-4.8%	5.8%	10.9%	-0.3%	-14.1%	6.5%	10.1%	7.7%
2015/2013	-21.9%	0.6%	32.5%	17.4%	14.2%	17.5%	6.2%	-3.1%	12.5%	8.7%	16.4%

Source: PlaneStats.com
Note: Mainline operations only.

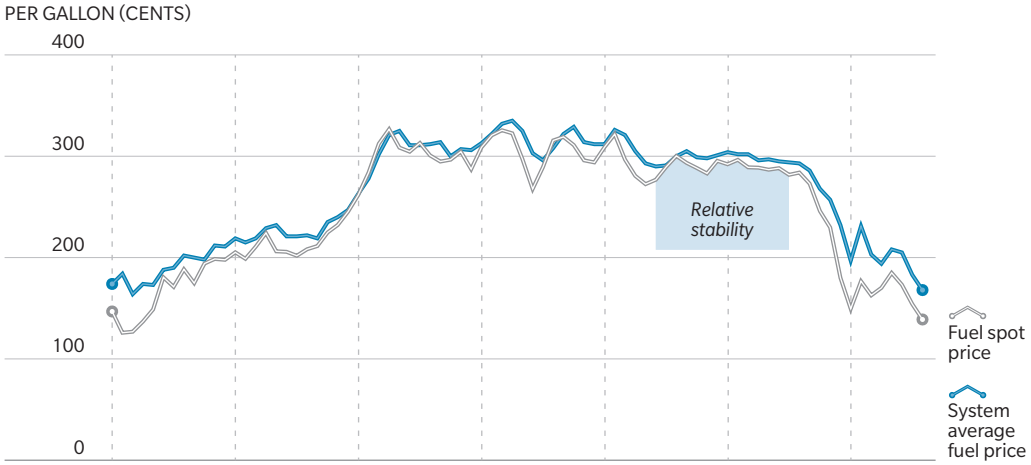
16. COST DRIVER: FUEL

Imagine telling an executive from a non-transportation industry that 30% of the cost structure can fluctuate nearly 40% year-over-year. According to the US DOT, US airlines paid $1.83 per gallon of jet fuel during the second quarter of 2015, 37.8% below what they paid just 12 months prior.

Over the past 12 months, US airlines have benefited from lower jet fuel prices. Prior to September 2014, fuel cost remained virtually flat for a 15-month period. While still high based on recent historical standards, and higher than today, the airlines enjoyed relatively stable fuel costs, simplifying competitive market decisions. But airline executives certainly prefer current levels over a high stable price.

Fuel-hedging programs have appeared less favorable to airlines over the past 12 months. Spot fuel prices had averaged nearly 20% below what US carriers have reported paying. The system average fuel price has consistently exceeded spot prices since 2009.

Exhibit 40: System Average Fuel Price (US Carriers) and Fuel Spot Price, January 2009–August 2015



	2009	2010	2011	2012	2013	2014	2015
Standard deviation	*15.8*	*10.0*	*17.5*	*12.0*	*11.3*	*22.0*	*18.5*

Source: Oliver Wyman research based on US Energy Information Administration data.

17. FUEL COST VARIANCE ANALYSIS

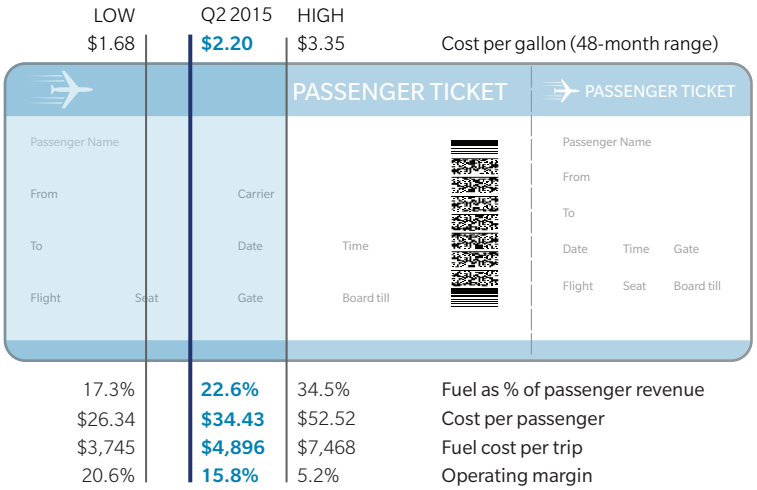
Over the past 48 months, fuel cost has ranged from a low of $1.68 per gallon (actual price paid) to a high of $3.35. A fuel cost variance analysis demonstrates the impact of changing fuel costs while holding other drivers constant. For this analysis, we held all revenue assumptions constant to 2Q 2015 and all non-fuel costs constant to the same period.

We assumed a fuel price during second quarter 2015 of $2.20. At this price, fuel would cost the average domestic network carrier passenger $34.43 per segment. Fuel cost would represent 22.6% of segment passenger revenue and the resulting operating margin would be 15.8%.

But the network carrier story changes completely when plugging in the highest reported fuel cost over the past 48 months. At a fuel cost of $3.35, operating margin falls to 5.2%. The passenger fuel burden increases to $52.52 per segment and represents more than a third of segment passenger revenue.

Conversely, the operating margin increases to 20.6% when assuming the period low of $1.68 per gallon for network carriers. Only 17.3% of passenger revenue would be required to cover fuel costs ($26.34 per segment passenger).

Exhibit 41: Network Carrier Domestic Fuel Variance Analysis – Q2 2015

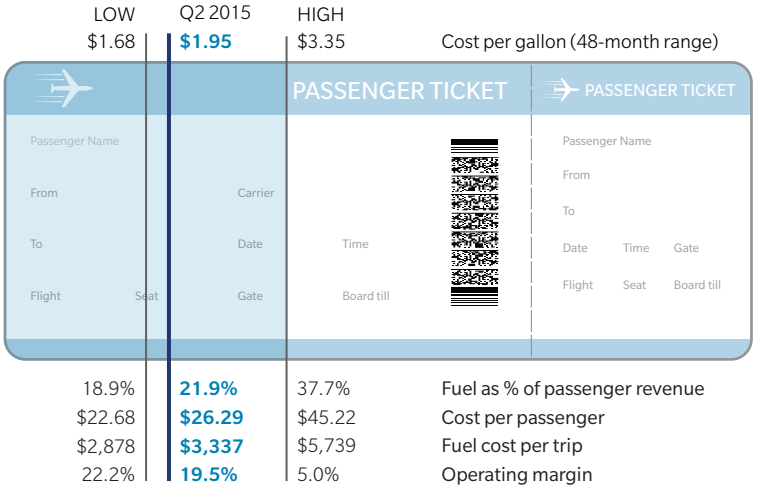


Source: PlaneStats.com

Note: Based on average domestic mainline operations only, excludes transport-related cost (regionals). Average stage-length is 1,018 miles at an average of 164 seats per departure. Fuel variance analysis assumes all non-fuel costs remain constant. Assumes revenue remains constant.

Value carriers' slightly lower cost structure means fuel variability has an even greater impact. Operating margins could rise as high as 22.2% or go as low as 5.0% in an analysis similar that of the network carriers above. Similarly, fuel could represent as much as 37.7% of segment passenger revenue and as little as 18.9%.

Exhibit 42: Value Carrier Domestic Fuel Variance Analysis – Q2 2015



Source: PlaneStats.com

Note: Based on average domestic mainline operations only, excludes transport-related cost (regionals). Average stage-length is 843 miles at an average of 149 seats per departure. Fuel variance analysis assumes all non-fuel costs remain constant. Assumes revenue remains constant.

The analysis demonstrates sensitivity of the airlines' profitability to fluctuating world energy markets. If passenger yields continue to deteriorate, the impact of fuel fluctuations will create a challenging industry dynamic for airline executives.

18. OTHER COST DRIVERS

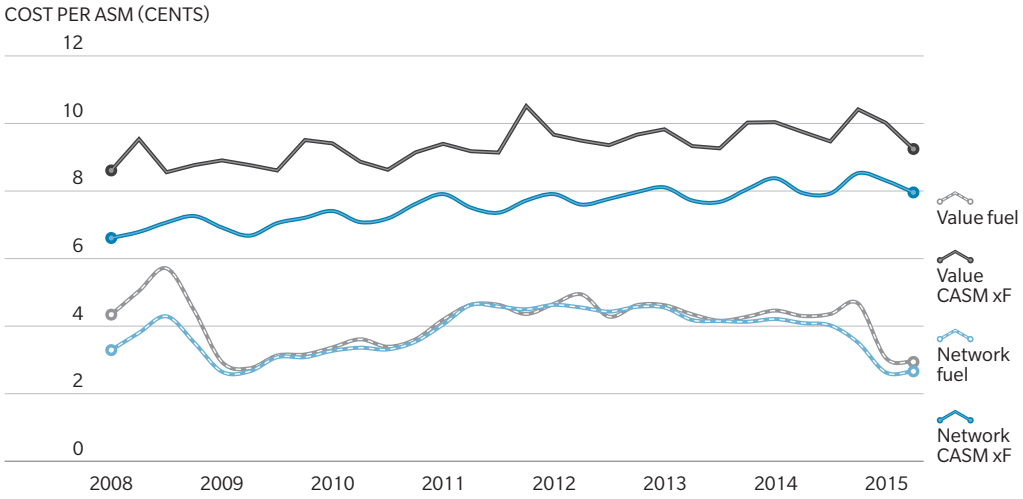
US network carriers have added newer and larger aircraft to their domestic networks. As a result, average seats per departure have increased nearly 2 percent. More important, the decreasing average age of the US fleet lowers maintenance costs as new aircraft cycle through their lighter maintenance periods.

Nearly all other costs, which include food, insurance, commissions, advertising, non-aircraft rentals, landing fees and other minor categories, declined in second quarter 2015. For example, landing fees were down 5.0%. Similarly, food costs fell 5.7%.

