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# AIRLINE ECONOMIC ANALYSIS

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# SUMMARY

IN OUR ANNUAL ECONOMIC ANALYSIS, THE FOLLOWING CHANGES AFFECTING US AIRLINES STAND OUT SINCE LAST YEAR (Q2 2010 – Q2 2011):

## COST

1. **CASM Increase** – Both network and value carriers experienced much larger CASM increases than last year, driven by fuel-price increases. The average network carrier CASM increased by less than the average value carrier CASM.
2. **Network/Value Carrier Domestic CASM Gap** – The domestic CASM gap between network and value carriers has now declined for the fourth consecutive year and is the smallest ever.
3. **Network/Value Carrier Fuel Cost Gap** – Historically, value carriers have had a fuel cost advantage because of their newer fleets and, at one time, Southwest Airlines' advantageous hedge positions. However, network carriers have closed the gap by transitioning to newer technology aircraft.
4. **Fuel Consumption** – In an era of high fuel prices, the continuing growth of the large regional aircraft fleet is easy to understand, as airline operating cost data show that the smaller regional aircraft consume much more fuel per seat hour than the large regionals.
5. **Aircraft Seat Size** – For carriers that operate multiple narrowbody types, there are sharp operating cost differences between the larger and smaller aircraft.

## REVENUE

6. **RASM Increase** – Both network and value carriers experienced smaller RASM increases than last year, as carriers were unable to pass on all of their increased costs. The average network carrier RASM increased by less than the average value carrier RASM.
7. **Network/Value Carrier Domestic RASM Gap** – The domestic RASM gap between network and value carriers declined and amounts to only about a 6% premium for network carriers.
8. **Revenue Growth** – Among US network carriers, nearly all domestic revenue growth this past year was the result of yield increases, while their international revenue growth was the result of yield increases and additional passengers. Among US value carriers, revenue growth was driven by yield increases and additional passengers.
9. **Ancillary Revenue** – Revenue from reservation change fees and bag fees has substantially leveled off. Other miscellaneous sources of ancillary revenue continue to grow. Most carriers generate 5%-11% in fees above their ticketed revenue.

- 10. International Operations** – The proportion of US network carrier revenue generated by international operations reached a new high—with Latin America having surpassed the Pacific region and growing most rapidly.

## MARGINS

- 11. Margins** – Despite strong cost control, network carriers did not make a profit on their domestic operations, as measured by a comparison of total RASM/CASM, while value carriers did. Network carriers remained slightly profitable because of their international operations.
- 12. Break-even Load Factors** – Domestic load factors have been steadily increasing, while operating profits have not. With the largest network carriers having load factors in the mid-80s, while the largest value carriers have load factors in the low 80s, future profitability improvements will depend on yield increases or cost reductions, as there is little room for additional load factor growth.
- 13. Domestic Capacity Growth** – Regional carriers are no longer a growth business. In 2011, regional capacity in ASMs declined even more than network carrier ASMs. Only value carriers eked out a small increase in domestic capacity.

## INTERNATIONAL CARRIERS

- 14. Value Carriers Around the World** – Value carriers are steadily gaining market share around the world. Oceania has the highest percentage of ASMs provided by value carriers. South America and the Middle East have the lowest percentages.
- 15. International Carriers RASK/CASK** – Cross-country RASK/CASK comparisons for international carriers are limited by foreign exchange and financial reporting differences. However, our analysis shows the same trends for international carriers as among US carriers. In all regions, the value carriers have lower unit costs than their network carrier rivals. Ryanair and Air Asia have CASKs that are a step lower than even the value carriers in those regions.

# CARRIERS INCLUDED AND METHODOLOGY

The largest US value carriers are included in this analysis, as are the largest US network carriers. The carriers included comprise over 85% of US carrier ASMs.<sup>1</sup>

Our set of value carriers (low-cost):

1. AirTran
2. Allegiant
3. Frontier
4. JetBlue
5. Southwest
6. Spirit
7. Virgin America

Our set of network carriers:

1. Alaska
2. American
3. Continental
4. Delta
5. Hawaiian
6. Northwest<sup>2</sup>
7. United
8. US Airways

We have based most of the analysis on second quarter 2011 data, which is the most recent US DOT (Form 41) data available. In past years, we have used third quarter data, but DOT's data releases have increasingly lagged the reporting period, and third quarter data was not available in time for this report. Still, DOT data was used instead of SEC filings to permit comparisons of specific equipment types and ensure that non-airline-related costs did not dilute the specific focus on airline costs. For US carrier comparisons, we have used data either from the most recent quarter or the most recent four quarters, as appropriate. For carriers outside the US, we have used the most recent reporting period available on a comparative basis.

<sup>1</sup> The primary category not included is regional carriers, which provide most of their capacity under Capacity Purchase Agreements (CPAs). Regional carriers have different expense payment arrangements in the CPAs with their mainline partners, and 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 very misleading. Instead, our report provides a fuel consumption comparison of regional aircraft.

<sup>2</sup> Northwest data is prior to 2010.

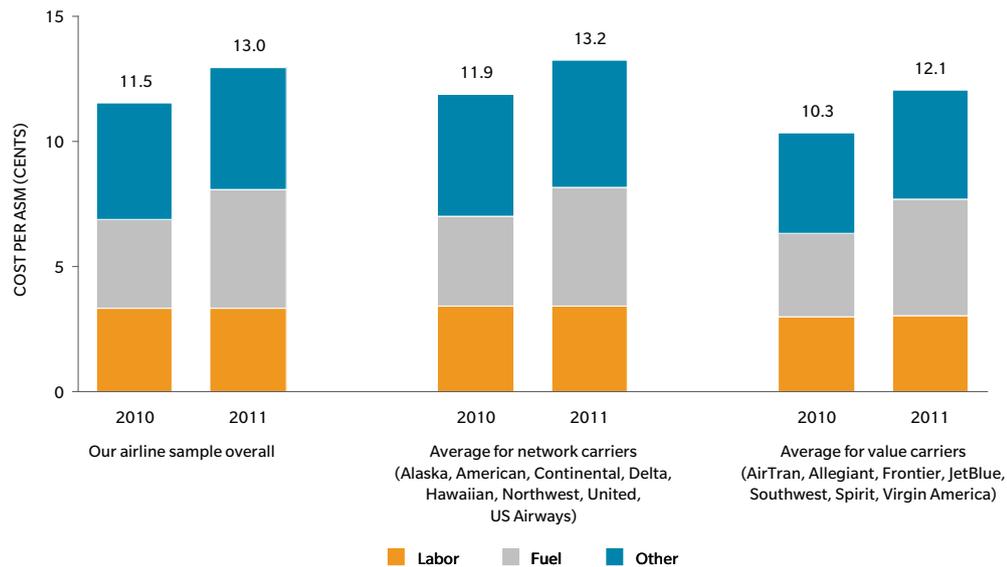
Unless indicated otherwise, the revenues and costs provided are for mainline domestic operations only. We have removed the revenues and costs associated with the carriers' regional affiliates by correcting for their transport-related revenues and cost although it is impossible to do so with absolute precision. Weighted averages are used for carrier groupings.

# COST

## 1. SYSTEM CASM INCREASE

The average network carrier CASM increased by 11.4% from 11.9¢ to 13.2¢, while the average value carrier CASM increased even more by 16.8% from 10.3¢ to 12.1¢. The increases were driven primarily by fuel costs. As a result, the network carrier CASM disadvantage to the value carriers declined from 15.0% in Q2 2010 to 9.6% in Q2 2011. This relatively small cost disadvantage is a far cry from the much larger gaps of previous years.

**EXHIBIT 1: SYSTEM CASM BY GROUP (Q2 2010/2011)**

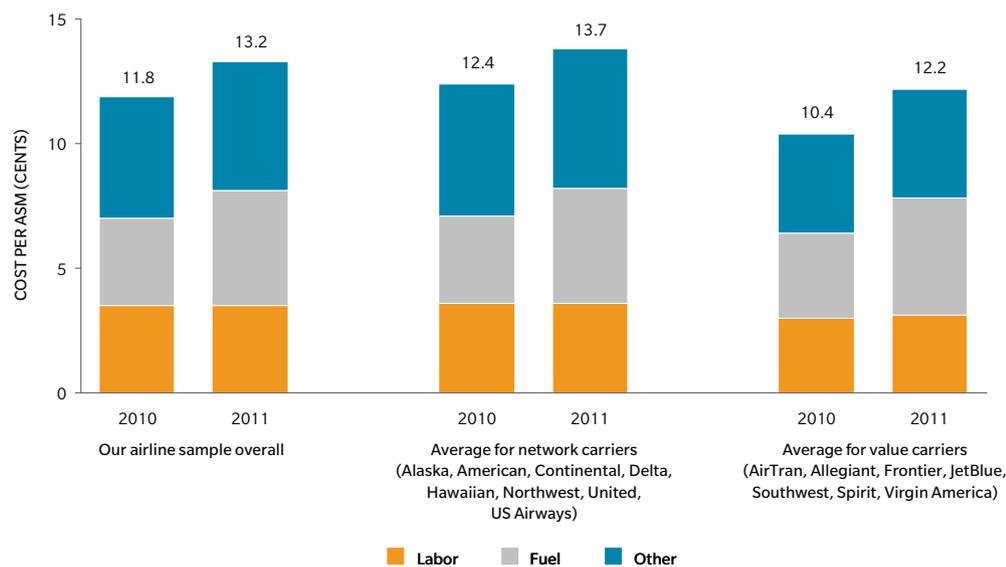


Source: PlaneStats.com for Q2 2010 and Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals)

## 2. DOMESTIC CASM INCREASE

The average network carrier domestic CASM increased by 10.5%, from 12.4¢ to 13.7¢, while the average value carrier CASM increased even more by 17.3%, from 10.4¢ to 12.2¢. As a result, the network carrier domestic CASM disadvantage to the value carriers declined from 19.2% in Q2 2010 to 12.3% in Q2 2011. The value carrier results are heavily impacted by Southwest, which provided 54% of value carrier domestic ASMs and collected 56% of value carrier domestic revenue. Of the three cost categories shown—labor, fuel, and other—network carrier CASM increased only in the fuel area, while value carrier CASM increased in each of the three areas.

EXHIBIT 2: DOMESTIC CASM BY GROUP  
(Q2 2010/2011)

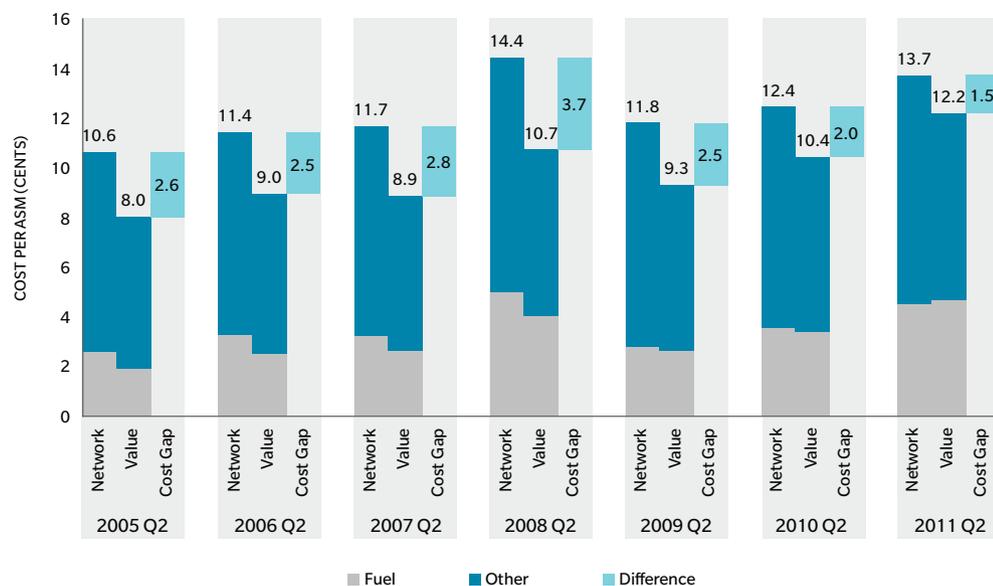


Source: PlaneStats.com. Mainline operations only. Excludes transport-related revenue and cost (regionals).

### 3. LONG-TERM DOMESTIC CASM TRENDS

Exhibit 3 shows the domestic CASM differential between network and value carriers broken into *Fuel* and *Other* for the 2nd quarter of each year from 2005 through 2011.

EXHIBIT 3: COMPARISON OF DOMESTIC CASM BETWEEN NETWORK AND VALUE CARRIERS OVER TIME



Source: PlaneStats.com. Mainline operations only. Excludes transport-related revenue and cost (regionals).

