



# Airline Business Models FSNCs, LCCs, ULCCs and Charter Carriers

Istanbul Technical University  
Air Transportation Management, M.Sc. Program  
Aviation Economics and Financial Analysis

Module 4

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## Economic characteristics of

- FSNCs
- LCCs
- ULCCs
- Charter

## Cost structure of the different carrier types

## Market impact of LCCs/FSNCs

## FSNCs versus LCCs

## Future of LCCs/FSNCs

# Evolution

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## Before deregulation

- Full service network carriers
- No low cost models
- No price competition (same price on a given route)
- Full-quality service
- Point-to-point route networks



# Evolution – cont.

## After deregulation

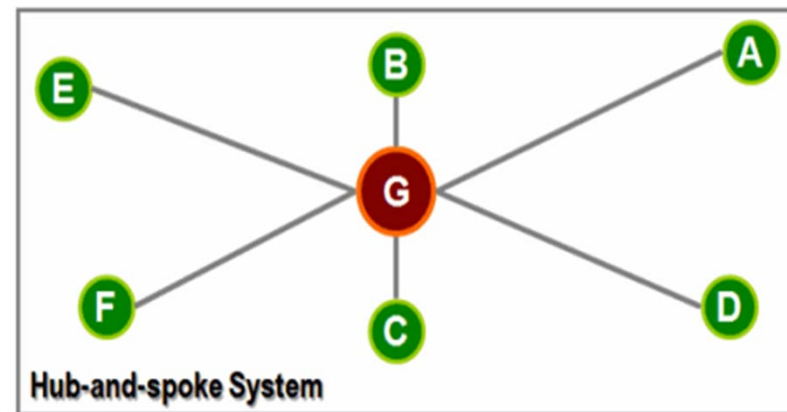
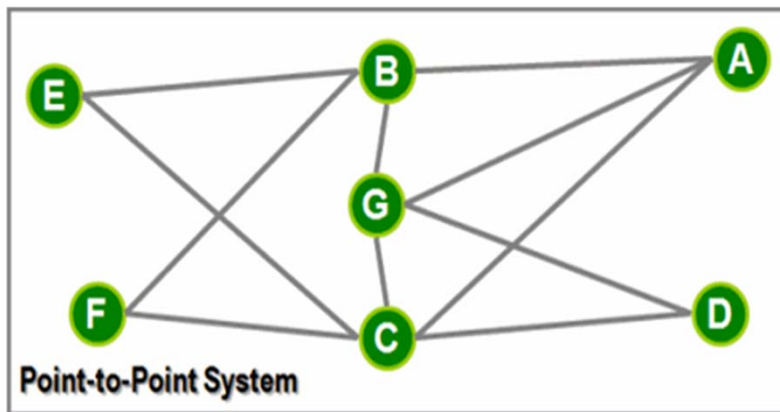
- Proliferation of LCC models
- Hybrid carriers
- Industry consolidation (mergers and acquisitions)
- Alliances and joint ventures
- Service debundling
- Hub-and-spoke route systems



# Hub and spoke route network

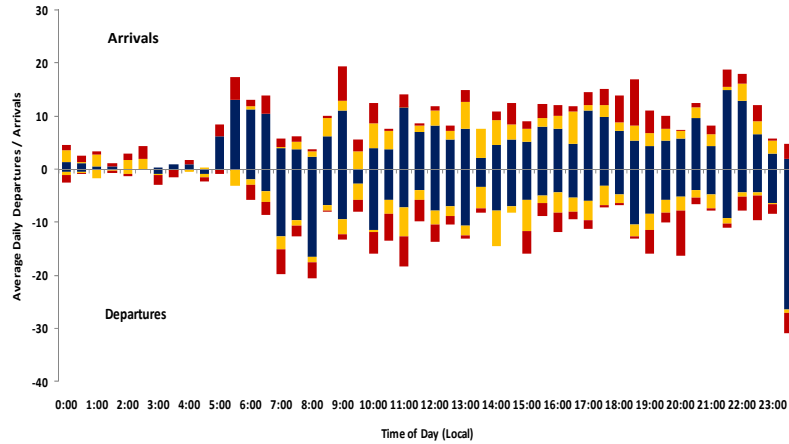
**Hub and spoke - route network structure by which a carrier utilizes an airport to route a broad range of Origin & Destination markets.**

- Hub = Central node or airport
- Spoke = Nonstop routes radiating out from the hub connecting with various other markets
- E-D, A-B, C-B etc. O&D market is routed via hub; market cannot sustain frequent nonstop service

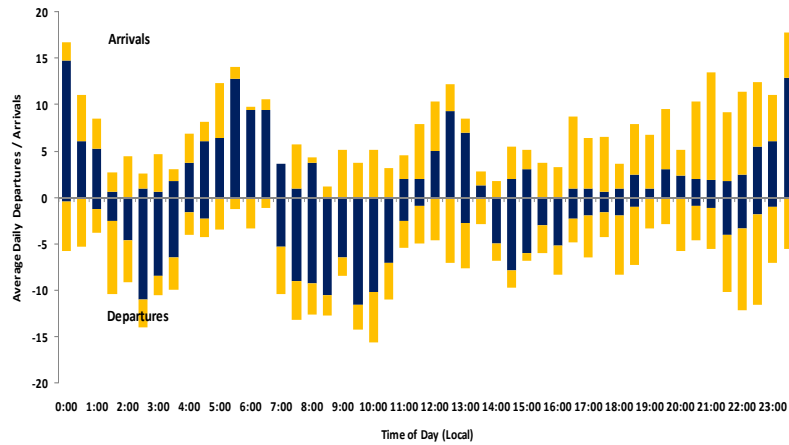


# Hub Structures

Hub Wave Pattern at IST and SAW

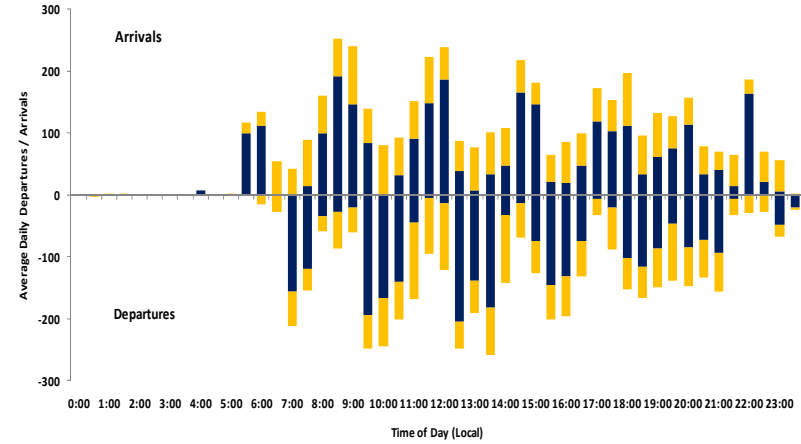


TK @ IST OA @ IST ALL @ SAW  
Hub Wave Pattern at DXB (EK)

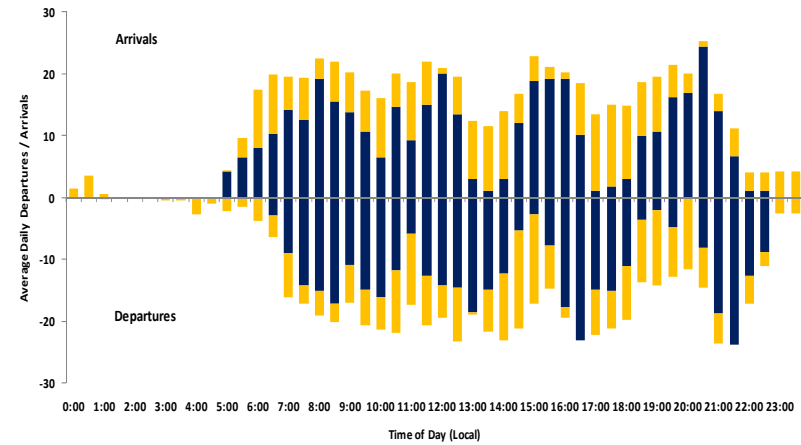


EK OA

Hub Wave Pattern at CDG (AF)



AF OA  
Hub Wave Pattern at FRA (LH)



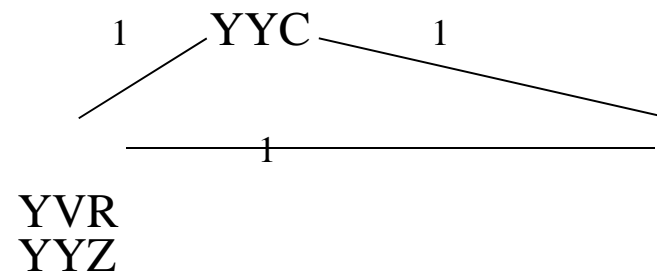
LH OA

# Hubs and traffic density

Vancouver (YVR), Calgary (YYC), Toronto (YYZ)

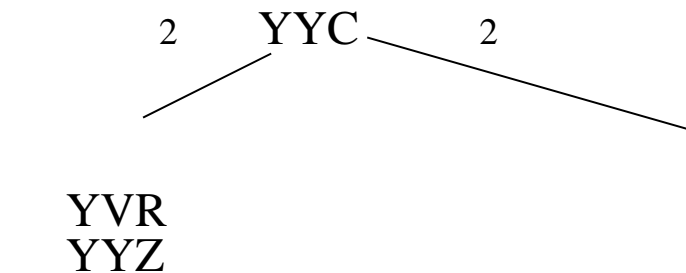
## Linear Route

- Each route supports 1 flight/day
- Average traffic density



## Hub Route

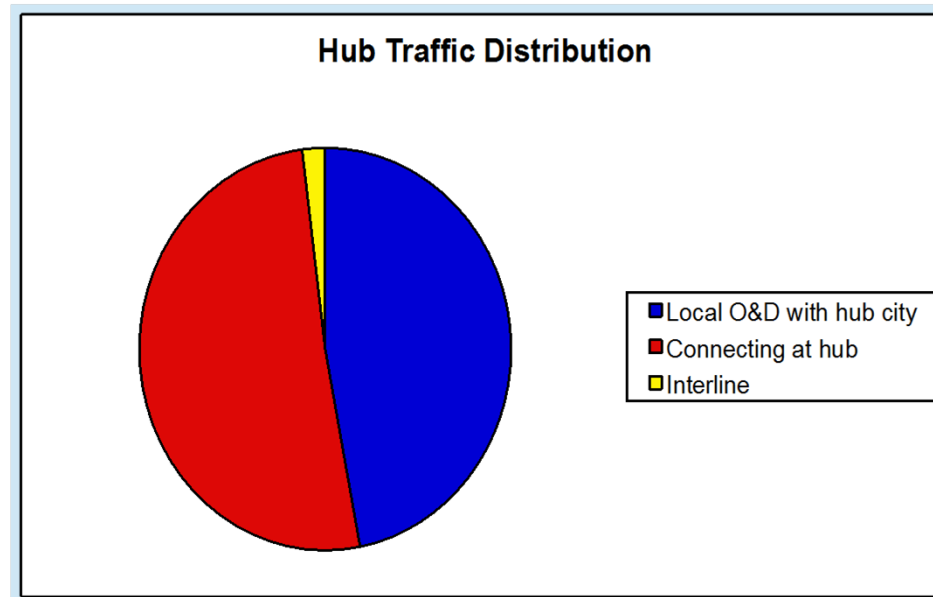
- Each route supports 2 flights/day
- Average traffic density
- 2 flights/day per route
- Same total traffic as linear



## Types of hubs

**Simple hubs – little or no coordination between in- and outbound flights. Spokes scheduled independently.**

- Complex hubs - flights are co-ordinated to arrive in “banks” (allow more and fast connections between flights but poor utilization outside banks and minimal interline traffic).

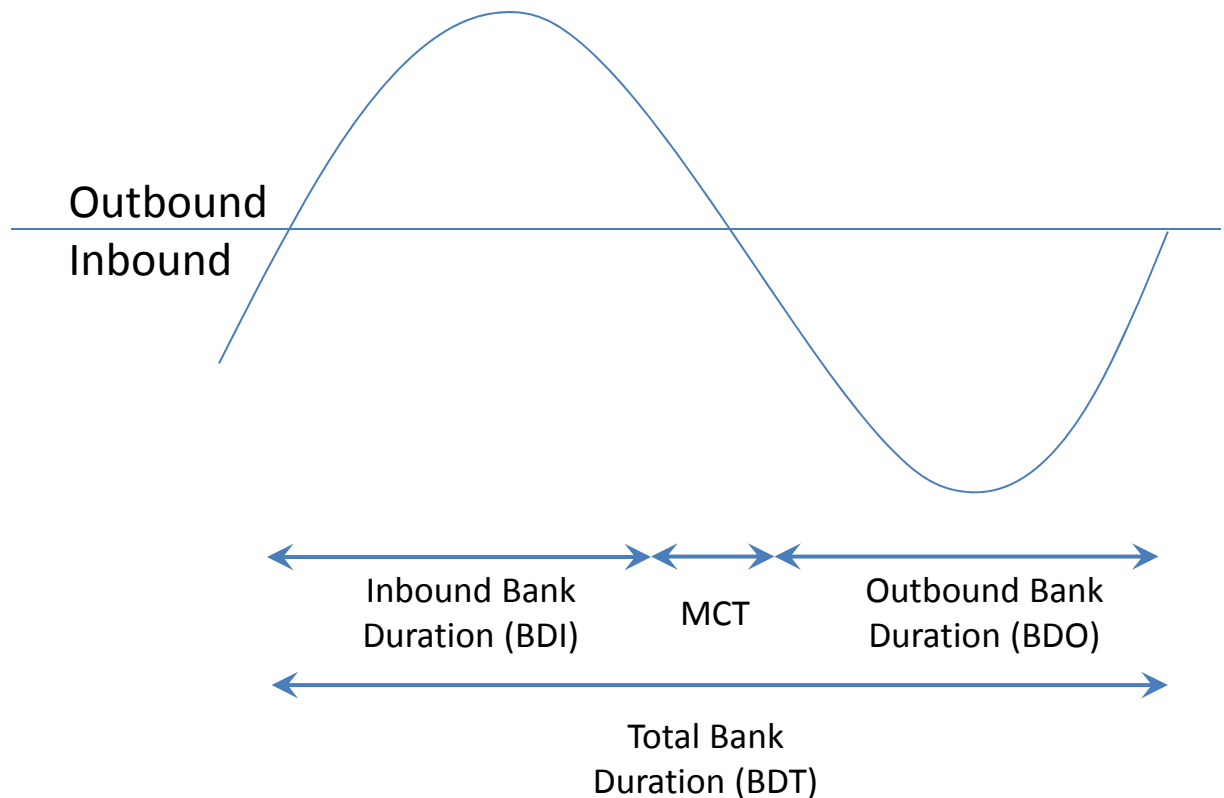




# Bank Structure

## Typical bank duration lasts between 1.5 hours and four hours

- Bank Duration (BDT) = Inbound Bank (BDI) + MCT + Outbound Bank (BDO)
- Extended banks (> 4 hours) produce many hits, but most are poorer quality (i.e. MCT minimization) QSI factors
- “Fast” connections (utilization-driven)
  - sacrifice breadth of connectivity
- “Many” connections (volume-driven)
- sacrifice efficiency, i.e. minimize MCTs



