

TPUG Transportation Session I

Joint TPUG-AEA Session

(Note: Bolded authors are the presenting authors)

AIRPORT PRICING AND CAPACITY

Session Chair: Patrick McCarthy (Georgia Institute of Technology)

1. Airport Prices in a Two-Sided Market Setting: Major US Airports

Marc Ivaldi (Toulouse School of Economics, marc.ivaldi@tse-fr.eu)

Senay Sokullu (University of Bristol)

Tuba Toru (Bahcesehir University)

Discussant Ken Button (George Mason University, kbutton@gmu.edu)

Abstract

To analyze the rationale of airports' business models, we first provide evidence that they should be considered as two sided markets. Second, we apply tests supporting the hypothesis that the major U.S. airports set profit maximizing prices for the non-aeronautical services to passengers and Ramsey prices for the aeronautical services to airlines. We then conduct a welfare analysis to evaluate the impact of implementing profit maximizing prices when an airport fully accounts for the two-sidedness of its activities. As changes in social welfare are airport-specific, the results indicate that the privatization does not fit for all airports.

2. Airport Capacity Strategies in an Era of Tight Oligopoly

John Brown (Georgia Southern University, jbrown@georgiasouthern.edu)

Rand Ressler (Georgia Southern University)

Discussant Jeff Cohen (University of Connecticut, professorjeffrey@gmail.com)

Abstract

One of the surprises of deregulation in American network industries has been the substantial concentration of activity in a limited number of firms. In the American airline industry the number of firms has shrunk from the approximately dozen incumbents prior to deregulation to three major network airlines and Southwest, which has not adopted the hub-and-spoke networks characterizing the other surviving majors. Recently there have been rising suspicions that the remaining majors have been colluding to restrict output and raise prices. However, this is not the only possibility. Specifically, we investigate whether a Cournot game in capacity may be playing out in these markets. To implement our model, we employ a sample of the top 100 origin and destination markets for a single week in July 2014. This sample was chosen because these high density routes are most likely to display competitive behavior and July is among the peak months for air travel. The model is implemented empirically using the seemingly unrelated regressions technique.

3. Congested Hubs, the EU Slot Regulation and Incentives to Invest

David Gillen (University of British Columbia, david.gillen@sauder.ubc.ca)
David Starkie (Case Associates)

Discussant Robert Windle (University of Maryland, rwindle@rhsmith.umd)

Abstract

We examine the slot management regime used in the EU at congested airports and investigate how it might, in the short run, lead to inefficient outcomes and, in the long run, discourage support for expanding airport capacity. Slot management is used to balance demand and supply when capacity is in short supply. Congested airports are not permitted to, or do not, charge market-clearing prices for scarce runway capacity; instead airlines set fares to clear the market. In doing so, they earn significant economic rents. These rents exist regardless of slot ownership; whether or not slots are concentrated in the hands of a few airlines makes little difference. Consequently, EU regulations limiting incumbent airlines' access to newly available slots does little or nothing to affect the overall level of airfares. It also exacerbates incumbents' reluctance to support runway capacity expansion since they would lose market share as well as scarcity rents. The paper illustrates this opposition using the current debate concerning runway expansion at London Heathrow and Gatwick. It concludes by suggesting only the taxation of rents is likely to alter incumbent airlines fundamental opposition to expansion of congested hubs.

4. Service Competition in the Airline industry: Schedule Robustness and Market Structure

Xiyan Wang (University of California, Irvine, xiyanw@uci.edu)

Discussant James Peoples (University of Wisconsin, Milwaukee, peoples@uwm.edu)

Abstract

This paper addresses the question how airlines adjust their schedule robustness when market structure changes. To answer this question, the paper first recreated each flight's ground buffer time using historical flight schedules and use it as a measure for schedule robustness. Examining the relationship between ground buffers and market structure shows that there exists service quality competition in the airline market, and carriers adopt more robust flight schedules to keep passengers from switching to other airlines, as more robust schedules generate less flight delays. However, such an effect is reduced at the hub airport, as competitors tradeoff robust schedules for shorter layover times when competition heats up.

TPUG Transportation Session II

(Note: Bolded authors are the presenting authors)

TOPICS IN TRANSPORTATION

Session Chair: Peter Loeb (Rutgers University, ploeb@andromedia.rutgers.edu)

1. Modernizing U.S. Freight Rail Regulation

Richard Schmalensee (MIT)

Wesley Wilson (University of Oregon, wwilson@uoregon.edu)

Discussant: Ken Boyer (Michigan State University, boyerkd@msu.edu)

Abstract

By 1970, regulation of railroads under the Interstate Commerce Act of 1887 had resulted in an industry that was in financial ruin and unresponsive to changes in the marketplace. Subsequent legislation, which culminated in the Staggers Rail Act of 1980, was intended to resurrect the industry and did so. A Congressionally-mandated National Academy of Sciences study examined trends in the industry and the current regulatory regime and offered a number of recommendations, arguing that modernization can yield substantial benefits by modernizing what has become an outdated and ineffective system. This paper summarizes some of the main findings of that study.

