



# Policy Brief

Airport ownership, economic regulation  
and financial performance

2017|01



Copyright ©2017 Airports Council International  
All rights reserved

Published in Montreal, Canada

ACI World  
Suite 1810  
800 Rue du Square Victoria  
Montreal, Quebec, H4Z 1G8  
Canada

[www.aci.aero](http://www.aci.aero)

*Disclaimer*

*The information contained in this publication is subject to constant review in the light of changing requirements and regulations. No subscriber or other reader should act on the basis of any such information without referring to applicable laws and regulations and/or without taking appropriate professional advice. Although every effort has been made to ensure accuracy, Airports Council International (ACI) shall not be held responsible for loss or damage caused by errors, omissions, misprints or misinterpretation of the contents hereof. Furthermore ACI expressly disclaims all and any liability to any person, whether a purchaser of this publication or not, in respect of anything done or omitted, and the consequences of anything done or omitted, by any such person through reliance on the contents of this publication.*

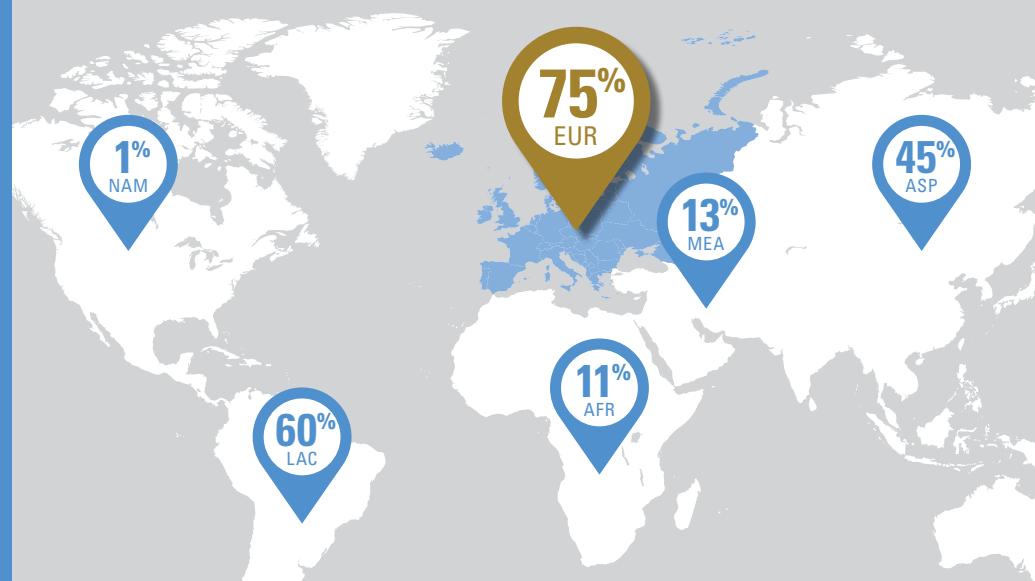
*No part of the Policy Brief may be reproduced, recast, re formatted or transmitted in any form by any means, electronic or mechanical, including photocopying, recording or use of any information storage and retrieval system, without prior written permission from ACI Publications.*

# Policy Brief

Airport ownership, economic regulation  
and financial performance



Proportion of pax traffic handled by airports with private sector participation by region



Of the world's 100 busiest airports for pax,

**46**

have some form of private sector participation.



DUAL AND HYBRID TILL REGIMES INCENTIVIZE PRIVATE INVESTMENT AT AIRPORTS.



# KEY FINDINGS:

- The ACI Inventory of privatized airports (2016) reveals that 614 commercial service airports have private sector participation.
- An estimated majority (86%) of the 4,300 airports with scheduled traffic are public, in that they are owned by a government or governmental entity.
- Although airports with private sector participation account for an estimated 14% of airports worldwide, these airports handle over 40% of global traffic.
- Market size matters for private investment. Private investment flows to airports with high throughput or potential for high throughput:
  - Of the world's 100 busiest airports for passenger throughput, 46 have some form of private sector participation.
  - Of the world's busiest 500 airports, 38% have private sector participation.
  - 41% of global airport traffic is handled by airports that are managed and/or financed by private stakeholders.
- The propensity for private investment varies markedly by region:
  - Europe has the largest propensity for private sector involvement (75%) in terms of passenger traffic handled by fully privatized airports or public-private partnerships (PPPs), and is followed by Latin America-Caribbean (60%); Asia-Pacific (45%); the Middle East (13%); Africa (11%); and North America (1%) that remains predominantly government-owned and managed.
- Europe has the highest absolute number of privatized airports (266), followed by Asia-Pacific (162) and Latin America-Caribbean (153).
- Concession contracts (41%) represent the most common private sector participation model for airports, followed by freeholds (24%), listed airports (23%) and management contracts (8%).
- Private equity flows to many of the world's busiest airports. These airports are nexuses in the air transport value chain and gateways to major destinations and centres of commerce. Eight of the world's top 20 and 15 of the top 50 airports are managed by airport companies and airport groups traded on stock exchanges.
- Airports with private sector involvement invested 44% of global capital expenditure (CAPEX) in 2014. Investments were made to develop both the aeronautical and non-aeronautical side of the business.
- The prevalence of and propensity for private investment are typically found in airports that move away from the single till regime. Based on data for 353 privatized airports from more than 50 major air transport markets, located both in advanced economies and emerging markets, airports handling 68% of passenger traffic operate under a dual or hybrid till regime.
- Non-aeronautical revenues on a per-passenger basis are higher among airports that dispense with single till arrangements. Single, hybrid and dual till airports earn non-aeronautical revenues per passenger of US\$7.61, US\$8.07 and US\$8.57 respectively.

# ACI POLICY RECOMMENDATIONS:

## NO “ONE SIZE FITS ALL” APPROACH TO AIRPORT OWNERSHIP

ACI does not prescribe any specific type of ownership model. In short, airports should be permitted to operate under a range of ownership models. Types of ownership and participation of private capital vary from airport to airport depending on local circumstances. Each ownership model should guarantee flexibility to airport operators in developing both the aeronautical and non-aeronautical sides of the business to achieve a reasonable return on investment.

## CREATE ECONOMIC INCENTIVES AND GUARANTEE CONSISTENCY IN REGULATORY FRAMEWORKS

With ACI’s global medium-term forecast showing 33% growth in passenger volumes from 2015 to 2020, many national governments may face a predicament where a surge in air transport demand is outstripping the airport infrastructure. Private investment is needed to address this challenge over the long run. Along with a consistency in regulatory frameworks, a move toward well-crafted economic incentives enables private equity to flow to the airport industry and helps contain the level of risk of such a capital intensive investment.

The single till accounting method is born of a long-standing convention to support aircraft operators at the expense of infrastructure providers. Many economists, airport operators and a growing number of regulators agree that this method introduces price distortions and creates an artificial constraint that results in market inefficiencies both for airport operators and their airline customers. A movement away from single till regimes to dual and hybrid tills induces cost efficiencies and innovations on the commercial side of the airport business.

## EVIDENCE-BASED POLICYMAKING

The role of a regulator and its oversight function is to monitor and ensure there is no significant abuse of market power. The application of competition laws, robust measures of competition and market-power tests on the pricing of airport services must be data-driven. Strict forms of price regulation result in allocative inefficiencies which affect economic incentives adversely. This may result in inefficient and/or insufficient infrastructure development.

## FOSTERING ENTREPRENEURSHIP AND VALUE CREATION

The potential for value creation and market innovations is omnipresent for aviation stakeholders in circumstances where airport operators are as free to grow as any other enterprise. There is ample evidence that private stakeholders re-invest portions of airport revenues generated from aeronautical and commercial activities in order to improve the quality of airport services and infrastructure. Moreover, during times of economic distress, non-aeronautical revenues serve as a cushion between airports and their airline customers with respect to charges. This has become a common practice at the worldwide level and should be further incentivized.

# 1

## INTRODUCTION:

# TRENDS IN AIRPORT OWNERSHIP

Set in 2015, the United Nations Sustainable Development Goals (SDGs) call on the international community to pledge a plan of action based on 17 global targets that aim to ensure prosperity, peace and to eradicate poverty by 2030. SDG 9, “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation,” is directly pertinent to the airport industry and the economies that it serves around the globe. Under the umbrella of SDG 9, the ACI Policy Brief aims to provide the state of the industry based on a robust dataset and inventory of the world’s major commercial airports and puts forth several practical policy recommendations to ensure that investment is attracted to the industry.