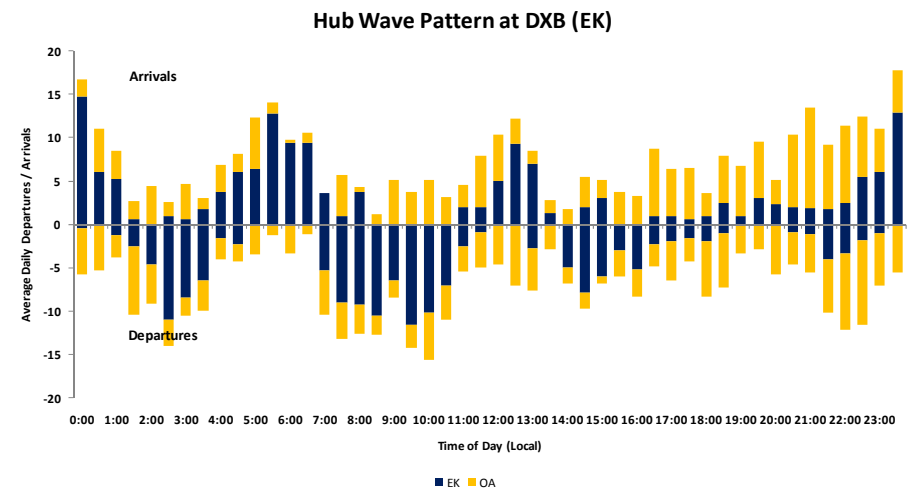
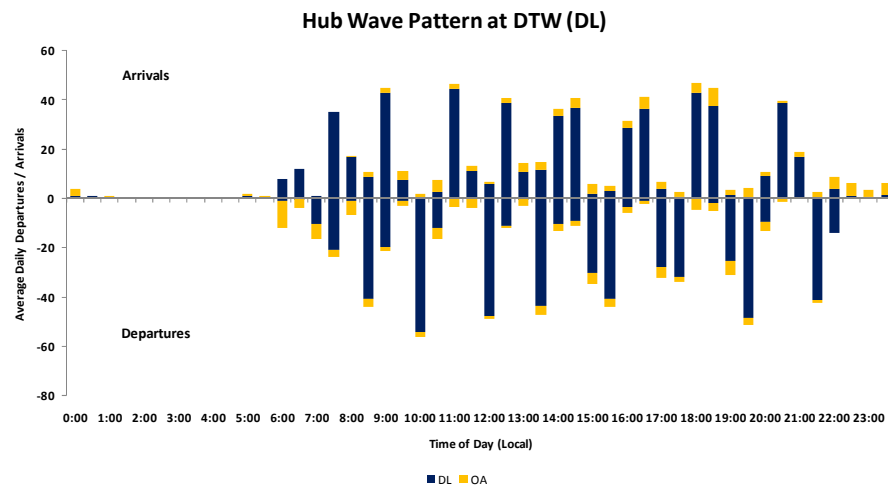
## Directional

- all arrivals from east, all departures to west
- E-W or N-S aligned spokes due to market, regulatory conditions
- geographic constraints (i.e. Canada, CX)

## Multiple (Omnidirectional)

- Reflective of mature hub development
- Broad domestic geographic network (i.e. U.S.)
- Characteristic of all major U.S. carriers

# Examples of Directional and Omni Hubs



- **DL's DTW hub is bi-directional (east-west) and has a 9-wave pattern**
- **Bi-directional hubs typically have 6+ waves in their daily hub structure**
- **This type of structure is most commonly found in U.S. hubs**

- **EK's DXB hub is omni-directional and has a 3-wave pattern**
- **Omni-directional hubs are more commonly found in European, Gulf and Asian hub patterns and typically have 3-7 waves per day**

## Types of hubs – cont.

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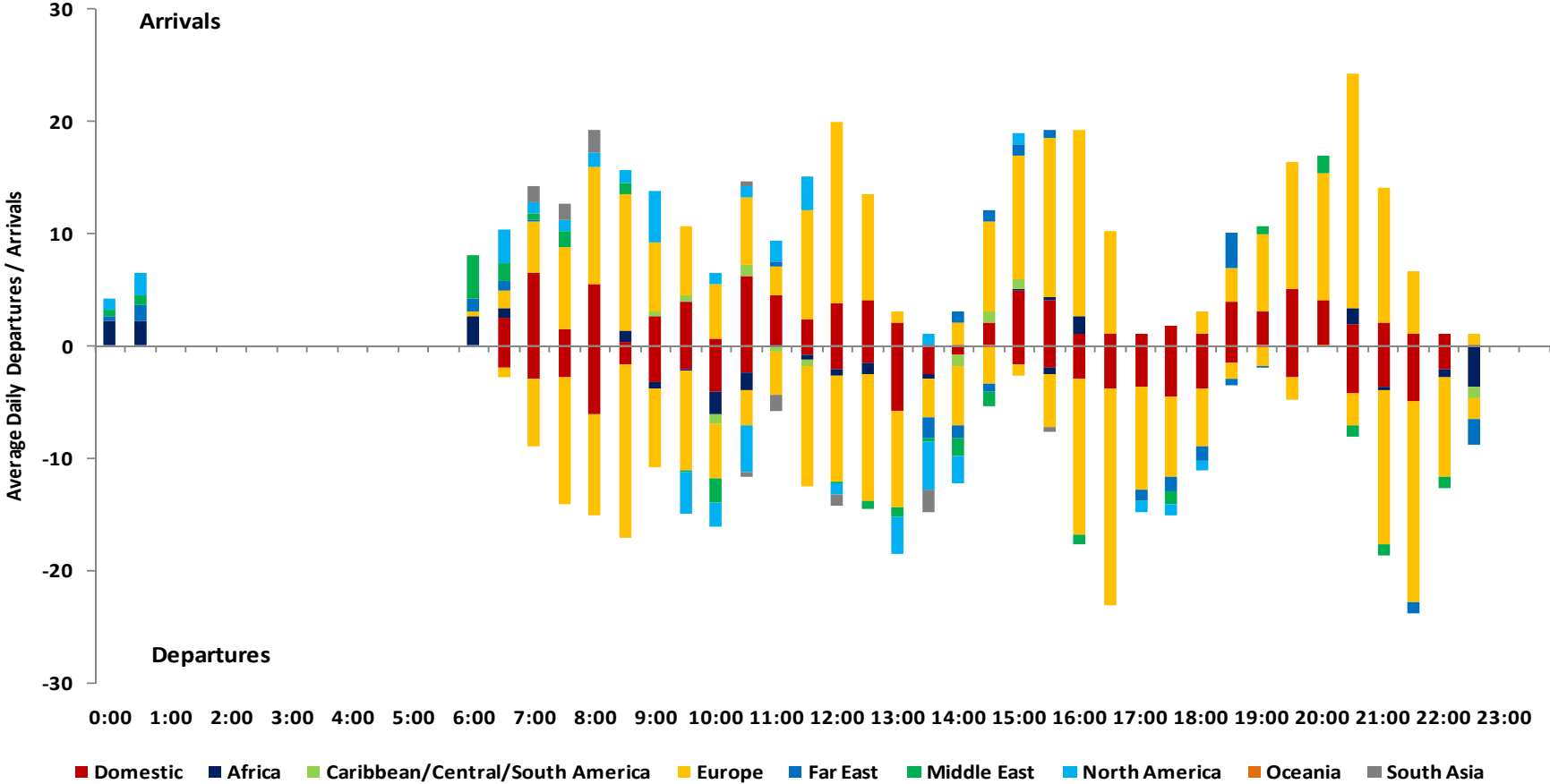
### International

- International & domestic networks co-ordinated
- Carriers primary international gateway for that region
  - i.e. YVR (AC), SFO (UA), MIA (AA)
  - i.e. HKG (CX), AMS (KL) - though no domestic networks

# Hub Wave Pattern at FRA (LH) – by Region



Hub Wave Pattern at FRA by Region (LH)



## Time penalties of hubs

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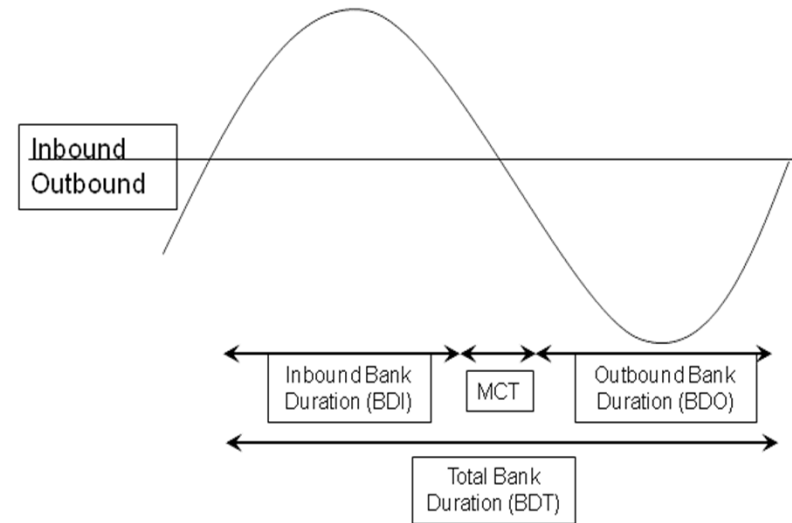
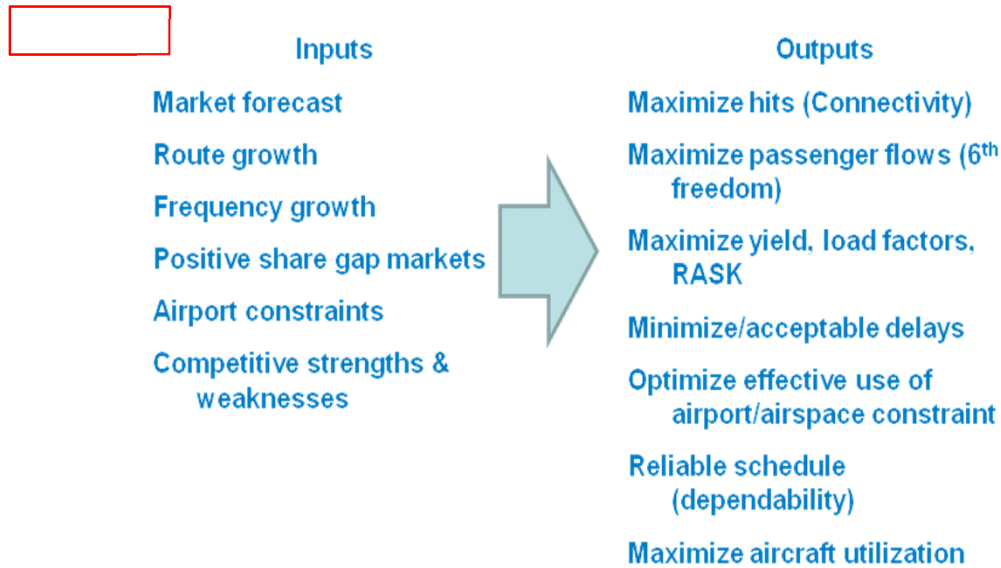
### **Three additional trip time components compared to nonstop flight:**

- 30 minutes for additional ascent/descent (stop) at hub airport
- Extra cruise time (depending on the angle)
- Connection time (30-60 minutes between flights)

### **Extra trip time offset by better total time for traveler:**

- Total time = trip time + waiting time
- Wait time = Time from Desired Departure to Actual Departure

# Overview of the hub design principles



Design process schedule is a generator of alternatives, and selection of the best fit. Ideally, this is a combination of different optimization tools

Selecting the Best Hub Structure Requires Definition Alternative competing hub structures and selection of the best structure that leads to the optimal outputs

Peer Hub Bank Time Comparison			
	AF @ CDG	LH @ FRA	EK @ DXB
BDI	1.50	3.75	3.17
BDO	1.57	3.88	3.50
MCT	1.00	0.75	0.75
BDT	4.07	8.38	7.42
# Banks	7	4	3

# Time penalties comparison

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## Linear:

•2 flights per day per day nonstop, 8 hours apart.

