



Challenges of high growth: Global aviation outlook



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www.iata.org/economics

To represent, lead and serve the airline industry

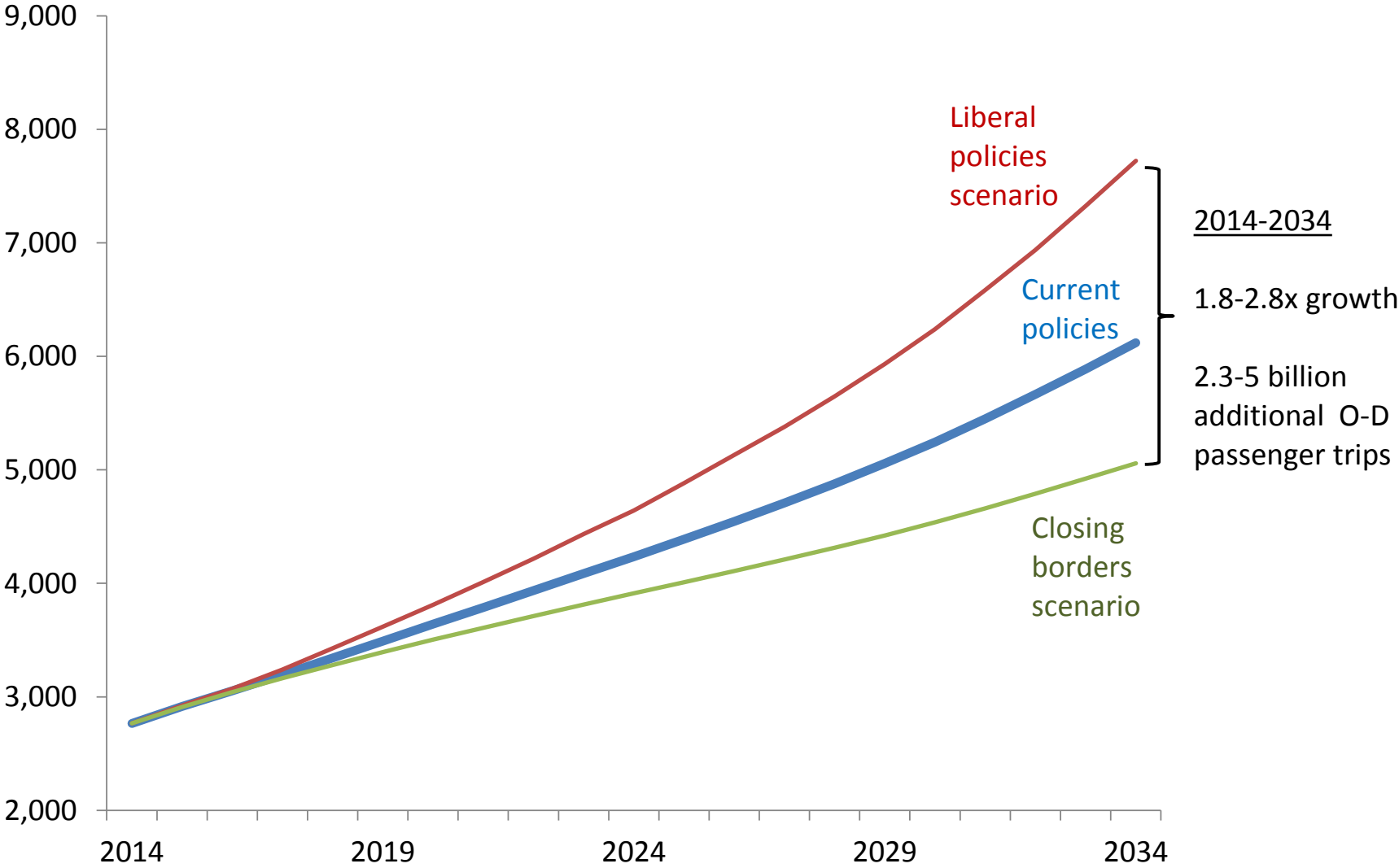


Challenges of high growth

- Meeting demand for air travel
- Attracting capital
- Wider economic benefits
- Climate impacts

Demand for air travel to double over 20 years

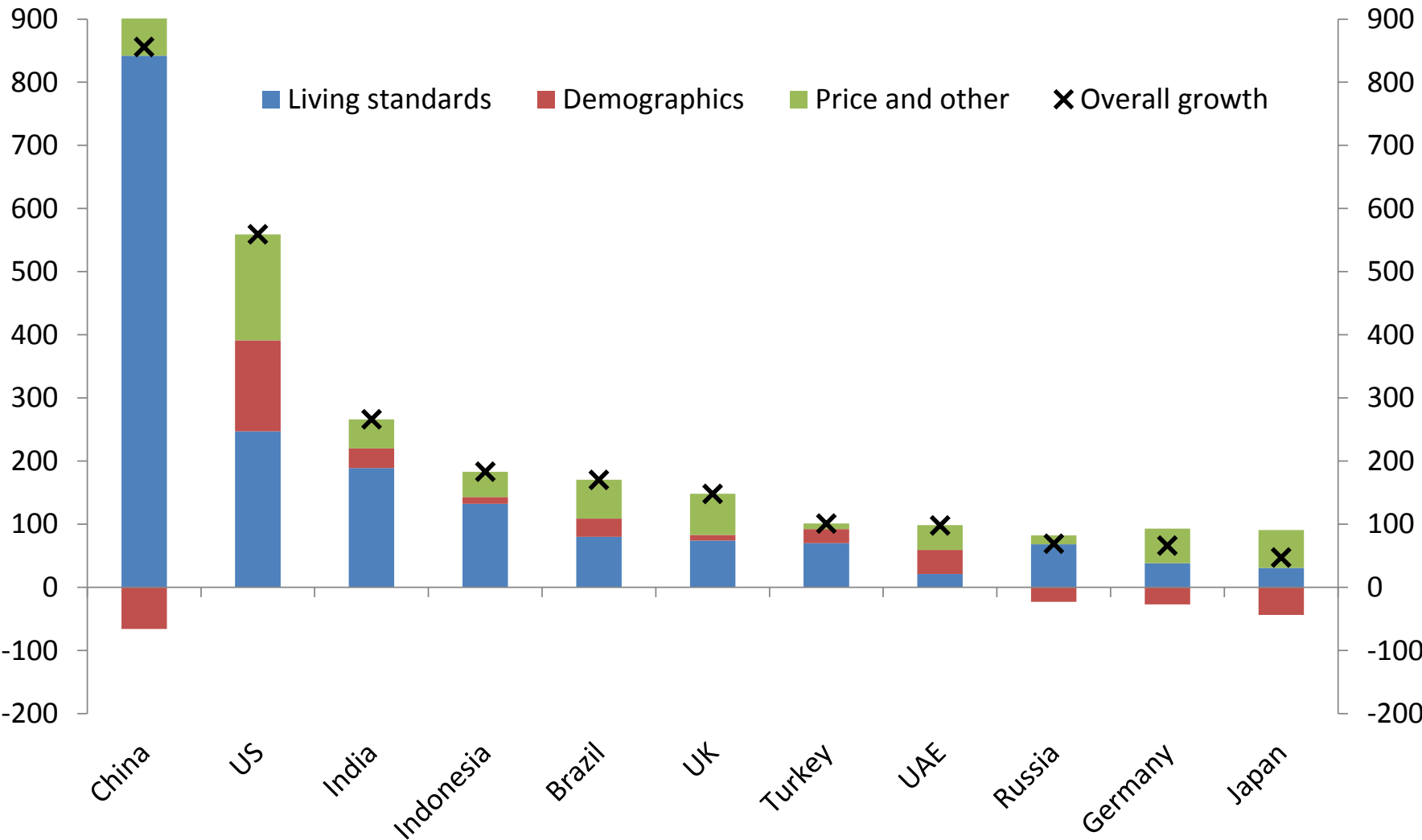
Outlook for worldwide O-D passenger trips, million



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

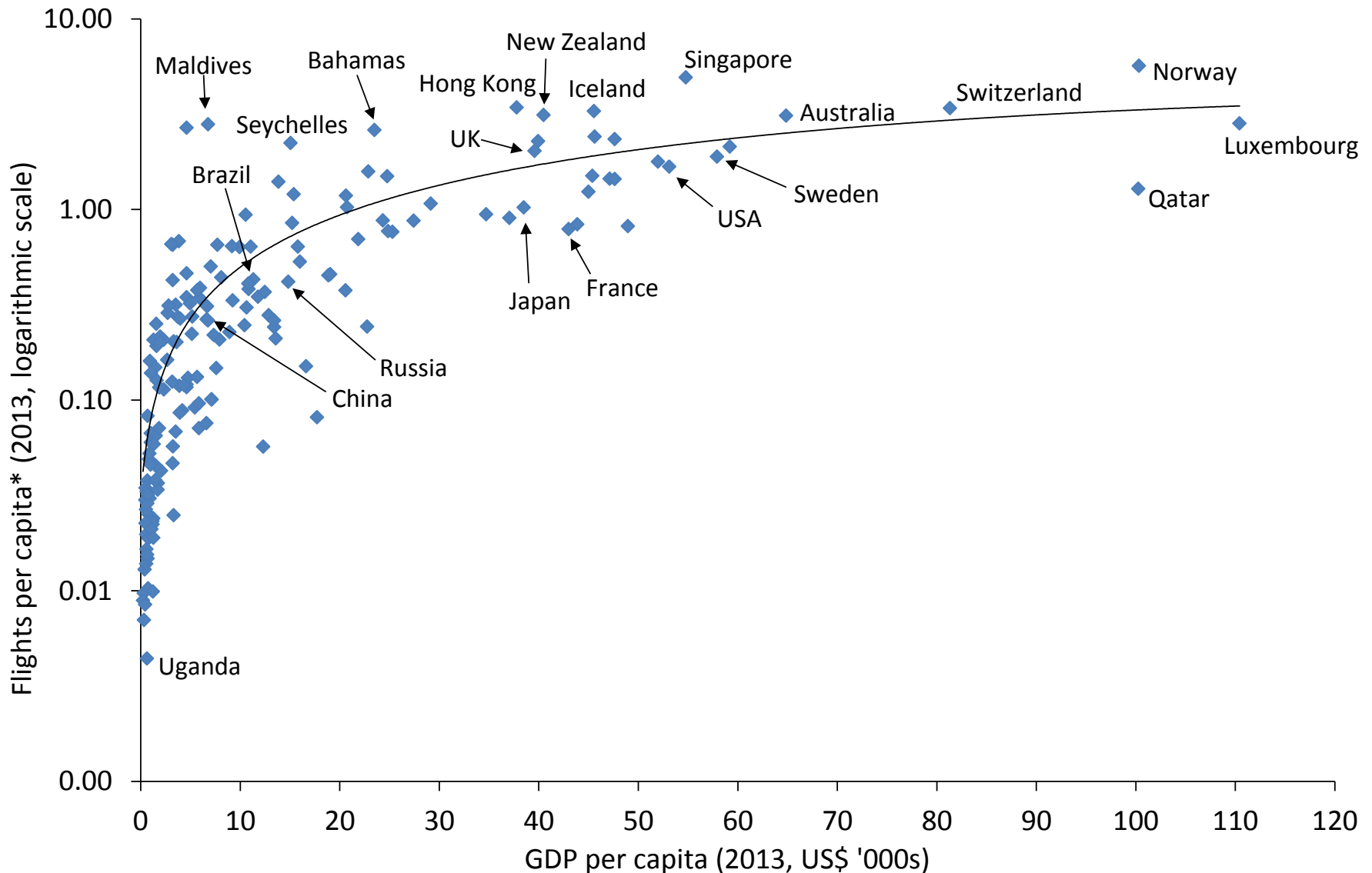
Largest rise in numbers forecast in China

