

**ABSTRACT FOR THE  
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**Privatization in U.S. Airports**

**By**

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Privatization is defined to involve a change in ownership or control from public to private. Broadly, privatization refers to the reduction of government involvement and the increase in the private sector involvement in producing goods or services.

Interest in airport privatization increased after the privatization of the British Airports Authority (BAA) in 1986, when the United Kingdom held a public offering of 100 percent of the BAA's shares. A number of airports worldwide have since undergone varying degrees of privatization. It is commonly perceived, however, that airports in the United States are not privatized. In reality, there is a significant level of private sector involvement in the development, financing, and operation of U.S. airports.

This paper examines the extent of private sector involvement – from partial to full privatization – in the development, financing, and operation of U.S. airports, based on empirical research involving a review of existing literature, a survey of U.S. airports, and case studies. The paper also discusses the U.S. Airport Privatization Pilot Program, the program's requirements and application procedures, and lessons learned from airports that have applied for privatization under the program.

## **PRIVATIZATION IN U.S. AIRPORTS**

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### **INTRODUCTION**

Interest in airport privatization increased after the privatization of the British Airports Authority (BAA) in 1986, when the United Kingdom held a public offering of the BAA's shares. Since then, a number of airports worldwide have undergone varying degrees of privatization, including airports in Europe, Australia, Latin America, and Asia. In contrast, very little is documented about privatization in U.S. airports, yet there is significant private sector involvement in the development, financing, and operation of U.S. airports. Proponents cite the following benefits of privatization: increased efficiency, which would lead to reduced operating costs and increased profitability; private sector funding of capital improvements, which would relieve funding pressures on airport operators; cash infusion for local governments through sale or lease arrangements; and enhanced customer service. Opponents present arguments why each of the potential benefits would not be realized.

This paper examines private sector involvement – from partial to full privatization – in the development, financing, and operation of U.S. airports. While only a few U.S. airports have so far explored full privatization, various privatization models are in effect at airports throughout the country, including:

- Contract services
- Private companies providing services to the public
- Terminal concession management contracts
- Private development and operation of facilities
- Management contracts
- Long-term lease of an entire airport

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The paper evaluates each model's advantages and disadvantages, which vary depending on the specific contractual agreement(s) negotiated in each case.

The U.S. Congress established the Airport Privatization Pilot Program (the Pilot Program) to explore whether full privatization could attract new sources of capital to develop airports in the United States. This paper also reports on the status of the U.S. Airport Privatization Pilot Program, the program's requirements and application procedures, and lessons learned from the experience airports that have so far applied for privatization under the program.

The findings of this paper are useful to U.S. airport sponsors and managers in evaluating their options for privatization.

## **DEFINITION OF PRIVATIZATION**

The term "privatization" is used in various contexts to describe different financial and operational arrangements between governmental entities and parties in the private sector. In the most narrow and traditional sense, privatization is defined as follows:

- "To change (an industry or business, for example) from governmental or public ownership or control to private enterprise."<sup>1</sup>
- "To transfer (a state-owned business) to private ownership."<sup>2</sup>
- "To change (as an industry or business) from public to private control or ownership."<sup>3</sup>

Broadly, privatization refers to the reduction of government involvement and the increase in the private sector's involvement in producing goods or services to the public. The United States General Accounting Office (GAO) (1996) defines privatization as "reducing government's involvement in providing services. To what extent government control is relinquished to the private sector depends on the means employed, ranging from contracting for services to selling government assets or operations." De Neufville (1999) adds that "[t]he simple view of privatization focusing on ownership can be misleading. Control depends not just on the ownership of an operation, but also on its management and strategic direction."

## **PRIVATE SECTOR INVOLVEMENT IN U.S. AIRPORTS**

Most commercial service airports in the United States are owned and operated by state or local government entities. However, most individuals who work at airports are employees of the private companies that provide services at airports. The private sector provides the following vital services at most U.S. commercial airports:

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<sup>1</sup> Definition at [www.answers.com](http://www.answers.com).

<sup>2</sup> Definition at [www.allwords.com](http://www.allwords.com).

<sup>3</sup> Definition at [www.webster.com](http://www.webster.com).

- Air service – The airlines provide all air travel service.
- Terminal concessions – Private companies provide concession services in airport terminals, including food/beverage, gift/news, advertising, ATMs, and other concessions.
- Ground transportation – Most ground transportation services are provided by private companies (taxi cabs, limousines, and shuttle buses).

In addition, airports often engage private companies to provide essential operational services, such as janitorial, landscaping, public parking facility operation and management, and other services. GAO (1996) found “that the bulk of services, such as baggage handling, cleaning, retail concessions, and ground transportation, are provided by private contractors or tenants...For example, only 1,600 (less than 3 percent) of the 62,000 people who work at the three airports...operated by the Port Authority of New York and New Jersey are public employees”. The National Civil Aviation Review Commission (2007) found that employees of private companies, including airlines, concessionaires, and contractors, account for 90 percent of employees at the nation’s largest airports.

Commercial U.S. airports receive the majority of their revenues from various charges assessed to the private companies that operate at airports, and airports users. Airports receive landing fees and terminal space rent revenue from airlines; concession revenue from terminal concessionaires; space rent and concession revenue from rental car companies; user and/or permit fees from private ground transportation companies; parking revenues from members of the public who use airport public parking facilities; and other revenues received from entities in the private sector. Most commercial airports in the U.S. are not supported by general public tax revenues.

The private sector is also very much involved in the planning and financing of new capital development at airports. Airports hire architectural and engineering firms, planning firms, and construction contractors to plan, design, and build new facilities. Airports also hire financial consulting firms to plan the financing of facilities. When an airport is ready to finance new facilities, the most common method is to issue debt through the private capital markets, with the assistance of bond underwriters, bond counsel firms, bond rating agencies, and other professional firms with the appropriate expertise in debt financing. The success of such debt financing transactions rests with the private investors who are willing to purchase debt instruments offered by airport operators. Approximately 58 percent of U.S. airport capital investments from 2001 through 2004 were funded by bonds and other forms of debt. Approximately 30 percent of the bonds (which equates to 17.4 percent of total capital investment funding), were backed by Passenger Facility Charges (PFCs). The remaining 42 percent of the capital investment funding was obtained through Federal Aviation Administration (FAA)

Airport Improvement Program (AIP) grants (21%)<sup>4</sup>, PFC “pay-as-you-go” funding (11%), and internally generated funds (10%) (Nichol, 2007).

## **BENEFITS OF AIRPORT PRIVATIZATION**

Previous research has identified four main areas of potential benefits of airport privatization: (1) increased efficiency; (2) private sector funding of capital improvements; (3) cash infusion for local governments; and (4) increased customer service.

### **Increased Efficiency**

In recent years there has been considerable discussion in the United States about Public Private Partnerships (P3s), defined as “contractual agreements formed between a public agency and private sector entity that allow for greater private sector participation in the delivery of transportation projects.”<sup>5</sup> Proponents of increased privatization believe that private sector entities, with specialized expertise, can operate more efficiently than government entities. Therefore private participation should be maximized in order to and increase efficiency, reduce operating expenses, and improve financial performance. Sander (2007) cites privatization as an “opportunity to review operations and change what doesn’t work, while maximizing what does. Privatization offers the opportunity for new management to review and realign airport staffing free of the constraints of often restrictive government staffing and employment rules.” The Reason Foundation (2007) argues that a private business, which is accountable to shareholders, has the “willingness to think outside the box to get things done.” Such innovative thinking would be useful in finding creative solutions to difficult problems, such as financing and acquiring land and facilities to expand an existing airport.