Until relatively recently, nearly all major commercial airports were government-owned and government-operated, primarily on a cost-recovery basis. Initially, deregulation in the aviation sector predominantly focused on airlines, although a number of countries have also divested their airports and air traffic control services. The first full-scale privatization of airports occurred in the mid-1980s, when the British government privatized the British Airports Authority (BAA). That event marked the beginning of a trend that has been gathering strength worldwide. The BAA privatization was followed by waves of airport sales in Europe, Australia, New Zealand, Latin America and Asia. Deregulation of the aviation industry in many parts of the world was followed by a drastic shift in the way airports were operated. Airports no longer operate as a homogeneous group of public utilities but as a heterogeneous group with ownership structures ranging from being government-owned to being partially or fully privatized. Even government-owned and government-managed airports are increasingly required to have a commercial focus. Nevertheless, private investment typically flows to airports with a sufficient critical mass of traffic to guarantee an expected return for investor outlay. Smaller regional airports with low traffic volumes tend to depend on government subsidies to operate because of the economic and social impact these airports generate for the communities they serve. Alternatively, major operators that manage broader networks of airports use the earnings of larger airports to cross-subsidize or compensate for the net losses of their smaller airports in terms of throughput.

The fundamental motive for airport privatizations or PPPs is to finance what States are no longer able or willing to finance. Private sector stakeholders also bring commercially driven management and the flexibility to adapt to a fast-changing world. Furthermore, private investment and entrepreneurship often go hand in hand. Entrepreneurs generate innovations and value for customers, but they also expect a return for the risk that investors must bear in doing so.

### 1.1 How is privatization defined?

It is recognized that the term “privatization” may have several meanings in different circumstances. For the purpose of this policy brief, “privatization” is defined as participation of the private sector in the management, financing and/or ownership of airport infrastructure. This may include any or a combination of the following:

- **Freehold:** Full private sector ownership and management for an unlimited time.
- **Listed companies:** Airports owned by companies that are listed on stock exchanges and whose activities include the management of airports. The shares of these companies may be entirely in the hands of private entities and traded in the open market, or there may be a majority shareholder held by the public sector or government. These companies may own one or several airports.
- **Concessions or leases:** Instances where the public sector has given rights to private companies to operate and manage an airport or to take part in one or more of an airport’s activities for a limited period of time. This model also includes build–operate–transfer (BOT) schemes in all their variations.
- **Management contracts:** Instances where the private sector obtains a fee for the management of all or parts of the airport or certain key aeronautical activities.



- Government-owned companies:** The participation of government-owned companies in other airports as a private investment or for a fee (e.g., a 100% government-owned airport company acquires a concession contract for the management of another airport, be it in its home country or abroad).

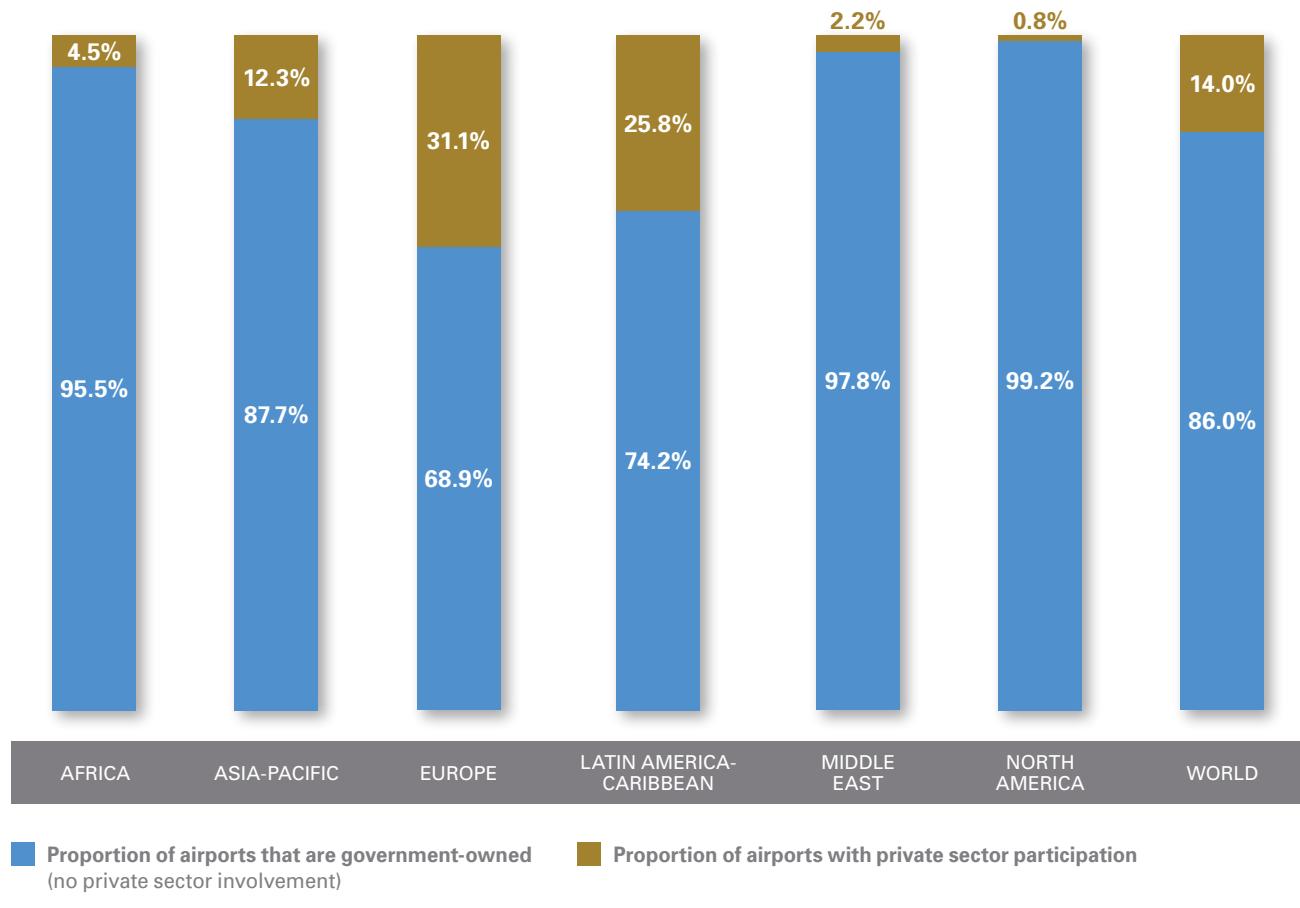
With the exception of freehold and 100% privately owned or listed companies, all other ownership models tend to be referred to as PPPs from a statistical monitoring perspective.

## 1.2 The scale of privatization across the globe

Government-owned operators or airports that are exclusively managed by public authorities continue to make up the lion's share of airports across the globe, irrespective of the growing interest in private sector financing and management of airports.

Chart 1 summarizes the proportions of airports falling under different ownership models by region. The majority (86%) of the estimated 4,300 airports with scheduled traffic are public in that they are owned by a government.

**CHART 1: DISTRIBUTION OF AIRPORTS BY OWNERSHIP STRUCTURE AND REGION (2016)**

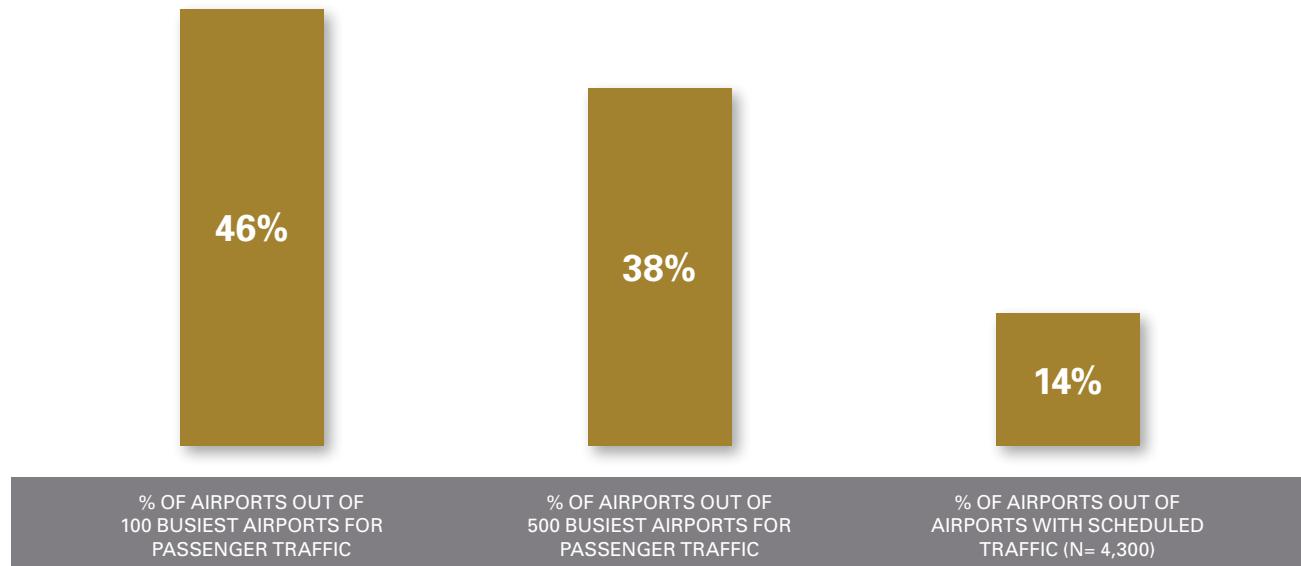


Source: ACI Inventory of privatized airports, 2016; and ACI World Airport Traffic Database, 2016, adapted from Official Airline Guide (OAG) scheduled seats, 2016