19. UNIT COST TREND AND GAP

Non-fuel unit costs have remained relatively under control for US airlines' domestic operations. Non-fuel domestic costs have increased 12% between 2009 and 2015 for network carriers (CAGR: 1.9%). Value carrier non-fuel costs have grown 17% during the same period (CAGR: 2.7%).

Exhibit 43: Domestic CASM and Fuel CASM Growth, Q1 2008–Q2 2015



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related cost (regionals); xF means excluding fuel.

As a result of value carrier non-fuel costs increasing at a slightly greater rate, the domestic unit cost gap has been reduced to 1.6¢. The domestic cost differential is the lowest in history, again indicating that it may soon be time to redefine how we categorize and compare US airlines.

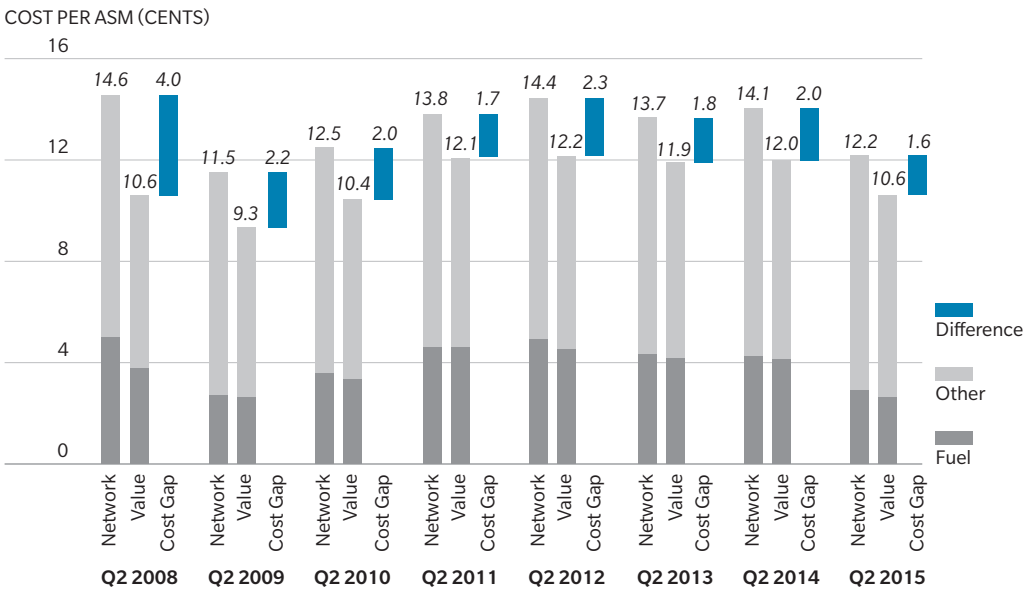
Network carrier domestic unit cost of 14.6¢ during second quarter 2008 was 37.5% higher than the value carrier group's at 10.6¢. By 2015, network domestic costs fell to 12.2¢, only 14.8% higher than the value group's.

Exhibit 44: Gap Between Network Carrier and Value Carrier CASM, Q2 2008–Q2 2015

	% HIGHER
Q2 2008	37.5%
Q2 2009	23.3%
Q2 2010	19.5%
Q2 2011	13.8%
Q2 2012	18.8%
Q2 2013	14.8%
Q2 2014	16.8%
Q2 2015	14.8%

Source: PlaneStats.com

Exhibit 45: Comparison of Domestic CASM Between Network and Value Carriers, Q2 2008–Q2 2015



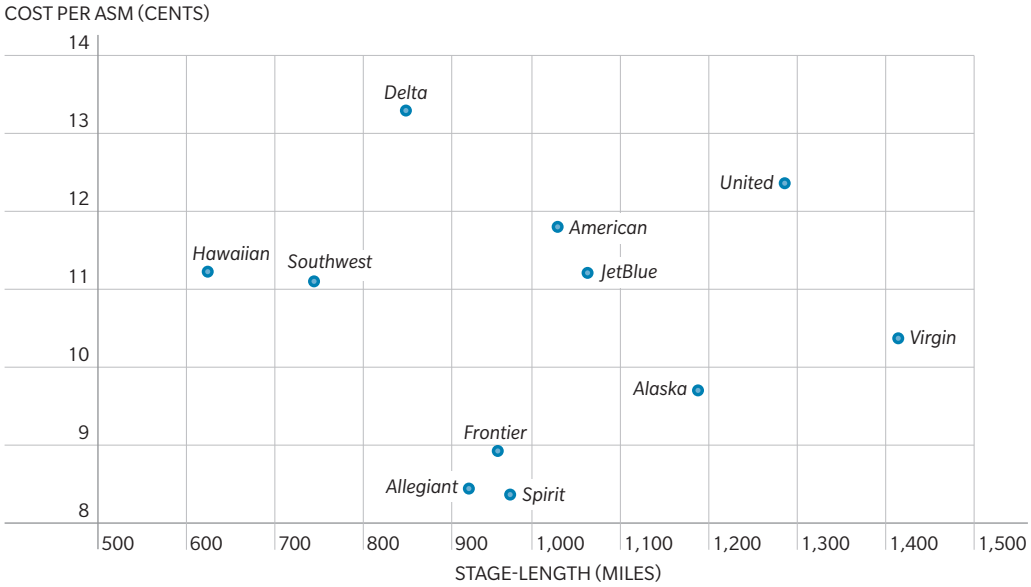
Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

20. DOMESTIC AIRLINE COST PERFORMANCE

There is a significant amount of variation in domestic operations of US airlines. The three largest network airlines all reported the highest domestic unit costs in second quarter 2015.

Exhibit 46: Average Stage-length vs. CASM, Q2 2015



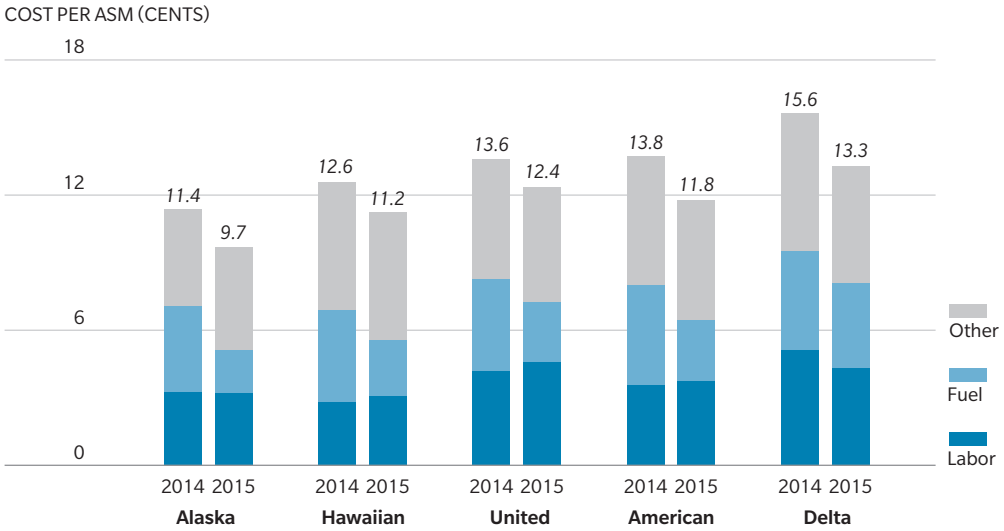
Source: PlaneStats.com

Note: Mainline operations only

Alaska Airlines has the lowest domestic unit cost of the US network carriers (not stage-length adjusted). Unit costs fell 14.9% from 11.4¢ to 9.7¢ for Alaska after fuel costs fell more than 50% in one year. However, Alaska was the only network carrier to report an increase in other costs (non-labor, non-fuel).

While Delta had the highest unit cost for the group (and the highest unit revenue), its unit cost decreased 15.0% to 13.3¢. Despite having the smallest fuel cost decline at only 14.9%, Delta's overall unit cost reduction of 15.0% was the highest among network airlines. United had the smallest unit cost reduction (down 9.1%) with increasing domestic labor costs (+9.0%), impacting overall costs.

Exhibit 47: Domestic CASM Breakdown by Airline – Network Carriers, Q2 2014/2015



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

Exhibit 48: Domestic CASM Details for Individual Carriers, Q2 2014/2015

AIRLINE	YEAR	CASM	LABOR	FUEL	OTHER	CHANGE	%
Alaska	2014	11.4	3.3	3.9	4.3	0.1	0.7%
	2015	9.7	3.2	1.9	4.6	-1.7	-14.9%
Hawaiian	2014	12.6	2.8	4.1	5.6	0.5	4.0%
	2015	11.2	3.1	2.5	5.6	-1.4	-10.8%
United	2014	13.6	4.2	4.1	5.3	0.4	2.9%
	2015	12.4	4.6	2.7	5.1	-1.2	-9.1%
American	2014	13.8	3.6	4.5	5.7	0.4	3.0%
	2015	11.8	3.8	2.7	5.3	-2.0	-14.3%
Delta	2014	15.6	5.1	4.4	6.1	0.4	2.4%
	2015	13.3	4.3	3.8	5.2	-2.4	-15.0%

Source: PlaneStats.com

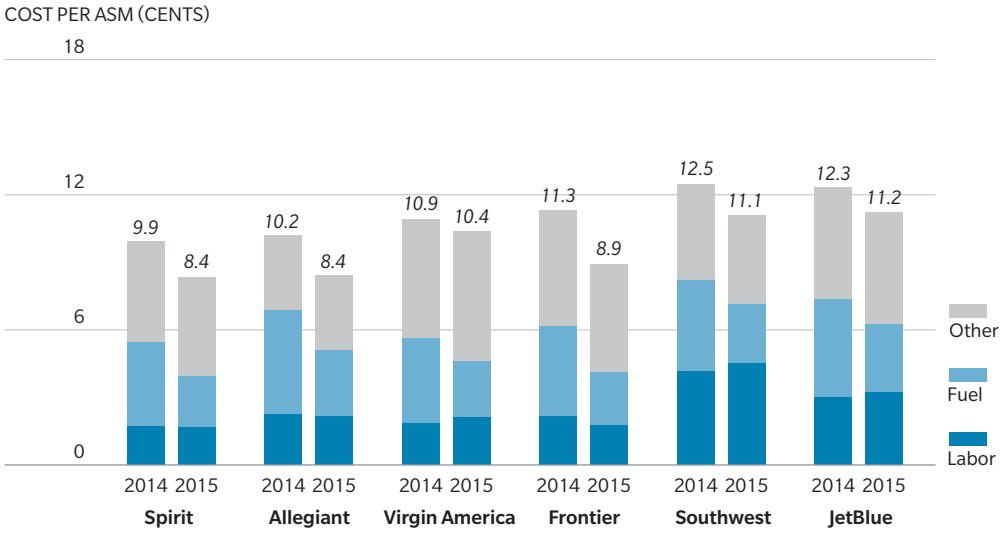
Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

With a unit cost of 8.4¢, Spirit Airlines remained the lowest-cost domestic operator in second quarter 2015. The carrier's unit cost dropped 15.9% year-over-year.