→ **average wait = 4 hours**

## Hub:

•4 flights per day, but via hub

•2 hours apart

→ average wait = 1 hour

→ + 0.5 h ascent/descent

→ + 0.5 h extra cruise

→ + 0.5 h connection

→ **total wait & incremental flight time = 2.5 hours**



**N cities in a hub network →  $N(N-1) / 2$  potential city pairs**

<b>N</b>	2	3	4	5	20	98
$\frac{N(N-1)}{2}$	1	3	6	10	190	4,743

**Supporting a hub - total traffic needed to support an additional flight can be small**

eg Airline has 200 destinations connecting to hub 1 passenger per destination could fill an aircraft

**“Hubbing” keeps more traffic on-line (less interline)**

**Feeder links can be important - hubs led to the rise of extensive “commuter” or “regionals” aligned or subsidiaries of major air carriers (e.g. AC Jazz)**

# Hub choice factors

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## Competition

## Weather

- especially for cargo hubs

## Geographic location

## Distance from the airline's other hubs

## Local O&D market

## Airport congestion

- groundside & air traffic
- access to gates & facilities
- room for future growth
- community support

## No of City Pairs within 40% circuitry

# Criteria for evaluating hubs

## Primary Hubs

Evaluation Criteria	Minimum Requirement
<b>Intl O&amp;D demand</b>	>1.5 million annual pax in 2008
<b>Dom O&amp;D demand</b>	>1.5 million annual pax in 2008
<b>Good circuitry for 6<sup>th</sup> Freedom markets</b>	>30 of top markets <130% circuitry
<b>Potential for strong presence</b>	achieves ranking in top 2 by seat share
<b>Apt capacity for hubbing</b>	>40 gates available simultaneously

## Secondary Hubs

Evaluation Criteria	Minimum Requirement
<b>Regional O&amp;D demand</b>	>1 million annual pax in 2008
<b>Dom O&amp;D demand</b>	>1 million annual pax in 2008
<b>Good circuitry for regional markets</b>	>20 of top regional markets <130% circuitry
<b>Good circuitry for domestic markets</b>	>20 of top domestic markets <130% circuitry
<b>Apt capacity for hubbing</b>	>20 gates available simultaneously

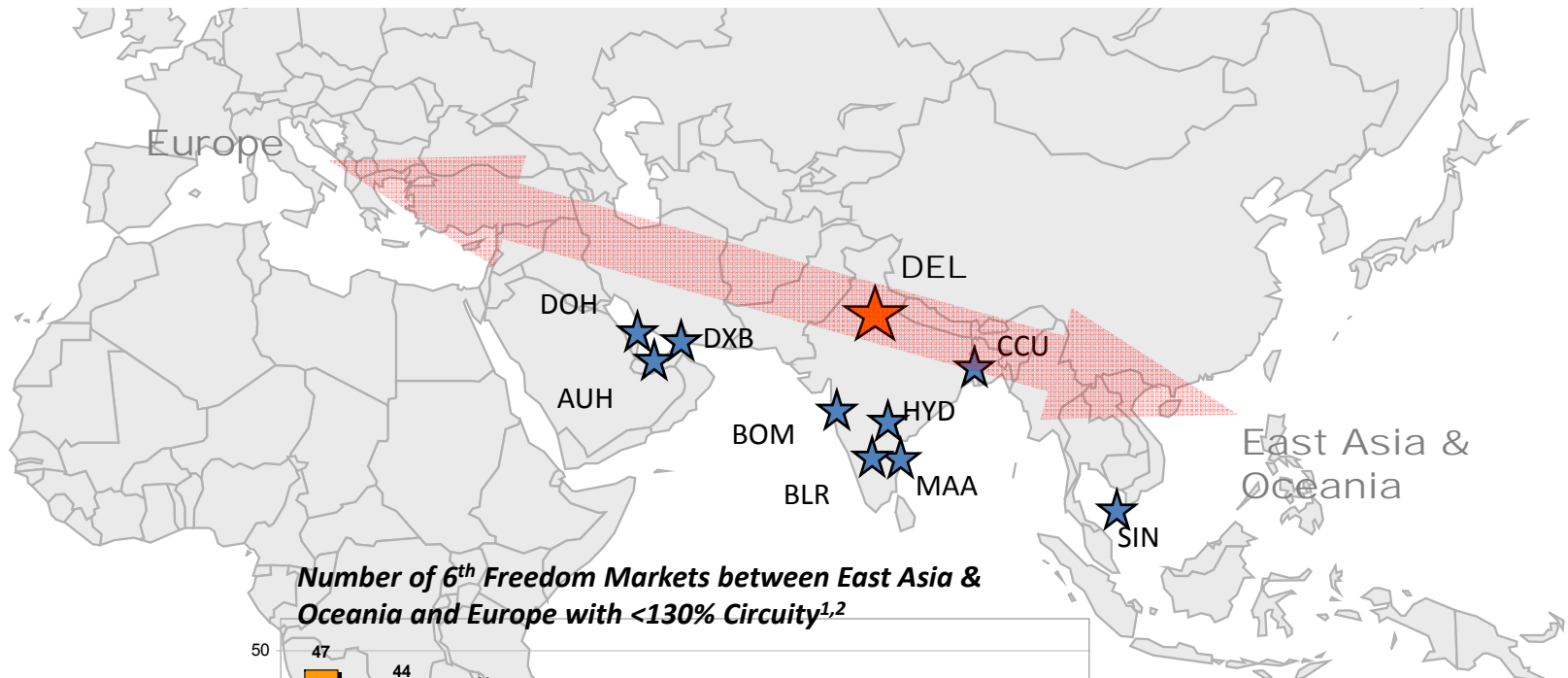
# Apply criteria to hubs in India: Example

= Meets criteria

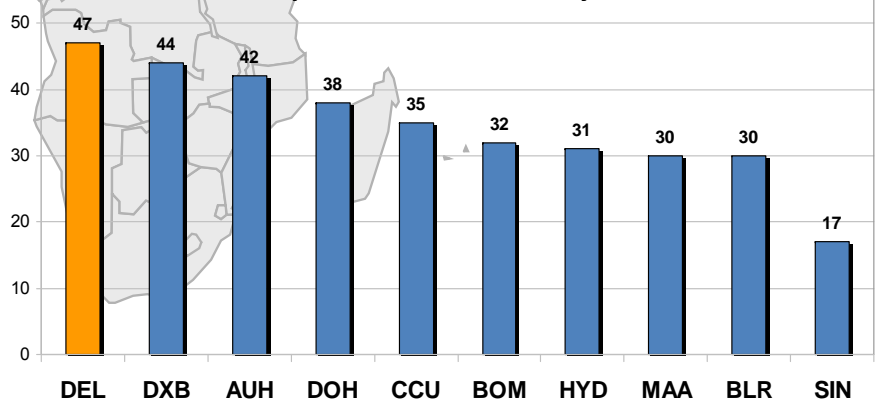
Evaluation Criteria	BOM	DEL	CCU	MAA	BLR	HYD	AMD	COK	CCJ	TRV	PNQ	NAG	ATQ	GOA	TRZ
Intl O&D demand															
Dom O&D demand															
Good circuitry for 6 <sup>th</sup> f dom mkts															
Strong presence															
Apt capacity for hubbing															
Conclusion															

Only BOM and DEL satisfy all of the criteria to be a Primary Hub

**Delhi is geographically positioned to provide direct routings to the greatest number of 6th Freedom markets, when compared to major hubs like Dubai and Singapore**



**Number of 6th Freedom Markets between East Asia & Oceania and Europe with <130% Circuity<sup>1,2</sup>**



*DEL is also better located than other major Indian airports to connect Asia & Oceania with Europe*

Source: Industry Data  
 Notes: 1/ Analyzed Top 100 6th Freedom O&Ds between East Asia/Oceania and Europe; 2/ 130% circuity means that the total flown distance between two cities via the hub is 30% greater than the nonstop distance

# Industry Challenges

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## A key source of fragility is increased competition from low cost carriers

- **Low Cost Carriers have redefined the industry and its economics.**
  - .Low cost carriers have redefined the airline product
  - .One-way versus return trips
  - .Point-to-point versus hub-and-spoke route system
  - .Less connectivity
  - .One type of aircraft
  - .Quicker to adjust capacity
  - .Focus on what adds value, remove the rest
  - .Many have achieved high, consistent profitability
- **Air Canada is launching a new low cost model with their leisure focused *Rouge*.**
- **WestJet is also launching a new regional service, *Encore*.**

# Next Generation Airline Business Model

## The Internet effect

• Industries Profoundly Impacted by Internet Companies:

- Music
- Video
- Newspapers
- Book publishing & retail
- Traditional Phone Companies
- Big Box Electronics
- Income tax preparation
- Travel Agents
- Aviation

- Google purchased travel software company ITA Software Inc
- ITA powers Orbitz, Kayak, Cheap Tickets, AA, UA, Virgin, ANA and others



# Google/Social Media/Visa Int'l: Re-packaging Airline Product?

Internet companies have potential to repackage airline products:

• Kayak "hacker fares" create connections not available from carriers;

• Google invested in airline res system;

• Could develop platform to enter business directly;

• Could offer value added packages for trip fulfillment;

• Would you pay \$125 for guarantee that you will get to your destination today?

## Internet creates new interline products

The screenshot shows the Kayak website interface for a flight search. The search parameters are Halifax, NS, Canada to Sydney, NSW, Australia, from 04/24/2012 to 04/30/2012. The results show 35 of 502 flights. A prominent feature is the 'Air New Zealand Flight Sale' with a 'Select' button. Below it, several flight options are listed with prices and airlines, including a 'Hacker Fare' for \$16045. The interface includes filters for stops, times, and cabin class, and a sidebar with comparison links for Orbitz, Hotwire, Expedia, and Travelocity.

Predicting the future of the Internet is easy: anything it hasn't yet dramatically transformed, it will.

The screenshot shows a news article titled "Google Gets into the Airline Reservation Business". The article discusses Google's entry into the airline reservation market through its partnership with Cape Air. It mentions that Google is using an air reservation platform built by ITA Software, which was purchased by Google in July 2010. The article also notes that the new reservation system can be accessed at the newly redesigned website for Cape Air and Harbor Air. The article includes a list of features such as faster shopping for one-way, round-trip, and multi-city flights and fares, self-service tools for quick booking changes, and a booking flow that is smooth and secure. The article also mentions that the new reservation system can be accessed at the newly redesigned website for Cape Air and Harbor Air. The article includes a list of features such as faster shopping for one-way, round-trip, and multi-city flights and fares, self-service tools for quick booking changes, and a booking flow that is smooth and secure. The article also mentions that the new reservation system can be accessed at the newly redesigned website for Cape Air and Harbor Air. The article includes a list of features such as faster shopping for one-way, round-trip, and multi-city flights and fares, self-service tools for quick booking changes, and a booking flow that is smooth and secure.

# Automation

## Automated kiosks are playing a greater role

.90% of domestic AC passengers use kiosk, mobile check-in or automated bag-tag process

.WestJet has approximately 85% of passengers check-in online or a kiosk

.Ryanair charges fee if kiosk is not used

.Amsterdam airport - fully automated bag drop function

### Automation & Check-In:

.Mobile check-in and boarding passes have nearly replaced the traditional check-in process.

.Canada was a pioneer in self bag-tag.



Auckland, New Zealand



August 2011, Amsterdam Bag-Drop



# Types of airline business models

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**Legacy or full-service network carriers**

**Low cost carriers (LCCs)**

**Ultra low cost carriers (ULCCs)**

**Charter carriers**

**Regional carriers**

**Hybrid carriers**

# Legacy carriers

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## Legacy carriers (or FSNCs)

- Wide range of pre-flight and onboard services
- Multiple seat classes
- Hub-and-spoke route systems

## Still account for a large share of passenger traffic

- Larger market share in international routes
- Smaller in domestic markets (loss to LCCs)

## Ownership (private, majority or minority stake owned by the government, multi-country)

# Major airlines by the number of passengers carried

International		Domestic		Total (International + Domestic)	
Rank	Airline	Rank	Airline	Rank	Airline
1	Ryanair	1	Southwest Airlines	1	Delta Air Lines
2	Lufthansa	2	Delta Air Lines	2	Southwest Airlines
3	easyJet	3	China Southern Airlines	3	American Airlines
4	Emirates	4	American Airlines	4	China Southern Airlines
5	Air France	5	US Airways	5	Ryanair
6	British Airways	6	China Eastern Airlines	6	Lufthansa
7	Air Berlin	7	Air China	7	China Eastern Airlines
8	KLM	8	United Airlines	8	US Airways
9	Delta Air Lines	9	All Nippon Airways	9	United Airlines
10	American Airlines	10	Gol Airlines	10	Air France

Source: IATA, January 2013

# Major international cargo carriers

## The world's busiest airlines

	<i>Airline</i>	<i>FTK (millions)</i>
1	FedEx	15,743
2	UPS Airlines	10,194
3	Cathay Pacific Airways	9,587
4	Korean Air Lines	9,542
5	Emirates	7,913
6	Lufthansa	7,428
7	Singapore Airlines	7,001
8	China Airlines	6,410
9	EVA Air	5,166
10	Cargolux	4,901

	<i>International</i>	<i>FTK (millions)</i>
1	Cathay Pacific Airways	9,587
2	Korean Air	9,487
3	Emirates	7,913
4	Lufthansa	7,422
5	FedEx	7,421
6	Singapore Airlines	7,000
7	China Airlines	6,410
8	UPS Airlines	5,215
9	Eva Air	5,166
10	Cargolux	4,901

Source: IATA, June 2011

# Profit vs Compensation

## 2010 Airline CEO Compensation vs. Earnings

Name	Airline	2010 Pay	2010 Earnings
Richard H. Anderson	Delta	\$8,041,271	\$593 million
Gerard J. Arpey	AMR	\$5,952,675	\$471 million (loss)
Jeffery Smisek	United Continental	\$4,359,766	\$253 million
Gary C. Kelly	Southwest	\$3,357,570	\$459 million
William S. Ayer	Alaska	\$3,357,350	\$251.1 million
W. Douglas Parker	US Airways	\$2,757,981	\$502 million
David Barger	Jetblue	\$1,226,017	\$097 million

Source: Dallas News (04/2011)

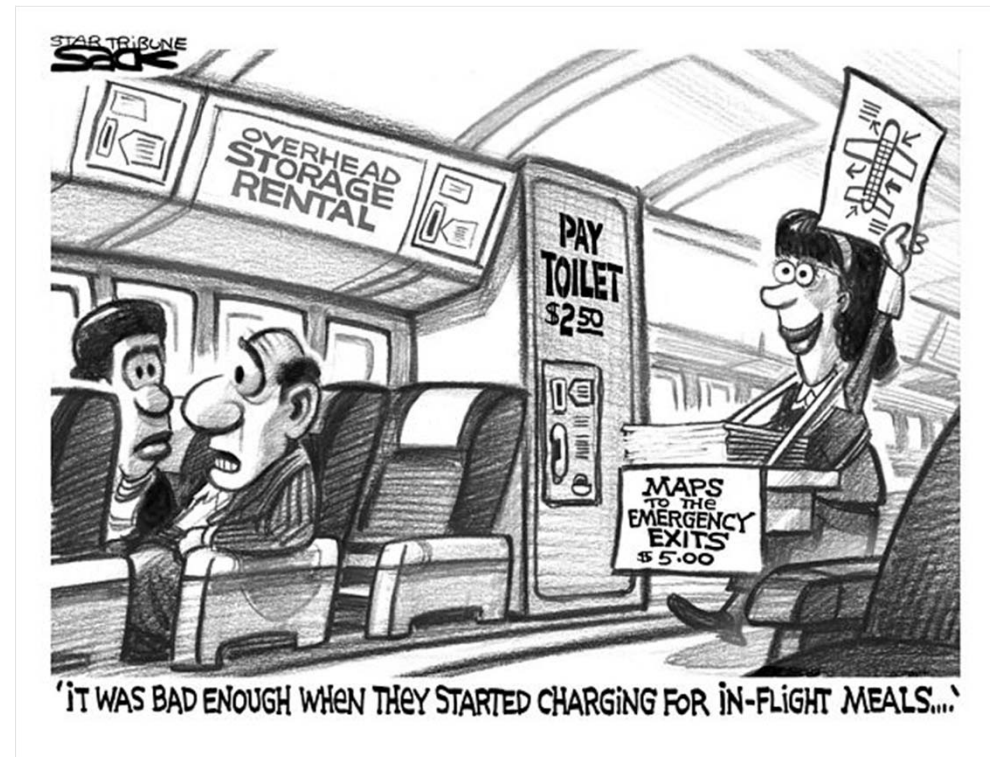
# Low cost carriers (LCCs)

