Airline Network Strategies

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Network, Fleet and Schedule
Strategic Planning
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Lecture Outline

- **Review: Evolving Network Strategies**
- **Capacity Discipline and Profitability**
  - Recent Capacity Strategies of Western airlines
  - Less Capacity Means Higher 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

Review: Evolving Network Strategies

- **From linear – to hub construction – to hub-to-hub flying**
- **From national dominance – to a regional footprint – to a global focus**
- **Domestic networks supporting international growth**
  - International expansion contributes to improved on board revenue for the domestic operation

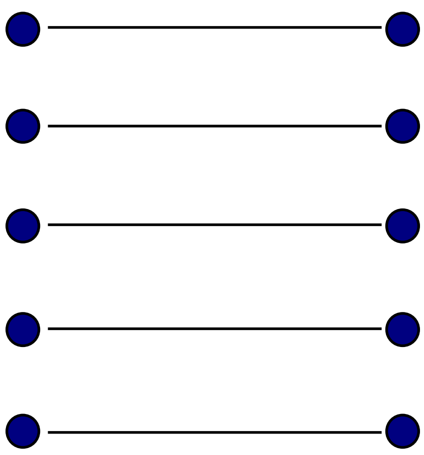
The Evolution of Networks

COMPETITION

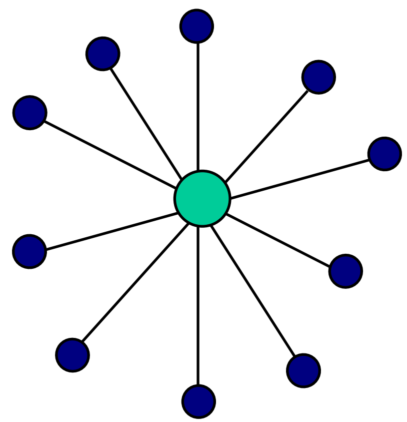
Pre-1980s	**1980s-1990s**	**21st Century**
Route vs. Route	**Hub vs. Hub**	**Network vs. Network**

STRUCTURE

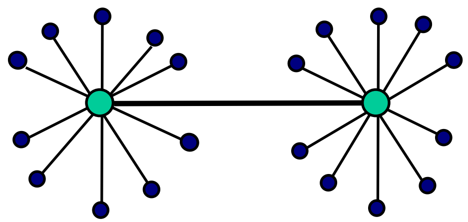
Point-to-Point
5 City Pairs



Hub Operation
55 City Pairs



Network Operation
231 City Pairs



US- European Airline Network Developments

- **Industry consolidation through mergers**
  - Air France and KLM in 2004 [Air France-KLM]
  - Delta and Northwest in 2008 [Delta]
  - United and Continental in 2010 [United]
  - British Airways and Iberia in 2011 [Int'l Airlines Group]
  - American and US Airways in 2014 [American]

- **International vs. Domestic Network Growth**
  - Short Haul Capacity Cuts and Shifts to Regional or LCC franchises
  - Focus International Network Expansion and connectivity

Capacity Discipline Is…

- **A relatively new development in a mature market such as the USA – potential implications for other markets as they develop fully**

- **Capacity discipline has effectively “locked-in” the network contraction brought about by rationalization.**
  - The effects of the rationalization period were dramatic and wide-ranging, negatively affecting almost all U.S. airports.

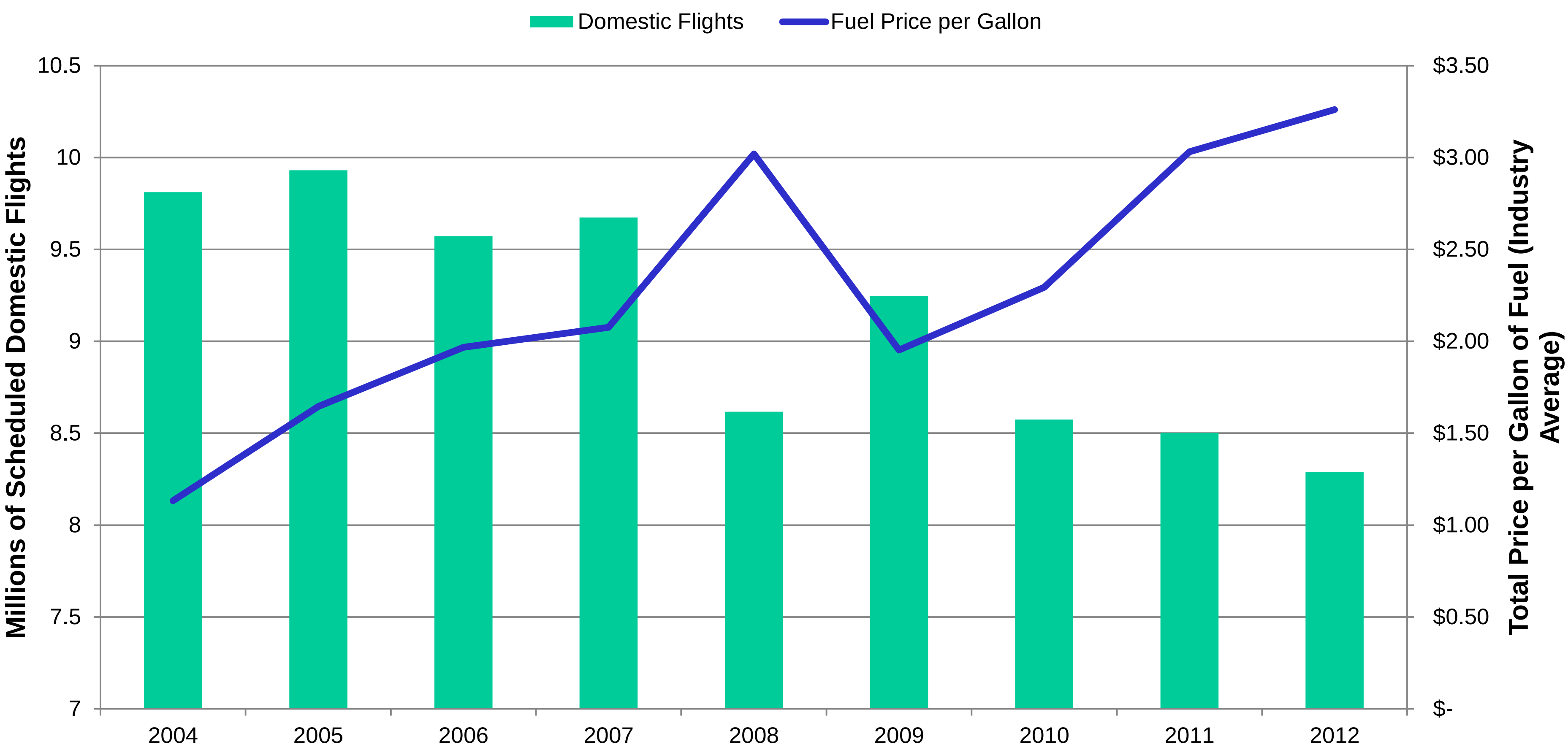
- **An Unstable Equilibrium:**
  - Capacity discipline benefits competitors as long as everyone maintains conservative growth – unlikely in developing regions
  - There is an incentive for a single competitor to break away and increase capacity to grab market share
  - But, all competitors lose if all decide to expand capacity

