CURRENT TOPICS IN LATIN AMERICA AND THE CARIBBEAN

AIR TRANSPORT

Regulation and Economics

IDB
Improving lives

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AIR TRANSPORT

Regulation and Economics

The aviation sector is growing rapidly in Latin America and the Caribbean (LAC) and is expected to continue growing in the future. Several countries in the region had growth rates in passenger volumes of 20% and 30% per year (2012 Fitch Ratings). Projections suggest that the region will grow at an annual rate of 6% over the next 20 years. This dynamic is putting pressure on existing aviation infrastructure, demanding higher capacity and better performance.

This combined with the liberalization of the market and the consolidation of airlines are the main drivers for improvements in regulatory frameworks in force.

This booklet will give a brief overview of the main areas that influence the air transport regulatory framework and its role in the governance and oversight of airlines and airports.

Air transport regulation consists of 3 primary areas:

1. Market regulation

2. Economic regulation

3. Technical regulation

1. Market regulation

Definition

Market regulations are the set of domestic and international norms governing the **routes**, **fares**, **equipment**, and **competition between airlines**, both for passenger and cargo service.

Historically, the airline industry in LAC has been highly regulated, with high entrance costs and protectionism of national carriers. At present there has been a **paradigm** shift, largely due to the widespread incorporation of **open skies agreements**.

Open Skies Agreements

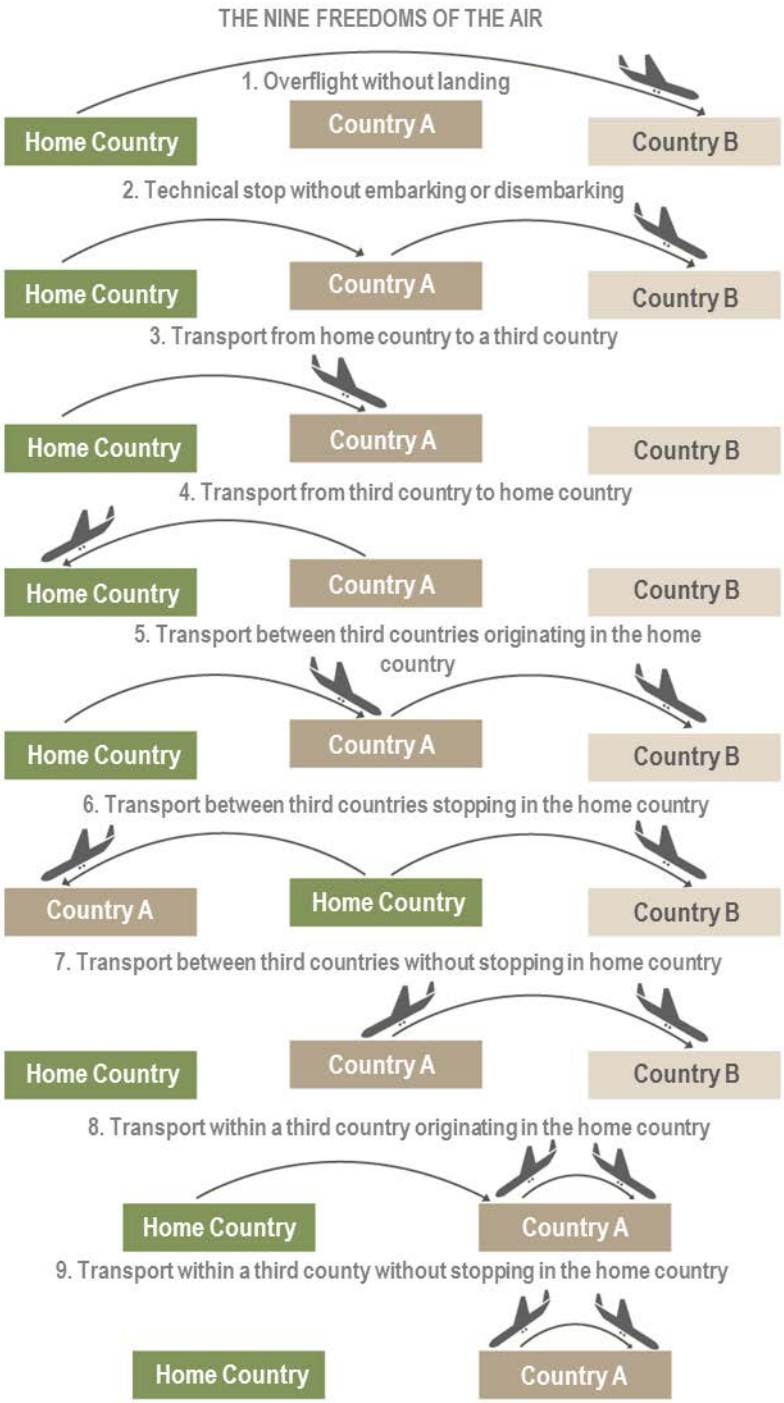
The Convention on International Civil Aviation or the Chicago Convention (1944), took the first steps towards cross-country airspace liberalization.