2. Determinants of Price Structures in the U.S. Less-than-Truckload (LTL) Freight Industry

Angela Yan Du (Beijing Normal University-Hong Kong Baptist University United International College, angeladu@uic.edu.hk)

Steven Buccola, Oregon State University)

Discussant: Elvis Ndembe (North Dakota State University, elvis.ndembe@ndsu.edu)

Abstract

An important development in the Less-Than-Truckload (LTL) carrier industry has, since deregulation, been the use of multi-part pricing schemes, permitting customers to see how certain aspects of their costs originate. Customer freight bills now typically include charges for: (1) the base cost of freight movement; (2) fuel costs; and (3) any accessory services. Our objective here is to assess this pricing structure at several important carrier firms. For each firm we convert reported gross revenues and fuel percentages to the customer's per-ton charges for base and fuel costs. We then estimate an econometric model of the cost- and demand-side factors influencing each part. Methods are used to account for and exploit common influences on the two of any left-out variables. We are able to observe, for example, the share of price explanatory power represented by cost as opposed to demand factors, the latter suggestive of market power.

3. Does Airport Size Matter? Hub Airports and Local Economic Outcomes

Marquise McGraw (Middlebury College, marquise.mcgraw@gmail.com)

Discussant John Bitzen (North Dakota State University, john.bitzan@ndsu.edu)

Abstract

This paper considers the marginal effect of an airport hub on a metropolitan area's economy. Specifically, it considers the effect of an airport being designated as a “hub” by an airline on the pertinent city's economic fortunes. Using panel regression methods and an event study research design, I find that hub airports result in increased traffic and access to markets. Hubs contribute 1-2 percent of additional personal income to their respective cities, as well as an increase in establishment counts of 1-2 percent. I find the effects of hubs on employment to be most salient in the air transportation and hotel industries, as well as overall closest to the airport; however, the same is not necessarily true for other sectors where tourism might affect employment. This implies that the effects of hub airports, in most cases, likely operate through their ability to facilitate efficient business travel.

4. Decarbonizing Europe - Will the Transportation Sector Undermine this Policy

Alexander Eisenkopf (Zeppelin University, alexander.eisenkopf@zu.de)

Andreas Knorr (German University of Administrative Sciences)

Discussant Ian Savage (Northwestern University, ipsavage@northwestern.edu)

Abstract

In the European Union, 90 per cent of all transport activities continue to rely on petroleum products. The transportation sector currently accounts for about 25 per cent of total CO₂ emissions. European climate policy has set itself the target to reduce greenhouse gas emissions by 80 to 95 per cent in 2050. For the transport sector, the European Commission has already mandated a sector-specific reduction target of 60 per cent of CO₂ emissions by 2050. Our paper discusses the challenges resulting from this ambitious target. It addresses the question whether the envisaged transformation of the transport sector can be successfully implemented. Our analysis focuses on e-mobility and fuel economy standards as preferred policy measures as well as the potential contribution of the existing EU emission trading system (ETS) in achieving the decarbonization goal effectively and efficiently. It also takes into account current scenarios regarding future oil price trends.

5. Sturdy Inference: A Bayesian Analysis of Motor Vehicle Fatalities in the Context of Parameter Uncertainty and Model Ambiguity

Richard Fowles (University of Utah)

Peter Loeb (Rutgers University, ploeb@andromedia.rutgers.edu)

William Clark (Bentley University) Airport Capacity Strategies in an Era of Tight Oligopoly

Discussant Levent Kutlu (Antalya International University, kutrlulev@gmail.com)

Abstract

Motor vehicle crashes continue to result in large numbers of fatalities each year and represent the leading cause of death for young persons. This study is the first to examine specifically the effects of a set of focus variables thought to be major contributors to motor vehicle fatalities including cellphones and a recently suggested determinant, i.e., suicidal propensities, after controlling for numerous vehicle, socio-economic, and driver characteristics. The analysis is conducted using a rich panel data set for the period 1980 to 2014 by state and the District of Columbia using a new Bayesian statistic developed by Leamer, i.e., S-values. This statistic summarizes both estimation uncertainty and model ambiguity by considering millions of potential models of accidents. The results are then compared to classical econometric estimates.