State of the industry:

4 Short stories in

Airport economics

Tampa 2019 ACI-NA Annual Conference

Finance Workshop

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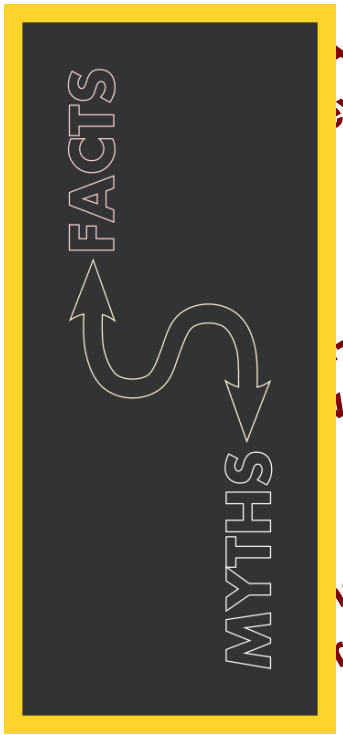
ACI World

AIRPORTS COUNCIL INTERNATIONAL

Pax traffic

- **Where are we now and where are we going?**
  - Economic landscape and air transport demand across the world's airports



-aero
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- **Myth #1:**
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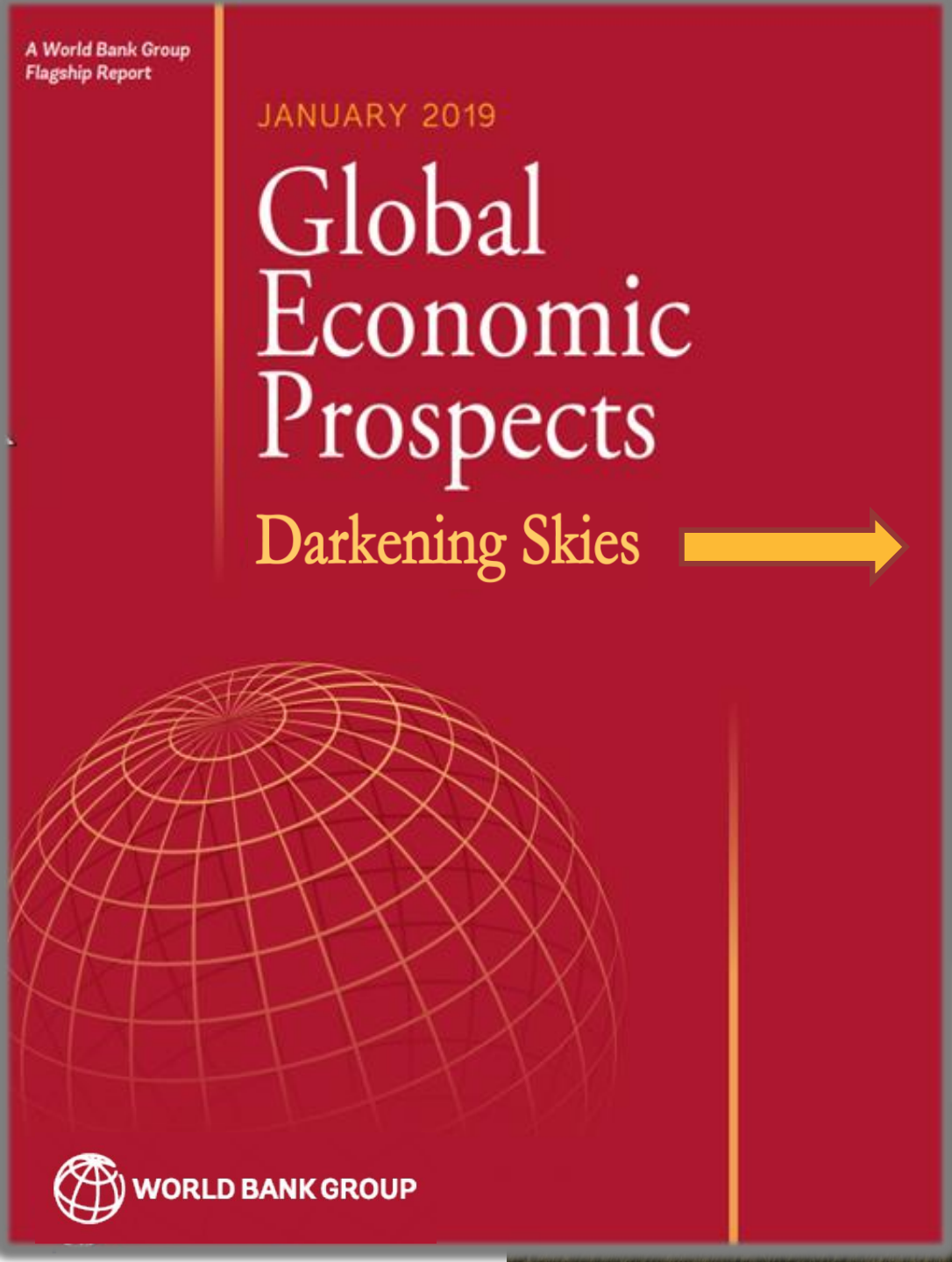


- Global output growth slowing in 2019
- Weakened global trade and investment
- Protectionism; heightened trade tensions
- Lost momentum in some major emerging markets (China)
- Move from tightening of financing and credit to a "dovish" stance

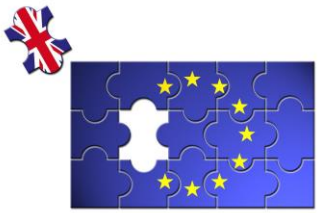
What are some of the macro risks on the horizon?

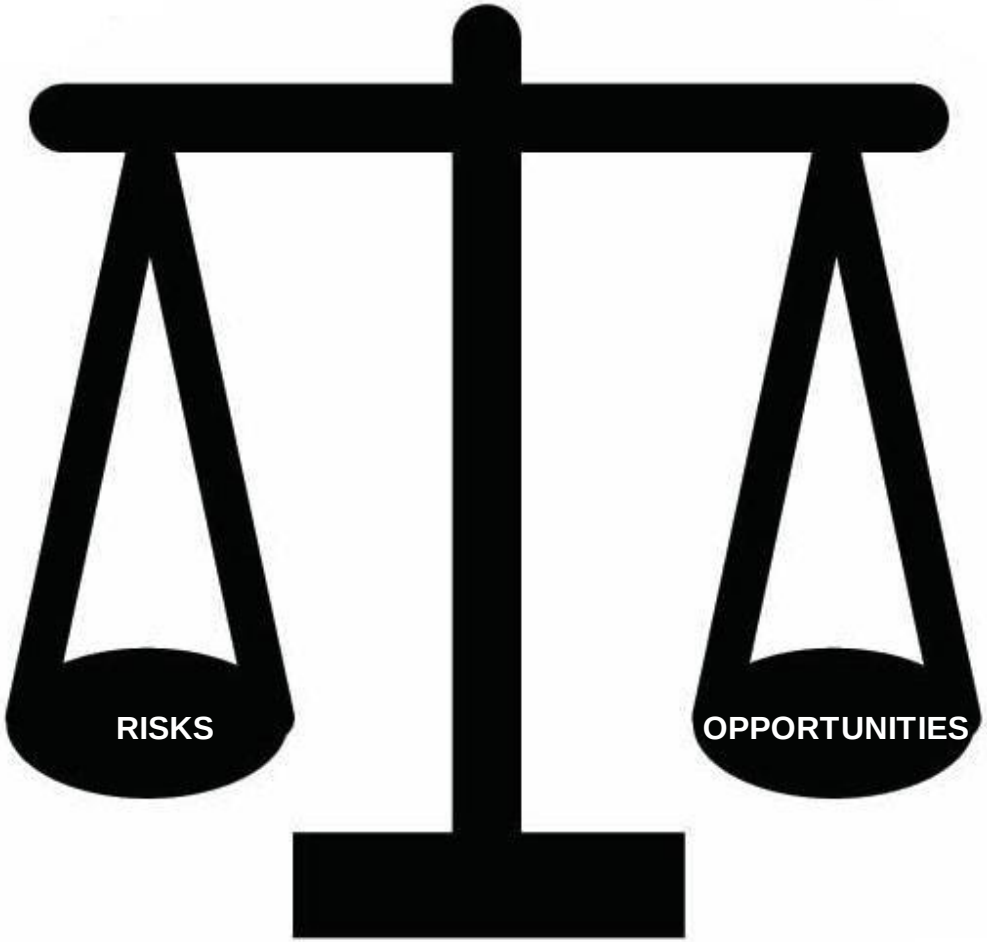
Geopolitics and risks to global aviation

World's busiest international markets for airport traffic

Intl freight volumes
United States
China
Hong Kong
Germany
UAE

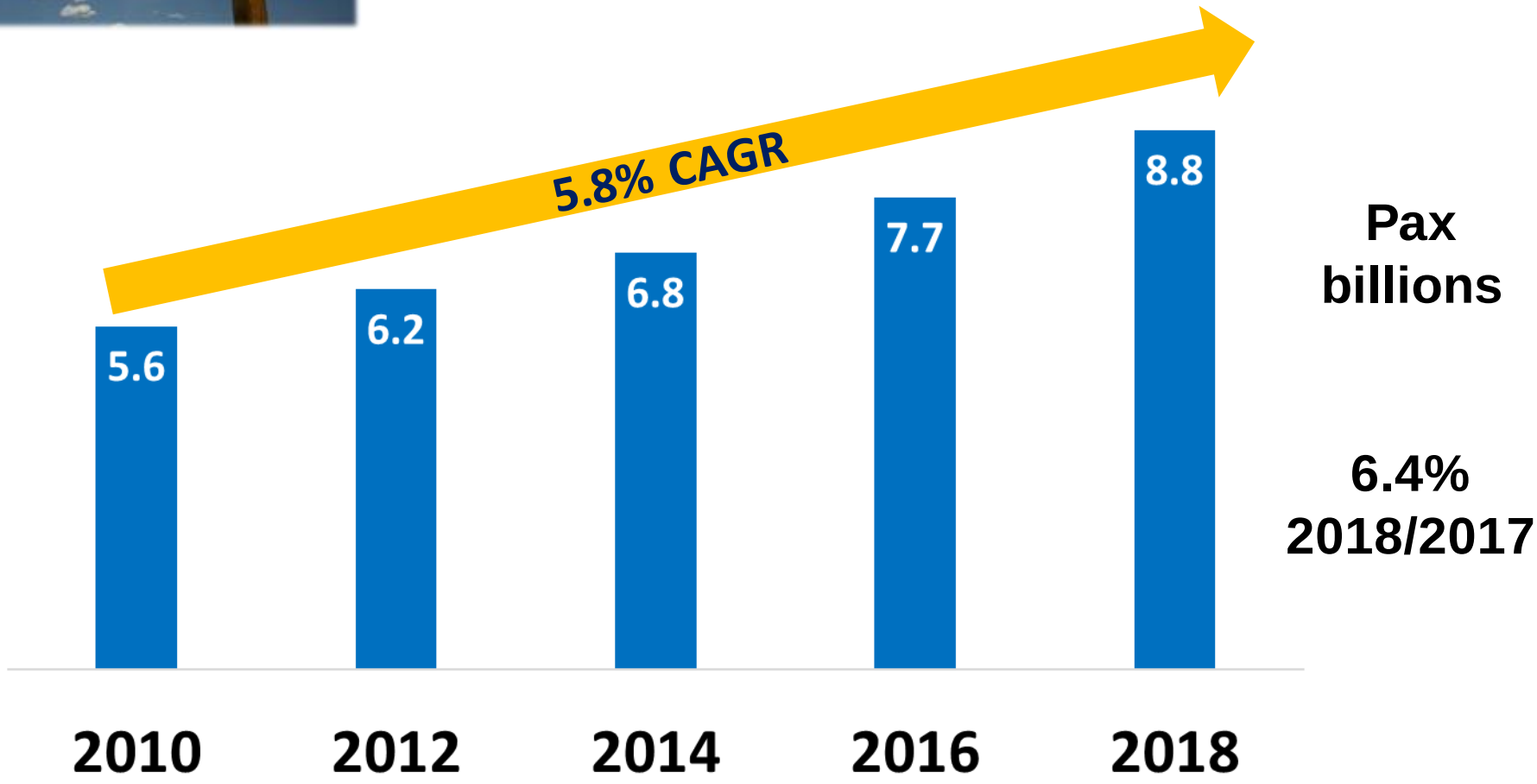
Intl pax traffic
United Kingdom
United States
Germany
Spain
France





Where are we now with respect to air transport demand (pax)?