Opponents of airport privatization argue that, because U.S. airports already have significant private sector involvement, any increase in operating efficiencies from further privatization would be minimal. Any potential financial savings would be more than offset by the cost to the airport operator of the contract arrangement, as in the case of the 2006 privatization of Aeroports de Paris, which sold a 32.8 percent stake through an initial public offering (IPO). Airline executives protested the subsequent increases in airline fees at Paris Charles de Gaulle Airport, which are reported to add up to five percent in the first year and 4.25 percent annually over the next four years (Buyck, 2007).

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<sup>4</sup> AIP grants are funded from the Airport and Airway Trust Fund, which is supported by user fees, fuel taxes, and other similar revenue sources. AIP grants are not funded by general public tax revenues.

<sup>5</sup> U.S. Department of Transportation, Federal Highway Administration, “PPP Options,” at [www.fhwa.dot.gov](http://www.fhwa.dot.gov).

## **Private Sector Funding of Capital Improvements**

Private development and financing of airport facilities presents an attractive option to airport operators who, in recent years, have been facing increasing capital project needs and declining funding sources, including flat or declining AIP grant funds. The Reason Foundation (2007) asserts that private development of infrastructure improvements is less expensive than public financing of those facilities, even with access to tax-exempt debt instruments. According to the Reason Foundation, the government's cost of capital often exceeds the cost of its debt because the government assumes risks such as cost overruns and project delays. In contrast, the risks assumed by the private sector are factored into its cost of capital.

Opponents counter that the return on investment sought by private investors would require private sector owners/operators of airports to raise rates and charges assessed to airport tenants and users. Moreover, the Air Transport Association (ATA) (2010) questions whether a privately-owned airport could operate profitably because it would not be eligible for tax-exempt debt financing, FAA grants, or Passenger Facility Charges (PFCs). ATA asserts that airport financing costs would rise significantly without access to these sources, which currently constitute the majority of capital funding at most airports.

Airlines have been generally opposed to complete airport privatization because they benefit from the existing system of developing and operating U.S. airports. According to Mew (1999), airlines benefit from the following: (1) the use of the "historic cost recovery method of charging landing fees" as opposed to using a market value-based methodology, which would result in higher landing fees, and (2) public subsidy of capital improvement projects at airports through the use of tax-exempt bonds, the collection of PFCs, and the receipt of FAA grants.

## **Cash Infusion for Local Governments**

Airports make an attractive investment to the private sector because: (1) they are an important piece of the U.S. transportation infrastructure; and (2) they have a monopoly or near monopoly on air service in their respective geographical areas. And cash-strapped local governments see airport privatization, through long-term leases or outright sale, as a way to generate significant cash infusion from private investors. Federal law, however, prohibits the diversion of airport revenue for non-airport uses at airports that have received Federal financial assistance. Many airports receive Federal funding, and proceeds from the sale or lease of an airport are considered airport revenue and therefore subject to the nondiversion rule. Otherwise the airport sponsor will be required to repay FAA grants, unless privatization is done under the U.S. Department of Transportation (DOT) airport privatization pilot program and the private operator/owner agrees to uphold the FAA grant assurances and comply with certain other conditions.

Many industry observers question whether it is wise for a public entity to relinquish control of a public asset for decades. De Neufville (1999) points out that “major aspects of airport operation must remain under government control [to protect] public interest in these facilities...[t]his control may be exercised either through public ownership and assumption of the responsibilities for major decisions, or through regulation and incentivization of private companies.”

### **Enhanced Customer Service**

Another argument for airport privatization is that private firms are more responsive to the needs of the airport tenants and users, thereby resulting in enhanced customer satisfaction. Advani (1999) reports that, in a survey of 201 airports in 67 countries and territories, privatized airports are found to have a significantly higher level of passenger-responsiveness than government-owned airports.

Opponents of airport privatization counter that increased airport privatization would result in reduced accountability to the public. Increased privatization could significantly reduce public control over airport facilities, which would not be in the best interests of the public. P3 arrangements are tantamount to turning public assets over to private firms for the private firms’ financial gain. The assumption is that public entities will guard the public interest much more closely than will private companies that are primarily interested in making a financial profit. Therefore activities involving a substantial public interest should not be completely delegated to the private sector. De Neufville (1999) identifies these activities as those (1) central to the community’s welfare, and (2) potentially open to monopolistic exploitation of the public. In the case of airports, it is feared that a private owner/operator would be less sensitive to important public issues, such as noise and other environmental issues, or safety and security issues.

## **PRIVATIZATION MODELS**

A discussion of the various privatization models can be complex, because there are numerous ways privatization can be achieved and the terms are often used in different ways. Discussed below are common privatization models found in U.S. airports.

### **Contract Services**

Most U.S. airport operators contract with private companies to provide a variety of planning and operating services, such as:

- Planning, design, and construction of facilities – Airports use consulting firms to plan and design facilities, and to prepare financial and economic studies related to such facilities. Airports also hire construction firms to construct new facilities.
- Routine operating functions, such as janitorial and landscaping services; operation of public parking facilities; and other routine functions necessary to manage and operate airports.

Privatization proponents believe this operating model works well for most U.S. airports, citing the following benefits to the airport operators:

- **Expertise** – Airport managers are able to draw upon the extensive expertise in particular areas offered by private firms, so they can focus on the broader issues. For example, they can engage private firms specializing in terminal design and planning who possess a higher level of expertise in that area than airport staff members who deal with a broad array of design and planning issues at a general level.
- **Efficiency** – Private firms can provide services more efficiently, and at a lower cost, than the governmental entities that own airports, because private firms concentrate on particular areas of expertise. For example, landscaping companies can often provide gardening services at a lower cost because their operations are streamlined for and concentrated solely on providing gardening services.

### **Private Companies Providing Services to the Public**

As noted above, the vast majority of personnel who work at airports are employed by private companies that provide products and services to the public, such as airlines, terminal concessionaires, rental car companies, and ground transportation providers (such as taxi cab companies, limousine companies, and shuttle services). Airport operators have long recognized the advantages to contracting with private companies to provide specialized services to the users of airports. This practice is so much a part of the airport industry that it would be hard to imagine, for example, airports owning and operating airplanes to transport passengers from one airport to another. It would seem inefficient for airport operators to directly operate terminal restaurants and news/gift shops, or to provide rental car and ground transportation services.