The domestic CASM gap between network and value carriers has now declined for the fourth consecutive year and is the smallest ever. The table below shows the declining gap in percentage terms:

NETWORK CARRIER CASM % HIGHER THAN VALUE CARRIER CASM	
2008 Q2	34.6%
2009 Q2	27.1%
2010 Q2	19.2%
2011 Q2	12.3%

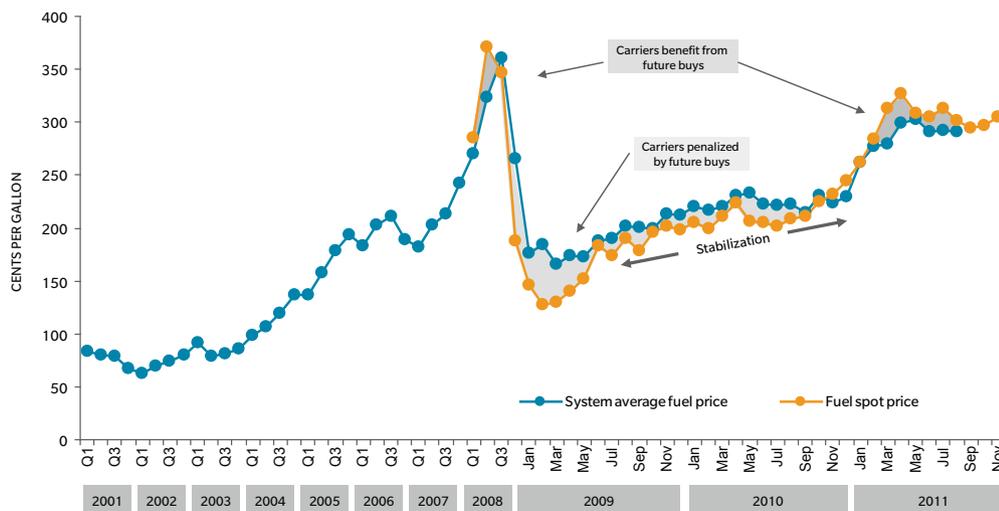
One reason for the declining gap is the change in fuel cost for network versus value carriers, which will be discussed next.

## 4. FUEL PRICES

As of Q2 2011, the average fuel price was the second highest since 2001, exceeded only by the mid-2008 peak. From Q2 2010 to Q2 2011, the network carrier domestic fuel CASM increased from 3.5¢ to 4.6¢, while the value carrier fuel CASM increased from 3.4¢ to 4.7¢. During Q2 2011, fuel costs amounted to 38.5% (up from 32.7% in Q2 2010) of the average value carrier domestic CASM and 33.6% (up from 28.2% in Q2 2010) of the average network carrier CASM.

Exhibit 4 shows the average fuel price paid by US carriers in comparison to the average spot price. Where the system average is lower than the spot price, as was the case through mid-2011, carriers are benefiting from effective hedging. Conversely, during much of 2009 and 2010, carriers were losing money on their hedges as lower prices were available in the market on a spot basis.

**EXHIBIT 4: SYSTEM AVERAGE FUEL PRICE (US CARRIERS) AND FUEL SPOT PRICE (JANUARY 2001–NOVEMBER 2011)**



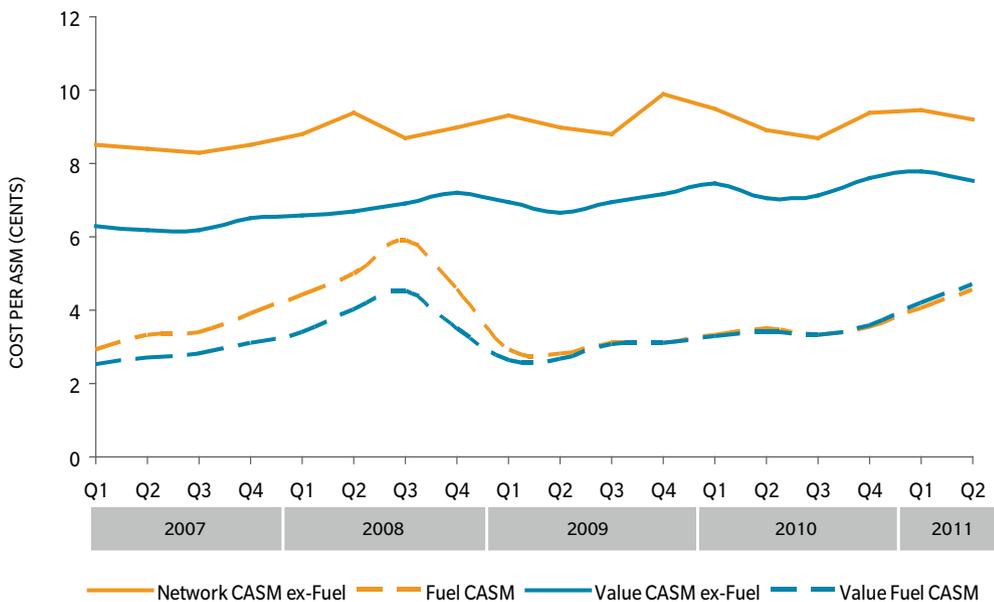
Source: Oliver Wyman research based on US DOT (Form 41) Fuel Cost and Consumption Report and US Energy Information Administration data.

## 5. VALUE VERSUS NETWORK CARRIER DOMESTIC CASM COMPARISON, WITH AND WITHOUT FUEL

Historically, value carriers have had a fuel cost advantage because of their newer fleets and, at one time, Southwest Airlines' advantageous hedge positions. However, network carriers have completely closed the gap.

As shown in *Exhibit 5*, since late 2009, network carrier fuel costs have been tracking very close to value carrier levels. Q2 2011 is the first time that the network carrier domestic fuel CASM has been slightly lower than the value carrier fuel CASM. In a business where every 0.1¢ in CASM counts, this is significant. For historical perspective, see the 2008 fuel price peak in *Exhibit 5*, where the network carrier CASM of 5.9¢ far exceeded the value carrier CASM of 4.5¢.

EXHIBIT 5: CASM AND FUEL CASM GROWTH (Q1 2007–Q2 2011)



Source: PlaneStats.com. Mainline operations only. Excludes transport-related cost (regionals).

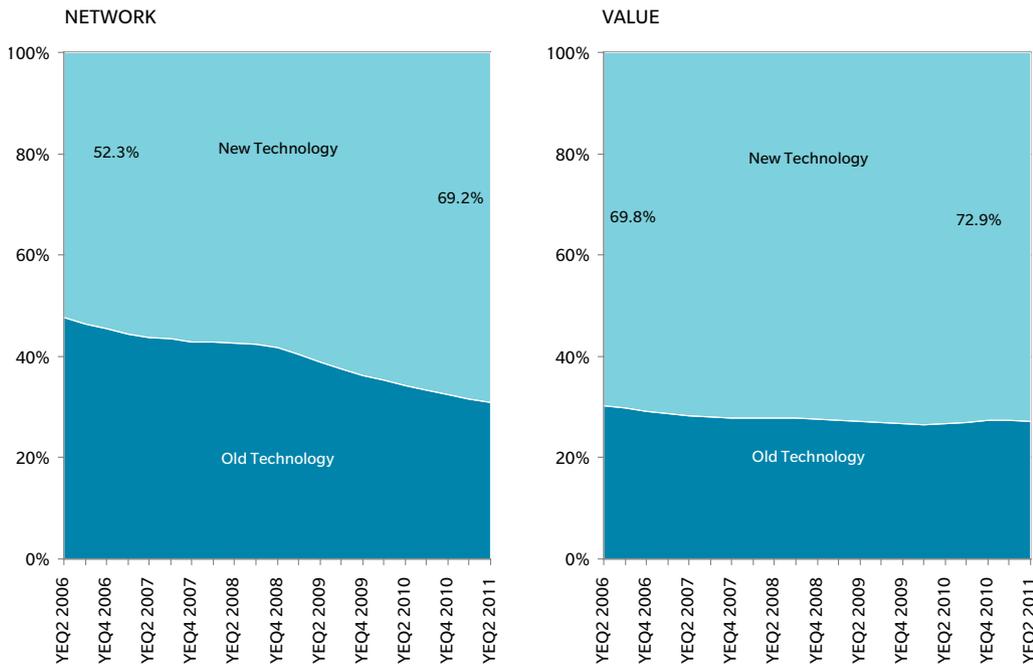
Apart from showing the convergence of fuel costs between the two groups, *Exhibit 5* also shows the narrowing of CASM excluding Fuel (ex-Fuel CASM) between network and value carriers over time. Putting aside quarterly swings, the network carrier ex-Fuel CASM has been generally flat since 2008, while the value carrier ex-Fuel CASM has been trending

upwards slightly. As noted previously, the value carrier results are heavily influenced by Southwest's large proportion of value carrier ASMs.

## 6. USE OF MORE EFFICIENT AIRCRAFT

Network carriers have been upgrading their fleets and replacing old technology aircraft with new, fuel-efficient aircraft. The result, as discussed, has been to eliminate the fuel efficiency advantage enjoyed by value carriers. The transition to new technology aircraft is shown in Exhibit 6. For purposes of this analysis, the 737-700/800/900 and A318/319/320/321 are considered new-generation aircraft.

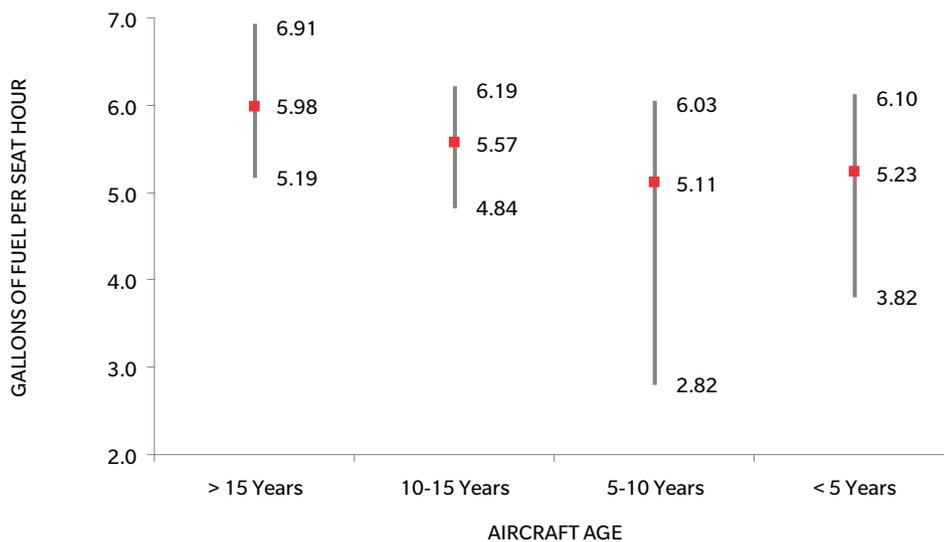
**EXHIBIT 6: PROPORTION OF DOMESTIC AIRCRAFT DAYS FLOWN BY NEW AND OLD TECHNOLOGY AIRCRAFT (YEQ2 2006–YEQ2 2011)**



Source: PlaneStats.com. Mainline operations only.

Exhibit 7 shows the general correlation between fuel efficiency and aircraft age, and also points to the tendency to fly newer aircraft on longer stage lengths, where fuel makes up a higher portion of total operating costs. The similar results for aircraft <5 and 5–10 years old is largely due to the fact that many aircraft in the 5–10 year age category are close to the 5-year point in that range. (The average age of aircraft in the 5–10 year group is 7 years.) The 5–10 year group in fact has lower reported fuel burn per seat hour than the 0–5 group, reflecting differences in aircraft mix and seat configuration between the two groups.