Capacity Discipline Strategies

- **Airline capacity is a competitive weapon**
  - Flight frequency is primary determinant of market share
  - Historically, market share strategies have led to excess capacity, meaning lower load factors and lower yields
- **Recent "capacity discipline" in the industry**
  - Mature U.S. market place with modest passenger growth
  - Perhaps the only strategy that can lead to both higher yields <u>and</u> higher load factors
- **Short haul capacity reductions achieved with:**
  - Fewer departures, particularly at smaller airports
  - Smaller aircraft, with more 70-100 seat large regional jets
  - Shift of wide-body aircraft from short to long haul routes

Fuel Prices and Capacity Rationalization

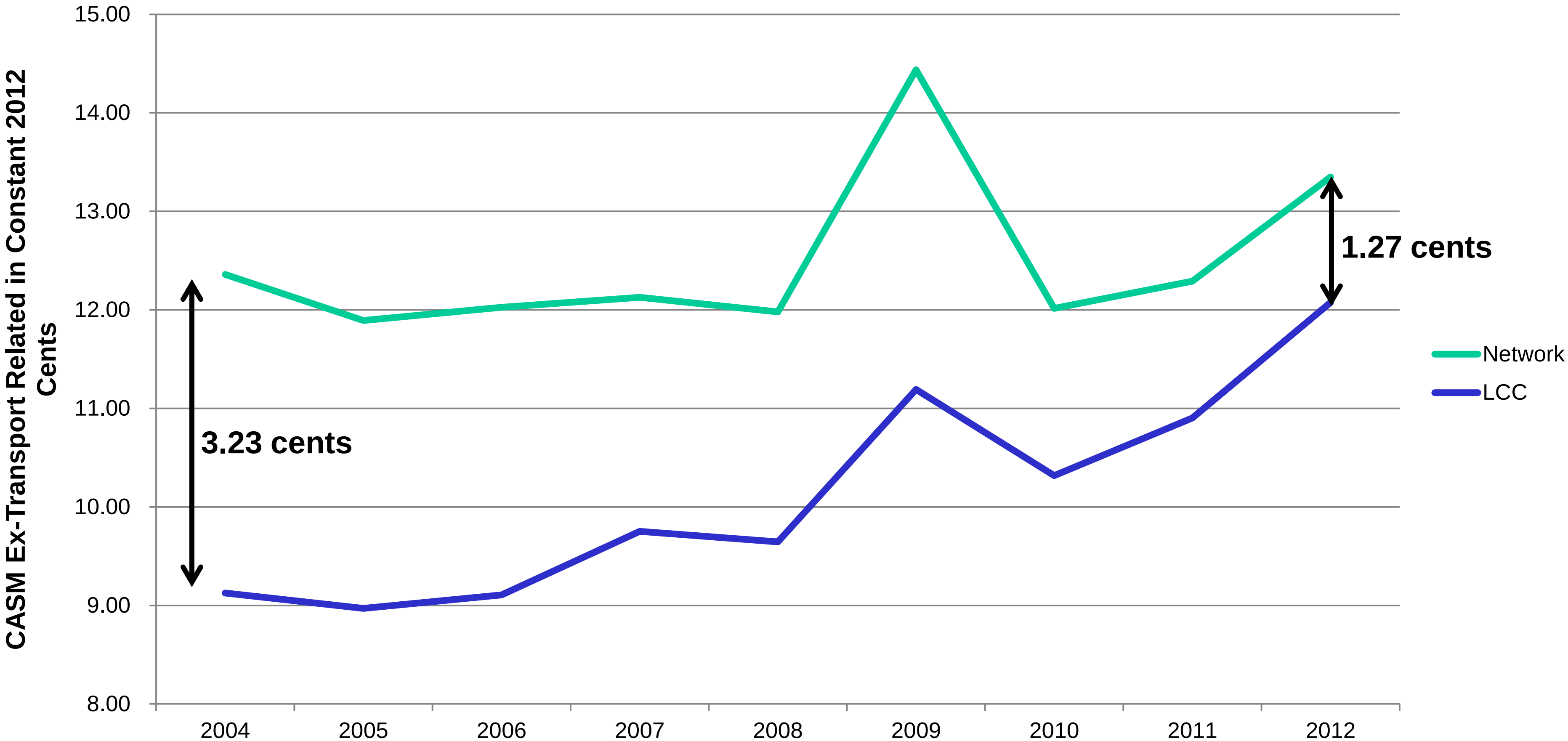
- **An unexpected spike in fuel prices in 2008 forced carriers to reduce flights and rationalize their networks.**



