

2022

Understanding an Outlier: The U.S. System of Airport Governance and Economic Regulation

Robert A. Hazel
University of Missouri-Columbia

Recommended Citation

Robert A. Hazel, *Understanding an Outlier: The U.S. System of Airport Governance and Economic Regulation*, 87 J. AIR L. & COM. 131 (2022)
<https://scholar.smu.edu/jalc/vol87/iss1/4>

This Article is brought to you for free and open access by the Law Journals at SMU Scholar. It has been accepted for inclusion in Journal of Air Law and Commerce by an authorized administrator of SMU Scholar. For more information, please visit <http://digitalrepository.smu.edu>.

UNDERSTANDING AN OUTLIER: THE U.S. SYSTEM OF AIRPORT GOVERNANCE AND ECONOMIC REGULATION

ROBERT A. HAZEL*

ABSTRACT

Unlike airports in many other countries which have been corporatized or privatized, nearly all U.S. airports continue to be operated by the public sector. They are subject to a system of economic regulation that provides little incentive to control costs or allocate capital efficiently. Yet, despite its apparent shortcomings, the current system has persisted over several decades. This Article explains the persistence of the current U.S. system of airport economic regulation based on price theory, regulatory economics, and public choice principles. It offers supporting empirical evidence for this equilibrium and identifies factors that might lead to a different outcome.

Elected officials benefit from the current system because it permits them to bolster public employment, influence large contract awards, and provide financial support for local causes without relying on tax dollars. Airlines tolerate the current system, despite its inefficiencies, because airport costs are not a significant part of the airlines' cost structure. Also, while airlines have only a limited influence on airport spending decisions at most airports, they have a greater influence on those decisions at airports that are most important to their competitive position. Airlines have more influence at airports with a high proportion of connecting passengers that the airlines can credibly threaten to re-route via other hub airports. Finally, airline executives are risk-averse and fear that the alternative they wind up with could be worse than the status quo. However, they have been willing to support alternatives when the benefits are clearly demonstrated and minimize the risks.

* Robert A. Hazel is a Visiting Assistant Professor of Economics at the University of Missouri. Previously, he worked in the aviation industry as a regulatory attorney, airline executive, and management consultant.

TABLE OF CONTENTS

I.	INTRODUCTION.....	133
II.	PROBLEMS WITH THE CURRENT SYSTEM	137
	A. THE ORIGINS OF THE CURRENT SYSTEM	137
	1. <i>The Path to Airport Financial Self-Sufficiency and Pass-Through Rate-Setting</i>	137
	2. <i>Airport Governance</i>	142
	B. THE PRICE ELASTICITY OF DEMAND FOR AIRPORT ACCESS	144
	1. <i>The Availability of Substitutes</i>	145
	2. <i>Airport Charges as a Proportion of Total Costs</i> ..	149
	C. THE EFFECTIVENESS OF THE NON-DISTRIBUTION CONSTRAINT	153
	D. HOW ELECTED OFFICIALS BENEFIT FROM THE CURRENT SYSTEM	155
	1. <i>Airport Spending</i>	155
	2. <i>Politicians' Goals and Methods</i>	157
	3. <i>Role of the FAA</i>	162
	E. DO AIRPORT AUTHORITIES REDUCE THE LEVEL OF POLITICAL INVOLVEMENT?	164
	F. THE ROLE OF CONSUMERS/VOTERS	165
	G. SUMMARY OF PART II	166
III.	WHY DOES THE CURRENT SYSTEM PERSIST? ..	167
	A. THE ALTERNATIVES AND THEIR ADVANTAGES AND DISADVANTAGES.....	167
	B. THE U.S. VERSION OF AIRPORT PRIVATIZATION ..	171
	C. WHY HAS THE U.S. NOT WIDELY ADOPTED AIRPORT PRIVATIZATION?.....	174
	1. <i>Time Horizon, Switching Costs, and Risk Aversion</i>	177
	2. <i>National Ownership and Control Versus Local</i> ..	178
	3. <i>Summary</i>	180
	D. WHAT FORCES HELP KEEP AIRPORT CHARGES DOWN?	180
	1. <i>Airport Charges at Hubs Versus Other Airports</i> ..	180
	2. <i>Analysis of the Leisure Airport Effect on Airport Charges</i>	183
	3. <i>Other Observations</i>	185
	E. WHAT FACTORS MIGHT CHANGE THE CURRENT EQUILIBRIUM?.....	185
IV.	CONCLUSION.....	187
V.	APPENDIX – DATA AND METHODOLOGY.....	188
	A. AIRPORT DATA (FISCAL YEAR 2015)	192

I. INTRODUCTION

U.S. AIRPORTS ARE NOT the envy of the world,¹ and neither is the U.S. system of airport economic regulation. As other countries worldwide have taken steps to corporatize, commercialize, or privatize their airports,² U.S. airports have remained almost exclusively creatures of the public sector, subject to a system of economic regulation that provides little incentive to control costs or allocate capital efficiently.³

Yet, despite its apparent shortcomings, the current system has endured over many decades. This Article explains the persistence of the current U.S. system of airport economic regulation based on price theory, regulatory economics, and public choice principles. It offers evidence in support of this explanation and identifies factors that might lead to a different outcome.

Elected officials benefit from the current system because their local airport control permits them to bolster public employment, influence contract awards, provide financial support for local causes, and frequently obtain campaign contributions from firms interested in the airport business. Airport spending is not subject to voter scrutiny like other municipal spending

¹ Based on passenger surveys, the top-rated U.S. airport in terms of customer satisfaction is Houston George Bush, which ranks 25th among the world's top 100 airports. *World's Top 100 Airports 2021*, SKYTRAX WORLD AIRPORT AWARDS, <https://www.worldairportawards.com/worlds-top-100-airports-2021/> [https://perma.cc/CJ84-7VRZ]. In 2014, then-Vice President Joseph Biden likened LaGuardia airport "to what one might find 'in a third world country.'" Marc Santora, *Some See Biden's 'Third World' Description of La Guardia as Too Kind*, N.Y. TIMES (Feb. 7, 2014), <https://www.nytimes.com/2014/02/08/nyregion/some-see-third-world-as-too-kind-for-la-guardia.html> [https://perma.cc/25AB-DZM4]. In 2016, then-presidential candidate Donald Trump made similar remarks, calling out LAX and New York City's three international airports: LaGuardia, John F. Kennedy and Newark, as third-world airports. See Dennis Romero, *Donald Trump Just Called LAX a "Third World" Airport*, LA WEEKLY (Sept. 27, 2016), <http://www.laweekly.com/news/Donald-trump-just-called-lax-a-third-world-airport-7432646> [https://perma.cc/2X4G-L35H].

² Tae H. Oum, Nicole Adler & Chunyan Yu, *Privatization, Corporatization, Ownership Forms and Their Effects on the Performance of the World's Major Airports*, 12 J. AIR TRANSP. MGMT. 109, 109 (2006) ("With the exception of the US, corporatization, commercialization and privatization of airports have become the worldwide trend." (footnote omitted)); see Robert Poole & Chris Edwards, *Privatizing U.S. Airports*, 76 CATO INST. TAX & BUDGET BULL. (2016), https://www.cato.org/sites/cato.org/files/pubs/pdf/tbb-76_1.pdf [https://perma.cc/8VVN-X3M5] (stating that, as of 2016, "75 percent of passenger trips in the EU are now through privatized airports"); see also Anne Graham, *Airport Privatisation: A Successful Journey?*, 89 J. AIR TRANSP. MGMT. 101930, 101930 (2020).

³ See RACHEL Y. TANG, CONG. RSCH. SERV., R43545, AIRPORT PRIVATIZATION: ISSUES AND OPTIONS FOR CONGRESS 1 (2021).

because airports are funded primarily by fees paid by airlines and airport concessionaires, not by taxes charged to local voting residents.⁴ Additionally, airport charges are usually not a significant concern for elected officials because airlines and other tenants' demand for airport access is relatively price inelastic.⁵

Airlines tolerate the current system for several reasons. First, airport costs remain a small percentage of total airline costs, averaging only 5%–7%.⁶ Second, while airlines have only a limited influence on airport spending decisions and, in turn, airport charges at most airports, they have a greater influence on spending at hub airports, which are essential to their competitive position.⁷ Finally, airline executives are risk-averse and fear that the alternative could be worse than the status quo; however, they have been willing to support alternatives such as privatization when the benefits are clear and airline executives can minimize the risks.⁸

This Article does not argue that privatization is superior to the current system but points out that, all other things being equal, it offers one undeniable benefit to municipalities—a substantial payment for the transfer of control. The title of a recent article in the *Atlantic*, “Privatizing Airports Is a No-Brainer: Cities Should Sell Their Airports to Close Gaping Budget Holes,” highlights this aspect of privatization and quotes D.J. Gribbin, an infrastructure consultant, as saying, “[i]f any U.S. city wanted to do a deal for its airport, there’d be a line of investors down the

⁴ *Airport Infrastructure Funding*, AIRPORTS COUNCIL INT’L, <https://airports-council.org/advocacy/airport-infrastructure-funding/#:~:text=IN%20reality%2C%20infrastructure%20projects%20at,and%20tenant%20rents%20and%20fees> [https://perma.cc/V63J-KCYV].

⁵ David B. Richard, *The Changing Price Elasticity of Demand for Domestic Airline Travel*, TRANSP. RSCH. FORUM 1 (Mar. 2009), <https://econpapers.repec.org/paper/agsndtr09/207597.htm> [https://perma.cc/SCH4-J7RR] (click hyperlink under “Downloads: (external link)”).

⁶ In connection with this Article, the Author reviewed and analyzed various Forms 127 filed with the FAA via the Airport Financial Reporting Program Web Site (CATS). (CATS) *View Reports and Spreadsheets*, FED. AVIATION ADMIN., <https://cats.airports.faa.gov/Reports/reports.cfm> [https://perma.cc/396T-ZJQC] (on file with author).

⁷ See IAN TWINN, NAVAID QURESHI, DANIEL SEBASTIAN PEREA ROJAS & MARIA LÓPEZ CONDE, *THE IMPACT OF COVID-19 ON AIRPORTS: AN ANALYSIS 2* (May 2020), https://www.ifc.org/wps/wcm/connect/26d83b55-4f7d-47b1-bcf3-01eb996df35a/IFC-Covid19-Airport-FINAL_web3.pdf?MOD=AJPERES&COVID=n8lgpkG [https://perma.cc/S347-WB5M].

⁸ See Poole & Edwards, *supra* note 2.

block tomorrow.”⁹ Therefore, for municipalities to show almost no interest in privatizing their airports, they must have concluded that the negative attributes of privatization outweigh the benefits of the payment received for transfer of control.

Researchers have suggested various reasons for this lack of interest in U.S. airport privatization, including that privatized airports would lose financial benefits, such as favorable tax treatment of some airport debt.¹⁰ This Article’s conclusion is instead that local governments rarely initiate serious privatization efforts because elected officials place a high value on the public choice-related returns from continued local control. Only if those returns diminish substantially or if the returns to elected officials from privatization increase substantially is the U.S. likely to move away from the current system of publicly managed airports.

There is a large body of economic literature on the regulation of monopolies. Paul L. Joskow and Nancy L. Rose point out that the effects of regulation “are likely to depend on a variety of factors: the motivation for regulation, the nature of regulatory instruments and structure of the regulatory process, the industry’s economic characteristics, and the legal and political environment in which regulation takes place.”¹¹ The foundational work by Jean-Jacques Laffont and Jean Tirole analyzes the incentive properties of different economic, regulatory systems, including the impact of constraints designed to reduce costs and the amount of rent extraction.¹² With specific regard to airports, prior research focuses on the factors that influence the success of airport privatizations, including the effects of the form of airport governance and economic regulation on airport perform-

⁹ Joseph Guinto, *Privatizing Airports Is a No-Brainer: Cities Should Sell Their Airports to Close Gaping Budget Holes*, ATLANTIC (Aug. 18, 2020), <https://www.theatlantic.com/ideas/archive/2020/08/sell-airports/615331/> [https://perma.cc/YX5K-N5EU].

¹⁰ U.S. GOV’T ACCOUNTABILITY OFF., GAO-15-42, AIRPORT PRIVATIZATION: LIMITED INTEREST DESPITE FAA’S PILOT PROGRAM 20–22 (2014).

¹¹ Paul L. Joskow & Nancy L. Rose, *The Effects of Economic Regulation*, in 2 HANDBOOK OF INDUSTRIAL ORGANIZATION 1450, 1451 (R. Schmalensee & R.D. Willig eds., 1989).

¹² See generally Jean-Jacques Laffont & Jean Tirole, *Using Cost Observation to Regulate Firms*, 94 J. POL. ECON. 614 (1986); Jean-Jacques Laffont & Jean Tirole, *The Politics of Government Decision-Making: A Theory of Regulatory Capture*, 106 Q. J. ECON. 1089 (1991); JEAN-JACQUES LAFFONT & JEAN TIROLE, A THEORY OF INCENTIVES IN PROCUREMENT AND REGULATION (1993).

ance and efficiency.¹³ There does not appear to be any prior scholarly work analyzing why the U.S. system of airport economic regulation has persisted as the rest of the world has moved towards privatization.

Part II of this Article discusses the current U.S. system of airport governance and economic regulation, and Part III discusses why the current system persists. Part II is organized into seven Sections. Section A describes the evolution of the U.S. airport business and airport economic regulation. Section B discusses the low price elasticity of demand for airport access and how this facilitates higher airport spending. Section C explains why the non-distribution constraint at the core of U.S. airport economic regulation is ineffective as applied to airports. Section D illustrates how elected officials use the regulations to obtain funding from airlines and other airport customers to achieve patronage goals. Section E asks whether politicians are less involved in directing airport spending when airports are governed as “independent” airport authorities. Section F discusses the limited role of consumers and voters in determining how airports are managed. Finally, Section G summarizes the issues with the current system.

Part III is organized into five Sections. Section A discusses the benefits and costs of privatization as an alternative. Section B describes how the U.S. version of privatization differs from other versions. Section C explains why airport privatization has not been adopted in the U.S. and discusses the costs incurred in changing airport-governance methods. Section D addresses the forces that help keep airport charges down at some airports. Finally, Section E identifies the factors that might lead to a different regulatory solution.

¹³ See generally Graham, *supra* note 2; Nicole Adler & Vanessa Liebert, *Joint Impact of Competition, Ownership Form and Economic Regulation on Airport Performance and Pricing*, 64 *TRANSP. RSCH. PART A* 92 (2014); A. Georges Assaf & David Gillen, *Measuring the Joint Impact of Governance Form and Economic Regulation on Airport Efficiency*, 220 *EUR. J. OPERATIONAL RSCH.* 187 (2012); George C.L. Bezerra & Carlos F. Gomes, *Performance Measurement in Airport Settings: A Systematic Literature Review*, 23 *BENCHMARKING: AN INT'L J.* 1027 (2016); Vincenzo Fasone & Sandra Zapata-Aguirre, *Measuring Business Performance in the Airport Context: A Critical Review of Literature*, 65 *INT'L J. PRODUCTIVITY & PERFORMANCE MGMT.* 1137 (2016); Levent Kutlu & Patrick McCarthy, *US Airport Ownership, Efficiency, and Heterogeneity*, 89 *TRANSP. RSCH. PART E* 117 (2016); Vanessa Liebert & Hans-Martin Niemeier, *A Survey of Empirical Research on the Productivity and Efficiency Measurement of Airports*, 47 *J. TRANSP. ECON. & POL'Y* 157 (2013); Oum et al., *supra* note 2; Bijan Vasigh & Javad Gorjidoz, *Productivity Analysis of Public and Private Airports: A Causal Investigation*, 11 *J. AIR TRANSP.* 144 (2006).

II. PROBLEMS WITH THE CURRENT SYSTEM

A. THE ORIGINS OF THE CURRENT SYSTEM

In this Part, this Article argues that the current U.S. airport economic regulation system has obvious drawbacks. It does so by describing the origin of the U.S. airport business, the evolution of U.S. airport economic regulation, and the different types of public-sector governance of U.S. airports.

1. *The Path to Airport Financial Self-Sufficiency and Pass-Through Rate-Setting*

With the rapid growth of aviation in the 1920s and 1930s, local governments began purchasing previously private airports and acquiring land to develop airports.¹⁴ Then, during World War II, the federal government constructed and improved many airports as part of the defense buildup.¹⁵ The federal government transferred excess military airfields to local governments for public use under the Surplus Property Act when the war ended.¹⁶ As a result, most airports in the U.S. are owned by the municipality or county where they are located.¹⁷ As discussed subsequently in Section III.C.2, local ownership of U.S. airports, as opposed to national ownership as in many other countries, is an important factor that helps explain why nearly all U.S. airports continue to be operated by the public sector.

During the early years of commercial aviation, airports received subsidies from local governments interested in encouraging the growth of commercial aviation.¹⁸ In addition, many municipalities provided financing for airport capital projects using general obligation bonds backed by the local government's credit and taxing power.¹⁹ During these early years, airport rate-

¹⁴ *Airline Expansion and Innovation (1927–1941)*, SMITHSONIAN NAT'L AIR & SPACE MUSEUM, <https://airandspace.si.edu/exhibitions/america-by-air/online/innovation/index.cfm> [<https://perma.cc/2ABT-5P9D>].

¹⁵ OFF. TECH. ASSESSMENT, OTA-STI-231, AIRPORT SYSTEM DEVELOPMENT 13, 209 (1984) (noting the federal appropriation of \$40 million for construction and improvement of 250 airports during World War II).

¹⁶ U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 10, at 3.

¹⁷ See DANIEL S. REIMER & JOHN E. PUTNAM, AIRPORT GOVERNANCE AND OWNERSHIP 10–11 (2009). There are a few exceptions, such as BWI, which is owned and operated by the state of Maryland, and Reagan National and Washington Dulles, which are owned by the federal government and operated by an airport authority on land leased from the federal government. See *id.* at 5, 21 n.120.

¹⁸ See Poole & Edwards, *supra* note 2 (referencing early airport history).

¹⁹ See OFF. TECH. ASSESSMENT, *supra* note 15, at 149.

setting typically involved charging ad hoc fees that recovered only part of the cost of running the airport.²⁰

Over time, airports switched to issuing long-term airport revenue bonds backed solely by the airport's revenue.²¹ Initially, the successful issuance of these bonds depended on the airlines providing a collective guarantee that the airlines would pay the bondholders back; in the event of a bankruptcy or default by an individual airline, the other airlines would make up the shortfall needed to pay bondholders.²² In exchange for the guarantee, the airlines usually obtained approval rights over major airport capital spending decisions.²³ They also benefited from a standard rate-setting approach whereby the airlines were responsible for paying the "residual" amount needed for the airport to break even after collecting rents and fees from concessionaires, such as car rental agencies, restaurants, and gift shops.²⁴ Because the concessionaires usually generated substantial profits for the airport, airlines wound up paying less than the actual cost of the facilities they used.²⁵

With the tremendous growth in commercial aviation, all but the smallest commercial service airports became financially self-sufficient. Nearly all airports categorized by the Federal Aviation Administration (FAA) as Large, Medium, or Small Hub Airports, which collectively carry over 97% of all U.S. passengers,²⁶ no longer need or receive funding from local governments.²⁷ In

²⁰ See Poole & Edwards, *supra* note 2.

²¹ See BENJAMIN M. MILLER, DEBRA KNOPMAN, LISA ECOLA, BRIAN PHILLIPS, MOON KIM, NATHANIEL EDENFIELD, DANIEL SCHWAM & DIOGO PROSDOCIMI, U.S. AIRPORT INFRASTRUCTURE FUNDING AND FINANCING 113–14 (2020), https://www.rand.org/content/dam/rand/pubs/research_reports/RR3100/RR3175/RAND_RR3175.pdf [<https://perma.cc/LUE7-J4TR>]. Airport revenue bonds are bonds backed solely by the revenue of the airport, as opposed to taxpayers. *See id.* at 113–15. The first airport revenue bond was issued by the City of Miami in 1945 to support construction at what is now Miami International Airport. *See* MIAMI-DADE AVIATION DEP'T, FY 2021 ADOPTED BUDGET 15 (2021).

