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Economics 201

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Bursting the Reed Bubble: The Economics of Flights from PDX

In this project, we looked at various factors that could possibly affect the price of airplane tickets, including the distance of each flight, the time from purchase, the number of flights offered each day to various destinations, the number of airlines offering flights to each destination, and the size of each airport. When we began researching we chose fifteen destinations (Tokyo (Narita), Long Beach, Los Angeles, Newark, New York City (JFK), Anchorage, Maui (Kahului), Washington DC (Dulles), Seattle, Boise, Kansas City, Atlanta, Oakland, San Francisco, Houston (Bush), Chicago (O'Hare)). We chose a diverse array of destinations that could be reached by direct, nonstop flights from PDX. We also picked three pairs of cities that were close together (specifically Newark/New York City, Oakland/San Francisco, and Long Beach/Los Angeles) so we could compare the costs of tickets to locations that were relatively close together and, therefore, are essentially substitutes for each other.

In order to see if the amount of time between the date of purchase and the date of the flight was a factor for the price of the ticket, we chose three different departure dates relative to the day we conducted our research. We looked at flights one week (December 7, 2010), one month (January 4, 2011), and two months

(February 8, 2011) from the time we began our research. Because of the plethora of data available for airline flights, we chose to narrow the scope of our research to look at only coach-class fares for nonstop Tuesday flights from Portland to the destination, in order to have a workable window of comparison. The data that we collected for each of the flights in each of the time-frames were the highest and lowest ticket prices, the total number of flights to each destination offered on a particular day, and the number of airlines that serviced each destination.

After compiling and comparing the data, looking at total distance between airports and the price breakdown in \$/miles, there did not appear to be a correlation between distance flown and how the price broke down (Please refer to Figures 1 & 2 for reference). Looking at these results across the three different time frames assessed, it was observed that the typically, the unit prices for flights purchased a week in advance was most expensive, followed by two months, then one month. While one would expect buying closer to the flight time would make for more expensive tickets all of the time, this is inconsistent and cannot be quantified as an exact relationship. Oddly enough, it sometimes cost much less to buy tickets one week in advance than it cost to buy tickets two months in advance. However, this data might be a little skewed since January 4th is the Tuesday succeeding New Years, which may make it more expensive than usual, but trying to establish standard time frames relative to the date the research was conducted, this could not be avoided.

