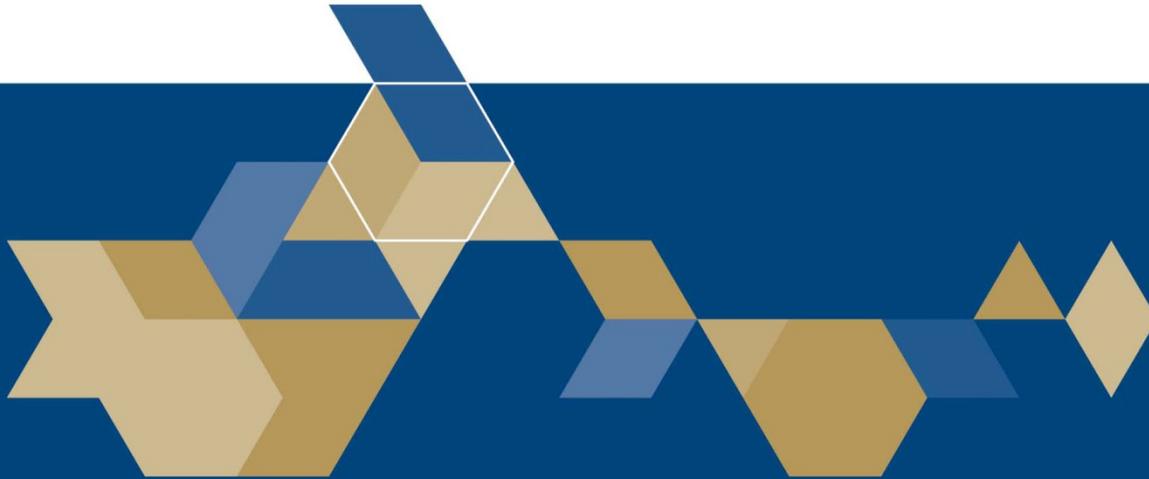


**TURKISH
AVIATION
ACADEMY**



İTÜ



Airline Network Strategies

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Air Transportation Management

M.Sc. Program

Network, Fleet and Schedule

Strategic Planning

Module 5: 28 March 2016

Lecture Outline

- **Evolving Network Strategies**
- **Capacity Discipline and Profitability**
 - Recent Capacity Strategies of Western airlines
 - Capacity Reduction Impact on Yields and Load Factors
- **Global Network Expansion: Emerging Carriers**
 - Rapid Growth of Competing Hubs
- **Airline Cooperation and Consolidation**
 - Alliances and Code-sharing
 - Joint Ventures
 - Mergers and Acquisitions