*“No, we shouldn’t give you a bloody cup of coffee. We only charge 19 euros for the ticket”*

Michael O’Leary, President of Ryanair

*“When someone comes to me with a cost saving idea, I don’t immediately jump up and say yes. I ask: what’s the effect on the customer?”*

Herb Kelleher, former CEO Southwest Airlines





# LCCs

## Low cost carriers have contributed to profit erosion of majors

LCC differ from legacy carriers:

- .Do not offer 'frills'
- .Have point-to-point route systems as opposed to 'hubs'
- .Use simple fleet composition, typically one type of aircraft
- .Non-unionized labour

US-based Southwest Airlines is a notable example of success with over 40 consecutive years of profitability

Ryanair is the most profitable passenger airline in Europe

Canada's LCC WestJet was modeled on Southwest

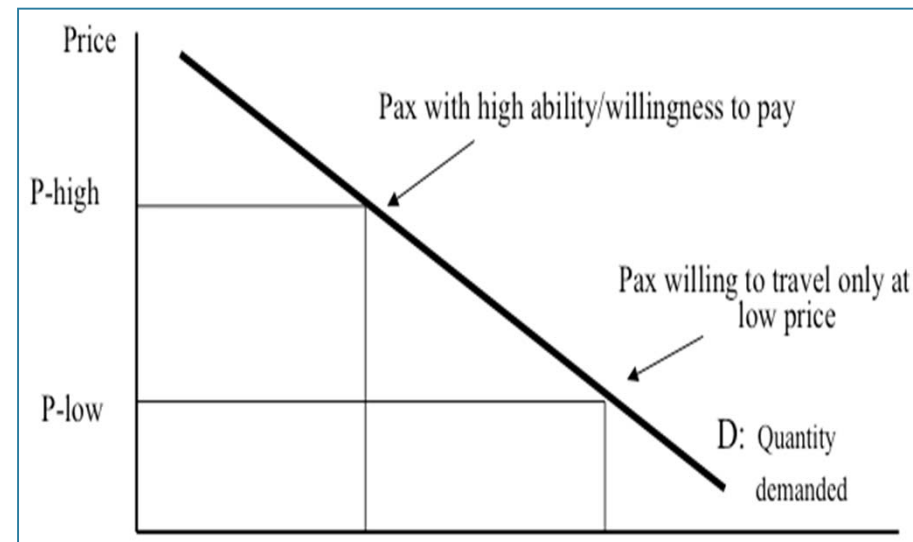


# LCC business model

**Major expansion of LCCs in the US, Canada, Europe, Australia, Asia and Latin America.**

## Traditional LCC business model:

- one type of aircraft
- 'no frills' product
- charge for 'ancillaries'
- price sensitive travellers
- high density routes
- high aircraft utilization
- secondary airports
- point-to-point route systems



- **Product design**

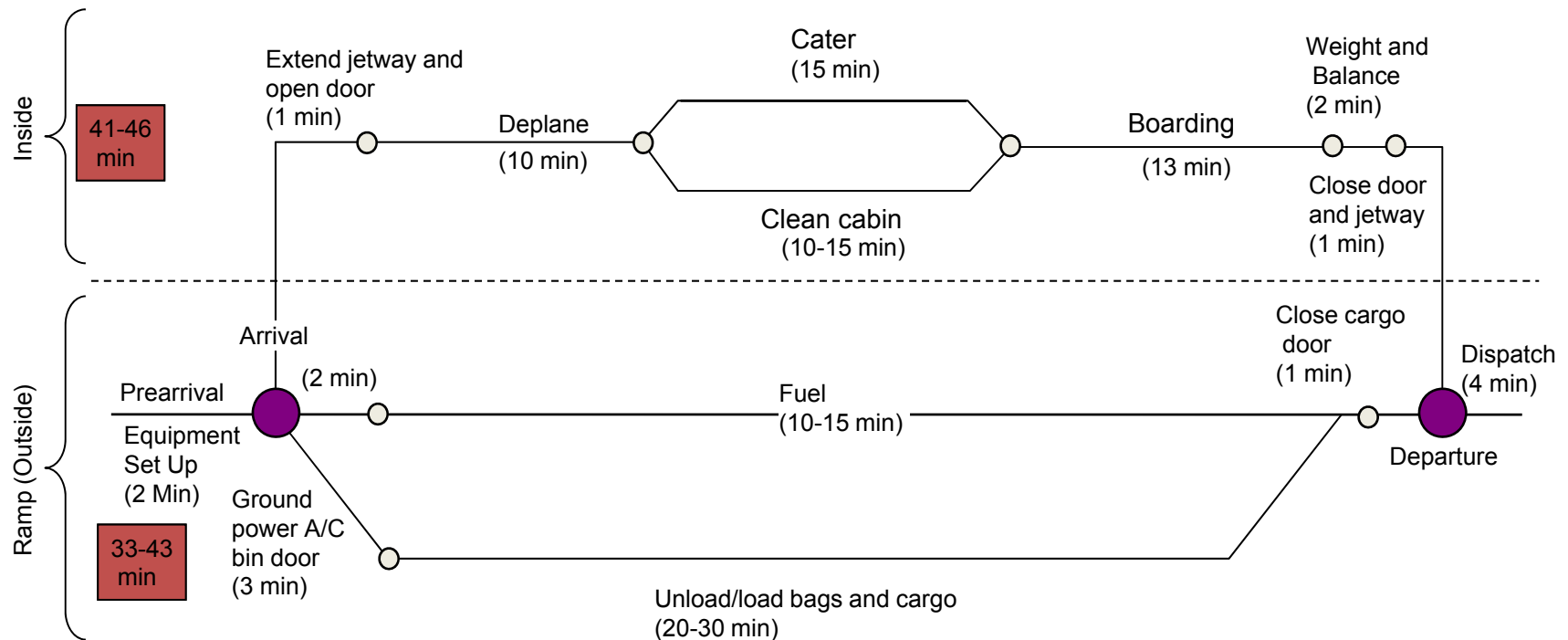
- Single class
- Higher density seating
- No assigned seating (e.g., Southwest)
- ‘cheap and cheerful’

- **Process design**

- Use of secondary airports
- Minimum turn-around time
- High aircraft utilization
- No connections, interlining
- Short to medium haul routes (up to 750 miles)

# With a banked schedule, minimum connect times drive turnaround times – not ground operations

Ground Operations – Required Time for a Turnaround  
 ( Carriers – 737-300)

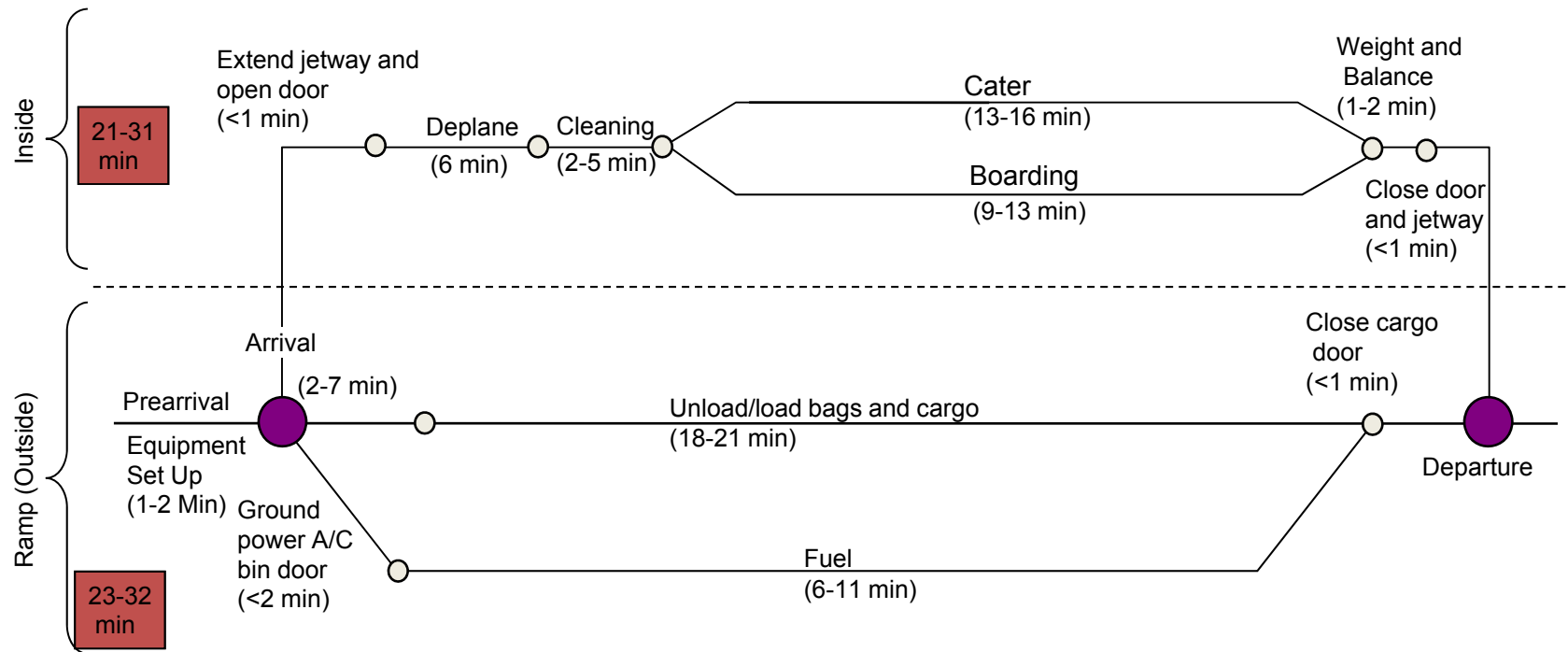


## Opportunities To Compress Ground Operations' Turnaround Times

# But, with a continuous schedule, ground operations drives turnaround time, and thus airplane/crew utilization



Ground Operations – Required Time for a Turnaround  
 ( Southwest – 737-300)



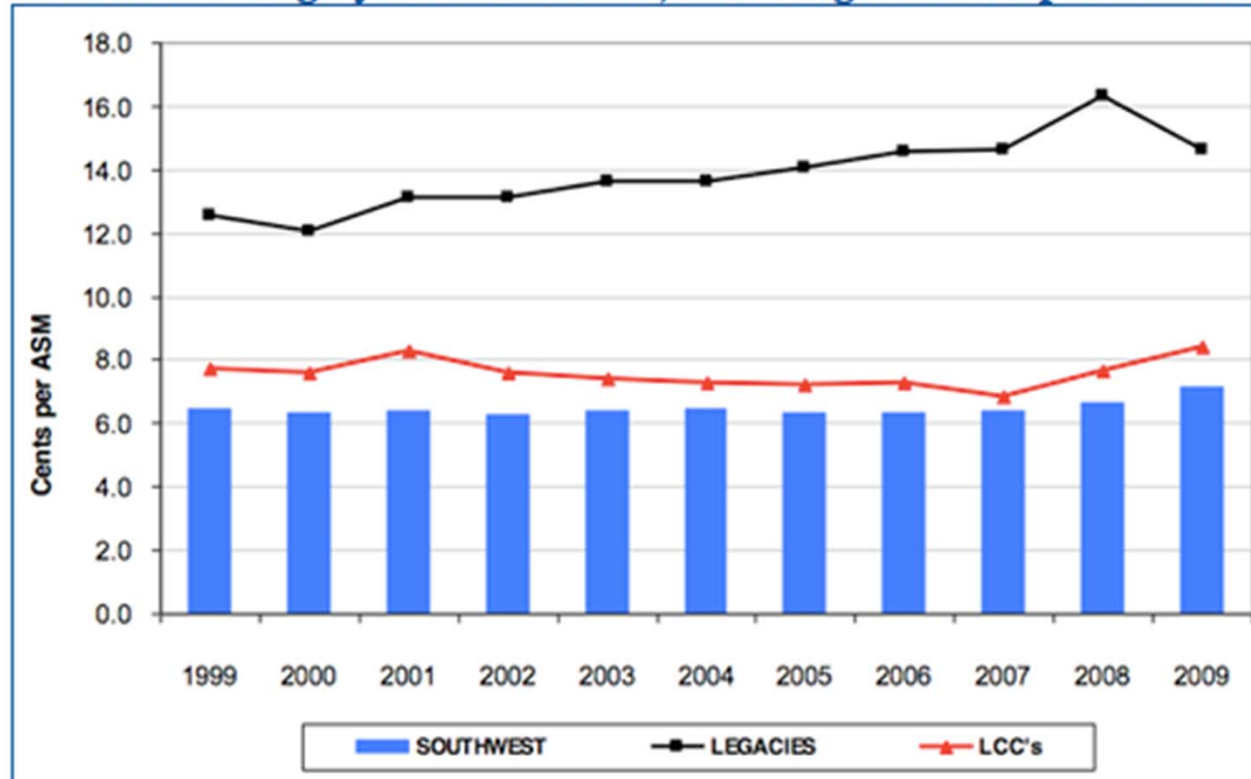
***The LCCs Have Engineered Rapid Turnaround Processes emulated on short haul routes by network carriers***