However, if we narrow the sample to the world's 100 busiest airports for passenger throughput, almost half of these airports have private sector participation. Chart 2 displays the proportions of airports that have some type of private sector stake by sub-samples. Private investment flows to airports with high

throughput or potential for high throughput. There is a higher concentration of private sector involvement among the world's busiest airports. This reinforces the claim that private investment flows to airports that have substantial scale and traffic throughput. Market size matters for private investment.

## CHART 2: PROPORTION OF AIRPORTS WITH PRIVATE SECTOR PARTICIPATION (2016)



Source: ACI Inventory of privatized airports, 2016; and ACI World Airport Traffic Database 2016, adapted OAG scheduled seats (2016)

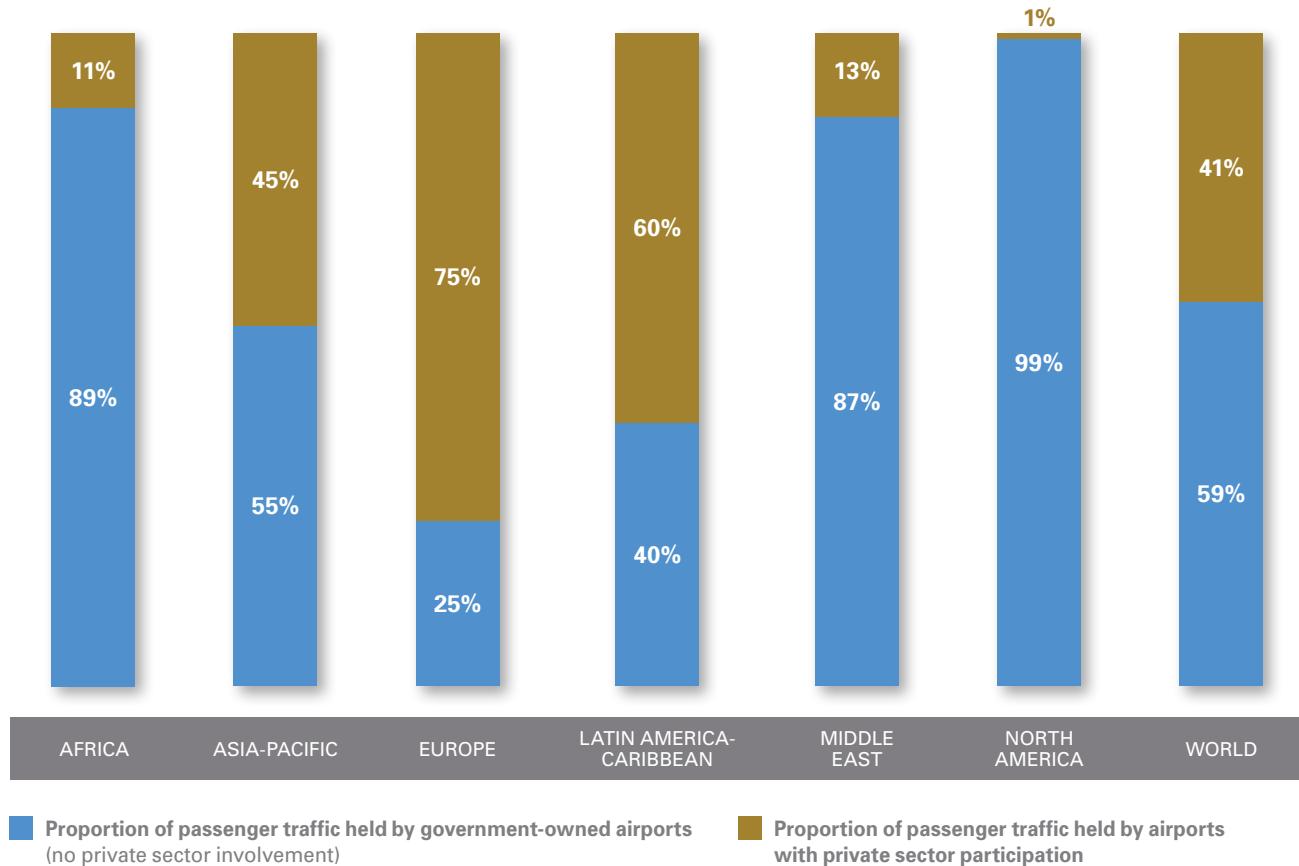
Chart 3 presents the distribution of traffic by airport ownership structure, for different regional groupings of airports. Taking into account both fully privatized airports and those operated under PPPs, as much as 41% of global airport traffic is held by airports that are managed and/or financed by private stakeholders. It can be concluded that while a minority of airports globally are owned, managed or operated by private

stakeholders, this group of airports handles over 40% of global passenger throughput.

Regional differences are evident with respect to the overall ownership models and financing of airports. The regions that have the highest propensity for private investment in airports are Europe and Latin America-Caribbean. These two regions have private



**CHART 3: DISTRIBUTION OF PASSENGER TRAFFIC BY OWNERSHIP STRUCTURE AND REGION (2016)**



Source: ACI Inventory of privatized airports, 2016; and ACI World Airport Traffic Database, 2016, adapted from OAG scheduled seats, 2016

entities handling as much as 75% and 60% of their respective passenger traffic. North American airports on the other hand, have a much higher proportion of airports (and their corresponding passenger traffic) that are owned and managed by government entities at municipal or regional levels. While there may be a number of long-standing institutional reasons for this, existing financing schemes may have shaped this

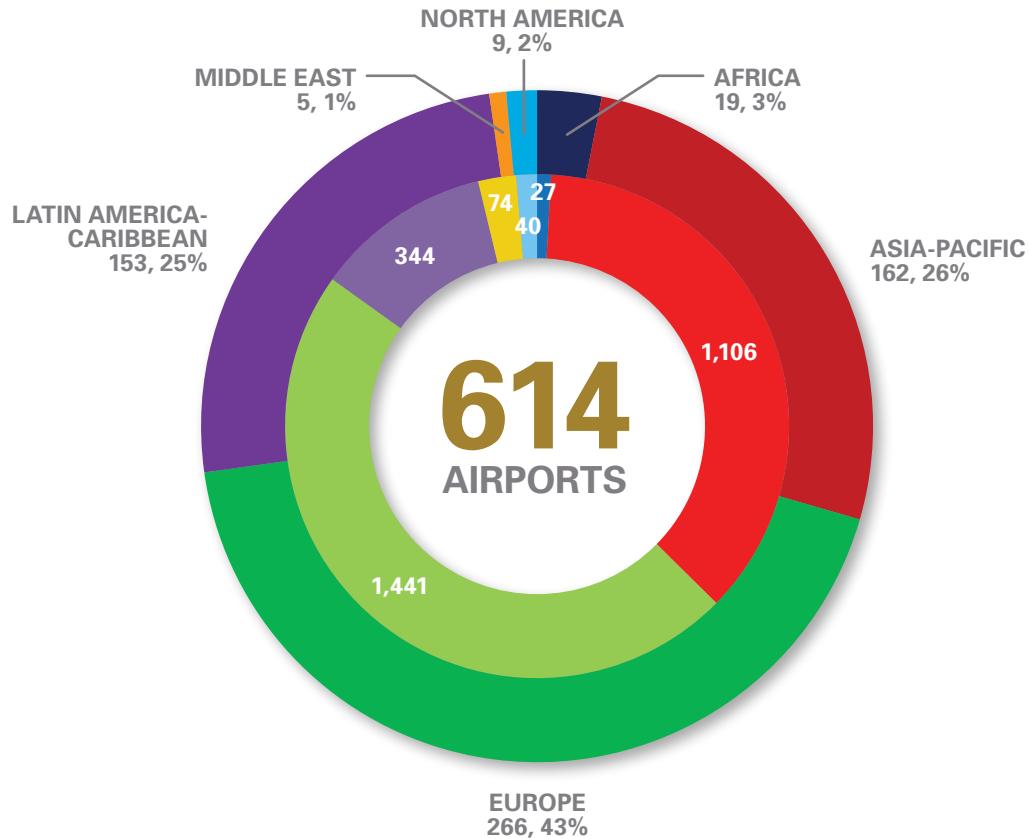
arrangement. For instance, local governments which own and operate North American airports make wide use of debt instruments through a well-established municipal bond market. Since this remains a major source of financing, private equity has played only a small role in terms of overall airport finance for the region to this day.