The Evolution of Networks

COMPETITION

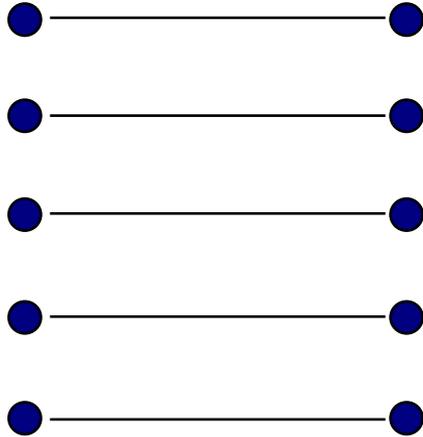
Pre-1980s
Route vs. Route

1980s-1990s
Hub vs. Hub

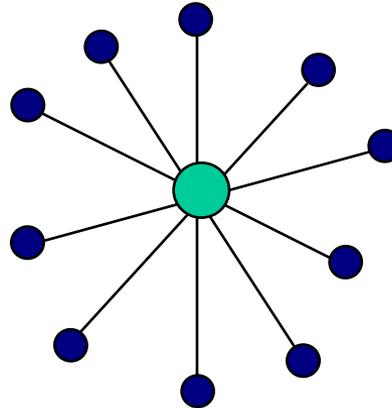
21st Century
Network vs. Network

STRUCTURE

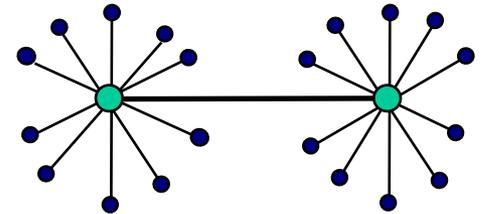
Point-to-Point
5 City Pairs



Hub Operation
55 City Pairs



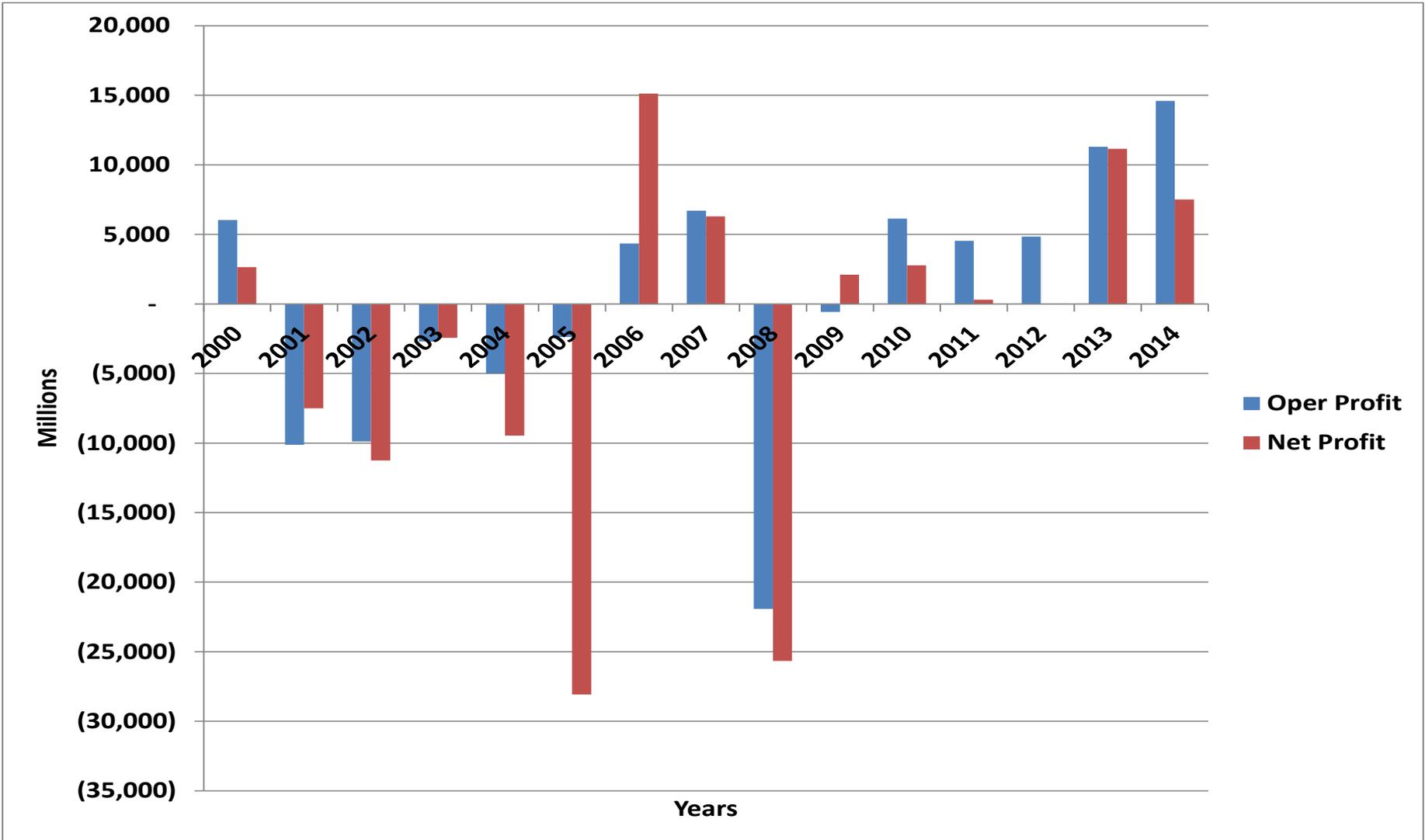
Network Operation
231 City Pairs



US Airline Network Developments

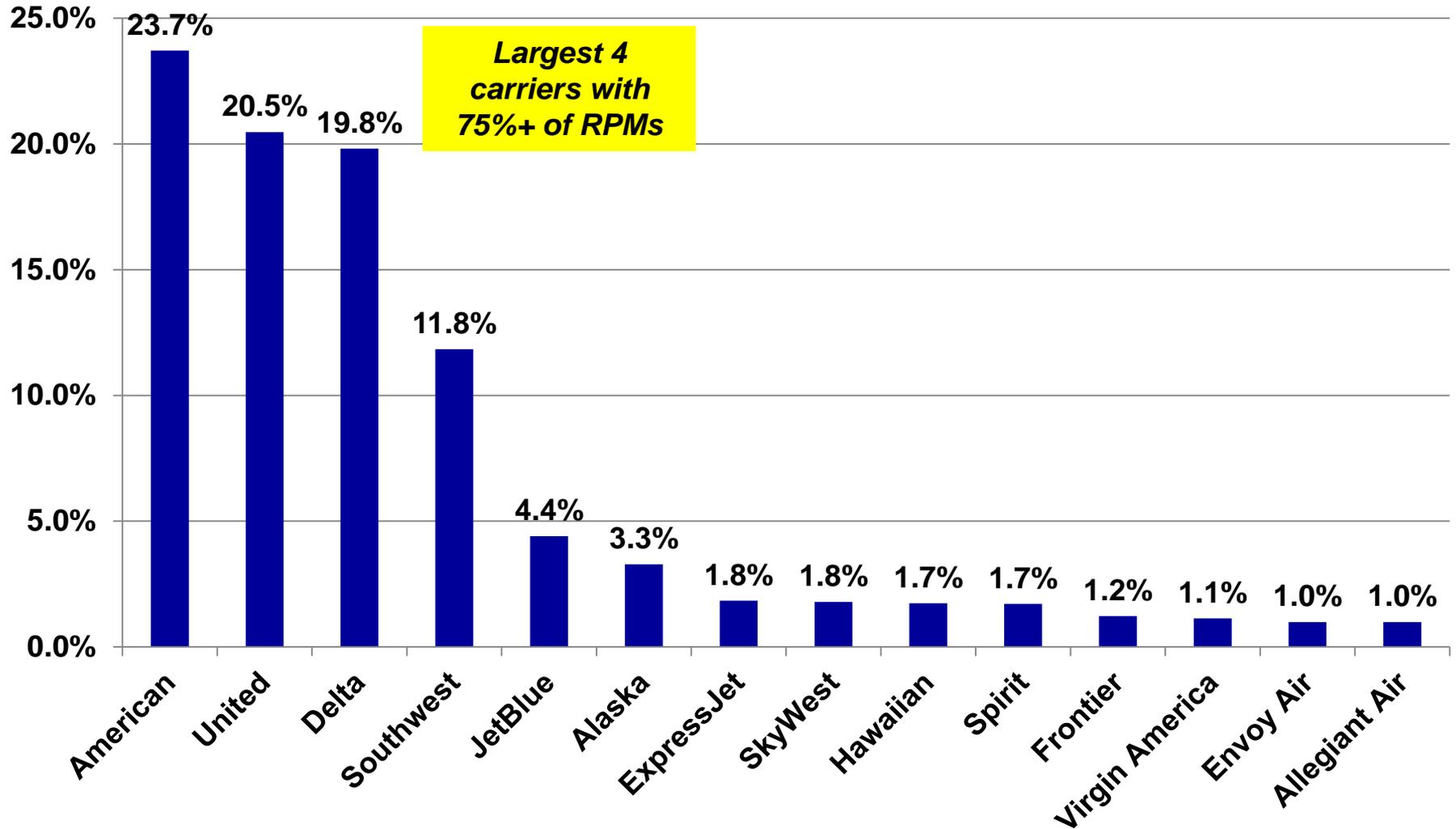
- **US airlines have posted five profitable years 2010-2014**
 - Dramatic improvements in unit costs and productivity since 2002
 - US bankruptcy laws allowed major labor cost reductions
 - Recovery from financial crisis and record fuel prices in 2008-09
- **Profitability despite high fuel prices and slow recovery**
 - Industry consolidation – “Big 3” Legacy plus Southwest/AirTran
 - Emphasis on profits and financial strength over market share
- **Unique network strategies**
 - Domestic “capacity discipline”
 - International capacity expansion

US Airline Industry Profits 2000-2014



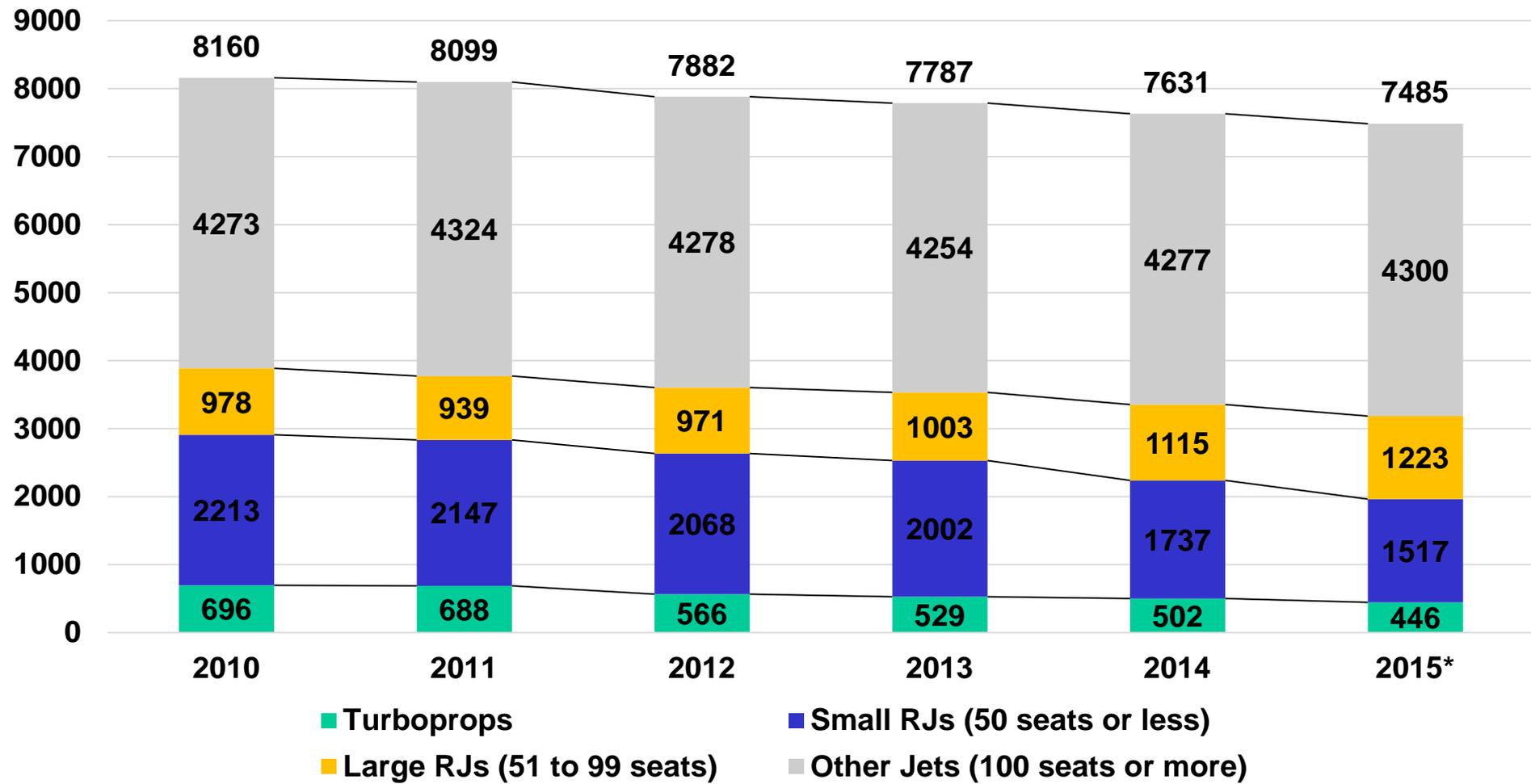
Source: US Bureau of Transportation Statistics

US Airlines System RPM Shares (1Q 2014)



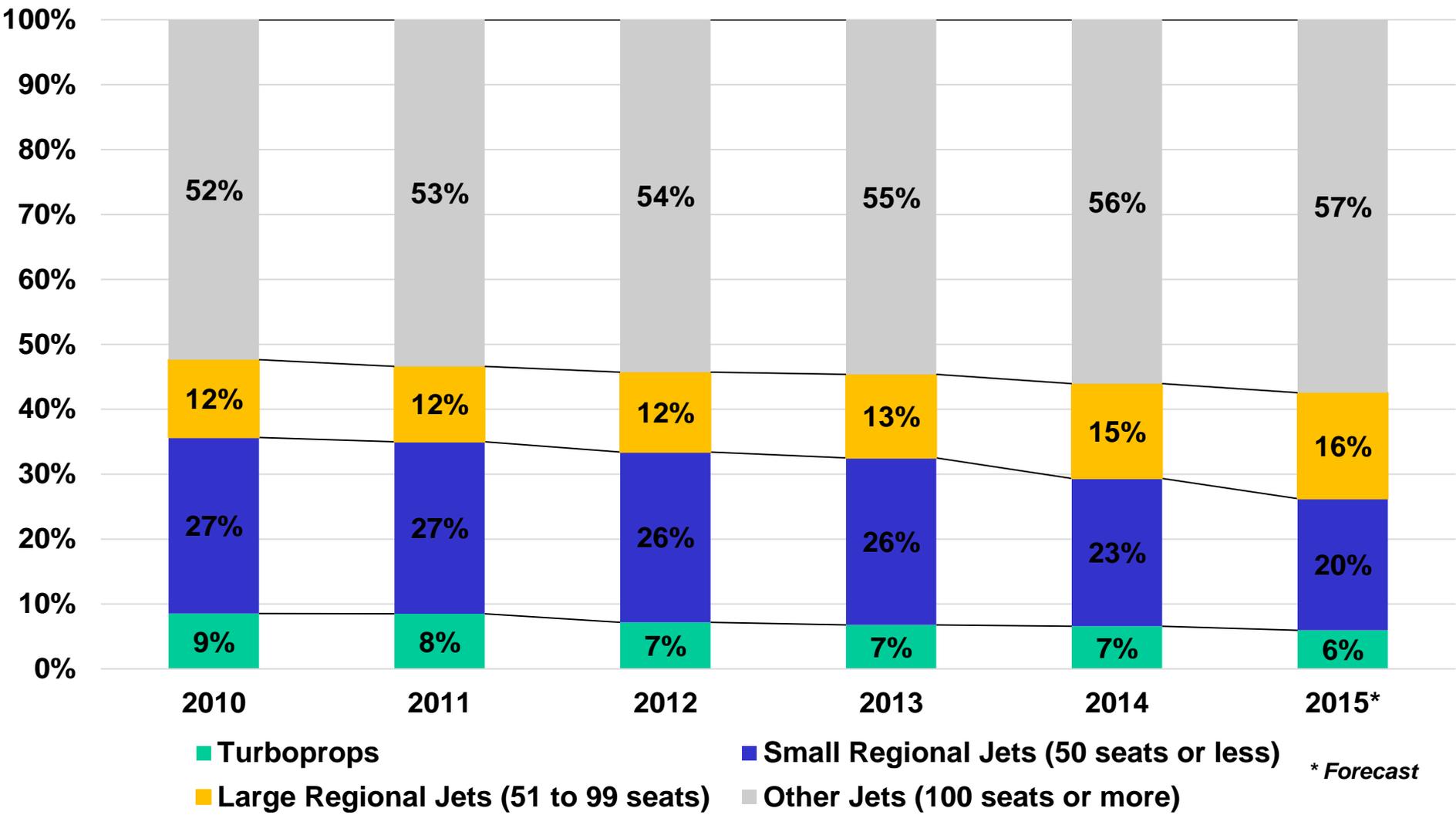
Source: US Bureau of Transportation Statistics