Drivers of additional passenger numbers, million



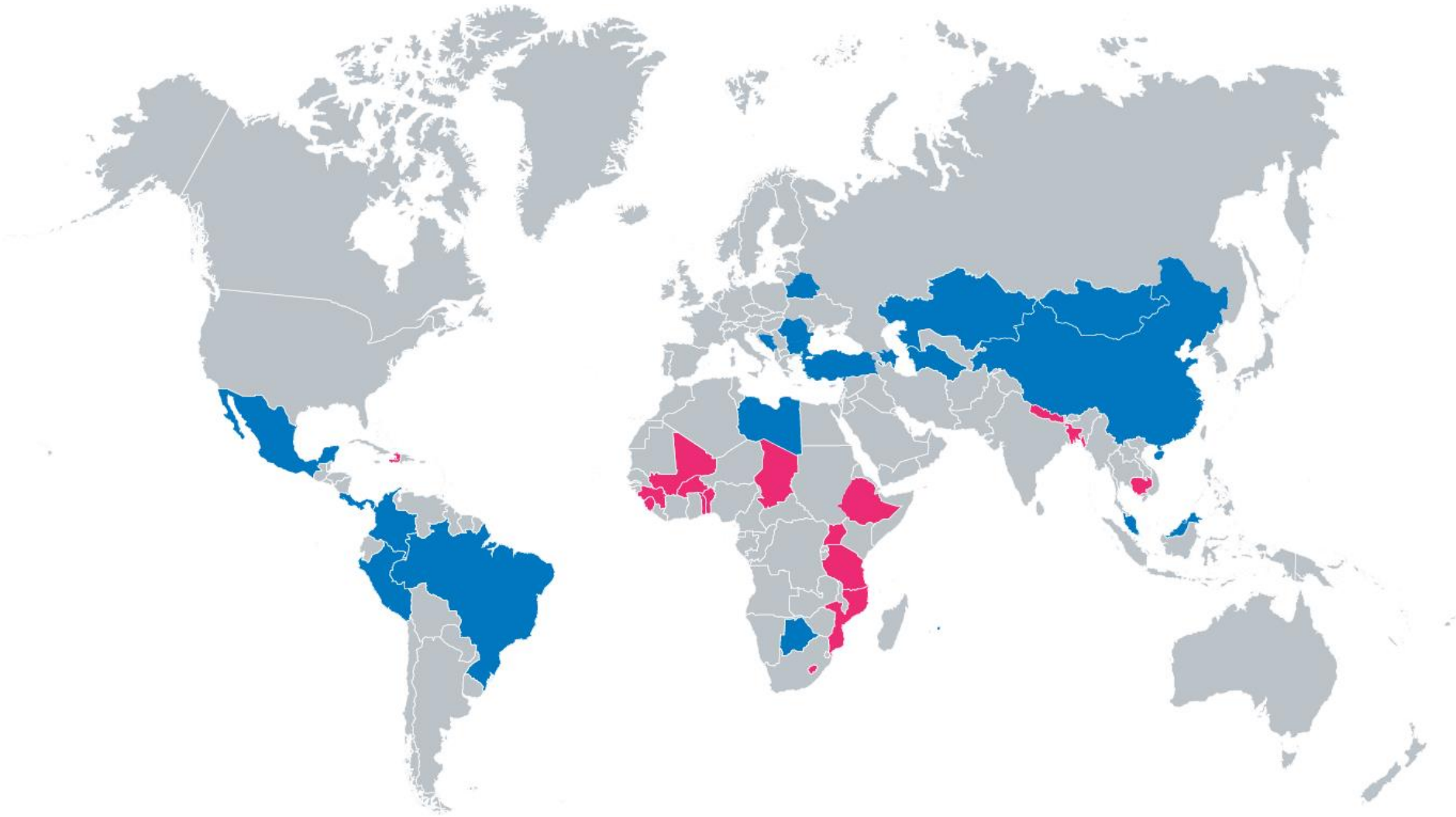
Source: IATA/Tourism Economics 'Air Passenger Forecasts'

Living standards are one key driver



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

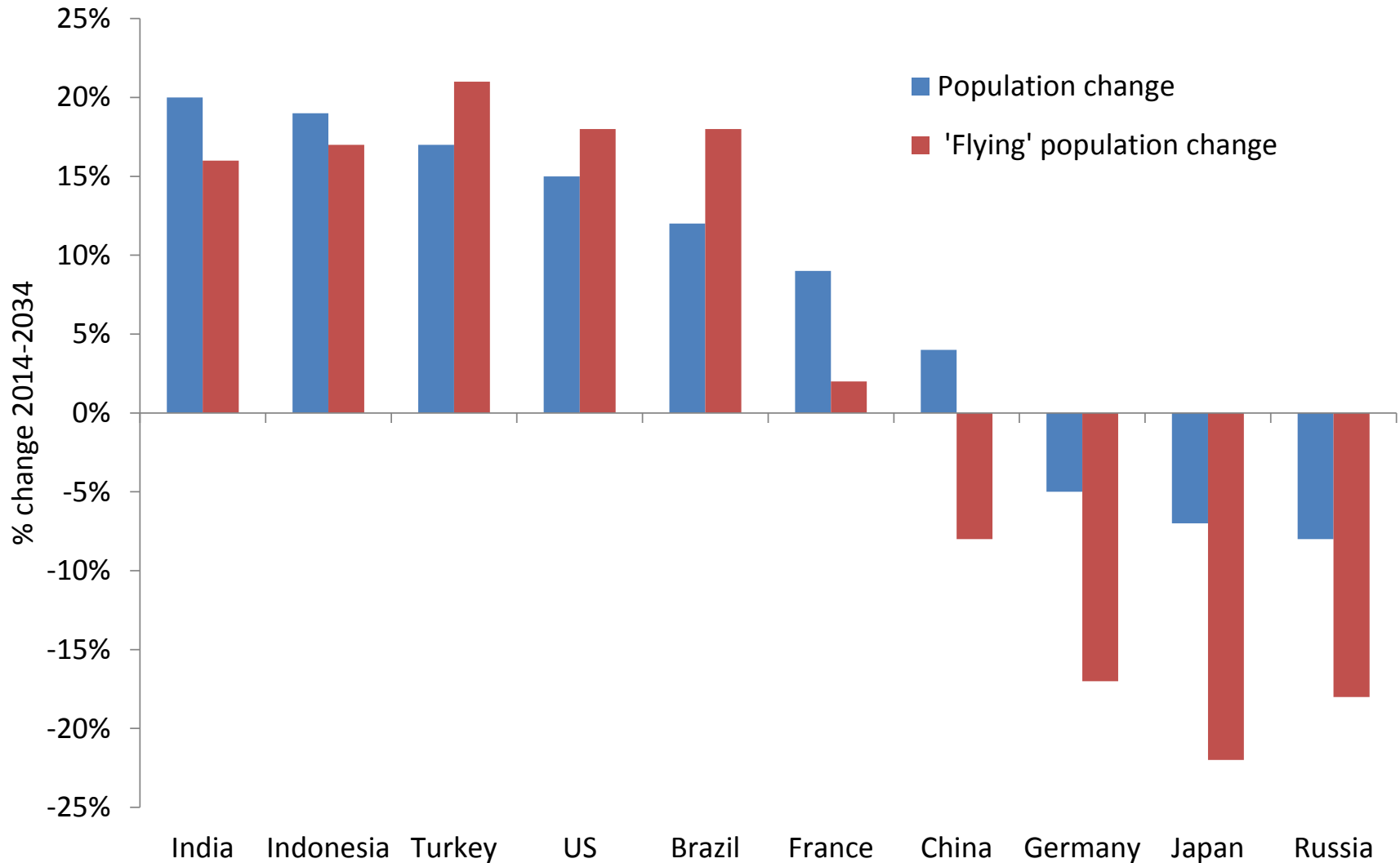
Countries becoming 'middle' or 'high' income



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

Demographic change dramatically different

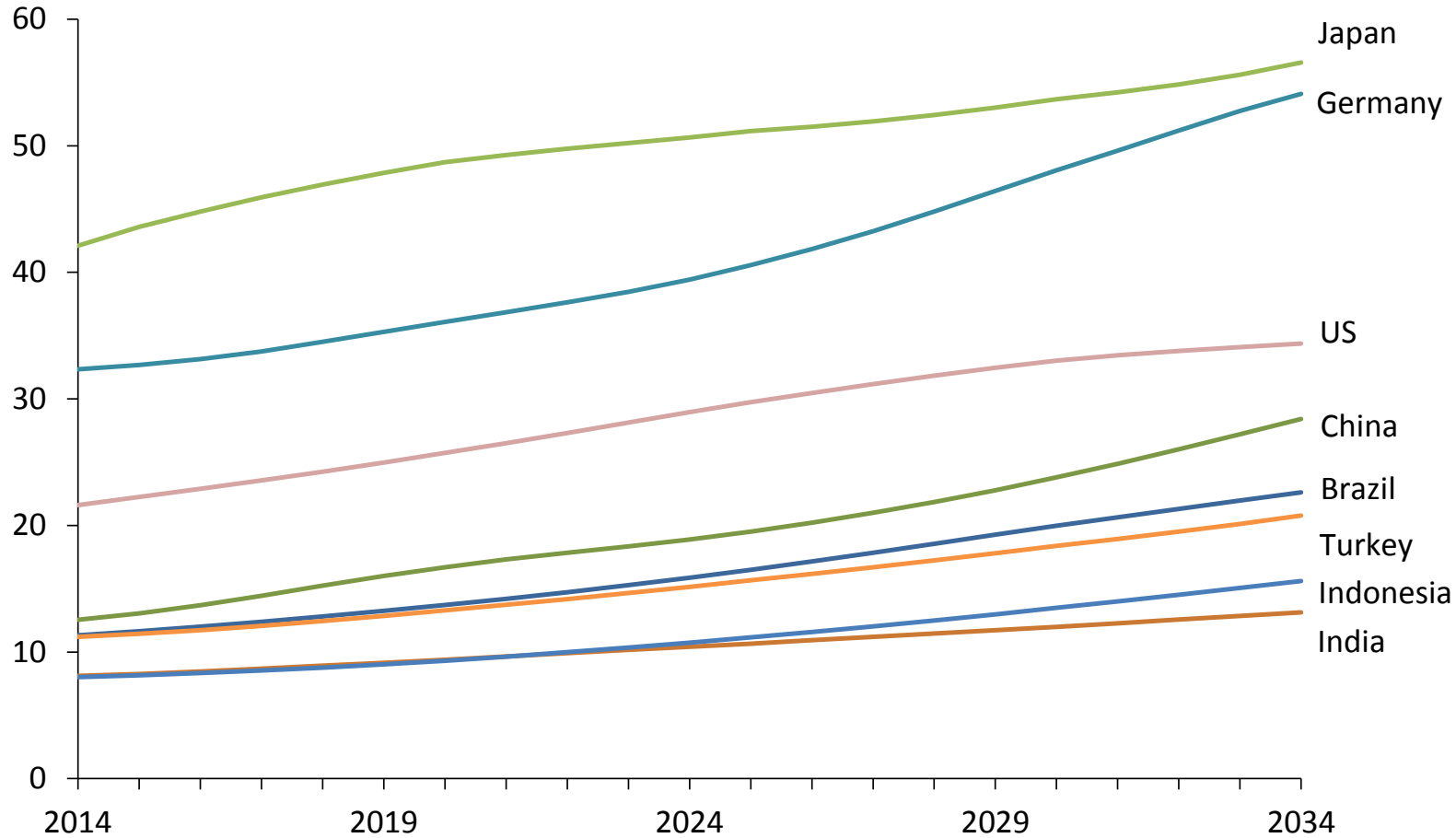
Demographic change, 2014-2034



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

Emerging market population much younger

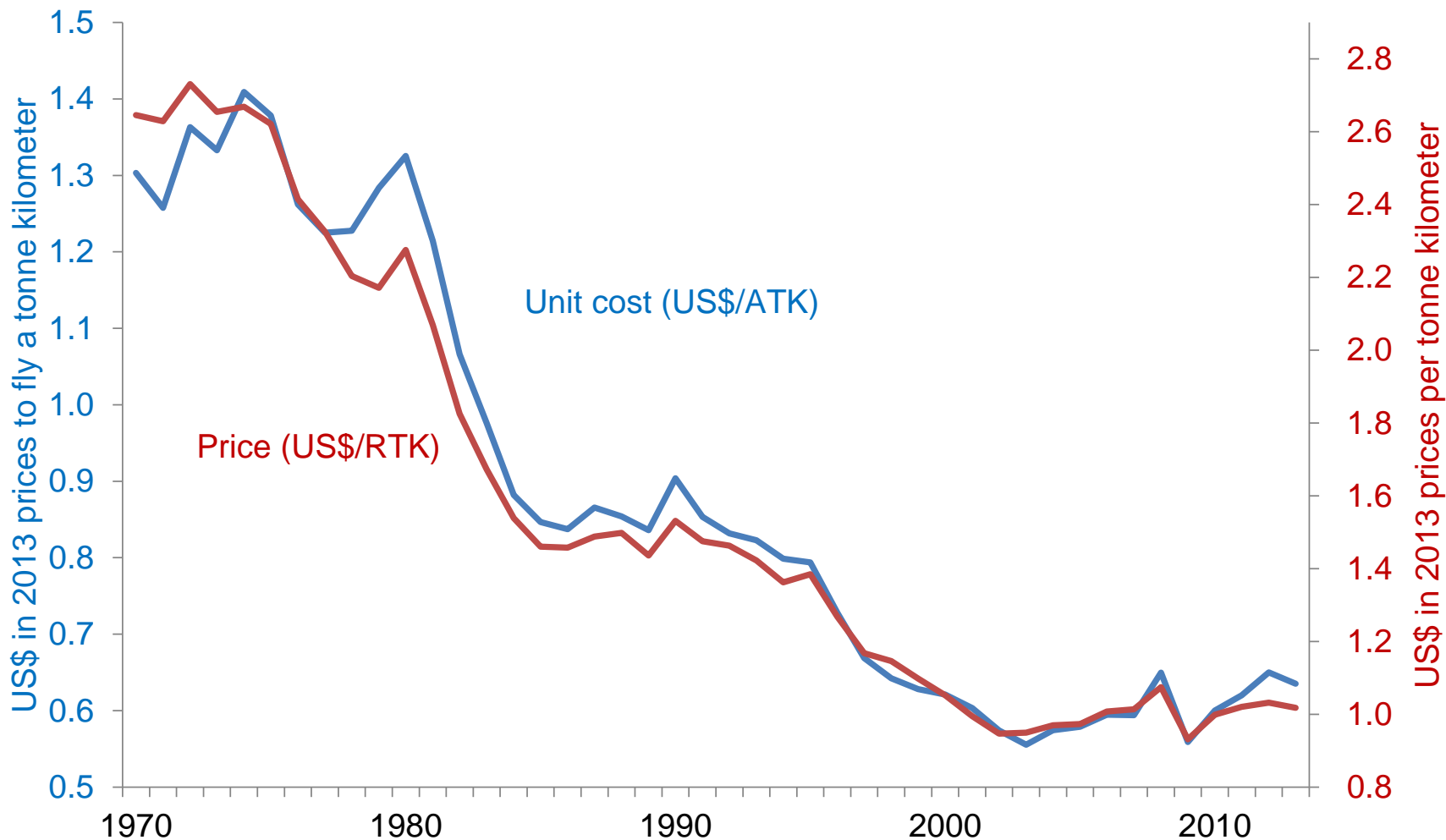
Old-age dependency ratio, %
(65+/15-64)