### 1.3 Profiling privatized airports

The ACI Inventory of privatized airports (2016) reveals that 614 commercial service airports have private sector participation. This includes airports that handle, or are capable of handling, commercial operations. This inventory is focused on airports that cater to scheduled traffic and have private

sector involvement as defined in Section 1.1. Smaller airports that cater exclusively to general aviation, including air taxis, are not the focus of this inventory. Europe continues to be the region with the highest number of privatized airports (266), followed by Asia-Pacific (162) and Latin America-Caribbean (153). See Chart 4.

**CHART 4: DISTRIBUTION OF PRIVATIZED AIRPORTS BY REGION (OUTSIDE) AND CORRESPONDING PASSENGER TRAFFIC IN MILLIONS (INSIDE) (2016)**



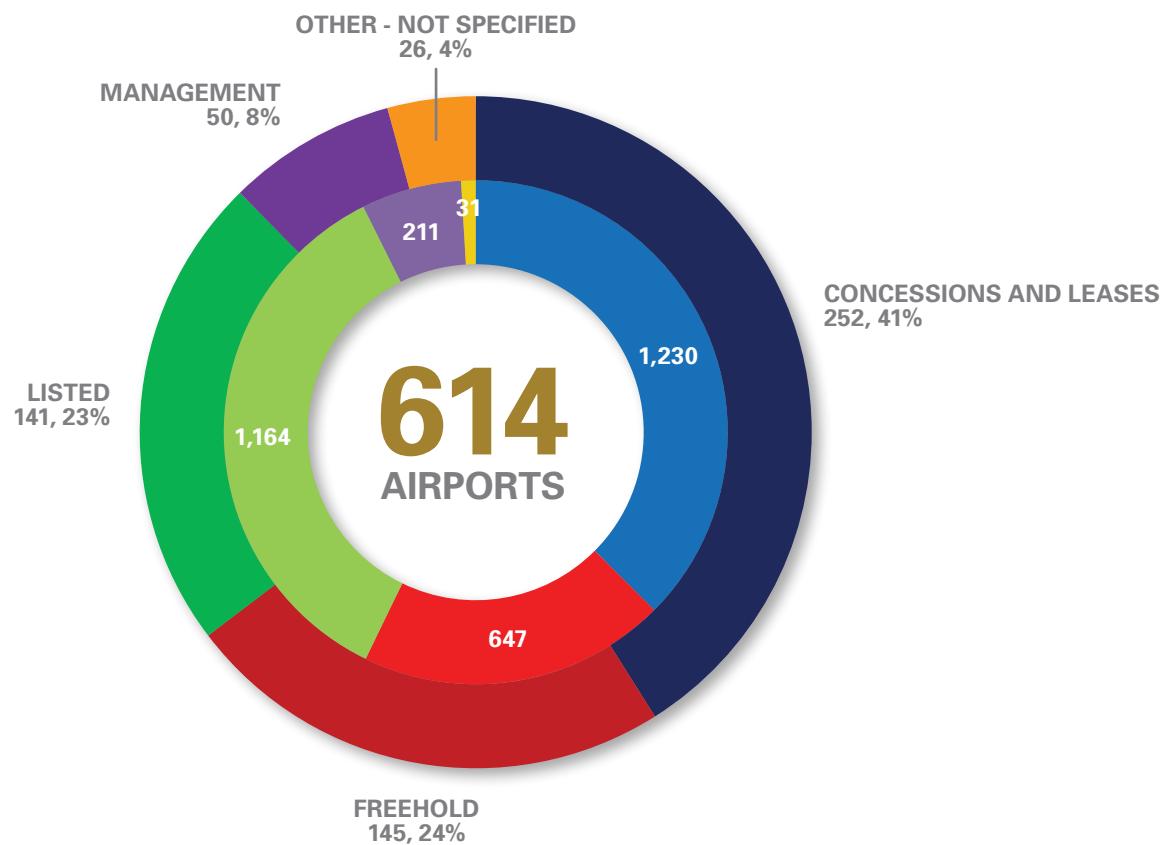
Source: ACI Inventory of privatized airports, 2016



In terms of the distribution of airports by type of privatization, the most common model for privatization is concession and lease contracts (41%). This is followed by freeholds (24%), listed airports (23%) and management contracts (8%), as shown in Chart 5.

At the time of writing, there were 25 listed companies managing 143 airports. China boasts the highest number of listed airport companies with six, while the United Kingdom has the greatest number (34) of freehold airports. In absolute terms, Chinese airports that have private sector stakeholders handle more passenger traffic than other individual country markets. For the world's major national markets,

CHART 5:

DISTRIBUTION OF AIRPORTS BY TYPE OF PRIVATIZATION (OUTSIDE)  
AND CORRESPONDING PASSENGER TRAFFIC IN MILLIONS (INSIDE) (2016)

Source: ACI Inventory of privatized airports, 2016

Chart 6 shows relative passenger traffic proportions handled by airports that have private sector investment, compared to total traffic at the national level.

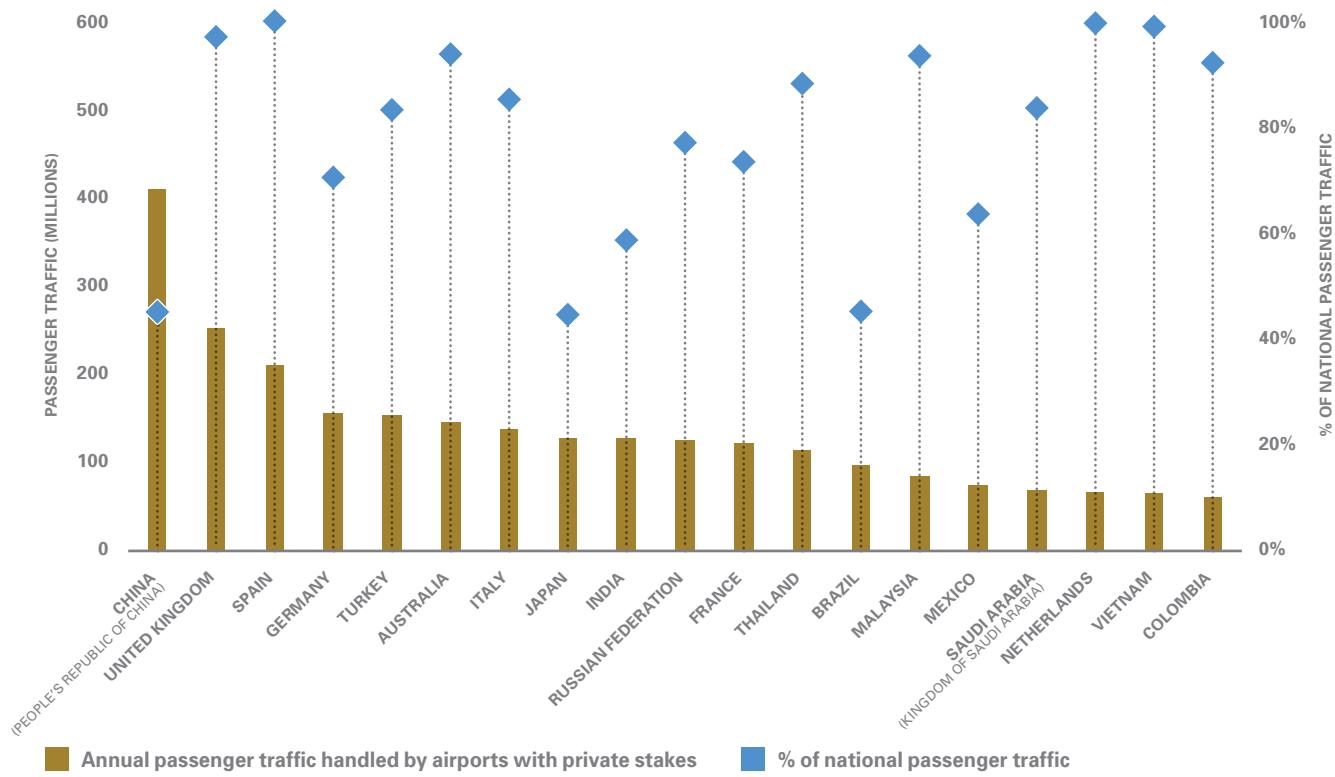
#### **1.4 The role of private equity and the rise of global airport companies and networks**

Companies which manage and/or finance airport operations and infrastructure development across a network of airports (i.e., airport groups and networks) have risen to prominence in the global airport industry. Airport companies that manage multiple airports benefit from both economies of scope and economies of scale, especially in relation to overhead costs. For a given investor, investments in multiple airports by an airport group on either a national or transnational scale enable risk diversification in a portfolio. In many circumstances, these airport groups play pivotal roles

in implementing national strategies from economic and social viewpoints. Private equity that flows into many of the world's busiest airports has a multiplier effect which generates significant socio-economic benefits across multiple sectors. These airports are nexuses in the air transport value chain and they are gateways to major destinations and centers of commerce.