The convention set forth eight, later nine, **"freedoms of the air"** which countries could grant bilaterally.

The adoption of one or more “freedoms of the air” by countries, are achieved through **open skies agreements**.

Did you know?

The first open skies agreement was signed in 1992 between the United States and the Netherlands. Currently, at least 145 countries have at least one bilateral agreement.



Studies[1] indicate that open skies agreements lead to a significant increase in air transport capacity and demand.

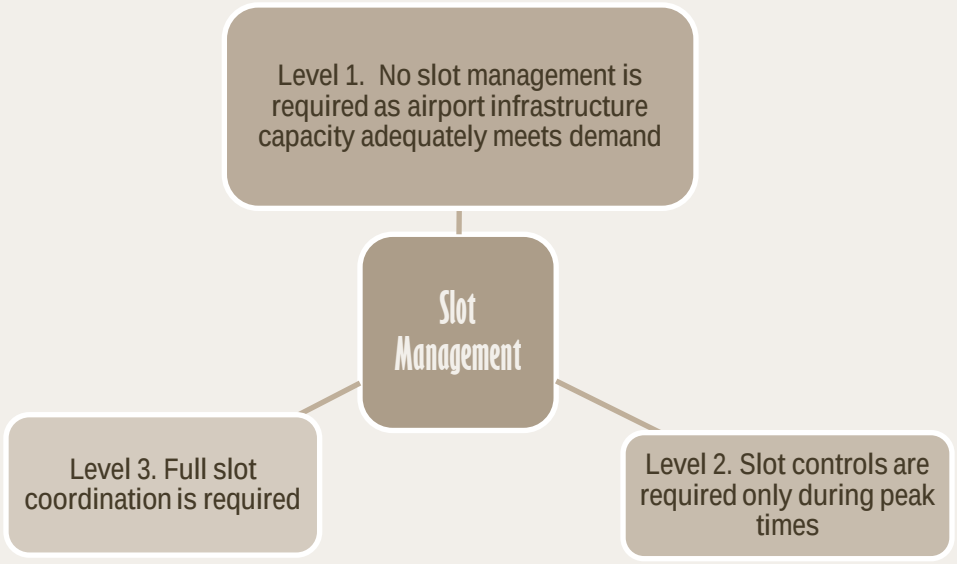
[1] Open Skies in the LAC region: An opportunity or a risk. Airports Council International Latin America-Caribbean

Gestión de "slots"

In congested airports, airlines must obtain "slots" (spaces at given times) from regulatory authorities to takeoff and land.

The International Air Transport Association (IATA) considers slot management an approach that allows for a **coordinated and efficient use of airport infrastructure.**

IATA categorizes airports according to how they manage their slots:



There is often a secondary market for slots, in which slot holders can buy, sell, or trade slots with another airline.

Did you know?

In Brazil, 20% of slots are available on a lottery system while in Mexico there is a preference for seniority of the airline.

Airline Alliances

Airline alliances are popular with airlines as a way to reduce costs of air operations and improve customer conveniences.

Alliance cost savings can include shared operations and maintenance activities and bargaining power for bulk purchases. For customers, the benefits are reflected for example in **pooled mileage points, optimized transfers, and a greater number of destinations and departure times.**

As regulators review this increasingly popular practice, they will need to ensure that alliances do not represent an unfair form of collusion or anti competitive exclusion of competitors.

Do you know any of these alliances?