Where are we now w.r.t. global airport pax traffic?



Source: World Airport Traffic Database, ACI World, 2019

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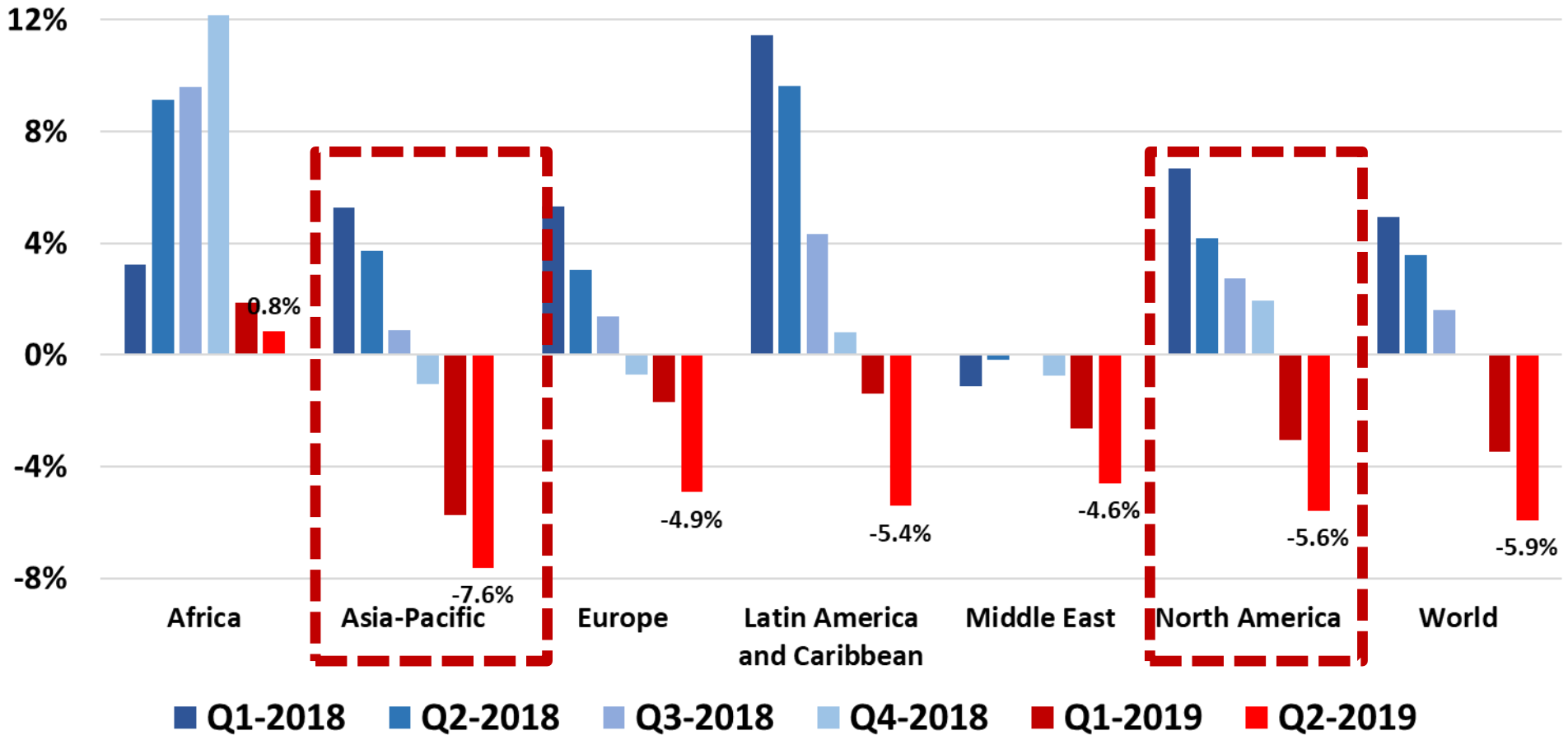
Quarterly traffic growth in international air freight volumes (2018 - Q1 2019)

TRADE WARS



Source: World Airport Traffic Database, ACI World, 2019

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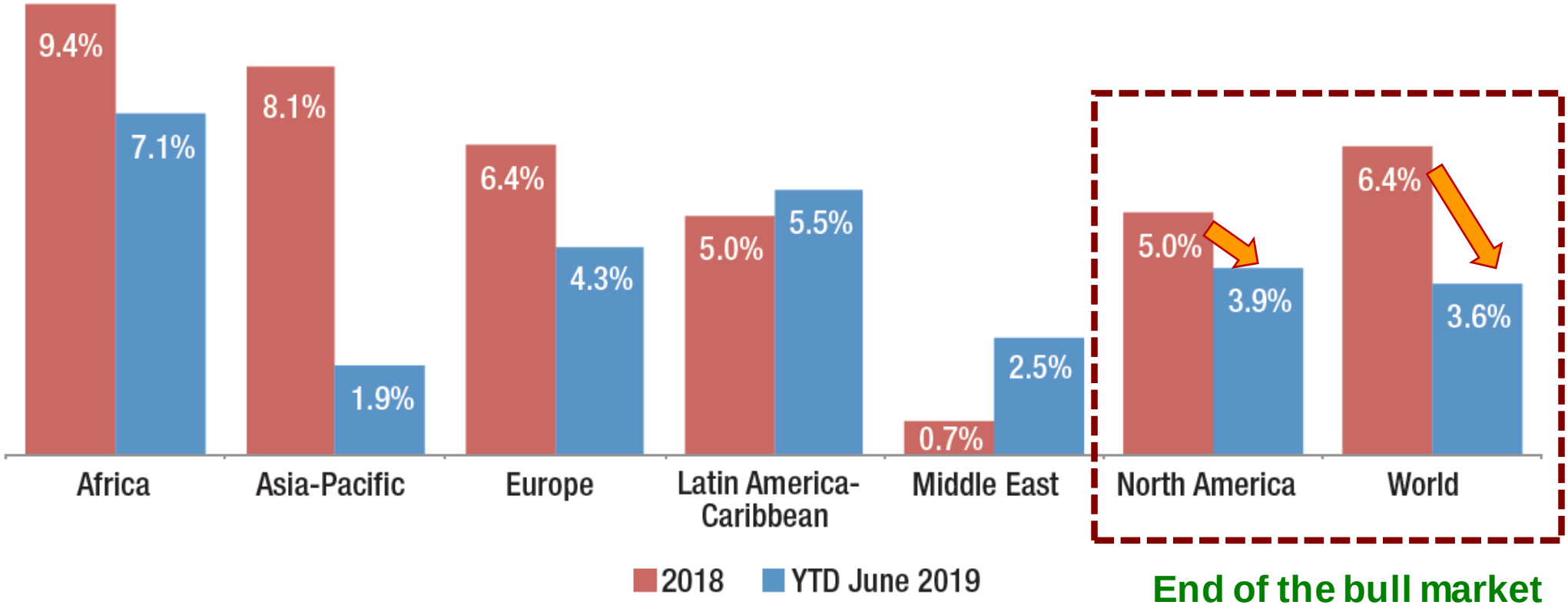
Passenger traffic growth by region—
year to date June 2019 versus 2018



End of the bull market in pax traffic?

Source: World Airport Traffic Database, ACI World, 2019

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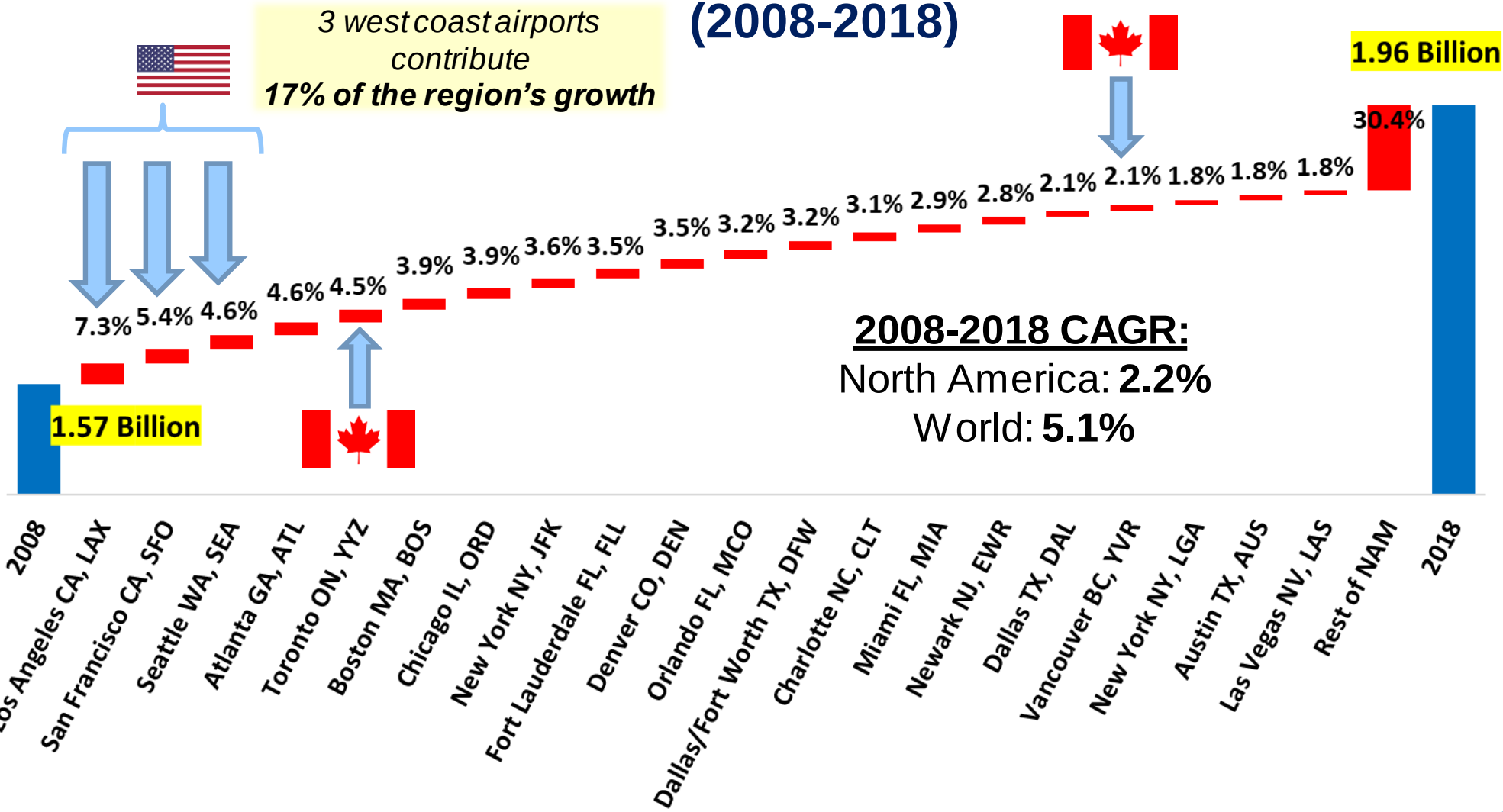
Contribution to regional passenger traffic by major airport share (2008-2018)