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

Trend in cost of travel is still downwards

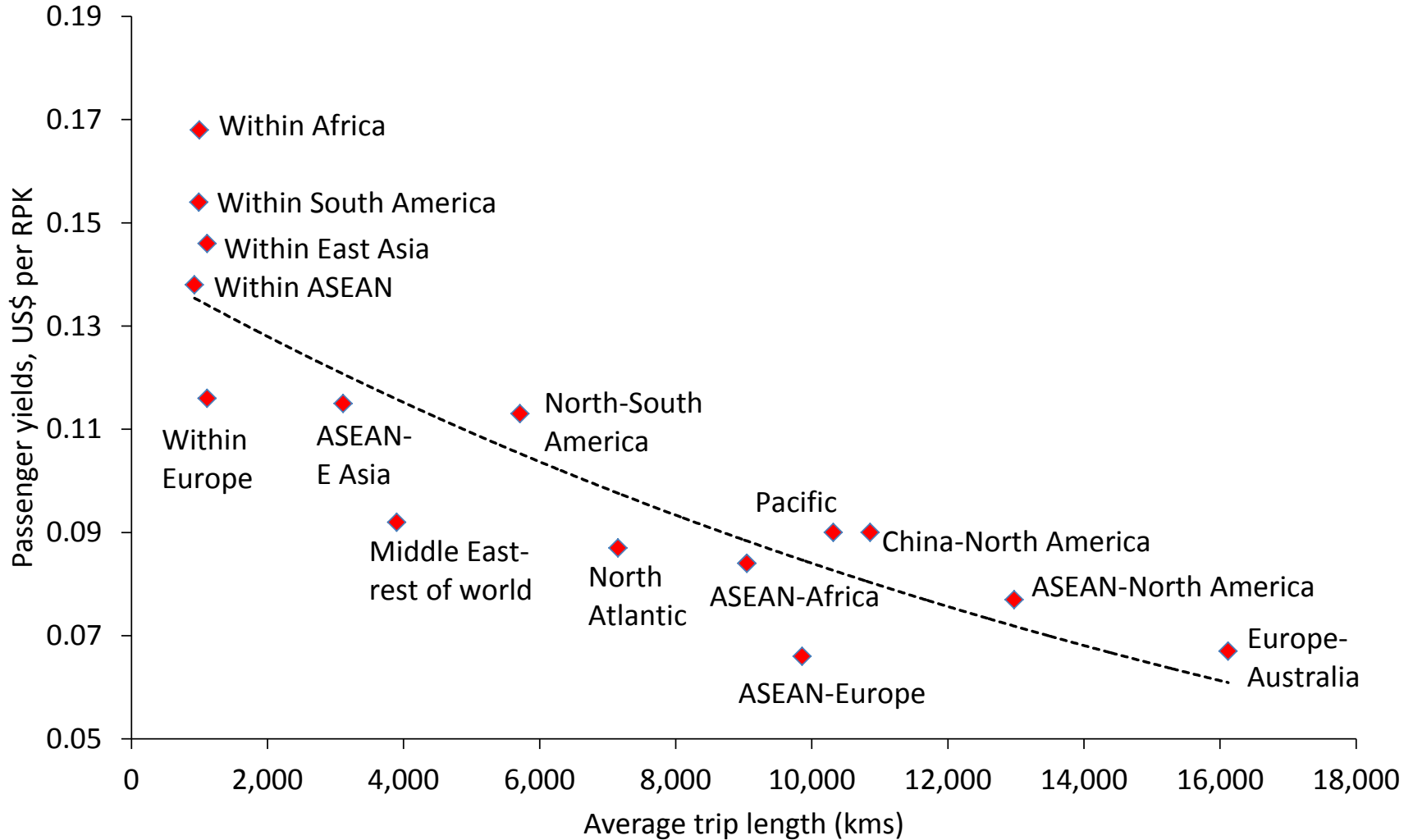
Unit cost and the price of air transport, adjusted for inflation



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

Scope for lower fares on a number of markets

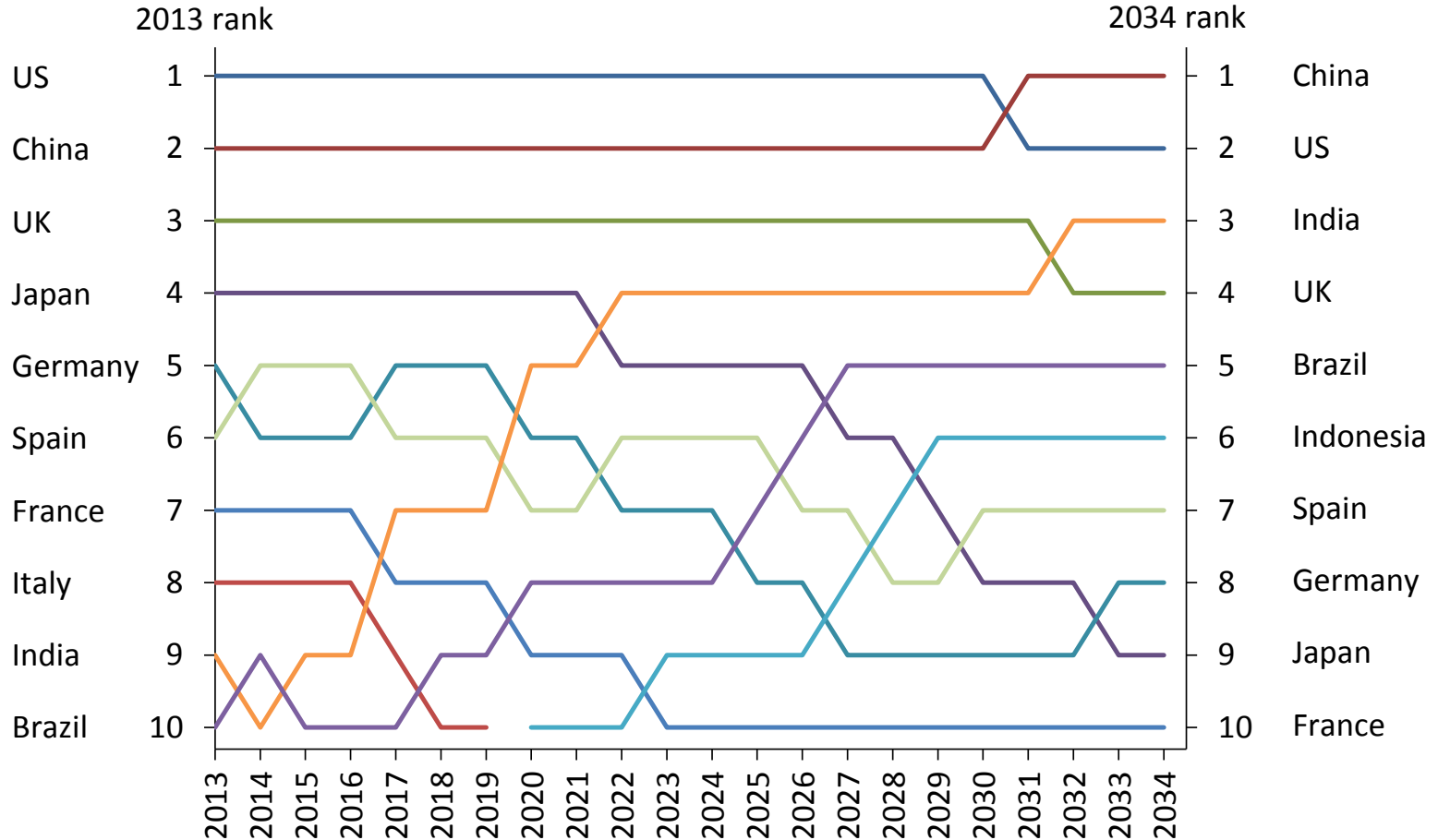
Passenger yields and average trip length



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

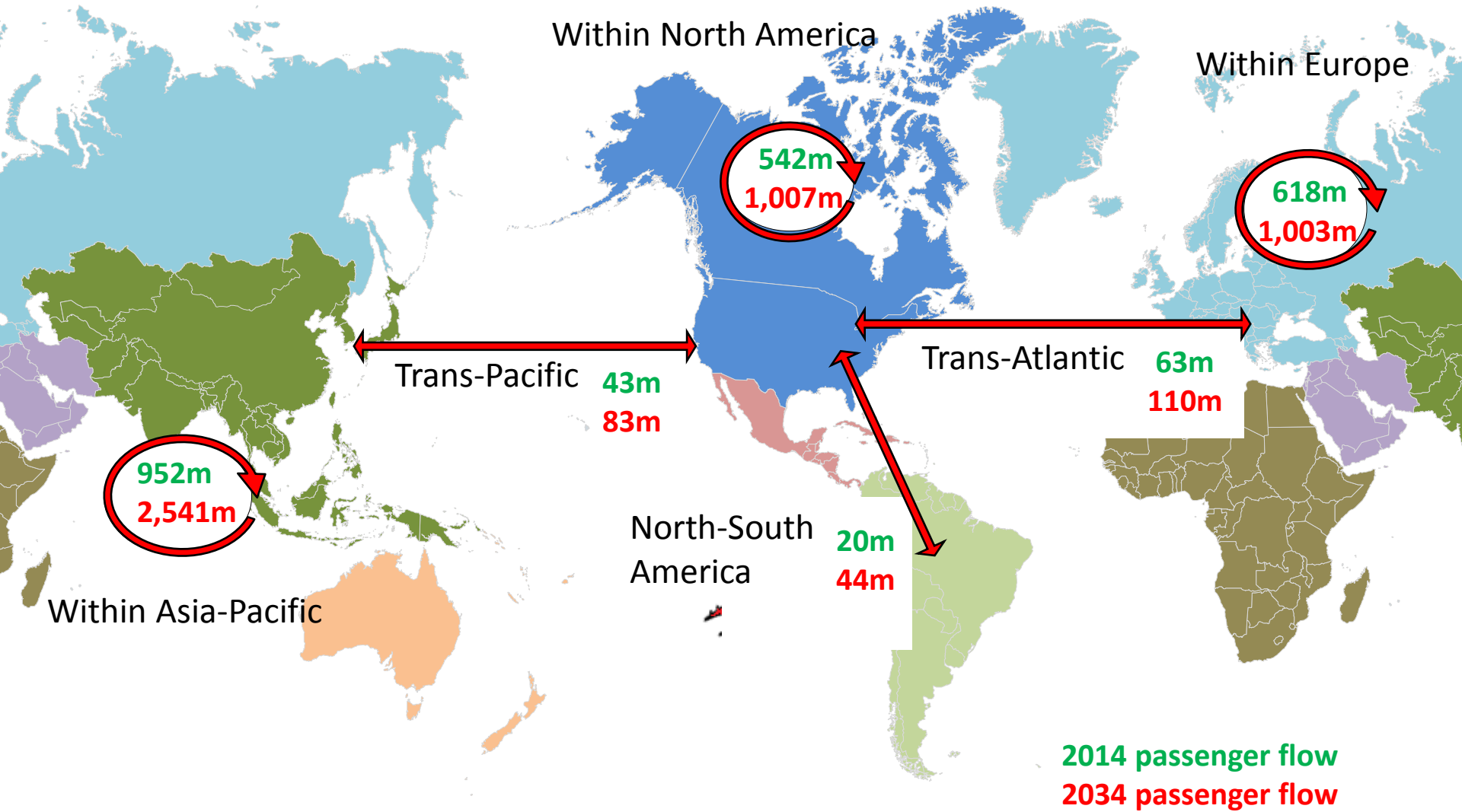
Resulting in much change over next 20 years