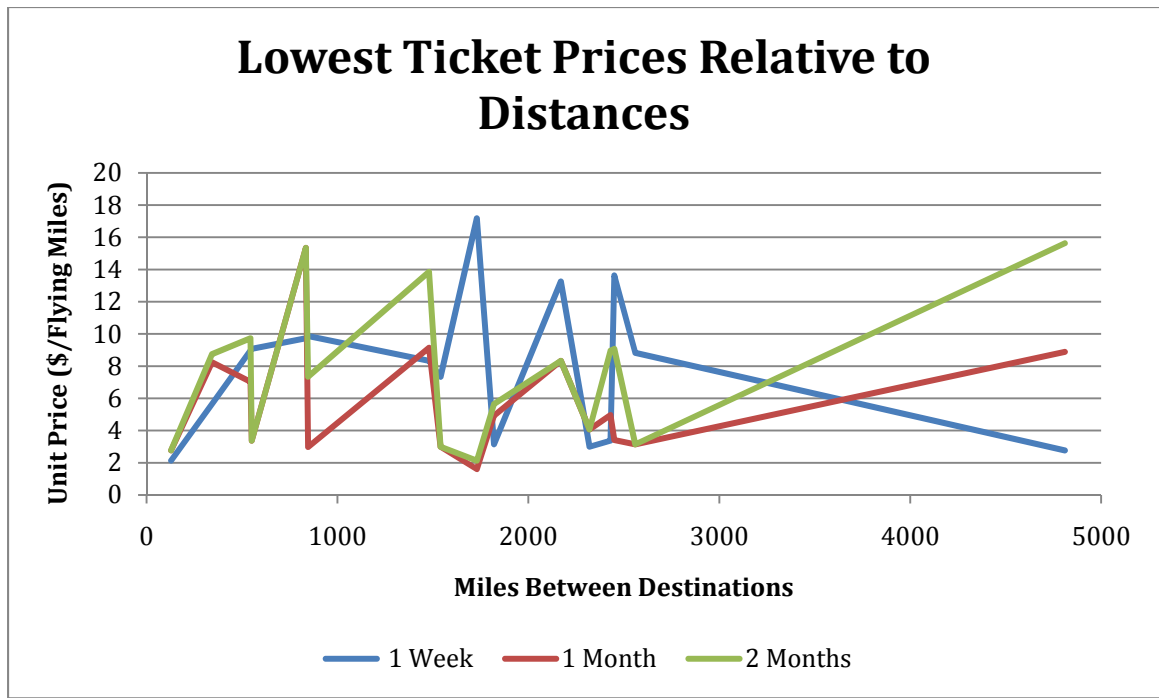


Figure 1

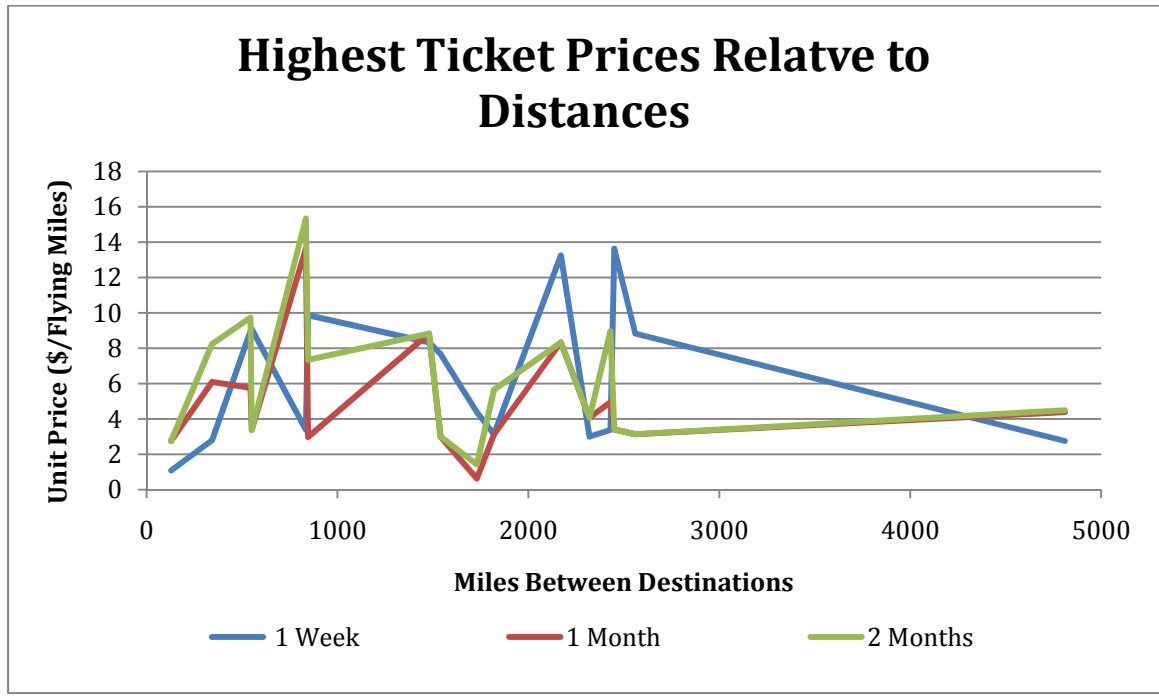


Figure 2

Likewise, there was no observed relationship between the unit price of airfares for particular routes and the number of airlines that serviced each route (Figure 3) or the number of flights offered per day to the location (Figure 4 & 5). Despite the increased competition when there are more airlines and more choices when there are more flights, no decreasing trend in prices is noted as number of flights or competitor airlines increases. Finally, no trend links the cost of a flight with the busyness of the airport being flown to (Figure 6). This suggests that whether a destination is a “major” airport or not does not seem to play a consistently important role in governing the price of air travel.

