Steve Saxon
and Mathieu Weber

A better approach to airline costs

Travel, Transport & Logistics July 2017

Aggregate views of airline costs have their limitations. A better approach looks in depth at cost drivers.

Understanding cost differences is critical for airlines: ticket prices have been falling throughout the entire history of the business, declining on average by 2 percent annually over the past 20 years. Newer technology, larger aircraft, and increasingly efficient operations continually drive down the cost of running an airline. Given these trend lines and the industry's highly competitive nature,[1] passengers have become used to lower prices (Exhibit 1). Winning companies must therefore have a granular understanding of cost drivers to keep them low—and constantly falling.

What's wrong with CASK?

The industry's typical way of comparing expenses—the cost per available seat kilometer (CASK)—has its limits: the aggregated results don't provide much insight into the reasons for changing costs.

The underlying network, for example, can play a misleading role in CASK's denominator. Consider an extreme example: Air New Zealand. Only 5 percent of its flights go beyond New Zealand and Australia, but these account for 60 percent of the airline's available seat kilometers. Adjusting for stage length[2] is a common but crude industry work-around.

Seat configurations are another key and variable driver of CASK's denominator. As we have noted before,[3] seat densities explain half of all differences among the CASKs of long-haul flights. Air France, for instance, has four class-777-300ER aircraft, with 303 seats each, on business-oriented routes (to Japan, among other places) and three class-777-300ER aircraft, with 468 seats, for leisure-oriented routes (such as those to the French Caribbean).

Carriers based in the same region may have different network and fleet strategies and therefore use different kinds of fleets to serve similar networks. Over the past three years, for example, Emirates Group and Etihad Airways, which both focus on the Middle East, had roughly the same CASK (8 $ cents) and passenger-haul length (6,000 kilometers). Yet Emirates flew a wide-body-only fleet, while 30 percent of Etihad's consisted of narrow-body aircraft.

What's more, CASK includes the costs incurred by nonpassenger divisions, such as cargo or maintenance. Comparisons are almost impossible between carriers that aggregate freight or

1 Urs Binggeli, Alex Dichter, and Mathieu Weber, "The economics underlying airline competition," *McKinsey Quarterly,* December 2013, McKinsey.com.

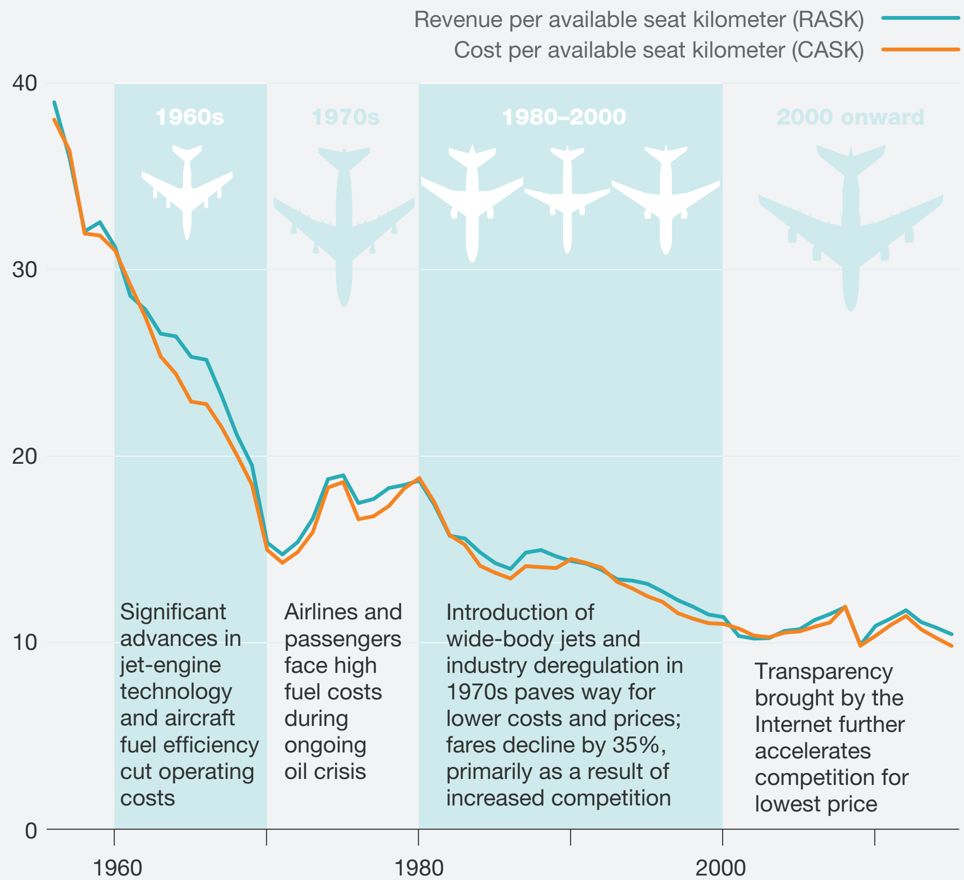
2 Stage-adjusted CASK = unadjusted CASK x (current stage length ÷ target stage length)$^{0.5}$.

3 Urs Binggeli and Mathieu Weber, "A short life in long haul for low-cost carriers," June 2013, McKinsey.com.

Exhibit 1

Revenues follow unit costs closely, so revenue premiums are quickly competed away.

A history of the airline industry's revenues and costs,[1] 2015 US cents



[1] Nominal figures deflated using US Consumer Price Index for transportation.