### **Terminal Concession Management Contracts**

Private companies are often engaged to manage airport terminal concessions. Private concession management contracts are in place at a number of U.S. airports, including Boston-Logan, Chicago O’Hare, Chicago Midway, La Guardia, John F. Kennedy Terminal 7, Newark Liberty, Pittsburgh, and Washington National. The airports that choose this type of arrangement use the expertise of private firms to prepare and implement concessions performance standards, monitor leases, and prepare benchmark studies to improve a concession program’s operational effectiveness. Under this type of arrangement, airport management is not burdened with such duties as periodic evaluations of the concessionaires’ compliance with concession agreement requirements. The potential disadvantage of this type of agreement is that the airport operator must pay a fee to the concession management firm, which is a layer of expense not incurred if the airport operator manages the concessions directly. However, proponents of the master concessionaire model argue that a concession management contract provides a higher level of concession management expertise, resulting in higher concession revenues — which more than offset the management contract expense. An additional benefit is that a concession management contract reduces the administrative burden on airport staff,

thereby freeing airport staff members to concentrate on other management duties. Indeed, without the concession management contract, the airport might have to take on the expense of hiring additional airport staff dedicated to concession program management.

### **Private Development and Operation of Facilities**

A number of airports have allowed airlines to develop and operate terminal facilities and support equipment. This has been done by individual airlines, as well as through third parties for the benefit of several airlines. Some of the terminal buildings at Los Angeles International Airport (LAX) were financed and are operated by airlines, and some of the terminals at John F. Kennedy International Airport (JFK) are operated directly by airlines.

LAXTEC Corporation was formed in 1982 by 20 international airlines, to design, finance, install, operate and maintain all passenger and aircraft support equipment at LAX's Tom Bradley International Terminal (TBIT). LAXTEC, which is currently owned by 42 shareholder airlines, maintains infrastructure equipment at TBIT. Airports have also allowed private companies to develop cargo and other airport facilities.

The Port Authority of New York and New Jersey (PANYNJ) entered into a long-term lease with a private consortium, JFK International Air Terminal (JFK IAT), for the development and management of JFK's Terminal 4 (T4), which opened in May 2001. JFK IAT is a consortium composed of the operator of Amsterdam Airport Schiphol USA LLC, the land development firm LCOR, and the investment firm Lehman Brothers. JFK IAT demolished the old International Arrivals Building, built a new terminal building (T4), and manages its operations. T4 contains 1.5 million square feet, with two concourses and a total of 42 ticket counters and 17 gates.

Karp (2007) cites the following advantages for the private development and operation of airport facilities:

- Reduced investment requirement for the airport operator – The airport operator does not need to invest its own capital or issue debt instruments to finance the facility. This relieves pressure on the airport operator's cash reserves and frees up the airport operator's bonding capacity.
- More flexibility – JFK IAT reports that it has more flexibility in negotiating with the airlines because it is not bogged down by many of the "red tape" requirements that governmental entities face. The organization is not encumbered with political ties because it is a business, not a governmental entity.
- Division of responsibility – The private operation of a facility allows the airport operator to focus on other operational aspects of the airport because the airlines, or a consortium of airlines, are responsible for the operation of their own terminals.

- More “business-like” operation – Because JFK IAT has the private sector profit motive, it is able to focus on managing T4 in a more efficient manner.
- Increased efficiency – Because a single entity is responsible for the design, construction, and maintenance of a facility, certain economies of scale can be realized.

The main disadvantage of the private development and operation of an airport terminal is that the airport operator often loses control over the use of the gates. Thus, if one or more airlines reduce their operations at an airport, the airport operator may not be able to gain control of the gates to assign other airlines to those gates. This problem can be mitigated if the airport operator is able to negotiate a “use it or lose it” clause in the contract, whereby an airline would lose the right to use one or more gates if the airline’s operations or passenger activity drops below a certain pre-determined level. This problem is also mitigated in cases where a third party, such as JFK IAT, operates the terminal and there are multiple airlines occupying the terminal. In such cases, the third party operator has financial incentive to ensure that all gates are used efficiently. Because all gates at JFK T4 are common use gates, JFK IAT is able to re-allocate gate use to respond to changing circumstances.

### **Management Contract**

Under the management contract model, an airport operator contracts with a private company for the management of the airport or specific facilities at an airport. The airport operator maintains ownership of the airport. In 1995, the Indianapolis Airport Authority contracted with a private company (BAA) for the management of the Indianapolis International Airport. The president of the Indianapolis Airport Authority Board credits BAA with “introducing a more commercial approach through expanding the airport’s retail and parking offerings...[BAA] contributed greatly to the development of additional non-airline revenue.” Although the contract was to expire on December 31, 2008, the Airport Authority and BAA have mutually agreed to end the contract effective December 31, 2007, because BAA’s current corporate strategy is now focused on managing airports it can own (Indianapolis International Airport, 2007).

In 1986, the city of Atlantic City (New Jersey) leased the Atlantic City International Airport terminal and its general aviation airport to a private management firm. Under the terms of the lease, the private firm was required to pay to Atlantic City minimum annual payments of \$400,000.<sup>6</sup> In 1997 Westchester County (New York) entered into a management contract for the White Plains/Westchester County Airport. A similar model is used by Los Angeles County for the management of its five general aviation airports. In 1990, the County entered into a management contract with a private firm, under which the contractor receives all revenues, and is obligated to pay all operating expenses plus a guaranteed minimum annual amount to the County. Airport net income is split between the contractor and the County based on an agreed-upon formula.

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<sup>6</sup> In 1992, Atlantic City sold the airport terminal to the South Jersey Transportation Authority (SJTA), which also owns the Atlantic City Expressway, for \$11.3 million.

The main advantage cited for the management contract arrangement is the increased profitability of an airport resulting from streamlined management strategies implemented by a private management firm. Sander (2007) reports that the White Plains/Westchester County Airport, which operated at a financial loss before Westchester County entered into a management contract, is now operating at a substantial profit. The private management firm reduced operating expenses, increased revenues through real estate development, renegotiated ground leases, and implemented paid public parking. In the case of the Los Angeles County airports, Sander (2007) reports that the annual payments made by the original management firm, Comarco, exceeded the annual net income the County had realized before entering into the lease agreement. In November 2000, American Airports Corporation acquired the management contract from Comarco. According to American Airports Corporation (2006), the company is operating the five general aviation airports at a profit, reporting in July 2006 that it had paid to the County over \$14 million in rent and fuel flowage fees since it acquired the management contract.

### **Long-term Lease of an Entire Airport**

The long-term lease option is typically used for existing facilities. A private concessionaire will lease the facility for an agreed-upon concession period. Normally there is an upfront concession fee paid by the concessionaire to the public entity. During the lease period, the private concessionaire receives the revenues from the facility. This type of arrangement, normally used by toll road entities, was entered into by the City of Chicago for the Chicago Skyway, by the state of Indiana for the Indiana Toll Road, and by the state of Virginia for the Pocahontas Parkway.

In the airport industry, this model was used for Stewart Airport in New York, under the FAA Privatization Pilot Program. Six years ago, the state of New York leased Stewart Airport to a private firm for 99 years. The private firm, National Express Group (National), made a \$35 million up-front cash payment, and pledged to pay a percentage of future airport gross revenues. At the time the lease was signed, it was touted as a model for airport privatization. Among the claims made in support of the lease to National were the promises of increased economic benefits and increased air service at Stewart. As Schumer (2000) states, "National Express Group has a business development plan that they feel will attract new airlines to Stewart Airport and related new businesses to the region. The privatization will bring more frequent and convenient air service to the area, and will create new jobs and stimulate development in the entire region."