Chart 7 shows a selection of major airport companies which are traded on stock exchanges around the world, along with the 20 busiest privatized airports in terms of passenger traffic. The companies with stakes in these airport assets are not only privately held (or publicly traded), but they also manage and/or finance some of the busiest airports in the world at major destinations and centres of commerce. Based on the traffic at the largest airports, evidence shows that private investment is attracted to markets

**CHART 6: WORLD'S BUSIEST PASSENGER TRAFFIC MARKETS WITH PRIVATE SECTOR INVESTMENT (2016)**

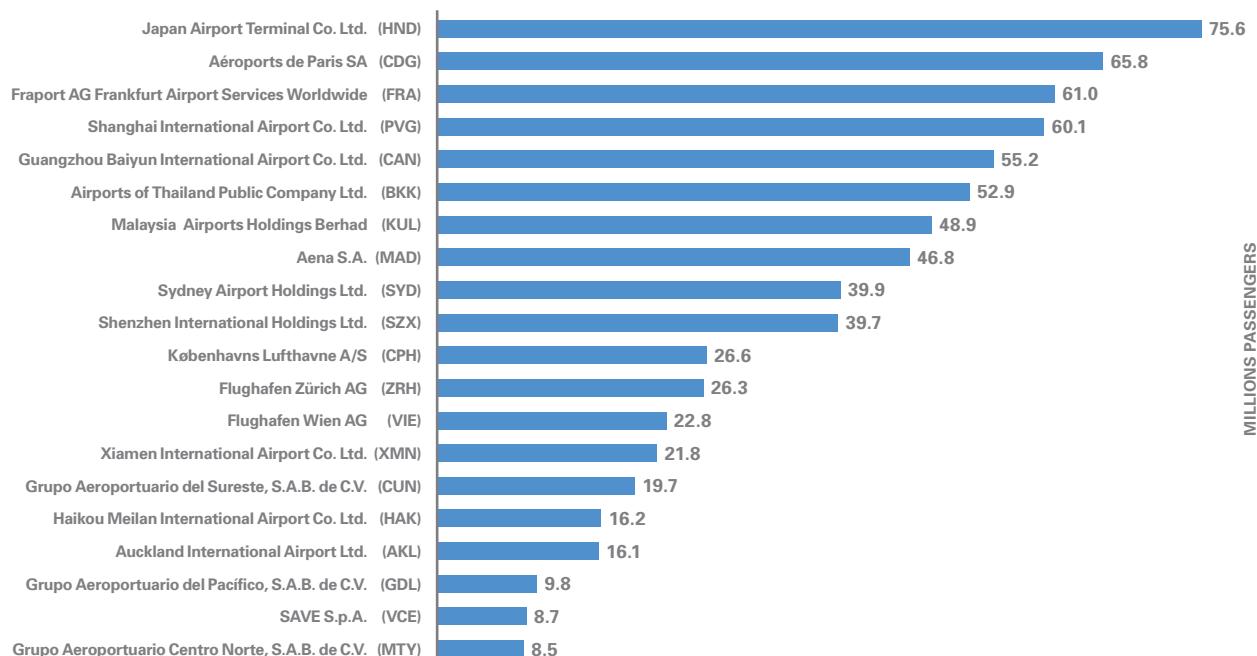


Source: ACI Inventory of privatized airports, 2016

which are large in terms of passenger throughput. Because of the capital-intensive nature of the airport business and its cost structures, economies of scale and returns on invested capital on given fixed assets are only achieved at higher throughput. While there

may always be exceptions to the rule, this is often regarded as a rule of thumb for sound investment by private capital. Chart 7 lists the largest airport within each portfolio of each airport company.

### CHART 7: SELECTED AIRPORTS BY PASSENGER TRAFFIC WITH CORRESPONDING PARENT AIRPORT COMPANY LISTED ON STOCK EXCHANGES (2015)



Source: ACI Inventory of privatized airports, 2016; and ACI World Airport Traffic Database, 2016

### 1.5 Capital expenditure in airports with private sector participation

Airports with private sector participation account for only 14% of global airports but undertook 44%<sup>1</sup> of global CAPEX in 2014. Investments have been made to develop both the aeronautical and non-aeronautical areas of their business, maximizing benefits for virtually all stakeholders.

Using a sample of 678 airports, it is calculated that airports with private sector participation, on average, invest 12% more on a per-passenger basis in development of airport infrastructure than do government-owned airports; and 7% more than the global average.

<sup>1</sup> For the calculation of CAPEX undertaken by airports with private sector participation, annual CAPEX figures from a sample of 678 airports were analyzed on a per-passenger basis and weighted average indicators were produced for government-owned airports as well as airports with private sector involvement. Airports with private sector participation account for 14% of all commercial airports with scheduled passenger traffic yet hold 41% of global passenger traffic share. On a per-passenger basis these airports invest, on average, 12% more than their government-owned counterparts. The CAPEX-per-passenger indicators were used to calculate the share of global CAPEX attributed to airports with private sector involvement. Thus, the airports with private sector participation holding 41% of traffic have a 44% share in global airport CAPEX.

# 2. PRIVATE CAPITAL AND REGULATORY FRAMEWORKS

ACI does not prescribe any specific type of ownership model. In short, airports should be permitted to operate under a range of ownership models. The type of ownership, and any participation of private capital, varies from airport to airport depending on local circumstances. The ownership model at any individual airport should be such that it allows the airport operator flexibility in its business, and ensures that the interests of airport users are protected by the application of sound economic principles to the airport's operations. Regardless, in an economic climate where States are increasingly cutting government expenditures to reduce the growing debts that hang over many of their economies, government financing and full ownership of airports are not always viable and sustainable options. By the same token, many national governments find themselves in a predicament where a surge in air transport demand is outstripping the infrastructure available to accommodate growing markets in their jurisdictions.

## 2.1 Economic policy choices

In many countries, important policy choices must be made to attract the necessary financing for much-needed air transport infrastructure. Whether financing is achieved through the public purse or global capital markets, investments are required to alleviate bottlenecks and guarantee a sustainable aviation sector which induces a multiplier effect on the broader economy. With ACI's global medium-term forecast showing 33% growth in passenger volumes from 2015 to 2020, airports worldwide are expected to handle an additional 2.4 billion passengers in five years. This is equivalent to 24 of the world's busiest airports, illustrating the ongoing rise and scale of airport operations across the globe. Especially where air transport demand is outstripping the available supply of infrastructure and where government financing is not a viable option, alternative financing schemes from private sector stakeholders are required.

A move toward well-crafted economic incentives, together with general consistency in regulatory frameworks, enables private equity to flow to the airport industry and helps contain the level of risk of such investments. As with all investments and

business opportunities, there is a risk-reward trade-off. The regulatory environment faced by airports and the potential for infrastructure development plays an important role in this trade-off. In this context, the concept of economic regulation focuses largely on the prices charged by the airport operator. However, it can also include quality of service and entry into the industry (i.e., whether a new airport company can develop and operate an airport). The regulation of prices is an important determinant in understanding the risk-reward trade-off for the investment decision.

There is no single, widely accepted theory as to whether an industry should be regulated. However, many economists agree that heavy-handed regulation that fails to capture the realities of the marketplace will inevitably stifle efficient infrastructure development and the sustainability of the aviation sector as a whole. Even the case of natural monopoly is not uniformly recognized as a justification for regulation. The theory of contestable markets argues that under certain circumstances, a natural monopolist would not be motivated to exercise market power. There is a view that a monopolist could be left unregulated, relying on the threat of regulation to constrain the service provider's pricing decisions.