McKinsey&Company | Source: IATA; ICAO; Moody's; McKinsey analysis

third-party maintenance operations in their financial reports. The carriers' different accounting policies also bedevil attempts to compare CASKs. AirAsia, for instance, counts parts of the cost of owning aircraft as contra revenue, since it also has an aircraft-leasing business.[4]

Such problems make like-for-like comparisons difficult. CASK neither gives companies deep insight into their costs nor identifies concrete levers to reduce them. This gives airline executives an all-too-easy excuse when presented with CASK comparisons—"that airline isn't like us"—and leads to inaction. The industry can do better.

A better approach

The only real way for airlines to learn how cost differentials add up is to build a bottom-up view of the unit costs, volumes, and productivity of their cost buckets. For example: What is the airline's credit rating? Over how many years does it depreciate aircraft? What residual value does the airline assume for the aircraft? We call this a driver-based approach.

[4] For example, the costs of owning aircraft fall as a result of income from leasing them to other carriers or of profits from sales and leasebacks.

Exhibit 2

A driver-based analysis of costs can identify sources of difference between airlines and business models.

Narrow-body-aircraft example

Line item		Typical full-service carrier 156 seats 1,250-km sector; 65% load factor	Typical low-cost carrier 180 seats 1,250-km sector; 80% load factor
Aircraft	$/month	$340,000	$195,000
	BH[1]/day	8	12
Fuel	Gallons/BH	820	800
	$/gallon	$1.40	$1.40
Maintenance	$/BH	$700	$600
Cockpit crew	Annual salary	$120,000	$100,000
	Benefit load	35%	25%
	Annual training	$15,000	$15,000
	BH/month	60	65
Cabin crew	Annual salary	$50,000	$40,000
	Benefit load	25%	20%
	Cabin crew	6	4
	BH/month	60	65
HOTAC[2]	$/crew member	$150	–
Airport/nav	$/turn, aircraft	$2,500	$2,000
	$/leg, Ldg/nav[3]	$750	$500
	$/pax,[4] handling	$5	$3.50
Onboard	$/pax	$5	$1
S&D[5]	$/pax	$15	$5
G&A[6]	$/pax	$10	$5
Cost per available seat kilometer		**8.19¢**	**4.71¢**

[1] Block hour.
[2] Hotel accommodations.
[3] Landing and navigation.
[4] Passenger.
[5] Sales and distribution.
[6] General and administrative.

McKinsey&Company | Source: Perform Model

Companies should start by modeling their economics for a notional route bottom up, by cost buckets, and then compare their drivers with those of competitors (Exhibit 2). Not many industry players operate a single fleet type, of course. Even so, carriers can re-create the baseline operating economics of, say, an efficiently run Airbus A320 or Boeing 777 by combining information in the public domain with expert insight. The ability to identify differences in detailed cost drivers makes this kind of benchmarking quite valuable.

Some data can be gathered from competitors' public filings and results: for example, most airlines report the size of their staffs, as well as the cost of labor, sales, distribution, and leasing aircraft. For linkage to cost drivers, we translate these cost categories into per-block-hour, per-passenger, or per-aircraft-turn units.

Other data sources provide inputs, as well. Fleet and schedule information from OAG Aviation Worldwide shows the level of aircraft utilization at different carriers. The forums of the Professional Pilots Rumour Network help airlines compare pilots' salaries. SeatGuru provides information on cabin configurations, and direct observation reveals typical cabin-crew complements. Airlines can assume that some drivers, such as overflight charges, are the same for all players.

Drivers to action

Tracking, measuring, and benchmarking costs is most useful when it inspires action, and that is exactly what driver-based benchmarking helps carriers do. For example, one company that used this approach found that its cabin-crew complements were higher than those of its peers. After it quantified the cost across the airline, new inflight service processes and simpler catering helped it to free up one crew member per flight.

Another critical cost driver, given the high salaries of pilots, is cockpit-crew utilization rates. To manage costs, some airlines have improved their rostering, developed leaner training programs, planned their crews more effectively, and reduced the number of pilots in management roles.

Driver-based benchmarking reveals many other insights, as well. One carrier noted that its sales and distribution costs were more than twice benchmark levels. A deep, driver-based cost analysis by channels found that cheaper online sales accounted for a relatively low share of the airline's bookings and that in some markets it was paying commission rates higher than its competitors were.

Since driver-based modeling clarifies the impact of higher seating densities, several carriers have used it to reevaluate their cabin configurations. One airline that did so was inspired to reduce the amount of galley space on its new aircraft so that it could provide fully flat business-class beds to differentiate itself from the competition.

Another key driver—the average daily utilization of aircraft—was reported as seven to eight hours at a fairly typical airline, a large turboprop operator. Best-practice regional scheduling suggests that up to ten hours of daily utilization may be possible. An analysis of the carrier's aircraft schedule uncovered a surplus of three to six aircraft units, depending on network scenarios, and a $60 million to $120 million opportunity in one-off capital-expenditure savings.

After another carrier conducted a driver analysis of ground-station charges, it decided to entice a new ground handler into the market, shaking up a duopoly and cutting costs by 20 percent.

■ ■ ■

Overall, driver analysis offers many traditional carriers cost-cutting opportunities of 10 to 20 percent a seat, even without a substantial shift in business models. The carriers that did use the approach to shift them achieved cost savings closer to 30 to 40 percent a seat. As airlines continue to face cost pressures,[5] a driver-based comparison provides the fact base they need for discussing the trade-offs required to find and implement appropriate savings. □

[5] Alex Dichter, "Between ROIC and a hard place: The puzzle of airline economics," February 2017, McKinsey.com.

Steve Saxon is a partner in McKinsey's Shanghai office, and **Mathieu Weber** is a specialist in the Luxembourg office.

The authors wish to thank Alex Dichter for his contributions to this article.