²² *See, e.g.*, Zane O. Gresham & Brian Busey, "Do as I Say and Not as I Do"—United States Behind in Airport Privatization, 17 AIR & SPACE LAW. 12, 15 (2002).

²³ *See* Paul Stephen Dempsey, *Theory and Law of Airport Revenue Diversion*, 2 LEGAL RSCH. DIG., May 2008, at 3, 3–5.

²⁴ *See id.*

²⁵ *See id.*

²⁶ In connection with this Article, the Author reviewed and analyzed the FAA Form 127 database for FY2019. *See* FED. AVIATION ADMIN., *supra* note 6 (choose "2019" from "Year" dropdown; then select an airport from "Airport" dropdown; then click "Screen" under "View Form 127").

²⁷ *See* AIRPORTS COUNCIL INT'L, *supra* note 4. From the early days of commercial aviation, the federal government has both helped fund airports and taxed com-

many cases, airports also no longer need a collective guarantee from the airlines to issue airport revenue bonds because the bond market expects that airports can charge the remaining airlines enough to remain financially viable in the event of the failure or withdrawal of an airline.²⁸

Once airports became financially self-sufficient, airlines became concerned that airports were locational monopolies that could abuse their monopoly power.²⁹ Airlines argued that they were legally entitled to the benefit of residual rate-setting on the ground that airline passengers were the ultimate source of all commercial airport revenue—i.e., without the airline, there would be no car rental, gift shop, or other concession revenue for the airport.³⁰ But, in 1994, after more than ten years of litigation, the Supreme Court ruled that airlines were not entitled to the benefits of residual rate-setting and that airports could instead require airlines to pay the total costs of the facilities they used so long as the charges were “based on some fair approximation of use of the facilities” and were “not excessive in relation to the benefits conferred.”³¹

mercial aviation. See BART ELIAS & RACHEL Y. TANG, CONG. RSCH. SERV., R42781, FEDERAL CIVIL AVIATION PROGRAMS: IN BRIEF 2 (2018). Federal taxes on tickets, aviation fuel, and other items currently raise about \$15 billion annually, the majority of which is used to pay for the federal air traffic control system. See *id.* About 20% percent is returned to airports in the form of grants. See *id.*

²⁸ See, e.g., Gresham & Busey, *supra* note 22, at 15.

²⁹ See, e.g., Dempsey, *supra* note 23, at 11. Researchers are not in agreement on whether airports are natural monopolies and, if so, by what definition. Alfred Kahn, whose work on airline deregulation is seminal, and others define natural monopoly by continuous economies of scale, i.e., decreasing average costs. See I ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS 123–24 (1970). Under this definition, however, airports may not qualify. Rigas Doganis and Jinha Jeong conclude that scale economies for airports cease when they reach the relatively small size of three million passengers per year. RIGAS DOGANIS, THE AIRPORT BUSINESS 50 (1992); Jinha Jeong, An Investigation of Operating Cost of Airports: Focus on the Effects of Output Scale 58 (May 2005) (Master’s Thesis, University of British Columbia), <https://open.library.ubc.ca/media/stream/pdf/831/1.0092229/1> [<https://perma.cc/3HNH-G9KQ>]. Airports have been referred to as natural monopolies, locational monopolies (or just as entities capable of extracting locational rents), regional non-contestable monopolies, etc.

³⁰ Letter from John H. Anderson, Jr., Dir., Transp. Issues, U.S. General Accounting Office, to Hon. Frank R. Wolf, Chairman, Subcomm. on Transp. & Related Agencies, Comm. on Appropriations, House Representatives 10–12 (Nov. 5, 1998).

³¹ *Nw. Airlines, Inc. v. County of Kent*, 510 U.S. 355, 369–70 (1994); see also Rise J. Peters, *Northwest Airlines v. County of Kent, Michigan: More Than You Ever*

U.S. airport economic regulations issued since the Supreme Court ruling impose two primary constraints that limit airport charges to airlines (referred to as aeronautical charges).³² First, aeronautical charges must be “fair and reasonable,”³³ which has been interpreted to mean that airports can pass through to airlines the actual costs of the airfield facilities and services they use but cannot charge market rates to airlines.³⁴ Airports can, however, charge other commercial tenants full market rates.³⁵

Wanted to Know About Airport Ratesetting, Part One (Pricing in the Courts), 22 *TRANSP. L.J.* 291, 302–03 (1994).

³² See generally George Saounatsos, *Airport Aeronautical Charges*, 40 *AIRPORTS INT’L* 59 (2007). The basic aeronautical/nonaeronautical distinction is the distinction between charges to airlines for use of the runways and other airport facilities required to provide air transportation, and charges to other tenants. See *id.*

³³ Policy and Procedures Concerning the Use of Airport Revenue, 64 *Fed. Reg.* 7696, 7720 (Feb. 16, 1999), *amended* by Policy Regarding Airport Rates and Charges, 78 *Fed. Reg.* 55,330, 55,332–33, 55,335 (Sept. 10, 2013).

³⁴ The requirement originates in the 1973 Anti-Head Tax Act and the 1982 Airport and Airways Improvement Act. Both require airports to charge “reasonable” fees from aircraft operators for using airport facilities. See 49 U.S.C. § 40116(e)(2). In 1999, the FAA issued its Final Policy Regarding Airport Rates and Charges, which states airfield fees must be cost-based and that the associated assets must be valued based on historic costs. Policy Regarding Airport Rates and Charges, 78 *Fed. Reg.* at 55,335. Airports have greater latitude regarding airport terminal rental rates charged to airlines. See Anne Graham, *The Regulation of US Airports*, in *THE ECONOMIC REGULATION OF AIRPORTS* 63, 63–72 (Peter Forsyth, David W. Gillen, Andreas Knorr, Otto G. Mayer, Hans-Martin Niemeier & David Starkie eds., 2016) (detailing a useful summary of U.S. legislative and regulatory framework).

³⁵ Airports are legally entitled to charge airlines the full cost of the facilities they use, while retaining all profits from parking, retail and other concessions at the airport, but in practice they often share their concession profits with the airlines by applying a portion of the profits to reduce the rates airlines pay. See Sheri Ernico & Jason Snowden, Directors, LeighFisher, Address at the AAAE/LeighFisher Rates and Charges Workshop: Emerging Trends in Airport-Airline Agreements (Nov. 4, 2016). In a typical airline-airport lease negotiation, the airlines argue that the airport should share more of the concession profits with them, while the airport argues that it should retain more of the concession profits to use at its discretion at the airport. See *id.* Should negotiations break down, both sides recognize that airports are entitled to simply enact an ordinance imposing rates that reflect the full cost of the facilities used by the airlines without any concession profit sharing. See *id.* However, most airports prefer to avoid unilaterally imposing rates and instead prefer to reach agreement with the airlines, especially since the profits generated by airport concessions cannot legally be used for off-airport uses, i.e., cannot be transferred to the municipal airport owner. See *id.* Less than 20% of U.S. airports are estimated to impose fees by enacting an ordinance. See *id.*

Second, airports must not divert airport revenue to non-airport purposes, which is known as “revenue diversion.”³⁶

This second constraint, which the FAA enforces, requires that airport profits be reinvested in the airport.³⁷ This constraint is intended to reinforce the requirement that aeronautical charges be limited to actual costs.³⁸ Airlines fear that without this constraint, airports may take revenue collected from airport tenants, spend it on non-airport activities, and then increase the charges to the airlines to compensate.³⁹ Similarly, the FAA fears that if airports use airport-generated revenue for non-airport activities, this may increase airport demands for FAA grant funding.⁴⁰

Modern airports are comprised of a diverse set of businesses⁴¹ and may generate hundreds of millions of dollars in annual revenue.⁴² Parking revenue, rental car fees, food and beverage sales, and retail sales (concession revenue) generate substantial profits.⁴³ The financial resilience of airports is illustrated by the fact that defaults on U.S. airport revenue bonds—the largest source of airport capital funding—are nearly unheard of, and nearly all such bonds are rated as investment grade.⁴⁴ At pre-

³⁶ See Dempsey, *supra* note 23, at 21–22 (stating the specific U.S. requirement that airport revenues must be used only to meet the capital and operating cost requirements of the airport and closely related ground access projects). The non-distribution constraint is embodied in the 1994 and 1996 FAA Authorization and Reauthorization Acts, the 1999 Policy Statement, and in grant agreements that all airports must sign when they receive FAA grant money. See Dempsey, *supra* note 23, at 21–22; Graham, *supra* note 34, at 66.

³⁷ See Dempsey, *supra* note 23, at 16.

³⁸ See *id.* at 13, 20.

³⁹ *Id.* at 9–10.

⁴⁰ In 1999, the FAA issued its Policy and Procedures Concerning the Use of Airport Revenue, which prohibits “payments which are not based on appropriate cost allocation methods; costs associated with general economic development and marketing activities; payments in lieu of taxes that exceed the values of services provided; payments to compensate government bodies for lost tax revenues; loans to government agencies at less than the prevailing interest rate.” Graham, *supra* note 34, at 66.

⁴¹ See Doganis, *supra* note 29, at 113.

⁴² See AIRPORTS COUNCIL INT’L, 2018 ACI-NA CONCESSIONS BENCHMARKING SURVEY (2018).

⁴³ See *id.*

⁴⁴ See, e.g., *Fitch IBCA Default Study’s Impact on Airport Revenue Bonds*, FITCHRATINGS (Feb. 17, 2000, 9:51 AM), <https://www.fitchratings.com/research/us-public-finance/fitch-ibca-default-study-impact-on-airport-revenue-bonds-17-02-2000> [<https://perma.cc/9ZBH-6SC7>] (“The median Fitch IBCA GARB rating for all applicable U.S. airports is ‘A+’, reflecting above average investment grade credit quality.”).

sent, all U.S. airport revenue bonds are investment grade, and no airport bond rated by Moody's Investor Service has defaulted in at least the past 50 years.⁴⁵ In contrast, all the largest U.S. airlines, except Southwest, have filed for bankruptcy at least once,⁴⁶ and only two airlines—Southwest Airlines and, recently, Delta Air Lines—have obtained investment-grade ratings for their bonds.⁴⁷ During the pandemic, Southwest Airlines retained its investment-grade rating,⁴⁸ while Delta Air Lines was downgraded to below investment grade in March 2020.⁴⁹ Not surprisingly, cities and counties look at airports as attractive sources of revenue.

2. Airport Governance

In their capacity as airport owners, local governments decide how airports are governed, usually as a city or county department or as an airport authority, a quasi-governmental entity re-

⁴⁵ MOODY'S INVS. SERV., US PUBLIC FINANCE: US MUNICIPAL BOND DEFAULTS AND RECOVERIES, 1970-2020 (2021); MOODY'S INVS. SERV., FISCAL 2019 MEDIANS: STRONG ECONOMIC CONDITIONS PUSHED METRICS TO RECORD HIGHS THAT WILL NOT RETURN FOR SEVERAL YEARS (2020); *see also, e.g.*, FITCH RATINGS, *supra* note 44 (explaining that during the 20-year period from 1979–1999, “no airports with significant commercial service defaulted on GARB debt. Also, no airport debt rated by Fitch IBCA has defaulted.”); MILLER ET AL., *supra* note 21, at 117–118 (“Of the 8,054 municipal bonds that include the word ‘airport’ in the bond description (as of June 2019) in the Electronic Municipal Market Access (EMMA) database of the Municipal Securities Rulemaking Board (MSRB), only 25 bonds were rated below investment grade by one of the three major credit agencies: Moody’s, Standard and Poor’s, and Fitch (MSRB, undated). Also, in Fitch’s database of more than 70 U.S. airports rated by the agency, only one airport rated below investment grade.” (footnote omitted)).

⁴⁶ *See* Associated Press, *American Joins Long List of Airline Bankruptcies*, BOSTON.COM (Nov. 29, 2011), http://archive.boston.com/business/articles/2011/11/29/american_joins_long_list_of_airline_bankruptcies/ [<https://perma.cc/F4P7-5KM3>].

⁴⁷ *See* Dan Reed, *S&P Airline Downgrades Leave Just One U.S. Carrier With Investment Grade Status, Three Worldwide*, FORBES (Aug. 13, 2020, 6:00 AM), <https://www.forbes.com/sites/danielreed/2020/08/13/sp-airline-downgrades-are-more-ominous-than-surprising-just-one-us-carrier-retains-investment-grade-status/> [<https://perma.cc/4K5L-J384>].

⁴⁸ Michael Goldstein, *Are Airline Bonds Scavier Than Airline Stocks Because of Sub-Par Credit Ratings?*, FORBES (Mar. 18, 2021, 05:27 PM), <https://www.forbes.com/sites/michaelgoldstein/2021/03/18/are-airline-bonds-and-airline-stocks-telling-different-stories/?sh=3a0b9f92cffa> [<https://perma.cc/67N5-DA2N>].

⁴⁹ Rey Mashayekhi, *Delta Is Downgraded to the “Junk” Pile—and May Soon Have Lots of Company*, FORTUNE (Mar. 24, 2020, 04:53 PM), <https://fortune.com/2020/03/24/delta-credit-downgrade-junk-corporate-bonds-coronavirus-airlines/> [<https://perma.cc/2VC2-E2NZ>].

sponsible for the operation of an airport or group of airports.⁵⁰ In addition, some airports are managed as part of multi-modal port authorities.⁵¹ The three largest U.S. airports as measured by annual passengers—Atlanta, Los Angeles, and Chicago O’Hare—are managed as city departments.⁵² Airports managed as part of city or county governments (municipal airports) handle a majority of U.S. passengers.⁵³ Table 1 shows the approximate breakdown of U.S. airports into different governance types.

Table 1—Type of governance and percentage of passengers at U.S. airports with greater than two million departing passengers. These airports handle 88% of all U.S. passengers.⁵⁴

Governance Type	Number	% of Total	% of Passengers
City	23	38%	47.0%
Airport Authority	18	30%	22.5%
Port Authority	9	15%	16.6%
County	6	10%	9.5%
State	4	7%	3.8%
Private	1	2%	0.6%
Total	61	100%	100%

At municipal airports, the airport manager often “reports directly to the mayor, city manager, county executive, or county commissioners.”⁵⁵ At airport authorities, the airport manager re-

⁵⁰ BOB HAZEL, OLIVER WYMAN, CHARLOTTE AIRPORT GOVERNANCE STUDY FINAL REPORT 14, 16 (2013), <http://charmeck.org/city/charlotte/documents/airport%20governance%20study/20130501%20clt%20airport%20governance%20ow%20vf.pdf> [https://perma.cc/98FU-D9ZV] (“Airport authorities may be created by state legislation, municipal or county action, or sometimes by joint agreement among jurisdictions. The Dallas/Fort Worth Board of Directors, which operates DFW, is the product of an agreement between the cities of Dallas and Fort Worth.”).

⁵¹ *Id.* at 15.

⁵² *Id.* at 55.

⁵³ *Infra* Table 1; see Hazel, *supra* note 50, at 55–59.

⁵⁴ In connection with this Article, the Author reviewed and analyzed airport websites and U.S. DOT passenger data for 2015. For additional information on airport governance structures at U.S. airports, see Hazel, *supra* note 50, at 12–25.

⁵⁵ Hazel, *supra* note 50, at 14.

ports to the authority board, with most board appointments made by elected officials.⁵⁶

Although airport staff are public-sector employees, their salaries are not paid from general tax revenue but from enterprise funds, which are segregated accounts funded by revenue collected from airlines and other commercial tenants.⁵⁷ The costs of municipal police, fire, payroll administration, and other services provided to the airport, including associated overhead, are also paid from these funds.⁵⁸ The airport manager is often the highest paid local government employee at large airports and makes more than the mayor.⁵⁹

B. THE PRICE ELASTICITY OF DEMAND FOR AIRPORT ACCESS

This Section discusses the lack of economic incentives in the current U.S. airport economic regulation system for airports to control costs or allocate capital efficiently. Not only are airports able to fully pass through their costs to the airlines, but the demand by airlines for airport access is price inelastic: an increase in airport charges has little effect on the demand by airlines to continue to serve an airport.⁶⁰ Price inelasticity is best understood by examining two important determinants of price elasticity: (1) the availability of substitutes for individual airports; and (2) the proportion of airline costs spent on airport access.⁶¹ This Article reviews both determinants of elasticity below.

⁵⁶ See, e.g., *id.* at 9, 52.

⁵⁷ *Enterprise Fund Definition*, ACCOUNTINGTOOLS (Mar. 27, 2021), <https://www.accountingtools.com/articles/2017/5/6/enterprise-fund> [https://perma.cc/NAK8-6SAE] (“An enterprise fund is a self-supporting government fund that sells goods and services to the public for a fee. . . For example, a government-owned power generating facility provides electricity to local homeowners in exchange for a fee.”); Roger Kemp, *The Use of Enterprise Funds in America’s Local Governments*, PA TIMES (May 16, 2017), <https://patimes.org/enterprise-funds-americas-local-governments/> [https://perma.cc/4S5A-WWGL].

⁵⁸ See *infra* notes 118–121 and accompanying text.

⁵⁹ See, e.g., Fran Spielman, *Emanuel Gives Pay Raises to Mayor’s Office Staff*, CHICAGO SUN-TIMES (Oct. 14, 2016, 8:26 AM), <https://chicago.suntimes.com/news/emanuel-gives-pay-raises-to-mayors-office-staff/> [https://perma.cc/ZY64-LMA5]; Brian Sumers, *LAX Chief Will Stay on in Garcetti Administration*, DAILY BREEZE, <https://www.dailybreeze.com/2013/10/07/lax-chief-will-stay-on-in-garcetti-administration/> [https://perma.cc/LL39-WA2U] (Sep. 6, 2017, 6:46 AM).

⁶⁰ See *supra* notes 5, 34 and accompanying text.

⁶¹ These two determinants of elasticity are typically identified in basic economics texts as: (1) closeness of substitutes—the closer the available substitute, the more likely you are to switch to that substitute if the price of the primary good increases; and (2) budget share spent on the good. DARON ACEMOGLU, DAVID LAIBSON & JOHN A. LIST, *MICROECONOMICS* 108 (3d ed. 2022) (“If the good repre-

1. *The Availability of Substitutes*

Passengers have varying degrees of willingness to trade-off trip costs and travel time.⁶² A price-sensitive leisure traveler is more likely to be willing to accept a flight to a remote secondary airport than a time-sensitive business traveler.⁶³ Still, most travelers consider airports located far from each other to be poor substitutes.⁶⁴

In addition, most metropolitan areas are served by only a single commercial service airport. Moreover, even in large metropolitan areas served by multiple airports, an airline attempting to substitute one airport for another generally would not benefit from price competition between the airports because, in most metropolitan areas, the same public entity owns and controls all of the local airports. The city of Chicago operates both Chicago O'Hare and Chicago Midway;⁶⁵ the city of Houston operates both Houston Intercontinental and Houston Hobby;⁶⁶ and the Port Authority of New York and New Jersey (PANYNJ) operates JFK, LaGuardia, Newark, and Stewart.⁶⁷

The rates charged by each airport in these metropolitan areas are a function of each airport's operating and capital costs and the concession revenue generated at the airport—airports under common ownership do not compete with each other based on price.⁶⁸ Whatever competition exists between these airports is the result of competition between the airlines serving them.⁶⁹ For example, Southwest Airlines has a large hub at Chi-

sents a small fraction of your overall purchases . . . [i]t is just not important to your overall budget and so you are not sensitive to price changes, even large ones.”).

⁶² See Gary M. Fournier, Monica E. Hartmann & Thomas Zuehlke, *Airport Substitution by Travelers: Why Do We Have to Drive to Fly?* 5–6 (Fla. State Univ. & Univ. St. Thomas, Working Paper No. wp2005_09_01, 2005).

⁶³ See James Wiltshire, *Airport Competition: Reality or Myth?*, 67 J. AIR TRANSP. MGMT. 241, 245 (2018).

⁶⁴ See *id.* at 242–45.