Smaller mid-sized airports have their day in the sun…

ULCCs - Frontier, Spirit aggressive capacity expansions

Legacy - United expanding domestically to smaller airports

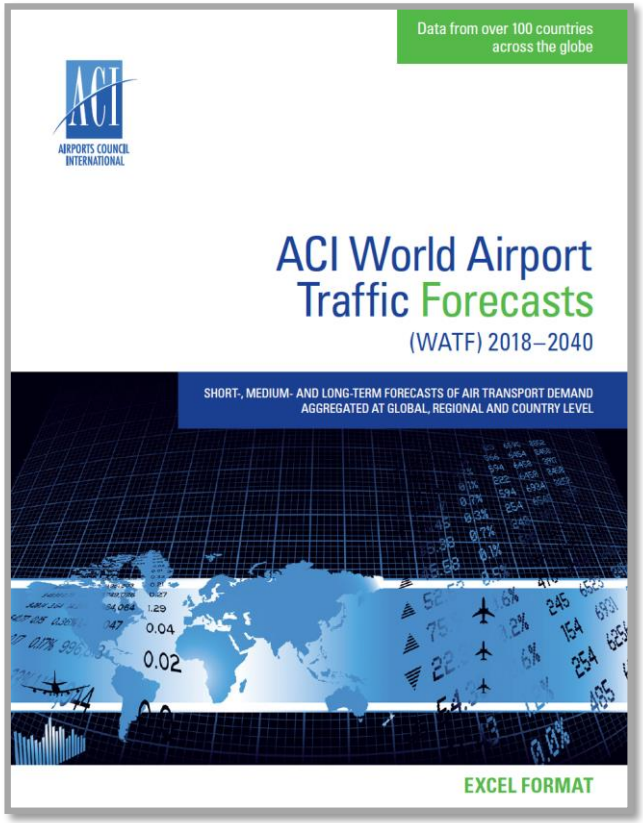
LCC - Southwest expands internationally

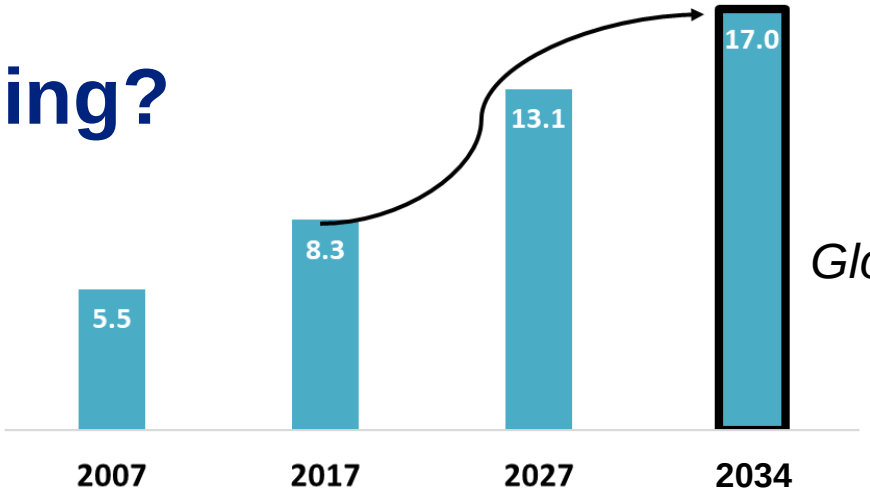
Rank	City	IATA Code	Passengers 2018	% Change
1	Jacksonville FL	JAX	6,459,637	14.7%
2	San Jose CA	SJC	14,319,292	13.9%
3	Austin TX	AUS	15,819,912	13.2%
4	Nashville TN	BNA	15,996,029	12.2%
5	Ontario CA	ONT	5,112,975	11.1%
6	Burbank CA	BUR	5,263,972	10.8%
7	San Antonio TX	SAT	10,044,411	10.4%
8	Sacramento CA	SMF	12,050,763	10.3%
9	Albuquerque NM	ABQ	5,467,693	9.7%
10	Raleigh-Durham NC	RDU	12,801,697	9.7%

Source: ACI World Airport Traffic Report, 2019

Where are we going w.r.t. air transport demand (pax)?

Where are we going?

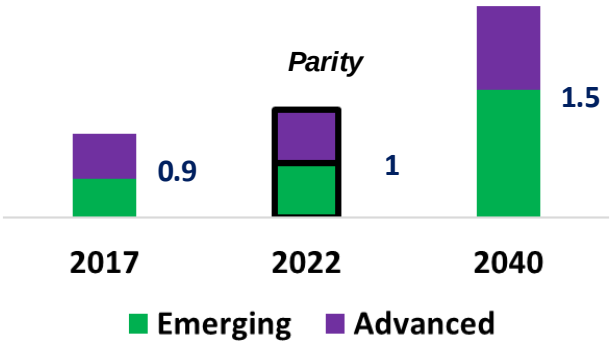




4.1%
Global CAGR

A doubling of pax traffic within 17 years

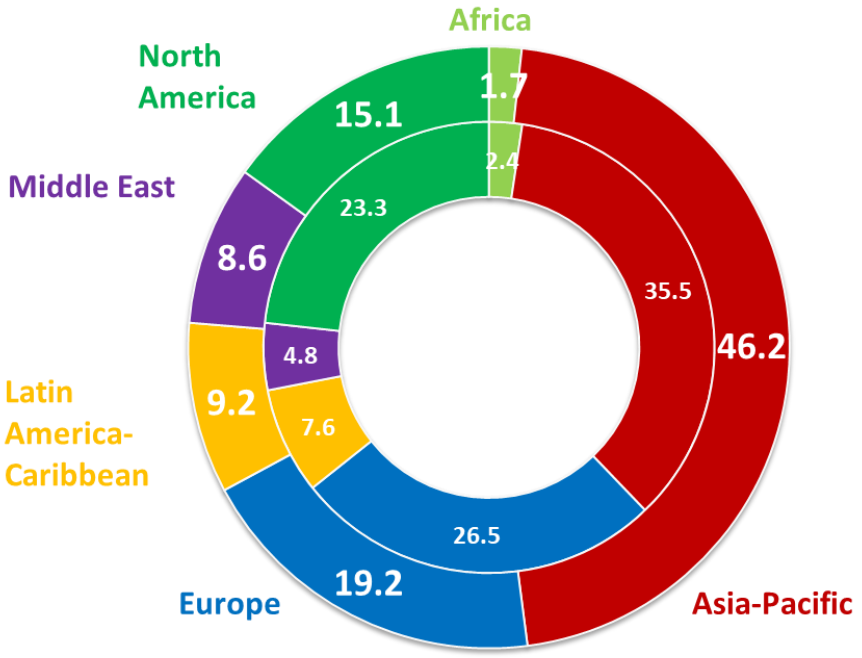
Emerging market to advanced economy pax ratio:



 Source: World Airport Traffic Forecasts, ACI World, 2018

The eastward shift

***market shares:** 2017 (inner circle) vs 2040 (outer circle)*



<u>The demographic dividend:</u>

40% of world's population presently resides in these countries

India

Indonesia

China

Vietnam

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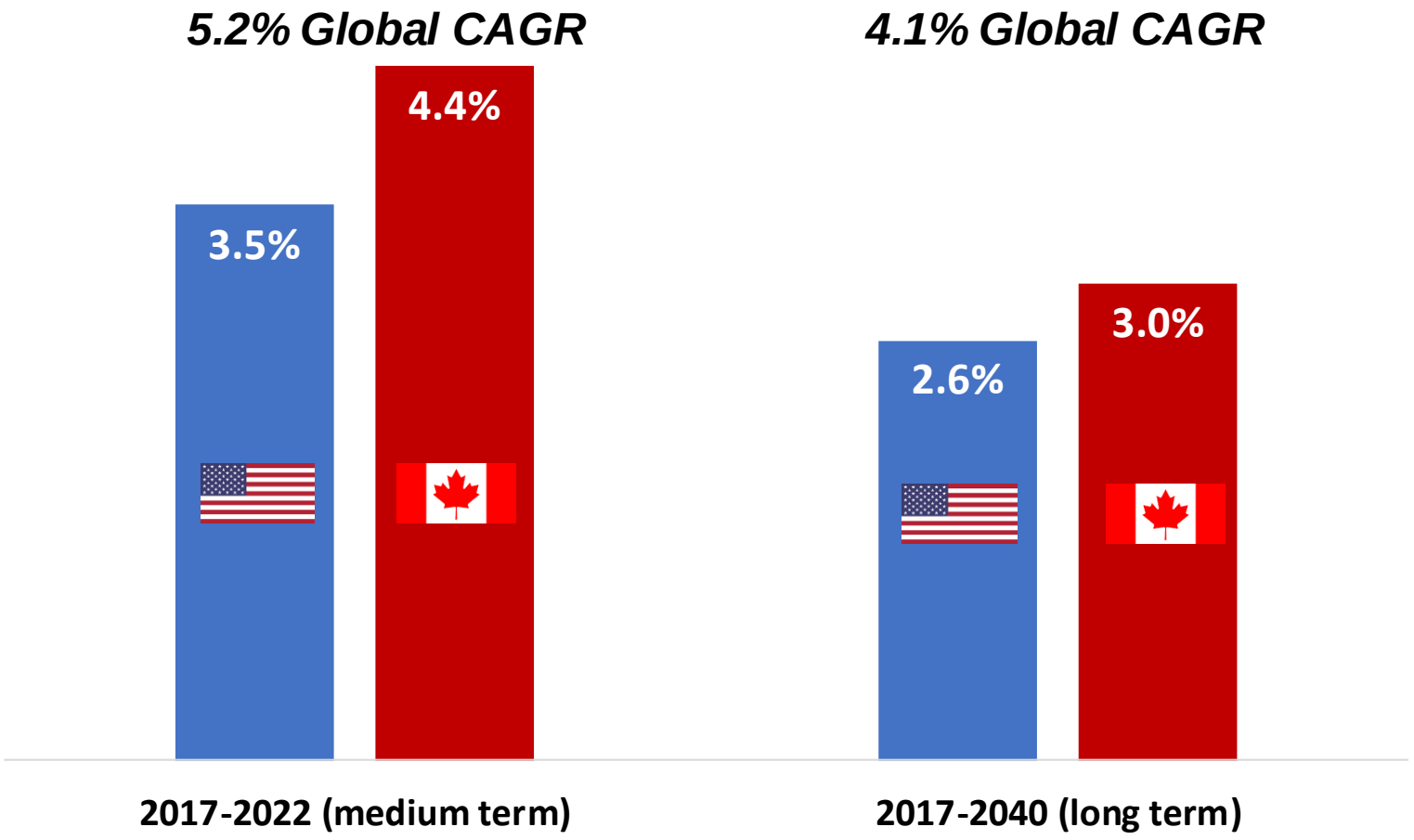
Medium-term and long-term forecasts for US and Canadian passenger traffic (CAGRs)



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Pax traffic

- **Where are we now and where are we going?**
  - Economic landscape and air transport demand across the world's airports

Aero revenues

- **Myth #1:**
  - Aircraft-related revenues (from airlines) make-up the lion's share of airports' aeronautical revenues

Non-aero revenues

- **Myth #2:**
  - Most airports generate net profits and a positive return on invested capital