8% Decrease in US Domestic Flights (thousands) from 2010 to 2015



* Forecast

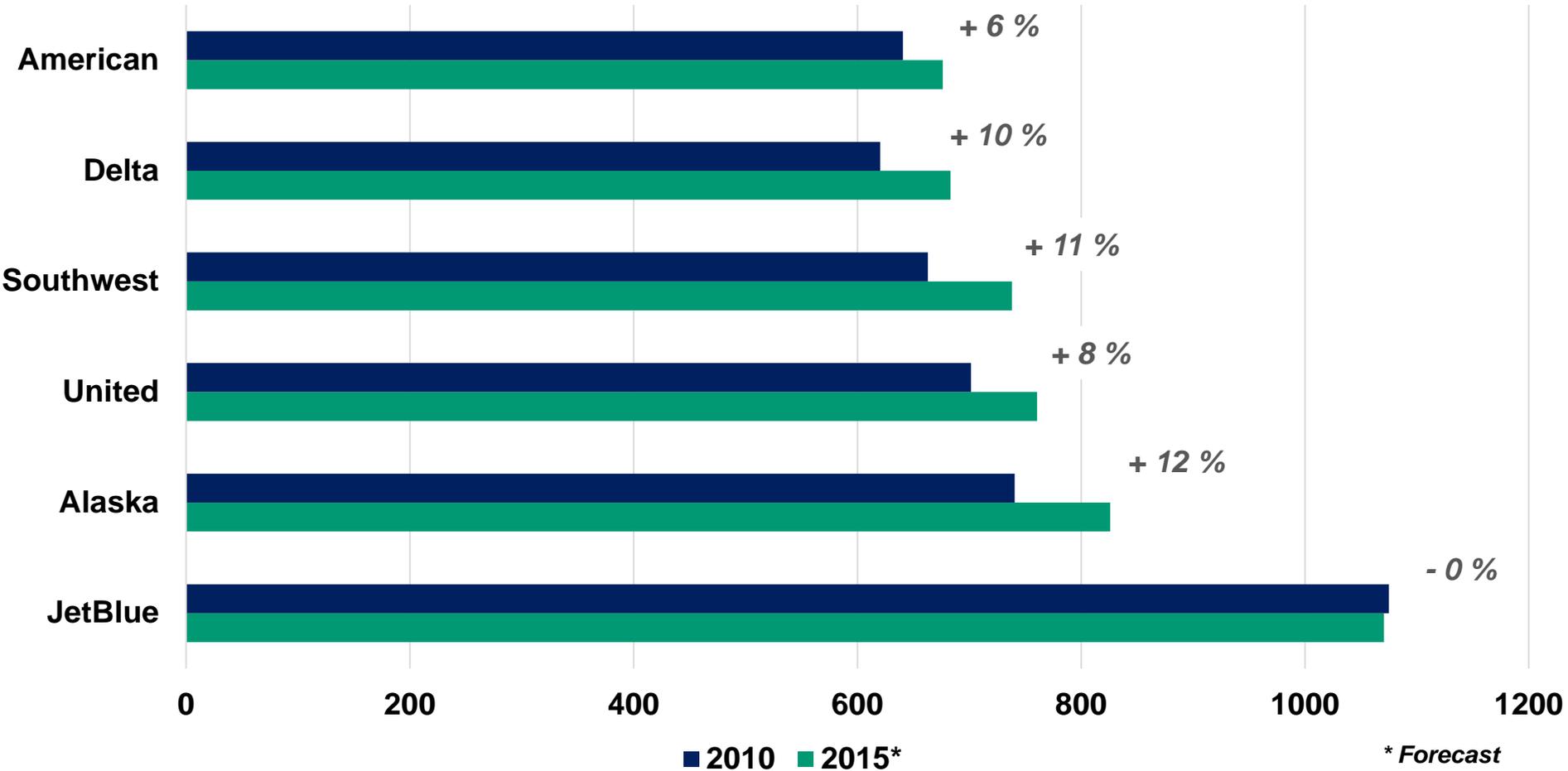
Larger Aircraft – Percentage of US Domestic Flights Aircraft Type



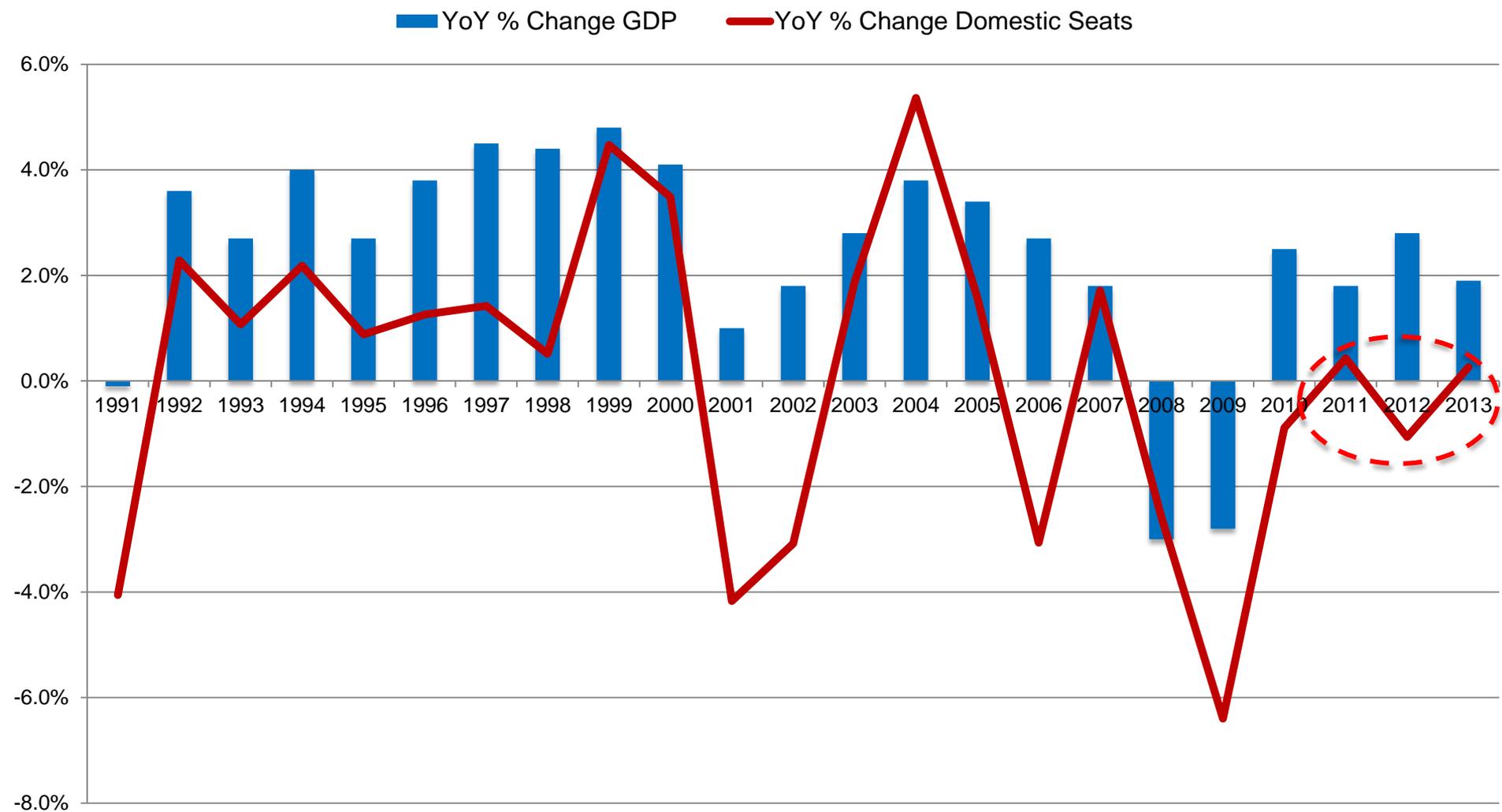
Source: M. Halpin (2015)