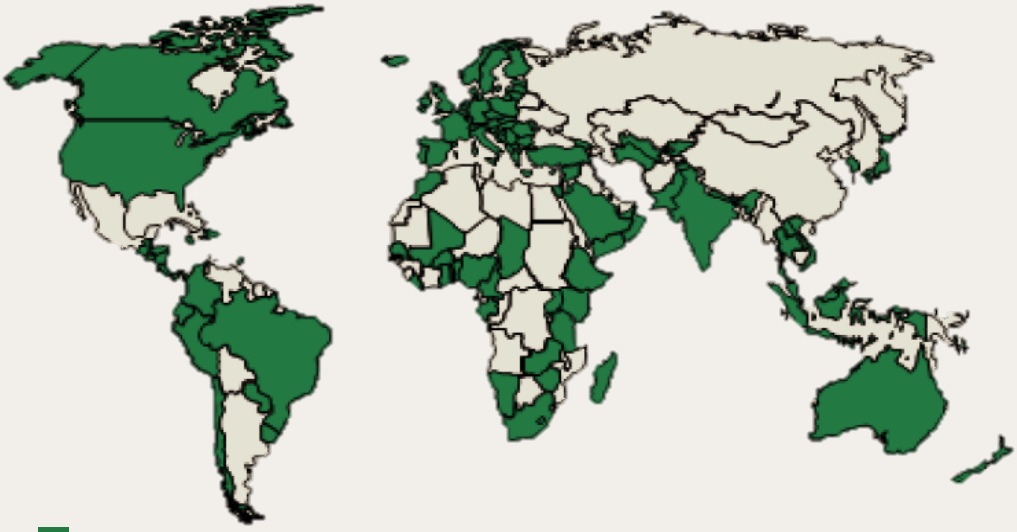
STAR ALLIANCE

SKYTEAM

oneworld

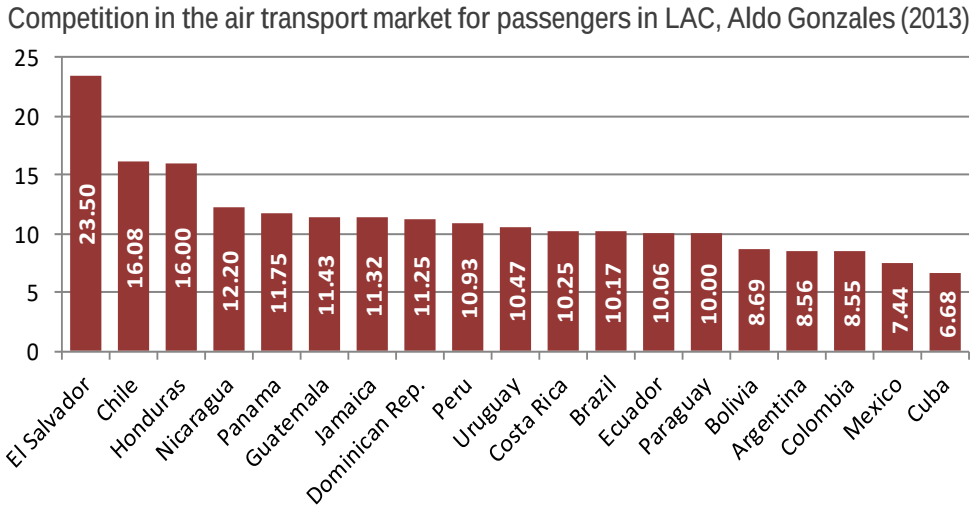
Did you know? Mexico has placed a 5% limit on cross-ownership between airlines and airports to 5% to prevent monopolization within the industry.

Current status of market regulation around the world



Countries that have signed at least one bilateral open skies agreement (2012)

Air Liberalization Index



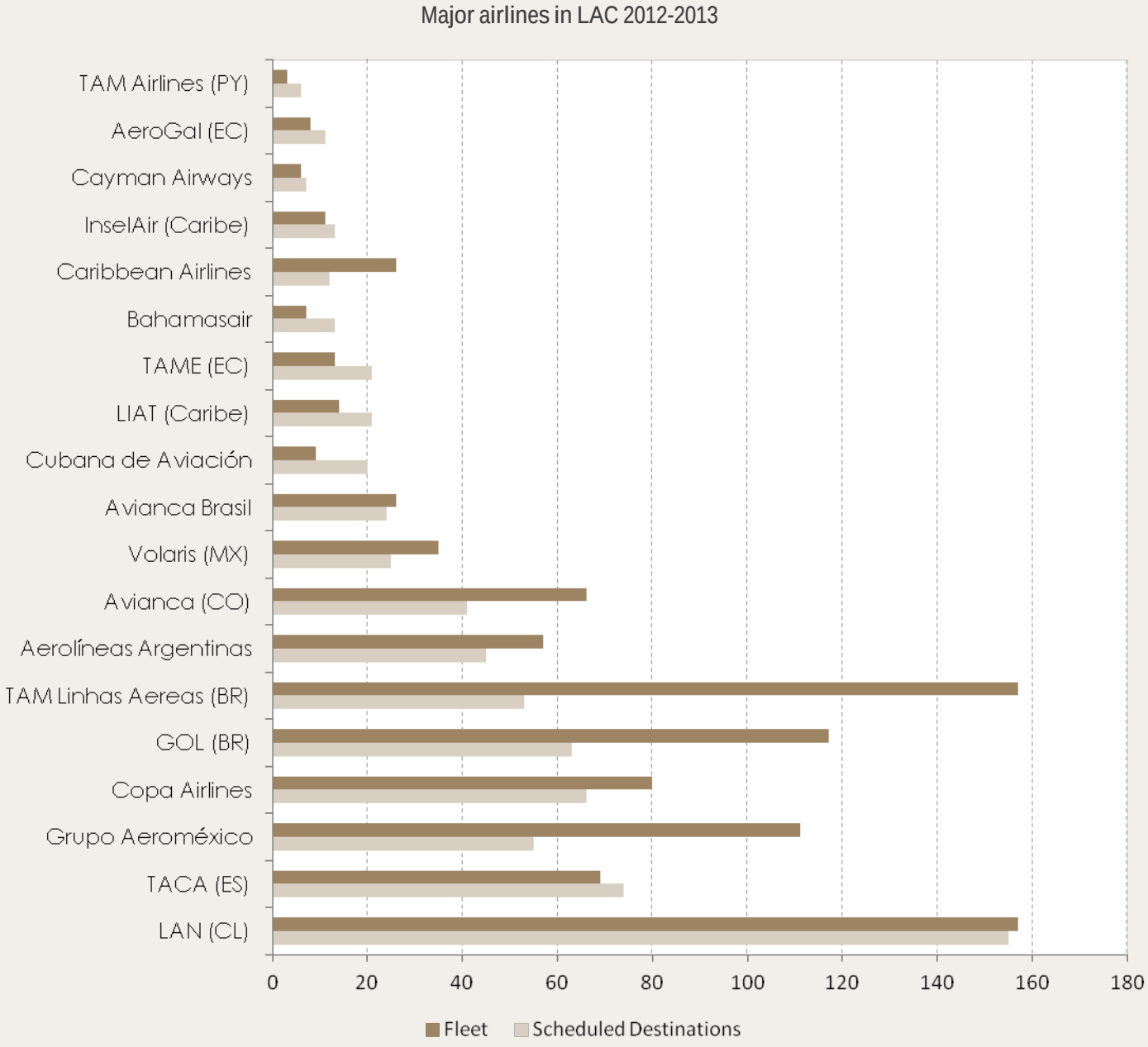
Did you know?