Financial performance

- **Myth #3:**
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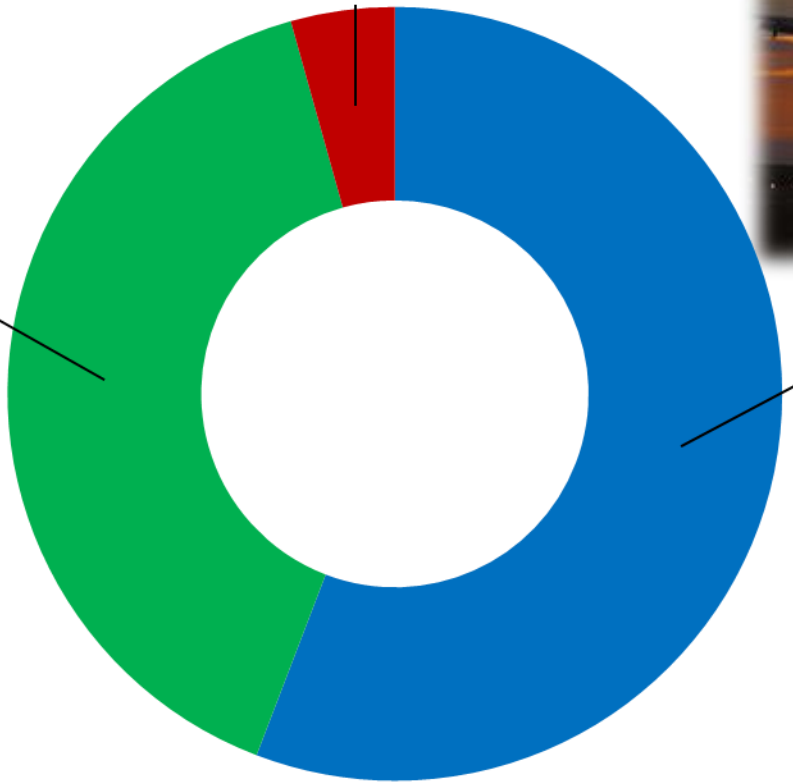
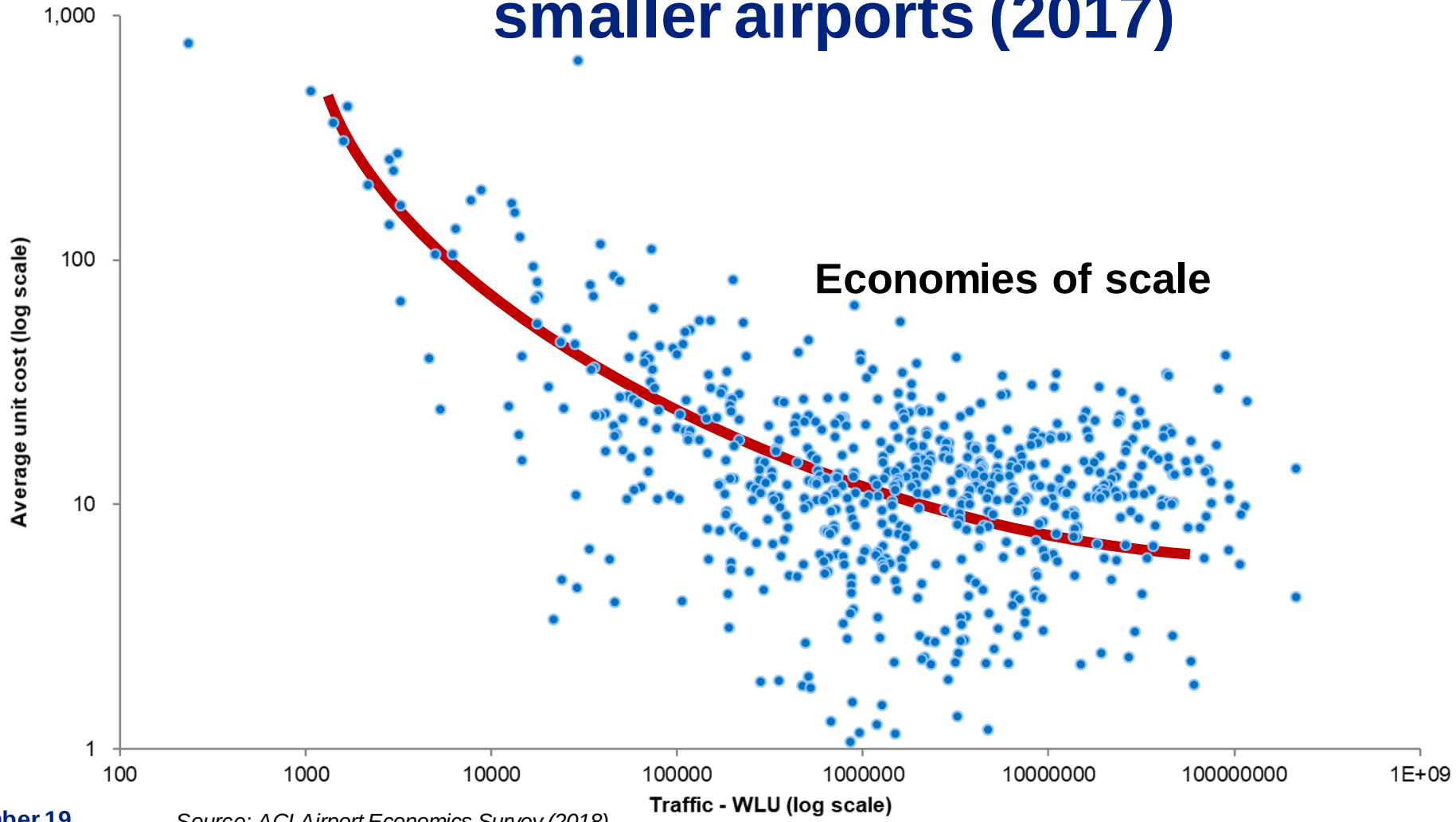
    capital

Global industry revenue by source (2017)



Source: ACI Airport Economics Survey (2018)

High average fixed costs for smaller airports (2017)



Source: ACI Airport Economics Survey (2018)

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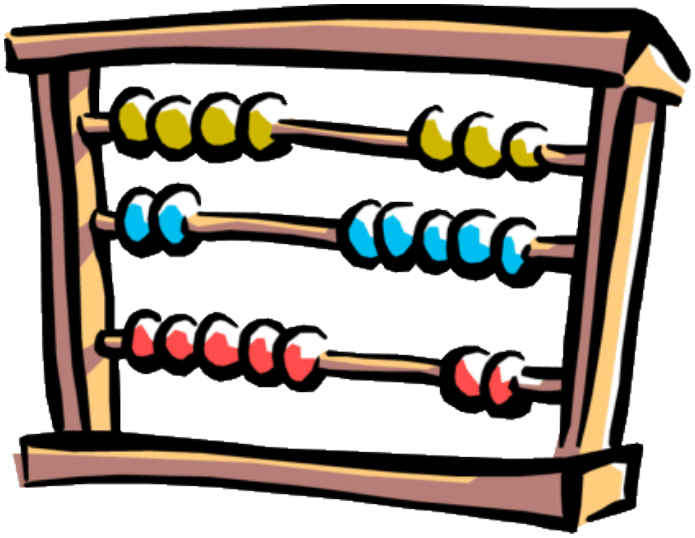
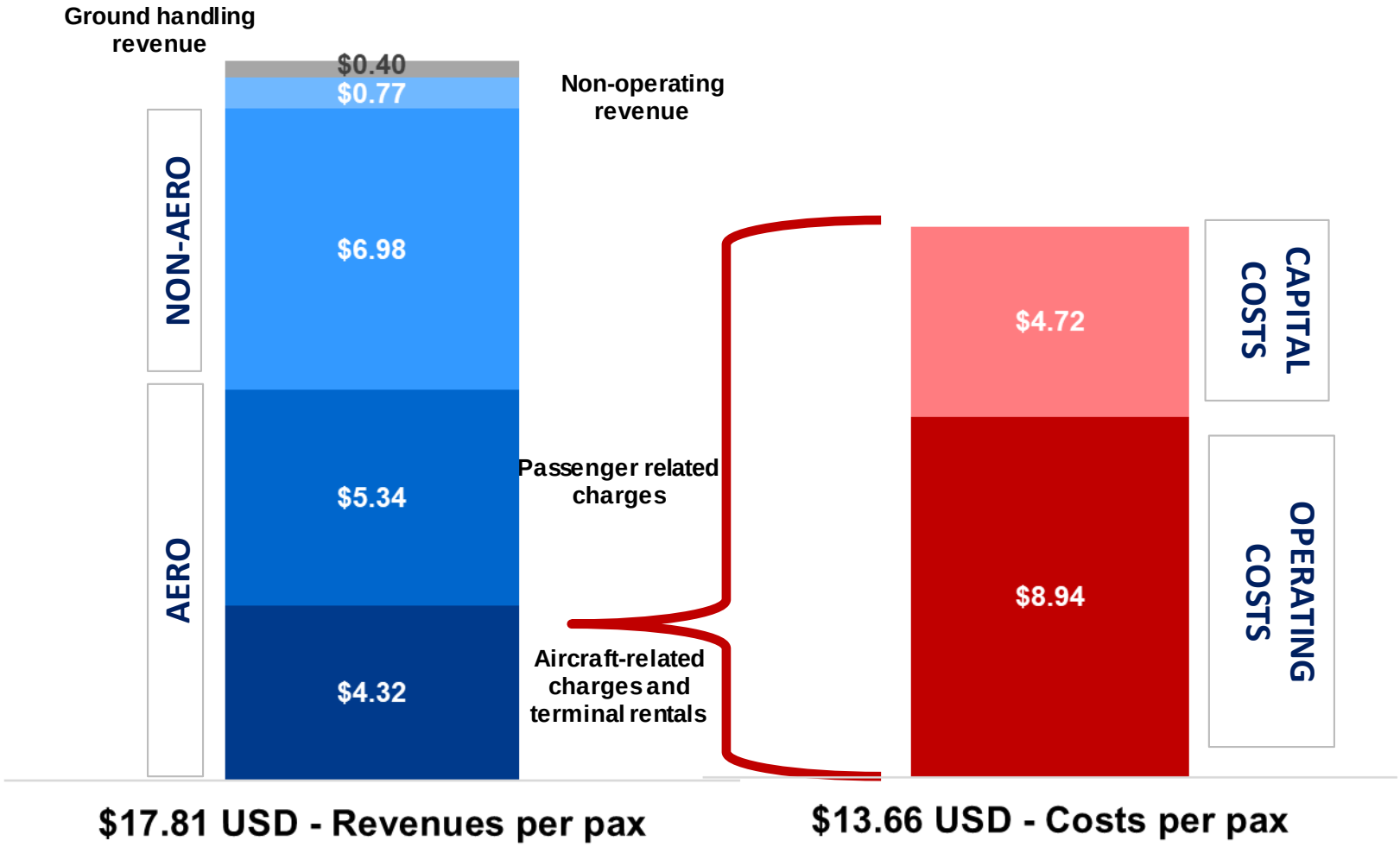
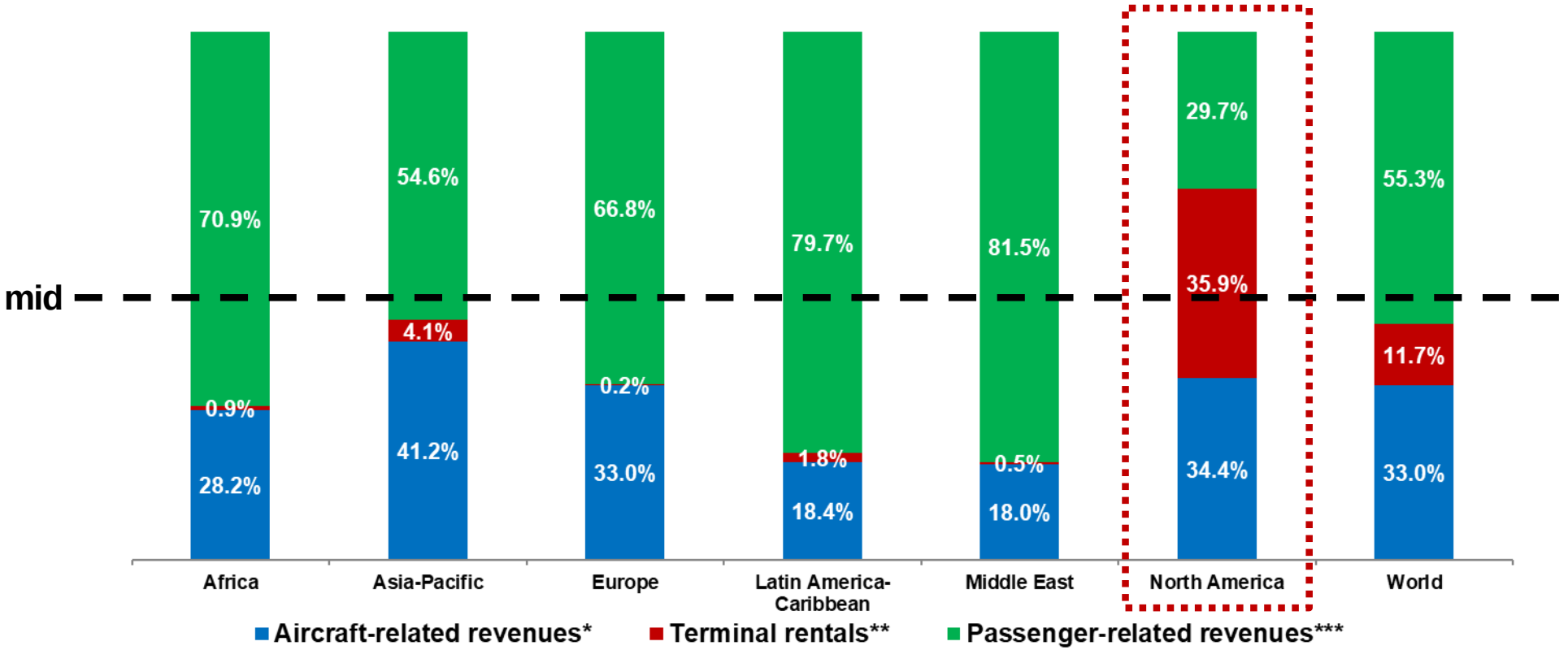
Aircraft-related revenues (from airlines) make-up the lion's share of airports' aeronautical revenues