Average Stage Lengths Have Increased

Average Stage Length of US Domestic Flights per Airline

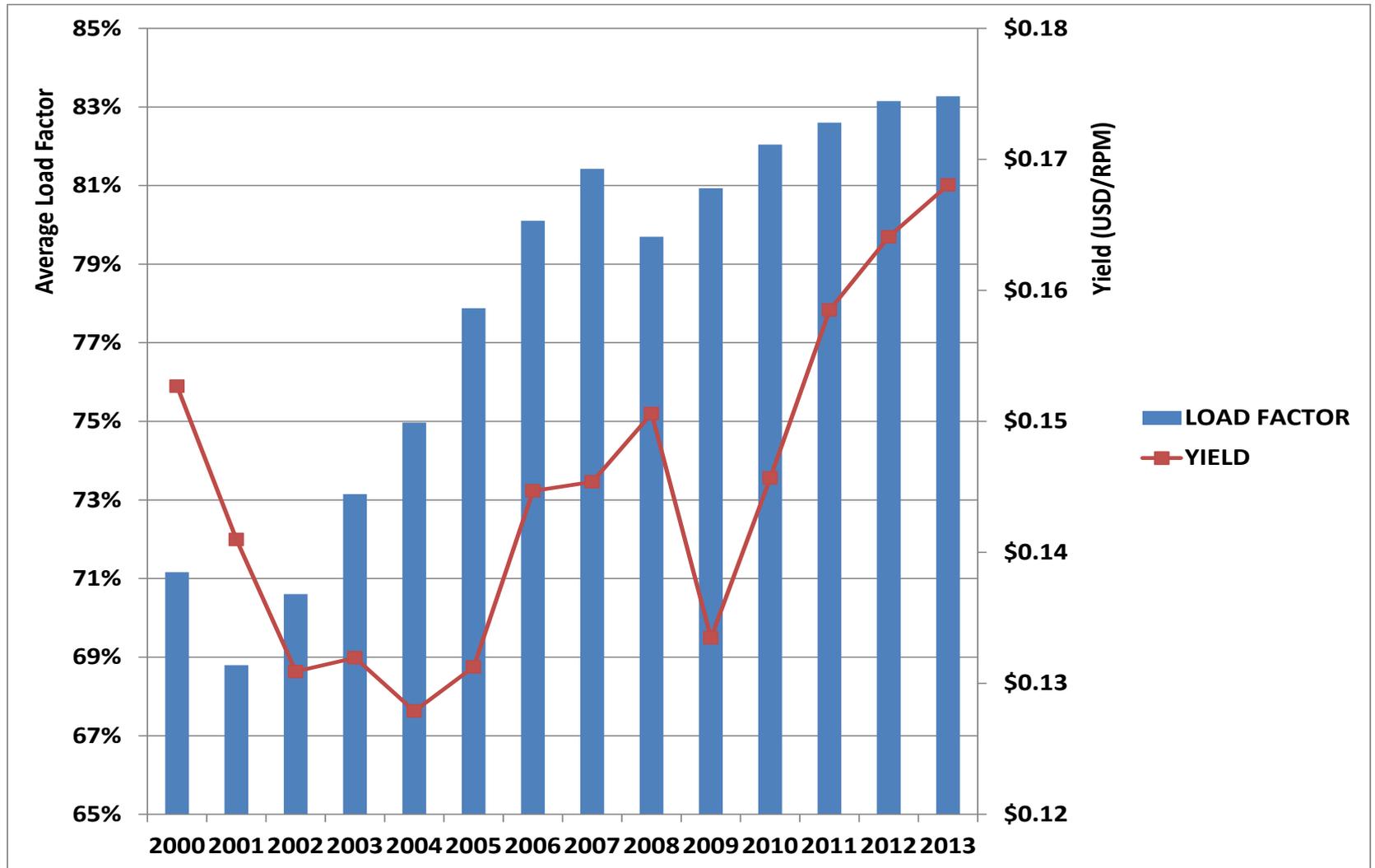


Domestic Seat Capacity Stagnant Despite Economic Growth



Source: M. Wittman, Data from BTS T-100 via Diio Mi, BEA

US Domestic Capacity Discipline Has Led to Higher Yields and Load Factors

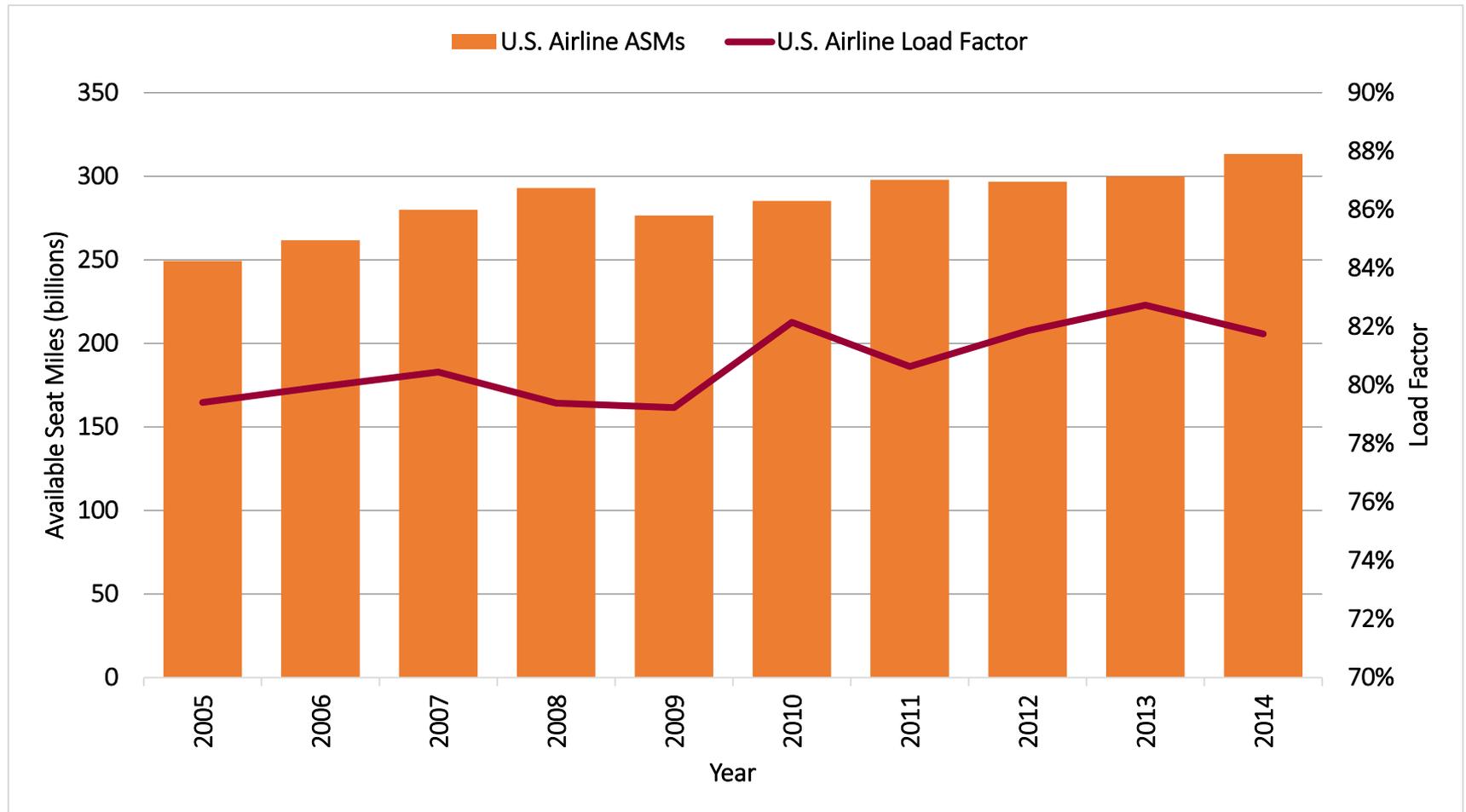


Source: MIT Airline Data Project

International v. Domestic Network Growth

- **Intercontinental growth has proven successful in conjunction with alliance partners**
 - Presence of low cost carriers make domestic profitability difficult
 - Low cost carrier operations primarily focus on largest origin and destination markets which makes profitable flying more difficult
- **Important to diversify route portfolio between international and domestic flying**
 - Domestic networks sized primarily to feed international flights can benefit from carrying international connecting passengers
 - Higher revenue international traffic helps to compensate for higher cost structures of more mature carriers in the market