Rank by size of O-D passenger flows in, out & within country



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

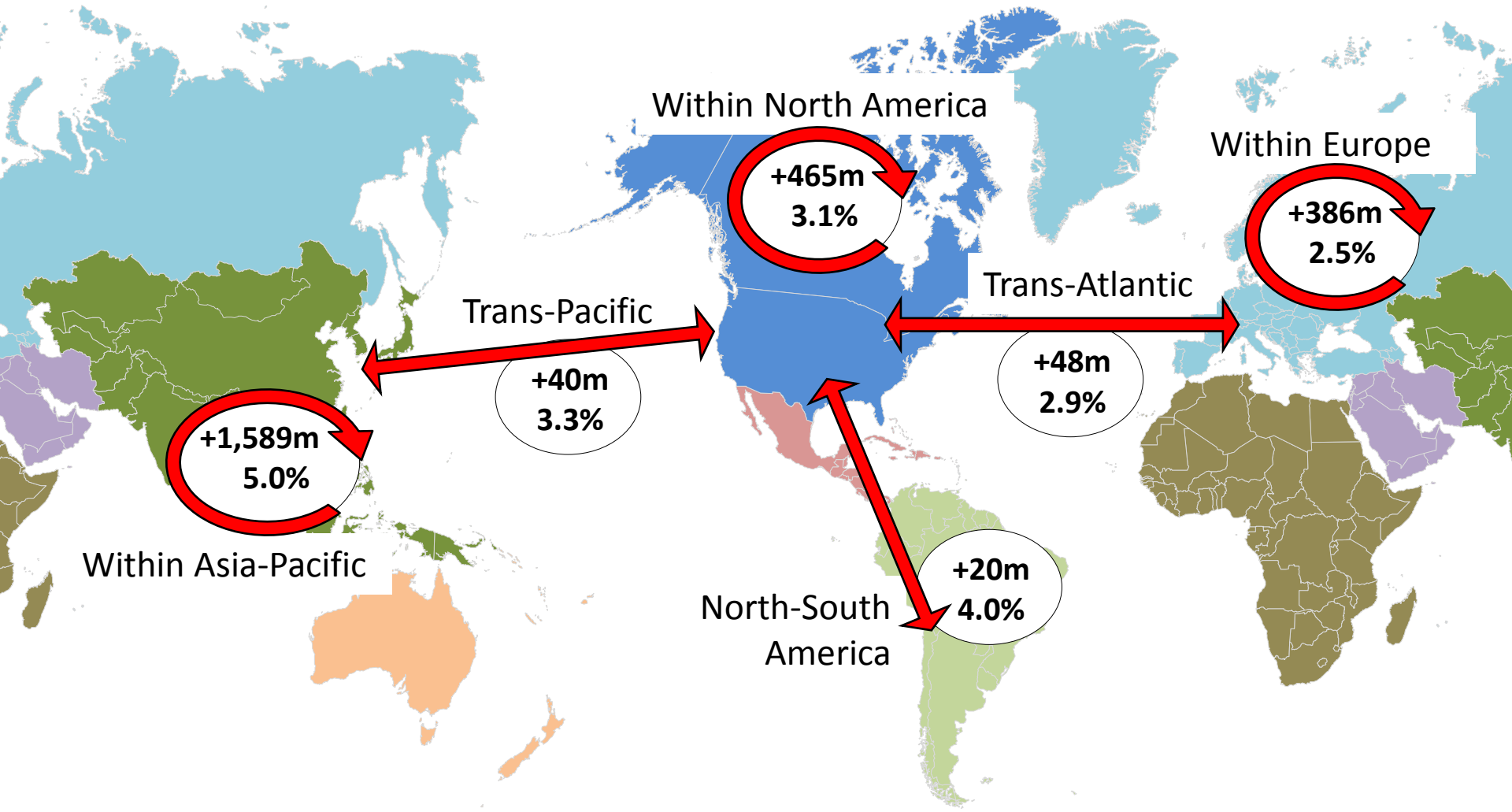
Passenger journeys by route (2014 & 2034, million)



2014 passenger flow

2034 passenger flow

Growth and change in passenger journeys by route (% and million, 2014-2034)



Legend: +123m = the additional number of annual passenger journeys by 2034
(example) 5.0% = the corresponding average annual growth rate (2014-2034)

Source: IATA/Tourism Economics 'Air Passenger Forecasts'

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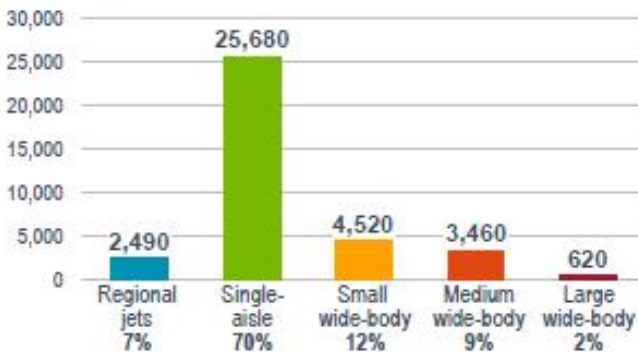
Airlines will need to raise \$5 trillion capital

Airlines will need nearly 36,800 new airplanes valued at \$5.2 trillion



Airplane deliveries: 36,770

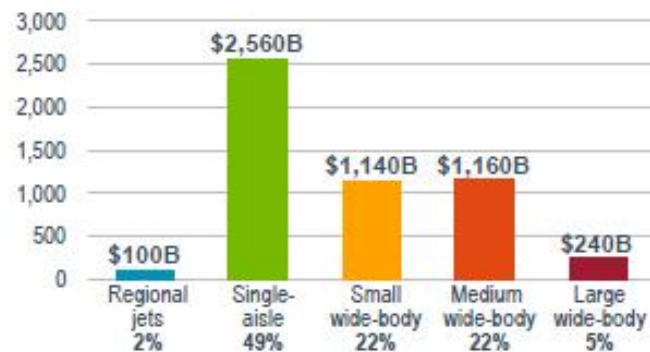
2014 - 2033



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Market value: \$5.2T

2014 - 2033



Source: Boeing current market outlook

Airlines are not most attractive to investors!

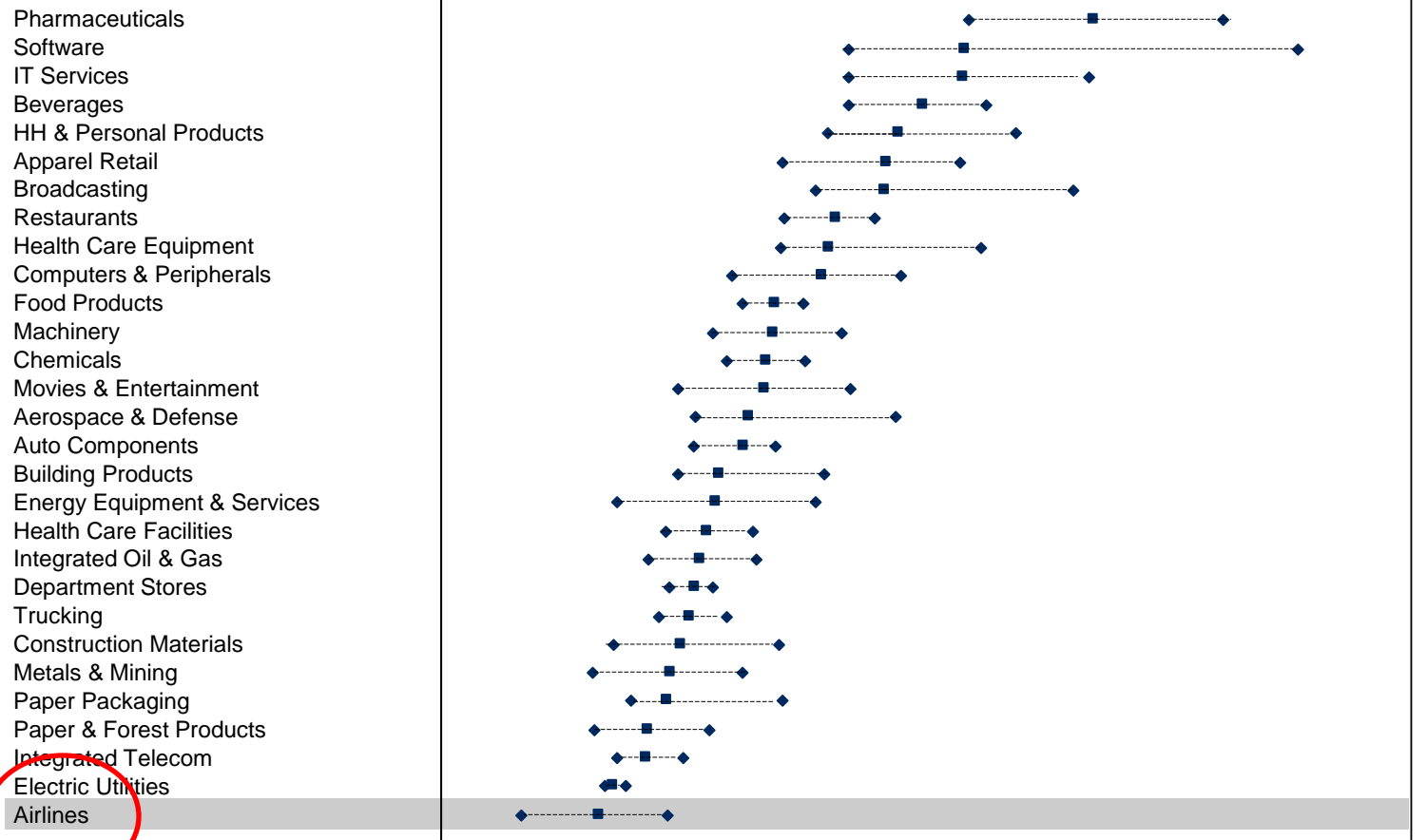
Industry median ROIC, without goodwill

Percent

1965 – 2007 Average

Industry

1st quartile Median 3rd quartile

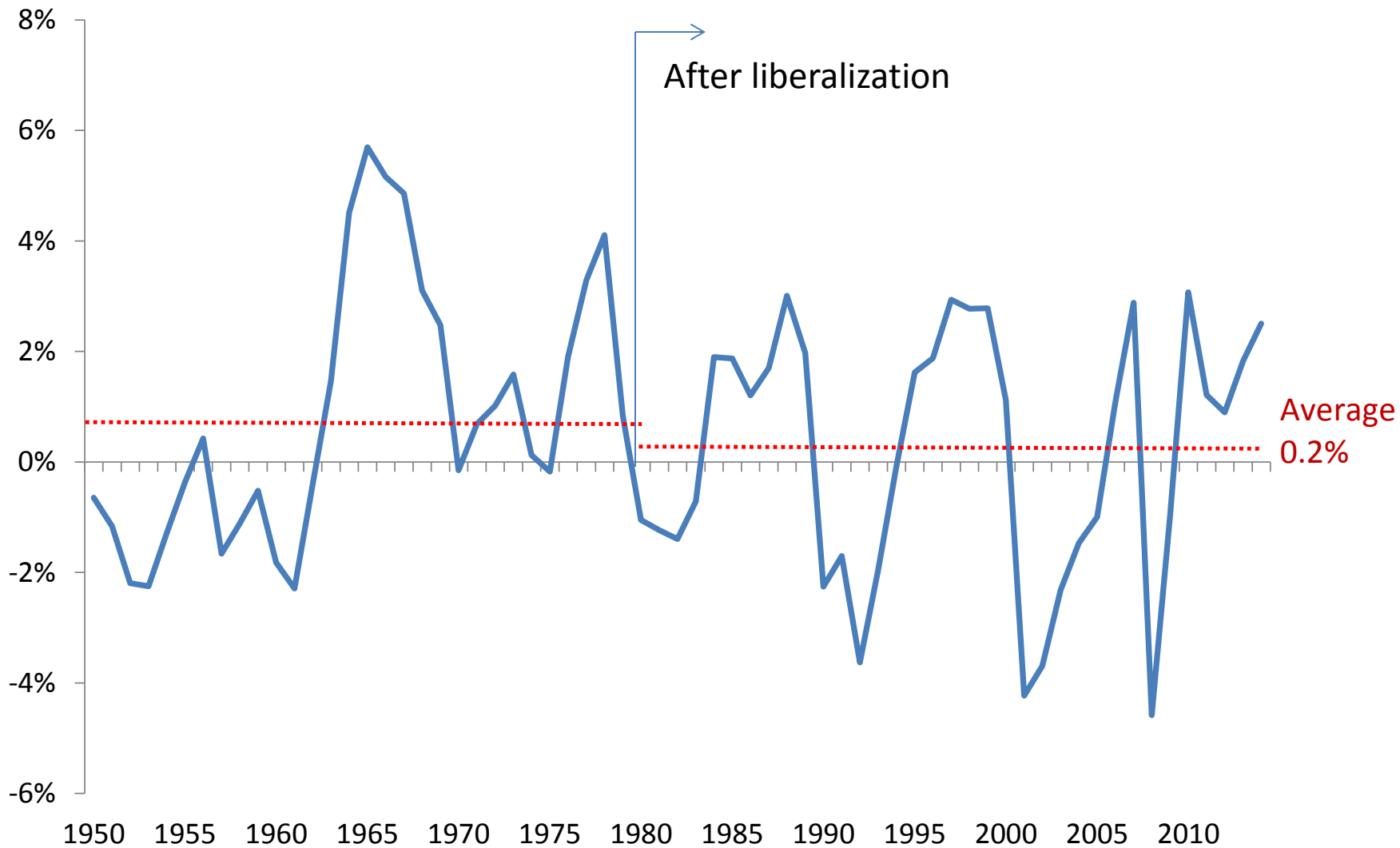


1 ROIC after tax, excluding goodwill; For charting purposes, ROIC values are cut off if beyond (-5%, 50%)

Source: McKinsey

Is the problem a result of liberalization?