**EXHIBIT 7: FUEL BURN VERSUS AIRCRAFT AGE AND AVERAGE STAGE-LENGTH—MEDIAN AND HIGH-LOW FUEL BURNS REPORTED BY CARRIER SAMPLE (YEQ2 2011)**

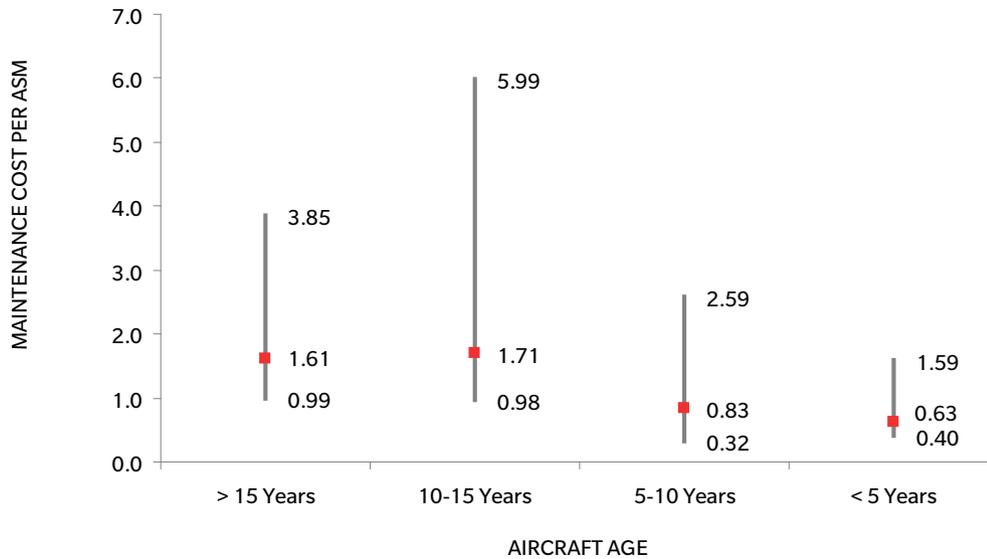


Aircraft Age	> 15 Years	10-15 Years	5-10 Years	< 5 Years
Average Stage Length (miles)	677	1,021	1,071	1,230

Source: PlaneStats.com. Mainline operations only.

Not surprisingly, there is a similar correlation between aircraft age and maintenance cost, shown in Exhibit 8. The maintenance cost per ASM more than doubles between the 5–10 year age group and the 10–15 year age group. As with the previous chart, the 0–5 and 5–10 year groups have similar costs because of the disproportionate number of 5–10 year old aircraft that are in the younger years of that group, as well as differences in aircraft mix and seat configuration.

EXHIBIT 8: MAINTENANCE COST VERSUS AIRCRAFT AGE AND STAGE LENGTH—  
 MEDIAN AND HIGH-LOW MAINTENANCE COSTS REPORTED BY CARRIER SAMPLE  
 (YE Q2 2011)



Average Stage Length (miles)	> 15 Years	10-15 Years	5-10 Years	< 5 Years
	693	937	1,019	1,213

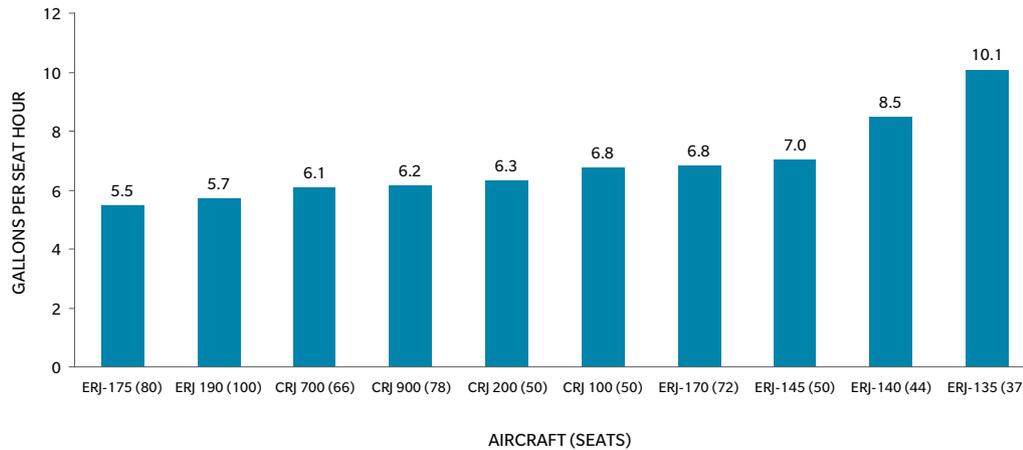
Source: PlaneStats.com. Mainline operations only.

## 7. REGIONAL AIRCRAFT EFFICIENCY

As shown in *Exhibit 9*, the fastest growing aircraft segment is the large regional segment. In an era of high fuel prices, the continuing growth of this fleet is easy to understand. Based on airline operating cost data for the year ended Q2 2011, the smallest regionals consume much more fuel per seat hour than the large regionals. The ERJ-135, for example, consumes 84% more fuel per hour than the ERJ-175.

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## EXHIBIT 9: REGIONAL AIRCRAFT GALLONS PER SEAT HOUR (YE Q2 2011)



Source: PlaneStats.com.

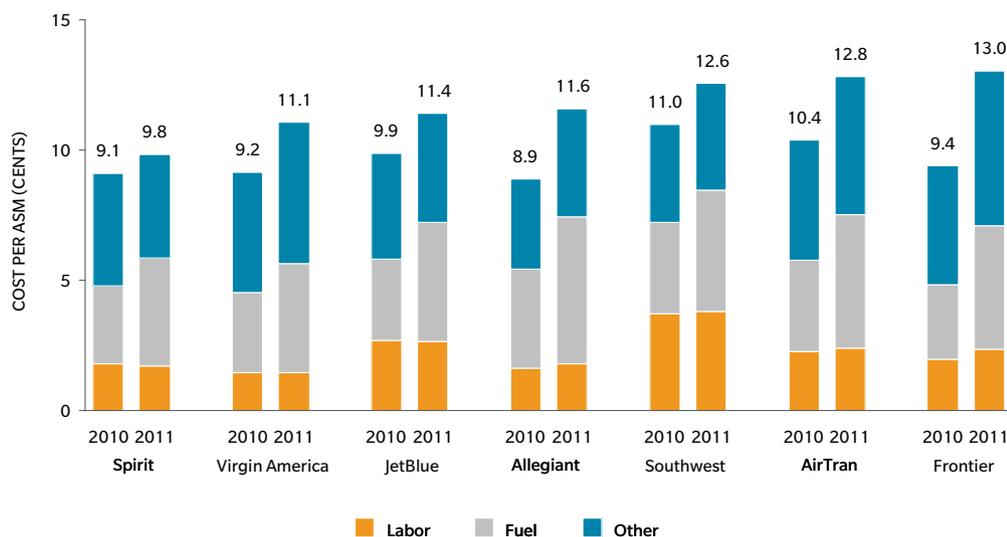
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## 8. INDIVIDUAL VALUE CARRIER DOMESTIC CASMS

Each of the value carriers experienced domestic CASM increases over the one-year term between Q2 2010 and Q2 2011, ranging from 0.7¢ to 3.6¢. These changes are largely driven by the increase in fuel prices, and are much greater than last year when the range was 0.3¢ to 0.9¢. Spirit, which had the lowest CASM last year, again had the lowest CASM at 9.8¢. The largest increases were at Frontier, which was in the middle of restructuring; AirTran, which had just been acquired by Southwest; and Allegiant, whose fleet of older aircraft is disproportionately affected by higher fuel prices. Of the set of seven value carriers, only Spirit increased costs by less than 10 percent.

*Exhibit 10* shows the domestic CASM for each of the value carriers, ranked from low to high. These rankings are not adjusted for stage length, and that adjustment will change the rankings.

**EXHIBIT 10: DOMESTIC CASM BREAKDOWN BY AIRLINE—VALUE CARRIERS  
(Q2 2010/2011)**



Source: PlaneStats.com for Q2 2010 and Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals).

Individual carrier details are shown below:

**EXHIBIT 11: DOMESTIC CASM DETAILS FOR INDIVIDUAL CARRIERS**

AIRLINE	YEAR	CASM ¢	LABOR ¢	FUEL ¢	OTHER ¢	INCREASE ¢	INCREASE %
Spirit	2010	9.10	1.81	2.99	4.30		
	2011	9.82	1.70	4.17	3.95	0.72¢	7.9%
Virgin	2010	9.16	1.44	3.11	4.61		
	2011	11.05	1.44	4.21	5.40	1.89¢	20.6%
JetBlue	2010	9.86	2.68	3.13	4.05		
	2011	11.41	2.66	4.56	4.19	1.55¢	15.7%
Allegiant	2010	8.87	1.64	3.78	3.45		
	2011	11.58	1.80	5.65	4.13	2.71¢	30.6%
Southwest	2010	10.99	3.71	3.50	3.78		
	2011	12.57	3.82	4.65	4.10	1.58¢	14.4%
AirTran	2010	10.40	2.25	3.51	4.64		
	2011	12.84	2.40	5.12	5.32	2.44¢	23.5%
Frontier	2010	9.42	1.96	2.87	4.59		
	2011	13.03	2.33	4.77	5.93	3.61¢	38.3%

Source: PlaneStats.com for Q2 2010 and Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals).

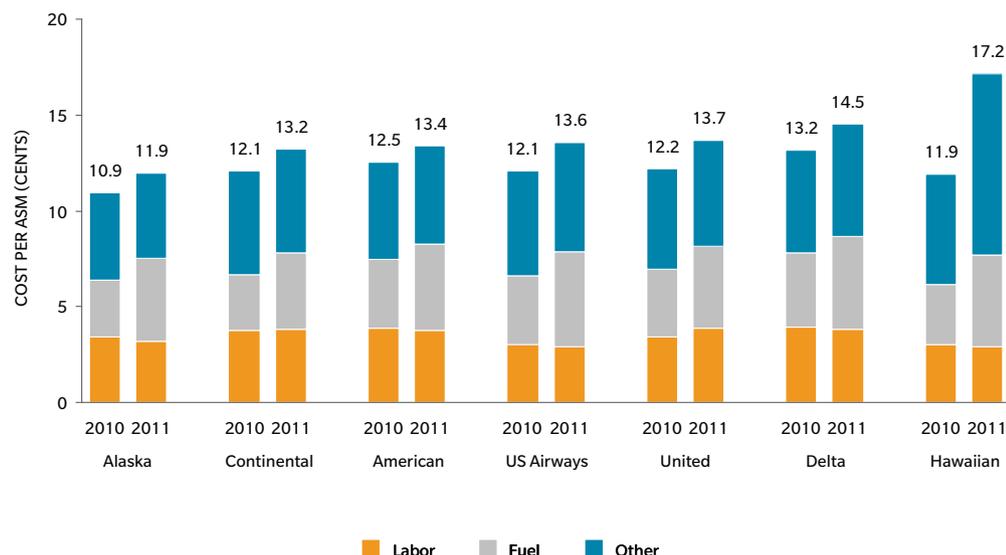
Of the value carriers, Allegiant had the highest fuel CASM in Q2 2011, while Southwest had the highest labor CASM.

## 9. INDIVIDUAL NETWORK CARRIER DOMESTIC CASMS

Each of the network carriers experienced domestic CASM increases over the one-year term between Q2 2010 and Q2 2011, ranging from 0.9¢ to 1.5¢. Hawaiian was the one exception with a greater increase, linked to a one-time fleet transition event (lease termination costs related to its Boeing 717 aircraft purchase, which its Q2 financials reported to have added 2.35¢ to its CASM). See *Exhibit 12*. As with the value carriers, these changes are largely driven by the increase in fuel prices, and are much greater than last year.

Alaska—which had the lowest CASM among the network carriers last year—again had the lowest CASM at 10.9¢. The largest increase was for Hawaiian at 44%, a one-time event that should not be viewed as indicative. Other increases fell within the 7.0% to 12.3% range, consistent with the lower end of the range of the increases for the value carriers. The CASMs are grouped tightly among the largest network carriers, with Delta slightly higher than the others. As with the value carriers, these are not stage-length adjusted CASMs.

EXHIBIT 12: DOMESTIC CASM BY BREAKDOWN BY AIRLINE—NETWORK CARRIERS (YE Q2 2010/2011)



Source: PlaneStats.com for Q2 2010 and Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals).