JetBlue had the highest unit cost among value airlines in the second quarter at 11.2¢.

All value carriers reported fuel cost reductions in excess of 30% year-over-year.

Exhibit 49: Domestic CASM Breakdown by Airline – Value Carriers, Q2 2014/2015



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

Exhibit 50: Domestic CASM Details for Individual Carriers, Q2 2014/2015

AIRLINE	YEAR	CASM	LABOR	FUEL	OTHER	CHANGE	%
Spirit	2014	9.9	1.6	3.7	4.5	-0.2	-1.9%
	2015	8.4	1.7	2.3	4.4	-1.6	-15.8%
Allegiant	2014	10.2	2.3	4.6	3.3	0.2	2.4%
	2015	8.4	2.2	3.0	3.3	-1.8	-17.2%
Virgin America	2014	10.9	1.9	3.8	5.3	0.3	2.5%
	2015	10.4	2.2	2.5	5.8	-0.6	-5.1%
Frontier	2014	11.3	2.2	4.0	5.1	-0.5	-4.1%
	2015	8.9	1.8	2.4	4.8	-2.4	-21.3%
Southwest	2014	12.5	4.2	4.1	4.2	0.1	0.7%
	2015	11.1	4.5	2.7	3.9	-1.4	-10.9%
JetBlue	2014	12.3	3.0	4.4	4.9	0.6	5.3%
	2015	11.2	3.3	3.0	5.0	-1.1	-9.0%

Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

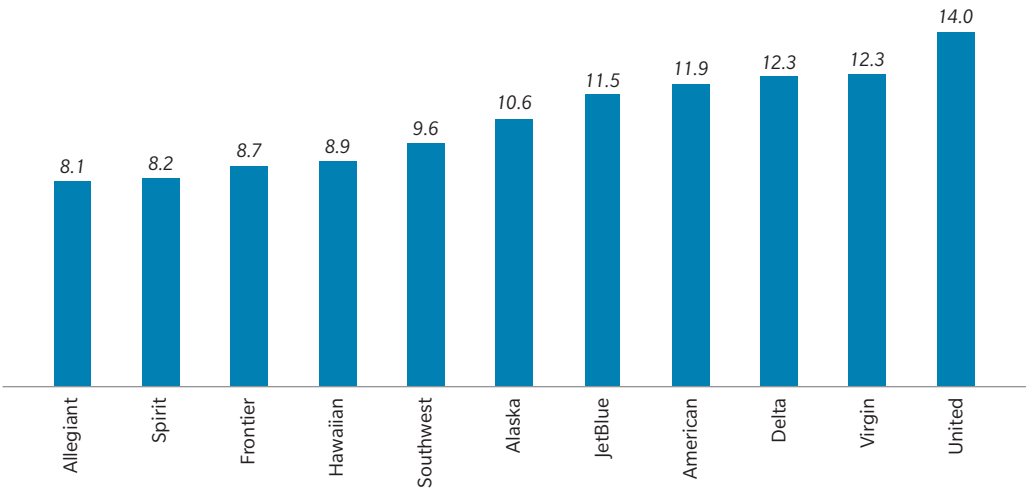
On a stage-length adjusted basis (1,000 miles, 0.5 slope), Allegiant's 8.1¢ CASM makes the airline the lowest-cost producer in the US. Spirit ranks a close second at 8.2¢, followed by Frontier (8.7¢) and Hawaiian (8.9¢).

United stands out as the highest-cost US domestic airline. The carrier's stage-length adjusted CASM of 14.0¢ is 13.5% higher than the next highest airline CASM, Virgin America at 12.3¢.

Not surprisingly, Delta and American are also among the industry's highest-cost producers.

Exhibit 51: Domestic CASM Details for Individual Carriers, Q2 2014/2015

SLA COST PER ASM (CENTS)



Source: PlaneStats.com

Note: Mainline operations only, excludes transport-related revenue and cost (regionals).

21. US NARROW-BODY AIRCRAFT DIRECT CASMS

The following exhibits make direct cost comparisons between narrow-body aircraft operated by different carriers. Despite data limitations due to small sample sizes and the effects of early-year maintenance holidays and other cost differences, this type of comparison offers insights. A fleet size of 10 is the minimum for inclusion of any aircraft-operator combination. Because of the number of aircraft-operator combinations, the exhibits are categorized by number of seats and divided into three groups: Fewer than 130 seats, 130–160 seats, and more than 160 seats.

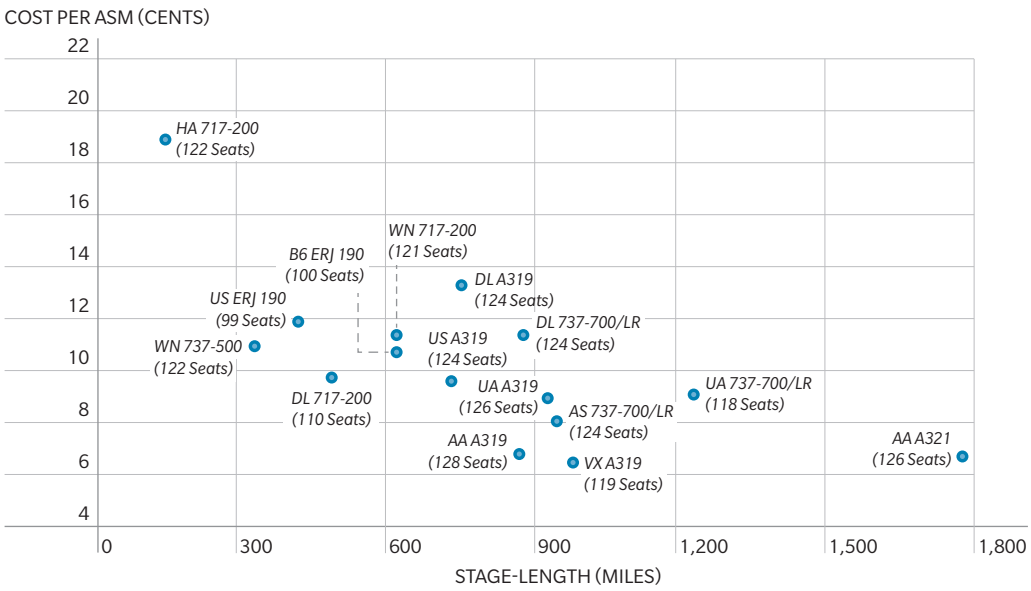
The values plotted are for direct CASM only – the direct operating costs reported by the carriers on DOT Form 41, including pilots, fuel, aircraft ownership, maintenance, and insurance. Indirect costs are not included because the carriers may allocate these in different ways. To diminish the effect of quarterly variations caused primarily by maintenance requirements, the data is for the full year ended the second quarter of 2015. Seat counts are derived from Form 41 data and, therefore, may not reflect the latest configurations for carriers that are adding more seats to their aircraft.

The graphs show the expected correlation between longer stage-length or greater number of seats and lower CASM. To help achieve lower CASM and accommodate higher demand, US carriers have increased the number of seats per aircraft by both increasing seat density and transitioning their fleets to the larger models of the same aircraft. For example, the average seats per domestic departure on 737-family aircraft increased from 141 in 2009 to 145 in 2014. Similarly, the average number of seats on a domestic A320-family aircraft increased from 140 to 147 for this same period. Globally, the average seats per departure on a 737-family aircraft increased from 148 to 160 for this period, while globally the average seats per departure on an A320-family aircraft increased from 154 to 160.

The graphs also show that individual carriers assign specific aircraft types to specific missions. For example, JetBlue and American (US Airways) use the ERJ-190 for short routes requiring fewer seats and the A320 for long, high-density routes. Aircraft typically used on routes averaging fewer than 500 miles are the 717-200, 737-500, and ERJ-190. At the other end of the scale, aircraft used on routes averaging more than 1,500 miles include the A320, 737-800, A321, and, most notably, the 757-200.

For the same aircraft, there are some large differences among the carriers in stage-length and, as discussed in the next section, number of seats. For example, Delta's A320 has an average stage-length of 959 miles, while Virgin America's is 1,598 miles.