⁶⁵ *Chicago Department of Aviation*, CITY OF CHICAGO, <https://www.chicago.gov/city/en/depts/doa.html> [<https://perma.cc/NFF7-YGNS>].

⁶⁶ *Newsroom: Fact Sheets*, HOUSTON AIRPORT SYSTEM, <https://www.fly2houston.com/newsroom/media-kit/fact-sheets> [<https://perma.cc/4UM8-MM49>].

⁶⁷ *Aviation*, PORT AUTH. N.Y. & N.J., <https://www.jointheportauthority.com/pages/aviation> [<https://perma.cc/9JUW-66S2>].

⁶⁸ See Dan Elliott, *The Ins-and-Outs of Airport Pricing*, FRONTIER ECON., <http://www.frontier-economics.com/uk/en/news-and-articles/articles/article-i6484-the-ins-and-outs-of-airport-pricing/#> [<https://perma.cc/9YD9-RUE2>].

⁶⁹ WILLIAM M. SWAN, *HOW AIRLINES COMPETE 1* (2002), <http://aviation.itu.edu.tr/%5Cimg%5Caviation%5Cdatafiles/Lecture%20Notes/Aviation>

cago Midway, while United Airlines and American Airlines have large hubs at Chicago O'Hare, and these airlines compete against each other.⁷⁰

A few large metropolitan areas have airports that are controlled by different governmental entities. Here again, the airports are usually poor substitutes because they are located far from each other or have operating limitations.⁷¹ For example, the closest New York City area airport not operated by the PANYNJ is on Islip, Long Island, approximately fifty-four miles from New York City.⁷² The nearest Boston area airports not operated by the Massachusetts Port Authority (MassPort) are in Providence, Rhode Island (sixty-one miles from Boston),⁷³ and Manchester, New Hampshire (approximately fifty-three miles from Boston).⁷⁴ Finally, in Los Angeles, the two closest airports not operated by the city are the small airports of Burbank, which has runway restrictions, and Long Beach, which has slot restrictions limiting the total number of flights and a prohibition on international flights.⁷⁵

%20Economics%20and%20Financial%20Analysis%2020152016/Readings/Module%2012/How%20Airlines%20Compete%20paper-2.pdf [https://perma.cc/7SG7-LCNC].

⁷⁰ Lauren Zumbach, *Southwest Airlines Takes Off at O'Hare: Here's What It Could Mean for Fares*, CHI. TRIB. (Feb. 12, 2021, 5:22 PM), <https://www.chicagotribune.com/business/ct-biz-southwest-airlines-ohare-airport-flights-20210212-2eoyqfdipfhrjnhwtev7pboyyy-story.html> [https://perma.cc/3N7H-Z9UU].

⁷¹ See *supra* notes 63–64 and accompanying text. Well-intentioned airport managers attempting to attract additional flights often strive to operate efficiently and keep airport charges low. As discussed subsequently, however, they face substantial constraints and countervailing incentives that limit their ability to do so. See *generally A Day in the Life of an Airport Manager*, VAUGHN COLL. (May 10, 2018), <https://www.vaughn.edu/blog/day-life-airport-manager/> [https://perma.cc/3PE8-RU68].

⁷² Driving Directions from New York City, N.Y. to Islip, N.Y., GOOGLE MAPS, <http://maps.google.com> [https://perma.cc/HT3Z-2LA5] (follow “Directions” hyperlink; then search starting point field for “N.Y.C., N.Y.” and search destination field for “Islip, N.Y.”).

⁷³ Driving Directions from Providence, R.I., to Boston, Mass., GOOGLE MAPS, <http://maps.google.com> [https://perma.cc/62R7-Z36M] (follow “Directions” hyperlink; then search starting point field for “Providence, Rhode Island,” and search destination field for “Boston, Massachusetts”).

⁷⁴ Driving Directions from Manchester, N.H., to Boston, Mass., Google Maps, <http://maps.google.com> [https://perma.cc/HF3Z-A6EF] (follow “Directions” hyperlink; then search starting point field for “Manchester, New Hampshire,” and search destination field for “Boston, Massachusetts”).

⁷⁵ See Siddharth Ganesh, *Hollywood Burbank Airport: Landing, Parking in Under a Minute*, AIRWAYS MAG. (Aug. 8, 2021), <https://airwaysmag.com/airports/burbank-airport-land-ops-under-min/> [https://perma.cc/K3MA-GVWD]; Pierce

Apart from the fact that most airports are poor substitutes for each other, most U.S. air service is provided by airlines that operate national and international route networks and have a strong incentive to maximize the number of markets they serve. For example, business travelers often prefer to concentrate their business with one airline in exchange for the “loyalty” benefits given to high volume customers (such as upgraded class of service or additional credits used for free flights).⁷⁶ If a network airline⁷⁷ stops flying to an important market, the airline will not only lose the passengers currently traveling to and from that market but will also suffer an additional loss in the overall attractiveness and value of its network.

Apart from the relatively few independently managed airports that serve the same or substantially overlapping market areas, there are two circumstances in which airports may be weak substitutes for each other. First, airports in leisure destinations, such as Orlando and Ft. Lauderdale, FL, may be substitutes for each other for price-sensitive, leisure travelers looking for sunny destination vacation trips, even though the airports are geographically distant from each other.⁷⁸ In this situation, however,

Nahigyan, *New Rules Passed for Flight Slots at Long Beach Airport, Airlines Split on the Issue*, LONG BEACH BUS. J. (Dec. 3, 2018), <https://lbbusinessjournal.com/new-rules-passed-for-flight-slots-at-lgb> [<https://perma.cc/S4G6-G56S>]. In the Washington, DC area, the State of Maryland operates Baltimore/Washington International Airport (BWI) while the Metropolitan Washington Airports Authority (MWAA) operates Washington Dulles International (IAD) and Reagan Washington National (DCA) airports. See *About MDOT MAA*, BALT./WASH. INT'L THURGOOD MARSHALL AIRPORT, <https://www.bwiairport.com/flying-with-us/about-bwi/about-mdot-maa> [<https://perma.cc/69LW-SR35>]; *About the Airports Authority*, METRO. WASH. AIRPORTS AUTH., <https://www.mwaa.com/about-airports-authority> [<https://perma.cc/64FK-MZFC>]. DCA has slot restrictions that limit the total number of flights as well as a prohibition on international flights requiring border control facilities. See *DCA Reagan National – Slot & Perimeter Rules*, METRO. WASH. AIRPORTS AUTH., <https://www.flyreagan.com/about-airport/aircraft-noise-information/dca-reagan-national-slot-perimeter-rules> [<https://perma.cc/HL9E-A94K>]. Also note that the Metropolitan Washington Airports Authority board includes three members appointed by the Governor of Maryland. *Board of Directors*, METRO. WASH. AIRPORTS AUTH., <https://www.mwaa.com/about-authority/board-directors> [<https://perma.cc/9HLB-Z8UG>].

⁷⁶ Phil Seward-Collinson, *Why Loyalty Programs are Key to Meeting Business Travelers' Demands*, PHOCUSWIRE (Aug. 23, 2019), <https://www.phocuswire.com/collinson-business-travel-loyalty> [<https://perma.cc/5VBT-T9XZ>].

⁷⁷ This is in contrast with a point-to-point airline, which focuses only on serving particular routes that do not involve connections. See Gerald N. Cook & Jeremy Goodwin, *Airline Networks: A Comparison of Hub-and-Spoke and Point-to-Point Systems*, 17 J. AVIATION/AEROSPACE EDUC. & RSCH. 51, 52 (2008).

⁷⁸ See *infra* note 159 and accompanying text.

travelers will consider total trip costs in evaluating whether to substitute one airport for the other, and airport cost differentials make up a very small proportion of total trip costs.⁷⁹

Second, airports that serve primarily as connecting hubs may have substitutes. For example, in 2015, 68% of the Atlanta airport's domestic passengers were just changing planes.⁸⁰ The figures for other major connecting hubs are shown in Table 2.

Table 2—Percent of domestic passengers at major U.S. airports who are connecting (2015).⁸¹

1	Charlotte	75%
2	Atlanta	68%
3	Dallas/Fort Worth	60%
4	Houston	56%
5	Detroit	50%
6	Chicago O'Hare	50%
7	Minneapolis/St. Paul	49%
8	Salt Lake City	48%
9	New York Newark	47%
10	Miami	47%

An airline that operates a route system with multiple large hubs may have the option of substituting another hub airport to route passengers to their final destination, depending on the circuitry⁸² of the routing that uses the substitute airport. For example, to take passengers from Richmond, VA, to Seattle, WA, American Airlines operates flights that connect at Charlotte, NC, or Chicago, IL.⁸³ If the Charlotte airport dramatically in-

⁷⁹ See *infra* notes 88, 96 and accompanying text.

⁸⁰ See *infra* Table 2.

⁸¹ In connection with this Article, the Author reviewed and analyzed data from the DIIO commercial database.

⁸² The circuitry is the ratio of the actual distance of the trip divided by the direct nonstop distance. See Xiaoshu Cao, Feiwen Liang, Huiling Chen & Yongwei Liu, *Circuitry Characteristics of Urban Travel Based on GPS Data: A Case Study of Guangzhou*, 9 SUSTAINABILITY 2156, 2157 (2017).

⁸³ Based on analysis of airline schedules for November 2021 using Google Flights. In connection with this Article, the Author reviewed and analyzed airline schedules as of November 2021. See *generally* Flights: Richmond to Seattle,

creased its charges, American Airlines could reduce the number of flights from Richmond to Charlotte and from Charlotte to Seattle and increase the number of flights from Richmond to Chicago and from Chicago to Seattle (American Airlines has other options as well since it has previously used Philadelphia and Dallas–Fort Worth as connecting airports for flights from Richmond to Seattle). Other major U.S. airlines also offer multiple routes. For example, from Richmond to Seattle, United Airlines operates flights that connect at Chicago, Newark, Denver, or Washington Dulles, and Delta Air Lines operates flights that connect at Atlanta or Detroit.⁸⁴ Section III.D discusses the effect of potential airport substitution by network airlines on airport charges.

A final note on substitutes is that when one airline withdraws from an airport, the origin and destination⁸⁵ passengers will generally switch to the remaining airlines that continue to fly to the same destinations. If the withdrawal results in the loss of all nonstop service to a destination, most original passengers will substitute connecting flights, typically involving a single stop. Thus, it is important to understand that while airports are usually poor substitutes for each other, airlines are close substitutes and can easily be replaced so long as there is sufficient travel demand to a particular destination.

2. *Airport Charges as a Proportion of Total Costs*

Another factor contributing to the low price elasticity of demand for airport access is that airport charges make up only a

GOOGLE FLIGHTS, <https://www.google.com/flights> [<https://perma.cc/B3ZJ-KXAK>] (follow “Flights” hyperlink; then search starting point “Richmond, VA,” and search destination field “Seattle, WA”; then filter airlines to “American”).

⁸⁴ Based on analysis of airline schedules for November 2021. In connection with this Article, the Author reviewed and analyzed airline schedules as of November 2021. See Departure: Richmond, VA, to Seattle, WA, UNITED, <https://www.united.com/ual/en/us/flight-search/book-a-flight/results/rev?f=RIC&t=SEA&d=2021-09-30&r=2021-10-07&sc=7,7&px=1&taxng=1&idx=1> [<https://perma.cc/3JLV-XXUP>]; Flights: Richmond to Seattle, GOOGLE FLIGHTS, <https://www.google.com/flights> [<https://perma.cc/3TCB-HN74>] (follow “Flights” hyperlink; then search starting point “Richmond, VA,” and search destination field “Seattle, WA”; then filter airlines to “Delta”).

⁸⁵ These are the passengers who are beginning or ending their air travel at a particular airport, as opposed to the connecting passengers. See Joseph Vito DeLuca, *What is the Difference Between Origin & Destination and Leg/Segment Inventory Controls?*, KAMBR MEDIA (Apr. 7, 2021), <https://www.kambr.com/articles/what-is-the-difference-between-origin-destination-and-leg-segment-inventory-controls> [<https://perma.cc/A8YD-CKQF>].

small proportion of total airline costs.⁸⁶ On average, airport charges are 5%–7% of total U.S. airline costs, although this figure can be more than double at some airports.⁸⁷ Peter Forsyth observes that “a high proportional increase in airport charges will only result in a tiny proportional increase in air fares . . . [which] translates into a very low demand elasticity for airport services-i.e. considerable market power.”⁸⁸

In comparison to airport charges, since 2000, fuel costs have varied from a low of 12% of total airline costs in 2002 to a peak of 36% in 2008.⁸⁹ In other words, the *change* in fuel costs over this period (twenty-four percentage points) was four times the *total* annual airport charges (6%).⁹⁰

Airport charges are usually measured in terms of the cost per enplanement (CPE).⁹¹ The FAA reports that the average CPE at U.S. airports in 2019 was \$11.50.⁹² CPEs vary widely, ranging from about \$2 at Burbank to \$50 at JFK.⁹³ As illustrated in Fig-

⁸⁶ PETER FORSYTH, AIRPORT PRICE REGULATION: RATIONALES, ISSUES AND DIRECTIONS FOR REFORM 11 (2001), https://www.pc.gov.au/__data/assets/pdf_file/0004/19840/sub005.pdf [<https://perma.cc/7LS8-Q2KD>].

⁸⁷ See *supra* note 6 and accompanying text.

⁸⁸ FORSYTH, *supra* note 86, at 11.

⁸⁹ *Fuel Expense as Percentage of Total Expense*, MASS. INST. OF TECH., [http://web.mit.edu/airlinedata/www/2015%2012%20Month%20Documents/Expense%20Related/Fuel/Fuel%20Expense%20as%20Percentage%20of%20Total%20Expense%20\(Excluding%20Transport%20Related%20Expense\).htm](http://web.mit.edu/airlinedata/www/2015%2012%20Month%20Documents/Expense%20Related/Fuel/Fuel%20Expense%20as%20Percentage%20of%20Total%20Expense%20(Excluding%20Transport%20Related%20Expense).htm) [<https://perma.cc/TR7Y-QU2E>].

⁹⁰ See *id.*

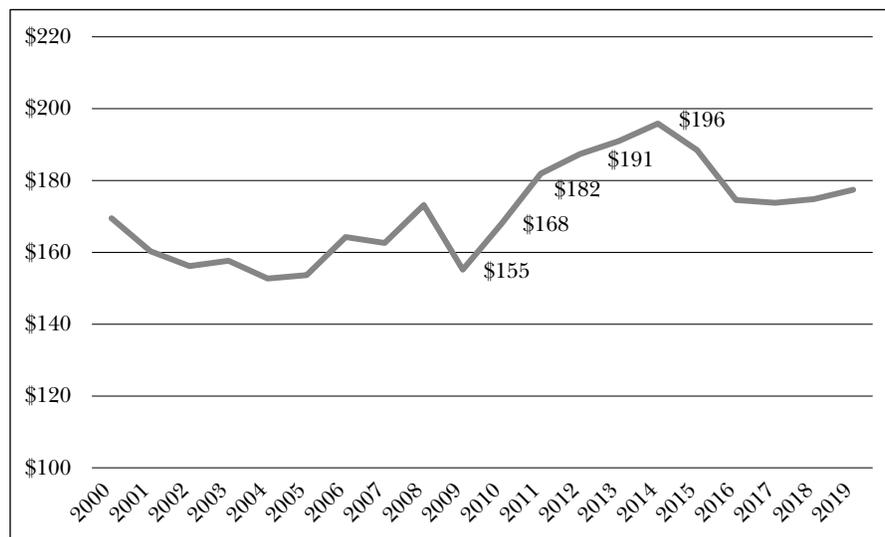
⁹¹ An enplanement is a departing air passenger. See RICONDO & ASSOCS., AIRPORT OPERATING AND DELAY COST PER ENPLANEMENT (2014), https://airport-scouncil.org/wp-content/uploads/2018/08/white_paper_measuring_aircraft_operating_costs_and_delay_20140620.pdf [<https://perma.cc/EC6Z-ZCAA>].

⁹² See *Operating and Financial Summary – 2019, All Commercial Service Airports, as of 12/29/2021*, FED. AVIATION ADMIN., <https://cats.airports.faa.gov/reports/rpt127Totals.cfm> [<https://perma.cc/83YZ-7XMK>].

⁹³ Because many trips involve a connecting flight and each flight boarding counts as an enplanement, the average one-way domestic trip consists of about 1.3 enplanements. In connection with this Article, the Author reviewed and analyzed airport websites and U.S. DOT passenger data. See *Data Bank 28DS - T-100 Domestic Segment Data (World Area Code)*, U.S. DEP'T OF TRANSP., BUREAU OF TRANSP. STAT. (Dec. 17, 2021), <https://www.bts.gov/browse-statistical-products-and-data/bts-publications/data-bank-28ds-t-100-domestic-segment-data> [<https://perma.cc/8U5E-PA9A>] (compiled data on file with author); *Origin and Destination Survey Data*, U.S. DEP'T OF TRANSP., BUREAU OF TRANSP. STAT. (Oct. 13, 2021), <https://www.bts.gov/topics/airlines-and-airports/origin-and-destination-survey-data> [<https://perma.cc/4SJS-4LBY>] (compiled data on file with author).

ure 1, the *change* in average U.S. domestic airfare over a year or two may be greater than the *total* amount of airport charges.

Figure 1—Average One-Way U.S. Domestic Airfare.⁹⁴



An example of the minor role played by airport charges as a portion of total airfares is provided below using two airports in the Washington, D.C. area. Average one-way domestic airfares for Reagan Washington National Airport (DCA) and Baltimore Washington International Airport (BWI) for 2010–2015, along with the average airport charge per enplanement, are shown in Table 3. During this period, the average one-way domestic airfare difference between the two airports was about \$31, while the average airport charge difference was about \$3.⁹⁵ If BWI, which has lower airport charges and airfares, increased its airport charges by 50% and the increase were fully passed through in higher airfares, the relative airfares of the two airports would change very little—the average one-way airfare difference between the two airports would still be \$26.⁹⁶

⁹⁴ In connection with this Article, the Author reviewed and analyzed data from the Bureau of Transportation Services National Level Domestic Airfare Series.

⁹⁵ See *infra* Table 3.

⁹⁶ See *infra* Table 3.

Table 3—Average one-way domestic airfare and average airport rent and landing fees per enplanement, DCA and BWI, 2010–2015.⁹⁷

Airfare	2010	2011	2012	2013	2014	2015	Avg.
DCA	\$179.8	\$183.7	\$185.4	\$182.7	\$186.3	\$174.9	\$182.1
BWI	\$135.3	\$151.0	\$155.8	\$153.5	\$159.4	\$153.9	\$151.5
Difference	\$44.5	\$32.7	\$29.6	\$29.1	\$26.9	\$21.0	\$30.6
Airport charge per departing passenger (CPE)							
DCA	\$13.3	\$13.4	\$12.8	\$13.4	\$11.3	\$13.3	\$12.9
BWI	\$10.1	\$10.0	\$9.4	\$9.5	\$9.8	\$9.9	\$9.8
Difference	\$3.2	\$3.3	\$3.4	\$3.9	\$1.4	\$3.5	\$3.1
CPE % of airfare							
DCA	7.4%	7.3%	6.9%	7.3%	6.0%	7.6%	7.1%
BWI	7.5%	6.6%	6.0%	6.2%	6.2%	6.4%	6.5%

In the U.K., the Civil Aviation Authority (CAA) and Frontier Economics modeled the airport charge elasticity of demand for passengers at Stansted Airport, i.e., the change in passenger demand for Stansted resulting from a 10% increase in Stansted airport charges.⁹⁸ Stansted is one of five London area airports and a major base for ultra-low-cost airline Ryanair.⁹⁹ Therefore, compared to most airports, an increase in airport charges at Stansted is likely to have an outsized effect on Stansted air service because of the availability of multiple substitute airports and the cost-sensitivity of Ryanair.¹⁰⁰

⁹⁷ In connection with this Article, the Author reviewed and analyzed domestic airfare data from the Bureau of Transportation Services and CPE data from FAA Forms 127. *See supra* note 6.

