Study finds direct link between online price competition and longer flight times

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Once upon a time people planned their vacations by booking flights and hotel at local travel agencies. But with the Internet launching of hundreds of online flight vendors, travel agencies have virtually disappeared into the ether—and shorter flights have disappeared with them.

In a study scheduled for publication in *The Review of Economics and Statistics*, Dr. Itai Ater of Tel Aviv University's Recanati Business School and Dr. Eugene Orlov of Compass Lexecon examine how the Internet has affected performance and product quality in the airline industry, especially flight times. They say that the shift to online distribution channels has changed the way airlines compete for customers. Instead of competing for space at the top of travel agents' computer screens by scheduling the shortest flights, airlines have adapted to an environment in which price is playing the dominant role in selling tickets.

Time vs. money

Using flight data from 1997 through 2007 from the U.S. Bureau of Transportation Statistics and geographical growth patterns in Internet access from the Computer Use and Ownership Supplement to the Consumer Population Survey (CPS), Dr. Ater found a definitive relationship between Internet access and scheduled flight times.

His findings suggest that increased Internet commerce in the travel industry has adversely affected airline performance and dampened incentives to provide a higher-quality product, defined as shorter flight time. In addition to longer scheduled flights, the researchers found that flight delays increased as passengers used the Internet to make their reservations directly with airlines.

The study focuses on a period in which Internet access grew rapidly, from an average penetration level of 19.4 percent in U.S. metropolitan areas to 1997 to an average penetration level of 76.3 percent in American cities in 2007. The change is also reflected in the share of airline tickets sold online, from 0.5 percent in 1997 to more than 50 percent in 2007.

"While I was studying at Stanford from 2003 to 2008, I was interested in understanding why the length of 'red eye' flights between San Francisco and New York had increased from five hours and twenty minutes to five hours and forty minutes," said Dr. Ater. "It became clear, after examining flight data, that planes were flying at higher altitudes to cut fuel costs – there is less friction at higher altitudes – and thus required more time to land. But the question remained: Why? Why were airlines cutting costs at the expense of time?"

Using the scheduled duration of flight time (the time between a scheduled departure and a scheduled arrival) as his main measure for performance, Dr. Ater found that the shift in airfare distribution channels from traditional travel agencies to online distribution channels explained a large fraction of the upward trend to longer flights.

Blame the Internet for your delay

The study also shows that the effect of Internet commerce on flight duration is pronounced for the fastest flights on a given route—flights that in the pre-Internet era appeared at the top of the screens of traditional travel agents.

"In the early 1990s, when travel agencies sold over 80 percent of airline tickets, flights typically appeared on the travel agent's screen in ascending order according to their scheduled durations," said Dr. Ater. "Given that travel agents booked over 80 percent of flights from the first screen and that the majority of the tickets were sold from the first line of search results, airlines had strong incentives to maintain short scheduled flying times. This incentive changed as the Internet became the most common channel for purchasing airline tickets, and flight duration was no longer the main criterion to sort flights."

Dr. Ater says extended flight duration is just one example of the way in which product quality has fallen since the advent of the Internet. He is continuing to research the effect of information and communication technologies on productivity and performance.

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