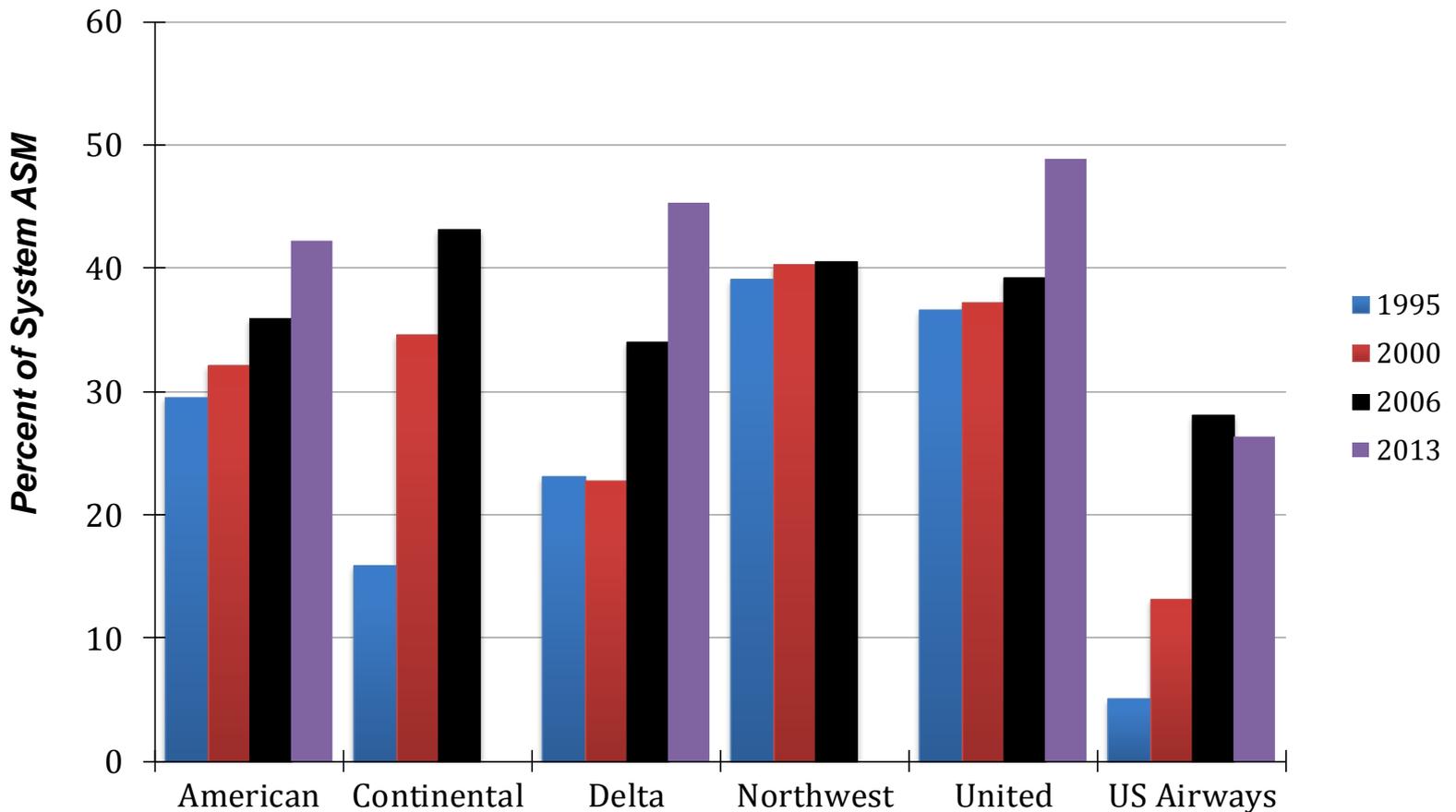
Total International ASMs for U.S. Airlines



Source: MIT Airline Data Project

Shift to International Flying by US Airlines

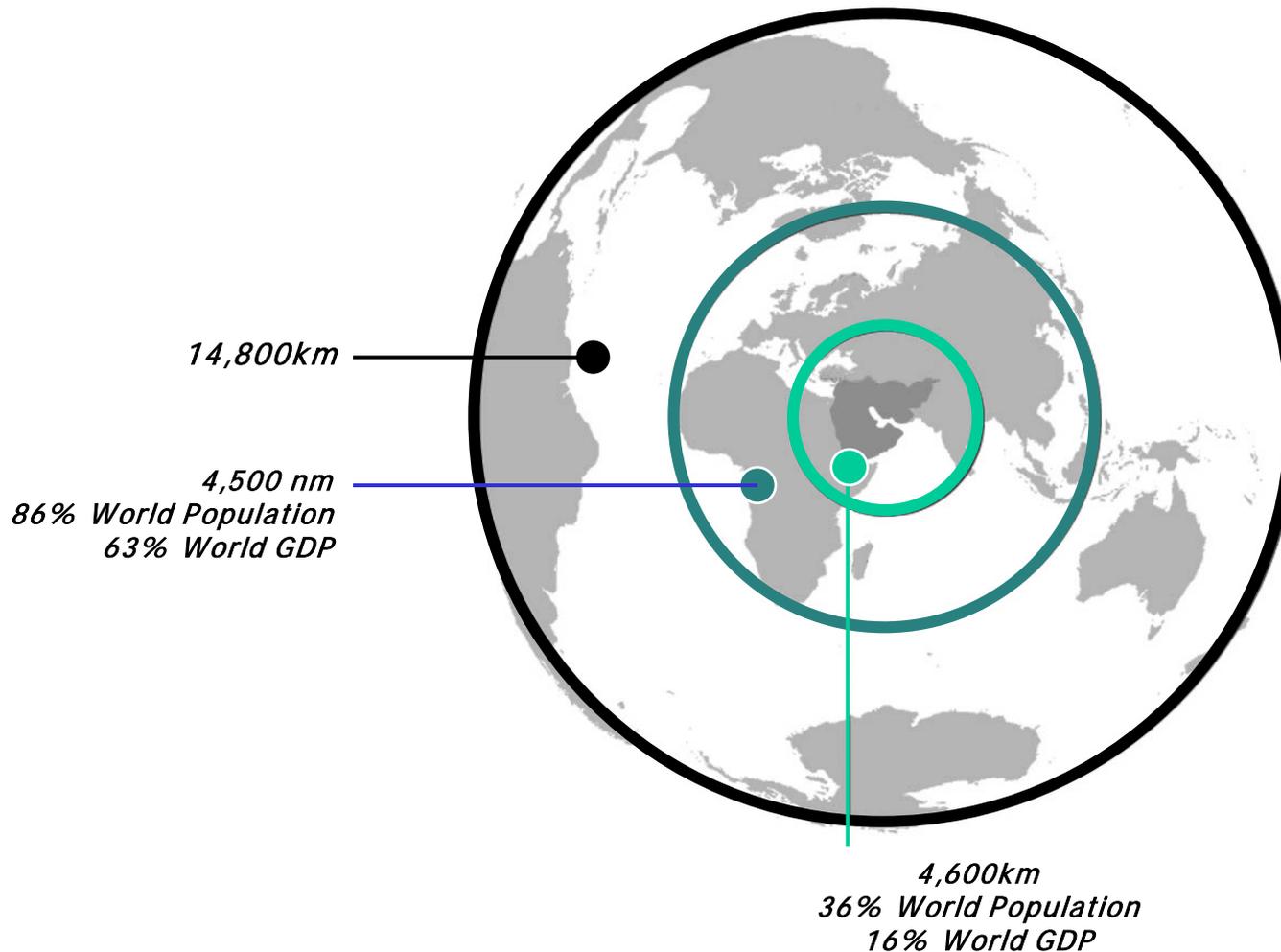
Percent of Capacity in International Markets