Source: Diio Mi and MIT Airline Data Project

Rising Real Unit Costs Made It Harder For All Carriers to Justify Uneconomic Flying

- **The unit cost gap between “low-cost” carriers and network carriers has also shrunk, adjusting for inflation.**

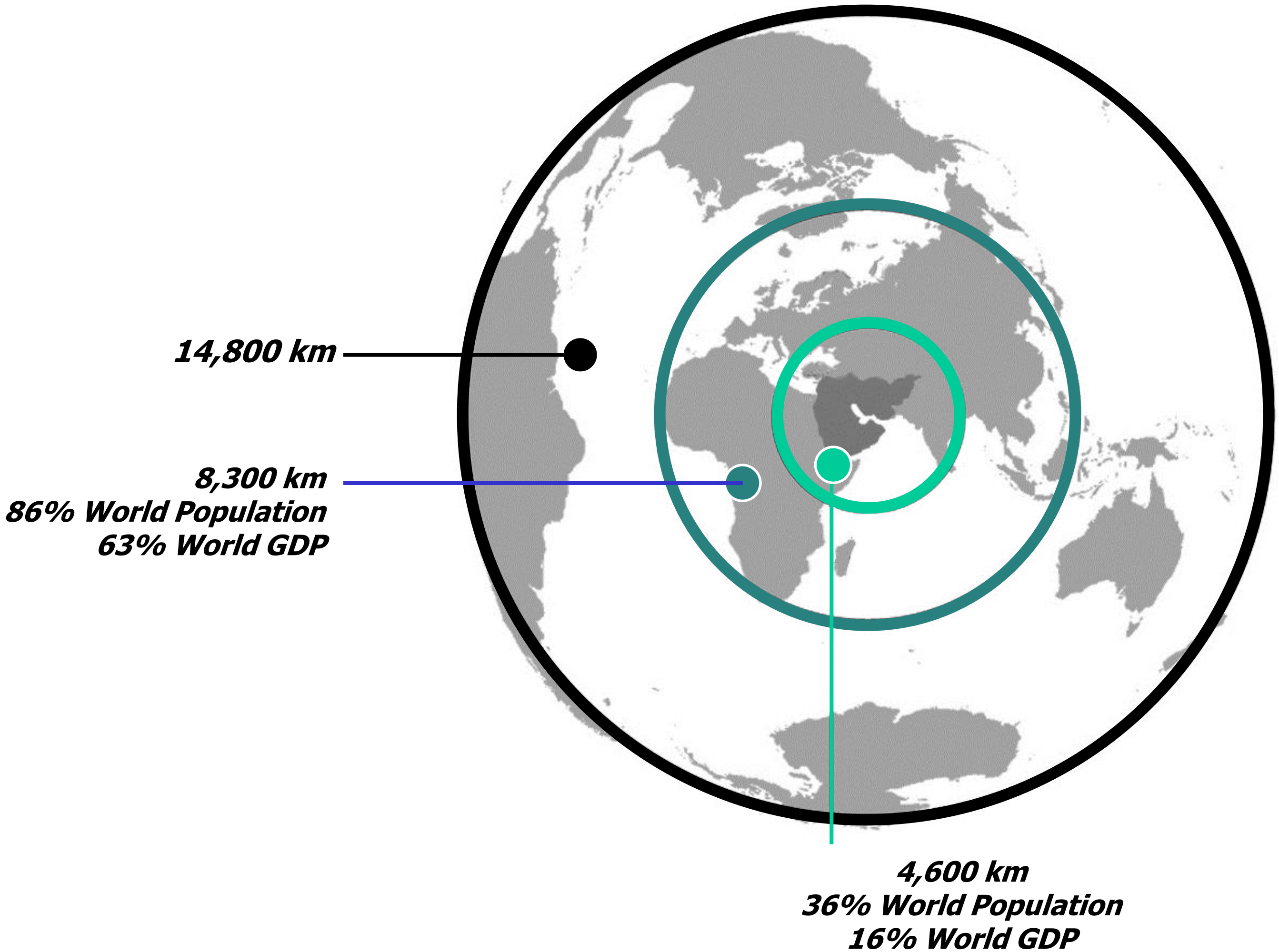


Source: MIT Airline Data Project, adjusted for inflation using BLS CPI