⁹⁸ The CAA model assumes that airport charges are about 10% of airfares at Stansted and that 100% of any increase in airport charges is passed through to ticket prices. Under the full pass-through assumption, the airport charge elasticity is simply the airfare elasticity of demand multiplied by the ratio of the airport charge to the airfare. *See* CIV. AVIATION AUTH., ANNEX 3 – STANSTED’S OWN AIRPORT CHARGE ELASTICITY – A SUMMARY OF THE EVIDENCE AND RESEARCH 3 (2013); DAN ELLIOTT & CLODA JENKINS, FRONTIER ECON., KEEPING THE LID ON: ANALYZING COMPETITION BETWEEN UK AIRPORTS (2008), <https://www.frontier-economics.com/media/2776/keeping-the-lid-on-final-v4-03-06-08.pdf> [<https://perma.cc/858E-Q4RJ>].

⁹⁹ *See, e.g., London Stansted Airport*, VISIT LONDON, <https://www.visitlondon.com/traveller-information/travel-to-london/airport/stansted> [<https://perma.cc/RZ88-6BNV>].

¹⁰⁰ *See* CIV. AVIATION AUTH., *supra* note 98, at 5.

Even at Stansted, where very high airfare airport charge elasticity would be expected, the CAA found low airport charge elasticity.¹⁰¹ Separately, Frontier Economics explained that “a 10% reduction in [Stansted Airport] charges, fully passed through, might be needed to compensate for an additional 1% travel time” to the airport.¹⁰² In other words, it would be necessary to cut airport charges by 10% to attract air travelers located just 1% further away from the airport in terms of driving time. In short, under ordinary circumstances, increases in airport charges have little effect on passenger choice of airports. The following Section discusses the non-distribution constraint and its role in constraining airport costs and charges.

C. THE EFFECTIVENESS OF THE NON-DISTRIBUTION CONSTRAINT

The non-distribution constraint underlying U.S. airport economic regulation is the primary form of economic regulation for non-profit and charitable organizations and is found in many state statutes regulating non-profit organizations.¹⁰³ In a widely cited 1980 article on non-profit organizations, Henry Hansmann concluded that while non-profits could raise prices or cut quality with little fear of customer reprisal, they lack the incentive to do so “because those in charge are barred from taking home any resulting profits.”¹⁰⁴ The theory is that the lack of a profit motive helps ensure that non-profits act in the best interests of their customers. Thus, the non-distribution constraint increases trust in non-profit firms, which reduces the need for regulation and the cost of regulatory oversight. Hansmann observed that while the non-distribution constraint is generally “poorly policed,” there is broad compliance, “presumably due to adherence to social norms that reinforce the legal restraints on profiteering.”¹⁰⁵

Although Hansmann’s trust-based theory of non-profit enterprises has been influential, Andreas Ortmann and Mark Sches-

¹⁰¹ See *id.* at 9; see also ELLIOTT & JENKINS, *supra* note 98.

¹⁰² ELLIOTT & JENKINS, *supra* note 98, at 3.

¹⁰³ Henry B. Hansmann, *The Role of Nonprofit Enterprise*, 89 YALE L.J. 835, 838–39 (1980) (“A nonprofit organization is, in essence, an organization that is barred from distributing its net earnings, if any, to individuals who exercise control over it. . .”).

¹⁰⁴ *Id.* at 844.

¹⁰⁵ *Id.* at 875. Similarly, Mike Tretheway argues that by and large, the FAA has not exercised its power to regulate airport pricing because “not-for-profit governance lacks the incentives for airports to attempt to set unfair prices.” MIKE TRETHEWAY, AIRPORT OWNERSHIP, MANAGEMENT AND PRICE REGULATION 6 (2001).

inger argue that it “stands on shaky ground. It can be sustained only under particular conditions that have been neither carefully described in theory nor subject to empirical assessment.”¹⁰⁶ They criticize the theory both for exaggerating the significance of the non-distribution constraint and assuming that it is perfectly enforced.¹⁰⁷

Reliance on a trust-based form of economic regulation to govern airport spending is especially suspect. Elected officials may not view compliance with the constraints imposed by the revenue diversion prohibition as necessary to maintain stakeholders’ trust. Instead, those officials may view the revenue diversion prohibition as an administrative obstacle to gaining additional resources to meet the needs of local government and help accomplish personal goals. Interviews with U.S. airport managers confirm that newly elected officials routinely request legal guidance on the extent to which they may tap airport revenue for non-airport purposes.¹⁰⁸

Hansmann’s observation that there is broad compliance with the non-distribution constraint is not true with respect to U.S. airports. Paul Stephen Dempsey notes that “Allegations of the use of airport revenue for nonairport purposes are abundant.”¹⁰⁹ In 2007, the U.S. Department of Transportation Inspector General testified that his office had identified “hundreds of millions of dollars in airport revenue diversions, revenues that should have been used for the capital or operating cost of an airport but were instead used for non-airport purposes.”¹¹⁰ A more recent example is the Inspector General’s 2014 finding that LAX had paid approximately \$8 million in the previous few years to the Los Angeles Police Department without documentation showing that the services provided were airport-related.¹¹¹

Another issue with the non-distribution constraint is that it alleviates pressure on airport managers to maximize revenue or minimize costs. If profits can legally be used only for airport cap-

¹⁰⁶ Andreas Ortmann & Mark Schlesinger, *Trust, Repute and the Role of Nonprofit Enterprise*, 8 VOLUNTAS: INT’L J. VOLUNTARY & NONPROFIT ORGS. 97, 97 (1997).

¹⁰⁷ See *id.* at 98.

¹⁰⁸ See Peter J. Kirsch & Christian L. Alexander, *Permissible Uses of Airport Property and Revenue*, 40 LEGAL RSCH. DIG., Dec. 2020, at 1, 1.

¹⁰⁹ Dempsey, *supra* note 23, at 26.

¹¹⁰ *Id.* at 27.

¹¹¹ U.S. DEP’T OF TRANSP., OFF. OF INSPECTOR GEN., AV-2014-035, FAA OVERSIGHT IS INADEQUATE TO ENSURE PROPER USE OF LOS ANGELES INTERNATIONAL AIRPORT REVENUE FOR POLICE SERVICES AND MAXIMIZATION OF RESOURCES 1–2 (2014).

ital or operating costs and cannot be distributed to the airport owner, then why maximize profits? Under this constraint, why not break up procurements into more expensive packages that ensure that many local firms can participate? Why not award contracts on terms that are especially advantageous to favored firms?

Taking the two constraints together—the non-distribution constraint and the limitation to actual airport costs—there is no reason to believe they create an incentive to limit airport spending. As Anne Graham concludes, “Although such a system can ensure that the prices are related to costs, it provides no incentives to reduce costs. . . . Cost inefficiencies might be built into the cost structure Such a system can also encourage over investment.”¹¹² Section III.A discusses the prior studies on this subject, which, despite research limitations, tend to show that public-sector airports are less efficient than privatized airports.

D. HOW ELECTED OFFICIALS BENEFIT FROM THE CURRENT SYSTEM

To this point, this Article has focused on the lack of cost reduction or efficiency incentives built into airport economic regulations. This Section describes the associated principal-agent problem of the politicians’ interests as agents differing from those of the airlines as principal. In addition, the Article discusses the institutional incentives that make the FAA a reluctant regulatory enforcer. Finally, in Section II.F, the Article discusses the influence of consumers and voters as principals.

1. *Airport Spending*

Why are politicians drawn to airports? For the same reason that Willie Sutton robbed banks—that is where the money is. In comparison with other parts of municipal government, airports are large commercial enterprises. Because airlines pay the full cost of the facilities they use, and other commercial tenants pay rates that far exceed the cost of the facilities they use, many airports accumulate substantial surpluses.¹¹³ The result is that local

¹¹² ANNE GRAHAM, *MANAGING AIRPORTS: AN INTERNATIONAL PERSPECTIVE* 155 (3d ed. 2008).

¹¹³ FAA rules direct airports not to accumulate funds beyond the amount necessary for future projects, but many airports have accumulated substantial reserves and the FAA has never taken action to force airports to reduce these reserves. *See generally* U.S. DEP’T TRANSP., FED. AVIATION ADMIN., *FAA AIRPORT*

officials view the airport as a potential funding source for a variety of projects—as Dempsey points out, “[i]t is understandable that financially strapped local governments look to airports as ‘cash cows.’”¹¹⁴

Figure 2 shows a simplified flow of funds for a typical municipal airport. Airlines provide the majority of airport operating revenue—approximately 54% over the five years 2013–2017—while concessionaires provide the rest.¹¹⁵ In addition, airports issue bonds to pay for capital projects, with the debt service paid by airlines and other tenants.¹¹⁶ Separately, the FAA provides grants (from taxes paid by airline passengers) to help fund some airport projects, such as runways and taxiways.¹¹⁷

Apart from paying debt service, airport spending is primarily for:

- (1) Compensation—for airport employees (who are either municipal employees at municipal airports or airport authority employees at authority airports);¹¹⁸
- (2) Contracted services—a wide range of contracted services, including design and construction, airport busing, janitorial services, and specialized maintenance services;¹¹⁹
- (3) City services—services provided to the airports by the local municipality, such as police, fire, payroll, insurance, and other financial and administrative services;¹²⁰ and
- (4) Airport marketing and promotional activities—such as advertising, overseas marketing trips, and airport participation in local organizations and events.¹²¹

COMPLIANCE MANUAL 17-3 (2009), https://www.faa.gov/documentlibrary/media/order/5190_6b.pdf [<https://perma.cc/3E9K-85G3>].

¹¹⁴ Dempsey, *supra* note 23, at 28.

¹¹⁵ U.S. GOV'T ACCOUNTABILITY OFF., GAO-20-298, AIRPORT INFRASTRUCTURE: INFORMATION ON FUNDING AND FINANCING FOR PLANNED PROJECTS 18 (2020).

¹¹⁶ *See id.* at 19.

¹¹⁷ *See id.* at 7.

¹¹⁸ INT'L CIV. AVIATION ORG., STATE OF AIRPORT ECONOMICS 3 (2015) https://www.icao.int/sustainability/airport_economics/state%20of%20airport%20economics.pdf [<https://perma.cc/YS4Q-F6HZ>].

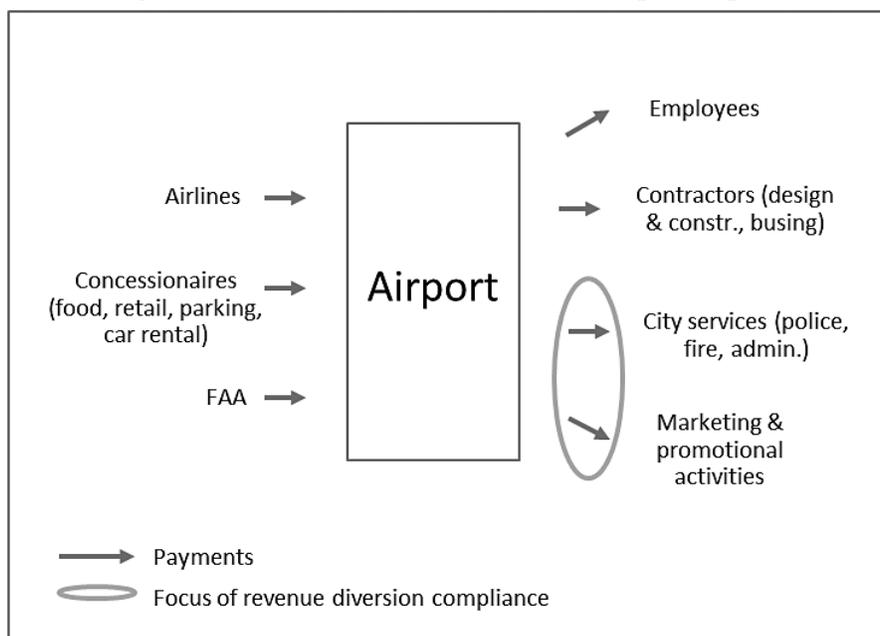
¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *See id.* Survey results for 2013 show that capital expenses amounted to 38% of total airport costs, and operating expenses amounted to 62%. *Id.* at 2. The two largest components of airport operating expenses were personnel expenses (35%) and contracted services (23%). *Id.* at 3.

The diagram highlights the two areas which are the primary focus of the FAA's prohibition against airport revenue diversion—city services and airport marketing and promotional activities.

Figure 2—Flow of funds, U.S. municipal airport.



2. Politicians' Goals and Methods

Political enterprises seek mutual gains from trade, just as commercial enterprises do.¹²² In exchange for financial support, elected officials commonly reward supporters in the form of patronage, i.e., by providing government jobs or influencing contract awards to benefit supporters.¹²³ Airport employment and spending are substantial, so by including the local airport as part of the municipal government, officials can influence employment and contracting for a larger enterprise, and the increase

¹²² Richard E. Wagner, *The Peculiar Business of Politics*, 36 CATO J. 535, 545 (2016).

¹²³ See, e.g., Jeff Coen & Bill Ruthhart, *Weighing Third Term, Emanuel Relies on Campaign Donors Who Get City Hall Benefits*, CHI. TRIB. (Sept. 8, 2017, 5:00 AM), <https://www.chicagotribune.com/news/local/politics/ct-rahm-emanuel-campaign-fundraising-met-0908-20170908-story.html> [<https://perma.cc/AT3Q-WGJJ>] (reporting that 6% of Mayor Rahm Emanuel's 100 most loyal supporters received city hall benefits, including airport contracts).

in influence comes at a low cost. Elected officials face fewer constraints on airport spending than other municipal spending because airport funding comes primarily from fees charged to airlines and airport concessionaires, not from taxes charged to local residents.¹²⁴ Unlike local residents, distant airline executives cannot vote out of office elected officials who oversee excessive spending by airport managers.¹²⁵ Also, as discussed in Section II.B above, airlines do not have a good substitute for the local airport, and airport charges are a small portion of the total airline operating expenses.

The stated goals of elected officials concerning airports generally relate to economic development and focus primarily on attracting more flights to facilitate tourism and business and create local jobs.¹²⁶ Airports are “recognized as having a catalytic effect on economic growth and investment and they compete for airline service.”¹²⁷ Widely recognized, but often unstated, political goals facilitated by municipal control of airports are to help fund the municipal budget; reward political supporters; attract campaign contributions; and accomplish broader social

¹²⁴ See *The Cost of Doing Nothing: Why Investing in Our Nation's Airports Matters: Hearing Before the Comm. on Transp. and Infrastructure*, 116th Cong. 5–6, 20 (2019) (statement of Lawrence J. Krauter, A.A.E, AICP, Chief Executive Officer, Spokane International Airport) (“[Airports] do not receive general fund support from [c]ity or [c]ounty taxpayers, and therefore rely on revenues generated by parking, ground leases, permit fees[,] and concession agreements to fund [their] operations.”). Out-of-town visitors don’t vote, but resident travelers do, which is why municipal airports are unlikely to raise parking rates in advance of a local election. Any shortfall in revenue caused by less parking revenue can be made up by higher airport charges to the airlines. High taxes on hotel rooms and car rentals are paid by travelers who don’t vote.

¹²⁵ Mayors and airport directors view the local airport as the “gateway to the city” and may believe this requires appropriately impressive architecture. See *AAR Corp. and Oklahoma City Department of Airports Unveil New Gateway to the City at Will Rogers World Airport*, AAR CORP. (July 26, 2010), <https://investors.aarcorp.com/news-releases/news-release-details/aar-corp-and-oklahoma-city-department-airports-unveil-new> [<https://perma.cc/8B7Q-JQCD>]. Since the airlines and other commercial tenants pay the costs of all development, the city’s development decision calculus is likely to be different than if the city were spending taxpayer dollars.

¹²⁶ See generally INDUSTRY HIGH LEVEL GROUP, AVIATION BENEFITS REPORT (2019).

¹²⁷ Assaf & Gillen, *supra* note 13, at 187. See generally Bruce A. Blonigen & Anca D. Cristea, *Airports and Urban Growth: Evidence from a Quasi-Natural Policy Experiment* (Nat’l Bureau of Econ. Rsch., Working Paper No. 18278, 2012); JOAKIM KARLSSON, J. RICHARD LUDDERS, DALE WILDE, DARREN MOCHRIE & CRAIG SEYMOUR, TRANSP. RSCH. BD., AIRPORT COOPERATIVE RESEARCH PROGRAM SYNTHESIS 7, AIRPORT ECONOMIC IMPACT METHODS & MODELS (2008).

goals, such as promoting higher local minimum wages, a union shop, or higher environmental standards.¹²⁸ Elected officials improve their re-election prospects by using their control over the airport to help achieve these goals.

Achieving most of these goals requires increased airport spending, resulting in higher charges to the airlines and other airport users. For example, greater-than-necessary spending for city services such as police, fire, and administrative support increases airport charges, as do contract set-asides for local firms, airport contributions to local organizations, and airport funding for trade missions.

Airlines have simple goals concerning most airports—to obtain the facilities necessary to accommodate their flights and passengers and to pay low airport charges.¹²⁹ Airline executives, not airport managers, decide how many flights to offer, and airline executives consider the level of airport charges as one factor in their route planning decisions.¹³⁰ In theory, higher airport charges, like higher fuel costs, shift the airline supply curve upwards and, all other things being equal, reduce the quantity of air service supplied. Thus, there is some tension between the elected officials' separate goals of attracting more flights and providing more patronage-related benefits for supporters.¹³¹ However, as discussed in Section II.B.2 above, charges at U.S. airports remain a small part of overall airline costs, and therefore airport spending decisions ordinarily have little influence on air service decisions by airlines.

¹²⁸ See, e.g., Michael Gannon, *PA Approves Wage Hikes at Airports*, QUEENS CHRON. (Mar. 29, 2018), http://www.qchron.com/editions/queenswide/pa-approves-wage-hikes-at-airports/article_836e8518-47a5-51fe-849f-7c8f0da7e6ac.html [<https://perma.cc/9E2L-5MQF>]; Patrick McGeehan, *Top Minimum Wage in U.S., \$19 Approved for New York's Airport Workers*, N.Y. TIMES (Sept. 27, 2018), <https://www.nytimes.com/2018/09/27/nyregion/airport-workers-minimum-wage-nyc.html> [<https://perma.cc/AWT3-XQM6>].

¹²⁹ In some cases, individual airline managements may also want airport management to take action that favors their airline over others, but federal law forbids airports from unjustly discriminating among aeronautical users. See AIRPORT SPONSOR ASSURANCES, FED. AVIATION ADMIN. 10 (2014), https://www.faa.gov/airports/aip/grant_assurances/media/airport-sponsor-assurances-aip.pdf [<https://perma.cc/6MR6-8RYZ>].

¹³⁰ Cf. *Overview of ASD*, TRANSP. RSCH. BD. COOP. RSCH. PROGRAMS, <https://crp.trb.org/acrpwebresource1/overview-of-asd/> [<https://perma.cc/3UNR-74EZ>].

¹³¹ Airport managers are often put in the position of trying to balance these conflicting goals.

Elected officials use a variety of mechanisms to gain access to and direct the spending of airport funds. For example, in awarding contracts for food and beverage and retail concessions, airport managers, acting under the direction of their elected bosses, sometimes break up procurements into smaller bid packages to help ensure that business is spread out among politically favored firms.¹³² Such an approach may maximize political contributions, especially if campaign contribution limits are set at low levels. Further, airports sometimes limit participation in contract bids to local firms.¹³³ More often, airports set participation goals for local firms or informally signal that bidders are more likely to be successful if they include local firms in their teams. Because airport concession contracts can be highly profitable, firms seeking economic rents from these contracts invest heavily in local lobbying efforts as do labor unions seeking to ensure that airport contract awards require or favor firms that employ union labor.¹³⁴

Municipal control over the airport makes it easier for elected officials to allocate the cost of city services between the airport budget and the general municipal budget to minimize the amount charged to the municipal budget. For example, three common reports about police staffing at airports are: (1) that local governments assign the most senior and therefore most highly-paid police to the airport; (2) that attempts to match municipal police charged to the airport budget with police physi-

¹³² See, e.g., Jennifer Oldham, Noam N. Levey & Jessica Garrison, *Mayor's Man at the Airport Quits Amid Contract Probes*, L.A. TIMES (Apr. 7, 2004, 12:00 AM), <https://www.latimes.com/archives/la-xpm-2004-apr-07-me-stein7-story.html> [<https://perma.cc/A9KX-VPYV>].