Moreover, the possible abuse of market power by an airport service provider is subject to other deterrents. This includes the countervailing power of the airport service provider's airline customers. The rise and prevalence of the low-cost carrier business model, presence of dominant carriers and formation of oligopolistic airline alliances have definitively limited the price-cost margin for airport operators. Stakeholder management by airport operators, based on the principles of consultation, risk management, compromise and establishing long-term relationships with users of infrastructure, has become an important mechanism of self-regulation and the preferred business practice.

While the airport industry is characterized as having high barriers to entry, which include significant capital and infrastructure costs, airports also face increasing competition from other airports and modes of transportation. Many airports compete for connecting traffic, be it domestic or international. In

some regions, airports not only compete with one another for connecting traffic but also with airports in other world regions. One example of this is the competition between intercontinental European hubs and those in the Middle East for passenger flows between Europe and Asia. Accordingly, the crafting of regulatory schemes should always have this in mind.

## **2.2 Accounting for non-aeronautical (commercial) revenues**

Non-aeronautical revenues are much more diverse than aeronautical revenues. They may be derived from rents charged to concessionaires offering a wide range of services to passengers, including car parks within the airport boundary, retail, banking, advertising, car rental facilities and food and beverage on the airport site. The term “non-aeronautical revenue” may also relate to revenue from rents for office accommodation and other facilities on airport land. Not only do non-aeronautical sources of income provide diversification in an airport’s income portfolio, but they also serve as an additional cushion during economic downturns. Like any other type of enterprise, airport operators must have a degree of flexibility and autonomy in managing their costs and respective aeronautical and commercial business units in tandem with market conditions. This is particularly true for airport operators that need to maintain and expand their facilities in order to provide a superior quality of service to users where they continue to face competitive pressure on several fronts.

The fact of the matter is that the airport industry has changed considerably in slightly less than three decades, particularly in regard to the financing of infrastructure. Private capital is playing an important role in this new dynamic. Depending on investment objectives, private investors will tend to maximize returns, subject to some level of risk. Thus the expected return on invested capital should exceed the weighted average cost of capital (WACC). The WACC essentially serves as a measure of the opportunity cost of an alternative investment with

a similar risk profile—that is, can the same return for the same level of risk be achieved elsewhere? While investors are cognizant of this fact, decision-makers must craft policies that facilitate the flow of capital for the development of infrastructure and the industry as a whole. Given that airport investments are capital-intensive, the concept of regulatory risk is omnipresent in the investment decision.

Liberalized approaches and national policies that lean away from the single till<sup>2</sup> accounting method (or residual) toward dual and hybrid till (or compensatory) frameworks are more attractive to private investors. This is consistent with market-based principles that create efficiency gains that generate value throughout the air transport value chain. Similarly, consistency and continuity in the oversight function guarantee both a degree of predictability and an overall reduction in regulatory risk.

The single till accounting method was born of a long-standing convention to support aircraft operators at the expense of infrastructure providers. Many economists, airport operators and a growing number of regulators agree that this method introduces price distortions and an artificial constraint which results in market inefficiencies for both airport operators and their airline customers. A movement away from single till regimes to dual and hybrid tills induces cost efficiencies and innovations in commercial areas of the airport business.

Charts 8 and 9 show the accounting till method applied at major commercial airports which have private sector involvement. For available data for 353 airports from more than 50 major air transport markets located in advanced economies and emerging markets, the charts show the distribution of airports by till system and the corresponding traffic handled under each regime. Some 56% of these airports operate under either a dual or hybrid till regime. From a passenger traffic perspective, the airports that have private sector investors handle almost 70% of traffic under the same dual and

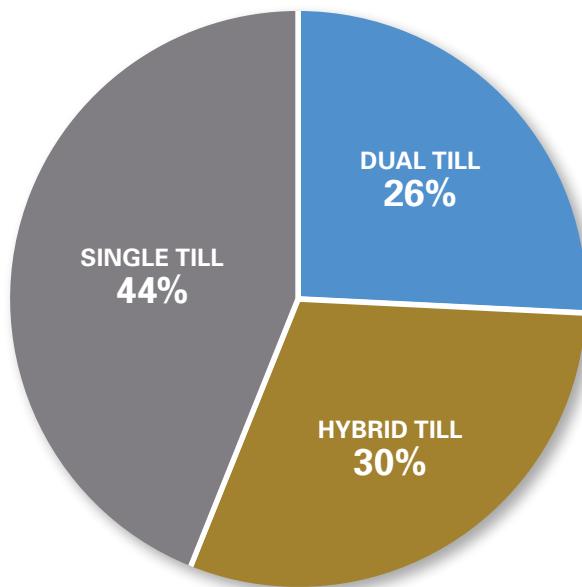
<sup>2</sup> A single till approach uses earnings from non-aeronautical services revenues to reduce the total airport costs to compute regulated aeronautical charges. The dual till system divides the airport’s aeronautical and non-aeronautical business into distinct income and expenditure accounts. Hybrid tills are departures from the single till model which allow aeronautical fees to be partially subsidized by commercial or non-aeronautical revenue, in order to keep regulated tariffs lower than would otherwise be the case.

hybrid till regimes. A valid question one may ask is why there is private stakeholder involvement among airports that operate under a single till. Many of these airports have more flexibility in their aeronautical charges schemes, which may facilitate a reasonable return or induce efficiency gains. It should also be

noted that establishing the appropriate WACC as the foundation for setting a reasonable return is a key parameter in any privatization process, regardless of the till regime applied.

#### CHART 8:

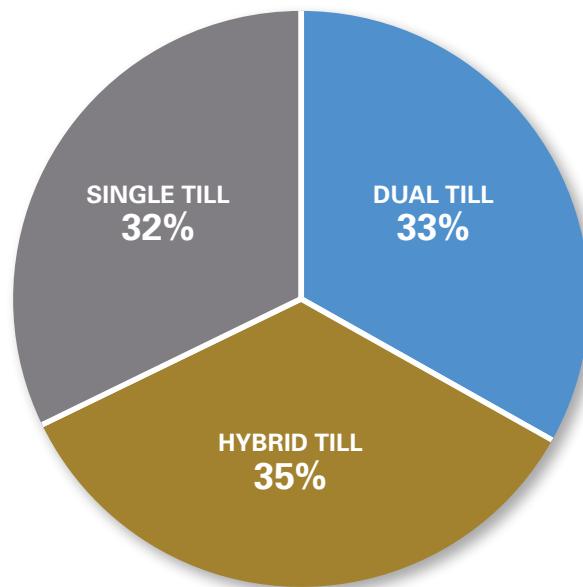
**DISTRIBUTION OF AIRPORTS WITH PRIVATE STAKEHOLDER INVOLVEMENT (BY TILL) N = 353**



Source: ACI Inventory of privatized airports, 2016; and ACI Airport Economics Survey, 2015

#### CHART 9:

**DISTRIBUTION OF PASSENGER TRAFFIC AMONG AIRPORTS WITH PRIVATE STAKEHOLDER INVOLVEMENT (BY TILL) N = 353**



Source: ACI Inventory of privatized airports, 2016; and ACI Airport Economics Survey, 2015