According to supporters of the deal, since National's lease began, Stewart Airport entered into agreements to develop a hotel, private jet hangars, and a new cargo facility. However, citing a change in corporate focus, National agreed to sell its lease (with 93 years remaining on the 99-year lease term) to the PANYNJ for \$78.5 million. Opponents of long-term airport leases point out that National Express Group reaped a significant financial profit at the expense of the public sector. Opponents also claim that National was unable to increase air service at Stewart. The PANYNJ plans to use Stewart to relieve air traffic congestion at other New York City area airports, and the anticipated

increase in air service through the use of Stewart Airport as a reliever airport will help Stewart Airport financially and bring increased economic benefits to the area.

## **AIRPORT PRIVATIZATION PILOT PROGRAM**

The Airport Privatization Pilot Program was established by the U.S. Congress to explore whether the privatization of airports could drive new sources of capital investment to develop the nation's airports. More specifically, the Pilot Program was established by Congress under section 149 of the Federal Aviation Reauthorization Act of 1996<sup>7</sup>. The Pilot Program is limited to five airports. One of the five must be a general aviation airport, and no more than one large hub commercial airport can participate.

The Pilot Program essentially allows the DOT, acting through the FAA Administrator, to grant exemptions to certain regulatory and statutory requirements enforced by the FAA. "Specifically, the administrator may exempt the sponsor from all or part of the requirements to use airport revenues for airport related purposes, to pay back a portion of Federal grants upon the sale of the airport, and to return the airport property deeded by the Federal Government upon transfer of the airport. The administrator is also authorized to exempt the private purchaser or lessee from the requirement to use all airport revenues for airport related purposes, to the extent necessary to permit the purchaser or lessee to earn compensation from the operations of the airport"<sup>8</sup> Also, if at least 65 percent of the air carriers representing at least 65 percent of the total landed weight at the airport agree, the FAA may waive the revenue-use requirement to permit the sponsor to use the sale or lease proceeds for general local purposes.<sup>9</sup>

The FAA may not approve an application unless the sale or lease agreement provides that fees charged to air carriers will not increase faster than the rate of inflation, unless a higher amount is approved by 65 percent of air carriers representing at least 65 percent of total landed weight at the airport. Fees charged to general aviation aircraft may not increase at a higher rate than fees charged to air carriers.<sup>10</sup> The Pilot Program was conceived to remove certain barriers and ease the process for an airport sponsor to transfer an airport operation to a private sector operator and to better enable that operator to receive a return on investment. It should be noted that in establishing the Pilot Program, Congress prohibited the sale of a commercial service airport, only allowing the lease of those facilities, while allowing the sale or lease of a general aviation airport.

Only six preliminary applications have been received by the FAA since the final policy and procedures were issued in September 1997:

- Stewart Airport – This was the only application carried through completion of the process, with the FAA granting an exemption. Stewart Airport, however, was subsequently reverted back to public control.

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<sup>7</sup> This provision is codified at 49 USC § 47134.

<sup>8</sup> FAA Docket #2889.

<sup>9</sup> 49 USC § 47134(b)(1).

<sup>10</sup> 49 USC §§ 47134(c)(4),(5).

- New Orleans Lakefront Airport – This application was dismissed because the State of Louisiana transferred control of the airport from the Orleans Levee District, the original sponsor and applicant under the Pilot Program, to the State Administrative Division. The Orleans Levee District lost the authority to sell or lease the airport.<sup>11</sup>
- Chicago Midway International Airport – Preliminary and final applications were submitted for Midway.
- Niagara Falls International Airport – This application was withdrawn after completing the preliminary application process and subsequently filing a final application
- San Diego Brown Field – This application was withdrawn by the applicant after completing only the preliminary application.
- Rafael Hernandez Airport in Puerto Rico – This application was withdrawn by the applicant after completing only the preliminary application.

To date, all applications received have involved the lease of airports even though some of the properties involved (general aviation airports) were eligible for either purchase or lease. In 2004, the FAA Administrator, in a statutorily required report to Congress on the status of the Pilot Program, made the following observations:

- As of the date of the report, the airports involved in the Pilot Program were primarily general aviation airports with only limited commercial service at some of the properties, the facilities were underutilized, and all were operating at a financial loss. The Chicago Midway application, received after this report was completed, is one notable exception.
- All the applicants proposed the use of new funds for capital development, along with continued use of FAA funds.
- The process to transfer ownership from the public sector to the private sector is very time consuming, requiring very strong political support that must be sustained from the beginning of the process through finalization of the transfer. Political commitment becomes an even more critical requirement in the process when a significant commercial service airport is the subject of a privatization effort.

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<sup>11</sup> On September 30, 2006, Louisiana referendum granted operational control of the New Orleans Lake Front Airport to the State of New Orleans Administrative Division. In a letter dated January 3, 2008, the FAA notified the joint applicants for the New Orleans Lakefront Airport privatization that the FAA had concluded that the Orleans Levee District, the original sponsor and applicant under the Pilot Program no longer had the authority to sell or lease the airport. The FAA therefore dismissed the application without prejudice to the filing of another application by the proper authority.

Details of the privatization applications for Stewart International Airport (Stewart Airport), New Orleans Lakefront Airport (Lakefront Airport), and Chicago Midway International Airport (Midway Airport) are presented below as case studies.

### **Stewart International Airport**

To date, Stewart Airport is the only airport that has successfully completed the pilot program application process and received certain exemptions from the FAA. However, the private operator sold the lease to PANYNJ after only six years of private operation, with 93 years remaining on the 99-year lease. Thus, the one airport that has been touted as a successful example of airport privatization in the U.S. has reverted back to being operated by a public sector airport sponsor. PANYNJ purchased the remaining years of the lease for \$76 million, far above the \$35 million price negotiated by NEG six years ago for the entire lease period.

The New York State Department of Transportation (NYSDOT) filed a preliminary application for the privatization on October 23, 1997, and the final application on January 10, 1999. NYSDOT proposed to enter into a 99-year lease agreement with SWF Airport Acquisition (SWFAA), a wholly-owned subsidiary of National Express Group PLC (NEG), for the operation of Stewart Airport. The FAA issued a Record of Decision (ROD) on March 30, 2000, which approved NYSDOT's Final Application and granted exemptions to NYSDOT from the following Federal grant assurances related to Stewart Airport:

- The payback by the public airport sponsor of a portion of Federal grants upon the sale of an airport; and
- The return by the public airport sponsor of airport property upon the sale of an airport.

However, because the FAA did not grant to NYSDOT an exemption from the grant assurance related to illegal airport revenue diversion, all compensation due to NYSDOT resulting from the privatization transaction is considered airport revenue, and must be used for airport purposes.<sup>12</sup> The "airport purposes" approved in the ROD include reimbursement of approximately \$24.8 million in past NYSDOT expenditures for the construction of Stewart Airport and Republic Airport (Farmingdale, New York) capital projects.

The FAA did grant to SWFAA an exemption from grant assurances regarding airport revenue diversion to enable SWFAA to earn compensation from the operation of Stewart Airport, including a reasonable rate of return on its investment.