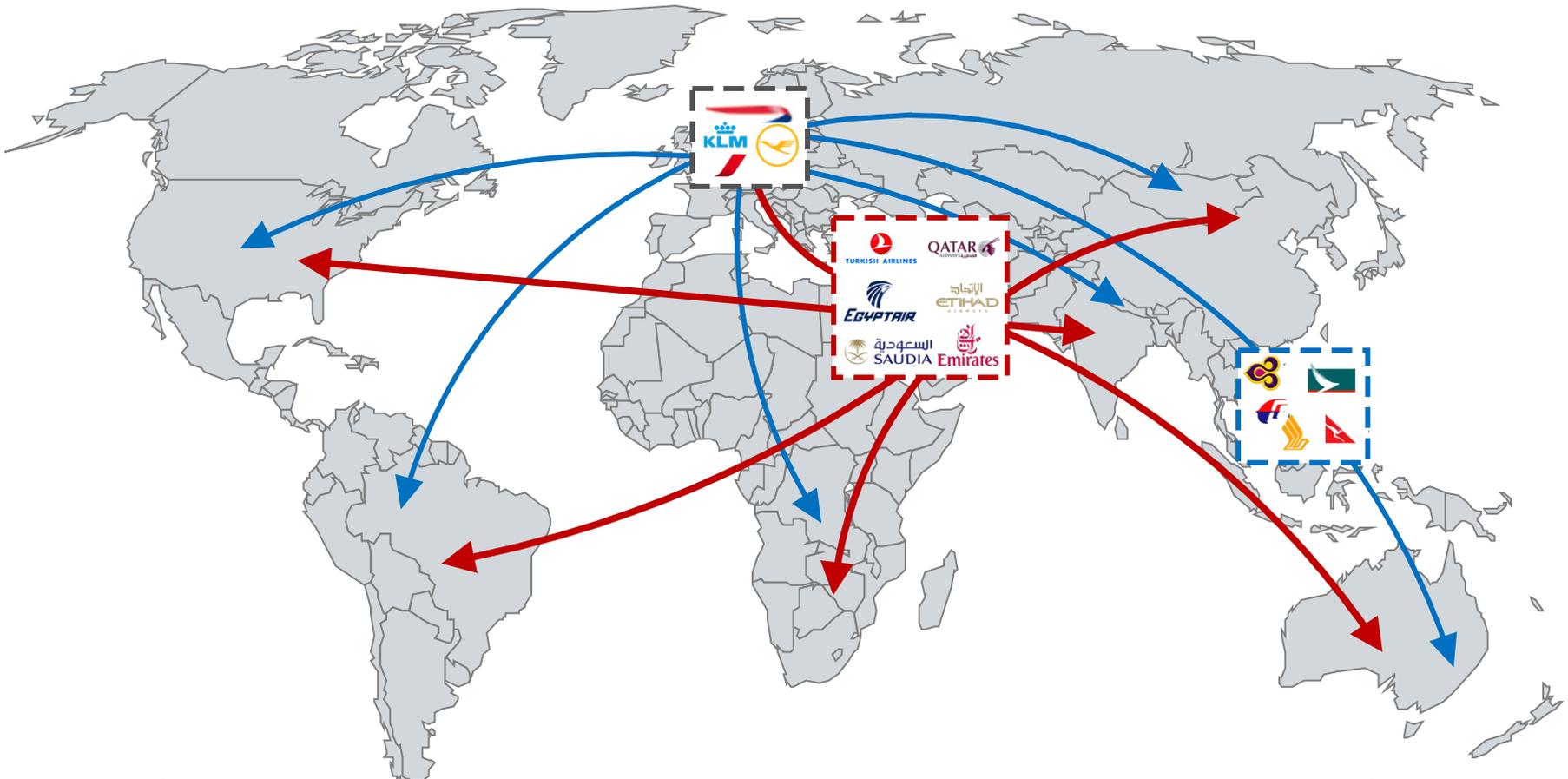
Global Network Expansion: Emerging Global Carriers

- **Continued rapid growth of these airlines will affect global traffic flows**
 - Emirates (Dubai), Etihad (Abu Dhabi), Qatar (Doha) and Turkish (Istanbul) building large hubs that depend on connecting traffic
 - Future success is highly dependent on negotiating new bilateral rights to further expand their hub networks
- **Implications for airports**
 - Emerging carriers looking for new spoke cities to feed their connecting global hubs with 6th freedom international traffic
 - Operations involve long-haul, wide-body (and A380) aircraft and full-service products (premium classes, lounges)
 - Competition among airports to attract these new services
 - At BOS, Turkish started in May 2014 and Emirates in March 2014
 - Emirates added 2nd daily 777 flight in October 2015
 - Qatar begins service in March 2016

Geographical Advantage to Access the Emerging Market Traffic Flows



Global Traffic Flows are Shifting Toward Gulf/Middle East Carriers

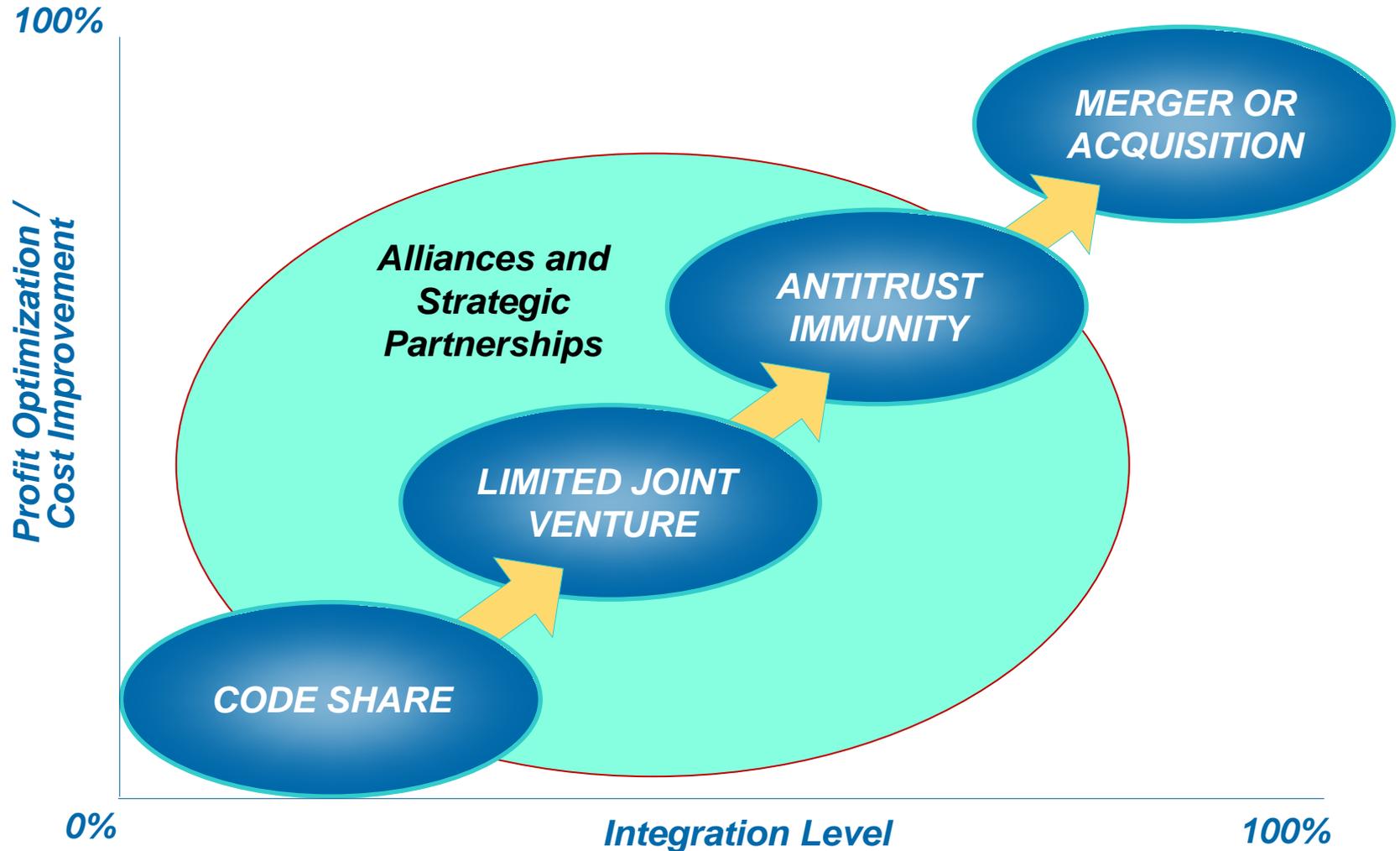


The emergence of Gulf/Middle East carriers has caused a shift in global traffic flows across major connecting hubs

Airline Cooperation and Consolidation

- **Regulatory hurdles block the type of cross-border consolidation that has occurred in other industries.**
 - International flight operations still regulated by bilateral agreements
 - Limits on foreign ownership of airlines in many countries
 - Influence of political and union forces against such consolidation
 - Anti-trust laws can constrain mergers and cooperation even within same country
- **Many forms of cooperation possible:**
 - Code-sharing agreements between two airlines
 - Membership in global airline alliances
 - Joint ventures to share both revenues and costs
 - Mergers and acquisitions

Airline Partnerships Have Goals of Increased Revenues and/or Lower Costs



Code-Sharing

- **Under a “code-share” arrangement, partner airline places its own code on an alliance flight:**
 - Partner markets and sells its own tickets for the flight
 - Flight is actually operated by another alliance airline
 - Flight is listed twice (or more) in airline schedules and computer reservations systems (CRS)
- **Code sharing increases consumers’ perceptions of network coverage in CRS displays:**

EXAMPLE:

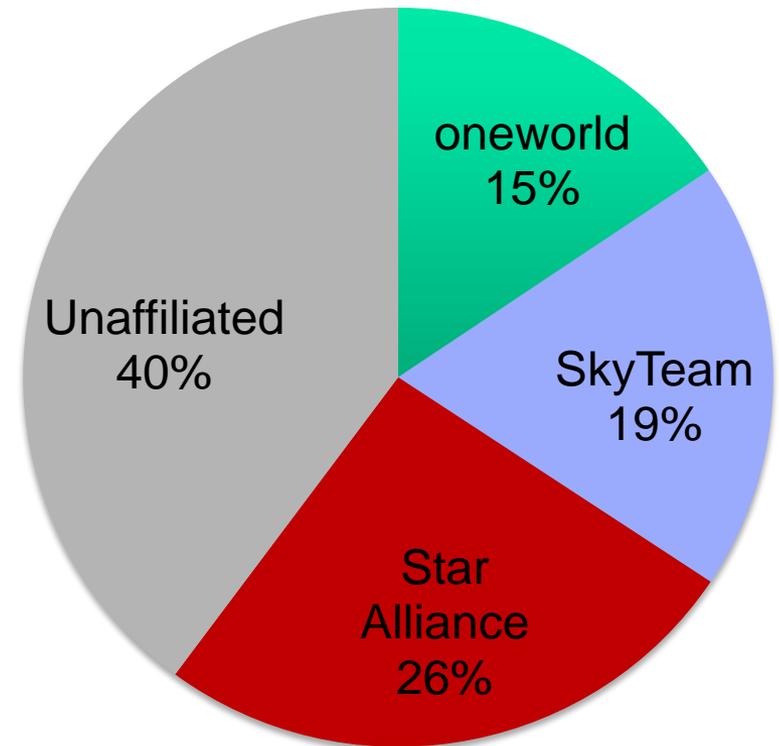
	TK 002	JFK-IST
also listed as	SQ* 6202	JFK-IST