¹³³ For example, the four construction opportunities that were listed on MWAA's website on September 27, 2018, had a "100% Local Disadvantaged Business Enterprise (LDBE) participation requirement." See *1-180C141: Inspection of Baggage Handling Systems, National Airport*, METRO. WASH. AIRPORTS AUTH., <https://www.mwaa.com/business/1-18-c141-inspection-baggage-handling-systems-national-airport> [<https://perma.cc/F9L2-TUJX>] (Sept. 24, 2018). Local Disadvantaged Business Enterprise is defined as a small business concern located within 100 miles of Washington, D.C. See *Local Disadvantaged Business Enterprise (LDBE) Certification*, METRO. WASH. AIRPORTS AUTH., <https://www.mwaa.com/business/departmentsupplier-diversity-dsd-1> [<https://perma.cc/7MFH-66BK>].

¹³⁴ See, e.g., Gene Maddaus, *Food Fight at LAX*, LA WEEKLY (June 24, 2010), <http://www.laweekly.com/news/food-fight-at-lax-2165774> [<https://perma.cc/XXS7-YFLM>] (detailing substantial campaign contributions by bidders and appeal of contract award); see also Martin Moodie, *DFASS Challenge to Denver Duty Free Award Dismissed but Appeal Certain*, MOODIE REPORT (Jan. 22, 2015), <https://www.moodiedavittreport.com/dfass-challenge-to-denver-duty-free-award-dismissed-but-appeal-certain/> [<https://perma.cc/LUR4-AD2G>].

cally present at the airport reveal discrepancies; and (3) when the municipal budget needs to be cut, the local government may respond by assigning additional police to the airport so that their salaries are removed from the municipal budget and paid instead by airport tenants.¹³⁵

Marketing and promotional activities funded by airports may provide benefits primarily to elected officials or the local government instead of the airport. In fact, general marketing spending by cities and counties, including the staffing of city promotional offices located overseas, has been charged to airports so frequently that Congress has enacted legislation specifically prohibiting airport spending on general economic development activities.¹³⁶ Still, delegations of city officials often take trips to attractive foreign destinations with little nexus with the local airport—it is the standard practice for these trips to include meeting with a foreign airport or foreign-based airline so that the trip expenses can be charged to the airport.¹³⁷

Corruption in the form of bribes by contractors and kickbacks has been a problem at some U.S. airports.¹³⁸ Not surprisingly, one prior study of U.S. commercial service airports found that

¹³⁵ See generally U.S. GOV'T ACCOUNTING OFF., GAO/GGD-85-24, COMPENSATION AND STAFFING LEVELS OF THE FAA POLICE FORCE AT WASHINGTON NATIONAL AND WASHINGTON DULLES INTERNATIONAL AIRPORTS (1985). Along these same lines, police and fire equipment purchased by the municipality and charged to the airport budget is sometimes reported to be physically located elsewhere. See, e.g., U.S. DEPT. OF TRANSP., AV-2014-035, OFFICE OF INSPECTOR GENERAL AUDIT REPORT: FAA OVERSIGHT IS INADEQUATE TO ENSURE PROPER USE OF LOS ANGELES INTERNATIONAL AIRPORT REVENUE FOR POLICE SERVICES AND MAXIMIZATION OF RESOURCES (2014); U.S. DEPT. OF TRANSP., R4-FA-7-035, OFFICE OF INSPECTOR GENERAL AUDIT REPORT: DIVERSION OF AIRPORT REVENUE DADE COUNTY AVIATION DEPARTMENT (1997).

¹³⁶ See 49 U.S.C. § 47107(k)(2)(B); Policy and Procedures Concerning the Use of Airport Revenue, 64 Fed. Reg. 7696, 7701 (Feb. 16, 1999)

¹³⁷ See, e.g., *3 Orlando Airport Officials Repay Travel Expenses*, TAMPA BAY TIMES (Oct. 8, 2005), <https://www.tampabay.com/archive/1993/02/07/3-orlando-airport-officials-repay-travel-expenses/> [<https://perma.cc/WNU5-YDVS>].

¹³⁸ See, e.g., Dan Klepal, Stephen Deere & Kelly Yamanouchi, *Reed Withheld Subpoena Aimed at Airport in Atlanta Bribery Probe*, ATL. J.-CONST. (May 14, 2018), <https://www.ajc.com/news/local-govt-politics/reed-withheld-subpoena-aimed-airport-atlanta-bribery-probe/FIA4zpU23eJQkzML5R1PbP/> [<https://perma.cc/32CM-DDJ6>]; Robert Snell, *Feds: Detroit Airport Manager Took Bribes, Ate Evidence*, DETROIT NEWS (May 23, 2018, 6:02 PM), <https://www.detroitnews.com/story/news/local/wayne-county/2018/05/23/detroit-metro-jim-warner-airport-bribery-indicted-feds/636871002/> [<https://perma.cc/AB7L-25LN>]; Douglas Hanks, *Miami International Airport Official Arrested on Bribery Charges*, MIAMI HERALD (Sept. 23, 2016), <http://www.miamiherald.com/news/local/community/miami-dade/article103657392.html> [<https://perma.cc/2ZLC-XKAH>].

“airports are less productive in more corrupt environments.”¹³⁹ The study also found that airports in more corrupt environments tend to use more contractors to replace in-house labor (perhaps because contractors are better positioned than employees to pay kickbacks and provide significant political contributions).¹⁴⁰ More commonly, though, politically-motivated airport spending is either entirely legal or goes undetected.

Even when illegal revenue diversion is detected, the remedy is only that the municipality must return the diverted funds to the airport with interest.¹⁴¹ The revenue diversion regulations state that once the FAA finds reasonable cause to believe that revenue diversion has occurred, “such [enforcement] action will cease if the airport sponsor agrees to return the diverted amount plus interest.”¹⁴² The FAA has the authority to impose a civil penalty and to consider prior airport revenue diversion violations in awarding future grants,¹⁴³ but there does not appear to be any evidence that the FAA has done so. Elected officials may worry about possible bad publicity from revenue diversion violations, but apart from this concern, the risks to elected officials that divert airport revenue are low.

3. *Role of the FAA*

Even with aggressive enforcement of the revenue diversion prohibition, elected officials can lawfully direct airport spending to help them accomplish their political goals. But does the FAA even attempt to enforce the revenue diversion prohibition aggressively? Allegations of revenue diversion are abundant, and the independent U.S. DOT Inspector General has found FAA oversight inadequate.¹⁴⁴

¹³⁹ Jia Yan & Tae Hoon Oum, *The Effect of Government Corruption on the Efficiency of US Commercial Airports*, 80 J. URBAN ECON. 119, 119 (2014) (examining the relationship between a general statewide measure of corruption with the efficiency of locally run airports). Yan and Oum caution, however, that the statewide corruption measure may paint with too broad a brush since airports are creations of local governments, which presumably vary broadly within a state in their attitudes towards corruption. *See id.*

¹⁴⁰ *See id.*

¹⁴¹ Policy and Procedure Concerning the Use of Airport Revenue, 64 Fed. Reg. at 7722.

¹⁴² *Id.*

¹⁴³ *See* 49 U.S.C. § 46301(a)(3), (e)(2).

¹⁴⁴ *See supra* notes 109–111 and accompanying text.

Why is this? A likely reason is that the same office within the FAA serves as both grantor to and regulator of airports.¹⁴⁵ In its role as grantor, the FAA Airports Office awards several billion dollars in airport grants annually, maintains ongoing relationships with airport managers and staff, and maintains only limited contact with airline staff.¹⁴⁶ In its other role as regulator, the FAA Airports Office “monitors airport sponsor [i.e., city and county] compliance with limits on the use of airport revenue,” and “adjudicates formal complaints.”¹⁴⁷ In addition, FAA Airport Office employees may come from or go on to positions with airports or airport consulting firms.

Federal agencies with grant-making authority have a history of reluctance to cut-off funds to grant recipients, which has been explained on multiple grounds, including that “funding cut-offs will hurt the grant program’s beneficiaries and so will undermine the agency’s ultimate goals . . . [and] that agencies are neither designed nor motivated to pursue funding cut-offs.”¹⁴⁸ Long-term FAA-airport relationships and the movement of FAA and airport staff back and forth also make it more likely that the FAA will resolve disputes between conflicting airline and airport interests in favor of airport interests. The FAA’s lack of appetite for its economic, regulatory enforcement role is signaled by its oft-repeated statement of its “fundamental position” that “the issue of rates and charges is best addressed at the local level by agreement between users and airports.”¹⁴⁹ For a regulator to repeatedly advise a monopolist (the airport) and a consumer (the airline) to work out their differences on their own seems unlikely to result in effective economic regulation of the monopolist.

¹⁴⁵ See *What We Do*, FED. AVIATION ADMIN. (June 27, 2016), <https://www.faa.gov/about/mission/activities/> [https://perma.cc/89RV-PADD]; *FAA Awards \$898.9 Million in Airport Improvement Grants*, FED. AVIATION ADMIN. (May 13, 2021), <https://www.faa.gov/newsroom/faq-awards-8989-million-airport-improvement-grants?newsId=26100> [https://perma.cc/64JP-Z5YJ]. Within the Airports Office, the actual grant award and grant compliance staffs are separate. See *Airports*, FED. AVIATION ADMIN., https://www.faa.gov/about/office_org/headquarters_offices/arp/ [https://perma.cc/U2WF-BAZB].

¹⁴⁶ See *Airports*, *supra* note 145.

¹⁴⁷ See *Airport Compliance and Management Analysis*, FED. AVIATION ADMIN., https://www.faa.gov/about/office_org/headquarters_offices/arp/offices/aco/aco100/ [https://perma.cc/SC8U-BJ94].

¹⁴⁸ Eloise Pasachoff, *Agency Enforcement of Spending Clause Statutes: A Defense of the Funding Cut-Off*, 124 YALE L.J. 248, 248 (2014).

¹⁴⁹ Policy Regarding Airport Rates and Charges, 61 Fed. Reg. 31,994, 32,017 (June 21, 1996), amended by 78 Fed. Reg. 55,330, 55,331 (Sept. 10, 2013).

E. DO AIRPORT AUTHORITIES REDUCE THE LEVEL OF POLITICAL INVOLVEMENT?

Do alternate forms of public-sector governance do a better job of avoiding the inefficiencies that result from local political control? After municipal governance, the next most common form of airport governance is the airport authority, a quasi-governmental entity with its own governing board and non-municipal workforce.¹⁵⁰ “Airport authorities may be created by state legislation, municipal or county action, or sometimes by joint agreement among jurisdictions. . . . Appointments to an airport authority or board may be made by a wide variety of organizations, including city, county, or state elected officials, business organizations such as the chamber of commerce”¹⁵¹ Are airport authorities more independent from political influence?

Airport authorities are often considered to have a degree of separation from elected officials and municipal government, and therefore are thought to operate more like a business.¹⁵² But this is not necessarily the case. For example, the Port Authority of New York and New Jersey commissioners are appointed for six-year terms by the respective governors of New York and New Jersey, who retain the right to “veto the actions of the commissioners from his or her own state.”¹⁵³ There have also been reports, such as “Bridgegate,” involving actions by Port Authority employees to punish political opponents of the Governor of New Jersey.¹⁵⁴

Similarly, Jia Yan and Tae H. Oum, in their study of airport corruption, observe that “simply creating mission-focused agencies [such as airport authorities] as a way to reform governance structure with the purpose of improving the efficiency of providing local public services would not work well under corrupt environments”¹⁵⁵

A study on airport governance by the Bureau of Governmental Research, a non-profit New Orleans think tank, summarizes the strengths of airport authority governance as follows:

¹⁵⁰ Hazel, *supra* note 50, at 16.

¹⁵¹ *Id.*

¹⁵² *Id.* at 23.

¹⁵³ See *Governance, Ethics and Integrity*, PANYNJ, <http://corpinfo.panynj.gov/pages/governance-ethics/> [<https://perma.cc/3NME-8FJH>].

¹⁵⁴ See, e.g., *Ex-Boss of Airport, Bridge Agency Admits Corruption*, TIMES LEADER (July 14, 2016), <https://www.timesleader.com/wire/national-wire/565259/ex-boss-of-airport-bridge-agency-admits-corruption-2> [<https://perma.cc/4TMP-ARDF>].

¹⁵⁵ Yan & Oum, *supra* note 139, at 128.

There [is] . . . less red tape, a single purpose and focus, greater freedom from politics, and the ability to run the airport as a business. . . . They can also improve management by operating independently of traditional municipal civil service systems, thus allowing for higher salaries and more flexibility in hiring and firing. They can bypass cumbersome local . . . processes [including certain procurement and decision-making processes]. Authorities are generally perceived as less subject to local political influence, leading at times to the criticism that they are unresponsive to citizens' concerns.¹⁵⁶

However, the study also concluded:

The fact that an airport is owned and operated by an authority will not in and of itself result in better management and less political interference. The success of a given authority depends to a large extent on who the members are, what their true interests are, and the history and culture of the community.¹⁵⁷

Evidence regarding the charge levels of airport authorities, port authorities, and municipal airports is discussed in Section III.D.3.

F. THE ROLE OF CONSUMERS/VOTERS

Missing so far from this discussion is any mention of the role of consumers and voters and their interest in how airports are run. It turns out that their role is usually very limited. A consumer's primary air travel relationship is with the airline, not the airport. Airlines find that consumers place little weight on the quality of airport facilities in making air travel decisions.¹⁵⁸ Leisure travelers focus primarily on the ticket price and secondarily on the convenience of the flight schedule, while business travelers do the opposite.¹⁵⁹ Both leisure and business travelers are unaware of the airport charges paid by airlines.

Elected officials are often sensitive to airport parking rates that are visible and paid directly by local residents who park at

¹⁵⁶ BUREAU OF GOVERNMENTAL RSCH., NEW ORLEANS INTERNATIONAL AIRPORT: GOVERNANCE, REGIONAL COOPERATION AND AIRPORT EXPANSION 32 (1999).

¹⁵⁷ *Id.*

¹⁵⁸ *Cf.* Kimon Proussaloglou & Frank S. Koppelman, *The Choice of Air Carrier, Flight, and Fare Class*, 5 J. AIR TRANSP. MGMT. 193, 193 (1999) (providing a model to quantify travelers' tradeoffs in choice of air travel).

¹⁵⁹ *Id.* at 198. Also, leisure travelers "are more prone to searching for tickets, an average of 2.48 times compared to 1.03 times for business travelers." David Liu, A Model of Optimal Consumer Search and Price Discrimination in the Airline Industry 1 (Nov. 15, 2015) (Research paper, Massachusetts Institute of Technology), <http://economics.mit.edu/files/11072> [<https://perma.cc/8VVT-EM4X>].

the airport, unlike airport charges.¹⁶⁰ As a result, airport managers at municipal airports may refrain from raising parking rates in the run-up to elections. In addition, elected officials are sometimes sensitive to the prices charged at airport restaurants and shops.¹⁶¹ In some cases, airports use benchmarks from the surrounding community to limit airport food and beverage prices either to the same level as in the surrounding community or, more often, to an amount of 10% or so higher.¹⁶² Finally, since only visitors rent cars at airports and stay at local hotels, local taxes on rental cars and hotel stays are usually set at much higher rates than other local taxes.¹⁶³

The airport issue that attracts the most heated attention by voters is the level of aircraft noise that residents experience from aircraft flying at low altitudes.¹⁶⁴ This issue has very little connection with how the local airport is managed. Because the FAA sets flight paths and federal law regulates aircraft noise emissions, local elected officials' involvement consists primarily of lobbying the FAA directly or through members of Congress to alter flight paths.¹⁶⁵

G. SUMMARY OF PART II

Summarizing the findings of Part II, current airport economic regulations provide little incentive for airports to control costs or allocate capital efficiently. They invite local elected officials to become deeply involved in employment and contracting decisions at U.S. airports, leading to inefficiencies and higher airport charges. Because of the FAA's institutional relationship

¹⁶⁰ See, e.g., Rich Connell, *Critics Want City to Tap Airport, Port Profits: Government: Steep Increases in Travel Spending by Two Commissions Have Prompted Calls for Tighter Controls. Some Officials See Cash-Rich Agencies as a Way to Ease Fiscal Problems*, L.A. TIMES (Nov. 4, 1991, 12:00 AM), <https://www.latimes.com/archives/la-xpm-1991-11-04-me-691-story.html> [<https://perma.cc/QMA7-TK6K>].

¹⁶¹ See, e.g., LEIGH FISHER, TRANSP. RSCH. BD., AIRPORT COOPERATIVE RESEARCH PROGRAM REPORT 54, RESOURCE MANUAL FOR AIRPORT IN-TERMINAL CONCESSIONS 18 (2011).

¹⁶² See *id.* at 149.

¹⁶³ See *Rental Car Taxes*, NAT'L CONF. OF STATE LEGISLATURES (Aug. 30, 2019), <https://www.ncsl.org/research/fiscal-policy/rental-car-taxes.aspx> [<https://perma.cc/F8RL-4DRV>].

¹⁶⁴ See, e.g., Katy McLaughlin, *Affluent—and Angry—Homeowners Raise Ruckus Over Roar of Overhead Planes*, WALL ST. J. (July 5, 2018, 11:59 AM), <https://www.wsj.com/articles/affluentand-angryhomeowners-raise-ruckus-over-roar-of-overhead-planes-1530806379> [<https://perma.cc/C2LP-SHE6>].

¹⁶⁵ See *id.*

with airports, the FAA is reluctant to investigate or enforce the revenue-diversion rules aggressively.

Elected officials benefit from the current system in multiple ways: (1) by gaining access to airport funds to pay for city employees, city services, and city-preferred events without tapping tax-funded budgets; (2) by influencing contract awards to favored firms, resulting in less effective procurement; (3) by implementing policy initiatives such as local minimum wage and “green” initiatives via airport contracting requirements that do not affect the city budget; and (4) sometimes by obtaining campaign contributions from firms eager to earn economic rents from their airport work.

The creation of independent airport authorities may help but does not necessarily solve these problems. Air travel consumers and voters remain uninvolved and largely unaware of these issues because the direct economic impact on them is minimal.

III. WHY DOES THE CURRENT SYSTEM PERSIST?

Based on the analysis so far, the benefits of the current system of airport governance and economic regulation are obvious for local elected officials but not for airlines. Are there alternatives that offer greater benefits for both? Specifically, why not privatization, which may offer substantial financial payoffs for local governments? This Part discusses why the current system persists. It begins by discussing the privatization alternative adopted by much of the world and the rarely implemented U.S. version of privatization permitted under federal law.

A. THE ALTERNATIVES AND THEIR ADVANTAGES AND DISADVANTAGES

Although the range of possible alternatives to the U.S. system is broad,¹⁶⁶ the preferred alternative for national governments

¹⁶⁶ The alternatives include making minor modifications to the current system, such as separating the responsibilities for grant making and economic regulatory enforcement into separate agencies with different goals and constituencies. They also include privatizing particular airport functions or projects, for example, by contracting with a developer to build and operate restaurants and shops at an airport or even entire terminal buildings. *See* TANG, *supra* note 3, at 2. These partial privatizations offer some private sector efficiency benefits to airlines and other tenants, while preserving some control benefits for politicians. *See id.* at 3. For example, in these projects, airports usually require set-asides for disadvantaged and local businesses. *See* U.S. DEP’T OF TRANSP., CONTRACTING WITH DOT: A GUIDE FOR SMALL BUSINESSES 21 (2021). Also, in some cases, politicians can influ-

in many countries is privatizing airports.¹⁶⁷ Airport privatization began in 1987 when the U.K. government privatized London Heathrow, Gatwick, and Stansted airports by creating the British Airports Authority and its subsequent share offering.¹⁶⁸ The most recent estimates are that 75% of air passengers in Europe travel through airports with a majority or near-majority private ownership and that globally, “43% of all air travelers use airports with significant private ownership.”¹⁶⁹ As of 2014, “at least 450 airports around the world have been privatized to some degree.”¹⁷⁰

Privatization itself means little beyond the fact that an airport is privately managed and at least partially privately owned. What are the economic regulations associated with privatization, and what incentives do those regulations create?

