

Econ-5253

Problem Set 11

Draft for Final Project

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Title : How Airline Bankruptcy impacts on the Housing Market in USA

1. Introduction

Since the inception of commercial flights, airports and air service have played a pivotal role in the growth of local economies, impacting employment, population, income, and service establishments (see McGraw (2020) for a review.) Prior research, largely case studies focusing on hub airports in metropolitan areas, has also noted a spillover effect on property values (e.g., McMillen 2004). On the other hand, over the past two decades, the U.S. airline industry has witnessed a number of bankruptcy episodes of carriers of varying sizes, raising questions about their economic impact and government bailout interventions.

Our study aims to offer more comprehensive evidence regarding the impact of airline bankruptcies on property values by matching U.S. airline bankruptcy episodes with nationwide property-level transaction data from Zillow's ZTRAX repository. We specifically focus on cities with airports served exclusively by regional airlines as they can be more susceptible to bankruptcy shocks from their serving carriers.

2. Data Description

All legacy carriers in the U.S. outsource part of the flight operations to regional carriers that rely on narrow-body jets or turboprops and focus on short-haul operations. A given regional airline can be either wholly owned by a major carrier or independently owned. We manually compile a dataset of airline bankruptcy episodes utilizing information from the UCLA-LoPucki Bankruptcy Research Database (BRD) and the Regional Airline Annual (RAA) Report. Our final dataset comprises airlines that emerged

from Chapter 11 filings and operated regular scheduled services for at least five years or 20 quarters during our sample period. Table 1 lists the airline bankruptcies considered in this study. Property transaction data are sourced from the ZTRAX repository from Zillow, a leading real estate database company. The repository contains detailed information on the price, location, and house characteristics for each sold property across all 50 states since 1999. We utilize the T-100 flight characteristics data from the Bureau of Transportation Statistics (BTS) to capture the characteristics of those airports served exclusively by regional airlines. We then compute the average quarterly value of each route using the quarterly airline pricing data from the Airline Origin and Destination Survey (DB1B) by BTS. We define the housing market as homes located within a 100-mile radius of the nearest regional airport, with the distance computed using geocodes for each property from the ZTRAX repository. There are 64 real estate markets in our final dataset, drawing representation across 34 states between 2002 and 2017. Correspondingly, there are also 64 airports served exclusively by at least one of the 10 airlines included in the sample.

| Airline | Filing | Emergence |
|-----------------------|--------|-----------|
| Sun Country Airlines | 2002Q1 | 2002Q2 |
| | 2008Q4 | 2011Q3 |
| Trans States Airlines | 2002Q3 | 2006Q1 |
| | 2011Q4 | 2013Q4 |
| SkyWest Airlines Inc. | 2002Q4 | 2006Q1 |
| Piedmont Airlines | 2004Q3 | 2005Q3 |
| PSA Airlines Inc. | 2004Q3 | 2005Q3 |
| Delta Airlines Inc. | 2005Q3 | 2007Q2 |
| Envoy Air | 2011Q4 | 2013Q4 |
| Endeavor Air Inc. | 2012Q2 | 2013Q2 |
| Republic Airlines | 2016Q1 | 2017Q2 |

Table 1 : List of Airline Bankruptcies

[\[1\]](#) [\[2\]](#) [\[3\]](#)

References

- [1] Severin Borenstein and Nancy L. Rose. The impact of bankruptcy on airline service levels. *American Economic Review*, 93(2):415–419, May 2003.
- [2] Lei He, Myongjin Kim, and Qihong Liu. Competitive response to unbundled services: An empirical look at spirit airlines. *Journal of Economics & Management Strategy*, 31(1):115–145, 2022.
- [3] Marquise J. McGraw. The role of airports in city employment growth, 1950–2010. *Journal of Urban Economics*, 116(C), 2020.