Individual carrier details are shown below:

#### EXHIBIT 13: DOMESTIC CASM DETAILS FOR INDIVIDUAL CARRIERS

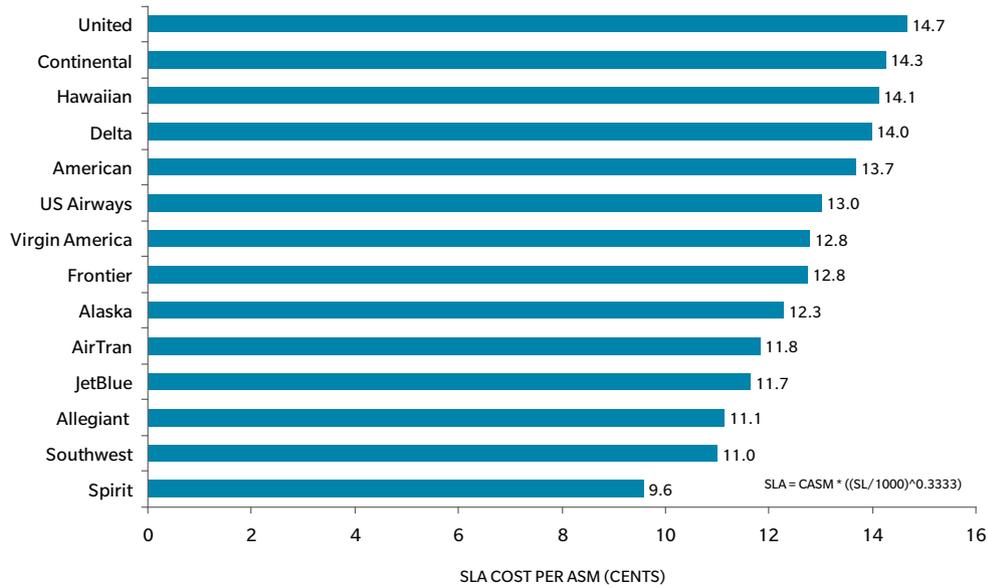
AIRLINE	YEAR	CASM ¢	LABOR ¢	FUEL ¢	OTHER ¢	INCREASE ¢	INCREASE %
Alaska	2010	10.93	3.44	2.96	4.53		
	2011	11.94	3.19	4.32	4.43	1.01¢	9.2%
Continental	2010	12.10	3.76	2.89	5.45		
	2011	13.22	3.83	3.96	5.43	1.12¢	9.3%
American	2010	12.51	3.86	3.58	5.07		
	2011	13.38	3.78	4.48	5.12	0.87¢	7.0%
US Airways	2010	12.07	3.03	3.58	5.46		
	2011	13.56	2.93	4.94	5.69	1.49¢	12.3%
United	2010	12.20	3.44	3.50	5.26		
	2011	13.70	3.90	4.26	5.54	1.50¢	12.3%
Delta	2010	13.18	3.91	3.90	5.37		
	2011	14.51	3.80	4.88	5.83	1.33¢	10.1%
Hawaiian	2010	11.91	3.02	3.15	5.74		
	2011	17.16	2.89	4.81	9.46	5.25¢	44.1%

Source: PlaneStats.com for Q2 2010 and Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals).

## 10. STAGE-LENGTH-ADJUSTED INDIVIDUAL CARRIER CASMS

Using an accepted stage-length adjustment method, we recomputed the Q2 2011 domestic CASM for each carrier based on a standardized stage length of 1,000 miles. *Exhibit 14* shows the results: Spirit remains the lowest cost value carrier, followed by Southwest and Allegiant. Among the network carriers, Alaska and US Airways have the lowest costs. Alaska's costs are lower than two of the value carriers—Virgin America and Frontier. In comparison to last year, the major changes involve Hawaiian and Allegiant for the reasons mentioned previously. Of the three largest network carriers, American's stage-length adjusted CASM was slightly less than Delta and the United/Continental system.

EXHIBIT 14: DOMESTIC CASM BY AIRLINE—STAGE-LENGTH ADJUSTED TO 1,000 MILES (Q2 2011)

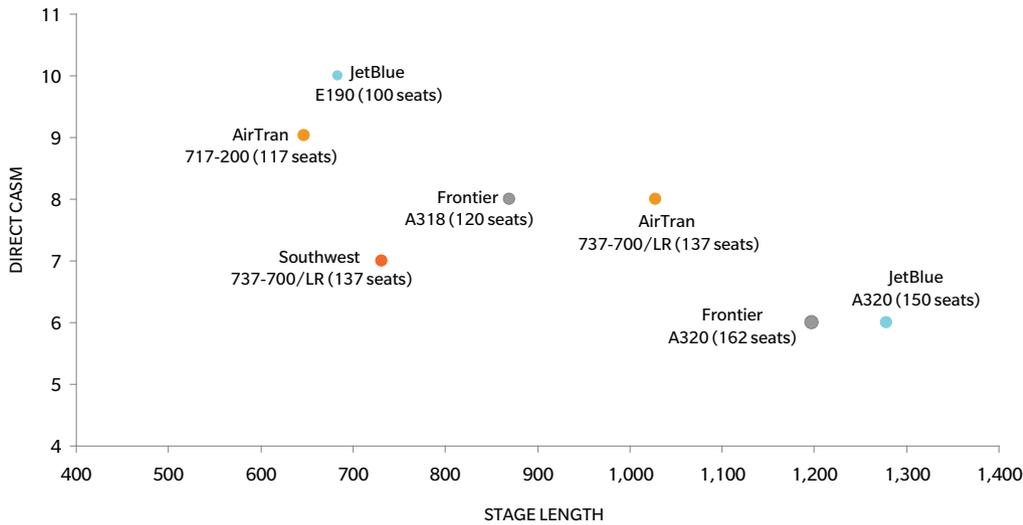


Source: PlaneStats.com for Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals).

## 11. DIRECT CASMS FOR SMALLER NARROWBODY AIRCRAFT OPERATED BY THE SAME CARRIER

Traditionally, value carriers operated with a single aircraft type, although that has changed over time. Three value carriers in our sample, Frontier, JetBlue, and the Southwest/AirTran system, currently operate two different narrowbody aircraft. *Exhibit 15* illustrates how the smaller aircraft compare in efficiency with the larger aircraft.

**EXHIBIT 15: DIRECT CASM PLOTTED AGAINST AVERAGE STAGE LENGTH BY AIRCRAFT TYPE, ACTUAL FUEL PRICES (YE Q2 2011)**



**Source:** PlaneStats.com for Q2 2011. Mainline operations only. Costs include direct aircraft operating expenses. Direct costs include pilots, fuel, aircraft ownership, maintenance and insurance. Indirect expenses not reported by aircraft type.

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 smooth out quarterly variations caused primarily by maintenance requirements, the data is for the full year ending Q2 2011.

Frontier’s A320 has the lowest unit costs measured on a Direct CASM basis when stage-length is taken into account, much lower than Frontier’s A318, which is being retired. The results of Frontier’s most recent restructuring are not included in the chart, which is for the year ending Q2 2011.

AirTran’s 737-700, which had the lowest unit costs last year, now has significantly higher unit costs than the same Southwest aircraft. AirTran’s 117-seat 717 has the highest unit costs of the three narrowbodies within the Southwest/AirTran fleet, although still lower than JetBlue’s 100-seat E190.

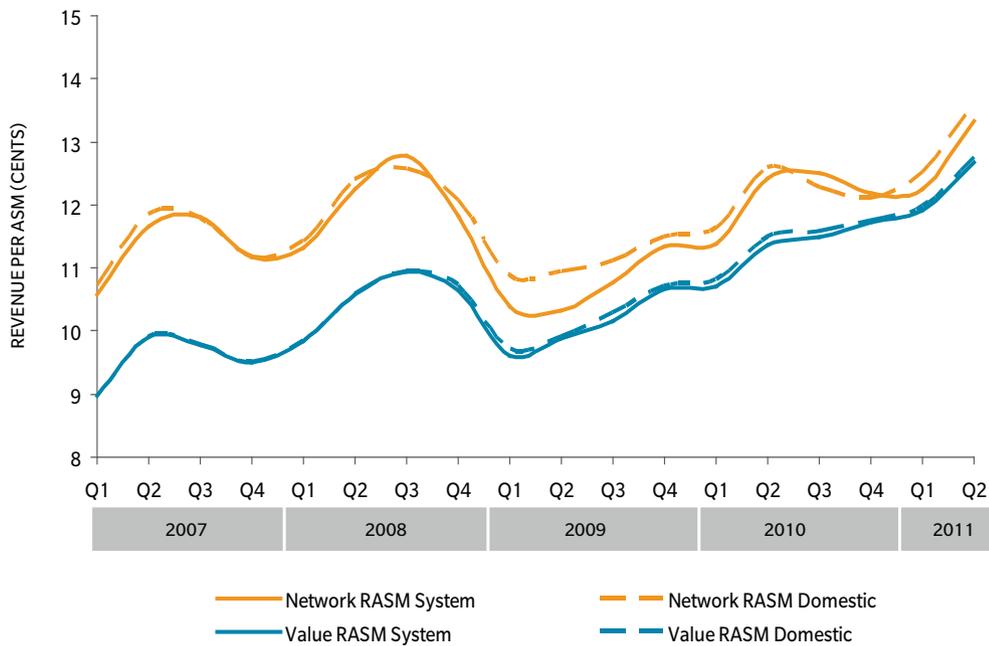
JetBlue’s two aircraft have very different stage lengths and Direct CASMs, at 684 miles and approximately 6¢ for the E190, versus 1278 miles and 10¢ for the A320. For the E190 to be successful, it requires a different mission than the A320, as the smaller aircraft has much higher direct costs and therefore would not be successful in a low-fare environment.

# REVENUE

## 12. RASM INCREASE

Both network and value carriers experienced much smaller RASM increases from Q2 2010 to Q2 2011 than they did during the prior year, as carriers were unable to pass on all of their increased costs. From Q2 2010 to Q2 2011, RASM for the average network carrier increased by 7.3%, less than the average value carrier RASM increase of 11.4%. By comparison, network carrier RASM increased by 20.3% from Q2 2009 to Q2 2010, while value carrier RASM increased by 14.9%. RASM has been trending upwards for both network and value carriers since early 2009. See *Exhibit 16*.

EXHIBIT 16: RASM GROWTH (Q1 2007–Q2 2011)

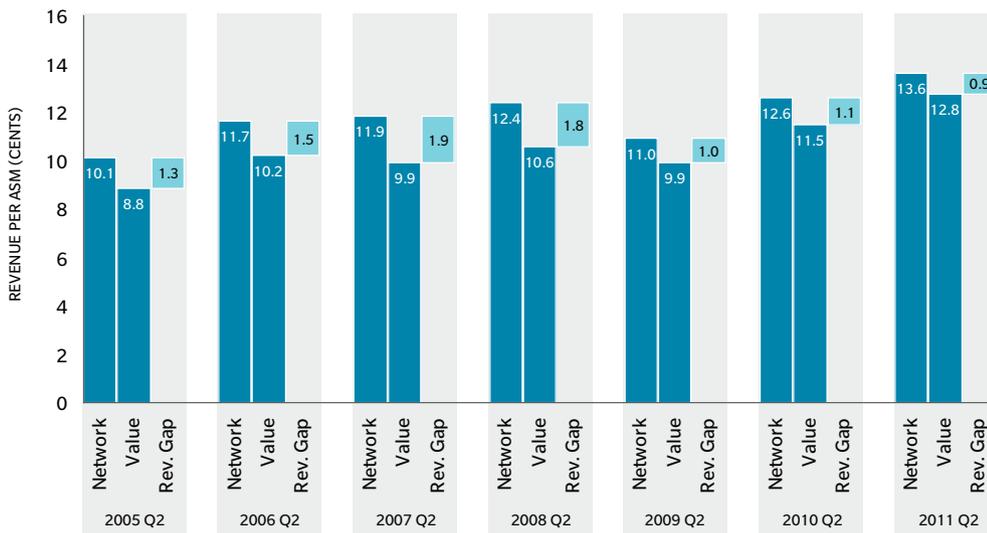


Source: PlaneStats.com. Mainline operations only. Excludes transport-related revenue (regionals).

## 13. NETWORK/VALUE CARRIER DOMESTIC RASM GAP

The domestic RASM gap between network and value carriers declined from 2010 and, during Q2 2011, amounted to only about a 6% premium for network carriers. As shown in *Exhibit 17*, the RASM gap has declined nearly every year since 2007.

EXHIBIT 17: COMPARISON OF DOMESTIC RASM BETWEEN NETWORK AND VALUE CARRIERS OVER TIME (Q2 2005–Q2 2011)

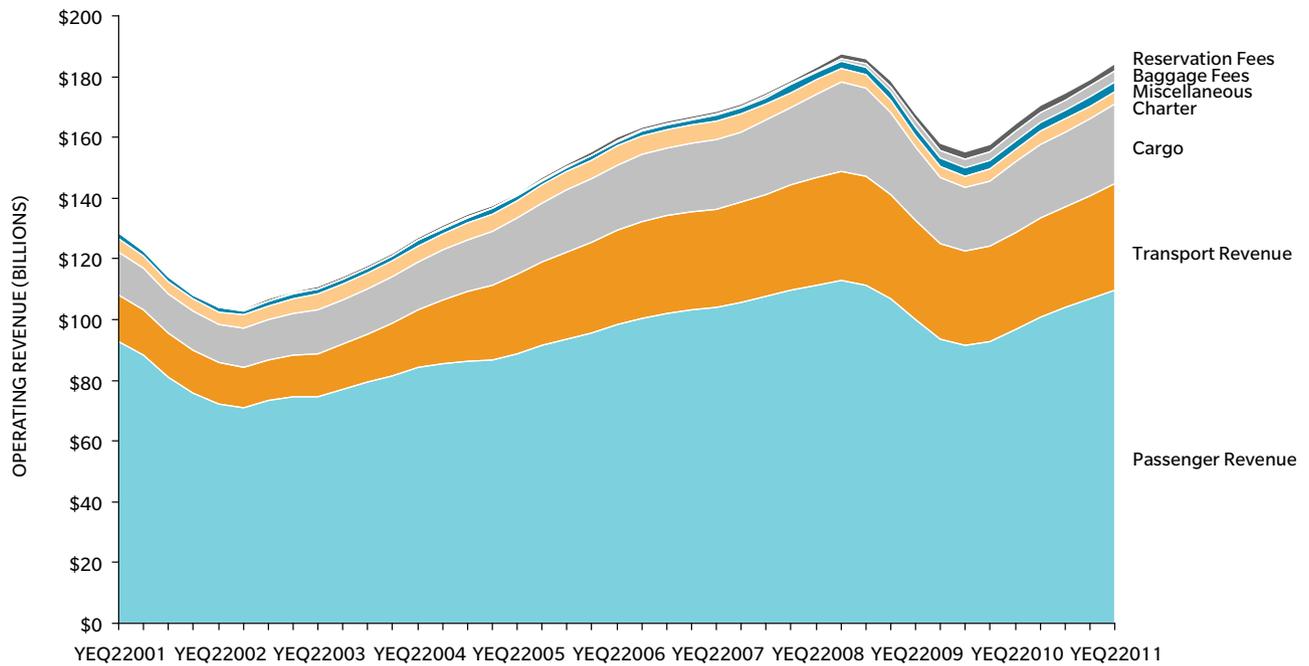


Source: PlaneStats.com. Mainline operations only. Excludes transport-related revenue (regionals).