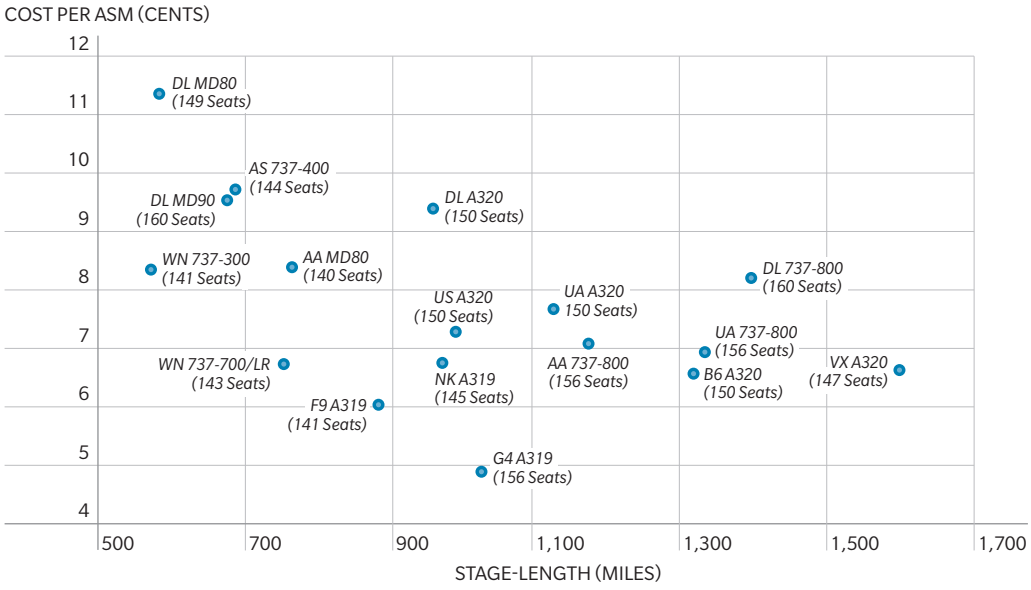
Exhibit 52: Direct CASM of Narrow-bodies (under 130 seats) vs. Average Stage-length by Aircraft Type, Year-end Q2 2015



Source: PlaneStats.com

Note: Mainline operations only. Costs include direct aircraft operating expenses. Direct costs include pilots, aircraft ownership, maintenance, and insurance. Indirect expenses not reported by aircraft type.

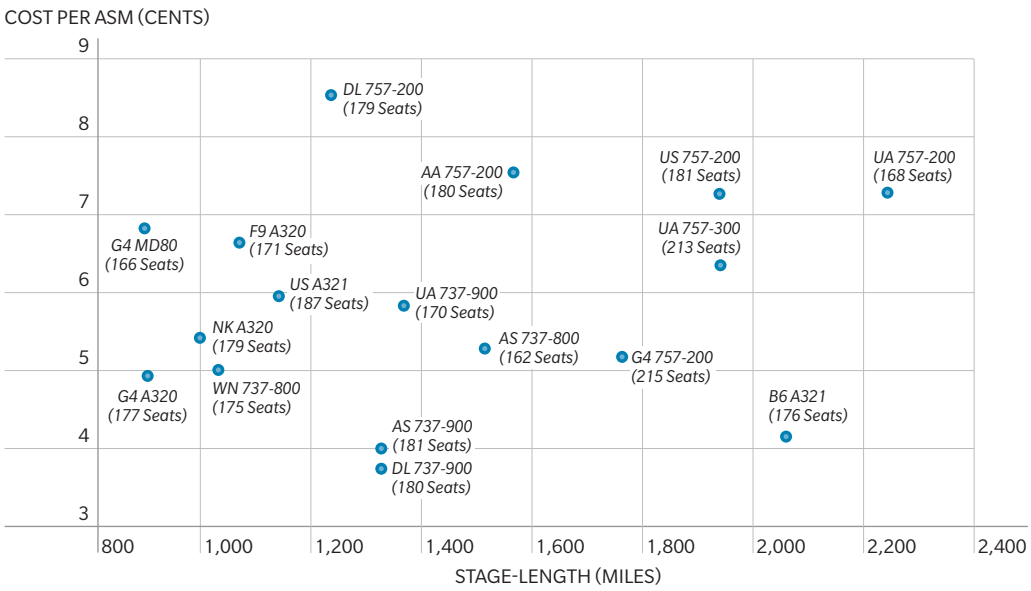
Exhibit 53: Direct CASM of Narrow-bodies (130 to 160 seats) vs. Average Stage-length by Aircraft Type, Year-end Q2 2015



Source: PlaneStats.com

Note: Mainline operations only. Costs include direct aircraft operating expenses. Direct costs include pilots, aircraft ownership, maintenance, and insurance. Indirect expenses not reported by aircraft type.

Exhibit 54: Direct CASM of Narrow-bodies (over 160 seats) vs. Average Stage-length by Aircraft Type, Year-end Q2 2015



Source: PlaneStats.com

Note: Mainline operations only. Costs include direct aircraft operating expenses. Direct costs include pilots, aircraft ownership, maintenance, and insurance. Indirect expenses not reported by aircraft type.


BA 711 10
IQ8091 4-5
AUB8091 4-5
TK1908 1
AC 879 2
JU 333 3-
SK 602 2
LTN EZS 931
LCY EI5886
Mumbai
Istanbul
Toronto
Belgrade
Copenhagen
London
London

WORLD CAPACITY

The world aviation market is vast and complex. Economic, social, and operational conditions impact airline growth and profitability differently throughout the world. While capacity discipline in the US airline industry over the past 10 years has largely improved the passenger yield environment and profitability, we still need to examine how much capacity discipline, or lack thereof, exists in the international markets.

The following section examines capacity deployment by world region paired with GDP growth, regional population and firm aircraft orders. Using consistent indicators, we can assess the growth potential by region and evaluate emerging trends.

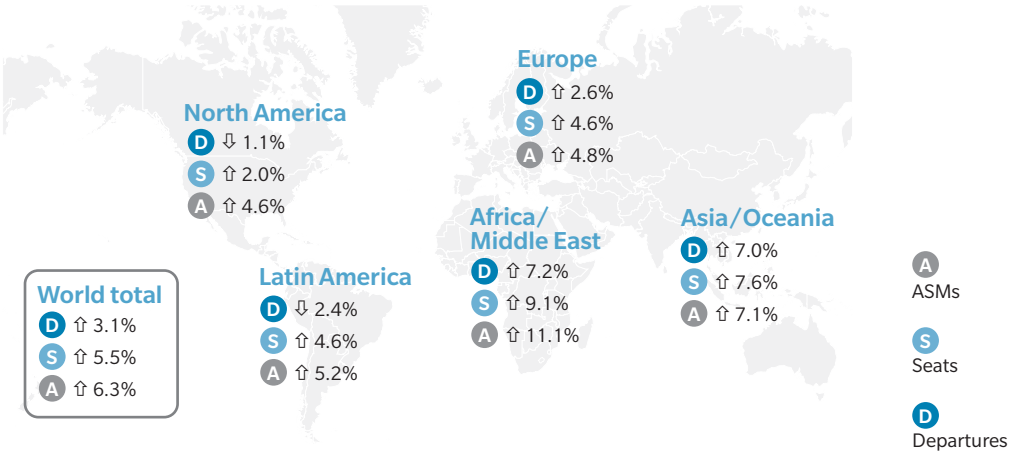
22. WORLD CAPACITY TRENDS

Industry capacity, measured in available seat miles (ASMs), increased 6.3% year ended October 2015 versus year ended October 2014 worldwide, and every major world region experienced ASM growth at or above 4.6%. Available seats grew 5.5% for the year ended October 2015 and departures increased only 3.1%.

Analysis of these three metrics provides immediate insight into the industry's prevailing capacity trend: larger/more dense aircraft flying longer distances. Average seats per departure increased 3 seats to 138 (up 2.2%), accounting for the difference between annual departures and seat growth. Similarly, the industry's average stage-length increased 10 miles to 813 (up 1.2%). The combined increased seat count and stage-length explain the differences in capacity growth measures. A 3-seat average capacity increase combined with a 10-mile stage-length increase may not seem significant, but they add up quickly, considering there are 33 million scheduled departures and 4.5 billion scheduled seats per year.

Ten years ago, the average scheduled flight had 114 seats and flew only 685 miles. If similar growth rates continue over the next 10 years, the average aircraft will depart with 167 seats and fly 964 miles. Certainly, a massive change.

Exhibit 55: World Capacity Change, Year-end October 2014 vs. 2015



Source: PlaneStats.com

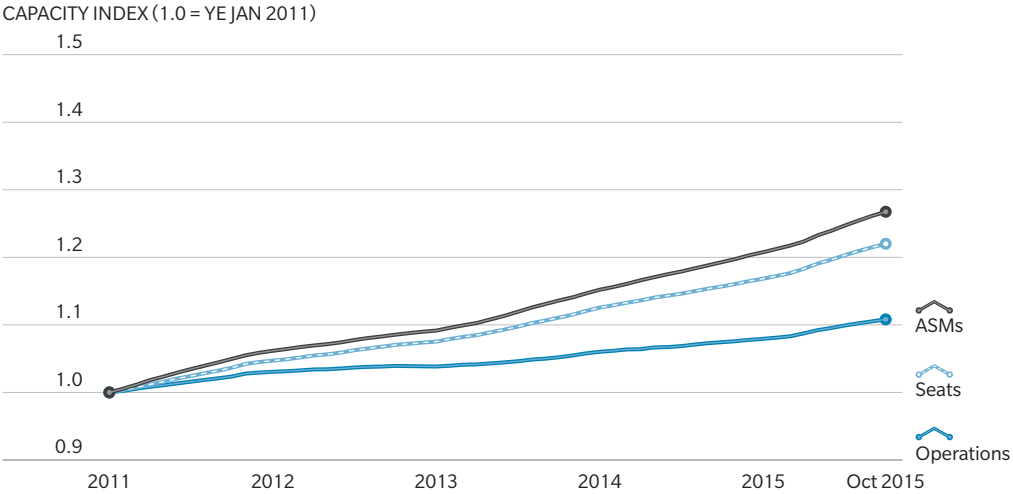
We have analyzed the capacity increases by indexing rolling 12-month capacity to a specific point in time. This has two specific advantages:

1. A rolling 12-month period eliminates seasonality, indicating true annualized trends.
2. Indexing allows for comparison of various capacity measurement units (i.e., departures, seats, ASMs).

The relative growth/decline of each of these units helps explain the underlying factors driving capacity change.

Worldwide scheduled departures have grown 10.8% since 2011, while departure growth slowed somewhat during 2012. Seats grew twice as fast, up 22.0%, as a result of the increase in average seats per departure. ASMs have increased 26.8% over 2011.