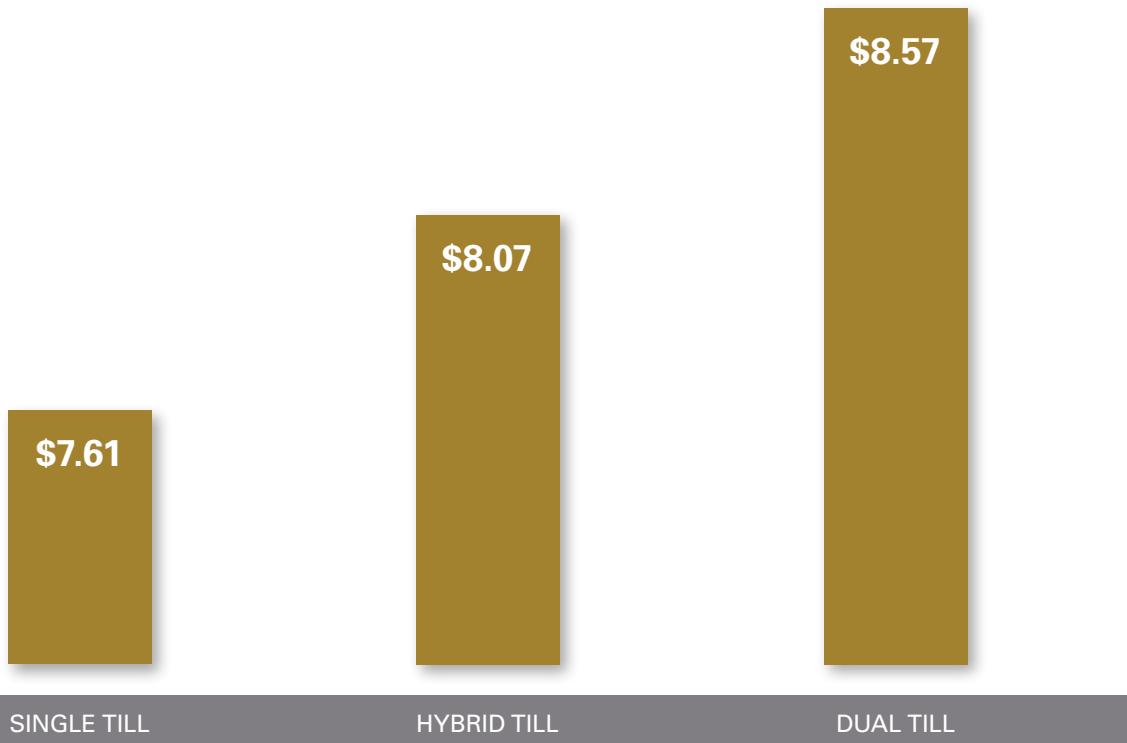


# 3. FINANCIAL PERFORMANCE AND ECONOMIC INCENTIVES

Any discussion of airports' revenues and profitability would be incomplete without considering the role played by economic regulation and the oversight function. Not only do airport managers face multifaceted challenges in the areas of safety, security and the environment, but they must also often comply with economic regulations that govern the pricing of airport services. In a sense, it can be argued that the regulations governing airport revenues are precursors for financial performance. The regulatory model and accounting for non-aeronautical revenue not only determines an airport's business in terms of the structure and magnitude of its revenues, but also the resulting economic health and performance of its operator. Although

non-aeronautical revenues serve to offset the aeronautical costs faced by airline customers under the single till framework, the evidence suggests that non-aeronautical revenues on a per-passenger basis are higher among airports that move away from the single till arrangement. This is consistent with the assertion that the propensity for generating commercial revenues is higher under a dual or hybrid till structure. Conversely, there is a disincentive to develop commercial revenues under a single till regime. Based on a sample of 733 airports, non-aeronautical revenues on a per-passenger basis appear to be higher under dual and hybrid till arrangements (see Chart 10).

**CHART 10: NON-AERONAUTICAL REVENUE PER PASSENGER BY REGULATORY TILL (US\$, 2014)**



Source: ACI Airport Economics Survey, 2015



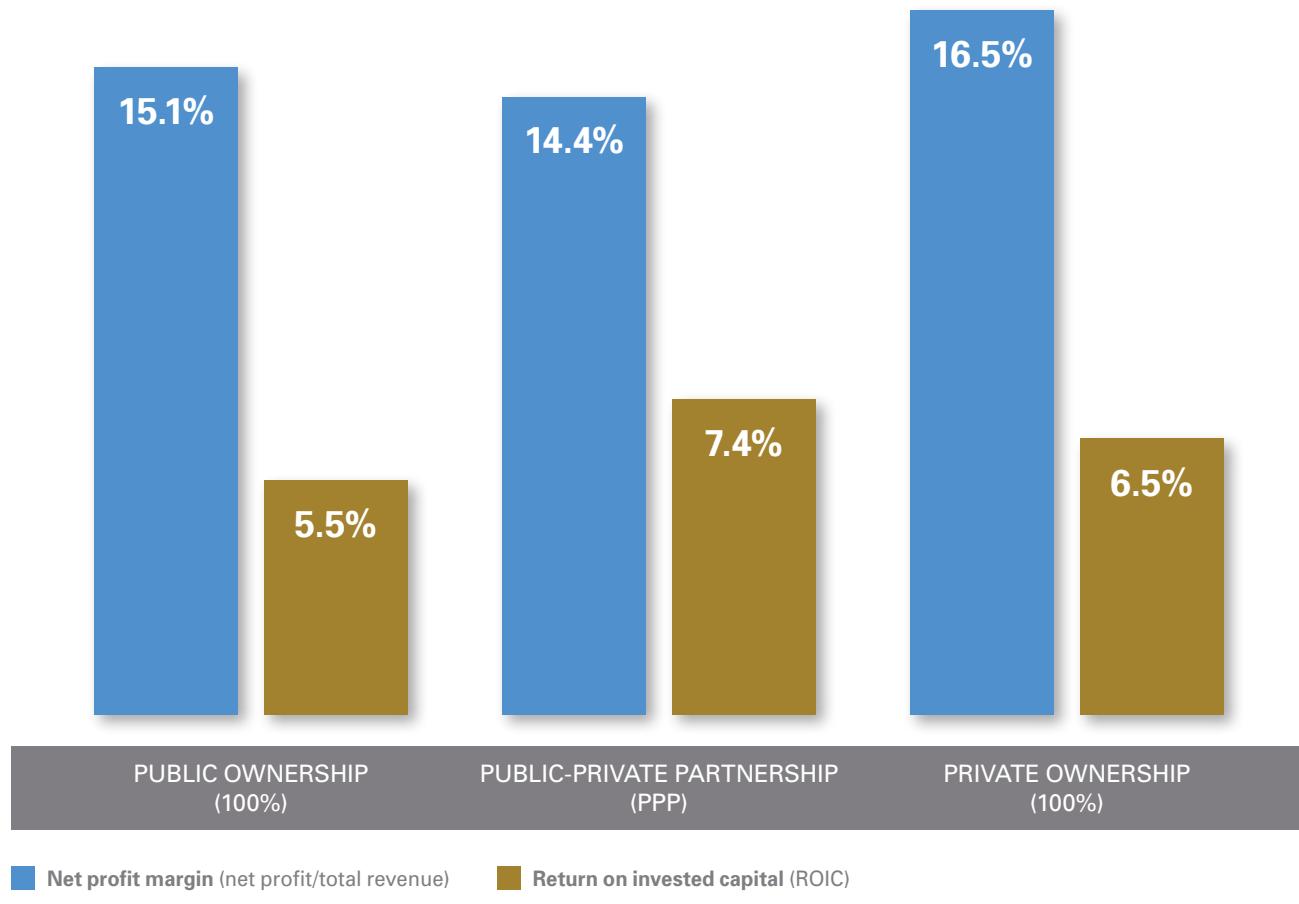
### 3.1 Value creation

While airports that operate under either dual or hybrid tills generate higher aeronautical and non-aeronautical revenues, another key consideration is whether value is created not only for investors relative to overall airport costs, but also for passengers and other airport customers. Value creation not only helps generate returns for investors and stakeholders, but it also insures the future availability of capital to fund operations and future innovations. Because private investors require a return on their invested capital, two profitability measures are presented in Chart 11 —net profit margin and return on invested capital (ROIC). A larger proportion of government-owned or

publicly managed airports operate on a cost-recovery basis, which further explains the differences in these profitability results.

With regard to airport customers and clients, there is ample evidence that airport operators generate real value for the passenger experience. ACI's Airport Service Quality (ASQ) is the world-renowned and globally established global benchmarking programme measuring passengers' satisfaction while they are travelling through an airport. Irrespective of the airport ownership model, the ASQ programme provides the research tools and business intelligence to better understand passengers' views and what they want from an airport's products and services. As a result

**CHART 11:** AIRPORT PROFITABILITY BY OWNERSHIP MODEL (2014)



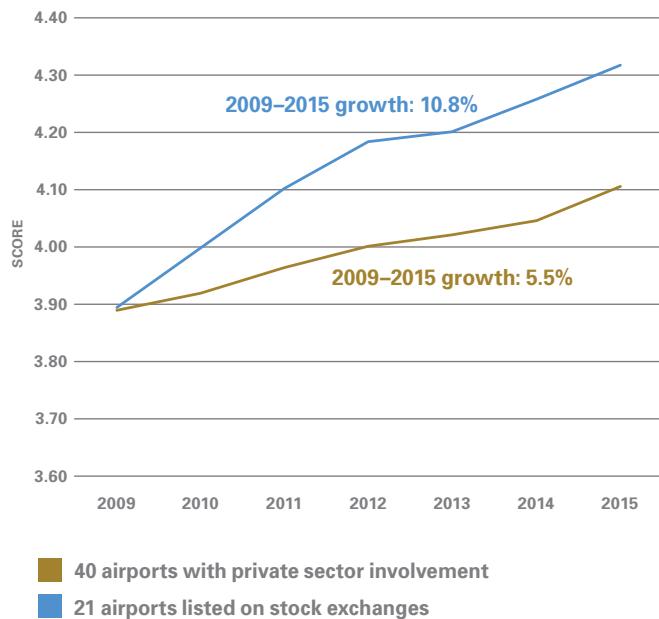
Source: ACI Airport Economics Survey, 2015

of this continuous monitoring of service quality, participating airports on average report a marked improvement in overall passenger satisfaction scores over time. For the period from 2009 to 2015, 61 airports that had some form of private sector involvement experienced an average increase of 7.3% in passenger satisfaction scores. Moreover, of those airports, 21 of them were either listed on stock exchanges or had a parent company that was listed. As seen in Chart 12, these 21 airports actually

experienced an increase of 10.8% in the average passenger satisfaction score for the same period, while the other 40 airports achieved collective growth of 5.5%. Because satisfaction scores typically change only incrementally based on a gradient from 1 to 5, the growth in these scores represent a marked improvement over time. Similarly, the same group of airports also experienced an overall increase in passenger traffic of over 33% from 2009 to 2015, as seen in Chart 13.