Airport economic regulations generally fall into three categories: rate of return, price cap, and price monitoring.¹⁷¹ Rate of return regulation is used in France and Ireland.¹⁷² Price cap regulation is used in the U.K. and Denmark.¹⁷³ Price monitoring, also termed light-handed regulation, is used in Australia and New Zealand, where the government has the right to intervene if it finds that charges are too high.¹⁷⁴ Also, in a few cases, gov-

ence the developer’s selection of contractors, but their degree of control is usually less than if the airport directly selected contractors. An example of partial privatization is the Denver airport’s award of a contract to a private consortium to design and reconstruct the main terminal. The airport and the consortium have a cost-sharing agreement and the consortium will manage the concessions for thirty years. See Stephanie Kelly, *Denver Approves \$1.8 Billion, 34-Year Public-Private Airport Contract*, REUTERS (Aug. 15, 2017, 5:15 PM), <https://www.reuters.com/article/us-usa-municipals-denver/denver-approves-1-8-billion-34-year-public-private-airport-contract-idUSKCN1AV2IJ> [<https://perma.cc/2H3E-K6B7>].

¹⁶⁷ See *supra* note 2 and accompanying text.

¹⁶⁸ See Graeme Wearden, *History of BAA*, GUARDIAN (Aug. 20, 2008), <https://www.theguardian.com/business/2008/aug/20/baa.theairlineindustry1> [<https://perma.cc/AG6N-6DKM>].

¹⁶⁹ See ROBERT W. POOLE, JR., ANNUAL PRIVATIZATION REPORT: AVIATION 4 (2020) (citing AIRPORTS COUNCIL INT’L, POLICY BRIEF: CREATING FERTILE GROUNDS FOR PRIVATE INVESTMENT IN AIRPORTS 5 (2018)).

¹⁷⁰ U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 10, pmb1.

¹⁷¹ See David Gillen, *Airport Governance and Regulation: The Evolution Over Three Decades of Aviation System Reform* 9–10 (Oct. 2008) (unpublished manuscript) https://www.researchgate.net/publication/254272063_Airport_Governance_and_Regulation_the_Evolution_over_Three_Decades_of_Aviation_System_Reform [<https://perma.cc/MJ6M-KPZD>].

¹⁷² See *id.* at 10.

¹⁷³ See *id.*

¹⁷⁴ See *id.* at 9.

ernments have left airports unregulated because competition between airports obviates the need for regulation.¹⁷⁵ London City Airport, which competes with several regulated nearby London area airports, is an example of an airport that is not subject to economic regulation.¹⁷⁶ In contrast, U.S. airport economic regulation has been described as a cost-of-service approach.¹⁷⁷

All forms of economic regulation have drawbacks.¹⁷⁸ With rate-of-return regulation, the regulated firm has an incentive to over-invest to increase its total profits.¹⁷⁹ With price monitoring, the intervention criteria are unclear.¹⁸⁰

Forsyth writes that “Conventional wisdom suggests that price-caps are the best form of price regulation.”¹⁸¹ Commonly used RPI-X price regulation relies on price caps to ensure that airline airport charges increase more slowly than inflation.¹⁸² In the U.S., the airline agreements negotiated in the San Juan privatization discussed in Section III.B and the attempted privatization of Midway follow the RPI-X model.¹⁸³ Two major issues with RPI-X are the complexity of setting the initial price, which then escalates using an agreed-upon formula, and the incentive to cut service quality inherent in price-cap regulation—this means that price-caps bring with them not only the complexity of setting the price cap but also a set of regulations over service quality.¹⁸⁴ Laffont and Tirole point out the information asymmetry inherent in price cap regulation—the regulator does not know how

¹⁷⁵ *But see* Joskow & Rose, *supra* note 11, at 1453 (“One should not assume that the unregulated regime would be a perfectly competitive regime; many regulated industries have characteristics that make this assumption quite implausible.”).

¹⁷⁶ *See* PETER SCOTT, *ECONOMIC REGULATION OF AIRPORTS IN THE UK* 6 (2004).

¹⁷⁷ *See* Gillen, *supra* note 171, at 9.

¹⁷⁸ *See, e.g.*, Joskow & Rose, *supra* note 11, at 1452.

¹⁷⁹ Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 *AM. ECON. REV.* 1052, 1052 (1962).

¹⁸⁰ *See* Gillen, *supra* note 171, at 16.

¹⁸¹ Peter Forsyth, *Price Regulation of Airports: Principles with Australian Applications*, 33 *TRANSP. RES. PART E* 297, 299 (1997).

¹⁸² RPI-X refers to retail price inflation (RPI) minus expected efficiency improvements (X). *RPI-X Regulation*, BODY OF KNOWLEDGE ON INFRASTRUCTURE REGUL., <https://regulationbodyofknowledge.org/glossary/r/rpi-x-regulation/> [<https://perma.cc/A2EL-6HFV>].

¹⁸³ *See infra* notes 206–207 and accompanying text.

¹⁸⁴ Forsyth, *supra* note 181, at 304.

much effort the regulated firm has put into cost-reduction when the initial price is set or the full extent of its ability to do so.¹⁸⁵

M.E. Beesley questions the effectiveness of RPI-X regulation as applied to U.K. airports on multiple grounds, including the fact that the economic regulator serves multiple roles (along the lines of the FAA).¹⁸⁶ Similarly, Cathal Guiomard argues that the effectiveness of the RPI-X approach depends on the assumption that the “[e]conomic regulators arrive from out of the blue to correct the imperfections of the market without themselves being analysed as entities pursuing their own institutional or other objectives”¹⁸⁷

Recognizing that the “best” form of economic regulation is far from ideal, the question remains whether the combination of private governance and price-cap regulation offers clear benefits over the current U.S. system of public-sector governance and cost-of-service regulation. In the U.S., the pervasiveness of public-sector airport governance precludes a direct empirical comparison of public sector and privatized airports. Also, U.S. airports differ from airports in other countries in their services and approach to fee categorization, so it is difficult to compare airport efficiency at municipal airports in the U.S. with privatized airports elsewhere.¹⁸⁸ In Europe, however, there are a significant number of both privatized and government-managed airports, so the two can be compared.

A. Georges Assaf and David Gillen examine the joint impact of governance and type of economic regulation on airport efficiency in Europe.¹⁸⁹ They find that regulated, publicly owned airports are the least efficient and that the greatest improve-

¹⁸⁵ Jean-Jacques Laffont & Jean Tirole, *Using Cost Observation to Regulate Firms*, 94 J. POL. ECON. 614, 626 (1986).

¹⁸⁶ See generally M.E. Beesley, *Airport Regulation*, in REGULATING UTILITIES: A NEW ERA? 81–105 (M.E. Beesley, ed., 1999).

¹⁸⁷ Cathal Guiomard, *Optimal Economic Regulation: A Short Survey of Developments from the 1970s to the 1990s*, in THE ECONOMIC REGULATION OF AIRPORTS: RECENT DEVELOPMENTS IN AUSTRALASIA, NORTH AMERICA AND EUROPE 193, 198 (Peter Forsyth, David W. Gillen, Andreas Knorr, Otto G. Mayer, Hans-Martin Niemeier & David Starkie eds., 2004).

¹⁸⁸ These include differences in the charging mechanism for security, air traffic management, ground handling, and other services, and the entity providing such services. See INT’L CIV. AVIATION ORG., *supra* note 118, at 2 (detailing an overview of non-U.S. airport revenue sources).

¹⁸⁹ Assaf & Gillen, *supra* note 13, at 187. They use the number of employees, non-labor expenses, and capital deployed as input variables and the number of passengers, aircraft movements, and non-aeronautical revenue as outputs. See *id.* at 191.

ments in airport efficiency are driven by changes in the type of price regulation and not by changes in governance.¹⁹⁰ A limitation of the Assaf and Gillen study and other airport efficiency studies is that while efficiency may be a valid measure of societal benefit, airport efficiency gains may not be passed on to airlines or other stakeholders in the form of lower charges.

One of the few studies to specifically address the issue of privatization's effect on airport charges concludes that privatization reduces aeronautical charges.¹⁹¹ Using a dataset covering sixty-one European airports over eighteen years, Volodymyr Bilotkach, Joseph A. Clougherty, Juergen Mueller, and Anming Zhang find that "airport privatization leads to lower aeronautical charges on average."¹⁹² Interestingly, contrary to Assaf and Gillen, they find that the decision to privatize is more important than the type of price regulation adopted.¹⁹³

Airline executives are not convinced that privatization necessarily leads to lower charges, but they are willing to consider it on a case-by-case basis. The International Air Transport Association (IATA), the trade association representing most major airlines worldwide, acknowledges that "the private sector can play a meaningful role in bringing expertise and cost efficiencies at airports" provided the proper framework is in place.¹⁹⁴ However, IATA also cautions that "the outcomes to date often have been disappointing and without the appropriate regulatory controls and balances in place to ensure the benefits are shared among all parties."¹⁹⁵ U.S. airlines have expressed similar skepticism regarding the U.S. version of airport privatization, which this Article discusses next.

B. THE U.S. VERSION OF AIRPORT PRIVATIZATION

In the U.S., privatization has been permitted since 1996 under a little-used federal airport privatization program.¹⁹⁶ The

¹⁹⁰ *Id.* at 195–96.

¹⁹¹ See Volodymyr Bilotkach, Joseph A. Clougherty, Juergen Mueller & Anming Zhang, *Regulation, Privatization, and Airport Charges: Panel Data Evidence from European Airports*, 42 J. REG. ECON. 73, 73, 91 (2012).

¹⁹² *Id.* at 75.

¹⁹³ See *id.* at 92.

¹⁹⁴ *Airport Privatization Fact Sheet*, INT'L AIR TRANSP. ASS'N (Nov. 2020), <https://www.iata.org/en/iata-repository/pressroom/fact-sheets/fact-sheet—airport-privatization/> [https://perma.cc/Z3H5-AH3A].

¹⁹⁵ *Id.*

¹⁹⁶ See 49 U.S.C. § 47134. In 1996, 49 U.S.C. § 47134 authorized the FAA to establish an airport privatization pilot program limited to five airports. In 2018,

U.S. version of airport privatization differs from the most common versions elsewhere in two significant ways. First, a supermajority of the airlines serving a U.S. airport must approve of the privatization for the local government to use the privatization proceeds for non-airport purposes.¹⁹⁷ This is critical because local governments would have almost no interest in privatization without gaining the right to use privatization proceeds for non-airport purposes. Supermajority airline approval is also required for the private operator to increase airline charges at a rate greater than inflation.¹⁹⁸ These required approvals effectively grant the airlines the right to approve or disapprove proposed airport privatization. Second, U.S. airport privatization means that the privatized airport loses access to tax-exempt financing.¹⁹⁹ The U.S. version of airport privatization has other differences as well, but they are minor.²⁰⁰

How important are these two differences? First, the need for local governments to obtain airline approval of privatization to realize its full benefits creates a hurdle that governments in most other countries do not face. In most countries, the central government has the authority to privatize airports without airline approval.²⁰¹ Still, to the extent that privatization offers a clear benefit to airlines over the current system, why should airlines withhold their approval? Second, taxable debt is slightly more

Congress amended the law to remove the limitation on the number of airports, effectively ending the pilot program, and renamed the program as the Airport Investment Partnership Program (AIPP). See *Airport Investment Partnership Program*, FED. AVIATION ADMIN. (Aug. 28, 2019), https://www.faa.gov/airports/airport_compliance/privatization/ [<https://perma.cc/X54C-HJSQ>].

¹⁹⁷ See TANG, *supra* note 3, at 4 n.6 (“For any primary airport participating in the AIPP, the use of sale or lease proceeds for non-airport-related purposes requires approval by 65% of the scheduled air carriers serving the airport and by the scheduled and unscheduled air carriers representing 65% of the total landed weight of all aircraft serving the airport in the preceding calendar year.”).

¹⁹⁸ *Id.* at 5.

¹⁹⁹ *Id.* at 10.

²⁰⁰ For example, the private airport operator must obtain an FAA waiver of the obligation to repay prior federal grants, and may also need to obtain a local property tax waiver. See *Permitted and Prohibited Uses of Airport Revenue*, FED. AVIATION ADMIN. 15-2 (Sept. 30, 2009), https://www.faa.gov/airports/resources/publications/orders/compliance_5190_6/media/5190_6b_chap15.pdf [<https://perma.cc/FES4-TGE2>]. However, these are largely administrative hurdles as the private airport operator is likely to receive both waivers. These types of administrative hurdles are also present elsewhere in the world as evidenced by the relatively slow and uncertain pace of the airport privatization process in most countries.

²⁰¹ See TANG, *supra* note 3, at 11.

expensive than tax-exempt debt, but the difference is sufficiently small,²⁰² and the restrictions on the use of tax-exempt debt are sufficiently severe that some U.S. airports already issue taxable debt instead of tax-exempt debt. Many are considering accessing the international taxable debt markets regularly as a competitive alternative to U.S. tax-exempt debt.²⁰³

There has been little interest in the program since its inception in 1996—only two U.S. commercial-service airports are privatized: San Juan, P.R., and Stewart/Newburgh, NY, and Stewart has since reverted to public-sector operation.²⁰⁴ Still, the San Juan experience and the city of Chicago's failed attempt to privatize Chicago Midway in 2008 provide indications of the circumstances under which privatization is most likely to occur. This Article discusses these cases in the next Section.

In both the attempted privatization of Midway airport and the privatization of San Juan airport, new long-term airline agreements were negotiated with the airlines, which provided the required supermajority approval of the proposed privatizations.²⁰⁵ At Midway, the negotiated agreement capped total airline landing and terminal fees for the first six years of a twenty-five-year agreement at a fixed amount below the then-current total and made rates subject to a CPI increase for the remaining nineteen years.²⁰⁶ At San Juan, a very similar approach was used with total airline fees capped at a fixed amount for the first five years of a fifteen-year agreement, subject to a CPI increase for the remain-

²⁰² See *Issuing Taxable Debt*, GOV'T FIN. OFFICERS ASS'N (Mar. 5, 2021), <https://www.gfoa.org/materials/issuing-taxable-debt> [<https://perma.cc/A8NT-C487>].

²⁰³ See, e.g., DALL. FORT WORTH INT'L AIRPORT, REQUEST FOR QUALIFICATIONS FOR UNDERWRITING SERVICES 3 (2017) ("The Airport has finalized its decision that future bonds, issued for terminal improvements, will be issued as corporate-like taxable bonds."). The 1986 Tax Reform Act imposed a number of restrictions on the use of tax-exempt bonds, and created two types of tax-exempt bonds: government activity and private activity bonds. Airport terminals cannot be financed with government activity bonds. The interest on private activity bonds is included in the owner's alternative minimum tax calculation, which reduces the benefit of their tax exemption. See STEVEN MAGUIRE & JOSEPH S. HUGHES, CONG. RSCH. SERV., RL31457, PRIVATE ACTIVITY BONDS: AN INTRODUCTION 1–2, 6 (2018).

²⁰⁴ U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 10, at 14; Tang, *supra* note 3, at 5–8.

²⁰⁵ See TANG, *supra* note 3, at 7–8.

²⁰⁶ SHERI ERNICO, BRUCE BOUDREAU, DAN REIMER & STEVE VAN BEEK, TRANSP. RSCH. BD., AIRPORT COOPERATIVE RESEARCH PROGRAM REPORT 66, CONSIDERING & EVALUATING AIRPORT PRIVATIZATION 86 (2012).

ing ten years.²⁰⁷ In sum, the airlines agreed to support airport privatizations in the U.S. in these two cases.

C. WHY HAS THE U.S. NOT WIDELY ADOPTED AIRPORT PRIVATIZATION?

If we assume that privatization is neither clearly better nor clearly worse than the current system of public-sector governance in terms of higher efficiency and service levels and lower airport charges, the question remains: why aren't municipalities motivated to privatize their airports in exchange for substantial change-of-control payments—a key feature of airport privatization? A review of the Chicago Midway and San Juan cases helps explain why.

In the Midway case, the mayor of Chicago ultimately concluded that the cost of losing the ongoing benefits of local control was higher than the financial benefits of privatization.²⁰⁸ In the San Juan case, the governor of Puerto Rico reluctantly concluded that the airport's financial situation was so dire that the territory needed to give up control of the airport in exchange for a substantial cash infusion.²⁰⁹ In both cases, elected officials made clear that they placed a very high value on their ability to control airport employment and resource allocation decisions.

When the City of Chicago began exploring the privatization of Midway Airport in 2005, its stated goal was to extract value from the airport and use part of the proceeds to reduce the city's unfunded pension liability.²¹⁰ The city listed various other goals, including improving Midway's service quality, growth prospects, and efficiency, but the transaction was motivated primarily by the amount of the potential sale proceeds.²¹¹ In addition, to obtain labor support for the transaction, the city required that the new operator include various labor protection provisions, including a guarantee that current Midway employees would be offered comparable positions with similar compensation at the privatized airport.²¹²

²⁰⁷ Record of Decision for the Participation of Luis Muñoz Marín International Airport, San Juan, Puerto Rico, in the Airport Privatization Pilot Program, FAA Docket No. 2009-1144, at 8 (Feb. 25, 2013).

²⁰⁸ See *infra* notes 219–221 and accompanying text.

²⁰⁹ See *infra* note 224 and accompanying text.

²¹⁰ See ERNICO ET AL., *supra* note 206, at 86, 97.

²¹¹ *Id.*

²¹² *Id.* at 98.

In 2006, Chicago applied to the FAA to privatize Midway Airport.²¹³ The city subsequently obtained airline approval for the transaction and solicited bids, which were received on September 30, 2008, two weeks after the collapse of Lehman Brothers.²¹⁴ Because of the global financial crisis, the high bidder could not come up with the full payment of \$2.52 billion for the ninety-nine-year lease of the airport and, therefore, forfeited its \$126 million breakup fee.²¹⁵

The city was considering reviving the transaction, but in the meantime, residents were experiencing the ill effects of the city's privatization of its parking meter system under the prior mayor.²¹⁶ In 2009, the city had awarded a seventy-five-year lease to a private operator providing the right to operate and collect fees from the city's 36,000 parking meters in exchange for \$1.15 billion.²¹⁷ The public was reportedly unhappy about the higher rates charged by the private operator and the operator's poor maintenance of the meters.²¹⁸

As a result, Rahm Emanuel, the new mayor of Chicago, imposed various additional conditions on the revived Midway privatization transaction.²¹⁹ These conditions reserved for the city more of the benefits usually transferred to the private operator, thereby reducing the value of the airport privatization to bidders.²²⁰ Emanuel wrote that "a true public-private partnership requires that taxpayers maintain control of the asset and share in management decisions and financial profit."²²¹ He appointed a board of outside advisers, including alderman and labor leaders, capped food and parking prices, and shortened the

²¹³ *Id.* at 97.

²¹⁴ *Id.*

²¹⁵ *Id.* at 99.

²¹⁶ See Reid Wilson, *How Parking Meters Killed Privatization of Midway Airport*, WASH. POST (Sept. 13, 2013), https://www.washingtonpost.com/blogs/govbeat/wp/2013/09/13/how-parking-meters-killed-privatization-of-midway-airport/?utm_term=.6093c1bb4d93 [<https://perma.cc/HB9A-7WX5>].

²¹⁷ *Id.*

²¹⁸ *Id.*; *Chicago Midway Airport Privatisation: Anatomy of a US Airport Lease*, CAPA (Mar. 11, 2013, 1:35 AM), <https://centreforaviation.com/insights/analysis/chicago-midway-airport-privatisation-anatomy-of-a-us-airport-lease-99948> [<https://perma.cc/4C88-64Z3>].