# Differences between legacy and low cost models

	HUB & SPOKE CARRIER	LOW-COST CARRIER
Model	Convenient <u>connecting</u> travel via hub	Efficient <u>point-to-point</u> (P2P) travel
Scheduling	<b>Synchronized banks:</b> <ul style="list-style-type: none"> <li>– enable rapid connections</li> <li>– lower utilization of flight equipment/crews</li> <li>– uneven workload for ground crews</li> </ul>	<b>Continuous flow</b> uses flight and ground resources efficiently (minimal down time and level-loading)
Turnarounds	Lengthy (65 min), due to the minimum connect times for passengers and bags	Minimized (25 – 30 min) -- key to high utilization of flight resources
Baggage Handling	<ul style="list-style-type: none"> <li>– Schedule creates uneven work load</li> <li>– Two parallel baggage-handling systems</li> </ul>	<ul style="list-style-type: none"> <li>– Schedule creates level work load</li> <li>– Simpler baggage-handling system</li> </ul>
Passenger Handling	<ul style="list-style-type: none"> <li>– Schedule creates uneven work load</li> <li>– Intense re-work to maximize service to preferred pax (e.g., re-seating)</li> </ul>	<ul style="list-style-type: none"> <li>– Schedule creates level work load</li> <li>– Simpler process provides adequate customer service</li> </ul>
Fuel	Banked schedule creates hub congestion that consumes extra fuel	Continuous schedule minimizes congestion, reducing fuel consumption
Objective	Heavy use of high-cost channels (GDS)	Heavy use of low-cost channels (direct)

# LCC cost advantage

Southwest vs Legacy and LCC CASM, excluding fuel and special items: 1999 to 2009

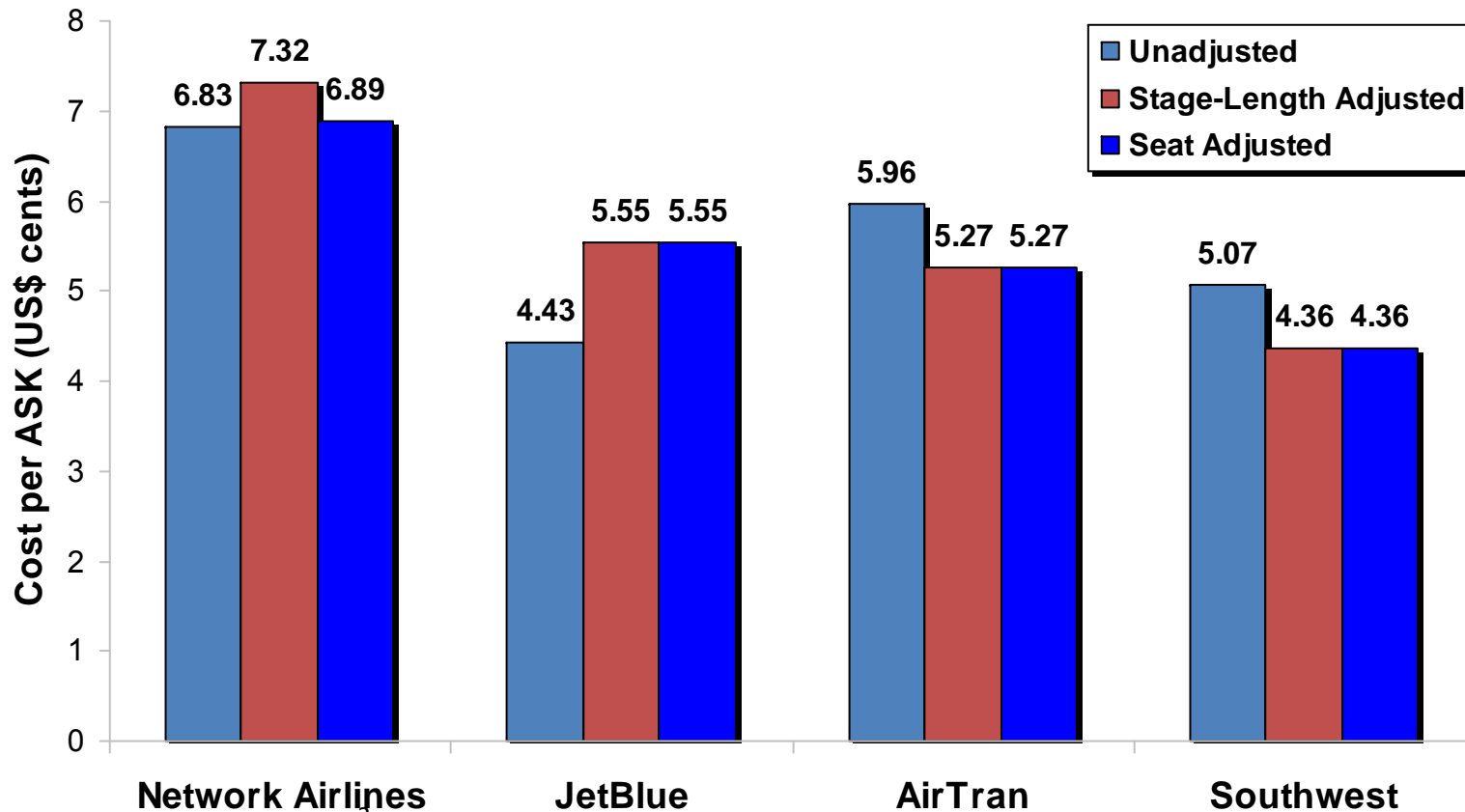


Source: Southwest Airlines

Source: CAPA Centre for Aviation (2010)

Mid 2000@s US LCCs had still a cost advantage of up to 37% over US network carriers

### Operating Cost per ASK <sup>1/</sup>



1/ CY 2005.

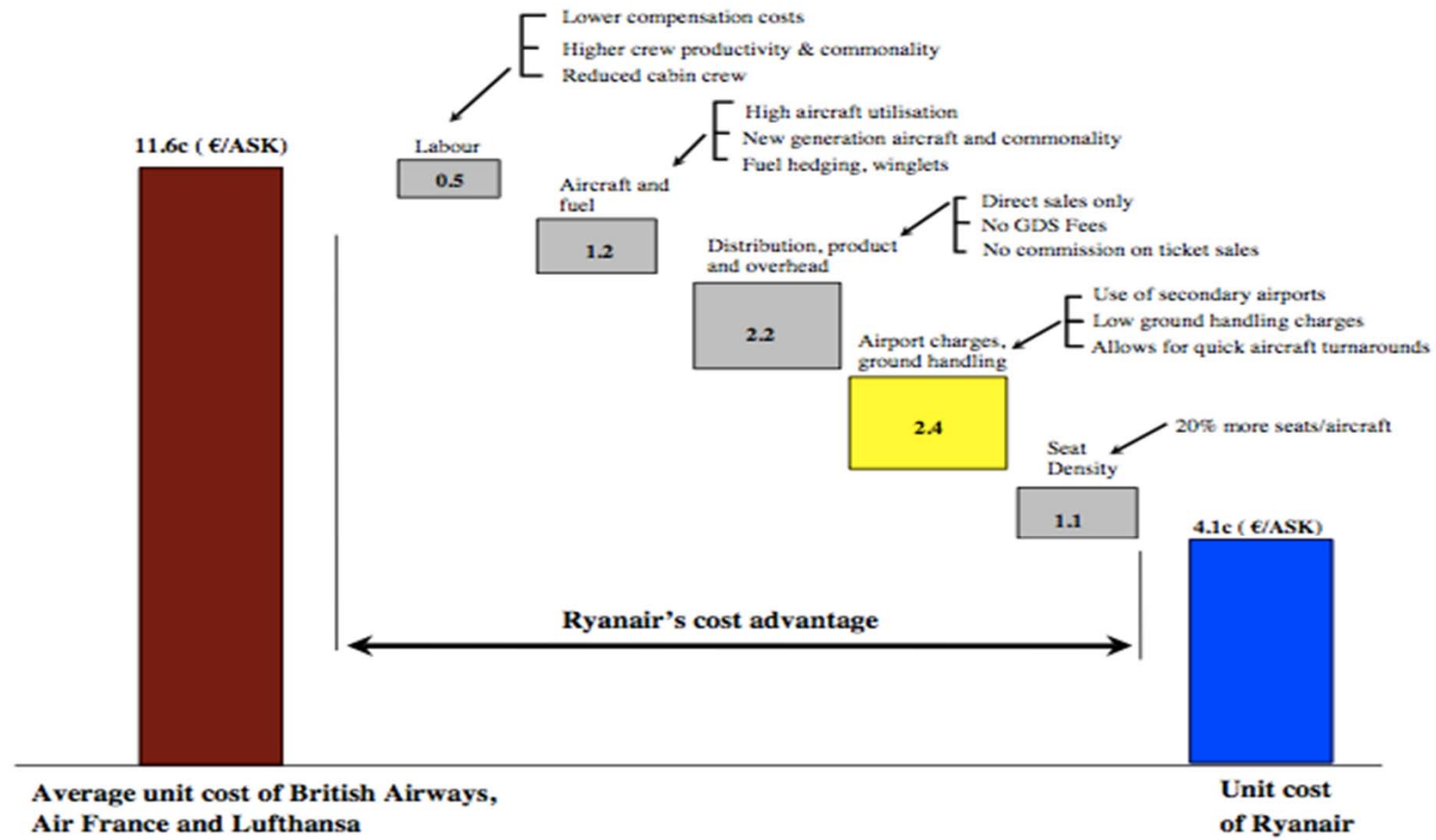
2/ American, Delta, United.

Source: IATA Airline Cost Performance Economics Briefing, March 2007.



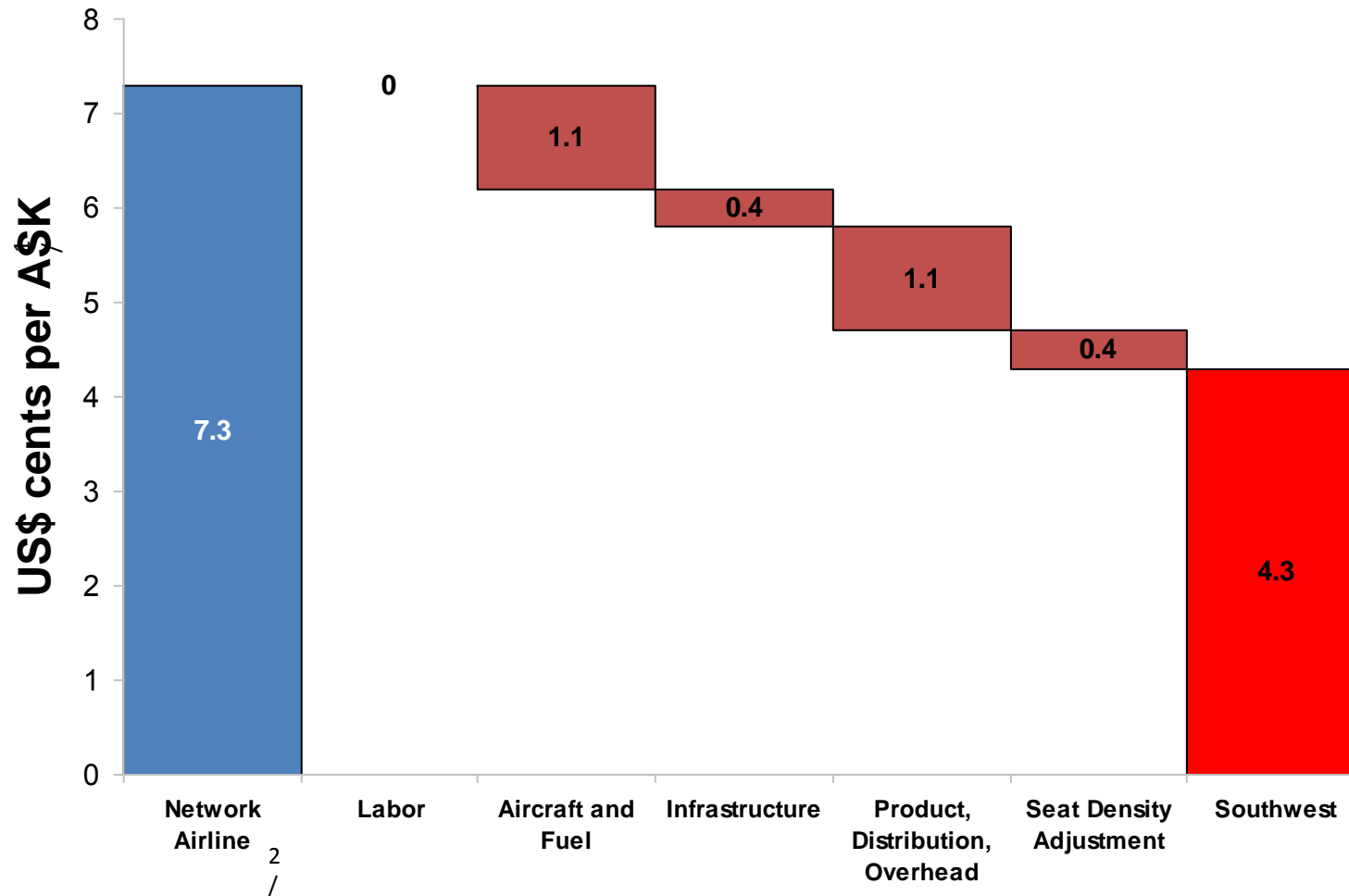
# LCCs cost advantage

## The competitive advantage of the low cost carrier (2005 data)



Source: O'Connell (2008)