## 14. CHANGES IN US AIRLINE REVENUE OVER TIME

*Exhibit 18* shows US airline revenue over the past ten years, including revenue from cargo, regional carriers (Transport Revenue), and service fees. All US carriers are included in the chart. Peak revenue for the decade occurred during YEQ3 2008. Revenue declined sharply the following year, and has nearly reached the peak again in current dollars. Despite all the public discussion of fees collected beyond the ticket price, the chart shows that they remain a small percentage of airline revenue. A more detailed discussion of the sources and drivers of airline revenue follows.

**EXHIBIT 18: OPERATING REVENUE, ALL REPORTING CARRIERS, INCLUDING TRANSPORT REVENUE (YEQ3 2001–YEQ2 2011)**



**Note:** Transport revenue is primarily revenue from regional carriers.  
**Source:** PlaneStats.com advanced query > income statement for all reporting carriers.

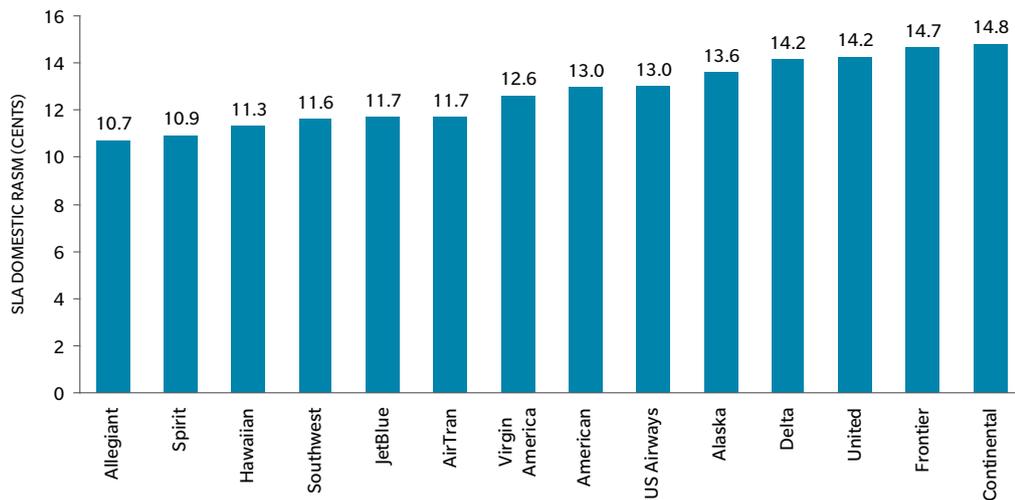
## 15. RASM ADJUSTED FOR STAGE LENGTH

Exhibit 19 shows the stage-length adjusted domestic RASM for all carriers in the study, similar to the domestic CASM ranking in the cost section. The highest unit revenue performance, by Continental, is 38% greater than the lowest, by Allegiant. This gap is only about half of last year’s 77%, largely the result of improved revenue performance at the low end by Allegiant and Spirit. Continental and United have the highest RASMs (and also the highest CASMs). Frontier’s results are included as reported, but as with its CASM results, are considered non-representative.

As expected, the value carriers tend to have lower RASMs than the network carriers. Virgin America has the highest RASM among the value carriers, just below American. Allegiant has the lowest RASM, consistent with its ancillary revenue-focused business model.

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EXHIBIT 19: DOMESTIC RASM BY AIRLINE—STAGE-LENGTH ADJUSTED TO 1,000 MILES (Q2 2011)



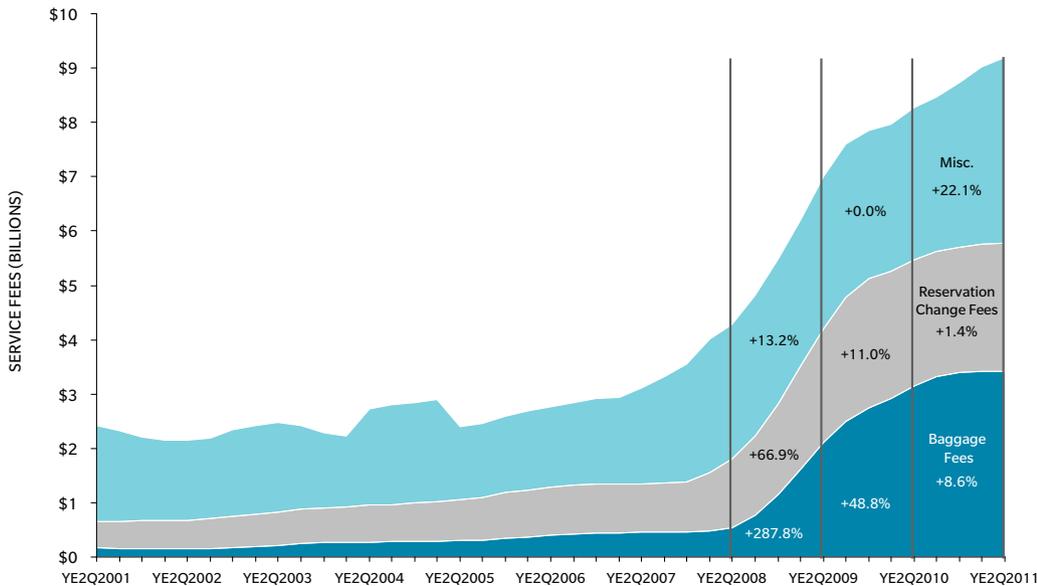
Source: PlaneStats.com advanced query > income statement for all reporting carriers. Excludes transport-related revenue (regionals).

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## 16. BAGGAGE AND CANCELLATION FEES

Over the past several years, airlines have captured increasing amounts of revenue from non-ticket charges such as baggage, buy-on-board meals, in-flight entertainment, reservations, and change fees; some of which are not included in DOT-reported average airfares or passenger RASM. *Exhibit 20* focuses on the three major categories of fees—baggage, reservation change, and miscellaneous—to show the growth to date. Miscellaneous is a broad category including food and beverages, in-flight entertainment, Wi-Fi, and other.

**EXHIBIT 20: BAGGAGE, RESERVATION CHANGE, AND MISCELLANEOUS FEES (YEQ2 2001 – YEQ2 2011)**



Source: PlaneStats.com advanced query > income statement for all reporting carriers.

Based on airline reports to DOT, these service fees generated \$9.2 billion in YEQ2 2011, with baggage fees and miscellaneous fees generating the largest shares, \$3.4 billion each. Change fees generated \$2.4 billion. Baggage fees continued to grow modestly, by 8.6% from Q2 2010 to Q2 2011, but reservation change fees reached a plateau, increasing only 1.4% during the same period. Miscellaneous fees grew strongly, by 22.1%, as carriers searched for new sources of revenue.

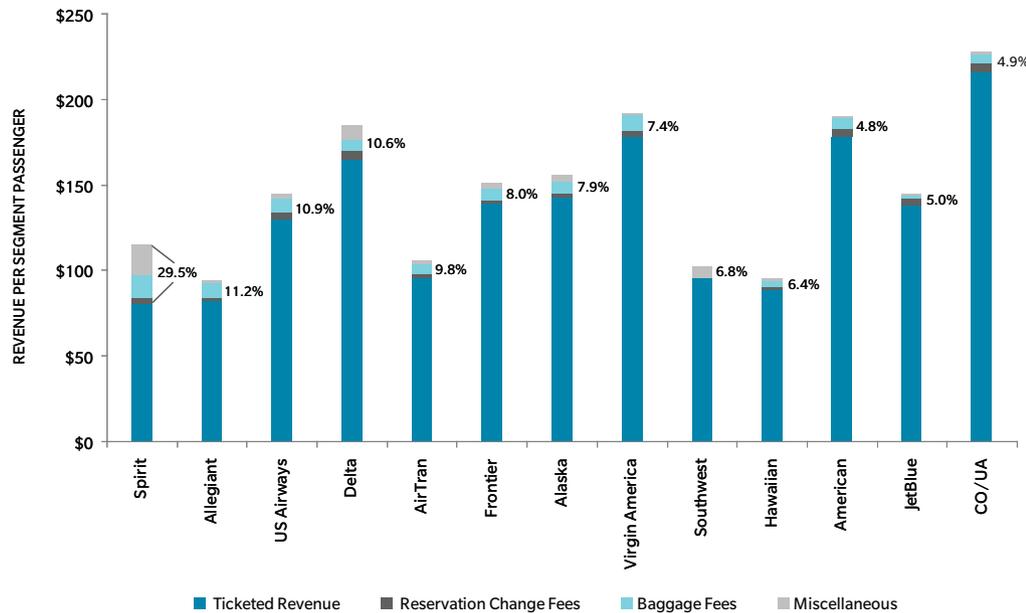
Although these fees contribute much needed revenue to the carriers, the average revenue generated is a smaller portion of the total amount collected from each passenger than many passenger anecdotes would suggest. The percentage of revenue collected in fares and fees from each segment passenger is broken out for selected carriers in *Exhibit 21*.<sup>3</sup> Most carriers collected from 5-11% of passenger revenue from service fees. Spirit, which collected 29.5% of revenue from service fees, is the exception.

These percentages are less, and in some cases substantially less, than reported by some individual carriers in their quarterly financial reports. Allegiant, a leader in this area, reported that third-part ancillary revenue amounted to 28.1% of its gross revenue in Q2 2011. The important distinction between that figure and the DOT results is that the carrier reports to the DOT only those fees directly related to the provision of air transportation. Allegiant's

<sup>3</sup> A segment passenger is a passenger traveling on one segment of what may be a multi-segment itinerary. The long-term average number of segments per one-way itinerary is 1.4. Segment passengers are used here instead of O&D passengers based on the available data at this time.

strong ancillary revenue is largely the result of its success in hotel room sales. Note as well that carrier sales of frequent flyer miles are not included in the DOT results.

**EXHIBIT 21: SERVICE FEES BY CARRIER (YEQ2 2011)**



Source: PlaneStats.com advanced query > income statement for all reporting carriers.

Outside the US, carriers’ service fees vary widely. The carriers with the least amount of service fee revenue are network carriers, such as Singapore, Lufthansa, and LAN, each of which reported 1% or less in ancillary revenue in 2010. At the other end of the spectrum, carriers such as Ryanair, Tiger, EasyJet, and Air Asia, reported ancillary revenue percentages approaching or exceeding the level of Spirit.