The Air Liberalization Index (ALI) developed by the World Trade Organization Secretariat (WTO, 2006) is the result of a consultative process with aviation industry experts. The index captures the relevance of each component in the liberalization of the sector. The ALI is measured on a scale between 0 and 50 where 0 corresponds to the most restrictive agreement and 50 indicates the most liberal agreement.

Airlines in LAC

In addition to the bilateral open skies agreements, **there have also been important regional agreements in LAC,** such as the Latin American Civil Aviation Commission Multilateral Open Skies Agreement.

The LAC aviation market has undergone major mergers, bankruptcies, and the creation of low-cost carriers over the last decade, as has been the case in much of the world.


Major airlines in LAC 2012-2013
TAM Airlines (PY)
AeroGal (EC)
Cayman Airways
InselAir (Caribe)
Caribbean Airlines
Bahamasair
TAME (EC)
LIAT (Caribe)
Cubana de Aviación
Avianca Brasil
Volaris (MX)
Avianca (CO)
Aerolíneas Argentinas
TAM Linhas Aereas (BR)
GOL (BR)
Copa Airlines
Grupo Aeroméxico
TACA (ES)
LAN (CL)
0
20
40
60
80
100
120
140
160
180
Fleet
Scheduled Destinations

2. Economic Regulation

of airport infrastructure

Definition

Economic regulation is a set of rules associated with the use of **airport infrastructure and related assets**, such as facilities for aircraft maintenance, cargo terminals, fuel farms, passenger terminals, utility infrastructure, parking lots, hotels, and ground transportation infrastructure within and outside the airport (roads, tolls or transit facilities).

The Economic regulation of airport infrastructure varies in scope depending on the airport assets to which they are applied. Economic regulation may be promoted through national laws and/or enforced by special regulatory agencies and/or in the form of concession contracts limited to a specific asset or contract.

To properly implement the economic regulation of airports means understanding how the airport organizes their costs and how they charge for services, since the regulations focus on revenue generation and to the respective accounting center to which the revenue is applied.

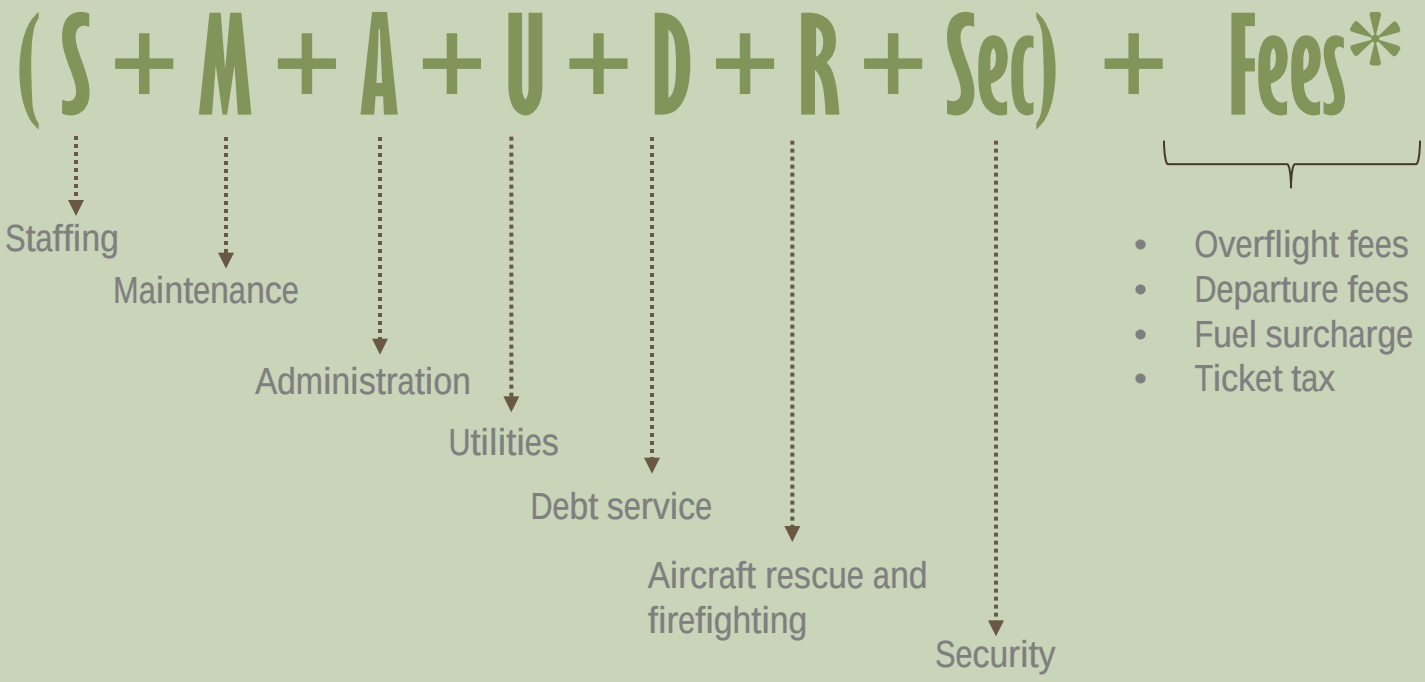
What are an airport's revenue sources and their respective cost centers?