²¹⁹ Rahm Emanuel, *Mayor Rahm Emanuel: Why I Said 'No' to the Midway Deal*, CHI. TRIB. (Sept. 9, 2013), http://articles.chicagotribune.com/2013-09-09/opinion/ct-oped-0910-midway-20130910_1_parking-meter-deal-midway-airport-midway-deal [<https://perma.cc/RTT7-PVD8>].

²²⁰ See *id.*

²²¹ *Id.*

lease term from ninety-nine years to no more than forty years.²²² As a result, in 2013, the number of interested bidders dropped from sixteen to one, at which point the city withdrew its application to privatize the airport.²²³

The outcome of the San Juan privatization was different because the agency that operated the airport, the Puerto Rico Ports Authority (PRPA), was in dire financial straits; when the transaction closed, the PRPA was days away from defaulting on a \$600 million debt payment.²²⁴ Puerto Rico Governor García Padilla, who completed the privatization transaction, criticized his predecessor for initially agreeing to it but said the territory had no choice but to go forward.²²⁵ He told airport employees that without the deal, there would be no money to pay their salaries.²²⁶ He also said that the PRPA had “zero dollars to invest in this airport” and that the airport’s infrastructure needed to be improved quickly.²²⁷ Of the initial \$621 million payment received by the PRPA, \$500 million was used to retire airport and other PRPA debt.²²⁸

Therefore, despite objections by union employees and other beneficiaries of public sector management, the private operator of San Juan obtained much greater autonomy than the bidders in the second Midway privatization attempt. For example, the private operator was not obligated to hire existing San Juan airport employees.²²⁹

²²² Wilson, *supra* note 216.

²²³ *Id.*

²²⁴ Danica Coto, *Puerto Rico OKs Airport Privatization Amid Protests*, USA TODAY (Mar. 1, 2013, 10:58 AM), <https://www.usatoday.com/story/todayinthesky/2013/03/01/Puerto-rico-airport-privatization-deal-lifts-off/1956407/> [<https://perma.cc/RW6J-6E9A>].

²²⁵ *Id.*

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ Record of Decision for the Participation of Luis Muñoz Marín International Airport, San Juan, Puerto Rico, in the Airport Privatization Pilot Program, FAA Docket No. 2009-1144, at 17 (Feb. 25, 2013).

²²⁹ See Jodi Richards, *San Juan Int’l Forges New Territory with Public-Private Partnership*, AIRPORT IMPROVEMENT MAG. (July–Aug., 2014), <https://airportimprovement.com/article/san-juan-intl-forges-new-territory-public-private-partnership> [<https://perma.cc/6M9Q-T7KK>]. Still, the PRPA guaranteed that laid-off airport employees would be given comparable jobs elsewhere within the PRPA. See Record of Decision for the Participation of Luis Muñoz Marín International Airport, San Juan, Puerto Rico, in the Airport Privatization Pilot Program, FAA Docket No. 2009-1144, at 35–36 (Feb. 25, 2013).

1. *Time Horizon, Switching Costs, and Risk Aversion*

Three important lessons from the Midway and San Juan examples relate to time horizon, switching costs, and risk aversion. First, the time horizon of the elected official is important. Elected officials derive benefits from having control of the airport over their political life. If they subsequently become lobbyists, they may continue to benefit from political control over the airport. Therefore, an elected official with a long time horizon is likely to place a high value on the expected future benefits of political control. Conversely, an elected official who does not plan to run again or expects to be defeated and does not intend to become a lobbyist is likely to place a low value on the expected future benefits of political control.

Consistent with this theory, the Chicago mayor who supported the original attempted Midway privatization did not run for re-election.²³⁰ For him, the expected benefit of continued political control of the airport was very low, making privatization more attractive than would typically be the case. In Puerto Rico, Governor Luis Fortuño, who supported the San Juan privatization, faced the choice of privatization or allowing the airport to default.²³¹ He left office after overseeing the privatization agreement.²³²

Second, the switching costs incurred by elected officials in converting from ongoing political control of an airport to privatization need to be considered. For an elected official, converting to privatization means the likely loss of votes from both public-sector airport employees who may lose their jobs and other beneficiaries of public sector airport management. Job guarantees for public-sector airport workers required as part of privatization are an attempt to minimize this political cost.²³³

Third, for an elected official, converting to privatization is a risky venture compared to the status quo, as illustrated by the public reaction to Chicago's poorly executed privatization of its

²³⁰ See Associated Press, *Chicago Mayor Daley Says He Won't Run for Re-Election*, DENVER POST, <https://www.denverpost.com/2010/09/07/chicago-mayor-daley-says-he-wont-run-for-re-election/> [<https://perma.cc/4UG6-KUDU>] (May 5, 2016, 12:34 AM).

²³¹ See *supra* note 224 and accompanying text.

²³² See Duane Morris, *The Privatization of Puerto Rico's Luis Muñoz Marín International Airport is Complete*, LEXOLOGY (Feb 28, 2013), <https://www.lexology.com/library/detail.aspx?g=90353099-c4ef-477b-b340-eb43f5fb05d8> [<https://perma.cc/4JQE-CJ4W>].

²³³ See Richards, *supra* note 229.

parking meters.²³⁴ This uncertainty reduces the expected value of privatization for a risk-averse politician and the airlines.

Airline executives generally regard the current system as less efficient than private-sector management, with slow decision making and execution, overstaffing, and ineffective contracting for construction and other services.²³⁵ Even so, airline executives believe that public-sector managers are less likely to take advantage of the airport's monopoly position by raising rates to maximize profits.²³⁶ They worry that the privatization alternative could be worse for them than the status quo.²³⁷ Thus, both airline executives and politicians view the conversion to privatization as riskier than the status quo, which reduces the expected value of privatization for both.

The requirement for supermajority airline approval of privatizations puts the airlines in a position where they do not need to approve a proposed privatization unless they are confident that the results will be favorable.²³⁸ Such a situation occurred with the privatization initiatives led by the mayor of Chicago and governor of Puerto Rico, which the airlines approved.²³⁹ Still, no airline has initiated the efforts to privatize or strongly advocated for the privatization of a U.S. airport,²⁴⁰ which suggests that the expected risk-weighted benefits of privatization for airline executives do not significantly exceed those of the current system of airport governance and economic regulation.

2. National Ownership and Control Versus Local

An important factor differentiating the U.S. from most other countries is that U.S. airports are locally owned and operated. In contrast, the pre-privatization norm in other countries is for air-

²³⁴ See Wilson, *supra* note 216.

²³⁵ Cf. Rachel Premack, *The Airline Industry's Trump-Endorsed Case for Privatizing Air Traffic Control May Be Getting a Boost, Experts Say*, INSIDER (Jan. 27, 2019, 10:57 AM), <https://www.businessinsider.com/airline-industry-may-renew-calls-for-privatizing-air-traffic-control-2019-1> [<https://perma.cc/QSD9-57HQ>] (discussing how the shutdown of the U.S. federal government in 2019 bolstered the case for privatization of airports for some industry experts).

²³⁶ Anne Graham, *The Objectives and Outcomes of Airport Privatisation*, 1 RSCH. TRANSP. BUS. & MGMT. 3, 4 (2011).

²³⁷ *Id.*

²³⁸ See Poole & Edwards, *supra* note 2.

²³⁹ See *id.*; Robert Poole, *Does Airport Privatization Have a Future in the U.S.?*, ENO CTR. FOR TRANSP. (Mar. 9, 2017), <https://www.enotrans.org/article/airport-privatization-future-u-s/> [<https://perma.cc/2X8M-6W33>].

²⁴⁰ See Poole & Edwards, *supra* note 2.

ports to be owned by the national government and operated by a government-owned entity.²⁴¹ This was the case in the U.K., Spain, Brazil, Mexico, Australia, and many other countries.²⁴² A study of airport privatization efforts in twenty-five countries found that in nineteen of them, the national government “owned all or most of the major airports in those countries” before privatization.²⁴³

Since U.S. airports are subject to local ownership and control, the scale of the airport privatization process in the U.S. would be smaller. The U.S. federal government can change airport economic regulations to make privatization more attractive, but individual municipalities must decide for themselves whether to privatize the local airport.²⁴⁴ Also, in other countries, privatization decisions and transactions may involve fewer parties because, unlike in the U.S., airlines in other countries may have no formal role in privatization.²⁴⁵

The motivations for privatization in other countries vary and include the need for private-sector capital to improve existing airports as well as a “national move toward[s] privatization,” as was the case with the U.K.²⁴⁶ In nearly all cases, the government also receives a substantial one-time or ongoing payment for transferring control.²⁴⁷ Additionally, in some other countries, elected officials may be less able to use national control of airports to reward their political supporters, although this subject is beyond the scope of this Article. If this is the case, then the

²⁴¹ See U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 10, at 36–37. In the U.S., Washington National and Washington Dulles were the only commercial-service airports that continued to be owned and operated by the federal government after the post-World War II transfer of airports to local communities. Douglas B. Feaver, *Years of Deal-Making Enabled Change from 'Disgrace' to Showplace*, WASH. POST (July 16, 1997), <https://www.washingtonpost.com/wp-srv/local/longterm/library/airport/history.htm> [<https://perma.cc/XQ5Z-RH2E>]. Federal operation of these two airports ended in 1986 when the federal government leased the underlying land and transferred control and management of the airports to a new multi-state authority. *Id.* At the time of the transfer, it was recognized that managing the budgets of these two airports as part of the federal budget process was difficult at best and that the airports required substantial additional investment. *See id.*

²⁴² See Graham, *supra* note 236, at 4, 7.

²⁴³ U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 10, at 37.

²⁴⁴ *See id.* at 9, 31.

²⁴⁵ *See supra* note 201 and accompanying text.

²⁴⁶ U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 10, at 37.

²⁴⁷ *See id.* at 10.

political benefits of continued control would be lower in those countries.

3. Summary

In summary, it seems unlikely that the existence of airline approval rights or the loss of tax-exempt financing are the primary reasons why U.S. airports are not privatized. Firms involved in privatizing airports solicit local governments to attempt to persuade them to privatize their local airports but attract little interest.²⁴⁸ The primary reason local governments choose not to attempt to privatize their airports is the high value that elected officials place on their ability to control airport employment and spending decisions.

D. WHAT FORCES HELP KEEP AIRPORT CHARGES DOWN?

Airlines recognize that the current system lacks incentives to control airport costs and allocate capital efficiently, yet they have not been advocates of airport privatization. This Section explores aspects of the current system that help make it acceptable to airlines.

1. Airport Charges at Hubs Versus Other Airports

Although airlines have only a limited influence on airport management and spending decisions at most airports, they have greater influence at airline connecting hubs, which are precisely the airports where it is most important that they have influence. Some background may help explain this. Airports can be divided into connecting hubs and origin and destination (O&D) airports, i.e., airports that serve mostly as the origin or destination of air travel.²⁴⁹ From a competitive standpoint, the level of

²⁴⁸ See, e.g., Leanna Orr, *Why America's Airports Suck*, INST. INV. (Feb. 9, 2017), <https://www.institutionalinvestor.com/article/b1505qb43q6bnq/why-americas-airports-suck> [<https://perma.cc/9F9M-P885>]. Perry Offutt, a Macquarie Infrastructure and Real Assets executive involved in airport and other privatizations around the world, discussing U.S. airport privatization, stated that "the U.S. is different from the rest of the world in some key respects. . . . Despite the country's focus on capitalism, some local entities, which control most U.S. infrastructure, are reluctant to privatize because they worry about the potential impact on key constituents of changing the status quo." *Id.*

²⁴⁹ See Andreas Kraus & Benjamin Koch, *The Opportunities and Threats of Turning Airports into Hubs*, 11 J. AIR TRANSP. 88, 89 (2006).

airport charges at connecting airline hubs is more important to airlines than the level at O&D airports.²⁵⁰

When an O&D airport operates inefficiently and passes through the inefficiencies in the form of higher charges, all airlines are affected similarly. Take, for example, Sacramento, California, which is an O&D airport.²⁵¹ If the airport significantly increases its charges, making it more expensive for airlines to serve Sacramento, airlines may increase fares to and from Sacramento or supply fewer airline seats at each ticket price level, but all airlines will be similarly affected.

The situation is different, however, if a connecting hub greatly increases airport charges. For travel between all but the smallest destinations, travelers choose airlines, and those airlines have a choice of hubs.²⁵² If one airline connects passengers through a hub with high charges while another airline connects passengers through a hub with low charges, the airline using the high charge hub will have a cost disadvantage relative to its competitor.²⁵³ Similarly, if an individual airline connects passengers through a hub with high charges when it could connect passengers through another hub with low charges, it will needlessly reduce its profits.

It is certainly the case that when an airline considers which hub to use to connect passengers to particular destinations, its decisional factors go far beyond the difference in airport charges.²⁵⁴ For example, connecting passengers over an alternate hub may result in a more circuitous route, increasing fuel and crew costs and flying time. In addition, the number of passengers originating at the connecting airport for the second leg of the flight is an important factor in flight profitability.²⁵⁵ Still, airport charges at connecting airports are important to airlines for competitive reasons. The fact that airlines, at least arguably, have substitutes for individual connecting hub airports means that elected officials in charge of those connecting hubs are likely to be more responsive to airline concerns about airport management and spending decisions that affect charges at those airports. Also, an airline is likely to have many employees at its hub airports, and airline management is likely to have an ongo-

²⁵⁰ *See id.* at 99–100.

²⁵¹ *See* FORECAST SUMMARY MASTER PLAN, SACRAMENTO COUNTY 6 (2020).

²⁵² *See* Kraus & Koch, *supra* note 249, at 90, 98.

²⁵³ *See id.* at 101.

²⁵⁴ *See id.*

²⁵⁵ *Id.*

ing relationship with local elected officials who value that local employment.

Thus, airline executives have the greatest influence over airport charges at their connecting hubs. Charlotte Douglas Airport, a major connecting hub for American Airlines, is a good example. Charlotte Douglas Airport has the highest percentage of connecting passengers among U.S. hubs, with about 75% of passengers connecting.²⁵⁶ The airport also has among the lowest airport charges in the U.S., with the airport manager and elected officials publicly stating that keeping airport charges low is essential to the city's success in retaining American Airlines' hub.²⁵⁷

A second example of a hub airport responding to possible competition from other hubs is provided by the Denver Airport, where United Airlines, the hub airline, successfully persuaded the airport to reduce charges by threatening to move connecting flights.²⁵⁸ In 2014, the airport and United Airlines signed a lease amendment that relieved United Airlines of the obligation to pay rent on a substantial portion of its unused leased space in exchange for United Airlines' commitment not to cut flights below a certain level.²⁵⁹

If airlines are more likely to persuade airports to hold down airport charges at connecting hubs, this effect should be seen in the airport charge data. To this end, this Article's Author analyzed data for 2015 for the sixty-one U.S. airports with more than two million annual departing passengers.²⁶⁰ Although only suggestive, the results support the conclusion that airports with a higher percentage of connecting passengers have lower charges. A ten-point increase in the proportion of connecting

²⁵⁶ See *supra* Table 2; Julie Rose, *The Philosophy Behind Charlotte Airport's Success*, WFAE (Mar. 7, 2013, 4:00 AM) <http://wfae.org/post/philosophy-behind-charlotte-airports-success#stream/0Rose> [<https://perma.cc/2WET-F73T>].

²⁵⁷ See, e.g., Rose, *supra* note 256; *supra* Table 2.

²⁵⁸ Kristen Leigh Painter, *Lease Deal Keeps United at DIA Through 2035, but Will Up Airport Interest Costs*, DENVER POST, <https://www.denverpost.com/2014/08/19/lease-deal-keeps-united-at-dia-through-2035-but-will-up-airport-interest-costs/> [<https://perma.cc/8Y28-W3SB>] (Apr. 27, 2016, 2:13 AM).

²⁵⁹ *Id.*

²⁶⁰ These airports carry over 88% of U.S. air passengers and closely correspond to the airports the FAA classifies as large and medium hub airports. FAA uses the term "hub" differently than the airlines do, simply as a designation of airport size. Large hubs are airports that each account for 1% or more of total U.S. passenger enplanements. See 49 U.S.C. § 40102(a)(29). Medium hubs are airports that each account for between 0.25% and 1% of total U.S. passenger enplanements. See *id.* § 40102(a)(31).

passengers at an airport is associated with a 14%–18% decrease in airport charges depending on the control variables.²⁶¹ Note, however, the important limitations of this type of analysis, as described in the footnote below and the Appendix.²⁶²

2. *Analysis of the Leisure Airport Effect on Airport Charges*

This Article next examines whether airports at price-sensitive leisure destinations have lower charges. To support their local economies, communities that rely on price-sensitive leisure travelers must keep visitor costs low to compete successfully with

²⁶¹ As a reference point, the average CPE in 2019 was \$11.51, so a 16% decrease would be less than \$2. See *infra* Table 4.

²⁶² Airports are known for their heterogeneity which cannot easily be controlled for, and which makes airport statistical analysis problematic. An example of this heterogeneity is illustrated by the following example: the Denver airport announced that it is adding thirty-nine new gates at an estimated cost of \$1.5 billion, or about \$38 million per gate. See *Denver International Airport Completes First New Gates in Its Expansion Program*, ENR MOUNTAIN STATES (Nov. 23, 2020), <https://www.enr.com/articles/50796-denver-international-airport-completes-first-new-gates-in-its-expansion-program> [<https://perma.cc/C4J2-M3XQ>]. By comparison, the PANYNJ announced that it has contracted with a public-private partnership to rebuild the LaGuardia central terminal at an estimated cost of \$3.6 billion. See *Port Authority Receives Significant Interest From Private Sector to Help Rebuild LaGuardia's Aging Central Terminal Building*, PANYNJ (Feb. 1, 2012), https://www.panynj.gov/port-authority/en/press-room/press-release-archives/2012_press_releases/port_authority_receivesignificantinterestfromprivatesectortohel.html [<https://perma.cc/3ZRL-S2WR>]. The LaGuardia project does not appear to add any gates, although some of the reconfigured gates will accommodate larger aircraft. See *id.* Let us assume that by accommodating larger aircraft the LaGuardia project in fact adds the equivalent of five new gates, so each gate added costs about \$800 million, or more than twenty times as much as an additional Denver gate. The result of the two projects will be to substantially increase the airport charge differential between LaGuardia and Denver. While it is likely that there are efficiency differences between the two airports, the most important reason for the widening charge differential is that LaGuardia occupies a small site, has no area to expand, and must replace a terminal built in the 1960s for smaller aircraft while continuing to operate. See *id.* In contrast, Denver has a huge site and can easily expand by adding gates to the existing concourses built in the 1990s for larger aircraft. See Jon Murray, *PHOTOS: Denver Airport's Gate Expansions Near the Finish Line*, DENVER POST, <https://www.denverpost.com/2021/08/26/denver-international-airport-dia-gate-expansion-photos/> [<https://perma.cc/52N8-6HPA>] (Aug. 26, 2021, 9:50 AM). Controlling for the differences between these two airports in a way that permits a meaningful comparison of efficiency differences is daunting. Relatively little serious benchmarking of different aspects of the airport business has been conducted, perhaps largely because of the obstacle posed by the heterogeneity of airports. Additional research designed to overcome this obstacle would provide greater insight into the effects of different forms of governance and economic regulation on airport performance.

other leisure destinations that may serve as good substitutes.²⁶³ As such, elected officials in charge of airports in these communities are likely to be more sensitive to airline concerns about airport spending, efficiency, and charges.

As mentioned in Section II.B.2, airport charges are usually only a small part of overall trip costs.²⁶⁴ In addition to connecting hubs, another type of airport that should focus on keeping airport charges low are airports that serve price-sensitive leisure passengers. This is because increases in airport charges, if passed through in ticket prices, are more likely to impact the travel decisions of price-sensitive leisure travelers than other travelers.²⁶⁵ Destinations such as Ft. Lauderdale, Orlando, Las Vegas, Phoenix, and Tampa, are generally price-sensitive leisure destinations.²⁶⁶ As shown in Table 4, all but Las Vegas have airport charges that are significantly below the U.S. average.