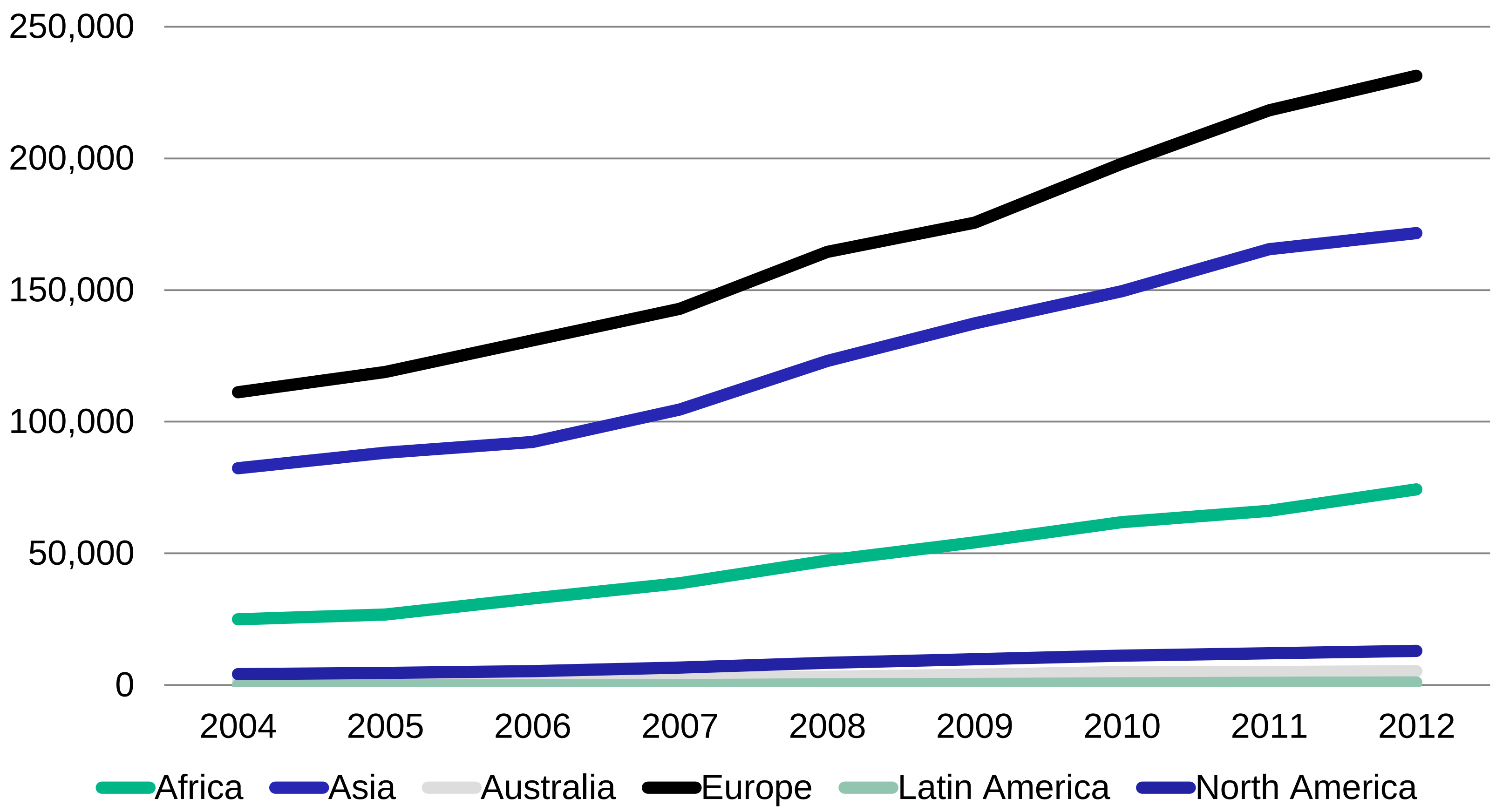
Global Network Expansion: Emerging Global Carriers

- **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

Geographical Advantage to Access the Emerging Market Traffic Flows



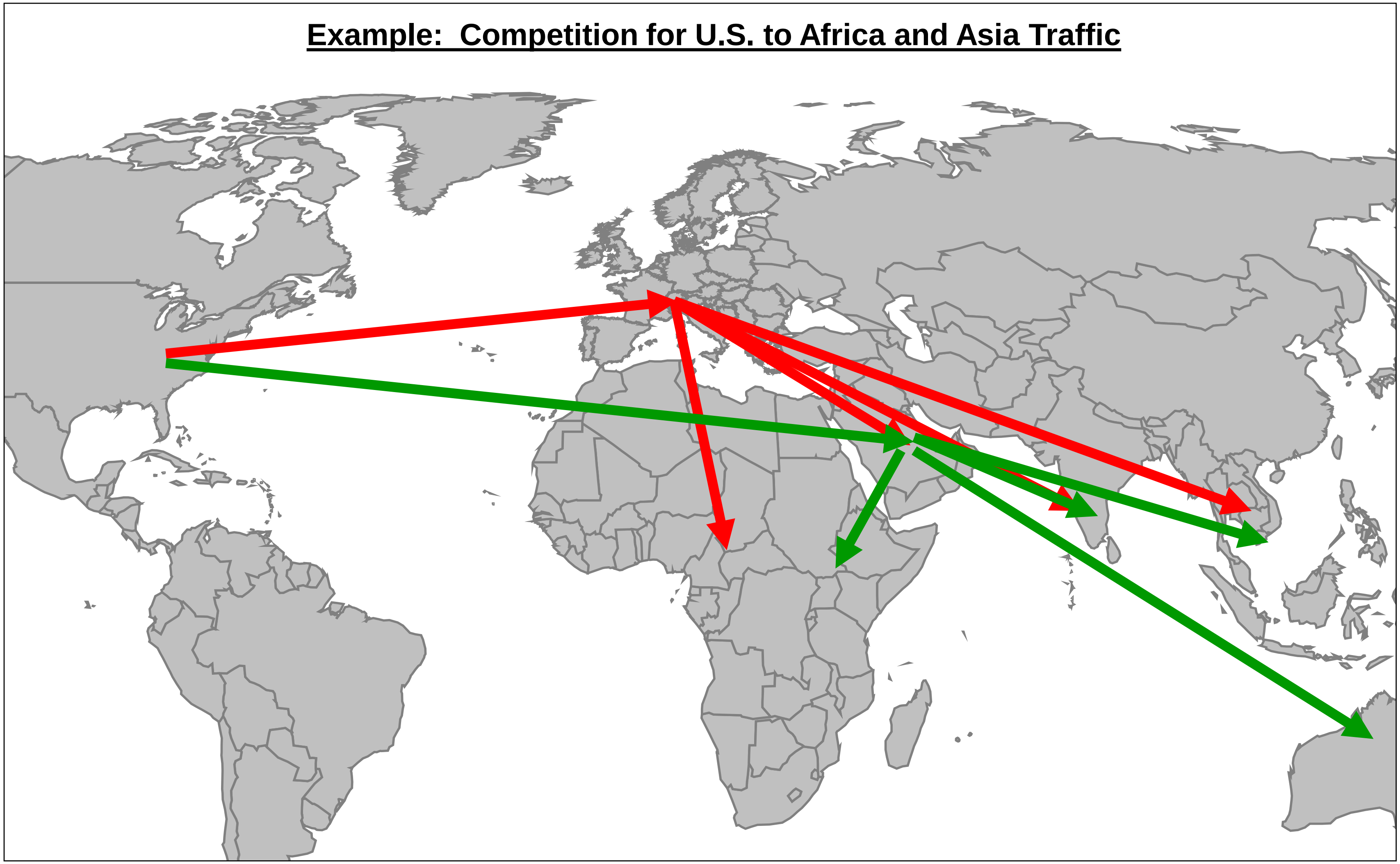
Flights from Emerging Carrier hubs have more than doubled since 2004