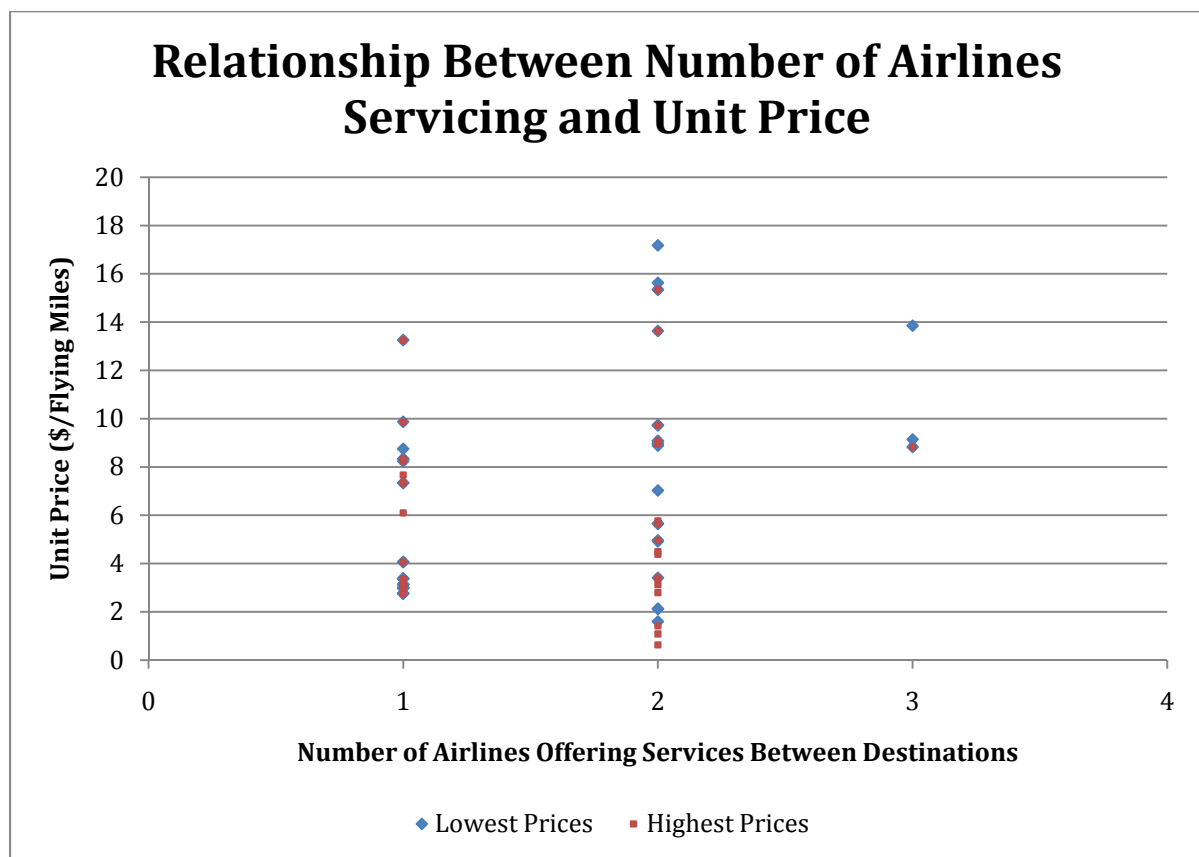


Figure 3

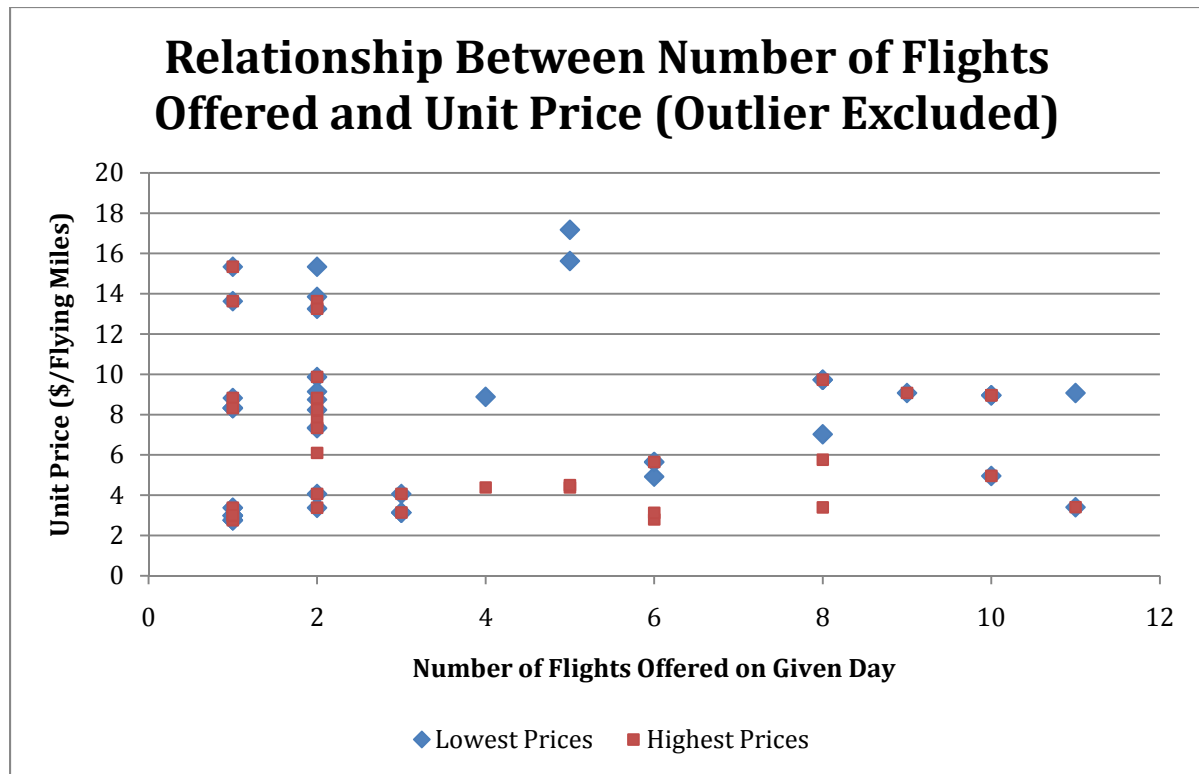


Figure 4

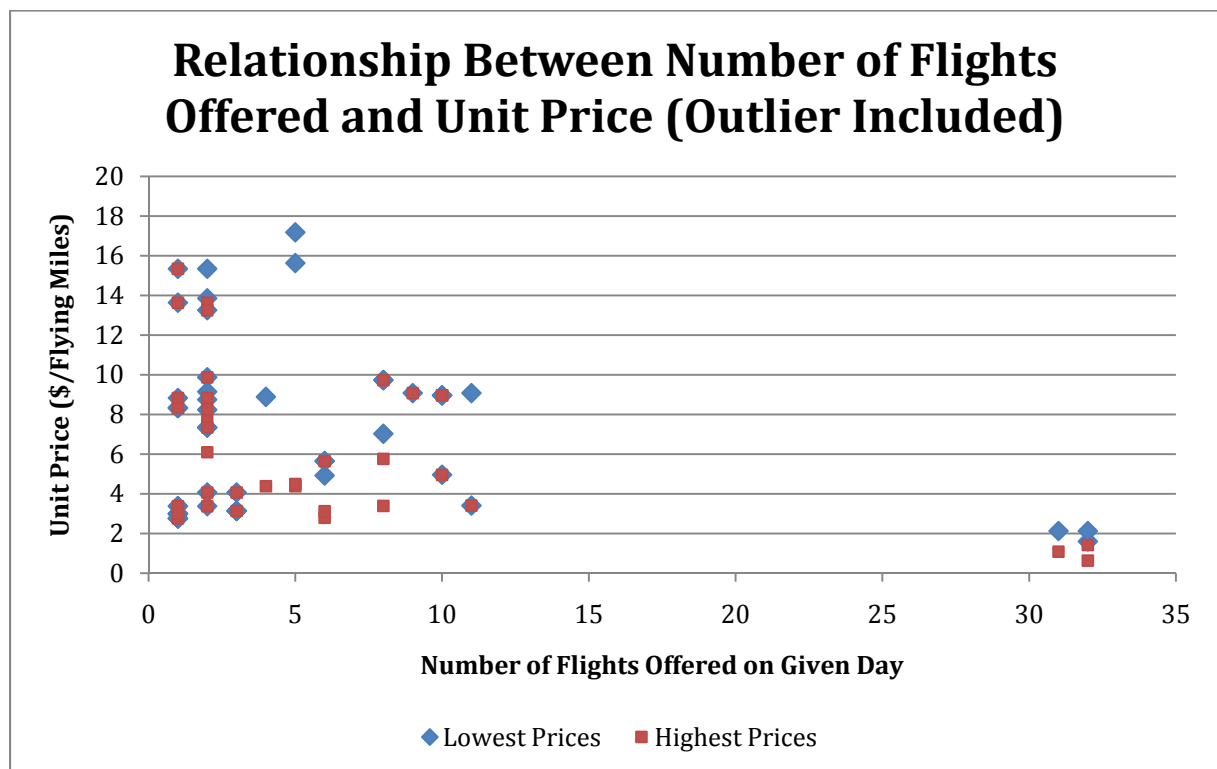


Figure 5

Airfares have always been considered notoriously tricky to predict and correlate consistently. Naturally, there is some logic to ticket pricing, such as considering the length of flight, as fuel costs are a major part of an airfare and longer flights mean more fuel burned. Yet many of the other quantifiable traits found of routes do not indicate obvious relationships. Overall, it may be said that the most significant trait we found as to the nature of airline prices is that they are consistently numerically inconsistent.