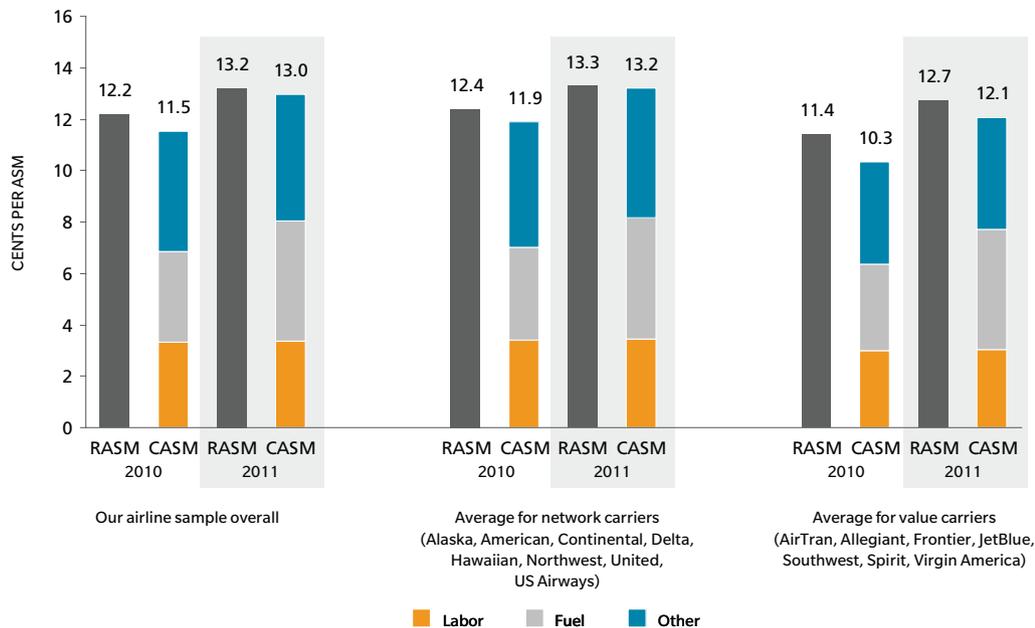
# MARGIN

## 17. RASM/CASM MARGIN

For all carriers, the RASM/CASM margin declined substantially from Q2 2010 to Q2 2011. For network carriers, the margin declined by 87%, from 0.5¢ to only 0.1¢. For value carriers, the results were better, but value carriers still experienced a 41% decline in margin, from 1.1¢ to 0.6¢. For both groups, the RASM increase failed to match the overall fuel-price driven increase in CASM.

Exhibit 22 shows the RASM and CASM comparison for network versus value carriers on a system basis for the second quarters of 2010 and 2011.

EXHIBIT 22: COMPARISON OF SYSTEM RASM AND CASM (Q2 2010/2011)



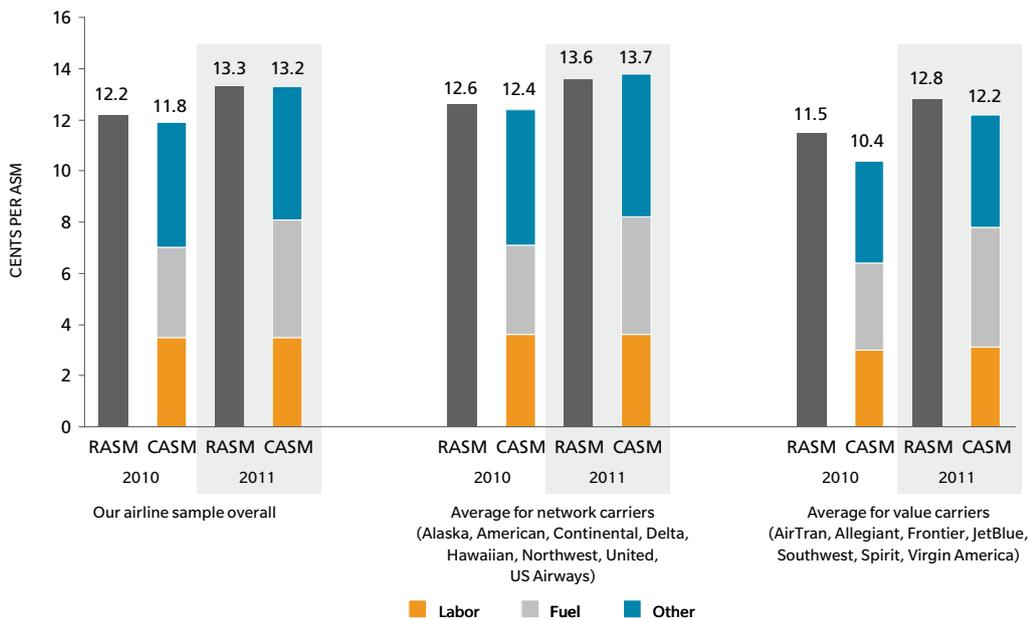
Source: PlaneStats.com for Q2 2010 and Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals).

## 18. DOMESTIC RASM/CASM MARGIN

For all carriers, the domestic RASM/CASM margin declined substantially from Q2 2010 to Q2 2011. For network carriers, the domestic margin declined from 0.2¢ to -0.1¢. For value carriers, the domestic margin declined by 42%, from 1.1¢ to 0.6¢. As with the system RASM, the domestic RASM for both groups increased less than the fuel-price driven increase in CASM.

Exhibit 23 shows the RASM and CASM comparison for network versus value carriers for domestic service for the second quarters of 2010 and 2011. As with the previous comparison, this one excludes transport-related revenue and cost.

EXHIBIT 23: COMPARISON OF DOMESTIC RASM AND CASM (Q2 2010/2011)



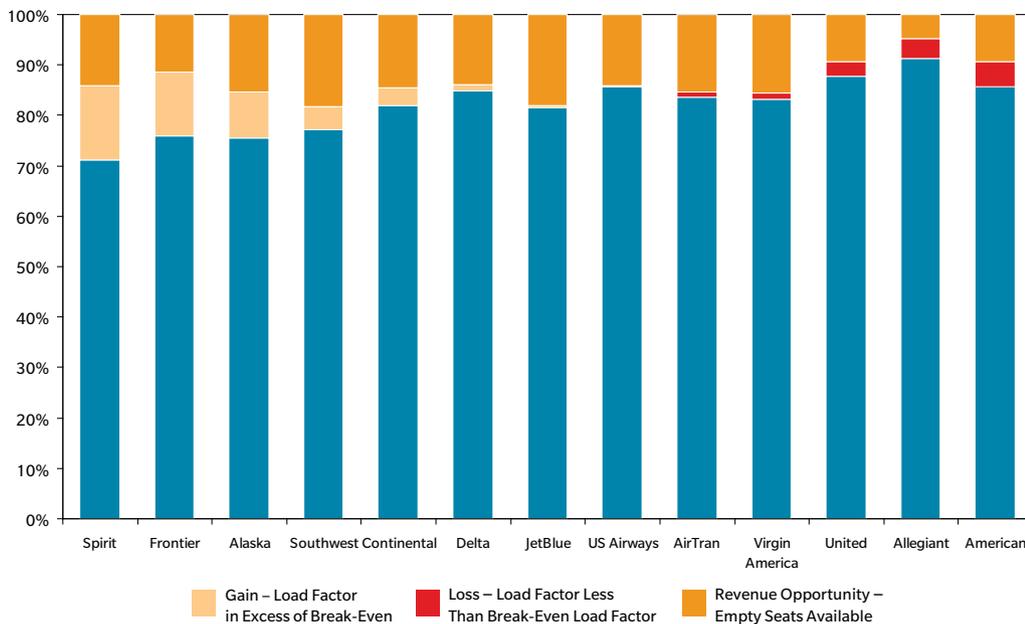
Source: PlaneStats.com. Mainline operations only. Excludes transport-related revenue and cost (regionals).

Most important, despite strong cost control, US network carriers did not make a profit on their domestic operations, as measured by a comparison of total RASM/CASM, while value carriers did. Network carriers remained slightly profitable only because of their international operations.

## 19. BREAK-EVEN LOAD FACTORS

The largest network carriers have load factors in the mid-80s, while the largest value carriers have load factors in the low 80s. With break-even load factors above 80% for most carriers, future profitability improvements will depend on yield increases, as there is little room for additional load factor growth. *Exhibit 24* shows the high break-even load factors for most carriers and the limited opportunities for additional revenue provided by the small percentage of unfilled seats.

**EXHIBIT 24: DOMESTIC BREAK-EVEN LOAD FACTOR VERSUS ACTUAL LOAD FACTOR (Q2 2011)**

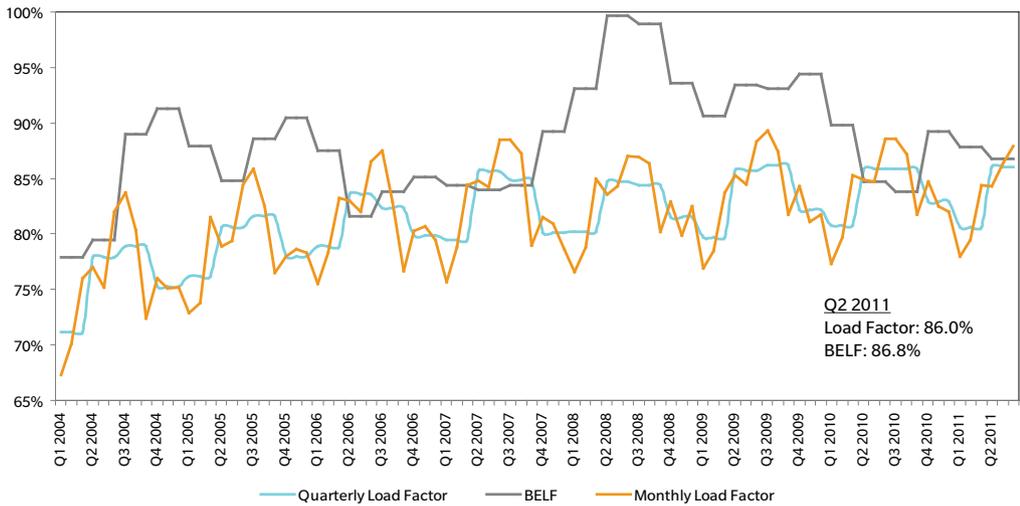


**Note:** Break-even calculation does not take into account generation of ancillary revenue, which for carriers such as Allegiant may be substantial.

**Source:** PlaneStats.com for Q2 2010 and Q2 2011. Mainline operations only. Excludes transport-related revenue and cost (regionals).

Further historical perspective is provided in *Exhibit 25*. It shows that network carriers achieved a load factor of 86.0% in Q2 2011 in their domestic operations, but they required a break-even load factor of 86.8%. They were one seat short of breaking even on aircraft averaging 160 seats. (For network carriers, the average mainline domestic aircraft has had about the same number of seats over the past several years). Since 2001, their load factor has increased, but their domestic operating margin has turned slightly positive only very briefly and intermittently.

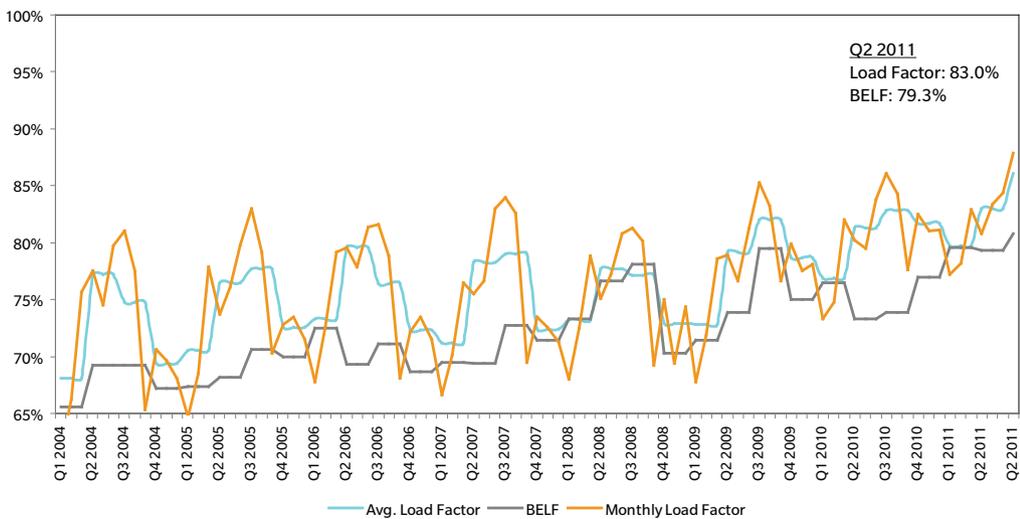
**EXHIBIT 25: NETWORK CARRIER DOMESTIC LOAD FACTOR AND BREAK-EVEN LOAD FACTOR (Q1 2004 – Q2 2011)**



**Note:** Break-even load factor calculated without transport (regional) revenue/expense.  
**Source:** PlaneStats.com.

Exhibit 26 shows that value carriers achieved a domestic load factor of 83.0% in 2Q 2011, and had a break-even load factor of 79.3%. They were five passengers ahead of breaking even on aircraft averaging 138 seats. (For value carriers, the average mainline aircraft has had roughly the same number of seats over the past several years). However, since 2001, the value carriers’ load factor has increased, while their operating margin has not.