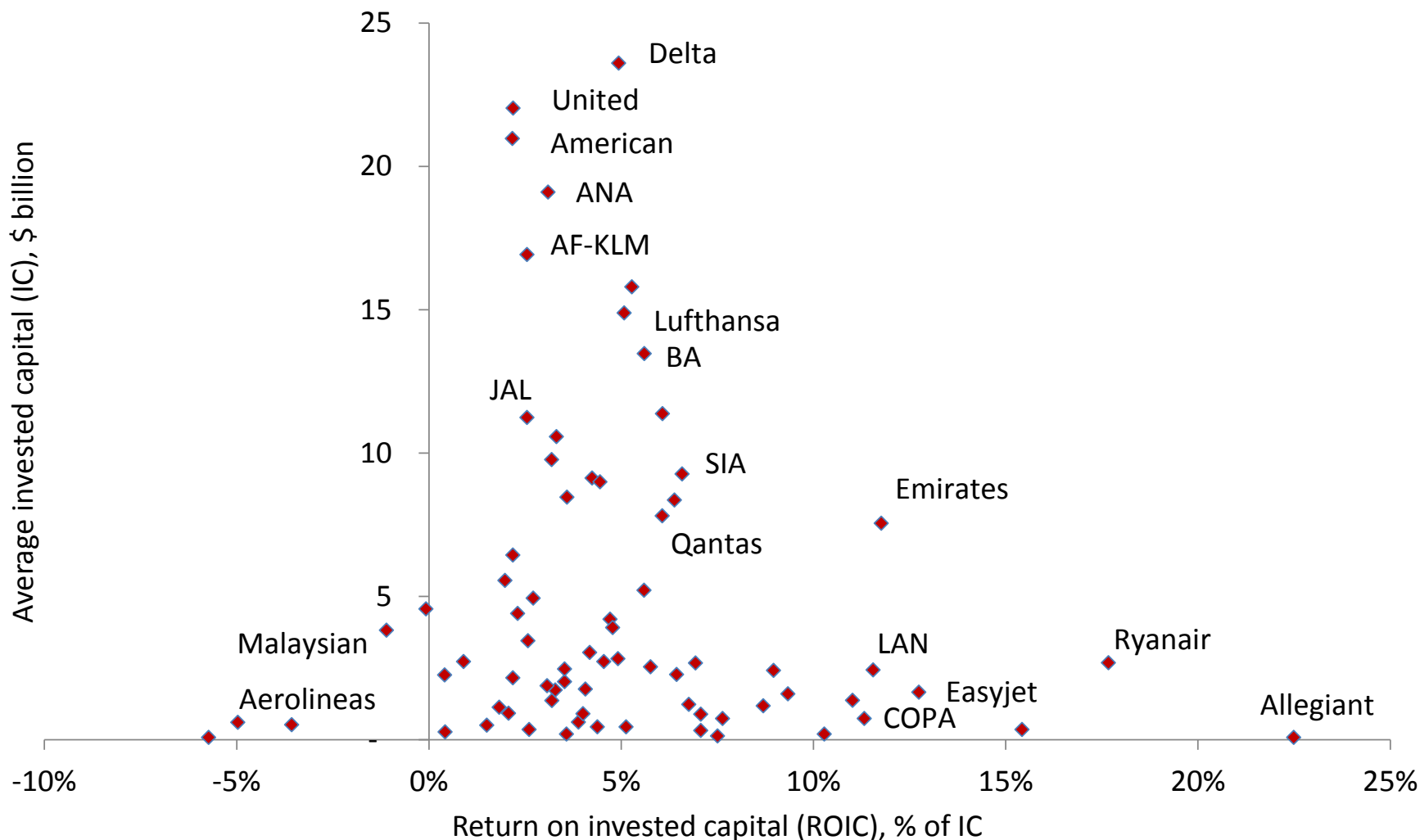
Airline industry profit margin, after debt interest and tax



Source: IATA, ICAO

Is the problem a lack of scale?

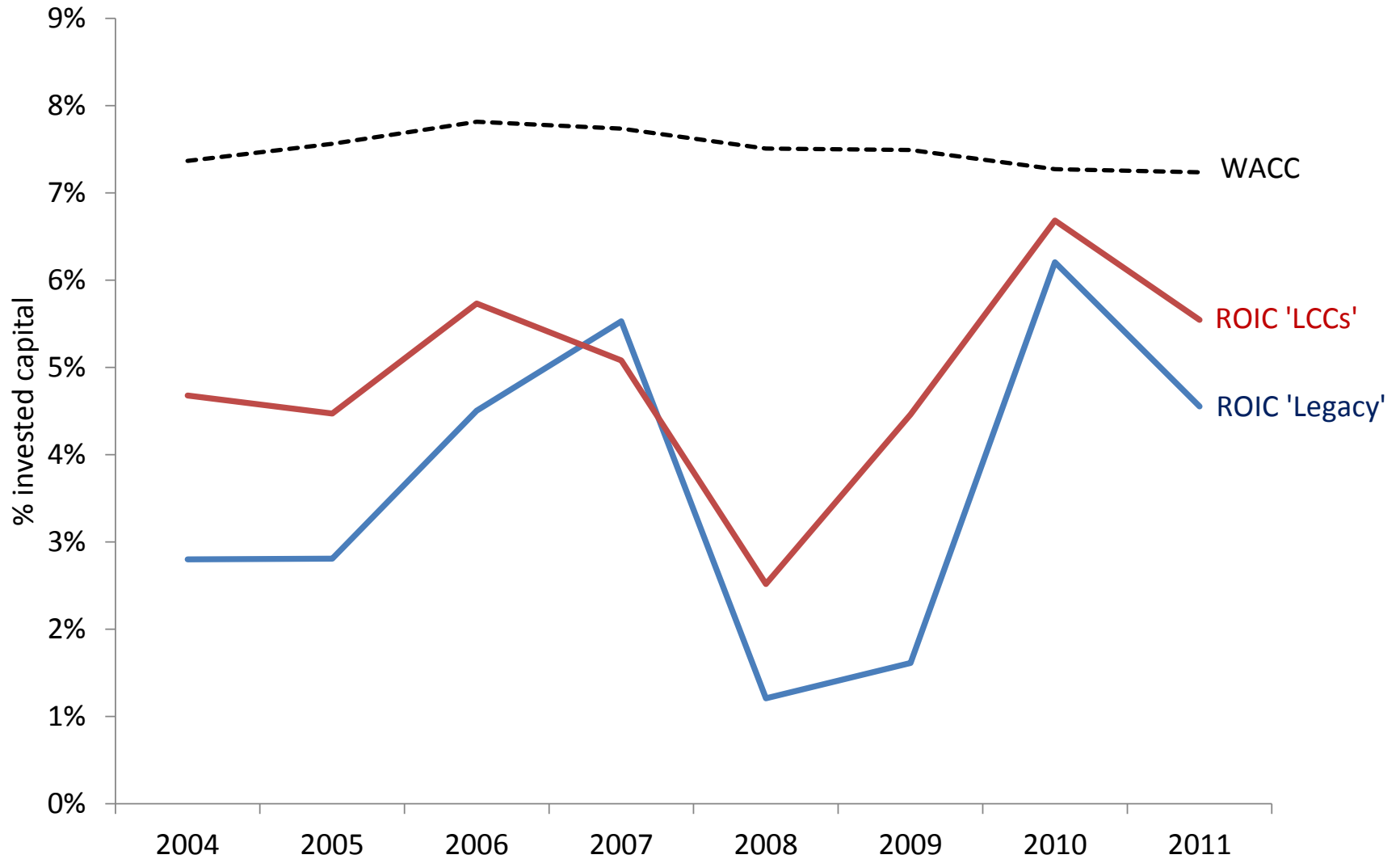
Average invested capital and return on capital 1997-2011



Source: IATA, McKinsey

Is the problem legacy business models?

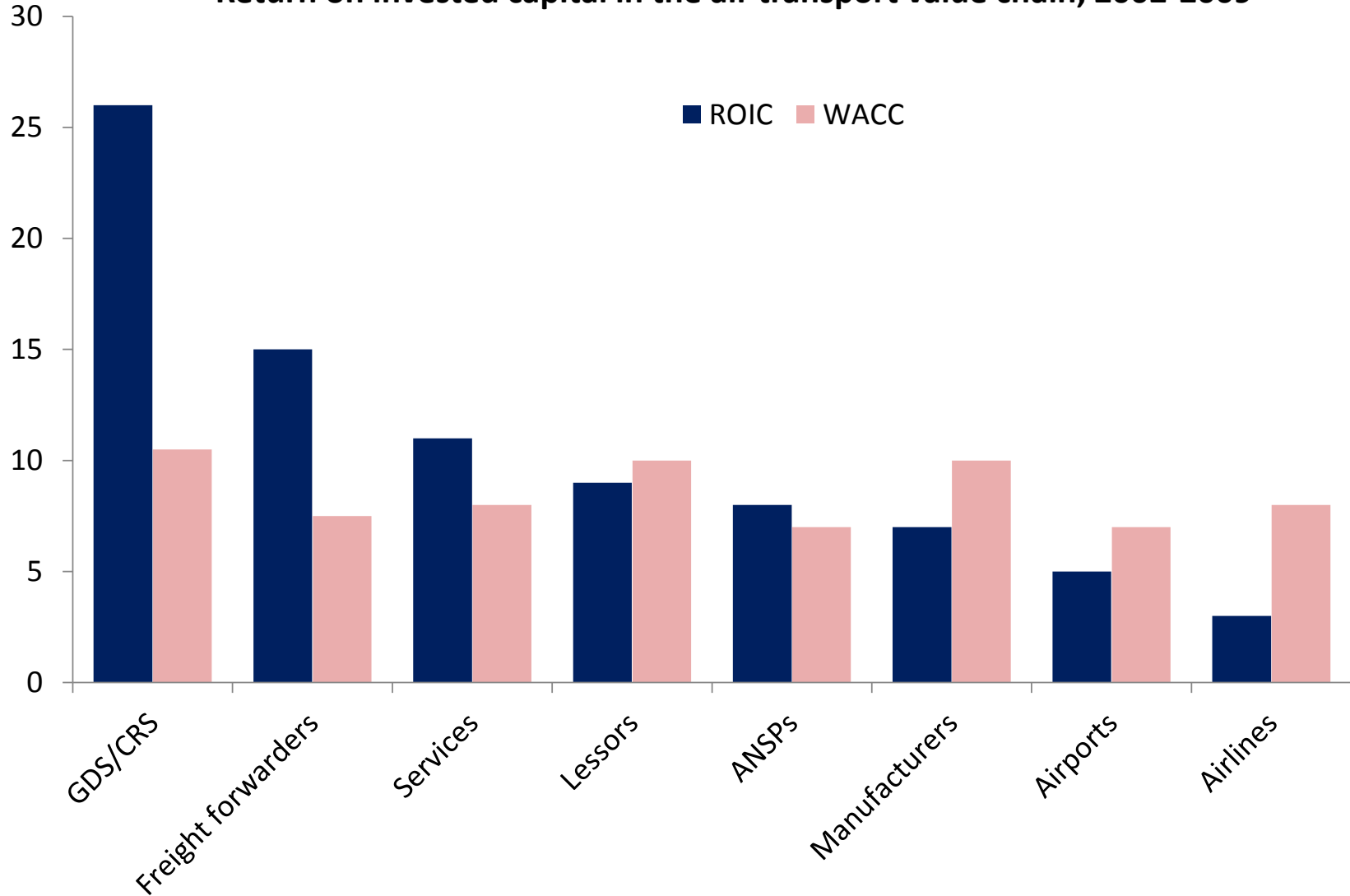
ROIC for worldwide average legacy and LCCs versus WACC