Revenues and cost per pax (2017)



Ratio of aircraft-related to passenger-related revenues by region (2017)



* Aircraft-related revenues refer to landing, parking, boarding bridge, noise and environmental, navaid and all other aircraft-related charges (e.g., de-icing).

** Terminal rentals are mainly limited to North America. The Federal Aviation Administration (FAA) classifies terminal rentals as passenger airline aeronautical revenues.

*** Passenger-related revenues refer to passenger charges (including AIF and PFC charges), security charges, transfer/transit charges and all other passenger-related charges (e.g., PRM).

Source: ACI Airport Economics Survey (2018)

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Myth #1:

Aircraft-related revenues (charges to airlines) make-up the lion's share of airports' aeronautical revenues

<u>False:</u> Ratio Passenger-related revenues make-up 55.3% vs. aircraft-related / terminal revenues

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Myth #2:

% share of non-aeronautical revenue has grown over time relative to aero as % of total revenue

Distribution of non-aeronautical revenue by source (2017)

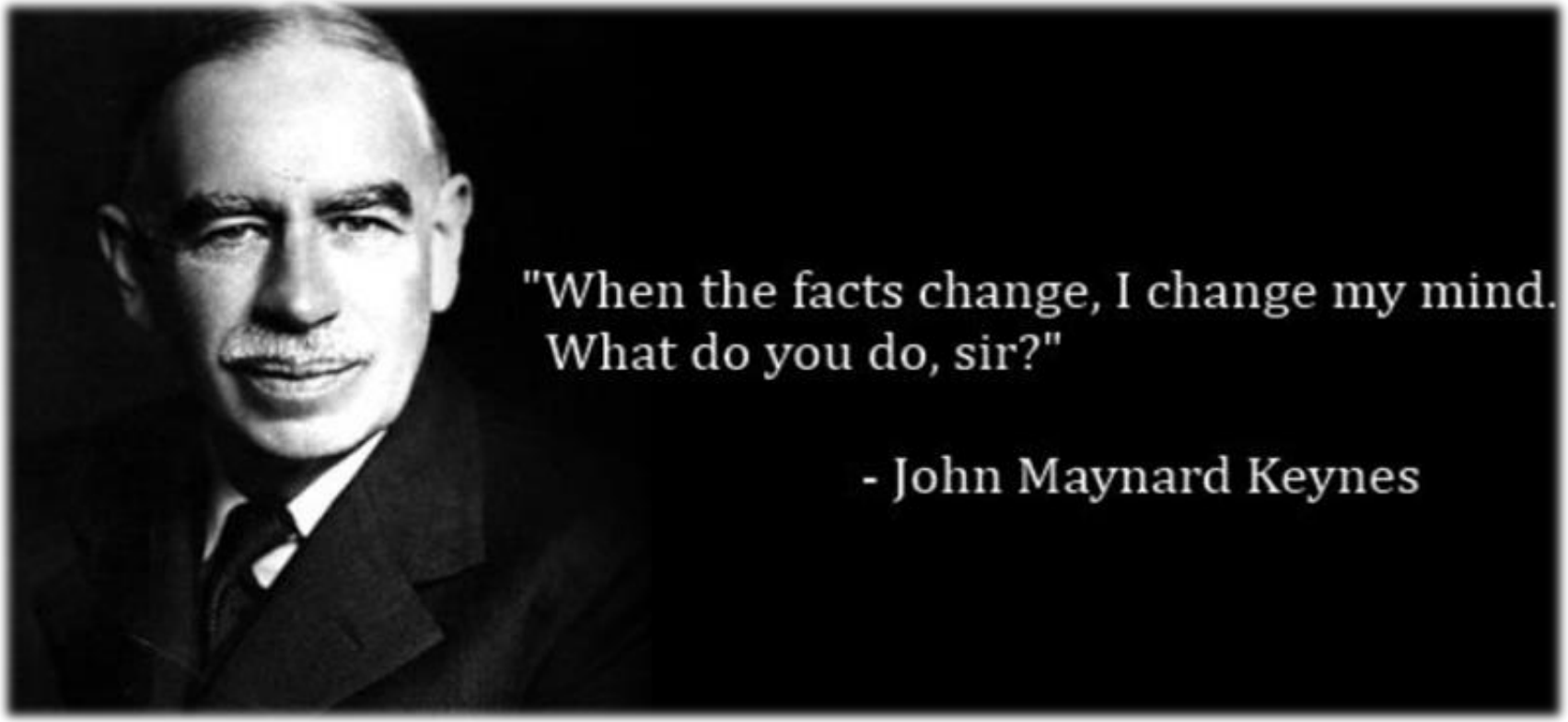
- **Retail concession leading source in rest of world (Middle East)**
- **Car parking leading source in North America**

	Retail concessions	Food and beverage	Car parking**	Rental car concessions	Advertising
Africa	31.9%	1.5%	10.7%	3.2%	3.5%
Asia-Pacific	45.4%	3.7%	7.1%	0.8%	3.7%
Europe	35.7%	4.7%	16.1%	2.3%	1.9%
Latin America-Caribbean	26.9%	6.9%	10.6%	4.0%	4.5%
Middle East	52.9%	3.9%	9.1%	1.3%	1.7%
North America	8.0%	7.7%	40.7%	17.1%	0.6%
World	30.2%	5.3%	20.1%	6.2%	2.2%

**Car parking revenue includes revenue from airport-operated parking lots and car parking concessions revenue

Source: ACI Airport Economics Survey (2018)

What is the performance of non-aeronautical vs. aeronautical revenues?



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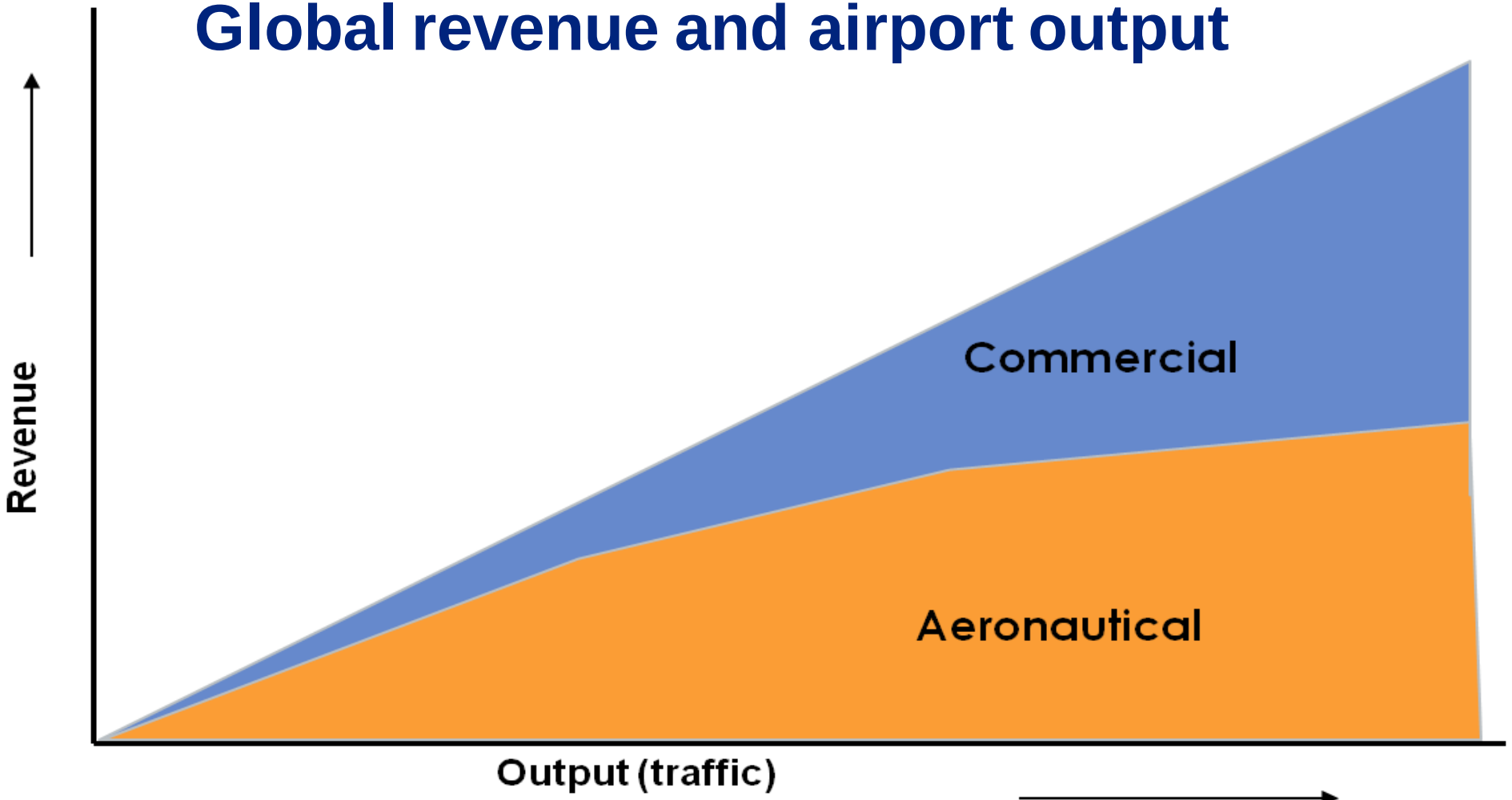
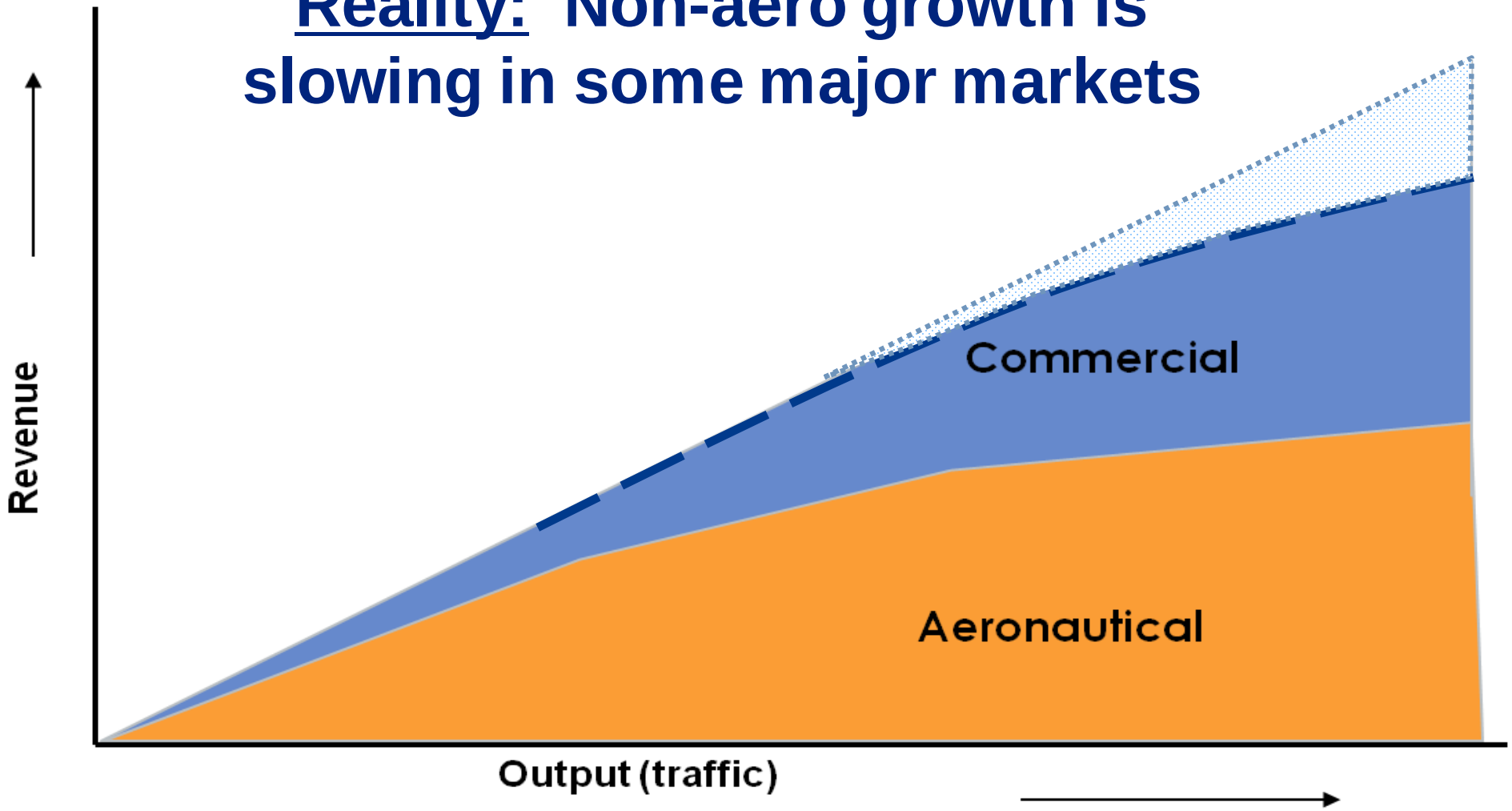
Conventional wisdom:
Global revenue and airport output