Cost Centers	Elements	Revenue Source
Airfield	Runway, taxiway, apron, hangars, cargo facilities, fuel farm	Landing fees, terminal rentals, apron charges, parking charges, lease payments and rents, cargo handling fee, fuel flowage fee
Terminal	Passenger terminal, corporate jet terminal	Passenger departure fee, concessions, terminal rentals
Landside	Parking garage, rental car facilities, transit station, airport access road	Parking fee, rental car concession fee, ground transportation fee, tolls
Other	Hotels, industrial parks	Lease payments and rents, land sales

Did you know?

Most airport regulatory frameworks consider at least two of the aforementioned cost centers. Three or more cost centers are used when land-side activities, such as parking lots, generate high incomes.

The costs of airport infrastructure



* Fees normally charged by national governments

Rates and Charges

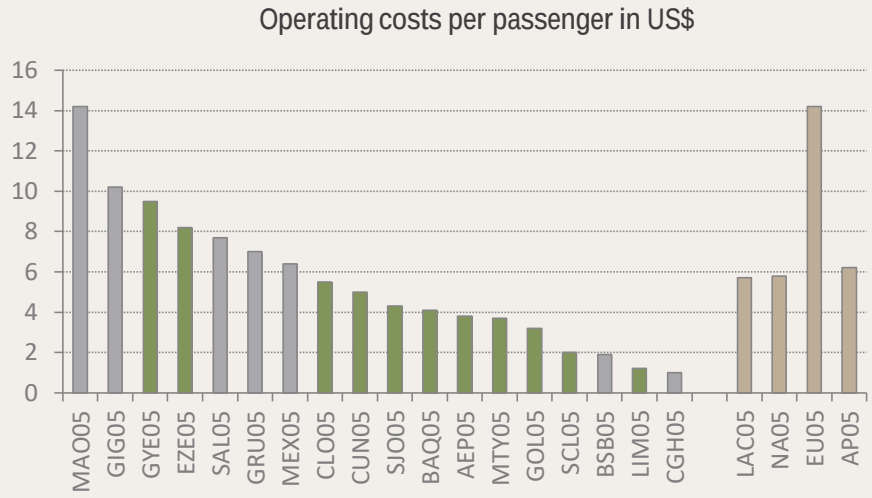
The establishment of airport rates and charges - worldwide and in LAC – is the main mechanism for **cost recovery in public airports and profits in private operations.**

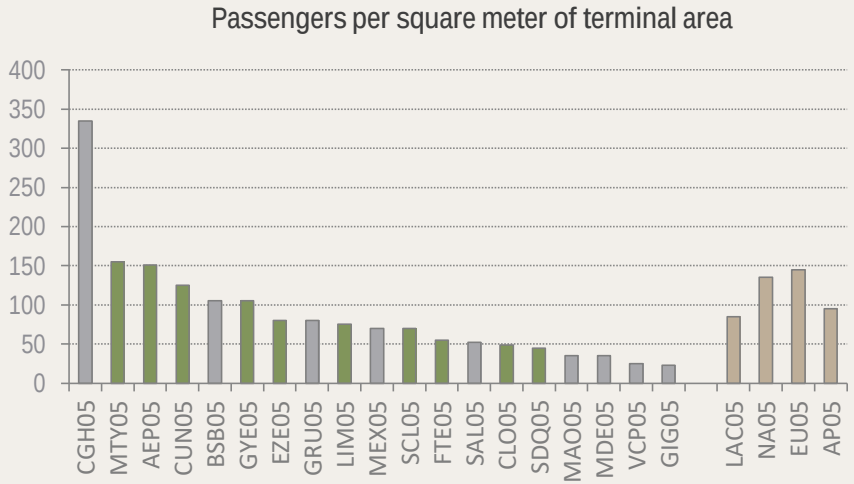
Benchmarking

Operating costs per passenger vs. airport productivity

Serebrisky (2005) identifies a **wide range of operating costs per passenger** among LAC airports (from US$14 to less than US$2) with an average of US$6 per passenger.