Exhibit 56: World Capacity Index



Source: PlaneStats.com

23. WORLD AIR TRAVEL GROWTH INDICATORS

Airlines are constantly looking for underserved markets and regions where capacity can be deployed profitably. Emerging economies with substantial growth potential provide opportunities in an otherwise mature aviation marketplace. Throughout our region-by-region capacity analysis, we will use these key indicators to help quantify potential. GDP in US dollars and population estimates from the International Monetary Fund are combined with historical schedule data from PlaneStats.com to create air travel ratios or indices.

Potential for air-service growth within a region is a complex combination of demographics and economics. The following section details several indices that, when combined, can indicate a need for increased air service. These indices alone can sometimes be misleading. For example, the ratio of capacity to population in leisure destinations (such as the Caribbean) does not necessarily reflect the area's local capacity requirement.

Regional analysis includes GDP growth estimates from the IMF. A year ago, many experts were calling for sub-GDP capacity growth to maintain healthy operating results. While some regions of the world displayed this capacity discipline, others regions were not keen to follow.

Exhibit 57: Air Travel Growth Indicators

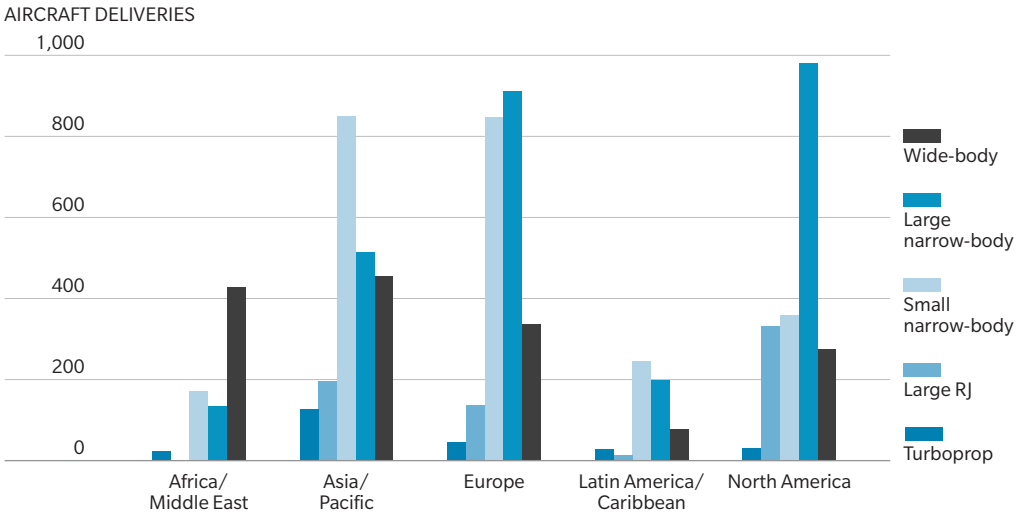
	GDP GROWTH	ASMS PER PERSON	SEATS PER PERSON	ASMS PER MILLION GDP	SEATS PER MILLION GDP	GDP PER CAPITA
Africa/Middle East	4.7%	418.1	0.31	99,832.39	73.98	$4,187.85
Asia/Oceania	5.1%	422.2	0.42	63,441.60	62.54	$6,655.11
Europe	1.8%	1,603.5	1.45	49,471.72	44.89	$32,412.37
Latin America/Caribbean	3.0%	571.3	0.61	58,145.69	62.57	$9,824.64
North America	2.9%	3,486.5	2.94	61,600.85	51.97	$56,597.52
World	**3.4%**	**715.6**	**0.65**	**61,219.69**	**55.66**	**$11,688.27**

Sources: PlaneStats.com; International Monetary Fund

Note: GDP and population data estimates for the year 2015. Capacity data scheduled only for all of 2015.

Additionally, looking at aircraft orders over the next five years gives an indication as to the amount of capacity airlines are planning to add.

Exhibit 58: Aircraft Orders by World Region, 2016–2020



Source: PlaneStats.com

Regions will be analyzed in an order based on capacity (ASMs) share of world total:

- Asia/Oceania 32.7%
- North America 25.3%
- Europe 23.1%
- Africa/Middle East 11.8%
- Latin America/Caribbean 7.0%

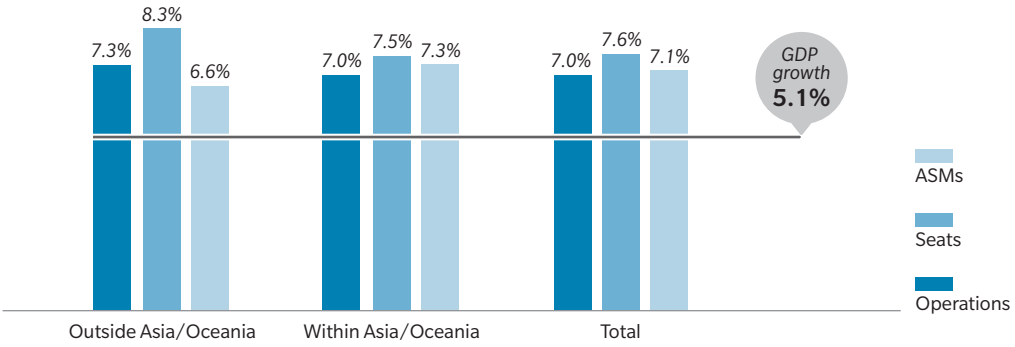
24. CAPACITY ANALYSIS: ASIA/OCEANIA

Nearly one-third of the ASMs worldwide originate in the Asia/Oceania region, making it the largest of the five major world aviation markets. A year-over-year ASM growth rate of 7.1% for the 12-month period ending October 2015 is the second highest behind the Africa/Middle East region.

Airlines in the region have been adding slightly larger aircraft, as indicated by seat growth exceeding departure growth by 0.6 points. Overall average stage-length has declined 0.5% for the region to 1,018 miles.

Growth in ASMs within the region is slightly greater than capacity expansion to regions outside of the Asia/Oceania region. Airlines have actually added departures and seats to external regions at a greater rate; however, more of these departures are to neighboring regions like the Middle East, accounting for the lower ASM growth.

Exhibit 59: Asia/Oceania Capacity Changes, Year-end October 2014/2015

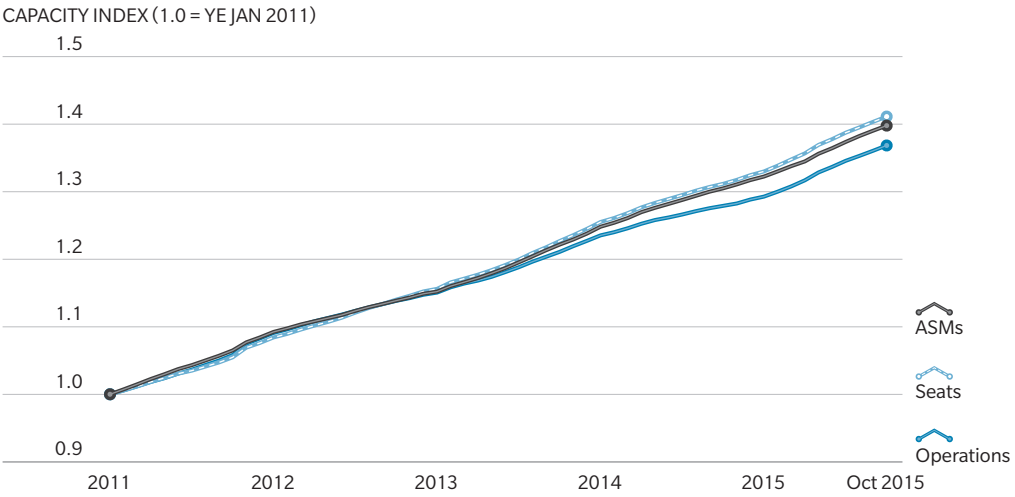


Source: PlaneStats.com

Given the substantial size of the region, an ASM growth rate of 39.7% since 2011 is extremely impressive. The five-year growth of ASMs equates to an airline equal to the region's largest carrier (by ASMs), China Southern.

Until mid-2013, average seats size and stage-length remained essentially flat. Since mid-2013, seats grew at a slightly faster pace. As a result, five-year departure growth is 36.8%, compared with seat growth of 41.1%.

Exhibit 60: Asia/Oceania Capacity Index



Source: PlaneStats.com

Airlines within the Asia/Oceania region have firm orders for 2,140 aircraft scheduled for delivery over the next 5 years. Of these, 39.7% are small narrow-body aircraft, typically configured with fewer than 160 seats.

The additional aircraft added by these deliveries over the next 5 years represents an estimated 33% of the current fleet. The considerable number of small narrow-bodies on order would indicate the carriers within the region see growth opportunities within Asia/Oceania at a shorter stage-length and smaller than current gauge.

Despite the rapid growth over the past five years, some air travel indices indicate the region continues to be underserved. The ratio of annual ASMs to population is 40% below the world average. (The ratio is an indicator of the availability of air travel for each person within each region.) Only the Africa/Middle East region has a lower ratio. The ratio of annual seats per population also indicates the region is underserved, based on population.

The number of people within a region alone does not indicate potential for air travel. Economic factors help shape the true potential for increased demand for air travel. The ratio of ASMs and seats per million GDP indicates the region is slightly overserved when compared to world averages.

Per capita GDP has increased nearly 14% since 2012, indicating an increased potential for air travel demand. The region's growth in per capita GDP is second only to Europe's.

Asia/Oceania region GDP growth is estimated to be about 5.1%. The GDP growth is 2.0 points lower than capacity growth for the previous year. The combination of these indices with recent growth trends suggests that capacity in the Asia/Oceania region will continue to grow, possibly at a greater rate than any other world region.