# Southwest achieves 75% of its cost advantage through fuel hedging and product, distribution, and overhead cost savings

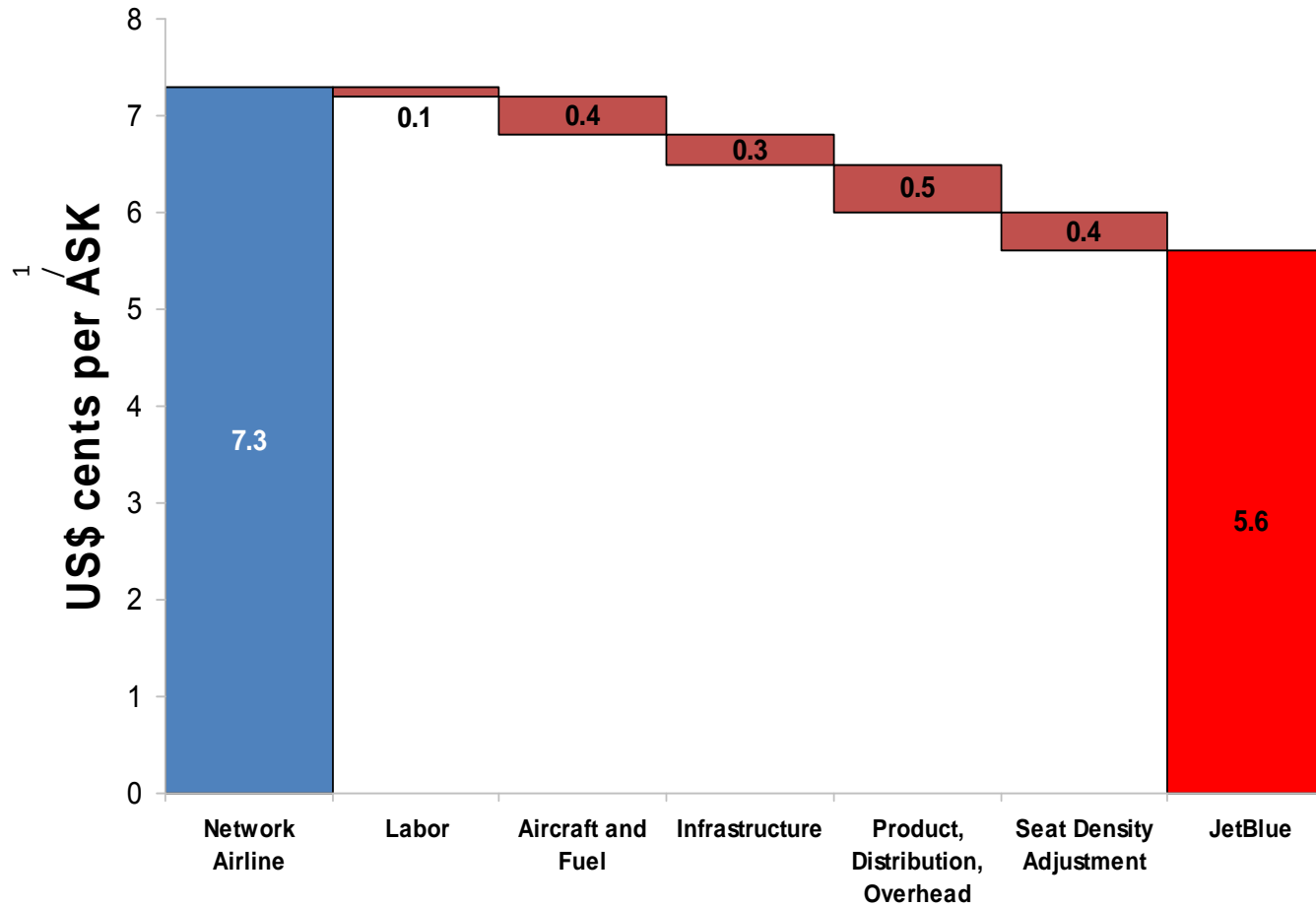


1/ CY 2005.

2/ American, Delta, United.

Source: IATA Airline Cost Performance Economics Briefing, March 2007.

# JetBlue's cost savings are more evenly spread across all cost centers



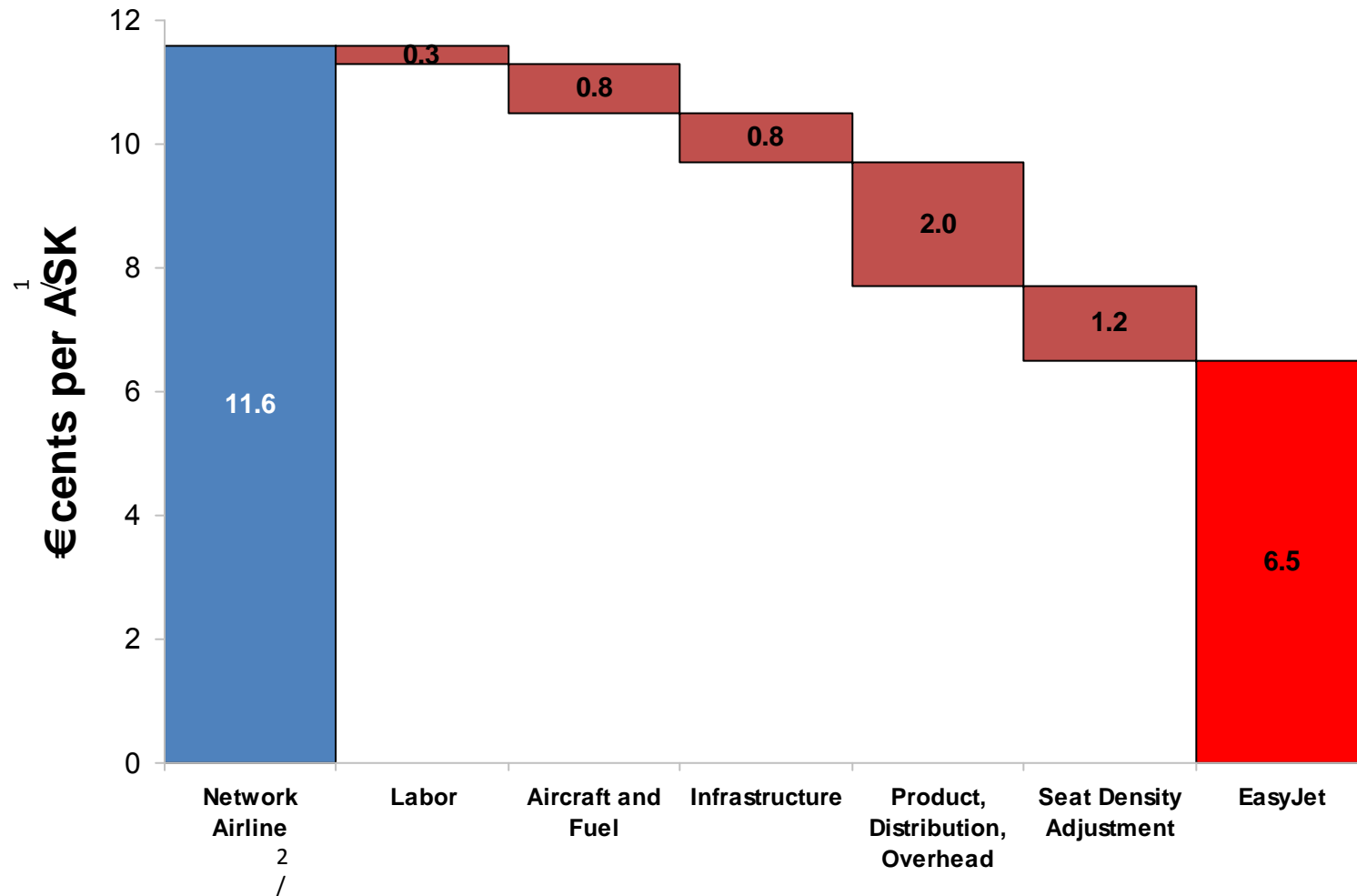
1/ CY 2005.

2 /

Source: IATA Airline Cost Performance Economics Briefing, March 2007.

2/ American, Delta, United.

# EasyJet has far less of a gap in infrastructure costs as it operates at more major airports than Ryanair



1/ CY 2005.

2/ Air France, British Airways, Lufthansa.

Source: IATA Airline Cost Performance Economics Briefing, March 2007.

# LCCs profit margin



Source: The Economist (2012)

## Large airfare reduction

[Hof, Dresner & Windle (2004), Morrison & Winston (2003), Kim & Singal (1993), Borenstein (1990, 1992)]

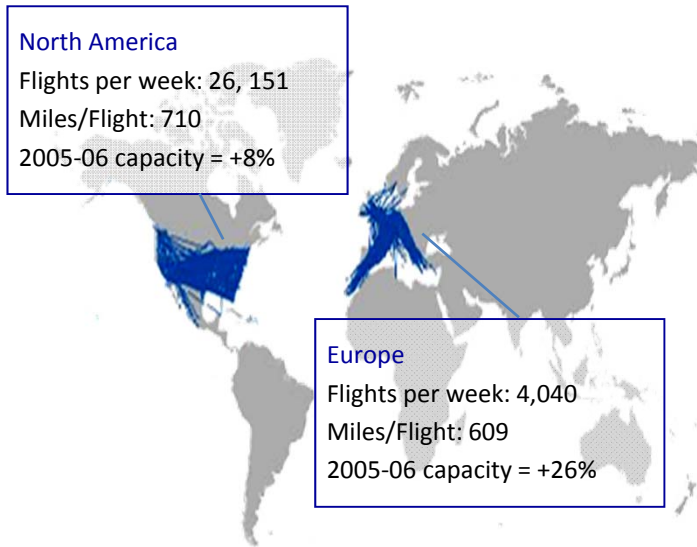
- Network carriers reduced average airfares by 35-40%

**Huge expansion of stimulated demand as well as passengers attracted from adjacent airports thus dramatic increase in travelers at LCC airports**

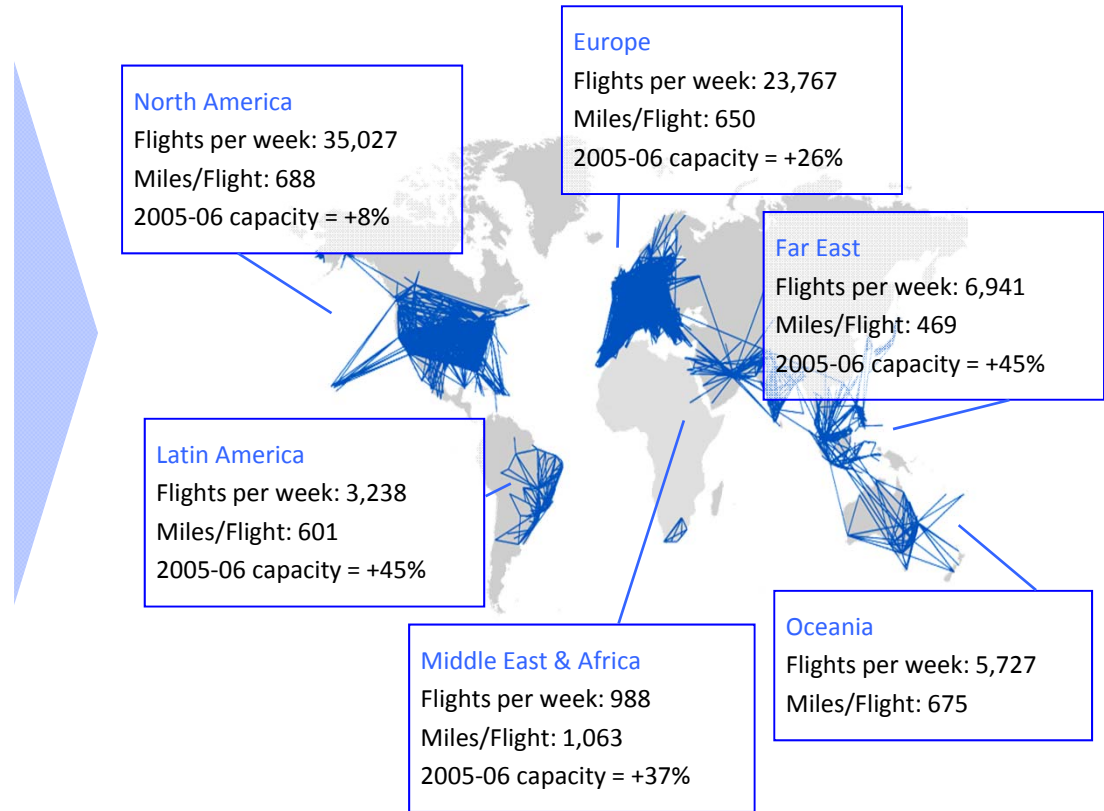
**Network carriers' hub premiums decreased significantly when one or more LCCs are present at the hub**