The lease agreement between NYSDOT and SWFAA was for a term of 99 years, through March 31, 2099. The ROD summarized the financial terms of the lease, which include lease payments totaling \$35 million, as follows: \$24 million paid upon commencement

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<sup>12</sup> NYSDOT was not able to obtain the appropriate air carrier approvals to request this exemption.

of the lease; \$5 million plus interest to be paid upon completion of the airport access road or tenth anniversary of the lease, whichever comes first; and \$6 million to be paid upon NYSDOT's completion of environmental remediation specified in the lease. In addition, SWFAA would be obligated to pay percentage rent payments equal to 5% of gross income, beginning on the 10<sup>th</sup> anniversary of the lease or when total annual passenger traffic reaches 1,380,000, whichever occurred first.

In September of 2006 NEG announced its intention to sell the lease it owned to manage the operations of Stewart Airport (Logan, 2006). NEG had sold off all of its airports by then and decided to focus on its bus and train operations. On October 27, 2006, the FAA sent a letter to NYSDOT stating that NYSDOT and SWFAA would need to obtain the FAA's consent for the assignment of the lease and for transfer of control of airport assets. The letter also stated that any compensation to be paid to NYSDOT resulting from the assignment of the lease would be considered airport revenue. However, the FAA "tentatively" concluded that any compensation due to SWFAA resulting from the lease transfer would be covered by the exemption granted to SWFAA in the ROD.

On November 16, 2006, the PANYNJ Board authorized the executive director to review Stewart Airport as an opportunity to expand regional capacity and to retain consulting services as needed to assist in the review and analysis of related legal, financial, environmental and business issues. PANYNJ had determined that the ability to expand capacity to meet future demand at its current facilities was limited and inadequate. PANYNJ had previously launched a study to analyze capacity at the six airport facilities in the region and determined that Stewart showed the greatest potential to provide relief for the existing PANYNJ facilities.

On January 25, 2007, the PANYNJ Board authorized the purchase of the remaining term of SWFAA's leasehold interest in Stewart Airport for \$78.5 million. PANYNJ purchased the remaining 93 years of the lease, which expires March 31, 2099. In addition to the purchase price of \$78.5 million, the authority set aside funds for capital projects over the next five years. PANYNJ anticipated that it would assume control over Stewart Airport's operations by October 2007. It was noted in the board minutes that the Port Authority would hire a third party contractor to operate the airport under the direction of a Port Authority manager and an operations supervisor. PANYNJ assumed operations of Stewart Airport as of November 1, 2007.

### **New Orleans Lakefront Airport**

On February 29, 2000, the Board of Commissioners of the Orleans Levee District (OLD) filed a preliminary application to the FAA for the privatization of Lakefront Airport. The application overview cited the following reasons why Lakefront Airport is an excellent candidate for the privatization exemption: economic viability and opportunities for synergy; community development and enterprise zone demonstration; exceptionally strong interest among potential partners; district/community/state consensus; transparent and efficient competition process; and protection for users, employees and grant-assisted assets.

On April 23, 2002, the OLD filed a final application for exemption with the FAA. The application requested exemptions to permit the use of revenue from the lease of the Lakefront Airport for non – airport purposes; to forgo the repayment of Federal grants, and to allow its private operator to earn compensation from the operation of the airport. Under the terms of the lease, American Airports Lakefront, LLC (the private operator) would enter into a fifty year lease, would pay the OLD \$300,000 a year for the first 3 years, and in the 4<sup>th</sup> year would pay \$300,000 or 11 percent of Lakefront Airport’s gross income not to exceed \$3,000,000 and 30 percent of the airport’s gross income over \$3,000,000.

In January 2003, the FAA sent correspondence to the applicants, requesting clarification on various aspects of the proposed lease as described in the final application.<sup>13</sup> Opposition to the proposed privatization transaction was submitted by the Aircraft Owners and Pilots Association (AOPA) in a letter dated May 23, 2003. In its letter, the AOPA raised a number of issues, which the AOPA described as “serious concerns,” about the proposed transaction. One of the main points included in the AOPA’s letter was the contention that the proposed transaction “fails to meet Congressional intent” of the privatization pilot program because (as alleged by the AOPA) the proposal did not include significant capital investment by the private operator. In May 2004, the FAA reopened the public comment period. On September 10, 2004, the FAA notified the applicants that the FAA needed additional information to complete its review of the final application. On June 27, 2005, the FAA notified the applicants that the FAA was holding the application “in abeyance” because the applicants had not yet submitted the additional information, nor had the applicants submitted a request to withdraw the application.

On September 30, 2006 a state-wide referendum transferred control of the Lake Front Airport from the OLD to the State of Louisiana Division of Administration. On July 13, 2007 the FAA recognized the OLD and Division of Administration as co-sponsors of the Lakefront Airport. On January 3, 2008 the FAA dismissed the application because the OLD, the public sponsor applicant, no longer had the authority to dispose of airport property nor manage the operations of the Lakefront Airport.

### **Chicago Midway International Airport**

On September 12, 2006, the City of Chicago submitted to the FAA a preliminary application for the privatization of Midway Airport. The preliminary application included the Request for Qualifications (RFQ) for the concession and lease of Midway. On October 3, 2006, the FAA accepted the preliminary application and reserved a slot in the Pilot Program. This slot represented the single slot available for large hub airports under the program.

The City issued its RFQ for the transaction in February 2008, with a response deadline of March 31, 2008, for which the City received six responses. On September 30, 2008, the

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<sup>13</sup> Correspondence on the proposed privatization transaction is filed in the Federal Document Management System, Docket Number 14246, accessible through the FAA website at [faa.gov](http://faa.gov).

City selected Midway Investment and Development Company LLC (MIDCo) to operate Midway under a 99-year lease.

On October 14, 2008, the FAA received Midway's final application for privatization. The application identified the private operator as MIDCo, a Delaware Limited Liability Company composed of the following equity sponsors: YVR Airport Services Ltd., a Canadian company owned by the Vancouver Airport Authority; Citi Infrastructure Partners, LP, a United Kingdom investment partnership managed by a wholly-owned, indirect US subsidiary of Citigroup; John Hancock Life Insurance Company, an indirect, wholly-owned US subsidiary of Manulife Financial Corporation, a publicly-traded Canadian corporation.

The City intended to retain ownership of Midway, and monitor Midway through its inspection, audit, and review rights. MIDCo would pay to the City an initial payment of \$2.521 billion at the time of the closing of the lease. The City intended to apply the amount to the following: \$1.17 billion to the retirement or defeasance of outstanding Midway airport revenue bonds and related transaction costs; \$126 million to a portion of the cost of certain airport capital improvement projects; \$225 million to be deposited into a fund to pay for police, fire, and emergency services provided by the City at Midway; and all remaining amounts would be used for general City (non-airport) purposes. This section of the final application also described the financing arrangements, including the source of the funds to be used by MIDCo for the lease payment.

The application stated that the transaction would result in "reduced and more stable rates and charges" for the airlines serving Midway. The City intended to enter into an Airport Use Agreement with the airlines that serve Midway, with a term of 25 years. During the first six years of the Use Agreement, the total annual aggregate airline fees would be capped at \$45.0 million (the Base Contribution). The application stated that the Base Contribution is approximately \$10.0 million less than the total projected airline fees for 2008. After the first six years, and for the remainder of the 25-year term of the Use Agreement, the Base Contribution may be increased each year at a rate not to exceed the CPI. MIDCo covenanted that the percentage increase in general aviation fees will not exceed the percentage increase in air carrier fees.