**EXHIBIT 26: VALUE CARRIER DOMESTIC LOAD FACTOR AND BREAK-EVEN LOAD FACTOR (Q1 2004 – Q2 2011)**



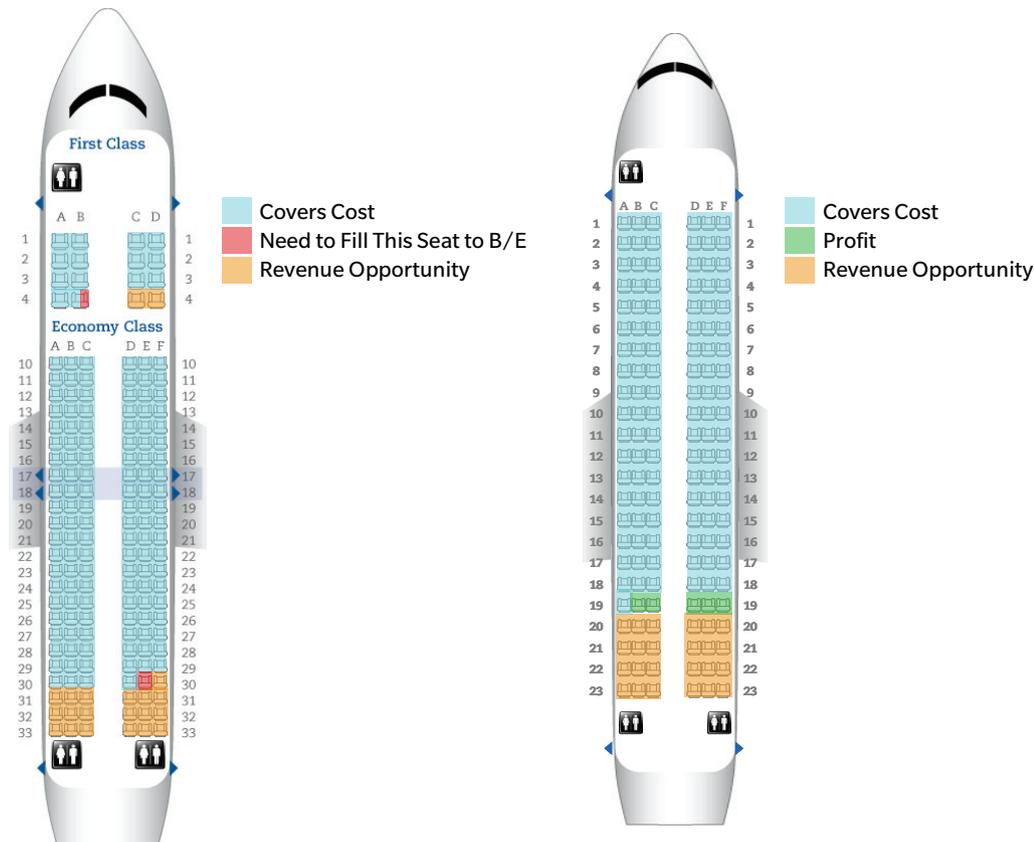
**Note:** Break-even load factor calculated without transport (regional) revenue/expense.  
**Source:** PlaneStats.com.

Using seat maps, *Exhibit 27* compares the situation of network carriers and value carriers operating domestically in terms of seats needed to break-even and seats still available to be sold.<sup>4</sup>

**EXHIBIT 27: SEATS NEEDED TO BREAK EVEN, AND STILL AVAILABLE FOR SALE (Q2 2011)**

**NETWORK (168 SEATS)**

**VALUE (138 SEATS)**



**Note:** Seat maps are illustrative only and do not recognize differences in individual carrier performance or revenue composition. Illustration based on average industry segment fares, including first, business and coach fares, and assumes same load factors in different classes.  
**Source:** PlaneStats.com.

The net effect is that more and more seats must be filled to generate a profit. Stated differently, there are declining revenue opportunities from selling more seats. Future operating margin gains must depend on yield increases or cost improvements.

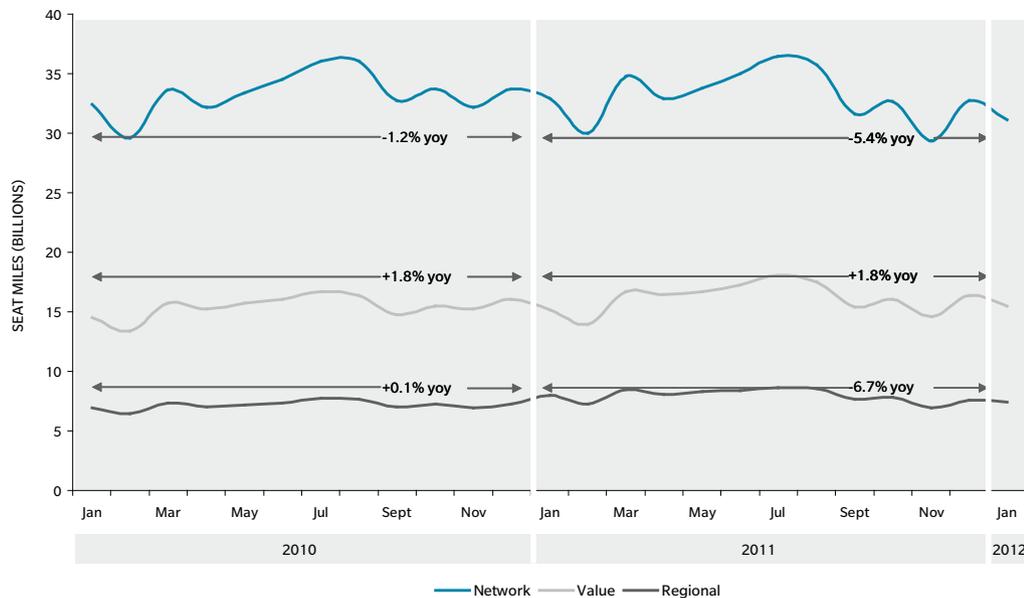
<sup>4</sup> Seat maps are illustrative only and do not recognize differences in individual carrier performance or revenue composition. Illustration based on average industry segment fares, including first, business and coach fares, and assumes same load factors in different classes.

## 20. CHANGING CAPACITY IN THE US DOMESTIC MARKET

During much of the past decade, value carriers and regional carriers grew rapidly. Even as network carriers reduced their mainline operations, regional carriers filled in. Then in 2009, the industry significantly reduced capacity: domestic network mainline ASMs declined by 9.2%, regional ASMs by 5.5%, and value airline ASMs by 3.9%.

Exhibit 28 shows what happened subsequently. In 2010, domestic capacity remained essentially unchanged. In 2011, the industry reduced capacity again. Domestic mainline ASMs declined by 5.4%, regional ASMs declined even more (by 6.7%), and the value carriers grew by only 1.8%. In each year, value carriers have gained capacity share as they have their reductions have been smaller—or their growth larger—than the network carriers.

EXHIBIT 28: CHANGE IN SCHEDULED DOMESTIC US ASMS (JANUARY 2010 – JANUARY 2012)

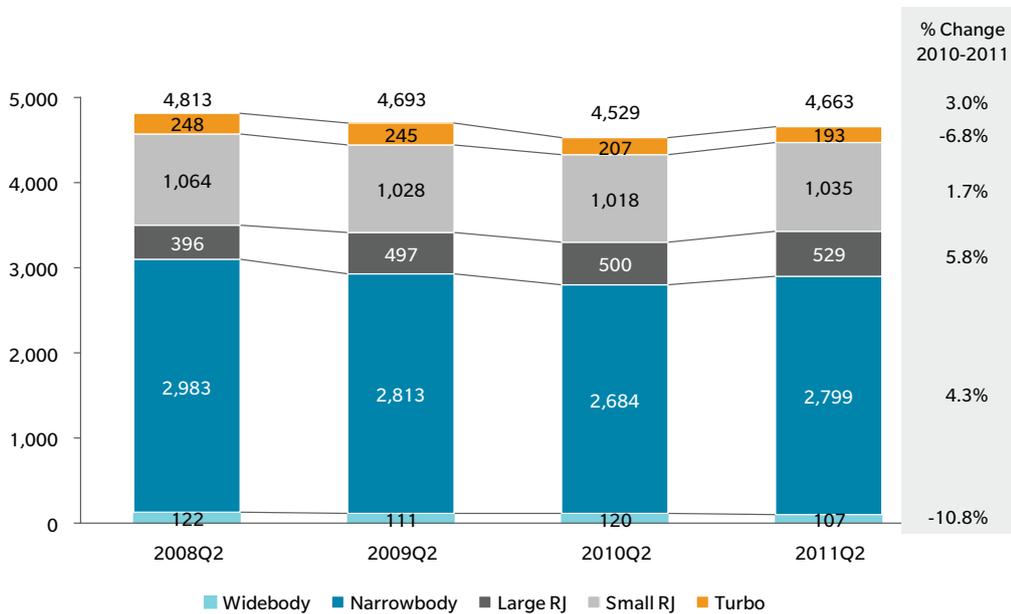


Source: PlaneStats.com schedule data for all carriers.

## 21. CHANGING FLEET COMPOSITION IN THE US DOMESTIC MARKET

Another perspective on capacity in the US market is provided by the changing size and mix of the active commercial airline fleet. *Exhibit 29* shows that the number of active aircraft used in domestic service increased by 3.0% from Q2 2010 to Q2 2011, nearly reversing the 3.5% decrease of the previous year. Over the four years covered, the two aircraft categories with consistent trends are large regionals, which increased every year, and turboprops, which declined every year.

**EXHIBIT 29: DISTRIBUTION OF US CARRIERS' AIRCRAFT (OPERATED DURING PERIOD) IN DOMESTIC SERVICE (2008 – 2011)**

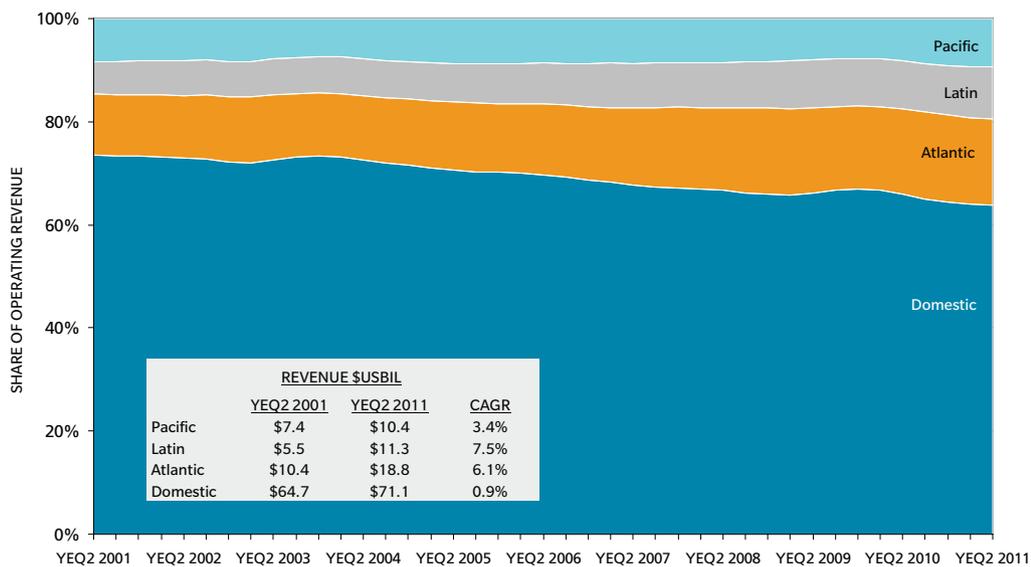


Source: PlaneStats.com advanced query > income statement for all reporting carriers.

## 22. INTERNATIONAL PORTION OF US NETWORK CARRIER REVENUE

US mainline carriers have continued to look overseas for revenue opportunities, with their domestic operations contributing less and less to their system revenue. As shown in *Exhibit 30*, the share of network carrier system revenue contributed by domestic operations dropped by 8.5 points between Q2 2001 and Q2 2010, from 73.5% to 66.0%. The trend continued between Q2 2010 to Q2 2011, as domestic revenue dropped from 66.0% to 63.7% of total network carrier revenue. Total domestic and international revenue grew during this period, but international revenue grew much more rapidly.

EXHIBIT 30: US NETWORK CARRIER OPERATING REVENUE BY GEOGRAPHIC AREA (YEQ2 2001–YEQ2 2011)



Source: PlaneStats.com advanced query > income statement for all reporting carriers.

Value carriers are growing internationally, with the focus so far on Latin America. Although their share of revenue derived from domestic service remains at 95.9%, (down from 96.9% last year), their revenue from Latin American service has grown from 1.6% in YEQ2 2008 to 4.1% in YEQ2 2011 (up from 3.1% in YEQ2 2010). This trend is likely to continue and accelerate as Southwest, the largest US value carrier, acquires AirTran's international routes and develops its own international capabilities.