Source: IATA, McKinsey

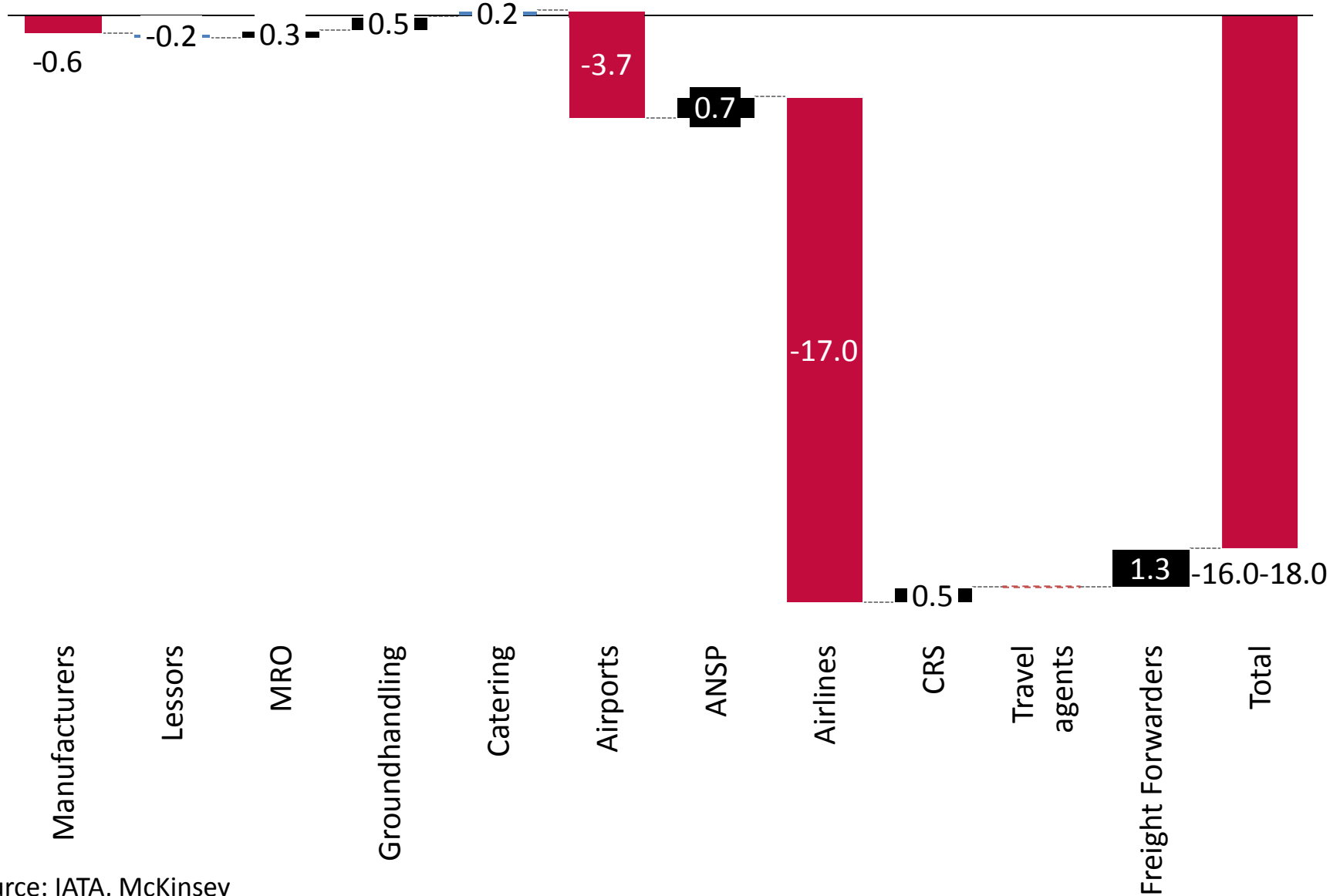
Is the problem with airlines' supply chain?

Return on invested capital in the air transport value chain, 2002-2009



Source: IATA, McKinsey

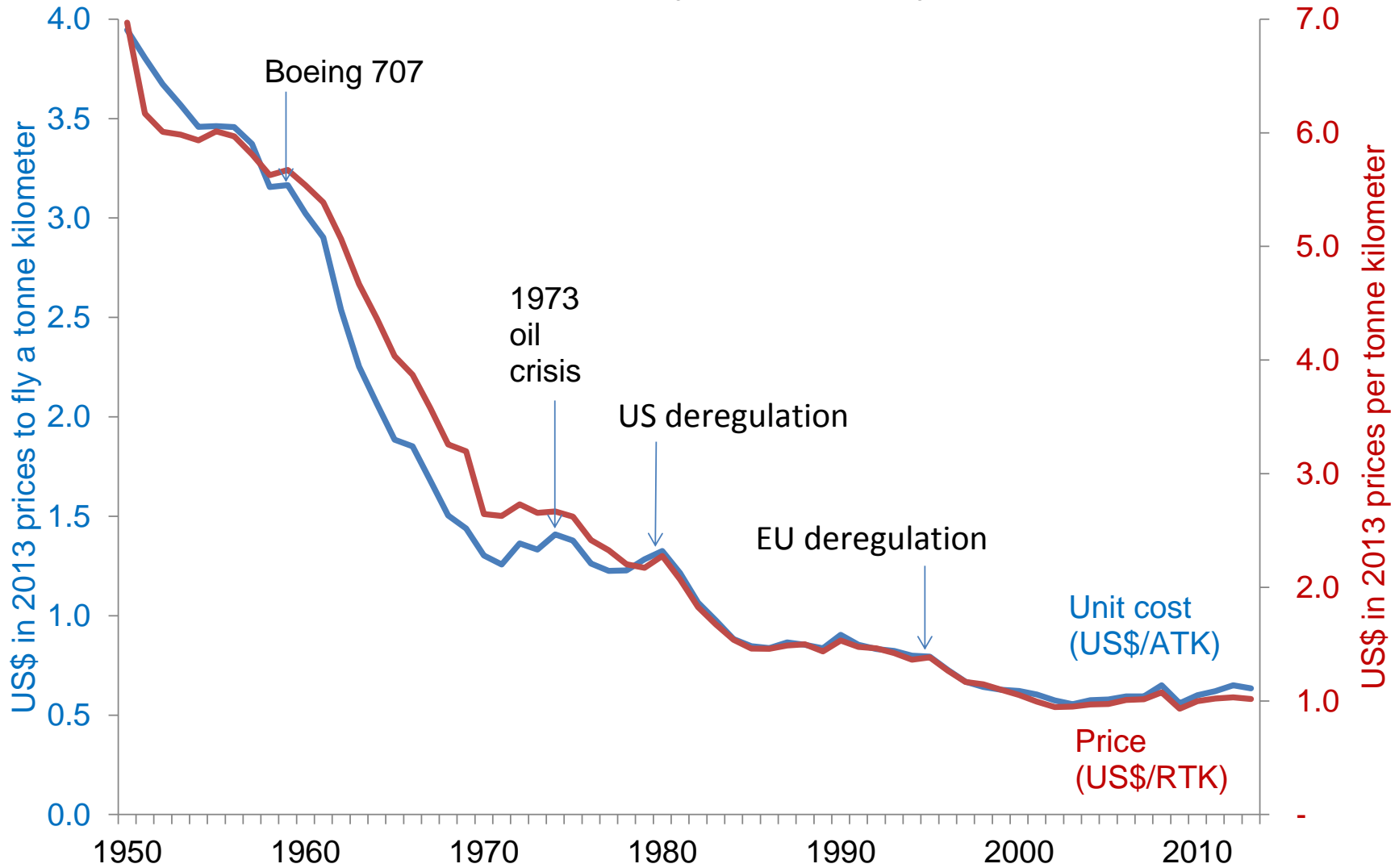
Supplier 'excess' profit not large in \$ terms



Source: IATA, McKinsey

Costs typically passed through to prices

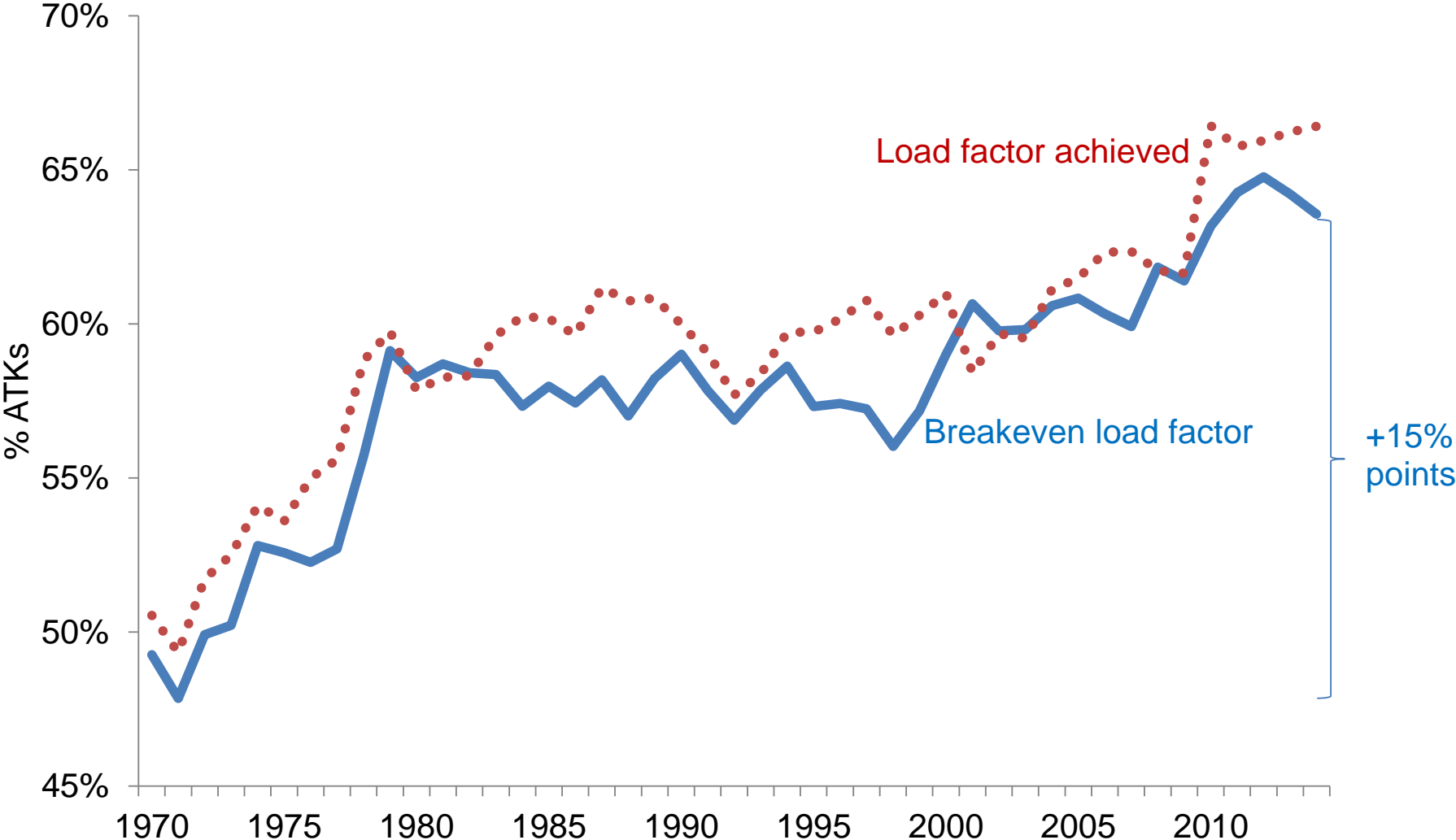
Unit cost and the price of air transport



Source: IATA/Tourism Economics 'Air Passenger Forecasts'