Table 4—Airline CPE at Leisure Destination Airports Compared with Average and Median among Sixty-One U.S. Airports with More than Two Million Annual Enplanements, 2015.²⁶⁷

Ft. Lauderdale	\$5.84
Las Vegas	\$11.79
Orlando	\$7.73
Phoenix	\$6.26
Tampa	\$5.20
Average	\$11.19
Median	\$9.82
Average (weighted by passengers)	\$13.17

²⁶³ See *supra* note 159 and accompanying text.

²⁶⁴ See *supra* note 6 and accompanying text.

²⁶⁵ See *supra* note 159 and accompanying text.

²⁶⁶ See Harvey Chipkin, *Airlines Shift Focus from Business Hubs to Leisure Destinations*, BUS. TRAVELER (Feb. 12, 2021), <https://www.businesstravelerusa.com/business-traveler-usa-story/airlines-shift-focus-from-business-hubs-to-leisure-destinations/> [https://perma.cc/P42Y-AY66].

²⁶⁷ In connection with this Article, the Author review and analyzed FAA Forms 127 for fiscal year 2015. See *Airport Financial Reporting Program*, Fed. Aviation

The Appendix illustrates how a leisure destination is associated with a 44%–53% decrease in the airport charge per enplanement depending on the control variables.²⁶⁸

3. Other Observations

Finally, note that when this Article includes airport governance type as a factor in determining airport charges, the only apparent relationship between governance type and the level of airport charges is that multi-modal port authority airports (not to be confused with single-purpose airport authority airports) have higher charges. Being governed as a port authority is associated with a 20% increase in the airport charge per enplanement; however, the finding is not statistically significant because of the small sample size.²⁶⁹ It is not surprising that port authority airports have higher charges since two of the largest port authorities, PANYNJ and MassPort, have been granted exceptions from the revenue diversion prohibition, which means that the profits generated by those airports may be used to subsidize other unprofitable activities of the port (such as mass transit) instead of being reinvested in the airport.²⁷⁰

In summary, there is at least some empirical support for the conclusion that airlines have been more successful at holding down airport charges at airports with the greatest percentage of connecting passengers. We need to be careful in drawing firm conclusions from the data because of the high degree of airport heterogeneity, small sample size, and difficulty in imposing adequate controls.

E. WHAT FACTORS MIGHT CHANGE THE CURRENT EQUILIBRIUM?

The previous discussion identified local elected officials and airline executives as the primary stakeholders who influence the U.S. system of airport economic regulation. The current equilib-

Admin., https://www.faa.gov/airports/airport_compliance/airport_financial_reporting_program/ [<https://perma.cc/85XK-3U6K>] (data sourced from the Airport Financial Reporting Program Web Site (CATS)) (on file with author).

²⁶⁸ See *infra* Table 5.

²⁶⁹ See *infra* Table 5.

²⁷⁰ U.S. GOV'T ACCOUNTABILITY OFF., GAO-20-684, AIRPORT FUNDING: INFORMATION ON GRANDFATHERED REVENUE DIVERSION AND POTENTIAL IMPLICATIONS OF REPEAL 10–16 (2020). The G.A.O. reports that in Fiscal Years 1995 through 2018, PANYNJ diverted an average of \$197 million annually and MassPort diverted an average of \$35 million annually to non-airport uses. *Id.* at 9.

rium is likely to persist as long as elected officials favor the current system while airlines are skeptical of privatization or indifferent because they worry about its risks. This Section looks at the factors that might change the current equilibrium. This Article has simplified the choice of airport economic regulation to a binary one, although of course, there is a wide range of possible regulatory regimes. This Article does not explore these here but suggests that the same principles and trade-offs discussed below apply.

Several factors might change the equilibrium.²⁷¹ For elected officials, privatization might become more attractive if (1) fiscal crises at the local government level increase the need for large amounts of non-tax based funding; (2) the experience gained from privatizing one or more large U.S. airports reduces the risk associated with privatization transactions in the minds of elected officials or provides other favorable information about privatization, such as higher than expected transfer-of-control payments; or (3) greater restrictions are imposed on campaign contributions from firms seeking airport business or on the use of airport revenue, or simply stricter enforcement of existing revenue diversion rules that reduces ongoing control benefits to elected officials, thereby reducing the benefits they derive from the status quo.

For airlines, the experience gained from the privatization of one or more large airports might reduce the risk associated with privatization transactions in the minds of airline executives. The result could be that airline executives begin to advocate for privatization. Although the government entities that own airports have the right to decide the form of governance to impose,²⁷² airline support for privatization would increase the issue's salience for elected officials. Elected officials currently

²⁷¹ Tang suggests four changes that might increase the interest in airport privatization: (1) "[o]ffering the same tax treatment to private and public airport infrastructure bonds"; (2) changing grant requirements to reduce the disadvantage that privatized airports have regarding their required level of contribution to FAA grant-funded projects; (3) liberalizing the restrictions on the fees private operators could charge; and (4) "[r]educing the obstacles for public-sector owners to use privatization revenue for non-airport purposes." TANG, *supra* note 3, at 14–15.

²⁷² State legislatures often have the right to overrule municipal decisions on governance and have done so in multiple cases to establish airport authorities. The airport authorities that govern the airports in San Diego and Detroit are examples of state-imposed airport authorities. See CAL. PUB. UTIL. CODE § 170002 (West 2002); MICH. COMP. LAWS ANN. § 259.110 (West 2002).

may not be aware of the potential financial payoff for privatizing their airports, and U.S. airport directors have no incentive to educate their political bosses on this issue because they are unlikely to retain their jobs following privatization.²⁷³ Tim Bath, a financial advisor who specializes in airport privatizations, said, “It would, candidly, surprise most people in local governments in the U.S. to find out what their assets are worth.”²⁷⁴

IV. CONCLUSION

The U.S. system of airport economic regulation offers apparent benefits to elected officials who control airport employment and spending without tapping taxpayer revenue. Changing from the current system involves some level of risk, as Chicago’s parking meter privatization demonstrated. The political benefits of a change-of-control payment used to pay down debt or shore up an underfunded pension system must be weighed against the returns from continued political control of the local airport that accrue to elected officials over their political life and, if they become lobbyists, beyond.

Airline executives are aware of the deficiencies of the current system as compared with private-sector management. The system provides little incentive for airport managers to control costs or allocate capital efficiently at most airports. Yet few airlines clamor for change. One reason is that, despite the current system’s inefficiencies, airport charges are not a major part of the airlines’ cost structure.²⁷⁵ Also, where airlines need to influ-

²⁷³ See generally Patrick Dunleavy, *Explaining the Privatization Boom: Public Choice Versus Radical Approaches*, 64 PUB. ADMIN. 16–17 (1986) (setting out why bureaucrats can be expected to oppose privatization under public choice theory). In other countries with privatized or commercialized airports, airport directors routinely come from the private sector, but in the U.S., airport directors are largely homegrown from within the airport system or are political appointees. Among the ten largest U.S. airports, only one is headed by someone who came from a private sector position. See, e.g., Brent Cagle, *Aviation Director*, CITY OF CHARLOTTE, <https://charlottenc.gov/aviation/Pages/BrentCagleDirector.aspx> [https://perma.cc/B592-VZUU]; Kelly Yamanouchi, *Hartsfield-Jackson’s New Manager Bheodari to Get \$310,000 Salary*, ATLANTA J.-CONST.: ATLANTA AIRPORT BLOG (July 6, 2021), <https://www.ajc.com/news/business/hartsfield-jacksons-new-manager-bheodari-to-get-310000-salary/TXYTMBD4AND3FGLX5IT4CNAEKY/> [https://perma.cc/ZB8R-66XZ]; Christine Perez, *Meet the CEO: Sean Donohue of DFW Airport*, D MAG. (Oct. 24, 2014, 12:00 AM), <https://www.dmagazine.com/publications/d-ceo/2014/november/meet-ceo-sean-donohue-of-dallas-fort-worth-international-airport/> [https://perma.cc/GUF7-Y7Z6].

²⁷⁴ Guinto, *supra* note 9.

²⁷⁵ See *supra* note 6 and accompanying text.

ence airport management, they can do so at their connecting hubs.²⁷⁶ As a result, airports with a higher percentage of connecting passengers generally have lower charges.

Airline executives are risk-averse and know that, in general, they do not control the entangled political and business environment at the airports where they operate. They worry that the alternative could be worse than the status quo. However, as illustrated by the Midway and San Juan privatization agreements that the airlines negotiated and supported, airline executives are willing to support privatization when they are reasonably confident of the benefits and can minimize the risks.

The current system is not on the brink of change, but some factors could upset the current equilibrium. These factors include local communities facing fiscal crises which increase the perceived benefits of raising large amounts of revenue without increasing taxes; additional airports privatizing successfully and thereby demonstrating that the risks of privatization are lower than previously thought; or airlines concluding that the inefficiencies of the current system, in the form of higher costs, lower service levels, or the lack of responsiveness, are too serious to continue. In addition, incremental steps towards privatization, such as increasing the use of private-public partnerships to finance, build, and operate airport terminals, could over time lead to greater acceptance of privatization.

V. APPENDIX – DATA AND METHODOLOGY

This Article uses OLS regression to conduct several tests regarding the relationship between airport characteristics and airport charges to airlines.

The data includes:

- (1) the airport CPE reported by each airport to the FAA, modified as described below;
- (2) the percent of passengers at the airport making connections from one domestic flight to another;
- (3) the percent of passengers at the airport taking international flights;
- (4) the average domestic airfare for flights from the airport;
- (5) the total number of enplanements at the airport; and

²⁷⁶ See *supra* notes 256–257 and accompanying text.

- (6) the airport governance type: municipal, including city, county, or state; airport authority; port authority; or private.

The reason for collecting this data is as follows: Data on domestic connections is used to measure whether an airport serves primarily O&D or connecting passengers. The percent of international passengers is used as a control because international flights require additional airport facilities and services; therefore, airports that handle international flights have higher charges regardless of governance or economic regulation. The average domestic airfare is used to measure whether there is a correlation between airfares and airport charges. The number of enplanements is used to measure whether there is a correlation between passenger volume and airport charges. The airport governance type is used to measure whether, even within U.S. public-sector airports, there are systematic airport charge differences depending on governance type.

Note that we rely on the CPE reported by each airport to the FAA but have adjusted the FAA data for ten airports. At these airports, airlines incur additional costs for the terminal facilities they use either because they constructed and financed those facilities using their funds or because they pay a third party for separate terminal management and maintenance services usually provided by the airport.²⁷⁷ The additional costs are not included in the FAA data but have been estimated by airport consultants and are incorporated in our data.²⁷⁸

The results of regressing the log of CPE on the percentage of domestic connecting passengers are shown in Table 5. The results support the conclusion that airports with a higher percentage of connecting passengers have lower charges. The negative relationship between the percent of connecting passengers and airport charges becomes significant once a control is included for the number of passengers at each airport.²⁷⁹ A ten-point increase in the proportion of connecting passengers at an airport

²⁷⁷ See, e.g., DFW AIRPORT FIN. DEP'T, FY 2017 ADOPTED BUDGET, 8, 17–18 (2017), <https://dwcconsulting.com/images/Budget/DFW%202017%20Budget.pdf> [<https://perma.cc/CPA4-SPZF>].

²⁷⁸ The DFW airport budget contains a summary of these adjustments. See *id.* at 17–18.

²⁷⁹ Higher passenger volume is associated with slightly higher airport charges. See generally Philippe Villard, *Covid-19: Tailoring Airport Charges to Support the Economic Recovery of Airports*, AIRPORTS COUNCIL INT'L: ACI INSIGHTS (Sept. 9, 2020), <https://blog.aci.aero/covid-19-tailoring-airport-charges-to-support-the-economic-recovery-of-airports/> [<https://perma.cc/Z7RX-K9BN>]. A 10% increase in the

is associated with a 14.3%–17.8% decrease in airport charges depending on the controls.²⁸⁰ The table also shows the results of regressing the log of CPE against the leisure destination variable. Finally, the table shows the results of regressing the log of CPE against the airport governance type.

number of annual passengers at an airport is associated with a 2%–3% increase in airport charges depending on the controls. *See infra* Table 5.

²⁸⁰ *See infra* Table 5. We do not take logs for the connecting percentage or the international percentage because the relevant change is not a percentage change over the existing base but is a percentage point increase. For example, a 50% increase in the percent of international passengers from 2%–3% would have very little effect on the CPE, whereas a 50% increase in the percentage of international passengers from 20%–30% would have a significant effect on the CPE. Therefore, the better measure of connecting passenger impact is a function of the percentage point change—in this case, one point versus ten points—and not the percentage increase as would be measured by a log comparison.

Table 5—Regression results—Log of passenger airline cost per enplanement regressed against the percentage of connecting passengers and other measures at U.S. Airports with More than Two Million Annual Enplanements, 2015.²⁸¹

	(1)	(2)	(3)	(4)
Cnx%	-0.745 (0.415)	-1.434** (0.485)	-1.780** (0.462)	-1.561** (0.520)
Intl%	3.258** (0.523)	2.137** (0.629)	2.136** (0.601)	2.003** (0.616)
LnEnpl		0.216* (0.104)	0.308** (0.106)	0.269* (0.105)
LnFare		1.222* (0.597)	0.874 (0.605)	0.941 (0.624)
Vacation			-0.530** (0.188)	-0.444* (0.203)
Port				0.198 (0.142)
Authority				-0.018 (0.116)
Constant	2.179	-4.328	-2.587	-2.927
F	19.86	13.22	16.47	13.97
Prob>F	**0.000	**0.000	**0.000	**0.000
R ²	0.411	0.478	0.533	0.548
Observations	61	61	61	61

Care must be taken in interpreting the results because connecting hub airports may differ from O&D airports in other ways that result in lower or higher airport charges. For example, at connecting hubs, the connecting passengers do not rent cars

²⁸¹ Standard errors are in parenthesis and are robust to heteroscedasticity.
* 5% statistical significance; ** 1% statistical significance.

or park, require less baggage handling infrastructure, and are not subject to security screening.²⁸² These factors mean that connecting airports have lower infrastructure costs per passenger. On the other hand, parking and rental car operations at O&D airports are highly profitable, and these profits should more than offset the higher cost of providing additional infrastructure at O&D airports.²⁸³

A. AIRPORT DATA (FISCAL YEAR 2015)²⁸⁴

CPE: Airline Cost per Enplanement for airport charges in \$.

DCNX: Percentage of domestic passengers who are connecting at the airport

Int'l: Percentage of passengers who are taking an international flight.

AvgDfare: Average one-way domestic airfare in \$.

Enp: Total enplaning passengers in millions.

Governance forms: Mun–Municipal, Auth–Authority, Port–Port authority, Priv–Private management

²⁸² See, e.g., Kraus & Koch, *supra* note 249, at 108.

²⁸³ See *id.* at 109.

²⁸⁴ In connection with this Article, the Author reviewed and analyzed FAA Forms 127, U.S. DOT DB1A data, and various airport websites. See *supra* note 6.

Airport	CPE ¹	DCNX	Intl	AvgDfare	Enp	Mun	Auth	Port	Priv
ATL	4.77	0.68	0.11	169.98	49.78	1	0	0	0
LAX	20.07	0.29	0.27	194.32	37.06	1	0	0	0
ORD	17.65	0.50	0.16	168.86	36.49	1	0	0	0
DFW	9.72	0.60	0.12	173.30	31.71	0	1	0	0
JFK	49.62	0.29	0.53	213.99	28.00	0	0	1	0
DEN	11.97	0.42	0.04	153.04	26.63	1	0	0	0
SFO	16.60	0.27	0.22	211.09	24.37	1	0	0	0
CLT	3.04	0.75	0.07	200.33	22.24	1	0	0	0
LAS	11.79	0.24	0.08	146.81	22.09	1	0	0	0
PHX	6.26	0.45	0.05	167.52	21.94	1	0	0	0
MIA	19.93	0.47	0.50	181.53	21.09	1	0	0	0
IAH	12.27	0.56	0.25	201.71	20.77	1	0	0	0
SEA	10.12	0.33	0.11	179.61	20.22	0	0	1	0
MCO	7.73	0.13	0.13	148.24	18.89	0	1	0	0
EWR	34.31	0.47	0.31	215.91	18.76	0	0	1	0
MSP	6.91	0.49	0.07	194.01	17.75	0	1	0	0
BOS	14.54	0.12	0.15	184.20	16.37	0	0	1	0
DTW	9.86	0.50	0.10	182.64	16.34	0	1	0	0
PHL	13.87	0.39	0.13	186.71	15.21	1	0	0	0
LGA	18.04	0.14	0.06	172.48	14.33	0	0	1	0
FLL	5.84	0.11	0.20	139.37	13.15	1	0	0	0
BWI	9.86	0.36	0.04	153.89	12.02	1	0	0	0
DCA	13.32	0.21	0.02	174.91	11.29	0	1	0	0
MDW	7.54	0.42	0.03	137.04	11.20	1	0	0	0
SLC	3.92	0.48	0.03	184.30	10.70	1	0	0	0
IAD	23.61	0.44	0.33	213.07	10.44	0	1	0	0
SAN	10.29	0.14	0.04	175.18	10.18	0	1	0	0
HNL	9.91	0.25	0.26	236.54	9.58	1	0	0	0
TPA	5.20	0.13	0.04	149.61	9.31	0	1	0	0
PDX	10.72	0.21	0.04	172.64	8.38	0	0	1	0

Airport	CPE	DCNX	Intl	AvgDfare	Enp	Mun	Auth	Port	Priv
DAL	3.59	0.36	0.00	129.39	7.42	1	0	0	0
STL	14.42	0.26	0.01	175.03	6.49	1	0	0	0
HOU	6.46	0.36	0.00	158.29	6.29	1	0	0	0
AUS	8.12	0.15	0.02	175.33	5.95	1	0	0	0
BNA	7.63	0.25	0.01	177.89	5.93	0	1	0	0
OAK	11.32	0.13	0.03	141.83	5.69	0	0	1	0
MSY	7.75	0.15	0.01	166.08	5.47	1	0	0	0
MCI	7.75	0.17	0.01	169.88	5.29	1	0	0	0
RDU	6.91	0.15	0.02	176.51	5.00	0	1	0	0
SNA	9.91	0.07	0.03	172.60	5.00	1	0	0	0
SJC	9.82	0.09	0.04	166.92	4.90	1	0	0	0
SMF	15.50	0.11	0.02	172.79	4.81	1	0	0	0
SJU	13.87	0.13	0.11	196.61	4.27	0	0	0	1
SAT	7.00	0.15	0.06	189.72	4.21	1	0	0	0
RSW	7.61	0.05	0.04	159.33	4.19	0	0	1	0
IND	9.22	0.15	0.01	182.65	3.96	0	1	0	0
CLE	17.76	0.14	0.02	165.72	3.96	1	0	0	0
PIT	16.73	0.14	0.02	184.25	3.95	0	1	0	0
CMH	7.18	0.14	0.01	187.28	3.36	0	1	0	0
MKE	9.34	0.13	0.02	168.68	3.32	1	0	0	0
OGG	7.06	0.22	0.05	233.34	3.23	1	0	0	0
PBI	4.20	0.04	0.02	164.69	3.14	1	0	0	0
CVG	9.18	0.25	0.03	201.21	3.05	0	1	0	0
BDL	9.20	0.07	0.01	189.62	2.94	0	1	0	0
JAX	7.37	0.12	0.00	180.21	2.74	0	1	0	0
ANC	11.02	0.21	0.02	230.02	2.53	1	0	0	0
ABQ	7.64	0.14	0.00	176.48	2.43	1	0	0	0
BUF	10.58	0.11	0.00	160.70	2.34	0	0	1	0
ONT	10.51	0.05	0.03	167.35	2.12	1	0	0	0
OMA	6.61	0.13	0.00	191.42	2.07	0	1	0	0
BUR	2.32	0.04	0.00	138.19	2.03	0	1	0	0