## 23. REVENUE GROWTH DRIVERS

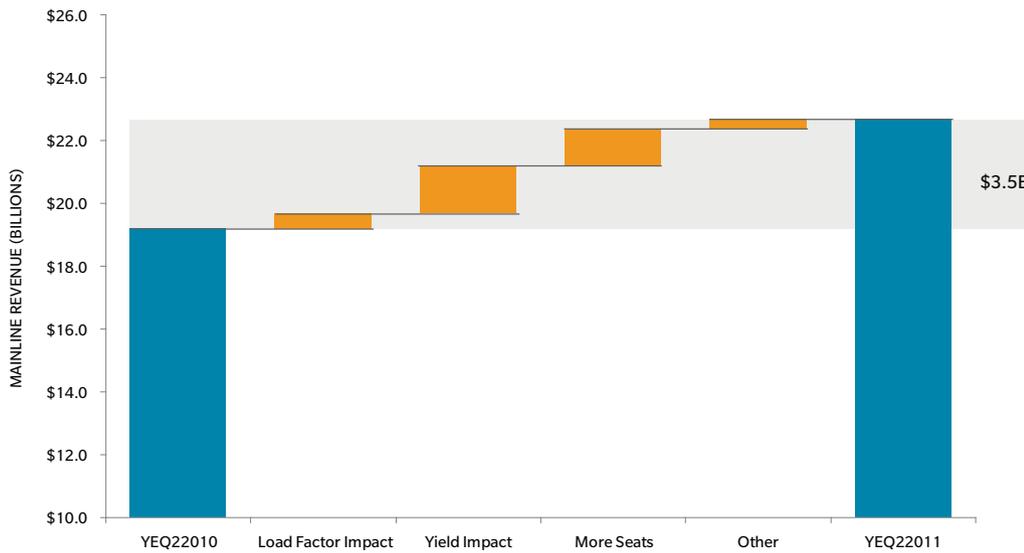
The following charts identify the sources of revenue growth for value and network carriers from Q2 2010 to Q2 2011, divided into four categories:

- Load factor
- Yield
- Seat capacity
- Other (primarily service fees)

During this period, value carriers increased revenue by \$3.5 billion, while network carriers increased revenue by \$4.2 billion from their domestic operations and \$6.3 billion from their international operations.

The sources of revenue growth are different for the two groups. For value carriers, price and seat capacity were the primary drivers, with minor contributions from increased load factor and fee revenue. See *Exhibit 31*.

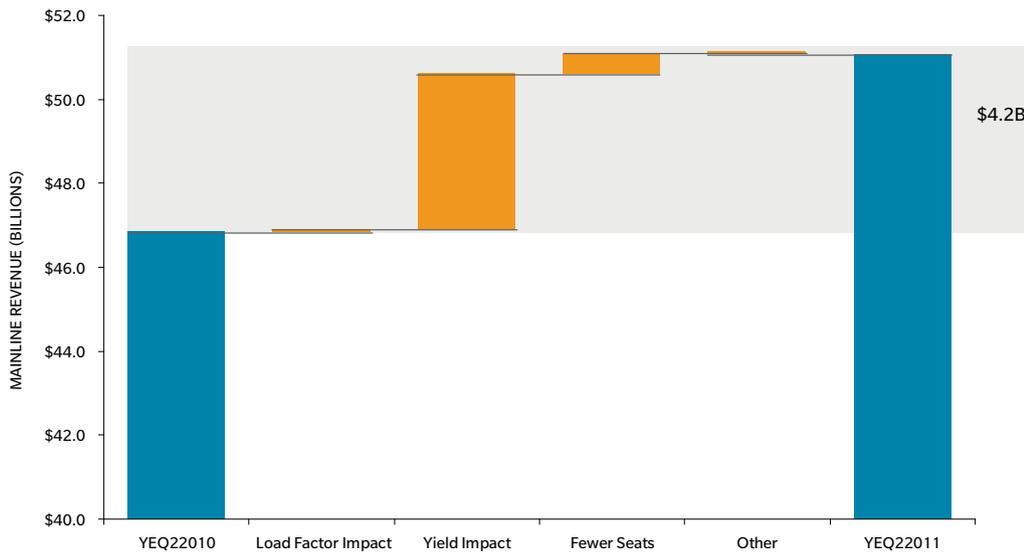
**EXHIBIT 31: VALUE CARRIERS REVENUE INCREASE—  
PRICE AND VOLUME DRIVERS (YE Q2 2010/2011)**



Source: PlaneStats.com advanced query > income statement for value carriers, domestic, mainline operations only. Excludes transport revenue (regionals) and public service revenue.

For network carriers' domestic operations, nearly all of the revenue increase is attributable to higher yields.

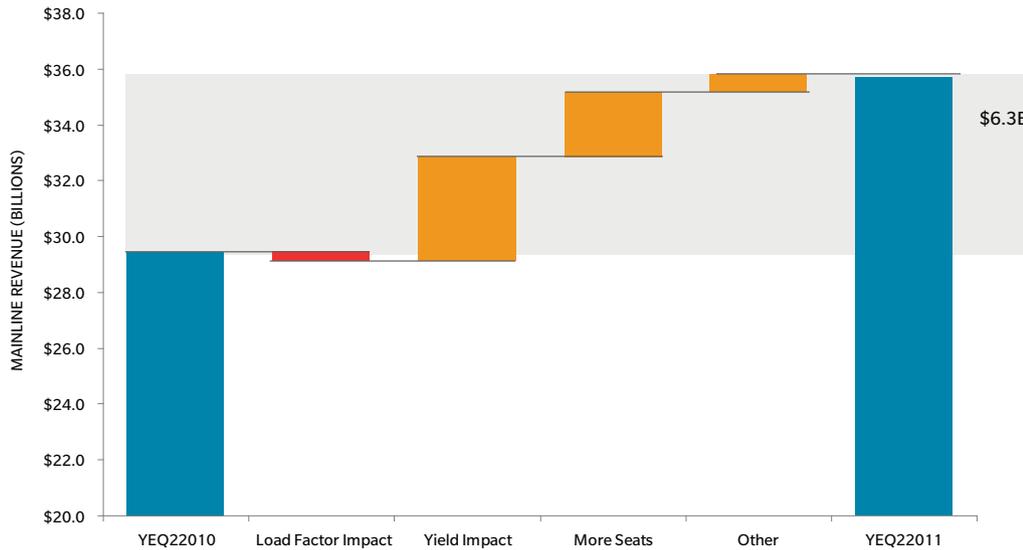
**EXHIBIT 32: DOMESTIC MAINLINE REVENUE INCREASE—  
PRICE AND VOLUME DRIVERS (YE Q2 2010/2011)**



Source: PlaneStats.com advanced query > income statement for value carriers, domestic, mainline operations only. Excludes transport revenue (regionals) and public service revenue.

For network carriers' international operations, higher yields were the primary driver, followed by the expansion of seat capacity, with other revenue making a minor contribution and lower load factors slightly offsetting the increases in other areas.

**EXHIBIT 33: INTERNATIONAL MAINLINE REVENUE INCREASE—PRICE AND VOLUME DRIVERS (YE Q2 2010/2011)**



**Source:** PlaneStats.com advanced query > income statement for network carriers, international, mainline operations only. Excludes transport revenue (regionals) and public service revenue.

# INTERNATIONAL CARRIERS

## 24. AIR SERVICE PROVIDED BY VALUE CARRIERS AROUND THE WORLD

In Exhibit 34, we offer a comparison of the percentage of ASMs provided by different carrier types around the world. Value carrier market shares vary by region, but the business model is firmly established everywhere. As shown, the highest percentage of air service provided by value carriers is in Oceania, home to Virgin Australia, Jetstar, and Tiger Australia, where 41.2% of ASMs are flown by value carriers. Mexico/Central America is second, home to Volaris and Interjet, where 34.3% of ASMs are flown by value carriers. All of the value carriers in that region are in Mexico. Canada (28.7%) and the US (27.9%) follow. South America (5.4%) and the Middle East (7.3%) have the lowest percentage of service provided by value carriers. In all regions of the world, value carriers have increased their share over the past year.

EXHIBIT 34: ASMS BY AIRLINE TYPE AND COUNTRY ORIGIN (DECEMBER 1 – 7, 2011)

	NETWORK %	VALUE %	SCHEDULED CHARTER %	OTHER%*
Asia	80.3%	10.4%	1.0%	8.3%
Middle East	78.8%	7.3%	3.0%	10.9%
Africa	76.6%	10.8%	1.6%	11.0%
USA	71.7%	27.9%	0.1%	0.3%
S. America	69.3%	5.4%	0.6%	24.7%
Caribbean	69.3%	16.7%	4.7%	9.3%
Europe	66.7%	19.7%	2.9%	10.7%
Canada	65.7%	28.7%	0.6%	5.0%
Mexico/C. America	59.3%	34.3%	0.5%	5.9%
Oceania	54.8%	41.2%	0.1%	3.9%

**Note:** Other includes small regionally focused airlines that operate independently, as opposed to other, typically larger regionals included within the network carrier category.

**Source:** PlaneStats.com advanced query > income statement for value carriers, domestic, mainline operations only. Excludes transport revenue (regionals) and public service revenue.

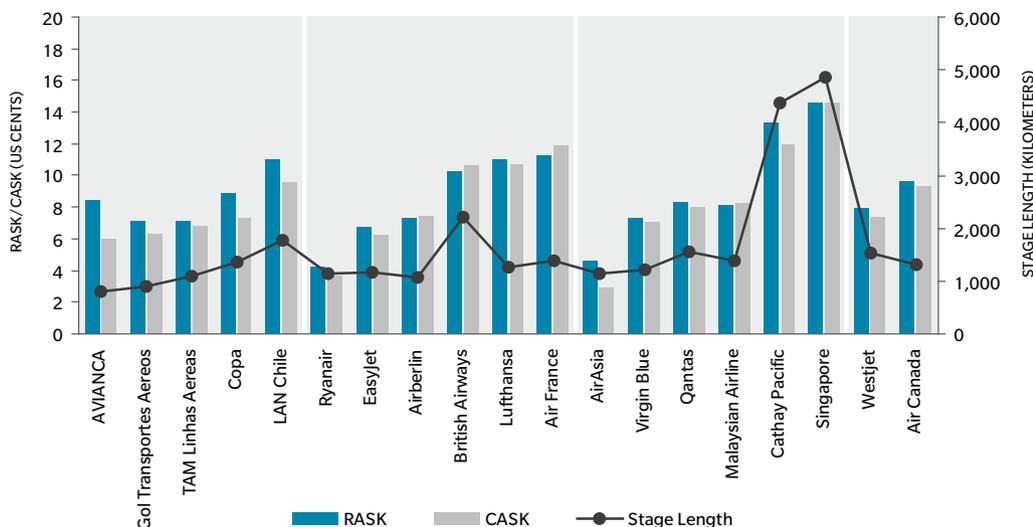
## 25. STAGE-LENGTH-ADJUSTED COSTS FOR INTERNATIONAL CARRIERS

In Exhibit 35, RASK (kilometers instead of miles) and CASK are provided on a stage-length-adjusted basis for selected European, Asian, and South American carriers. The blue line shows the average stage length for each carrier. Because of differences in time period (e.g., fiscal years that end on different months) and other factors, this information is not directly comparable to that provided for US carriers. The cost comparison (expressed in US Dollars), however, is useful in showing the relative differences in RASK/CASK between the carriers.

In all regions, the value carriers have lower unit costs than their network carrier rivals. Also, in all regions, the lower CASK carriers produce lower RASK. 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.

Among the network carriers, Singapore and Cathay stand out with their much higher RASK and CASK, reflecting the premium nature of the service.

**EXHIBIT 35: RASK/CASK FOR INTERNATIONAL CARRIERS STAGE-LENGTH ADJUSTED TO 1,609 KM (1,000 MILES)**



**Note:** Based on most recent public financial statements as of December 2011

**Source:** PlaneStats.com advanced query > income statement for value carriers, domestic, mainline operations only. Excludes transport revenue (regionals) and public service revenue.

# CONCLUSION

As 2011 wore on, profit predictions for the airline industry steadily weakened—the result of mounting fuel prices and uncertain demand. Airline executives, looking back at their success in 2010, concluded that capacity discipline, along with tight cost control, remained the best strategy. We can expect to see more of the same in 2012 and beyond.

Throughout the airline industry, some struggles are constants: high fuel prices, uncertain demand in mature economies, and intense competition between value and network carriers, in both domestic and international markets. In all parts of the world, value carriers are gaining market share. For the recently consolidated carriers, the process of rationalizing their multi-hub systems continues. And in the US market, profitability remains an elusive goal for the network carriers that are shrinking their domestic systems and shifting their focus to profitable international operations. As 2012 evolves, we'll keep a close eye on how airlines respond to these challenges.

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