The Midway privatization effort ended in April 2009 when the private investors were not able to secure the necessary financing for the deal. However, the City is maintaining its place for Midway in the Pilot Program. The FAA has extended the City's designation in the Pilot Program through July 31, 2010, in case the investors are able to secure the necessary financing.

## **SURVEY OF PRIVATE SECTOR PARTICIPATION IN AIRPORT OPERATIONS**

While only one airport has gone through full privatization under the U.S. airport privatization pilot program, many aspects of airport operation are handled by private firms. A survey of airport managers was conducted in April 2008 to obtain information

on the types of private sector involvement in place at their airports. Our target population for the survey included commercial service airports in the United States. We began with a list of 138 airports obtained from the Airports Council International (ACI) membership directory. By excluding very small airports and those that are known to have very little or no private involvement in operations, we narrowed the list down to 73 airports. We sent a survey questionnaire to managers at those 73 airports and obtained responses from 48 airports, achieving a response rate of 66 percent. These 48 airport respondents include 16 large hub, 17 medium hub, 13 small hub, and two non-hub airports.

By FAA classification, a large hub airport enplanes at least one percent of total U.S. passengers. A medium hub airport enplanes at least 0.25 but less than one percent of total annual U.S. passengers; a small hub airport enplanes at least 0.05 but less than 0.25 percent; and a non-hub primary airport enplanes more than 10,000 passengers but less than 0.05 percent of total annual U.S. passengers. The 16 large hub airports in the sample constitute 53 percent of the 30 large hub airports in the United States. The 17 medium hub airports in the sample constitute 46 percent of all 37 medium hub airports. The 13 small hub airports in the sample constitute 18 percent of all the 72 small hub airports, and the two non-hub airports in the sample constitute less than one percent of all the 262 non-hub airports in the country, based on 2006 enplanements.<sup>14</sup> This information indicates that the sample is biased toward large and medium hub airports; this bias, however, does not diminish the usefulness of the survey data in general. Where appropriate for statistical analysis, post-stratification weights are applied to the sample cases to correct for this sampling bias.<sup>15</sup>

Each airport was assigned a raw score of “1” for each privatization option it implements. The survey questionnaire presented a total of 33 options; therefore the maximum total raw score that an airport can obtain is 33. For ease of interpretation, the PSP Score scales the total raw score to a maximum of 100. For example, Hartsfield-Jackson Atlanta International Airport reported implementing 19, or 58 percent, of the 33 privatization options specified in the survey and therefore receives a PSP Score of 58. We devised the PSP Score to indicate the extent of private sector participation at each airport, and to facilitate comparison among the airport respondents. In its simplicity, the PSP Score is admittedly a crude measure, as compared to one that would be based on percentage of total operating costs or total operating revenues, and should be interpreted with this limitation in mind. It assigns the same weight to each option enumerated in the survey questionnaire, regardless of the contribution of each function or facility to costs or revenues. **Figure 1** lists the airport respondents from highest to lowest PSP Score.

**Figure 2** divides airports into six groups based on their individual PSP Scores – from the lowest interval from 0 to 10 to the highest interval from 50 to 60 – and shows the percentage of airports with PSP Scores falling within each interval. We observe the

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<sup>14</sup> The airport counts by category were obtained from the following source: Federal Aviation Administration, *Primary and Nonprimary Commercial Service Airports (by Rank Order), CY 2006*, <http://www.faa.gov>.

<sup>15</sup> The statistical analyses in this study were performed using SPSS. To correct for sampling bias, a post-stratification weight equal to the ratio of the population share of a particular airport category to its share in the sample was applied to each airport in the sample.

highest number of airports (accounting for 47.5 percent of the weighted sample excluding the two non-hub airports) with a PSP Score greater than 20 but no more than 30. The next two larger groups of airports have PSP Scores from 10 to 20 (22.2 percent) and PSP Scores from 30 to 40 (21.4 percent).

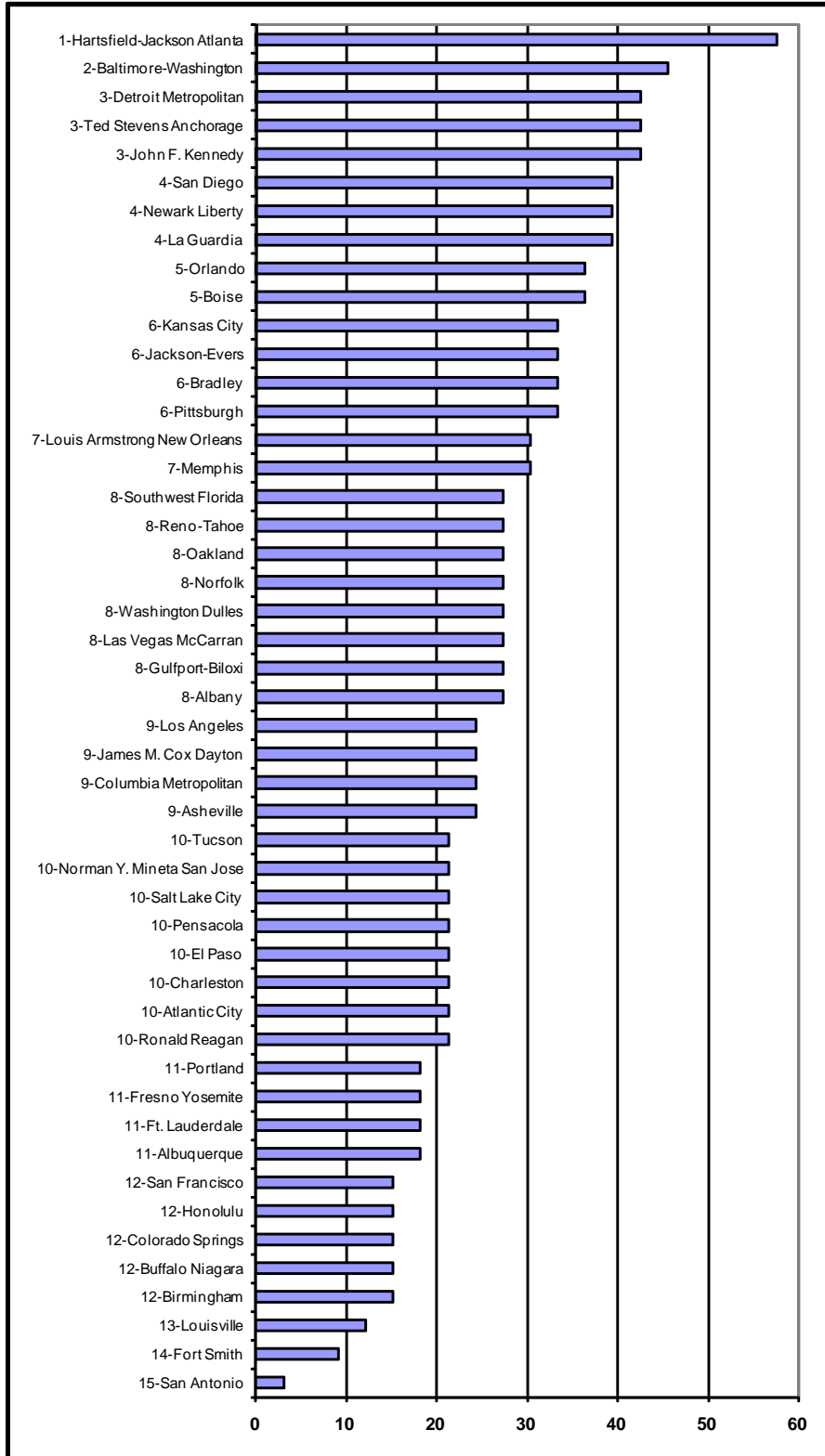
**Table 1** presents key statistics that describe the data on airport PSP Scores. These statistics were calculated based on the weighted sample excluding the two non-hub airports. The mean PSP Score is 25.8, with a 95 percent confidence interval ranging from 23.0 to 28.6 (or 25.8 +/- 2.8). The 95 percent confidence interval gives us a range of possible values such that if we surveyed a sample of small to large hub airports many times over, chances are 95 out of 100 that the mean PSP score will lie within this range. The mean is calculated as the weighted sum of all the PSP Scores divided by the number of observations.