- **Flights to all regions have increased rapidly over the past 8 years**
- **Nearly 50% of flights are destined to Europe**

Source: Karim Al-Sayeh, Innovata SRS, accessed through Diio Mi

Competition with traditional European Hubs



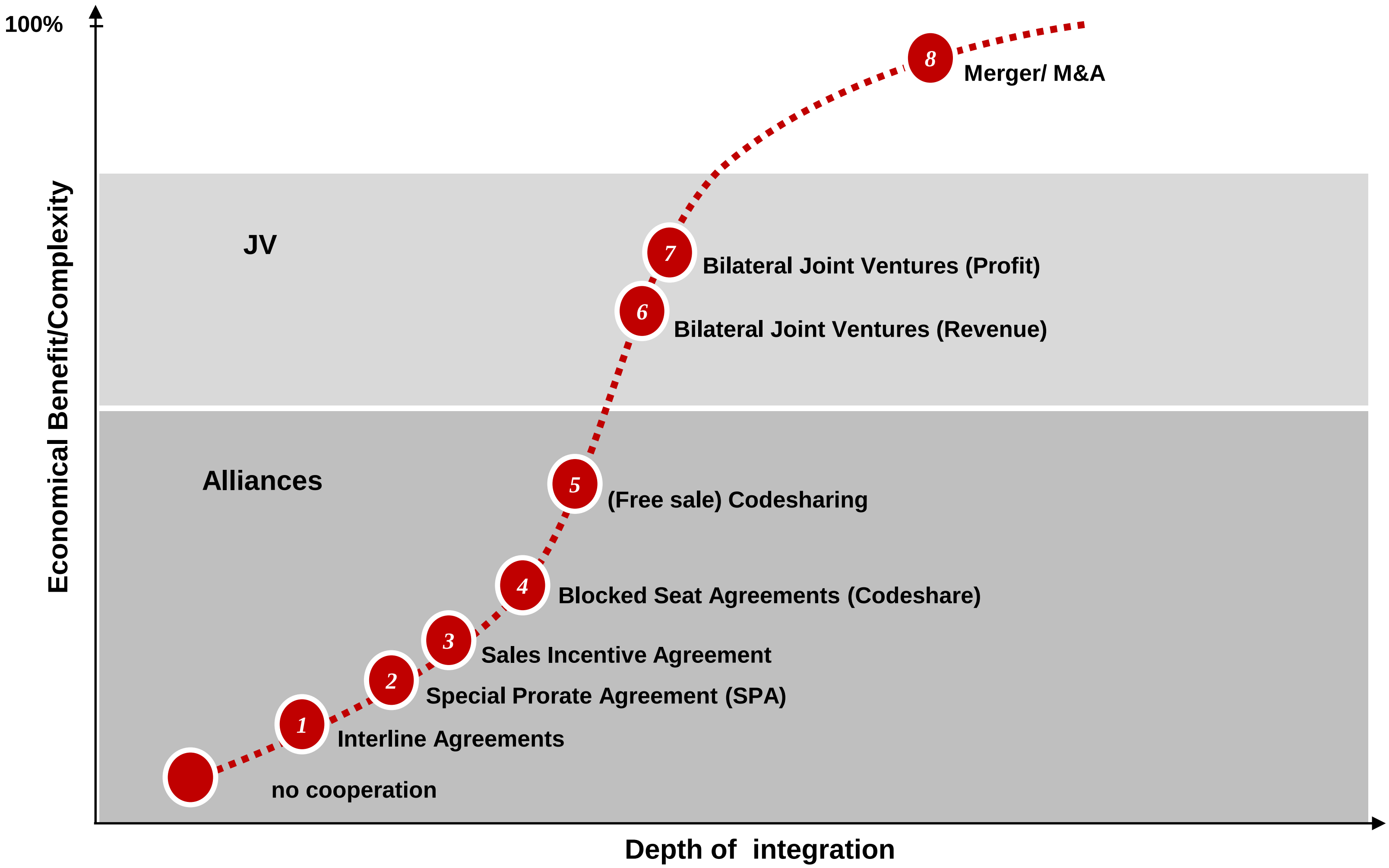
What are the implications of the forecasted fleet growth for the emerging carriers?