Global Airline Alliances 2014

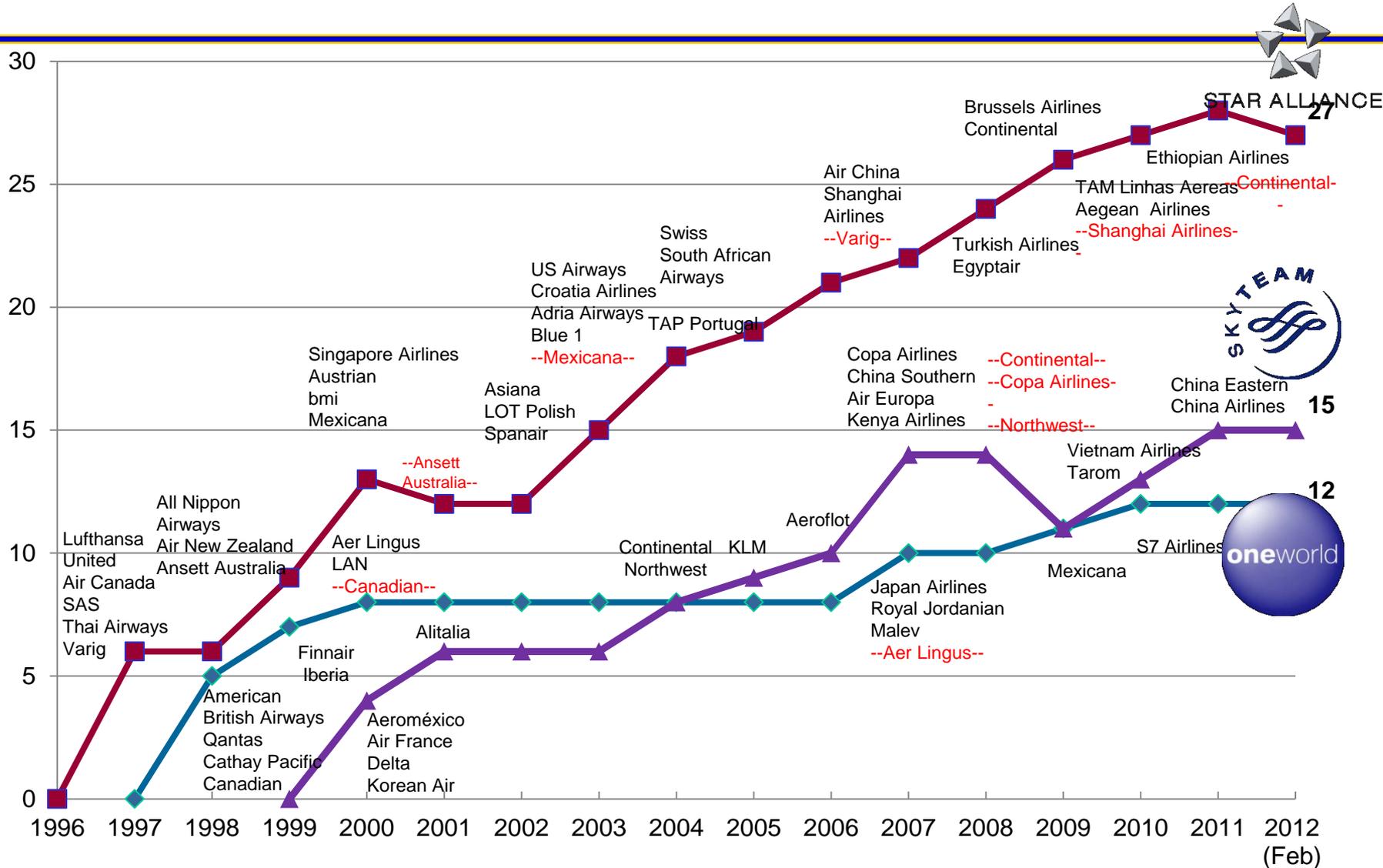


	STAR ALLIANCE	SKYTEAM	oneworld
Year of Formation	1997	2000	1999
Member Airlines	26	20	15
Annual Revenues	\$173 B	\$150 B	\$142 B
Annual Passengers	637 M	588 M	506 M
Destinations Served	1269	1,064	992
Daily Departures	18,000	15,000	14,000

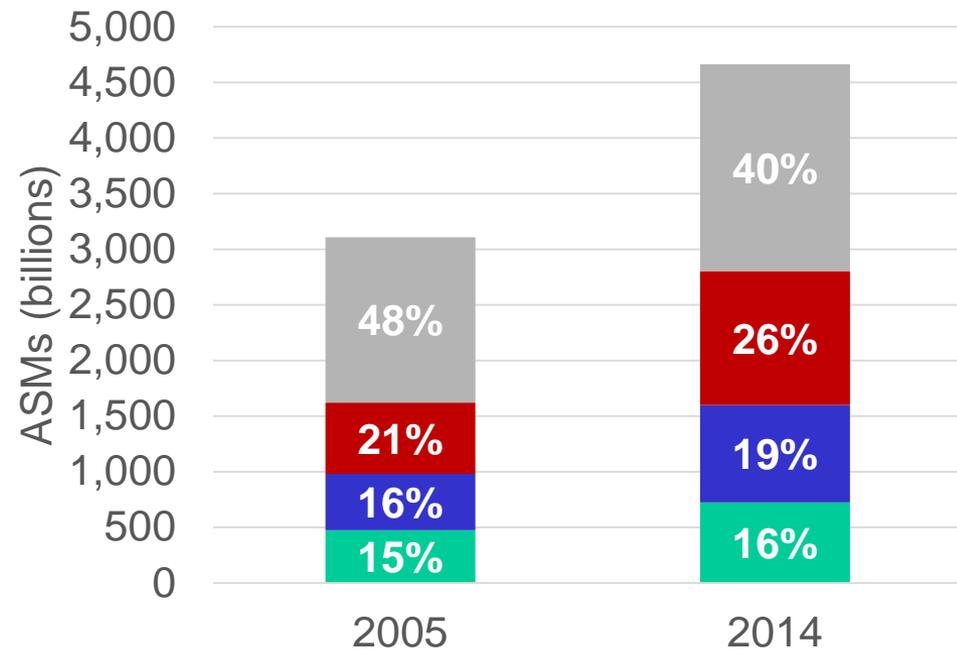
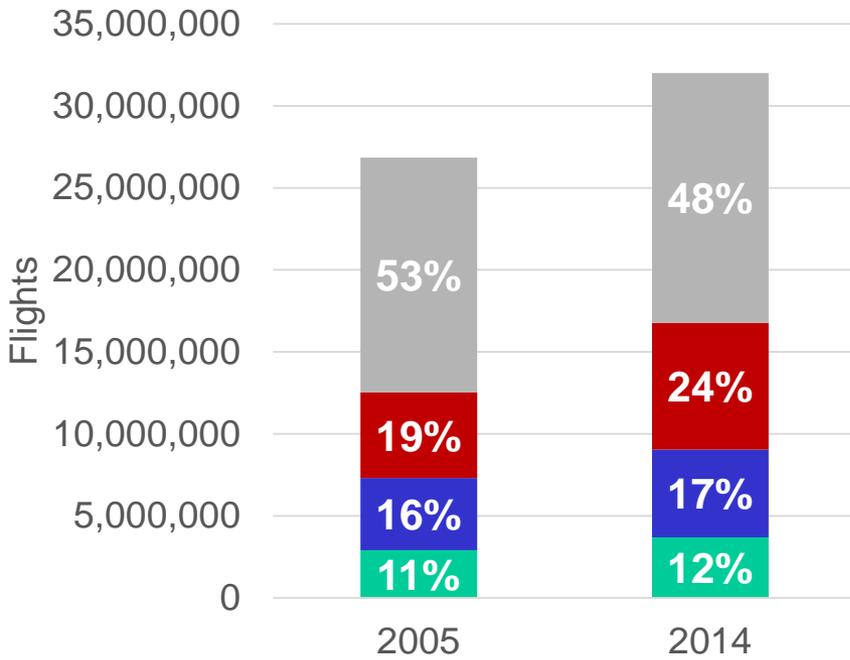
ASK Share (YE May 2014)