# LCC expansion globally is a continued driving source of growth

LCC routes in end 90's



LCC routes mid 2000's



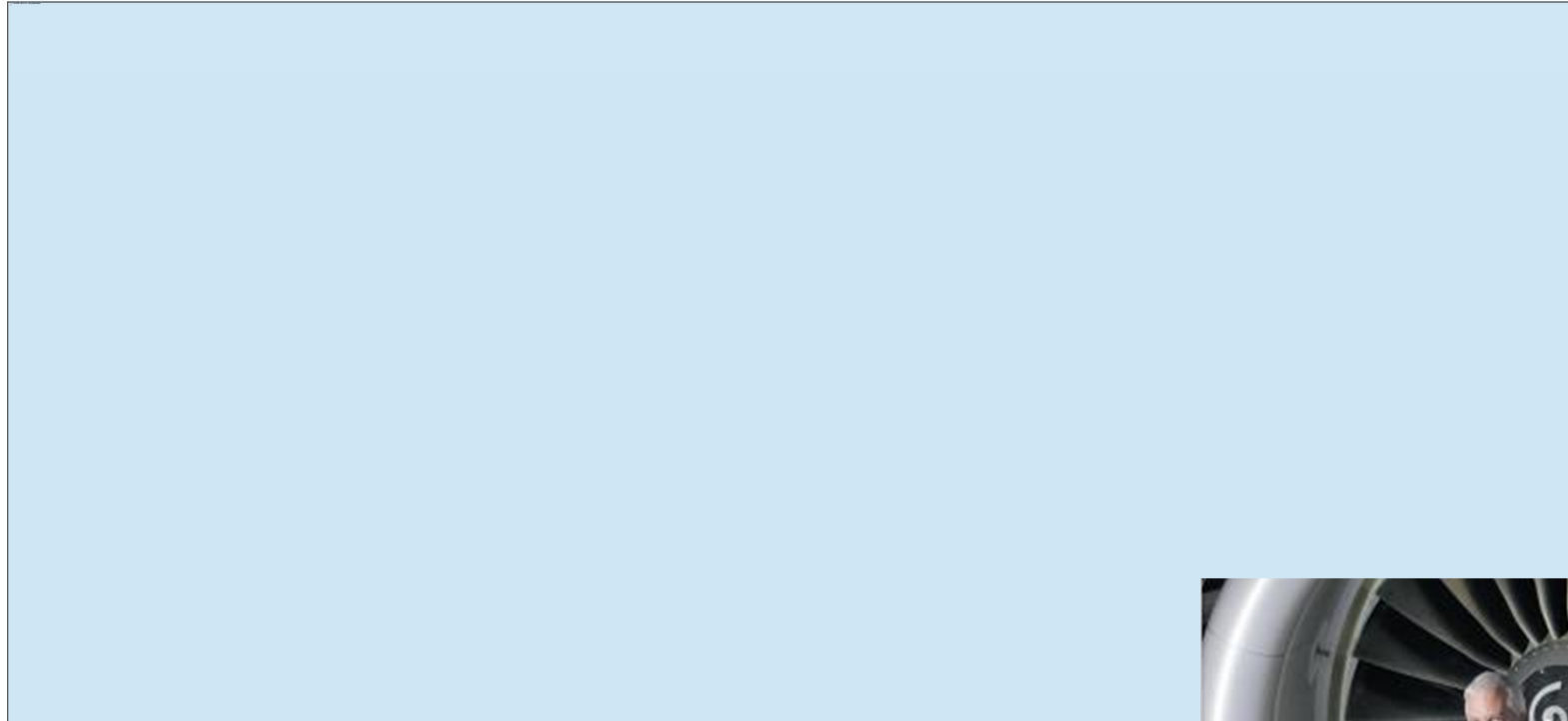
Sources: OAG,





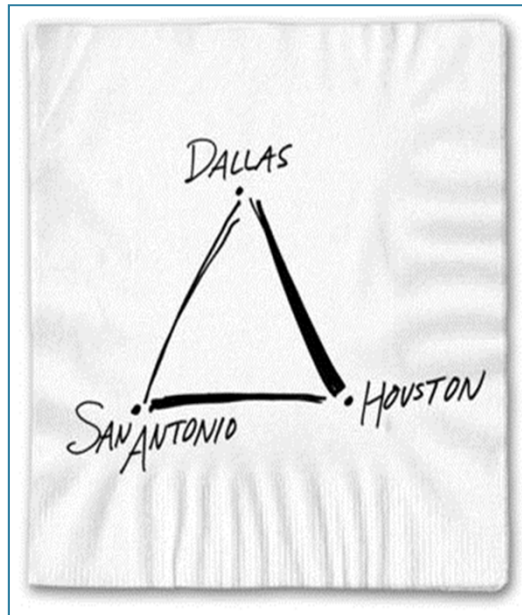
# LCCs in North America

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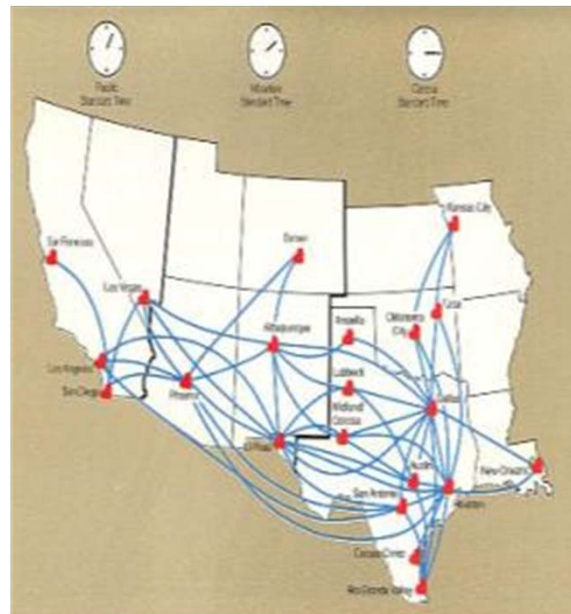


# Southwest Airlines

1971



1983



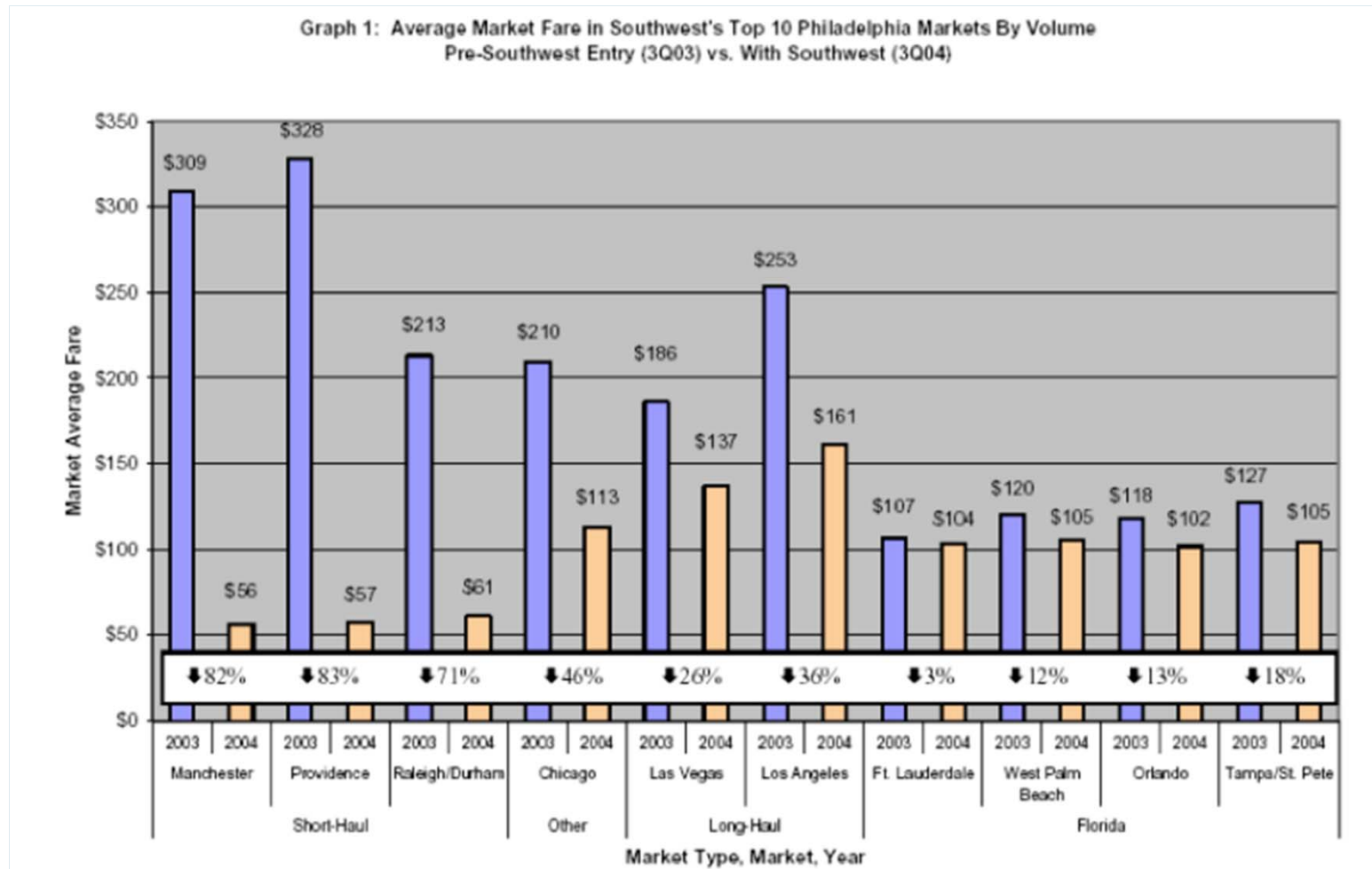
2013



Source: Southwest Airlines

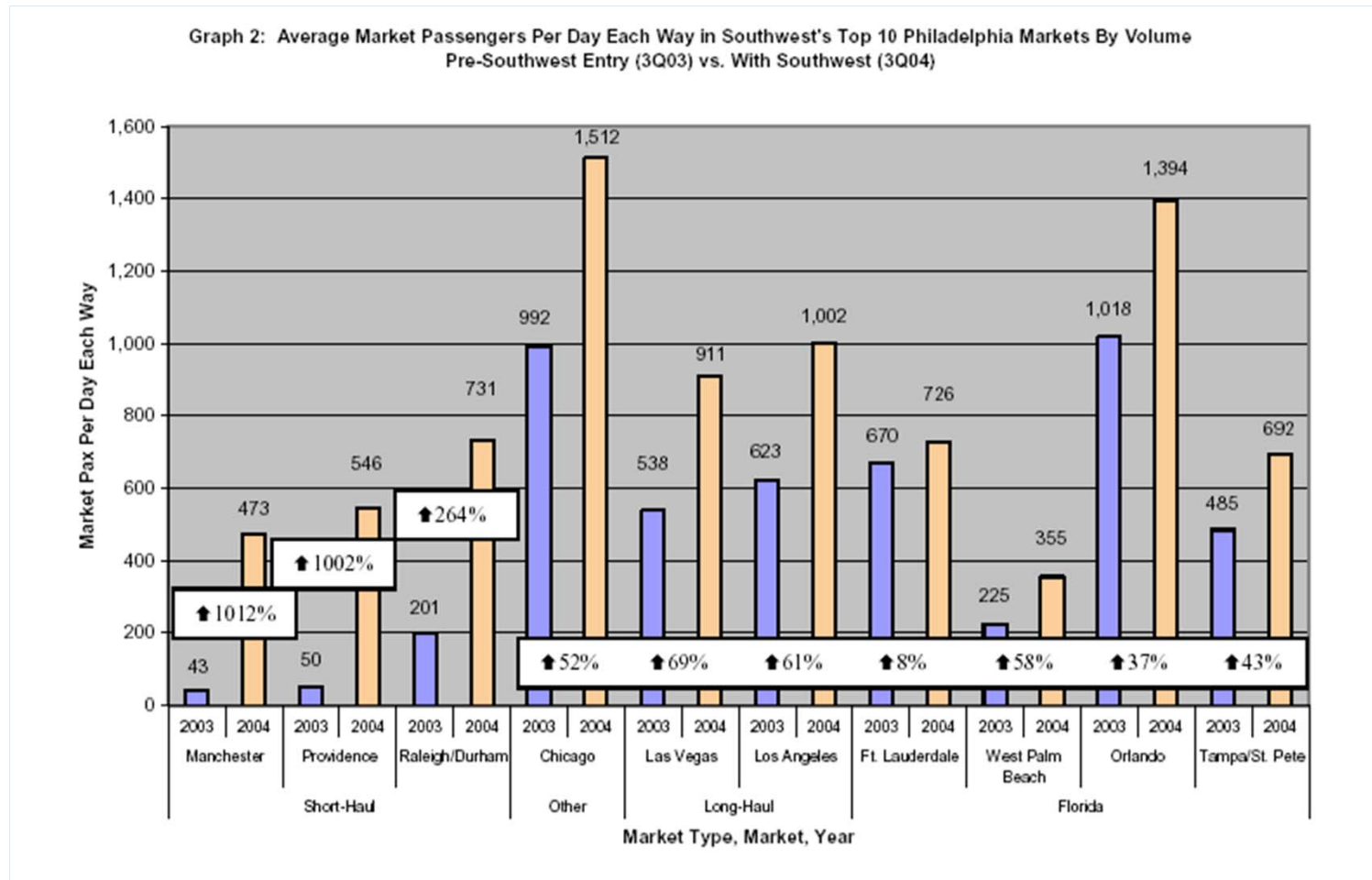
# Impact on fares before and after Southwest entry

## In top 10 Philadelphia markets



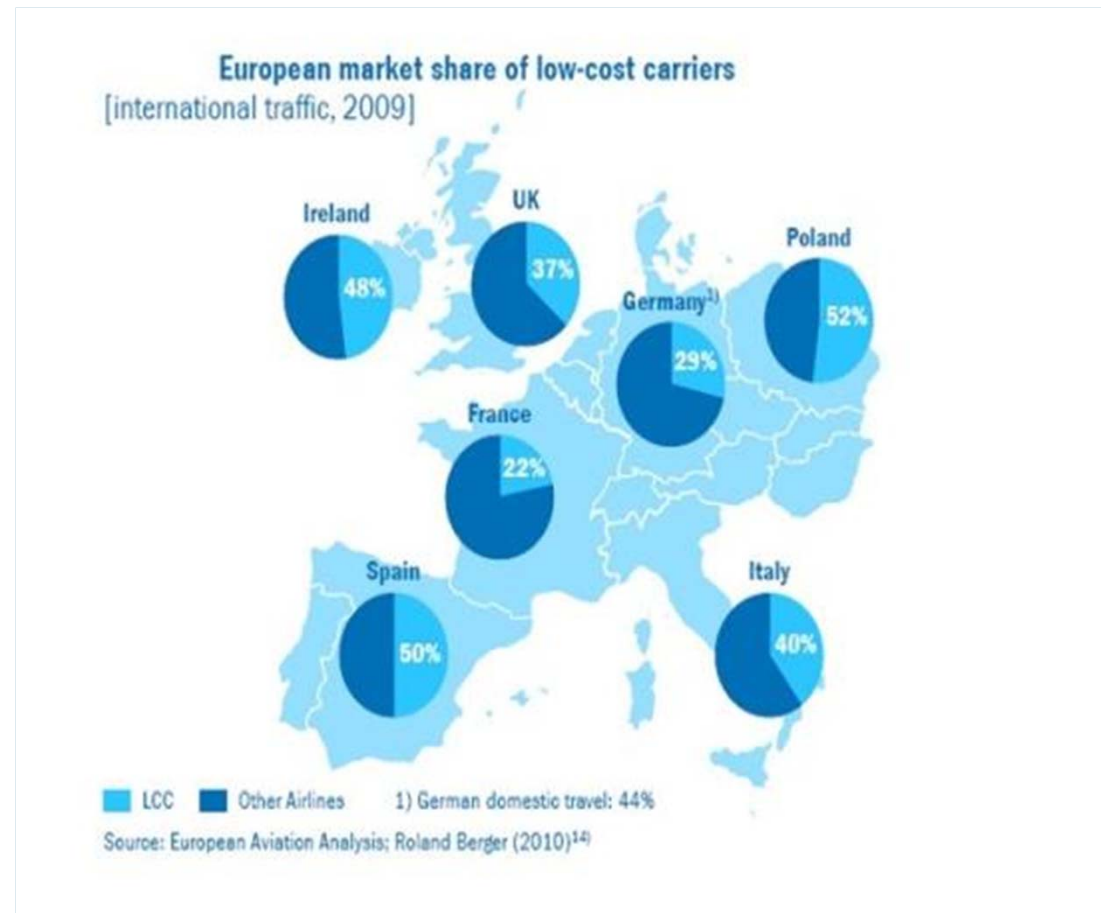
# Impact on traffic before and after Southwest entry