- **How will they attract 100 million new passengers?**
  - Is it reasonable to assume that they can maintain 10% growth rates through the end of the decade?
  - Can their home airports accommodate the influx of wide-body aircraft?
- **What effect will the emerging carriers have on global air transportation?**
  - How will their growth further affect legacy carriers around the world?
  - Will the growth of new LCCs and the revamping of legacy carriers affect them?
- **Can all four emerging carriers coexist?**

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

The Synergies of Airline Cooperation are Determined by the Level of Integration



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 012	JFK-IST
also listed as	US* 5003	JFK-IST

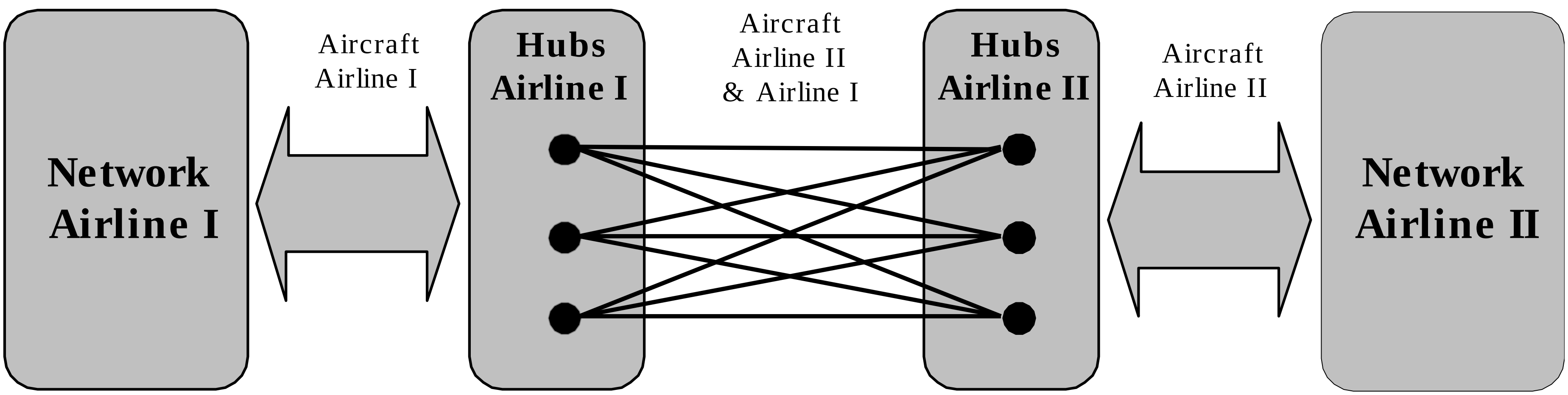
Airline Alliances and Network Coverage

- **"Strategic alliances" between two airlines take the economic logic of hub networks one step further:**
  - Partner airlines can expand their network coverage without increasing their own flights and operating costs
  - Leads to further consolidation of loads, as two or more airlines now contribute passengers to a single "alliance flight"
  - Marketing power of larger networks is reinforced--more destinations, seamless connections, frequent flyer benefits
  - Additional cost savings are possible in alliance airlines due to combined flights, airport check-in and club operations, integrated purchasing and information systems

International Alliance Networks

- **International alliances link their networks through hub-to-hub flights**

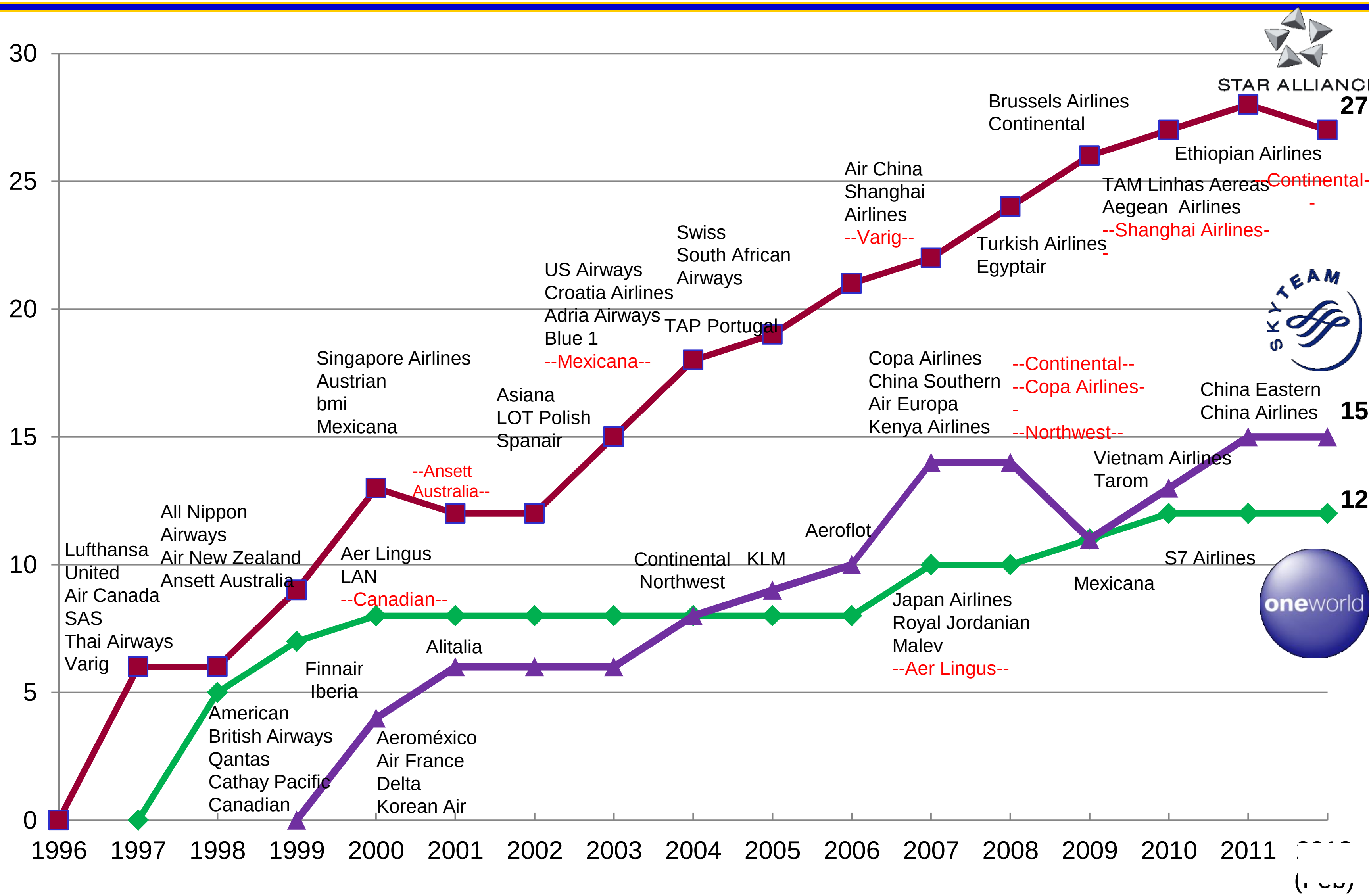
- **<u>Global Strategic Alliance</u> -- Strongly connected domestic networks linked together through high-density flights between international hubs**