Reality: Non-aero growth is slowing in some major markets

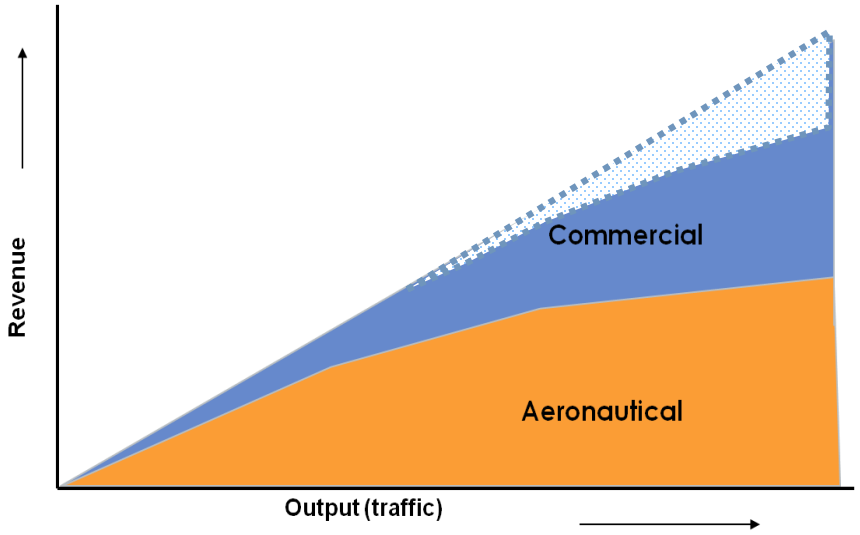


2005-2017 Compounded annual growth rate
(inflation adjusted)

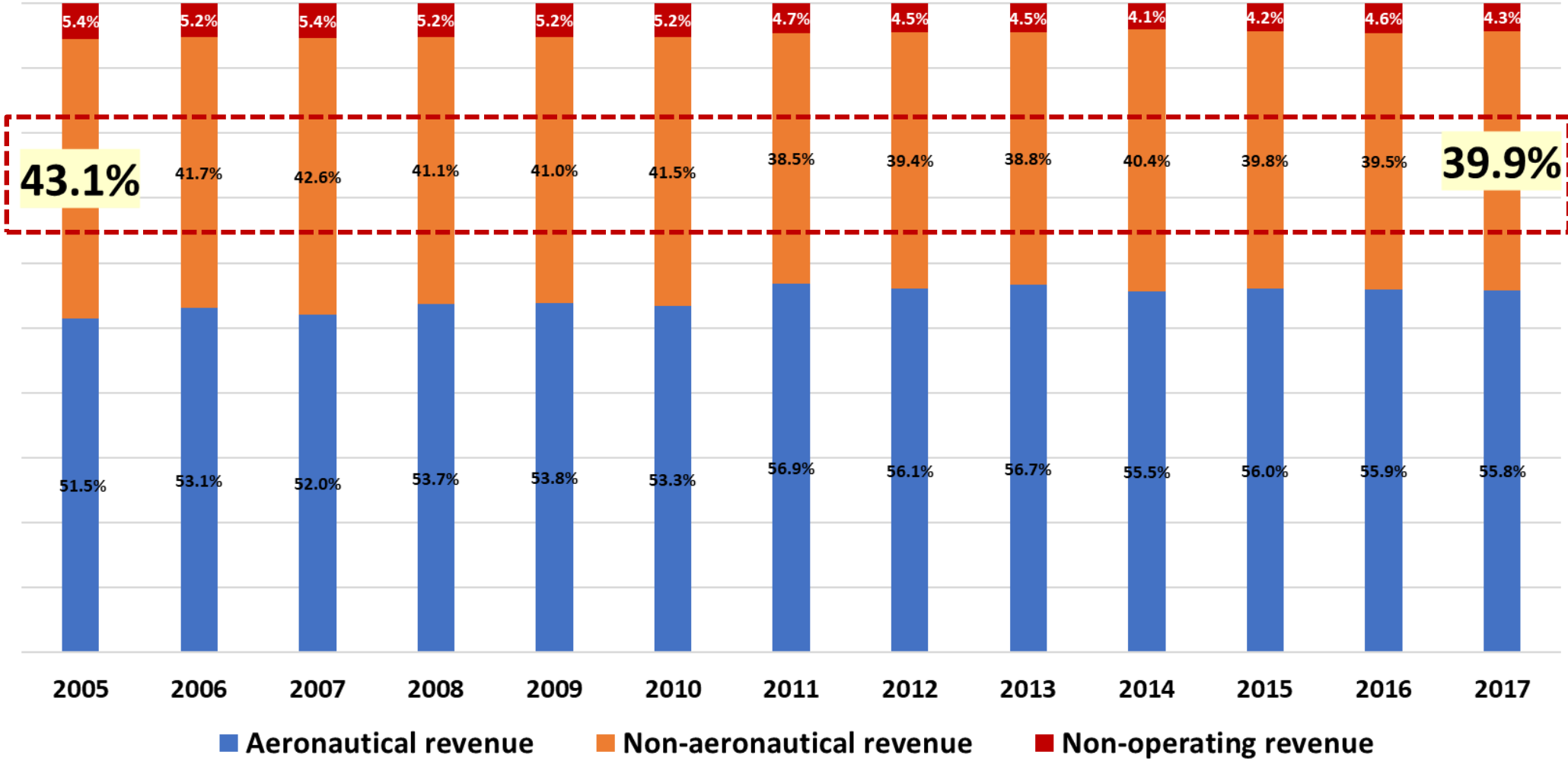
Some variability for certain years but on the whole:

Commercial / non-aeronautical: 4.9%

Aeronautical: 5.7%



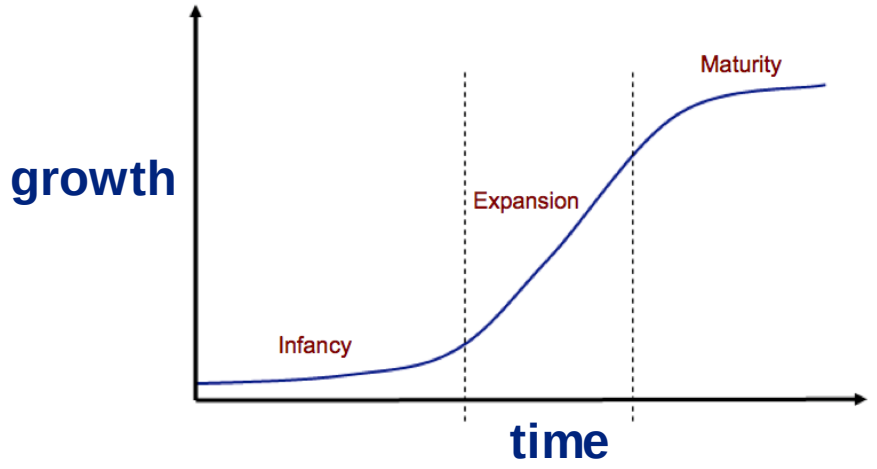
Evolution of airport revenues by source (2005-2017)



Source: ACI Airport Economics Survey (2018)

Reasons for slight proportional decline (2017 vs. 2005)

- **Mature markets slowing non-aero revenue** growth pulling down global figure;



- **Weakened Euro-area**; slowed growth in non-aeronautical;
- **Intra-EU rules** on duty-free shopping (no tax advantage);
- **Competition** from other commercial sources (online retail – Alibaba, Amazon, etc.);
- **Heightened security**; longer security queues vs. dwell time, security charge, etc.;

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Myth #2:

% share of non-aeronautical revenue is growing more than aeronautical as % of total revenue

False: On annualized basis from 2005 to 2017, non-aeronautical revenue % is lower (4.9%) than aero (5.7%)

Myth #3:

Most airports generate net profits and a positive return on invested capital

Caveats on profitability as concept:

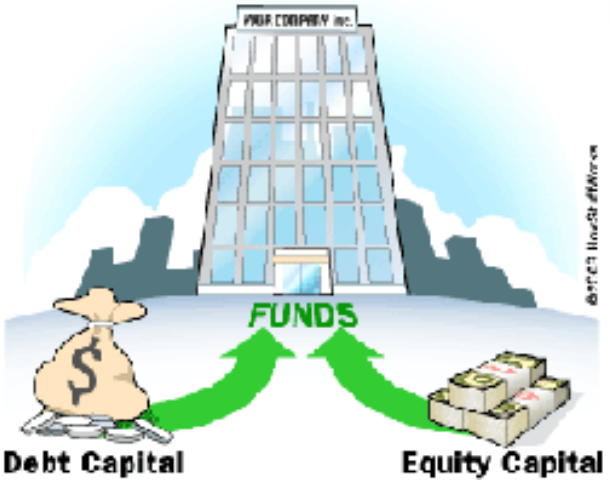
- Heterogeneous regulations across varied jurisdictions, which affect costs and revenues;

- Differing objectives: cost recovery vs. profit maximization

Caveats on measures of profitability:

- **Net profit** and **EBITDA margins** are <u>insufficient</u> measures of profitability and financial health;

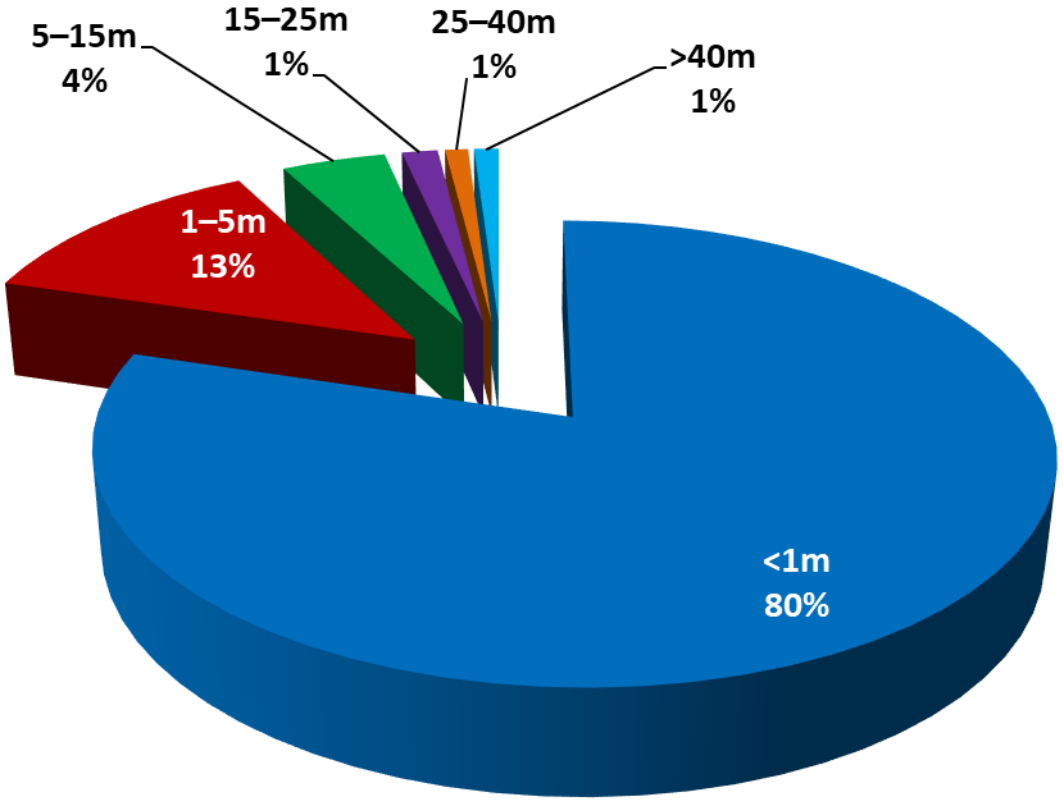
- **Return on Invested Capital** takes into consideration the <u>balance sheet</u> *(i.e. the capital intensive business of airports)*



Paradox:

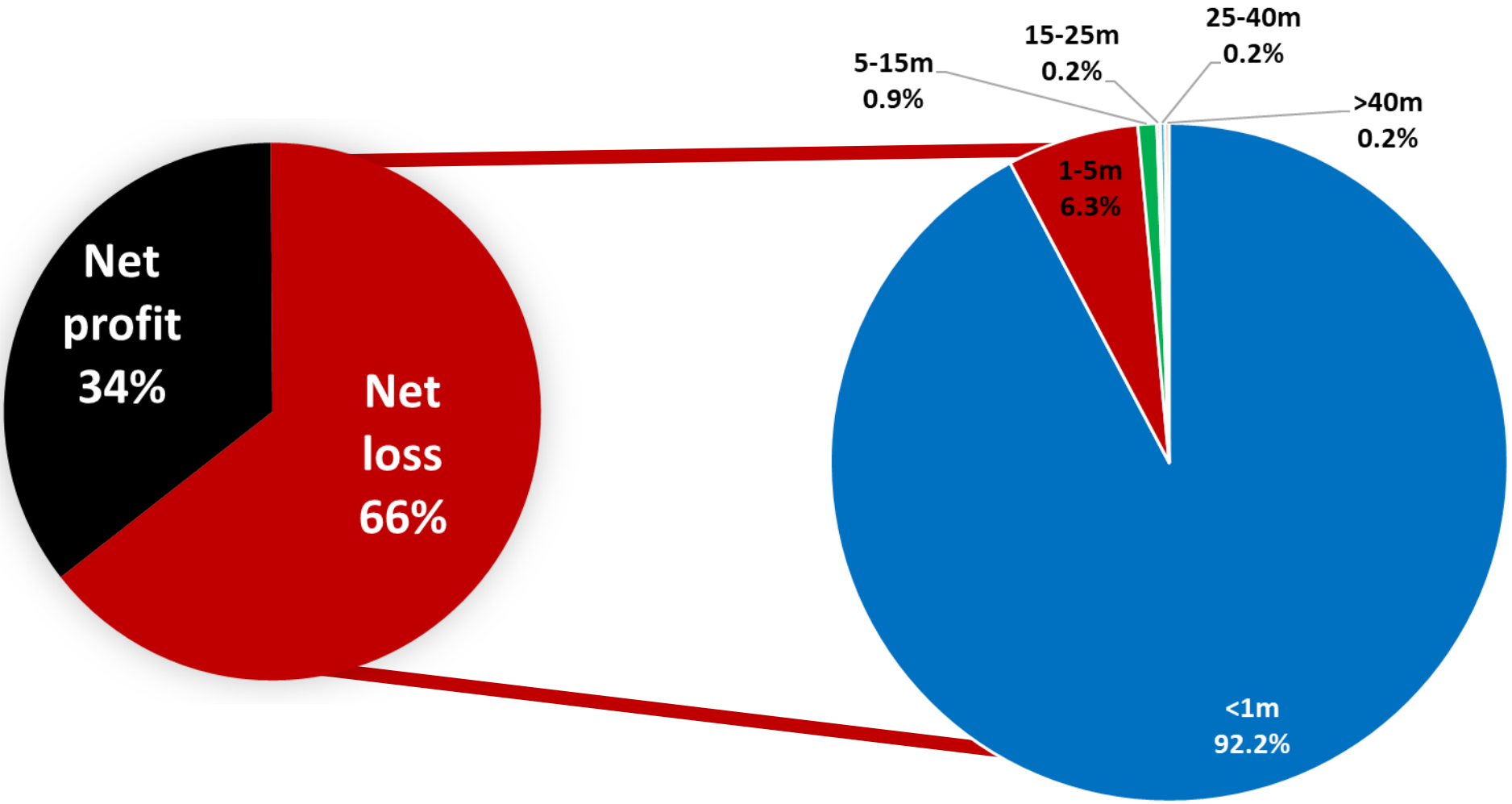
Overall industry is in the black yet most airports lose money

Distribution of airports by airport size*



Source: ACI Airport Economics Survey (2017) and Official Airline Guide (2017)

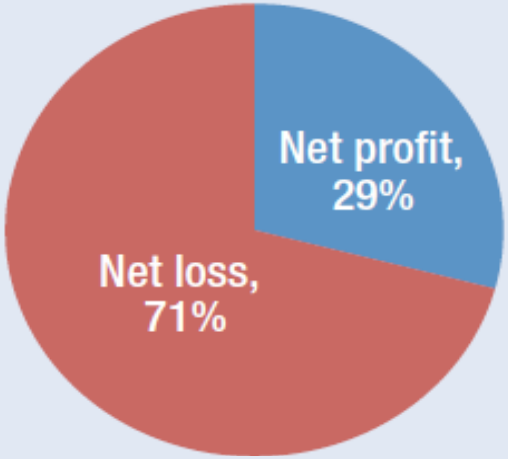
Distribution of airports with a net loss*

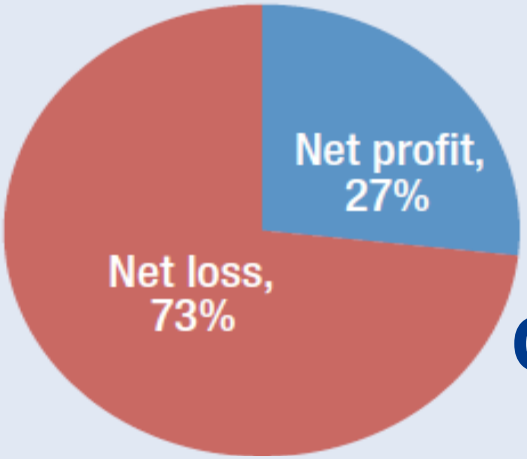


*Source: ACI Airport Economics Survey (2017) and Official Airline Guide (2017)