This is slightly lower than North American and Asian airports and significantly lower than European airports. These values are contrasted with some proxy indicators for productivity.





Note: Airports in gray are operated publicly. Airports in green are privately operated.
The brown bars refer to the Latin American, North American, European and Asian-Pacific averages respectively

Public-Private Partnerships (P3)

The LAC air market liberalization along with the entry of low-cost carriers that provide domestic and intra-regional services **have resulted in pressure on airports** to improve and increase the capacity of infrastructure.

Funding for these improvements has often been achieved through **various types of public-private partnerships** (P3s):

Type of P3	Description	Examples
Service contracts	Outsourcing of janitorial, heating/cooling, maintenance, retail concessions, parking, etc. under 5-10 year contracts	Duty Free Americas, firms specialized in energy management, parking operators
Airline-developed	Airline responsible for design, build, finance and O&M of dedicated terminal and makes lease payment to airport that covers debt service	JFK International Airport Terminal 5, FedEx and UPS cargo facilities
Third party-developed	Similar to airline-developed, but developed by specialized airport passenger or cargo terminal operator	JFK International Airport Terminal 1, Chicago O'Hare International Terminal, Toronto Airport Terminal 3
Long-term lease/concession	Long-term concession in which all design, build, finance, O&M duties usually transferred to a private entity	Sangster Airport concession, Jamaica; El Dorado Airport concession, Colombia
Multi-airport concession	Long-term concession contract for two or more airports	AA2000 Argentina
Fully private airport	Airport is owned privately; often regulated as a public utility	BAA (formerly *British Airports Authority*), which was privatized in the 1980s

Types of P3s

Economic regulation and P3 airports

Economic regulation of P3s, should be considered a priority, as it **provides greater comfort for both governments and private investors by establishing "the rules of the game."**

In other words, it is through the formal regulation of public-private partnerships that governments learn the impact of rates, fees and services, while concessionaires learn the benefits and costs of their investment over the long-term.

LAC has been very active in implementing P3s at airports over the last two decades.

Country	Approach
Uruguay	Concessioned both major airports
Chile	Entered into P3s on a case-by-case basis and for different periods of time
Colombia	Concessioned one runway first, then the airport
Mexico, Brazil	Have concessioned or are in the process of concessioning many major airports and/or major airport terminals
Argentina	All 33 airports are under a P3 agreement with one operator
Dominican Republic	One concessionaire operates six airports and competes with another three major airports

Examples of LAC Airport P3s

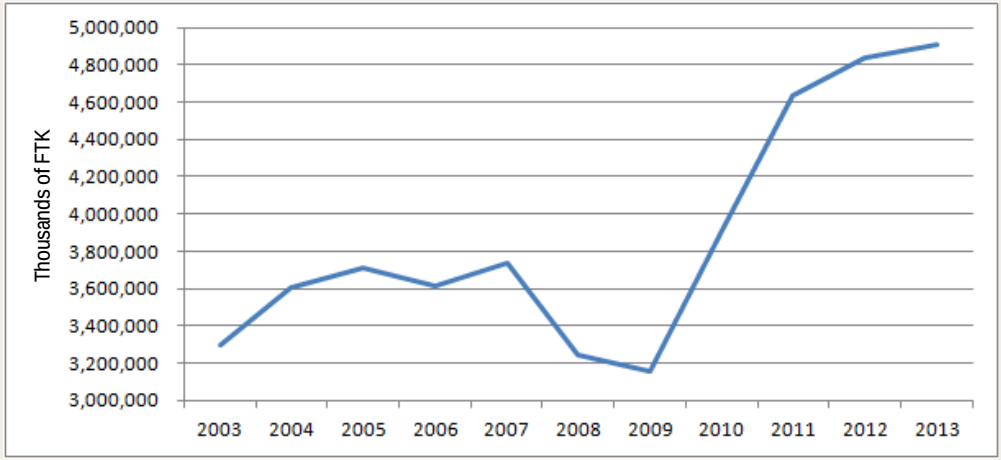
Did you know? Experimentation and a weak regulatory approach with airport P3s have resulted in over 45% of all Latin American P3s being renegotiated, most within the first four years of the concession.

Air Freight

Latin America and the Caribbean

The air freight industry differs from the air passenger transport industry for several reasons: (i) **it is a much smaller industry,** but is experiencing rapid growth in some markets, and (ii) **freight is highly sensitive to changes in trade conditions** – including fuel prices, currency rates, trade regulations, manufacturing patterns, and political changes – that make strategic planning difficult.

In the region, many air freight hubs arose along with the growth of air passenger hubs. Freight in the aviation sector is traditionally seen as a way to get marginal income to **fill the empty space** in cargo holds of passenger aircraft.



LAC Air Freight Ton-Kilometers (FTK) per Year

Air Freight
Latin America and the Caribbean

While LAC's current aviation deregulation efforts are **favorable for air freight development,** that in and of itself is not likely to be a major driver of freight growth in most markets.