25. CAPACITY ANALYSIS: NORTH AMERICA

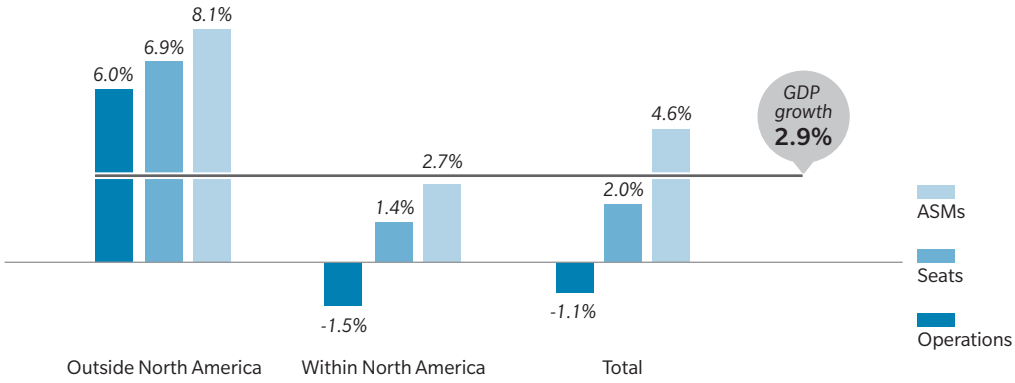
Once the largest aviation market in the world, North America (including the US and Canada) accounts for more than 25% of the world capacity. ASMs grew 4.6% for the 12 months ended October 2015 compared with the same period a year earlier. The growth was the slowest among the five major world regions for the period.

The additional ASMs were the result of increasing average seats per departure and an extended stage-length. Scheduled departures actually declined 1.1% year over year. Seats offered increased 2.0%. Average seats per departure increased 3.5% year-over-year to 106, and average stage-length increased 2.5% to 1,180. A major driver of these changes is the continued reduction of small regional jets (RJs with less than 70 seats) by network carrier commuter partners. The partner airlines are replacing these smaller gauge aircraft with larger, more efficient regional jets.

Capacity additions to regions outside North American were significantly greater than within. ASMs growth within North America was only 2.7%, again the result of larger aircraft flying longer stage-lengths within the region. Departures within North America were down 1.5%.

Airlines increased ASMs to other world regions by 8.1%, partially driven by the US value airlines' expansions to Latin America/Caribbean.

Exhibit 61: North America Capacity Changes Year-end October 2014/2015

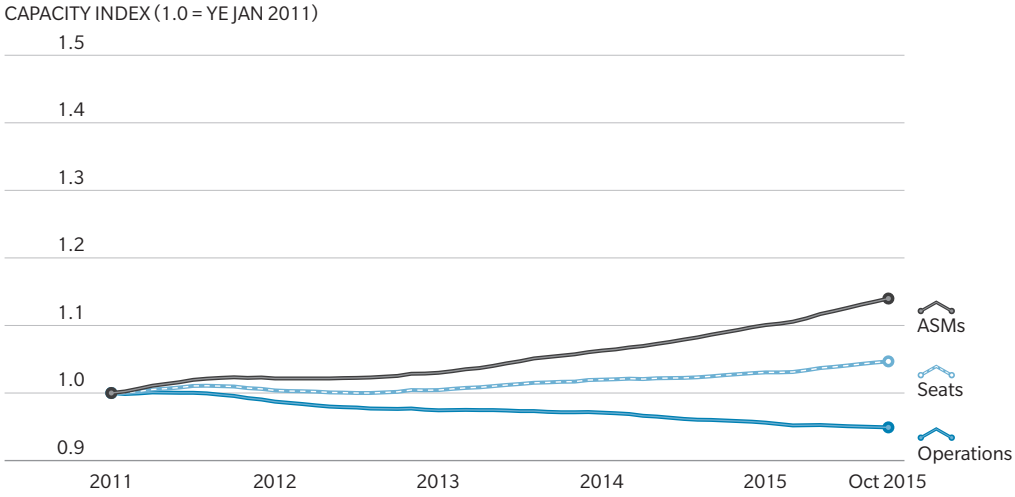


Source: PlaneStats.com

Long-term capacity trends indicate North American airlines have fleet plans that will reduce frequency while increasing ASMs. Since 2011, North American departures are down 5.0%. At the same time, seats are up 4.7% and ASMs have risen 14.0%

The long-term growth for North America is the lowest of the 5 world regions. It is also the only region to report a decrease in departures over 2011 levels.

Exhibit 62: North America Capacity Index



Source: PlaneStats.com

North American airlines have firm orders for 1,978 aircraft scheduled for delivery over the next 5 years. Nearly half of the scheduled deliveries are for large narrow-body aircraft (models typically configured with more than 160 seats). The new aircraft equate to an estimated 22% of the current fleet.

Carriers within the region have orders for 347 large regional jet aircraft (more than 70 seats). These scheduled deliveries represent almost 50% of the total large RJ orders worldwide.

Virtually every demographic measure indicates that the North American market is the most mature in the world. It is difficult to say there is overcapacity in the market as passenger demand continues to increase. ASMs per person and available seats per person are more than 350% higher than world averages.

GDP per capita has increased 9.3% over 2012. This indicator is likely the largest driving factor behind the North America region's dramatically higher level of service. Similar to ASMs and seats per person ratios, North America's GDP per person is also more than 350% higher than the world average.

North America's GDP growth for the year is an estimated 2.9%. Current ASM growth of 4.6%, including service outside the region, exceeds GDP growth. Capacity growth within the region is below GDP growth. Low fuel costs may encourage North American airlines to add capacity. Value carriers in both the US and Canada have plans to increase capacity and will attempt to increase the competitive pressure and capture market share despite falling passenger yields.

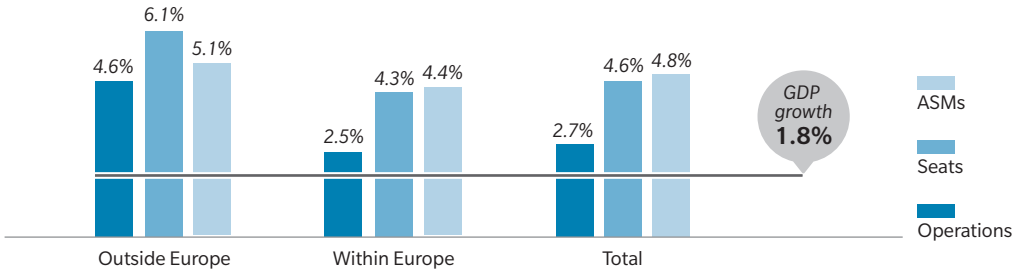
26. CAPACITY ANALYSIS: EUROPE

European originating flights represent 23.1% of worldwide capacity. ASMs were up 4.8% year-over-year, only slightly above North America's low of 4.6%. Carriers operating in the region increased departures by 2.7%, and seats increased 4.6%.

Similar to overall world trends, European seats per departure increased to 144, up 1.8% over the previous year. Unlike overall trends, average stage-length remained virtually flat (up 0.2%) during the year.

Capacity to regions other than Europe grew at a faster pace. ASMs were up 5.1% on departure growth of 4.6% and seat growth of 6.1%. A declining average stage-length to regions outside Europe demonstrates increasing service to the Middle East from Europe, traditionally shorter segments for European carriers.

Exhibit 63: European Capacity Changes YE October 2014/2015

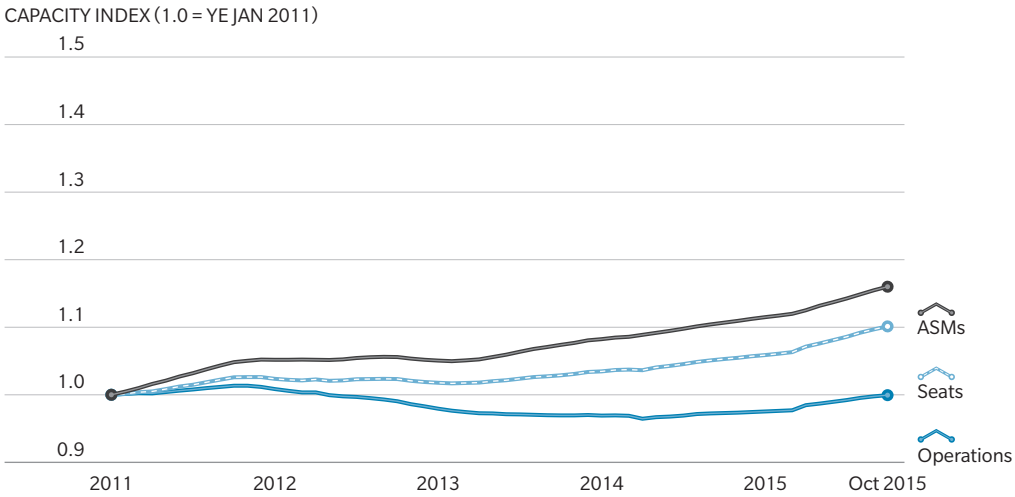


Source: PlaneStats.com

Annual departures fell below 2011 levels beginning in third quarter 2012 and have only recently rebounded. Average seats per departure have increased by 14 seats since 2011, averaging 144 as of October 2015.

The increasing seat size has resulted in 10.1% more annual seats than in 2011, and ASMs have increased 16.0%. Average stage-length increased nearly 50 miles between 2011 and 2014 (up 4.6%), extending ASM growth beyond seat additions.

Exhibit 64: European Capacity Index



Source: PlaneStats.com

European airlines have firm orders for 2,277 aircraft scheduled for delivery over the next 5 years, more than any other major world region. These orders represent about 43% of total current fleet. Of these orders, 77% are for narrow-body aircraft (37% small narrow-body, 40% large narrow-body).

Europe's demographic and economic indicators depict a relatively mature aviation market. ASMs per person and seats per person indicate a high level of service availability, second only to North America.

GDP per capita grew 14.2% over 2012 to $32,412. Europe's per capita GDP is 178% higher than the world average and seems to have the strongest correlation with ASMs and seats per person.

Current GDP growth for Europe is estimated to be 1.8%. ASM growth of 4.8% is 3 points higher than GDP growth. Only the Africa/Middle East region has a greater differential between the two growth figures. Like North America, aggressive growth from emerging value carriers in the region will continue to drive domestic European capacity growth.