In fact yields have fallen faster than unit costs

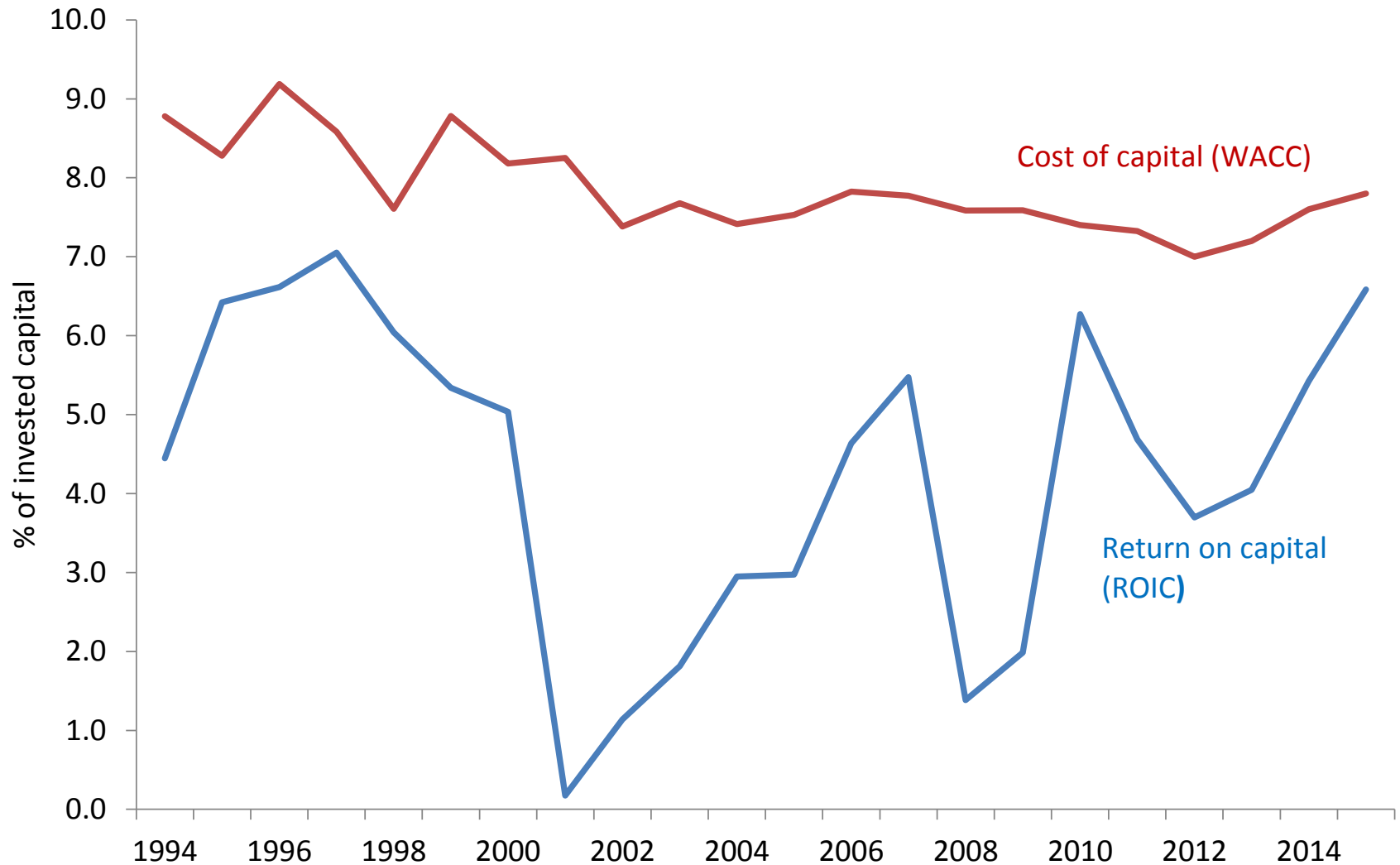
Breakeven and actual load factors



Source: IATA, ICAO

Inadequate returns on invested capital

Return on capital invested in airlines



Source: IATA, McKinsey

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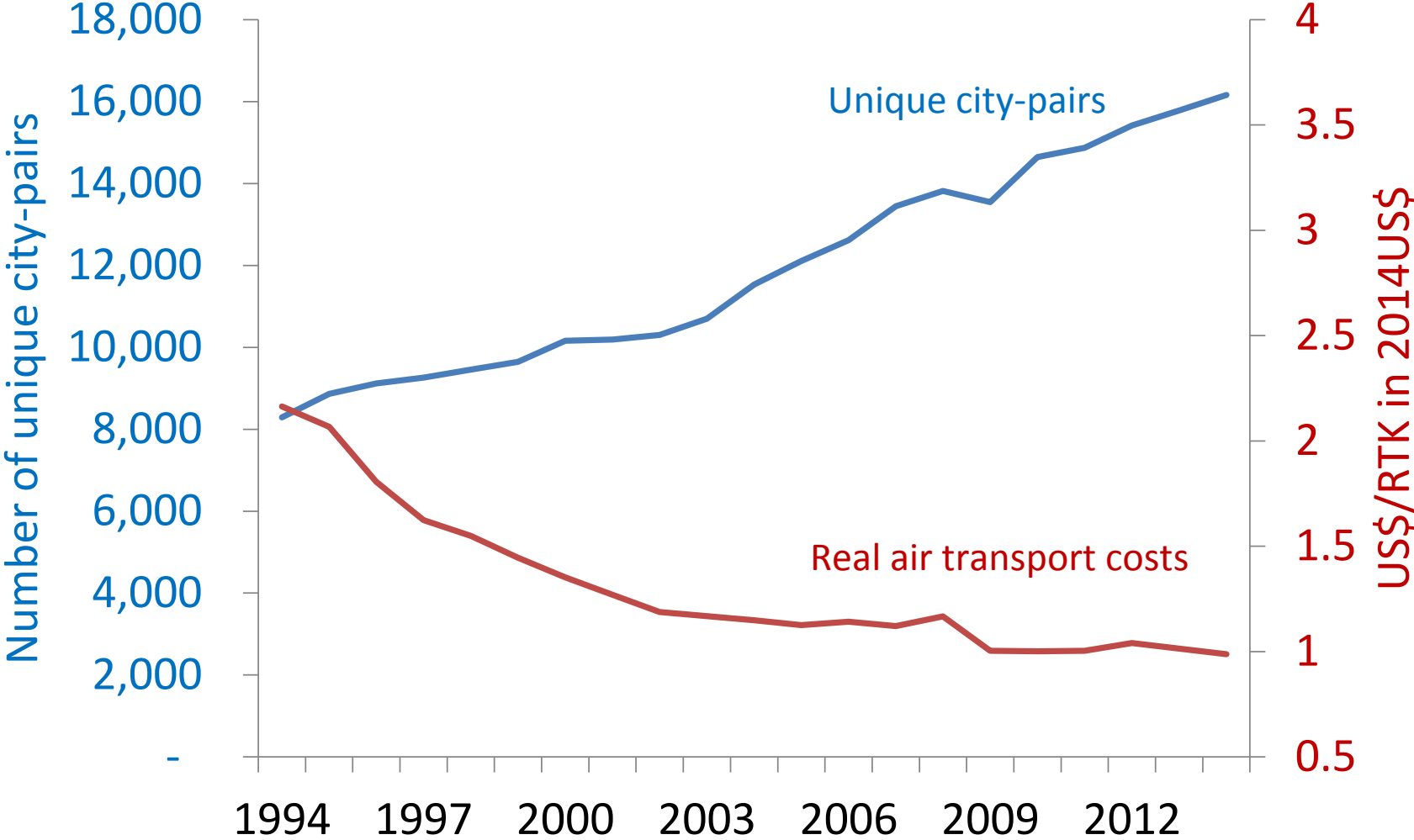
This is aviation's unique economic benefit



Source: SRS Analyser

City-pairs doubled – transport costs halved

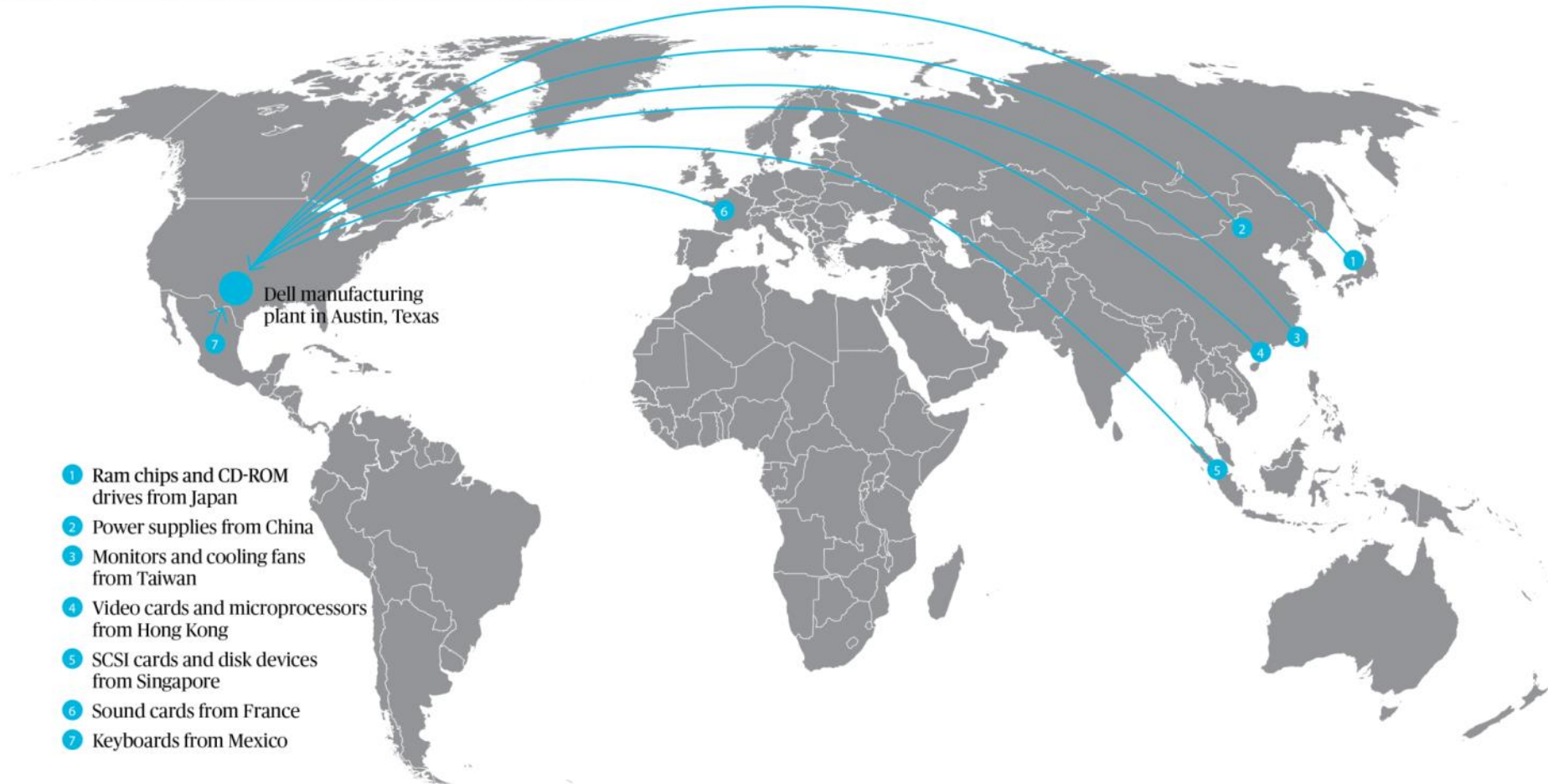
Unique city-pairs and real air transport costs



Source: IATA, ICAO, OAG

Global Value Chains

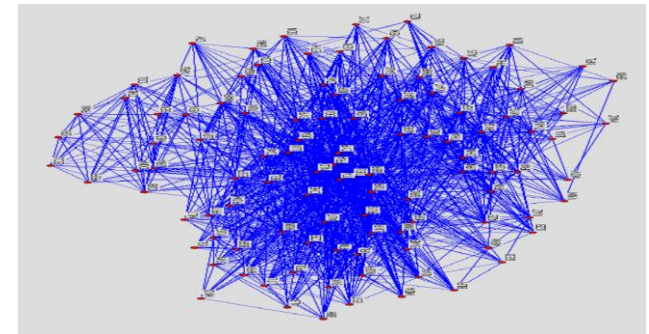
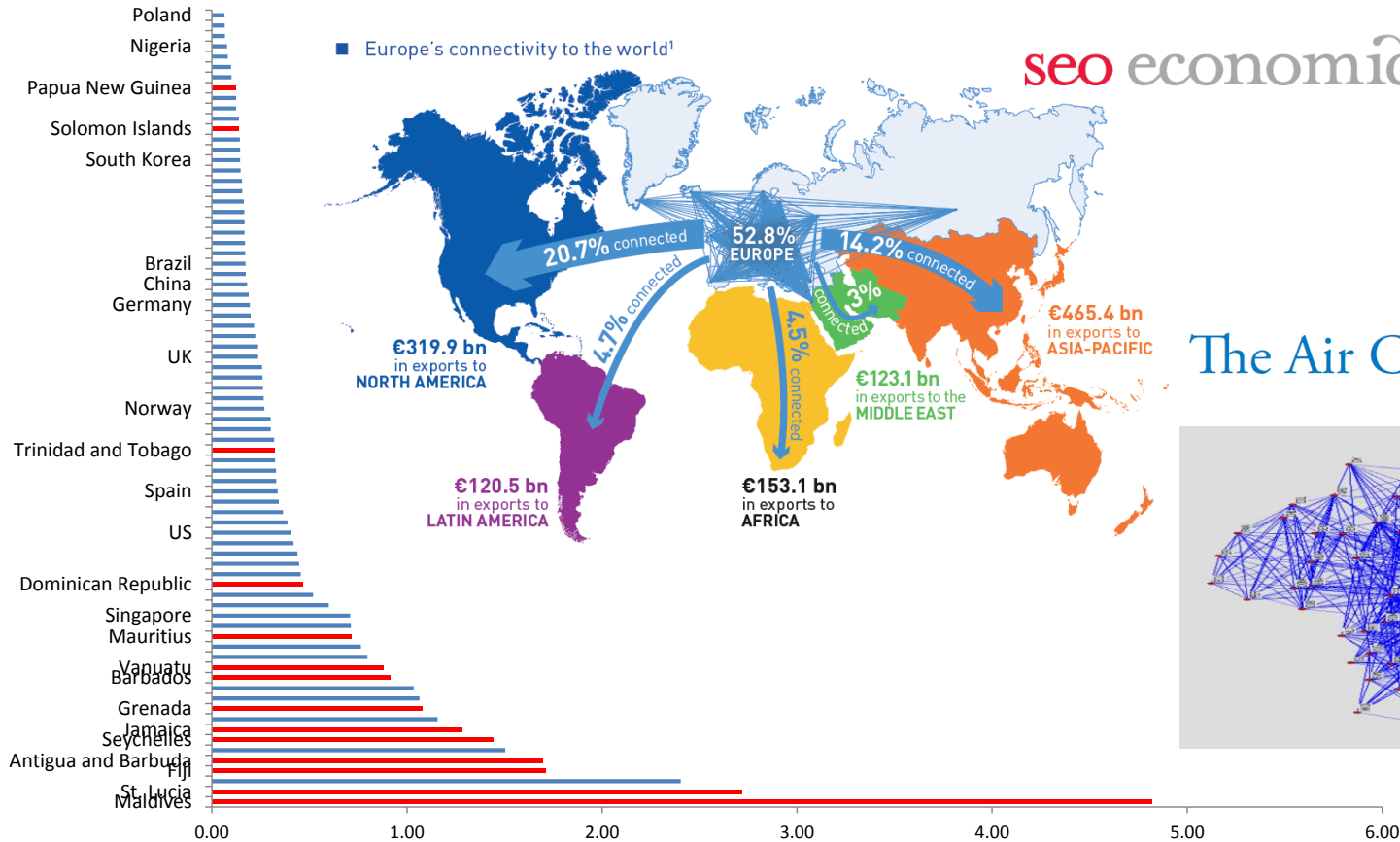
Dell's global supply chain, made possible by air transport



Source: ATAG

How do we measure air connectivity?