Growth of Global Alliances



Alliance capacity growth over the past decade



■ oneworld ■ SkyTeam ■ Star Alliance ■ Other

■ oneworld ■ SkyTeam ■ Star Alliance ■ Other

- **The three alliances collectively account for over 50% of all flights operated, and 60% of the generated global capacity in 2014**

SkyTeam: Member Airlines



Africa	Asia	Australasia	Europe	Latin America	Middle East	North America
1	7	0	7	2	2	1

oneworld: Member Airlines



**Air Berlin
(Germany)**



**American Airlines
Group (USA)**



British Airways (UK)



**Cathay Pacific (Hong
Kong)**



Finnair (Finland)



Iberia (Spain)



**Japan Airlines
(Japan)**



LAN (Chile)



**Malaysia Airlines
(Malaysia)**



Qantas (Australia)



**Qatar Airways
(Qatar)**



**Royal Jordanian
(Jordan)**



S7 Airlines (Russia)



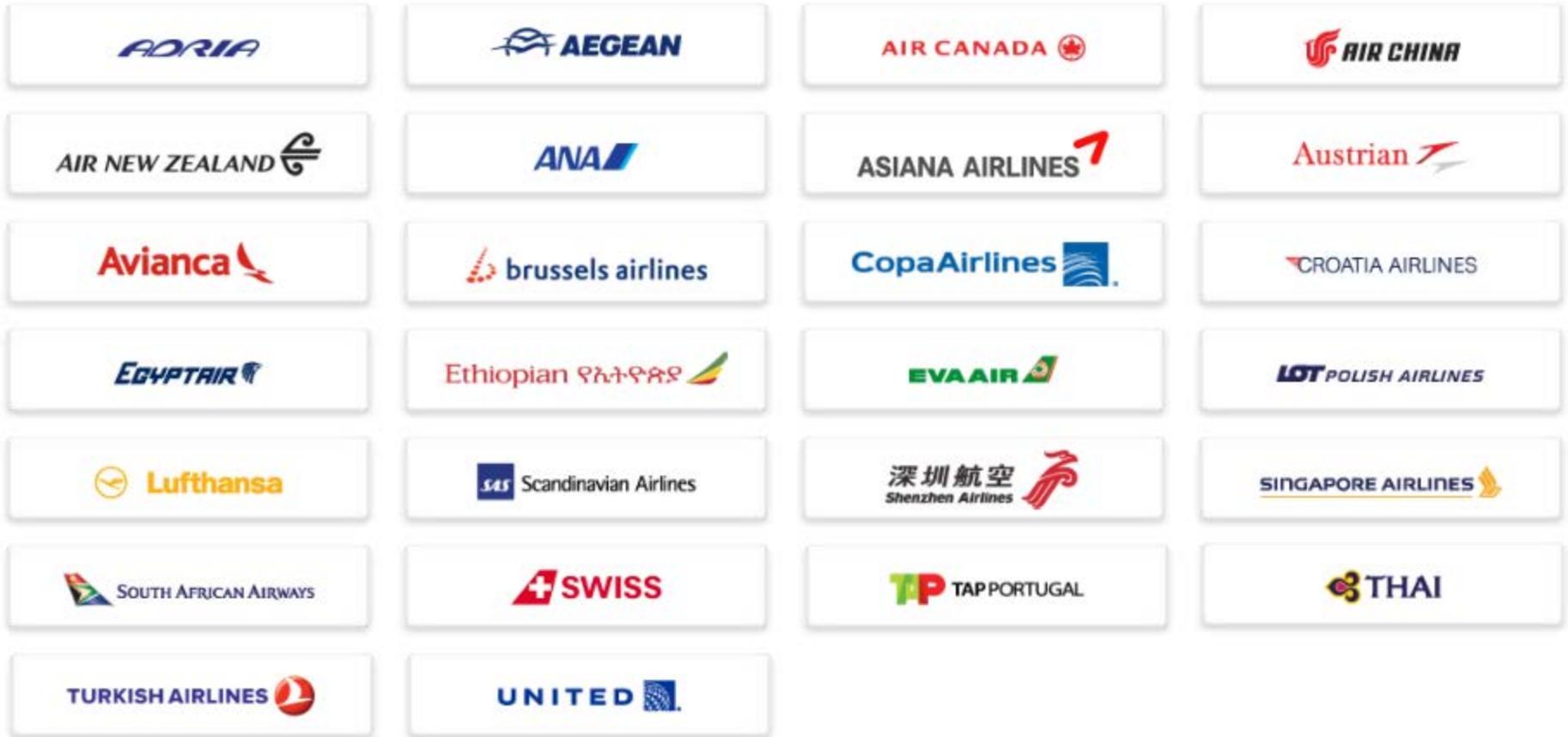
Sri Lankan Airlines



TAM (Brazil)

Africa	Asia	Australasia	Europe	Latin America	Middle East	North America
0	4	1	5	2	2	1

Star Alliance: Member Airlines



Africa	Asia	Australasia	Europe	Latin America	Middle East	North America
3	7	1	10	2	1	2

Top 40 Airlines and Alliance Affiliations: Largest Airlines by Passenger Traffic (RPKs)

Rank	Airline
1	Delta Air Lines
2	United Airlines
3	American Airlines Group
4	Emirates Airline
5	Southwest Airlines
6	Lufthansa
7	Air France
8	British Airways
9	China Eastern Airlines
10	China Southern Airlines
11	Ryanair
12	Air China
13	Cathay Pacific
14	Singapore Airlines
15	Air Canada
16	KLM Royal Dutch Airlines
17	Qantas
18	Turkish Airlines
19	Qatar Airways
20	Korean Air

Rank	Airline
21	easyJet
22	ANA
23	Thai Airways
24	LATAM
25	JetBlue Airways
26	Aeroflot
27	Iberia
28	Air Berlin
29	Etihad Airways
30	Japan Airlines
31	Saudia
32	Transaero Airlines
33	Virgin Atlantic Airways
34	Alaska Airlines
35	Malaysia Airlines
36	GOL
37	Alitalia
38	Swiss
39	Asiana Airlines
40	China Airlines

SkyTeam (10)

Oneworld (10)

Star Alliance (10)

Unaffiliated

Advantages of Airline Alliances

- **Airlines can strengthen networks and market position against competing alliances:**
 - Expand network coverage with little risk or increased operating costs, and no new capital required (aircraft or facilities)
 - Access to new O-D markets and incremental revenues
 - Increased market shares in existing markets due to greater presence, meaning increased traffic, revenues, and profit
- **For consumers, a “seamless” travel experience:**
 - World-wide service with single check-in, consistent passenger service standards, club rooms and FFP benefits

Disadvantages of Airline Alliances

- **Potential for disagreements among airline partners:**
 - Can be difficult and costly to completely standardize customer service standards and procedures
 - Cost savings might not be as great as anticipated
 - Conflicting network and revenue sharing objectives
 - Possible for one partner to actually lose revenue as dominant airline exerts market and RM strengths
 - Alliance relationships are not permanent, as airlines switch partners and alliances
- **For consumers, confusion about code-sharing, operating carriers and potentially anti-competitive impacts.**

Consolidation Activity Around the Globe

Selected M&A and/or Cross-Border Investment: 2005-Present

USA	Non-USA
Republic/Shuttle America	Air France/KLM
US Airways/America West	Copa/AeroRepública
SkyWest/Atlantic Southeast	Lufthansa/Swiss
Pinnacle/Colgan	Air China/Cathay Pacific*
Lufthansa/JetBlue*	Cathay Pacific/Dragonair
Delta/Northwest	Lufthansa/Brussels*/BMI/Austrian
Republic/Midwest/Frontier	Avianca/TACA
United/Continental	British Airways/Iberia
Pinnacle/Mesaba	LAN/TAM
SkyWest-ASA/ExpressJet	LAN/Aires
Southwest/AirTran	TAM/TRIP*

Source: ATA and Deutsche Bank Global Research

* Strategic investment but not full ownership or control

Different Models of M&A Integration

	One Brand	Co-Brand	Multi-Brand
Examples			
Characteristics	<p><i>Full integration</i></p> <p><i>One management</i></p> <p><i>One brand</i></p>	<p><i>Very high integration</i></p> <p><i>Integrated management</i></p> <p><i>Two brands</i></p>	<p><i>High integration</i></p> <p><i>Management teams</i></p> <p><i>Multi-brand</i></p>
Advantages	<p><i>Maximum of synergies</i></p> <p><i>Fast decision processes</i></p>	<p><i>Higher synergies</i></p> <p><i>Maintain (national) brands</i></p>	<p><i>Profit center orientation</i></p> <p><i>Maintain (national) brands</i></p> <p><i>Flexibility in growth</i></p>
Disadvantages	<p><i>Loss of a potentially well known brand</i></p>	<p><i>Higher complexity</i></p>	<p><i>Higher complexity</i></p>

Source: Lufthansa Presentation to MIT (2010)

Factors Affecting Future Networks

- **Network Structure**

- No evidence of shift away from large hub and spoke networks
- Even LCCs have been developing “focus cities” for connections

- **Industry Consolidation**

- Recent (and future) mergers could eliminate smaller hubs
- Alliances and joint ventures reinforce largest international hubs

- **Availability of New Aircraft Options**

- Newer generation widebody aircraft enable service to more spokes from major global hubs
- Replacement alternatives for smaller narrow-body fleet?