The median PSP Score is 24.2, indicating that 50 percent of airports have a PSP score less than 24.2. Like the mean, the median measures central tendency. It is the value above and below which one half of the observations fall.

Knowing the average value of a variable in terms of the mean or the median is not enough information in itself; it is also useful to know how widely or narrowly dispersed the individual observations are. **Table 1** shows that the minimum PSP Score observed in the sample is 3.0 (SAT) and the maximum is 57.6 (ATL), and the range, which is simply the difference between the maximum and the minimum observed values, is therefore 54.5. Although the range is a useful measure of dispersion, it does not take into account how the individual observations are distributed between the minimum and the maximum. **Table 1** also reports the standard deviation of PSP Scores as 9.4. The standard deviation is a measure of the average difference of each observed PSP score from the mean. If all the airports in the sample had the same PSP score, both the range and the standard deviation would be zero.

As shown above, the extent of private sector participation in airport operations varies from airport to airport. This sub-section examines two airport attributes that might explain the variance: (1) traffic volume as measured by total enplanements and indicated by airport hub category, and (2) type of airport governance. **Table 2** presents data on airport category, total enplanements and type of airport governance for each airport in the sample, along with each airport's PSP Score.

FIGURE 1  
 SURVEY OF PRIVATE SECTOR PARTICIPATION IN AIRPORT OPERATIONS  
 SAMPLE AIRPORTS RANKED BY PSP SCORE<sup>1</sup>



<sup>1</sup> The PSP Score indicates the extent of private sector participation in airport operations. A higher score indicates greater private sector participation.

**TABLE 1**  
**SURVEY OF PRIVATE SECTOR PARTICIPATION IN AIRPORT OPERATIONS**  
**KEY DESCRIPTIVE STATISTICS FOR PSP SCORE<sup>1 2</sup>**

	<b>Statistic</b>
Mean	25.8
Standard Error (SE)	1.4
95% Confidence Interval (= Mean +/- 2SE):	
Lower Bound	23.0
Upper Bound	28.6
Median	24.2
Standard Deviation	9.4
Minimum	3.0
Maximum	57.6
Range	54.5

<sup>1</sup> The analysis is based on the weighted sample, excluding the two nonhub airports.

<sup>2</sup> A higher score indicates greater private sector participation.

We use multiple regression analysis to determine whether traffic volume and airport governance really affects the extent of private sector involvement in airport operations, and to estimate the magnitude of that effect, if any. **Table 3** shows the results of the regression analysis of the *dependent* variable PSP Score on the *independent* variables, enplanements and airport governance. In the regression, enplanements are specified as a continuous variable expressed in millions. Airport governance is specified as a dichotomous *dummy* or *indicator* variable that is set equal to one if an airport is operated by an airport or multi-modal authority, and zero otherwise. The regression analysis was performed on two sample specifications: *Regression 1* - including all small, medium and large hub airports in the sample; and *Regression 2* - including all small, medium and large hub airports in the sample except ATL and SAT, which have the highest and lowest PSP Scores. The latter was done to test if the results would remain robust after excluding extreme values in the data.

Differences in traffic volume do explain differences in the extent of private sector participation in airport operations. The regression results confirm that traffic volume, as indicated by enplanements, is a statistically significant explanatory variable for the PSP Score. In Regression 1, the estimated unstandardized coefficient for enplanements is 0.602. It is a positive coefficient, which means that airports with higher enplanement levels tend to have greater private sector participation in airport operations. A coefficient of 0.602 means that, with each additional million enplanements, the PSP Score increases, on average, by 0.602 points. The statistical significance of this coefficient is determined based on the *p*-value of the *t*-statistic. A very small *p*-value, which in this case is 0.001, indicates a statistically significant finding. The interpretation is this: If the level of enplanements really has no effect on PSP Score, the probability of finding a coefficient at least as large as 0.602 is less than one in a thousand. The regression analysis excluding data outliers (Regression 2) also results in a statistically significant coefficient for enplanements.

TABLE 2  
SURVEY OF PRIVATE SECTOR PARTICIPATION IN AIRPORT OPERATIONS  
PSP SCORE, AIRPORT CATEGORY, ENPLANEMENTS AND GOVERNANCE