Global Airline Alliances

- **Airline alliances are strategic partnerships between several airlines which focus primarily on large scale code-sharing agreements**
- **KLM – Northwest Alliance in 1989 was the first step in the establishment of multinational alliances**
- **Anti-trust immunity is a central tenet of airline alliances**
- **Currently there are 3 large airline alliances:**
  - Star Alliance (1997)
  - oneworld (1999)
  - SkyTeam (2000)

Growth of Global Alliances

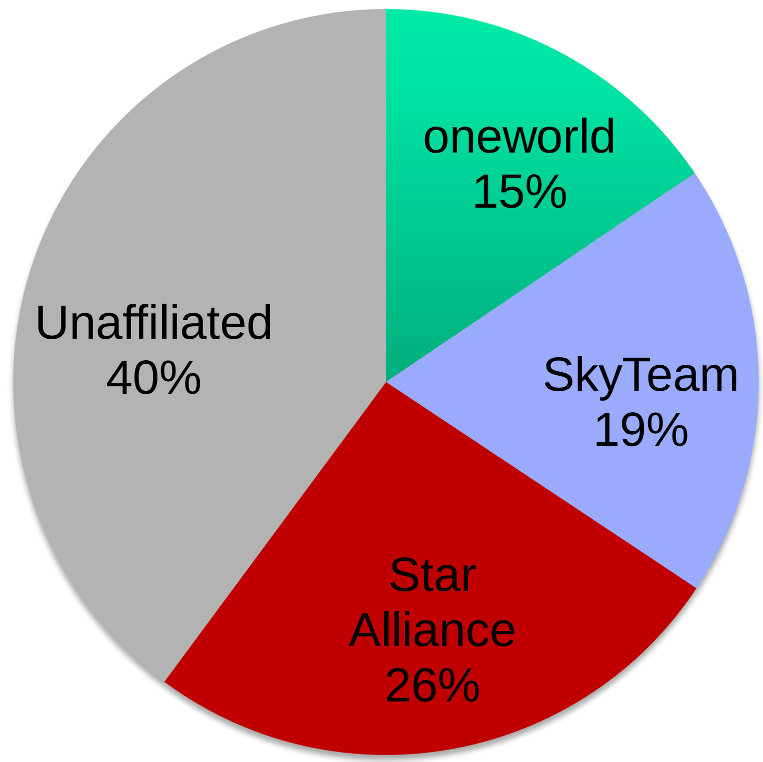


Source: Tugores, T. (2011) MIT SM Thesis

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)



Source: K. Al-Sayeh (2013) MIT Study

SkyTeam:
Member Airlines

AEROFLOT

Aerolíneas Argentinas

AEROMEXICO

AirEuropa

AIRFRANCE

Alitalia

CHINA AIRLINES

CHINA EASTERN

CHINA SOUTHERN

CSA CZECH AIRLINES

DELTA

Kenya Airways

KLM

KOREAN AIR

MEA

SAUDIA

TAROM

Vietnam Airlines

XIAMENAIR

Garuda Indonesia

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)

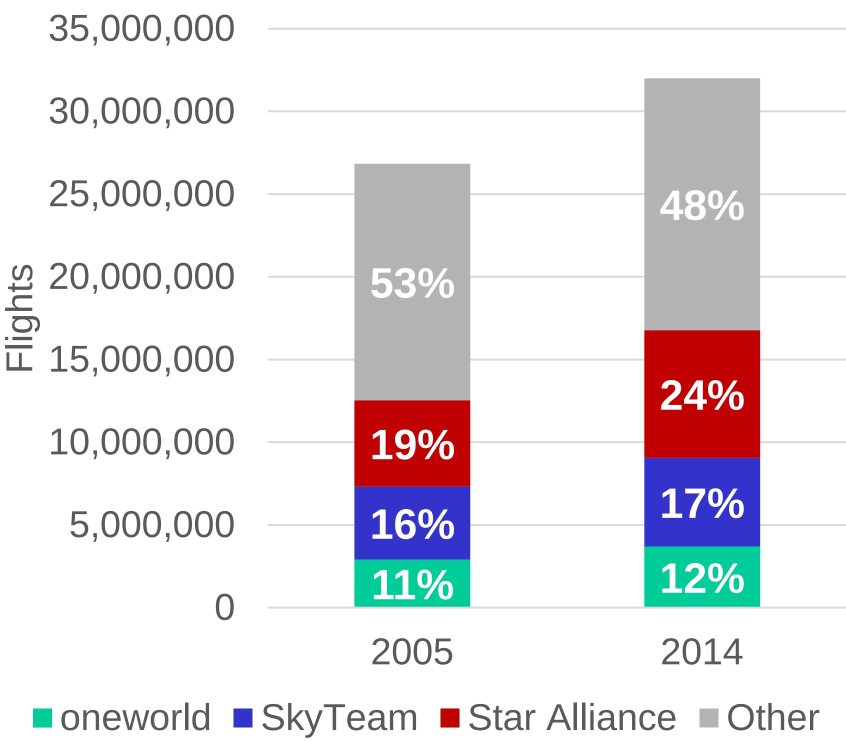
Africa	Asia	Australasia	Europe	Latin America	Middle East	North America
0	4	1	5	2	2	1