With the growth of the economy in the region and increased international trade, air freight becomes more important and through specific public policies can improve the efficiency of production chains.

Did you know?

Despite the peculiarities in regulatory regimes for air freight in Colombia and Brazil, both countries have experienced steady and significant growth in the volume mobilized by air.

3. Technical regulation

Definition

Technical regulation is the set of rules associated directly with **the safety of air operations** and asset management.

Who is the regulator?

The **International Civil Aviation Organization (ICAO)** has enormous influence over national-level regulation and is by far the most important governing body for unifying regulatory standards for safety and security.

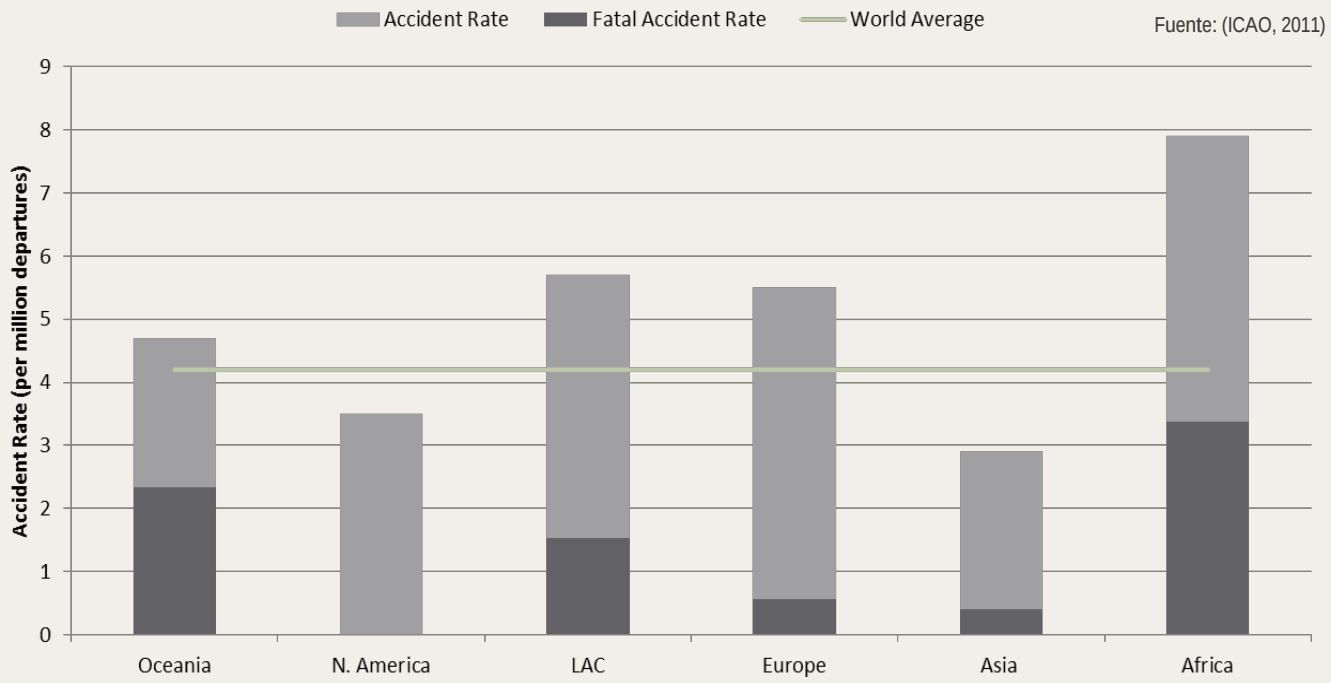
However, although ICAO strives to provide coherent international rules and recommendations, the agency cannot force compliance, instead **leaving the adoption of regulations and policies up to the individual sovereign states.**

Unlike automobile rules and regulations, aviation safety procedures and regulations are constantly in flux because new knowledge gleaned from safety investigations is rapidly put into place to avert further accidents.

Statistics in Latin America and the Caribbean

Accident rates in LAC **remain above the global average.** In 2011, the region had nearly double the accident rate of Asia. During the period from 2005-2010, ICAO documents show that the major causes of accidents in the region were: (i) runway safety related events; (ii) confusion about automation causing a loss of aircraft control; and (iii) controlled flight into (mountainous) terrain.

Air Accident Rate by Region



Fuente: (ICAO, 2011)

Did you know? 66% of all accidents and 73% of fatal accidents were the result of runway safety issues.

Principal organizations involved in technical regulation

ICAO: International Civil Aviation Organization	ICAO is a specialized United Nations agency with the objective of developing international air navigation principles and techniques, and organizing and developing air transport to enable safety, efficiency, economy, and the advancement of air services.
FAA: Federal Aviation Administration	The regulatory organization that oversees all airspace in the United States. Its Federal Aviation Regulations (FARs) are usually the most up-to-date and drive many of the regulations found in other countries.
IATA: International Air Transport Association	A trade association that represents over 240 airlines worldwide; it helps formulate industry policies and standards.
ANAC: Agência Nacional de Aviação Civil	Brazil's agency responsible for regulating civil aviation, established in 2006.
IFATCA: International Federation of Air Traffic Controllers' Associations	The organization that represents over 50,000 air traffic controllers worldwide. IFATCA's primary goals are to promote safety and efficiency in navigation.
ACNA: Agencia Centroamericana de Navegación Aérea	It is the Central American Corporation for aerial navigation.