Airport	Code	Private Sector Participation Score <sup>1</sup>	Airport Category <sup>2</sup>	FY 2006 Enplanements <sup>3</sup>	Governance <sup>4</sup>
Hartsfield-Jackson Atlanta	ATL	58	L	40,973,306	City Department of Aviation
Baltimore-Washington	BWI	45	L	10,172,200	State Aviation Administration
John F. Kennedy	JFK	42	L	20,450,432	Port Authority
Detroit Metropolitan	DTW	42	L	17,323,171	Airport Authority
Ted Stevens Anchorage	ANC	42	M	2,215,241	State Dept. of Transportation Division
Newark Liberty	EWR	39	L	17,628,506	Port Authority
La Guardia	LGA	39	L	12,895,582	Port Authority
San Diego	SAN	39	L	8,649,558	Airport Authority
Orlando	MCO	36	L	16,874,411	Airport Authority
Boise	BOI	36	S	1,640,209	City Department of Aviation
Pittsburgh	PIT	33	M	4,956,458	Airport Authority
Jackson-Evers	JAN	33	S	751,995	Airport Authority
Kansas City	MCI	33	M	5,334,784	City Department of Aviation
Bradley	BDL	33	M	3,475,480	State Dept. of Transportation Division
Memphis	MEM	30	M	5,504,663	Airport Authority
Louis Armstrong New Orleans	MSY	30	M	2,663,591	City Department of Aviation
Washington Dulles	IAD	27	L	11,145,904	Airport Authority
Oakland	OAK	27	M	6,995,567	Port Authority
Southwest Florida	RSW	27	M	3,747,145	Airport Authority
Reno-Tahoe	RNO	27	M	2,463,695	Airport Authority
Norfolk	ORF	27	M	1,866,931	Airport Authority
Albany	ALB	27	S	1,460,818	Airport Authority
Gulfport-Biloxi	GPT	27	S	367,540	Airport Authority
Las Vegas McCarran	LAS	27	L	21,786,313	County Department of Aviation
Los Angeles	LAX	24	L	29,301,797	City Department of Aviation
James M. Cox Dayton	DAY	24	S	1,275,092	City Department of Aviation
Columbia Metropolitan	CAE	24	S	649,479	Airport District
Asheville	AVL	24	N	294,065	Airport Authority
Ronald Reagan	DCA	21	L	8,900,030	Airport Authority
Tucson	TUS	21	M	2,087,969	Airport Authority
Charleston	CHS	21	S	957,760	Airport Authority
Atlantic City	ACY	21	S	438,981	Transportation Authority
Salt Lake City	SLC	21	L	10,292,570	City Department of Aviation
Norman Y. Mineta San Jose	SJC	21	M	5,298,671	City Department of Aviation
El Paso	ELP	21	S	1,650,470	City Department of Aviation
Pensacola	PNS	21	S	805,468	City Department of Aviation
Ft. Lauderdale	FLL	18	L	10,151,245	County Department of Aviation
Portland	PDX	18	M	6,927,043	Port District
Albuquerque	ABQ	18	M	3,183,639	City Department of Aviation
Fresno Yosemite	FAT	18	S	614,930	City Department of Aviation
Buffalo Niagara	BUF	15	M	2,500,031	Transportation Authority
Birmingham	BHM	15	S	1,561,780	Airport Authority
San Francisco	SFO	15	L	16,177,563	City Department of Aviation
Honolulu	HNL	15	L	9,583,299	State Dept. of Transportation Division
Colorado Springs	COS	15	S	998,916	City Department of Aviation
Louisville	SDF	12	M	1,847,251	Airport Authority
Fort Smith	FSM	9	N	95,275	City Department of Aviation
San Antonio	SAT	3	M	3,884,934	City Department of Aviation

Sources:

<sup>1</sup> Calculated by Unison Consulting, Inc., based on airport responses to the survey.

<sup>2</sup> Federal Aviation Administration (FAA) airport classification of large (L), medium (M), small (S), and non-hub (N) airports based on fiscal year (FY) 2006 enplanements. The federal fiscal year begins on October 1.

<sup>3</sup> Federal Aviation Administration Terminal Area Forecasts historical data.

<sup>4</sup> Individual airport websites.

**TABLE 3**  
**SURVEY OF PRIVATE SECTOR PARTICIPATION IN AIRPORT OPERATIONS**  
**KEY DESCRIPTIVE STATISTICS FOR PSP SCORE BY AIRPORT CATEGORY**<sup>1 2</sup>

	Small	Medium	Large	Total Sample <sup>1</sup>
Mean	23.5	24.8	32.0	25.8
Standard Error (SE)	1.3	2.7	4.0	1.4
95% Confidence Interval (= Mean +/- 2SE):				
Lower Bound	20.9	18.9	23.0	23.0
Upper Bound	26.2	30.6	41.0	28.5
Median	21.2	27.3	34.4	24.2
Standard Deviation	6.2	9.6	12.7	9.4
Minimum	15.2	3.0	15.2	3.0
Maximum	36.4	42.4	57.6	57.6
Range	21.2	39.4	42.4	54.5

<sup>1</sup> The analysis is based on the weighted sample, excluding the two nonhub airports.

<sup>2</sup> A higher score indicates greater private sector participation.

Airport governance structure does not explain differences in the extent of private sector participation in airport operations. The regression results confirm that airport governance is not a statistically significant explanatory variable for the PSP Score, as evidenced by a *p*-value of 0.234 associated with the regression coefficient of airport governance. In statistical analysis, such a *p*-value is considered a large probability that the independent variable really has no effect on the dependent variable.

**Table 3** also reports the *standardized coefficients* (also called *Beta coefficients*). The interpretation of unstandardized coefficients depends upon the units of measurement for the independent and dependent variables, and this makes it hard to compare the effects of different variables that are measured in different ways. Standardized coefficients solve this problem by transforming the unstandardized coefficients into a common metric: standard deviation unit. We can compare the standardized coefficients and tell which independent variable is more or less important in explaining changes in the dependent variable. The results show that the variable measuring enplanements has a higher standardized coefficient than airport governance.

**Table 3** also reports the R Squared and Adjusted R Squared, which are common measures of how well the estimated regression equation fit the sample data. These statistics take values from zero to one, where one indicates a perfect fit. The values reported for these measures in **Table 3** are considered satisfactory for regression analysis using cross-section data. In cross-section studies, lower values for R Squared and Adjusted R Squared are typically obtained because of the large variation across individual observations, which is inherently present in the data. In contrast, in time-series studies, higher values of R Squared and Adjusted R Squared typically occur because any

variable growing over time is likely to do a good job of explaining another variable growing over time (Pyndick and Rubinfeld, 1981).

## **SUMMARY AND CONCLUSIONS**

There has been much discussion in recent years regarding the potential for increased privatization of U.S. airports. Proponents cite the following benefits: increased efficiency, which would lead to reduced operating costs and increased profitability; private sector funding of capital improvements, which would relieve funding pressures on airport operators; cash infusion for local governments through sale or lease arrangements; and enhanced customer service.

The following privatization models are found at U.S. airports:

- Contract services;
- Private companies providing services to the public;
- Terminal concession management contracts;
- Private development and operation of facilities;
- Management contracts; and
- Long-term lease of an entire airport.

Each privatization model carries certain advantages and disadvantages, which vary depending on the specific contractual agreement(s) negotiated in each case. The extent of privatization desired for an individual airport should be determined by each airport owner/operator based on the local situation and needs.

The U.S. Congress established the Airport Privatization Pilot Program to explore whether the privatization of airports could drive new sources of capital investment to develop airports in the United States. The Pilot Program is limited to five airports and the FAA has so far received six preliminary applications, three of which were withdrawn. The remaining three applications were for: Stewart International Airport, New Orleans Lakefront Airport, and Chicago Midway International Airport. To date, only Stewart Airport has successfully completed the pilot program application process and received certain exemptions from the FAA. The private operator, however, sold the lease to PANYNJ after only six years of private operation, with 93 years remaining on the 99-year lease. Thus, the one airport that has been touted as a successful example of airport privatization in the U.S. has reverted back to being operated by a public sector airport sponsor. The New Orleans Lakefront Airport privatization application was held in abeyance by the FAA for an extended period because of deficiencies in the application materials. After operational and management control of the airport was transferred to a state agency from the original sponsor and applicant, the FAA dismissed the application. The application of the City of Chicago to enter into a long-term lease for Midway Airport is still under FAA review. The outcome of this application will have significant implications for the future of the U.S. airport industry.

While most commercial service airports in the United States are owned and operated by state or local government entities, many aspects of airport operation are handled by private firms. The paper presents empirical evidence on the extent and manner of private sector involvement in airport operations, based on survey responses from airport managers of 48 U.S. airports. The survey data show extensive private sector participation in various aspects of airport operations.

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