

# Bags don't fly free: Charges have boosted airlines' departure performances, study finds

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Boeing 737-700 jet airliner. Credit: Wikipedia/Arcturu

When most major airlines began charging flyers for checked bags in 2008, travelers grumbled. Southwest Airlines—one of the most successfully run airlines in history—even resisted and seized a new

marketing slogan "bags fly free."

However, a new study that includes a University of Kansas researcher has found checked baggage fees have actually improved the departure performance of U.S. [airlines](#) in addition to boosting revenue.

"Because passengers changed their behavior, less weight went into the plane below the cabin," said Mazhar Arikan, a KU assistant professor of supply chain management in the School of Business. "This offset any changes in carryon luggage, and it helped airlines improve their on-time departure performance. The below-the-cabin effect dominates the above-the-cabin effect."

The research team's findings appeared online recently in the journal *Management Science*, in which they found airlines improved their median departure time between 3.3 to 4.2 minutes and reduced their average departure delays between 1.3 to 2 minutes, depending on whether they charged for the first or second checked bag.

The study examined planned and actual departure times on all publicly recorded U.S. flights from May 1, 2007, to May 1, 2009, which covered the period immediately before and after most airlines began using checked-bag fees.

While most research has solely focused on the amount of revenue checked baggage fees generated, the study is the first to examine how the change influenced airlines' operations. Arikan said the reductions are significant because departure times and mitigating delays are crucial because they are key to so many other facets of the business, such as the number of flights airlines can offer and their image among potential customers.

Other key findings from the study:

- Charging for the first or second checked bag improved on-time departure performance for all major airlines—including Southwest, which does not charge for the first two bags—because it created savings due to a cultural shift among U.S. passengers to travel with less baggage. Arikan said this shift resulted in a lower demand for airport labor intensive back-end operations such as baggage handling and security checks, which are shared resources across airlines. So, a drop in total baggage volume benefits not only the airlines that charge baggage fees but also those that do not.
- Southwest's improved departure time performance was not as significant as its rival airlines, which did charge for checked bags, and it appears to have hurt one of Southwest's historical competitive advantages in customer service, Arikan said.
- Southwest's "bags fly free" policy is likely not free based on lost opportunity cost, Arikan said, mostly because it could be offering more flights per day with increased boarding times due to charging for checked bags. The study estimates Southwest loses approximately \$24 million for not charging for the first checked bag and \$35 million for not charging for the second one per year. "It's not free in an operational sense," Arikan said.
- The most positive changes in on-time departures occurred at major hub airports because less checked bags had to be moved through massive systems once passengers change planes.
- The number of baggage-related complaints per 1,000 passengers dropped as airlines' departure delay performance improved once most charged for checked bags.

The study likely opens the door for future research on how the unbundling of airline services influences the performance of their operations, Arikan said. Unbundling refers to separation of charges for different services an airline offers. Southwest offers the most bundled services among major airlines as it offers the fewest instances of

charging customers beyond their tickets.

**More information:** Mariana Nicolae et al, Do Bags Fly Free? An Empirical Analysis of the Operational Implications of Airline Baggage Fees, *Management Science* (2016). [DOI: 10.1287/mnsc.2016.2500](https://doi.org/10.1287/mnsc.2016.2500)

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