27. CAPACITY ANALYSIS: AFRICA/MIDDLE EAST

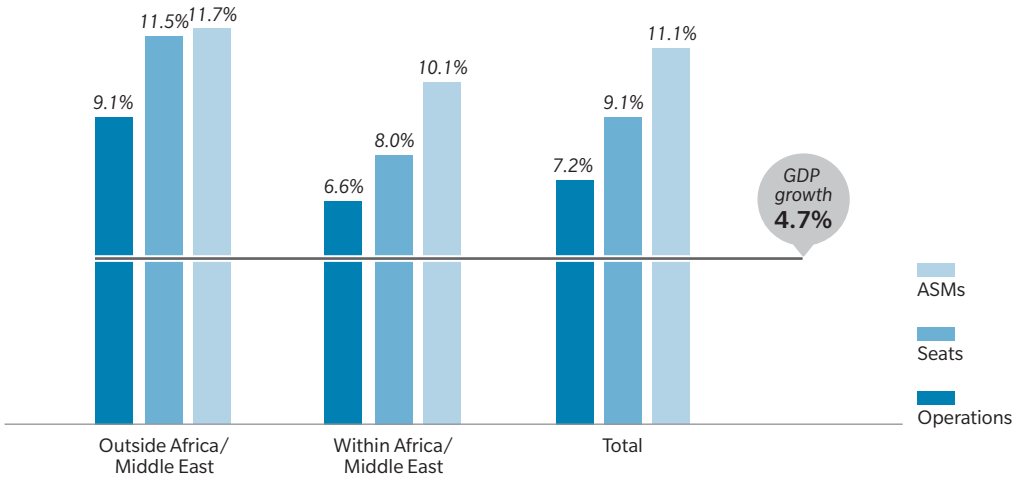
The rapidly expanding Africa/Middle East region represents 11.8% of world ASMs during 2015. ASM growth of 11.1% for the 12 months ended October 2015 is the highest of 5 major world regions.

The Middle East now represents more than 72% of the capacity from the combined Africa/Middle East region and ASMs have grown 15.5%. Middle East departures increased 9.8% over 2014, and seats are up 12.8%.

Results from the Africa subregion are not quite so spectacular. ASMs grew 3.9%, with departure growth of 4.9% and a decrease in seats per departure.

Capacity growth from the Africa/Middle East region to other major world regions grew at a faster pace (ASMs up 11.7%) than capacity within the region (up 10.1%). Aircraft on long-haul flights to other regions increased an average of 5 seats per departure in just one year, while stage-length remained unchanged.

Exhibit 65: Africa/Middle East Capacity Changes YE October 2014/2015

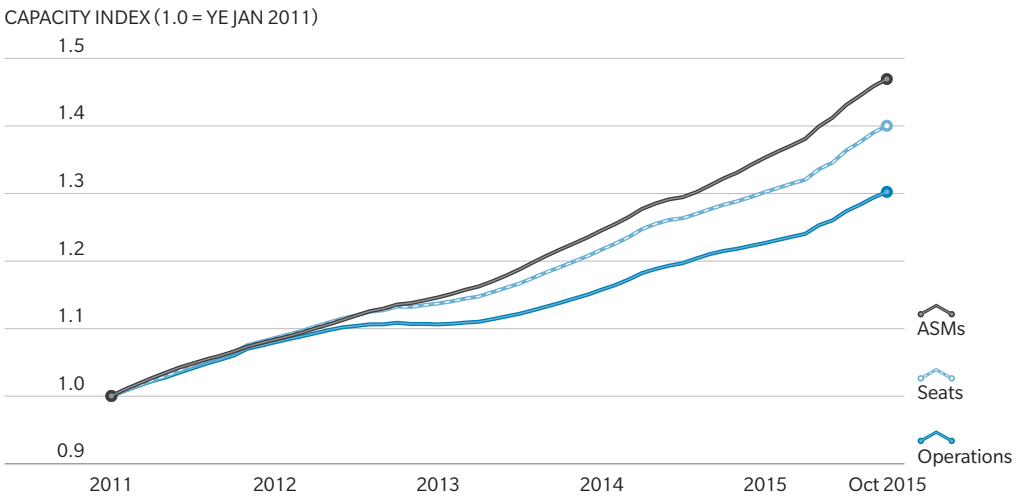


Source: PlaneStats.com

ASMs have increased 47.0% since 2011, an 8.4% CAGR. From 2011 to mid-2012, capacity growth was driven by departures only, with the average seats per departure and stage-length remaining unchanged.

After mid-2012, Africa/Middle East carriers began deploying aircraft with more seats, increasing by 10 seats per departure by 2015. At the same time average stage-length grew by 5%.

Exhibit 66: Africa/Middle East Capacity Index



Source: PlaneStats.com

Airlines in the Africa/Middle East region have orders for 760 aircraft that are scheduled for delivery over the next 5 years. Orders for wide-body aircraft account for more than 52% of total orders for the region.

The aircraft orders represent about 27% of current Africa/Middle East fleet.

Demographic and economic indicators for the region are all well below world averages and are the lowest of all five world regions. Airlines offer 0.31 seats per person per year, 52.4% below the world average.

GDP per capita is 62.4% below the world average, partially explaining the extremely low seat offering. GDP per capita grew only 5.1% over 2012, the second lowest growth rate in the world. Increasing personal wealth, especially in Africa, could unlock tremendous growth potential in the region.

GDP growth averaged 4.7% for the regions combined. It is interesting to note that GDP growth rates are significantly higher in Africa than in the Middle East. Average GDP growth for Africa is an estimated 5.9% for this year, 2 points higher than the Middle East's. Recent data from the Arab Air Carrier Association indicate that capacity growth is down 2–3 points over earlier in the year, yet passenger demand growth remains at 10% year-over- year. GDP growth in Africa can only help unlock population-based demand, but substantial improvements could be years away.

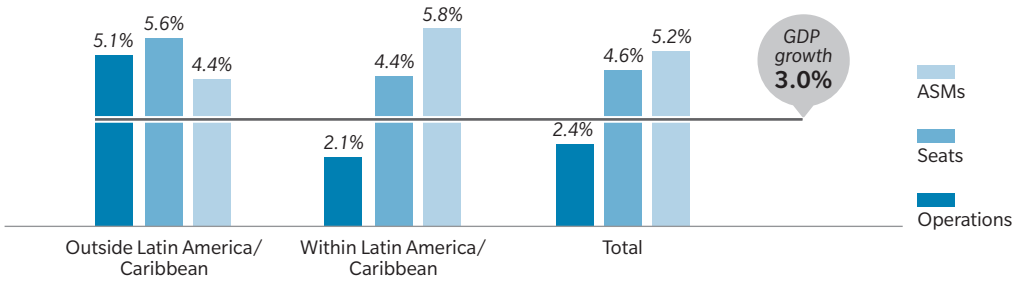
28. CAPACITY ANALYSIS: LATIN AMERICA/CARIBBEAN

Latin America/Caribbean is the smallest of the 5 major world regions, representing 7% of world ASMs. Departures grew 2.4% for the year ended October 2015 over the previous 12 months.

Average seats per departure increased to 122, resulting in a 4.6% growth in seats. Stage-length increased slightly for 2015.

ASMs within the Latin America/Caribbean grew at a faster pace (5.8%) than ASMs to other world regions. However, departures and seats to other regions increased at a much higher rate than departures and seats within the region.

Exhibit 67: Latin America/Caribbean Capacity Changes, Year-end October 2014/2015

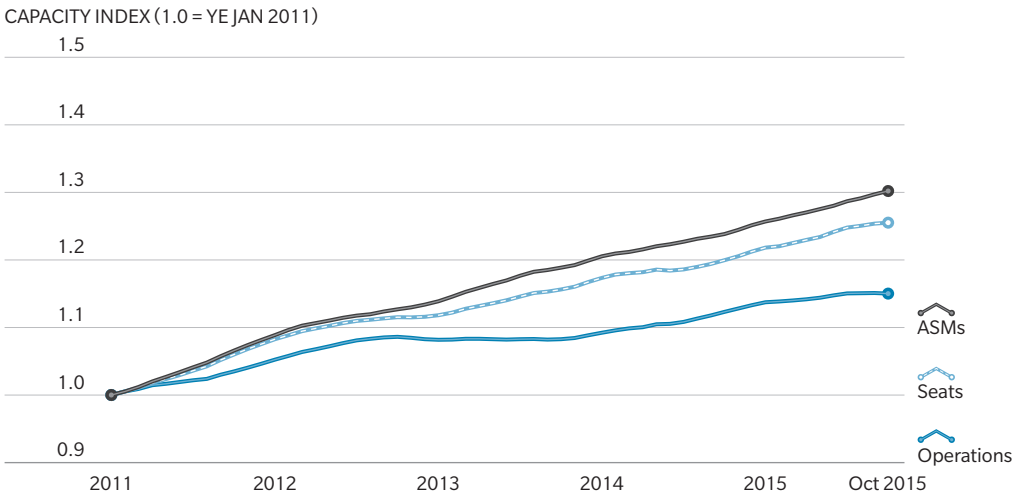


Source: PlaneStats.com

ASMs have increased 30.2% since 2011, ranking the region third behind Africa/Middle East and Asia/Oceania. Meanwhile, seats per departure increased by 10 to 122 and departures increased 15% over 2011.

Departure growth remained flat from mid-2012 to the end of 2013. During that period, increasing seats per departures maintained capacity growth levels.

Exhibit 68: Latin America/Caribbean Capacity Index



Source: PlaneStats.com

Latin American/Caribbean airlines have placed 563 orders for aircraft to be delivered over the next 5 years. The total represents the fewest of any world region.

Demographic and economic indices place the Latin America/Caribbean region in the middle of the pack. ASMs and seats per person are below world averages.