Proportion of airports with net profits*

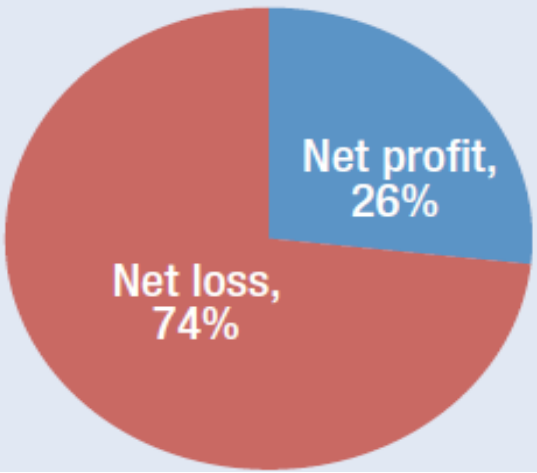
AENA
Spanish

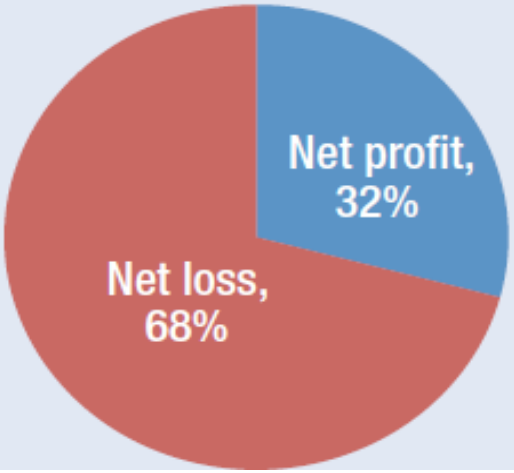




CCAA
Chinese

AAI
Indian





Infraero
Brazilian

*Source: ACI Airport Economics Survey (2014); Public sources

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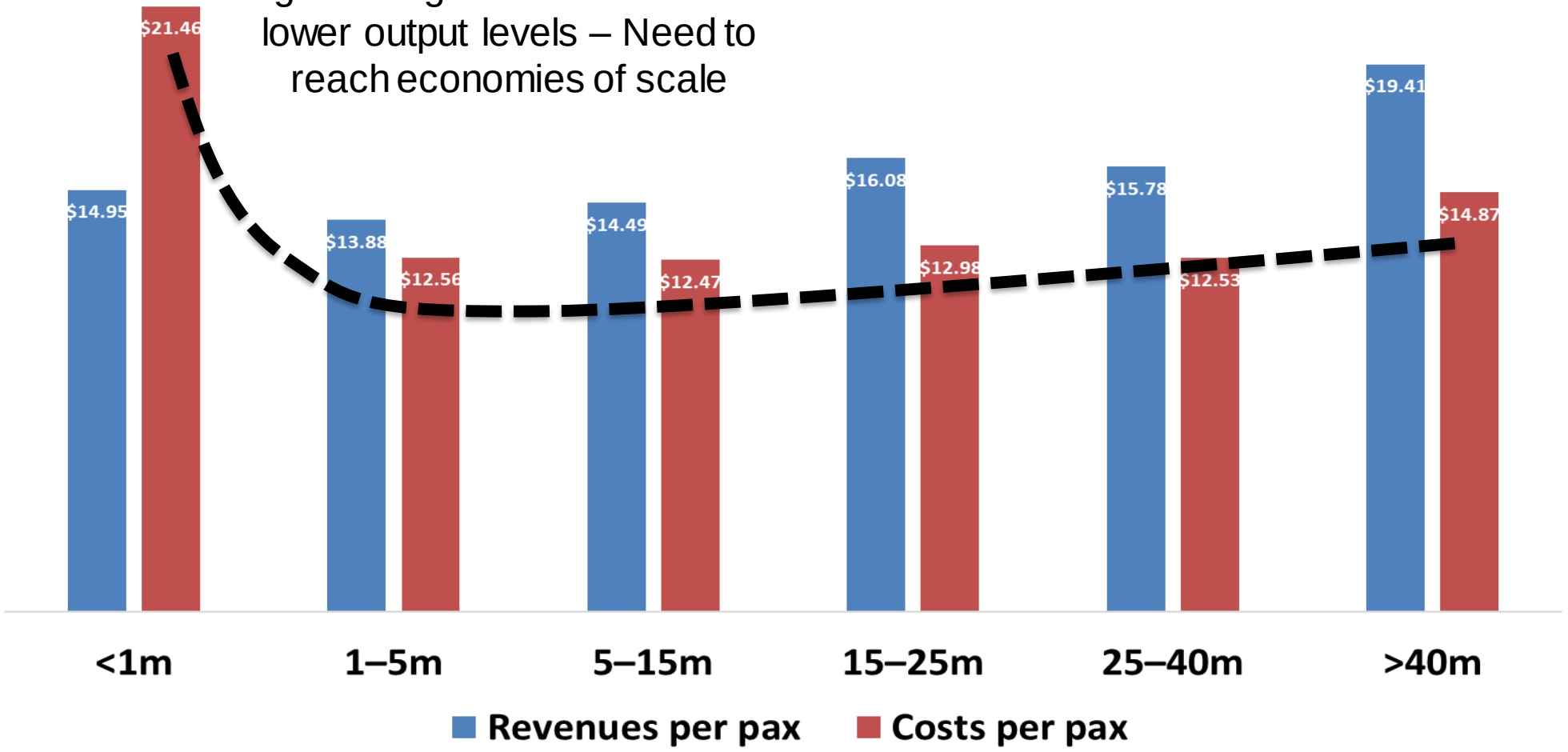
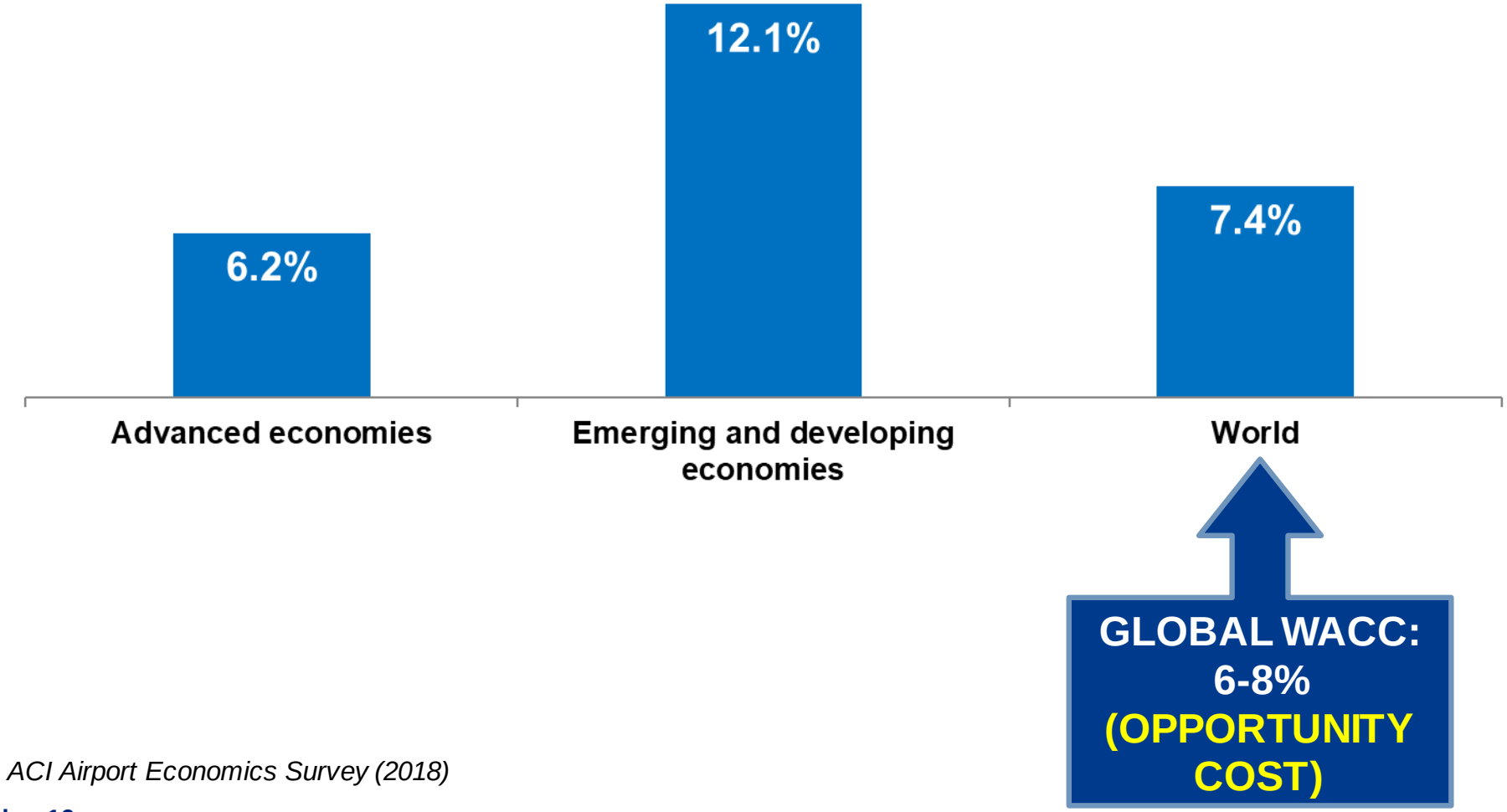
Revenues and costs per passenger (US$ 2017)

High average total fixed costs at lower output levels – Need to reach economies of scale



Source: ACI Airport Economics Survey (2018)

Return on invested capital (2017)



Source: ACI Airport Economics Survey (2018)

Myth #3:

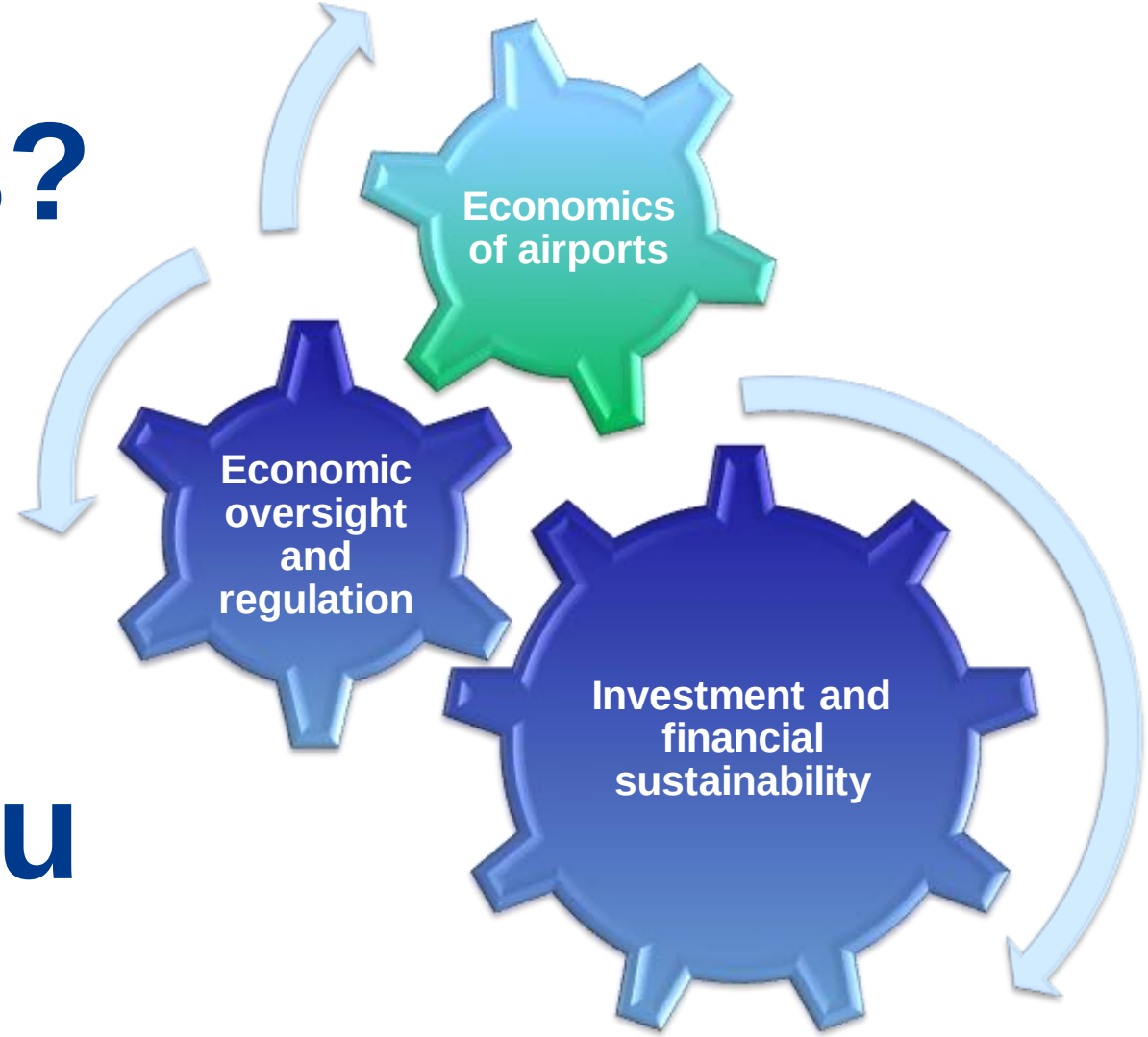
Most airports generate net profits and a positive return on invested capital

<u>False</u>: 66% of airports globally operate at a net loss and most of these airports have <1m passengers

Summary:

- **Slowed growth or recession? Spillover to aviation?**
  - **Pax growth moderating over near term; Air cargo in the negative; Long term fundamentals remain strong**
- **Greater reliance on passenger-related revenues** as opposed to aircraft-related revenues
  - **Shared risk between airlines and airports to pass on the largest proportion of aeronautical to the ultimate end user;**
- **Globally proportion of non-aero revenues is <u>not</u> growing faster than aeronautical** *(European non-aero maturity; S-curve, pax related revenues)*;
  - **Point of satiation with limitations on revenue growth depending on where you are located on the S-curve**
- **Size matters - Overall industry is in the black yet most airports lose money**
  - **Policy question: How do we finance these smaller airports?**

Questions?



Thank you