Technical Regulation in Latin America and the Caribbean

As mentioned, technical regulation is generally conducted at the state level in LAC by organizations like ANAC. Considering the importance of adherence to international standards, **there are a number of technical regulations and procedures put in place by ICAO and created especially for Latin America and the Caribbean. These regulations specify** aspects of the design and operation of aerodromes such as: maintenance, pilot and aeronautical licenses and ratings, and operational requirements, among others.

Trends in safety and technology

Technological advances, best practices, and safety standards in aviation in recent years have resulted in a steady decline in aircraft accidents. It is expected that **automation** or reforms such as **NextGEN** will contribute to this trend.

Unfortunately, despite these advances, accidents still occur, mostly **due to human error.** The regulation of aviation safety will take this variable into account in the planning process.

Did you know?

NextGEN proposes to transform the system of air traffic control currently based on ground-based radars to a satellite-based system. GPS technology is used to shorten routes, save time and fuel, reduce delays, increase capacity and permit controllers to monitor and manage aircraft with greater safety margins.

Safety trends: Automation and technology

The trend towards highly automated cockpits has been seen as a breakthrough in the industry, as it minimizes human error during navigation.

Sophisticated autopilots are able to land a plane in extremely low visibility conditions and even taxi the plane back to the terminal if suitable aerodrome technology exists.

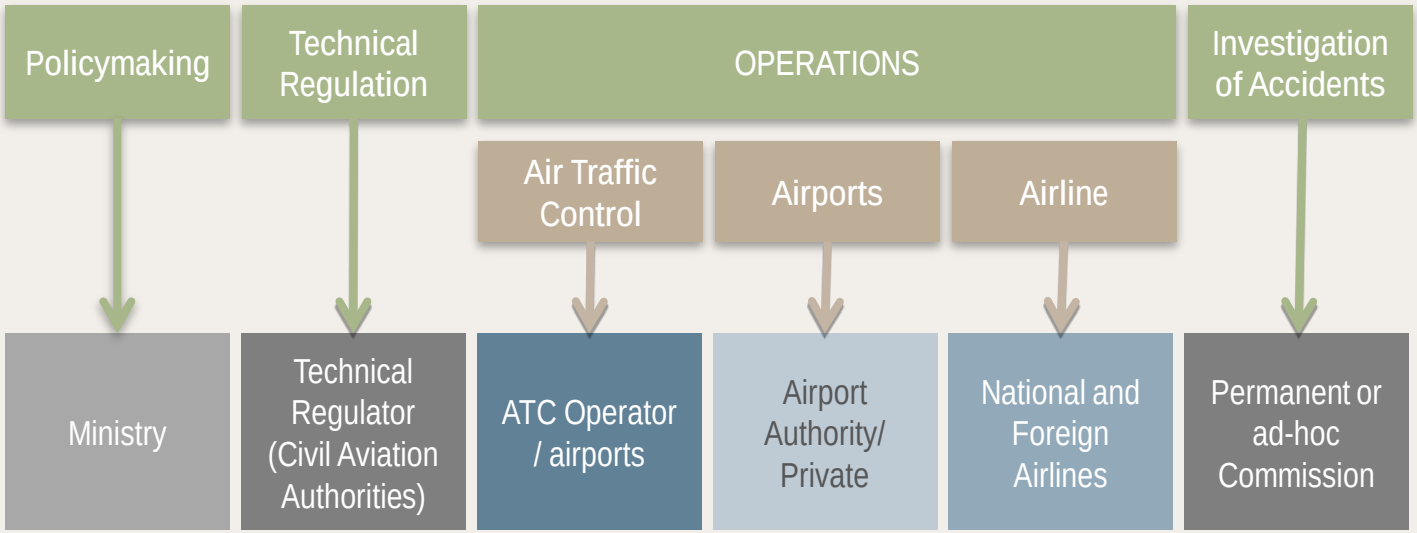
Did you know?

New research shows that the presence of pervasive automation in the cockpit has contributed to an erosion of basic flying skills.

Benchmark of the Institutional Framework

A balanced and transparent institutional framework is required for an effective regulation that ensures the sector´s efficiency.

There is a consensus, based on the OACI and the main multilateral institutions' recommendations, **that the ideal institutional framework has to assure the independence between the four functions:** policymaking, technical regulation, infrastructure's operation, and investigation of accidents and incidents.



Did you know?

The United States, European Union countries, Australia and New Zealand are examples of where the institutional framework has a clear independence between the functions of policymaking, technical regulation, infrastructure's operation, and investigation of accidents and incidents.

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