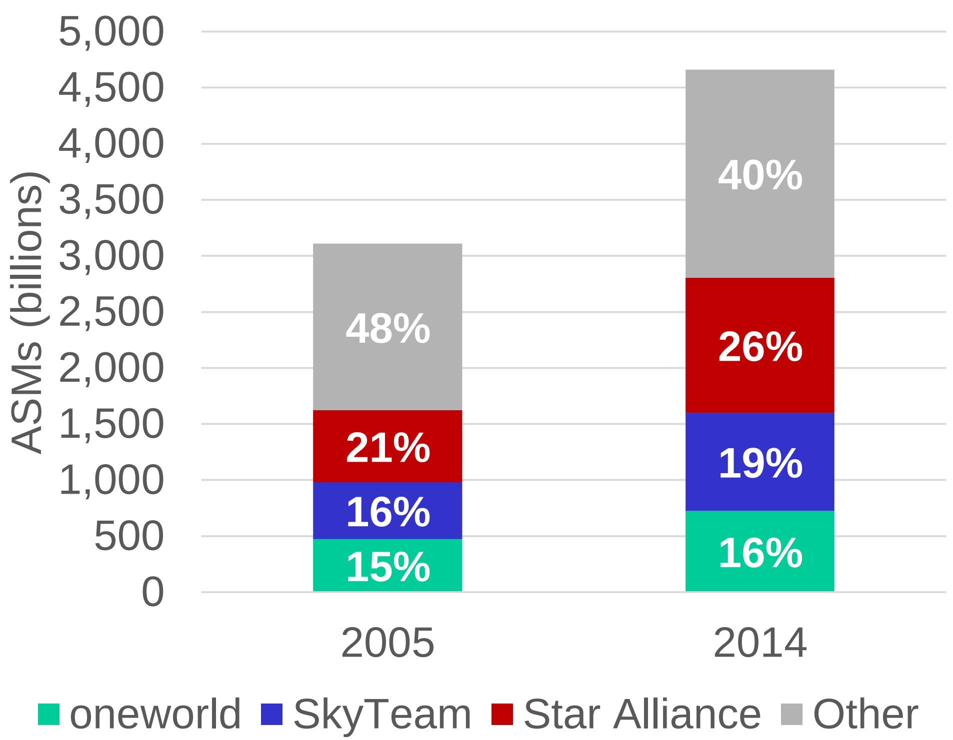
Star Alliance: Member Airlines

ADRIA
AEGEAN
AIR CANADA
AIR CHINA
AIR NEW ZEALAND
ANA
ASIANA AIRLINES
Austrian
Avianca
brussels airlines
CopaAirlines
CROATIA AIRLINES
EGYPTAIR
Ethiopian የኢትዮጵያ
EVA AIR
LOT POLISH AIRLINES
Lufthansa
SAS Scandinavian Airlines
深圳航空 Shenzhen Airlines
SINGAPORE AIRLINES
SOUTH AFRICAN AIRWAYS
SWISS
TAP PORTUGAL
THAI
TURKISH AIRLINES
UNITED

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

Alliance capacity growth over the past decade





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

Source: Innovata Schedule Reference Service

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**

Airlines choosing bilateral relationships outside of traditional alliances

- **Recent activity points to some airlines pursuing bilateral codeshares as an alternative to alliances:**
  - Alaska Airlines and jetBlue in the U.S. cooperating with various international flag airlines feeding their domestic hub
  - In 2013 Qantas and Emirates announced a major partnership including codesharing on Europe-Australia services (despite Qantas being a oneworld member)
  - Hainan Airlines of China effectively “locked out” of alliances has set up codeshares at its gateways (American, Brussels, Air Berlin)
- **New developments raise interesting questions about the future of the traditional alliance model**

Joint Ventures are "virtual mergers" between two independent airlines

- **Closely coordinated relationship where revenues and even costs are jointly shared**
- **"Metal Neutrality": partner indifference to operating airline**
- **JVs require a high degree of commercial/operational coordination**

Year	Partners	Current Mechanism
2009	A++ (Air Canada, Lufthansa, United)	Revenue
2009-2010	Delta, Air France, KLM, Alitalia	Profit
2010	American, British Airways, Iberia	Revenue
2011	ANA, United	Revenue
2011	American, Japan Airlines	Revenue
2011	Delta, Virgin Australia	Revenue
2012-2013	ANA, Lufthansa, Austrian, Swiss	Revenue
2013	Qantas, Emirates	Revenue
2013	British Airways, Japan Airlines, Finnair	Revenue
2013	Delta, Virgin Atlantic	Profit

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	UNITED	AIRFRANCE KLM	Lufthansa, Swiss International Air Lines, Austrian, brussels airlines
Characteristics	*Full integration* *One management* *One brand*	*Very high integration* *Integrated management* *Two brands*	*High integration* *Management teams* *Multi-brand*
Advantages	*Maximum of synergies* *Fast decision processes*	*Higher synergies* *Maintain (national) brands*	*Profit center orientation* *Maintain (national) brands* *Flexibility in growth*
Disadvantages	*Loss of a potentially well known brand*	*Higher complexity*	*Higher complexity*

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**
  - 787 has opened up many new route opportunities
  - Replacement alternatives for smaller narrow-body fleet?