### CHART 12:

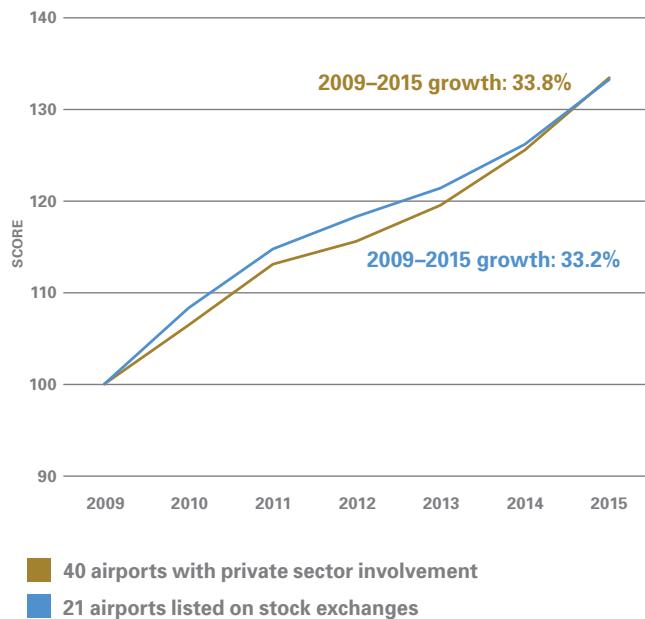
#### AVERAGE SCORES FOR PASSENGER SATISFACTION BY SELECTED OWNERSHIP MODELS (2009–2015)



Source: ACI Inventory of privatized airports; and ASQ scores database

### CHART 13:

#### PASSENGER TRAFFIC AND GROWTH BY SELECTED OWNERSHIP MODELS (2009–2015)



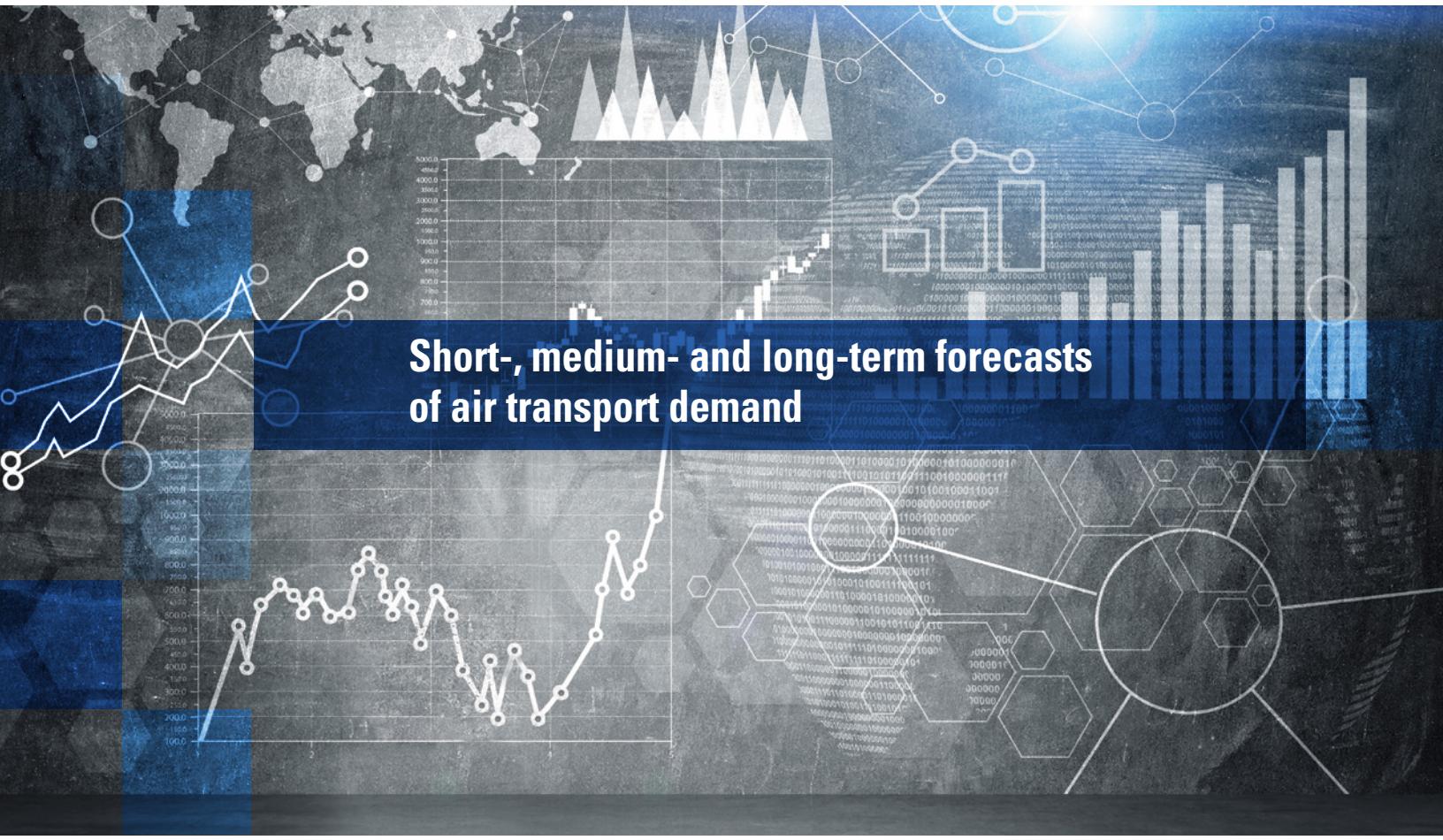
Source: ACI Inventory of privatized airports; and ASQ scores database

AVAILABLE FOR PURCHASE



# ACI World Airport Traffic Forecasts

## (WATF) 2016–2040



A large, abstract graphic serves as the background for the lower half of the page. It features a world map in the upper left, overlaid with various data visualizations: a bar chart on the right showing growth from 2016 to 2040, a line graph in the center showing fluctuations over time, and a scatter plot with binary code data points in the lower right. The overall aesthetic is dark and technical, suggesting global connectivity and data analysis.

**Short-, medium- and long-term forecasts  
of air transport demand**

The WATF is disseminated in a standard EXCEL format. Aggregate airport traffic figures are presented for total passengers (international and domestic), air cargo volumes (in metric tonnes) and aircraft movements. Both absolute figures and compounded annual growth rates are presented over three time horizons which include short-, medium- and long-term over the 2016–2040 period. In addition to global forecasts, regional forecasts are presented for Asia-Pacific, Africa, Europe, Latin America-Caribbean, Middle East and North America. Airport traffic forecasts are also presented for major markets which consist of individualized national projections for over 90 countries.

CALL +1-514-373-1243 OR VISIT [WWW.ACI.AERO/PUBLICATIONS](http://WWW.ACI.AERO/PUBLICATIONS) TO PLACE YOUR ORDER TODAY.

## NOTES

Airports Council International  
First Edition 2017

**For further information, contact:**

**Published by:**  
Airports Council International World

Stefano BARONCI, Director Economics, Airports Council International World  
Patrick LUCAS, Sr. Manager, Economics and Statistics, Airports Council International World  
and Ilia LIOUTOV, Senior Data Analyst, Airports Council International World



ACI World  
Suite 1810  
800 Rue du Square Victoria  
Montreal, Quebec, H4Z 1G8  
Canada

[www.aci.aero](http://www.aci.aero)

For more information or to access  
comprehensive airport data reports, please visit  
[aci.aero/publications/new-releases](http://aci.aero/publications/new-releases)