IATA air connectivity measure, seats to weighted destinations as % GDP



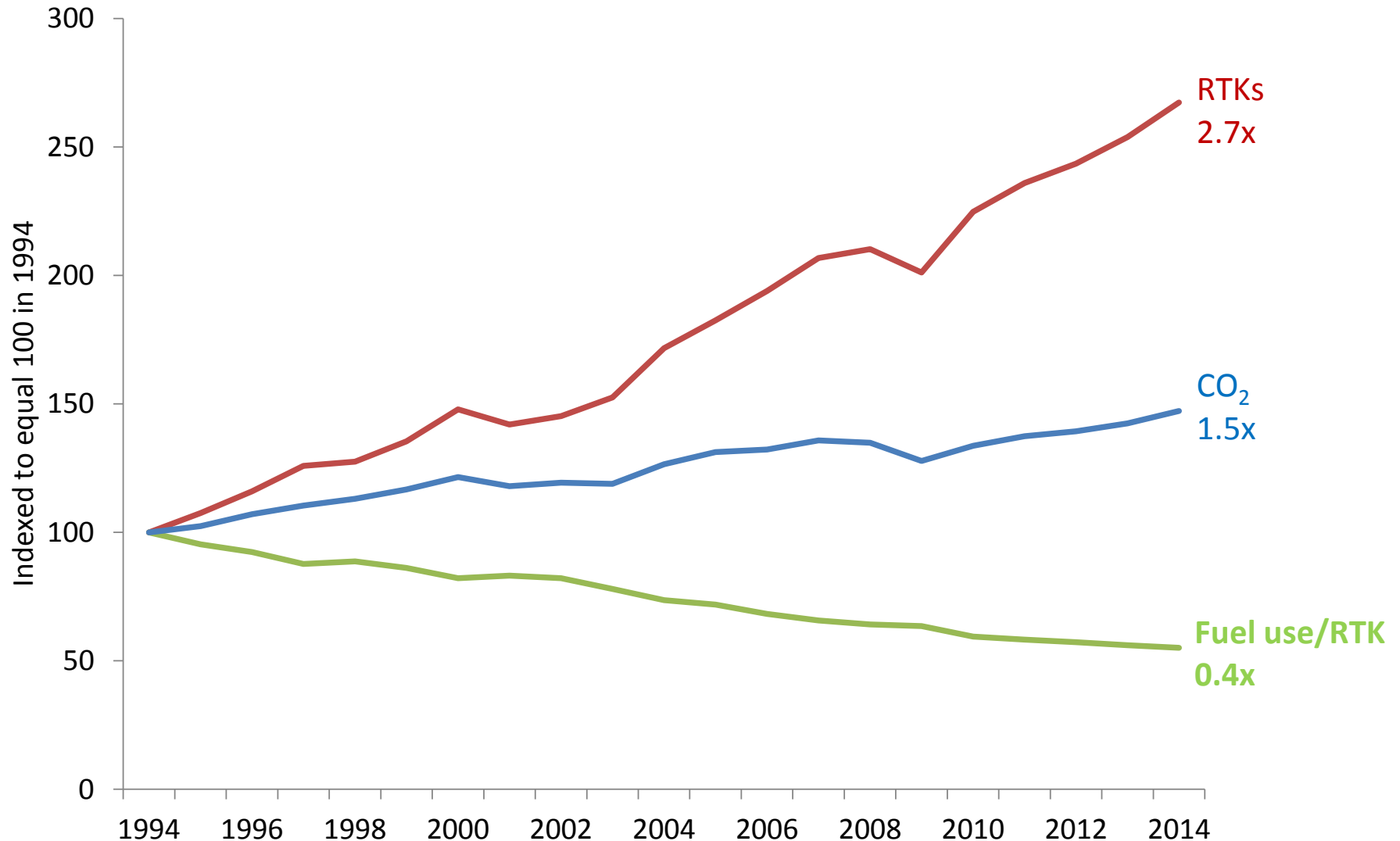
Source: IATA, World Bank, SEO

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CO₂ up despite strong efficiency gains

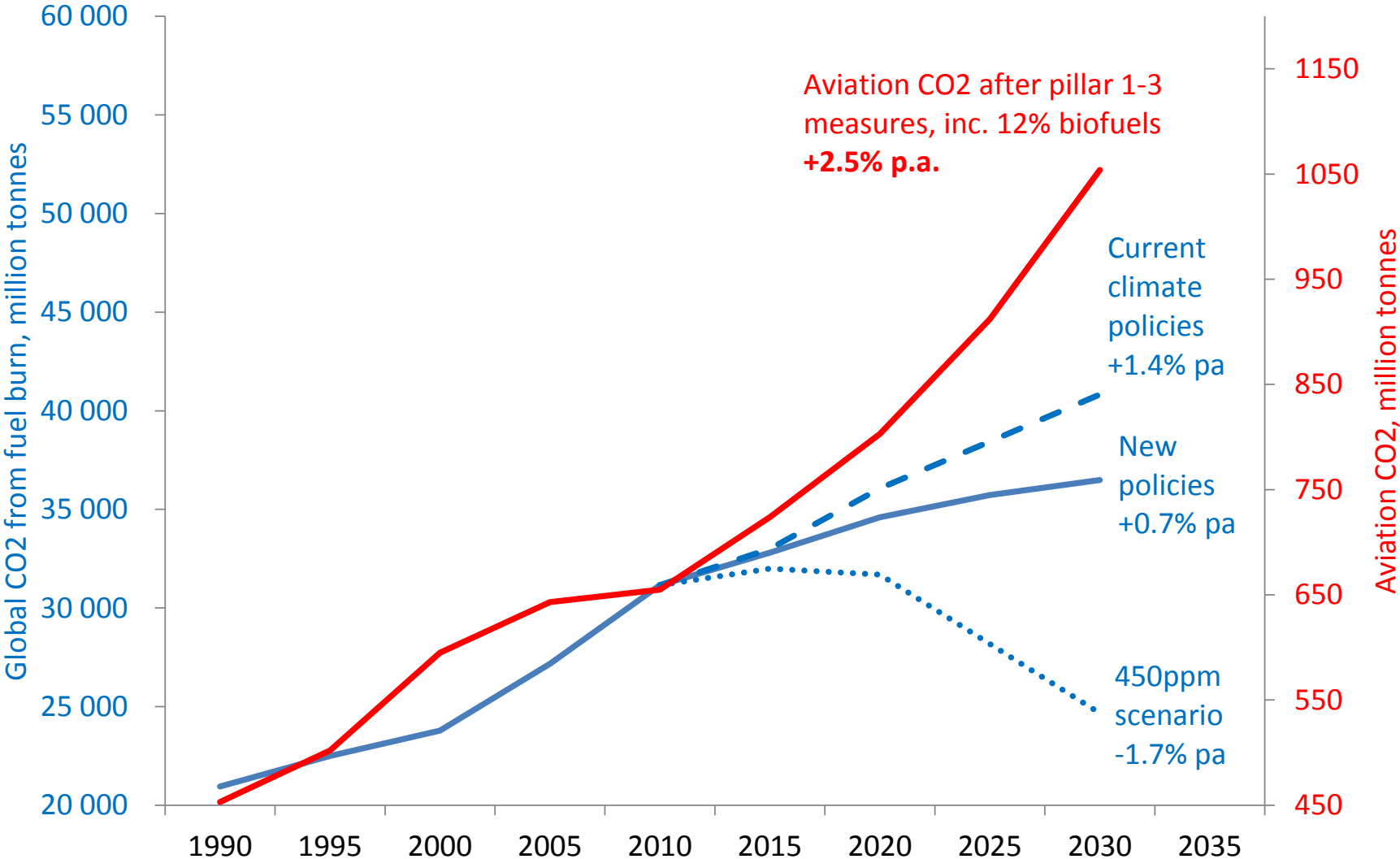
Worldwide RTKs, CO₂ and fuel efficiency



Source: IATA, Datastream

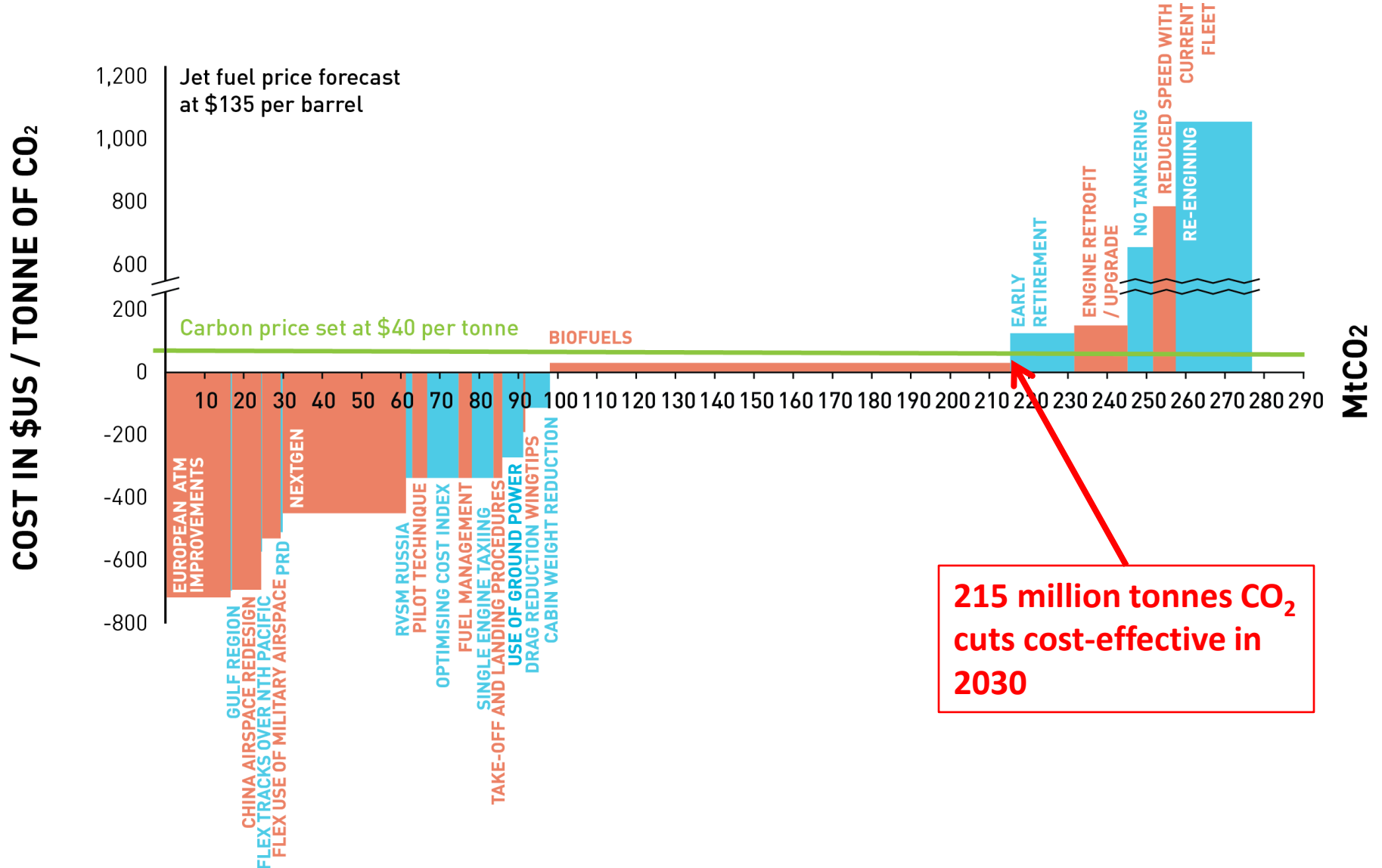
Carbon neutral growth policy key for aviation

Global vs aviation CO₂ emissions



Source: IEA 2013 World Energy Outlook, IATA Aviation Carbon Model

But further cost-effective CO₂ cuts possible



Source: McKinsey, IATA

Challenges of high growth

- **Meeting demand for air travel**
 - OD pax flows on US markets likely to double in next 20 years
 - Fastest growth on N-S American and trans-Pacific markets
 - Largest increase in numbers within N America and trans-Atlantic
- **Attracting capital**
 - \$5 trillion new capital needed by airlines over 20 years but returns inadequate
 - Mergers/JVs driven by network economics and the need to pay capital providers
- **Wider economic benefits**
 - Connecting US to markets/cities worldwide is the unique economic value
 - Bigger markets, access to efficient resources, specialization, competition
 - How does a measure of connectivity best capture this (generalized costs?)?
- **Climate impacts**
 - One of best fuel efficiency improvement records of all industries
 - But success with Carbon Neutral Growth policy will more surely enable growth
 - ATM improvements can offer some of the largest cost-effective CO₂ reductions