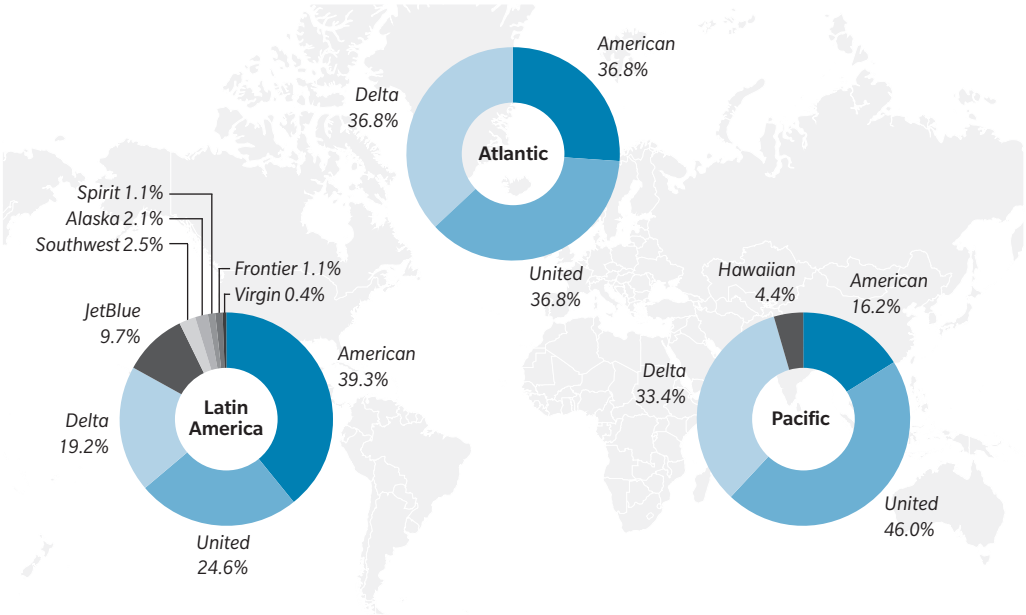
Again, GDP per capita shows a correlation to ASMs per person relative to world averages. GDP per capita of $9,825 is 15.2% below the world average. The GDP per capita growth is the slowest of the major regions, increasing only 2.2% over 2012.

GDP growth for the region is estimated to be 3.0% for 2015. ASM growth of 5.2% is 2.2 points higher.

29. US CARRIER INTERNATIONAL REVENUE

International revenue for US carriers is not entirely dependent on regional indicators. Differences in point-of-sale, currency exchange, excess capacity and economic growth have the potential to impact profitability and revenues in international markets for US airlines. For each of the regions, identified here by the US DOT international entity definitions, the US carrier share of revenues are detailed.

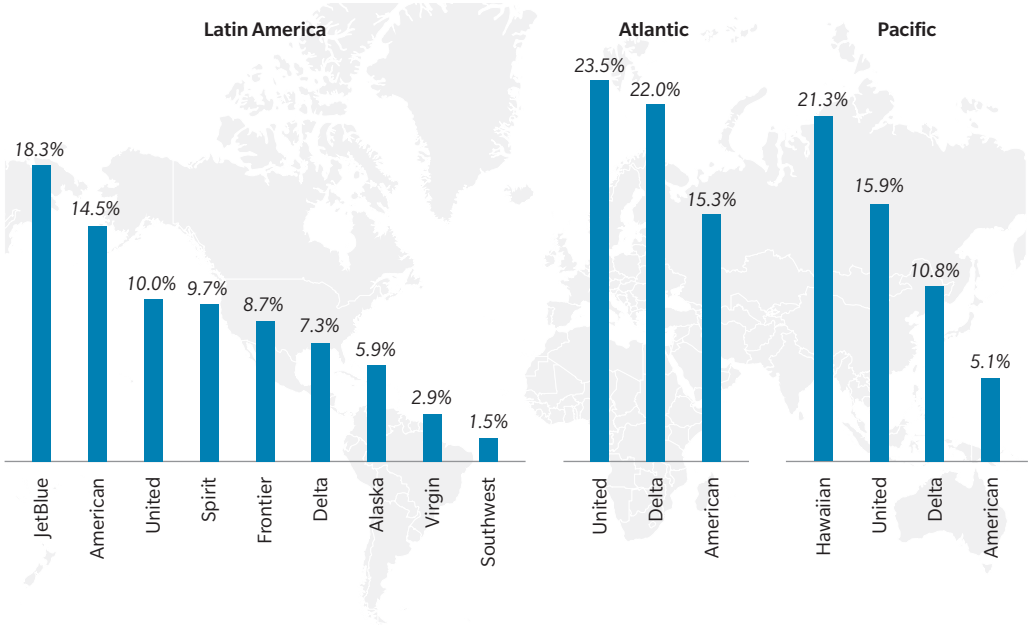
Exhibit 69: US Carrier Share of Passenger Revenue, Q2 2015



Source: PlaneStats.com; US DOT Form 41 > P1.2 Data for US carriers only.

Value carriers continue to expand internationally, with a primary focus on Latin American markets. There is a wide variation of revenue exposure among the value carriers, from JetBlue to Southwest, in how much they serve international destinations.

Exhibit 70: Regional Passenger Revenue as a Percent of Total Revenue by Carrier, Q2 2015



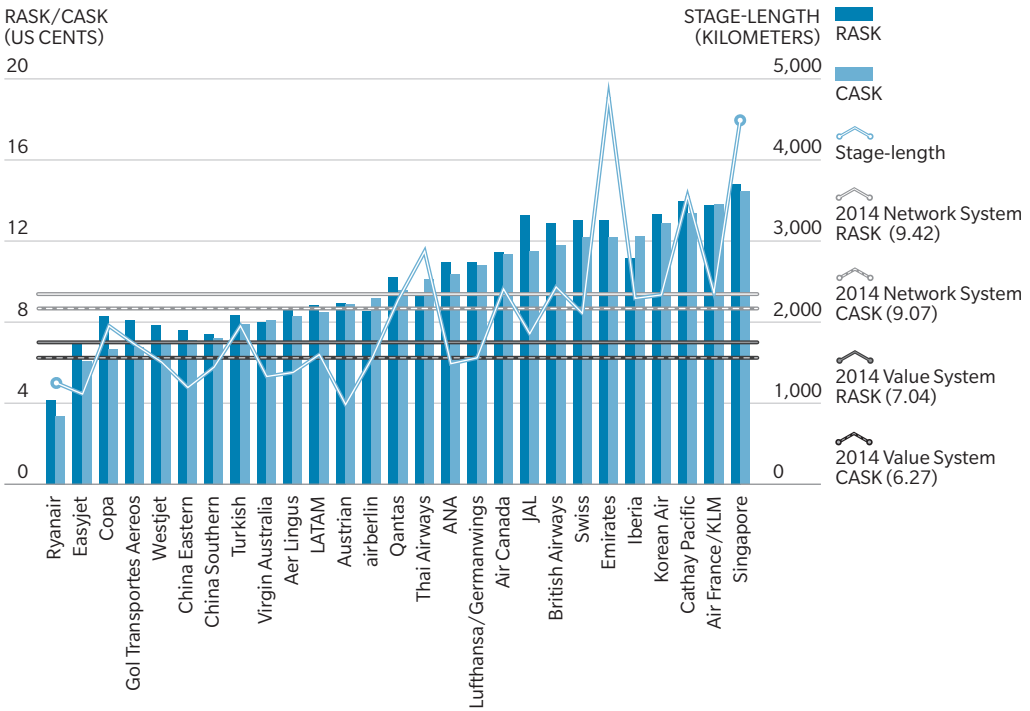
Source: PlaneStats.com; US DOT Form 41 > P1.2 Data for US carriers only.

30. STAGE-LENGTH ADJUSTED RASK/CASK FOR INTERNATIONAL CARRIERS

In Exhibit 71, RASK (kilometers instead of miles) and CASK are provided on a stage-length adjusted basis for selected European, Asian, and South American carriers. The gray line shows the average stage-length for each carrier. To help compare these results with those provided for US carriers, the average RASK and CASK for US network and value carriers are also shown. Because of differences in time periods (for example, fiscal years that end with different months) and other factors, this information is most useful in showing the relative differences in RASK/CASK between the carriers and should not be relied on for precise benchmarking or other analysis.

In all regions, the value carriers produce lower RASK and CASK than their network carrier rivals. Both Europe and Asia, in addition to having typical value carriers, have successful ultra-low-cost carriers in Ryanair and Air Asia, which have CASKs that are a step lower than even the value carriers in those regions.

Exhibit 71: RASK/CASK For International Carriers Stage-length Adjusted to 1,874 km (Average of Group), FY 2014



Source: PlaneStats.com

Note: Fiscal year end varies by carrier.

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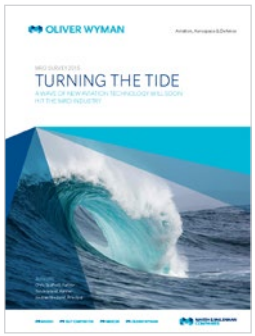

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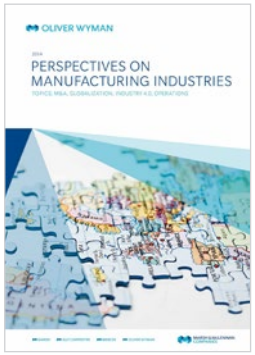

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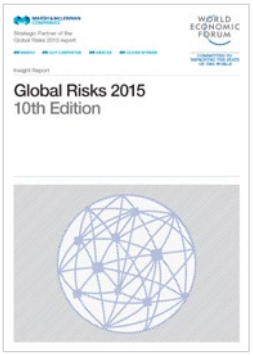

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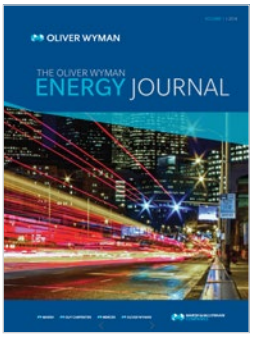

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