## In top 10 Philadelphia markets



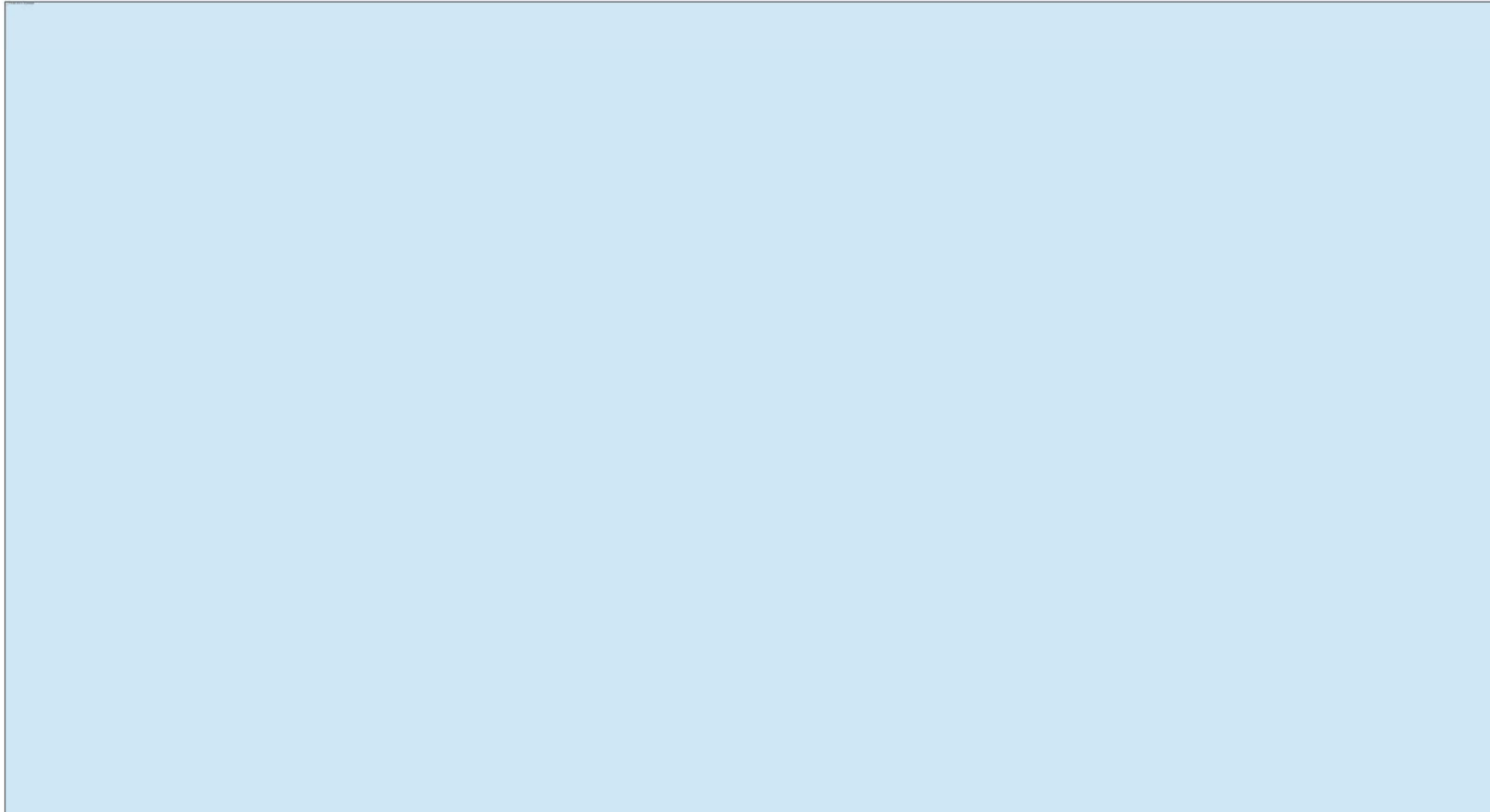
## Trends:

- Increased LCC penetration
- LCC subsidies (lower airport landing fees)
- Ryanair allegedly benefited from 660 million EURO in subsidies

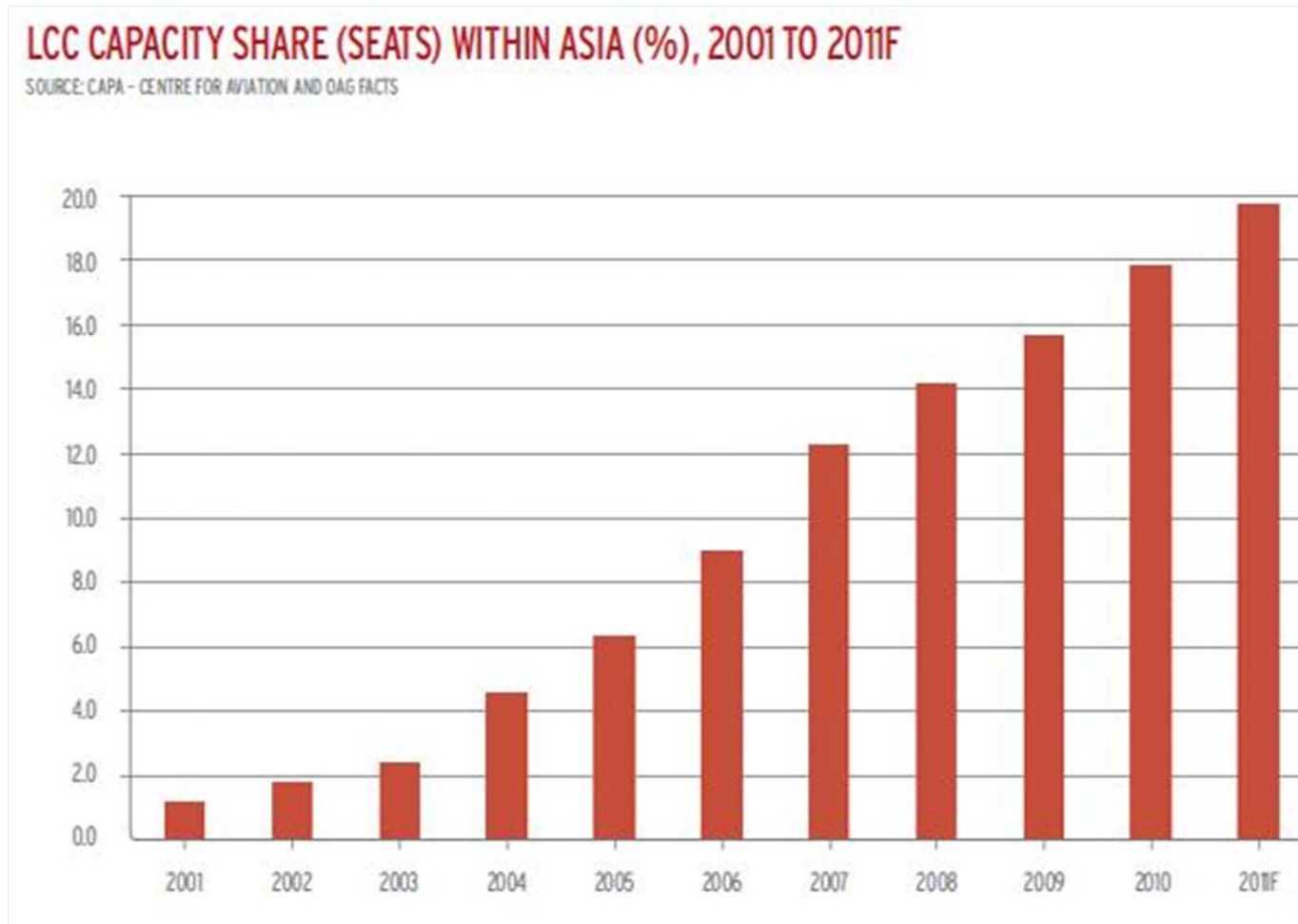


# LCCs in Asia

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# LCCs quickly gain domestic market share in Asia



Source: CAPA as quoted by Airline Leader (2012)

# Ultra Low Cost Carriers (ULCCs)

## The difference between LCCs and ULCCs is relative

- tend to incorporate the majority of LCC features
- rely on traffic stimulation more than market steal
- max number of a la carte services
- do not offer 'frills' if they add to costs

## Marketing tool of self-promotion

- ("Ryan Air – Europe's only ULCC")

**József Váradi distinguishes between ULCCs, a category in which he places Wizz Air, and LLCCs, lazy-low-cost carriers, that have lost their original focus and are "diverting from the basic fundamentals of being really low-cost".**



# ULCCs

ULCCs differ from LCCs :

Rely on traffic stimulation more than market steal

High proportions of ancillary revenues

Do not offer 'frills', even if they enhance revenues, if the frill adds to costs.

ULCCs have power to shift passenger travel and airport usage patterns to much greater degree than traditional LCCs.

The ULCC business model is based strictly around low fares, which requires low costs.



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# Ancillary services are an important source of revenue for ULCCs

---

**Ancillary revenue = revenue from non-ticket sources**

**Charging for everything: blankets, entertainment, beverages, food, priority boarding, credit card handling fee (!) etc.**

**Becoming a major source of revenue for LC, LCC and ULCC – 43.8% increase world wide to \$32.5b in 2011**

**United \$1,527m, Qantas \$783m, Ryanair \$663m, Air Canada \$534m (2009)**

# ULCCs and ancillary revenue

Top 10 Airlines – ancillary revenue as % of total revenue:

Rank	Percentage of total	Airline
1	29.2%	Allegiant
2	23.9%	Spirit Airlines
3	22.2%	Ryanair
4	19.4%	EasyJet
5	19.4%	Tiger Airways
6	18.1%	Jet2.com
7	14.4%	Aer Lingus
8	13.3%	Alaska Airlines
9	13.2%	FlyBe
10	13.1%	AirAsia

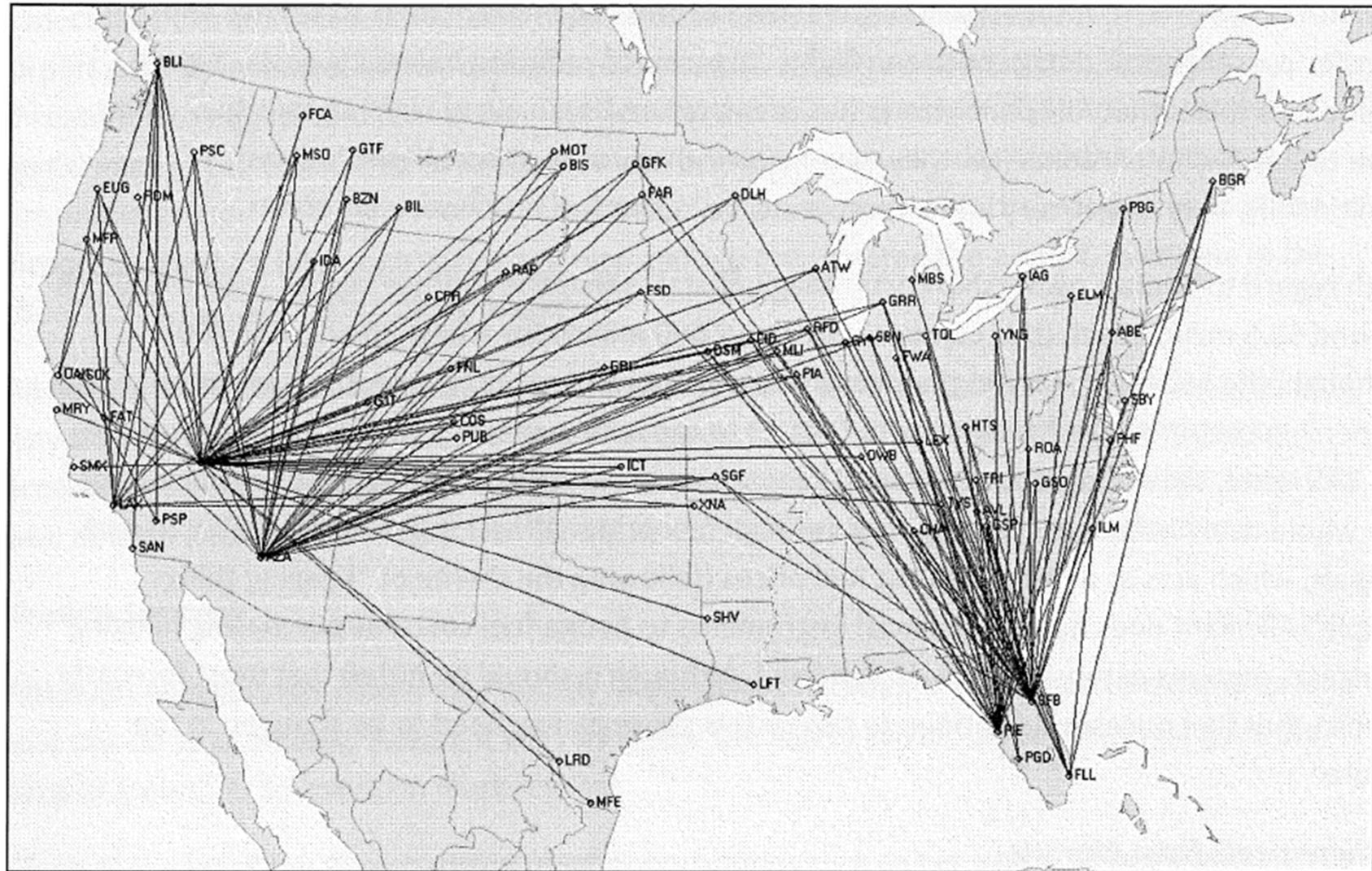
Source: tnooz (2010)

# ULCC at a glance: Allegiant Air

- Founded in 1997
- Based in Las Vegas (focus cities in Florida and Phoenix)
- A travel company (hotels, car rentals, show tickets distribution)
- Route network has minimal overlap with LCCs
- Profitable (EBITDA 16.4% in 2011)
- Low debt ratio



# Allegiant's focus is on leisure markets



Route map as of February 2012

# Allegiant's business model

---

## Fleet

- 51 MD-80
- 1 B757-200 (5 more on order)

## Costs

- Low aircraft ownership costs
- Simple IT systems (no connecting flights)
- Uses low cost airports
- No dedicated counters at airports

## Product

- No frills service at a low price
- Canadian traffic at US airports (e.g. Bellingham and Plattsburgh)
- \$133 BLI-LAS versus \$274 YVR-LAS with Air Canada

---

## Europe

- Ryanair, Wizz Air, Aer Lingus
- (Michael O’Leary “Ryanair is the only ULCC”)

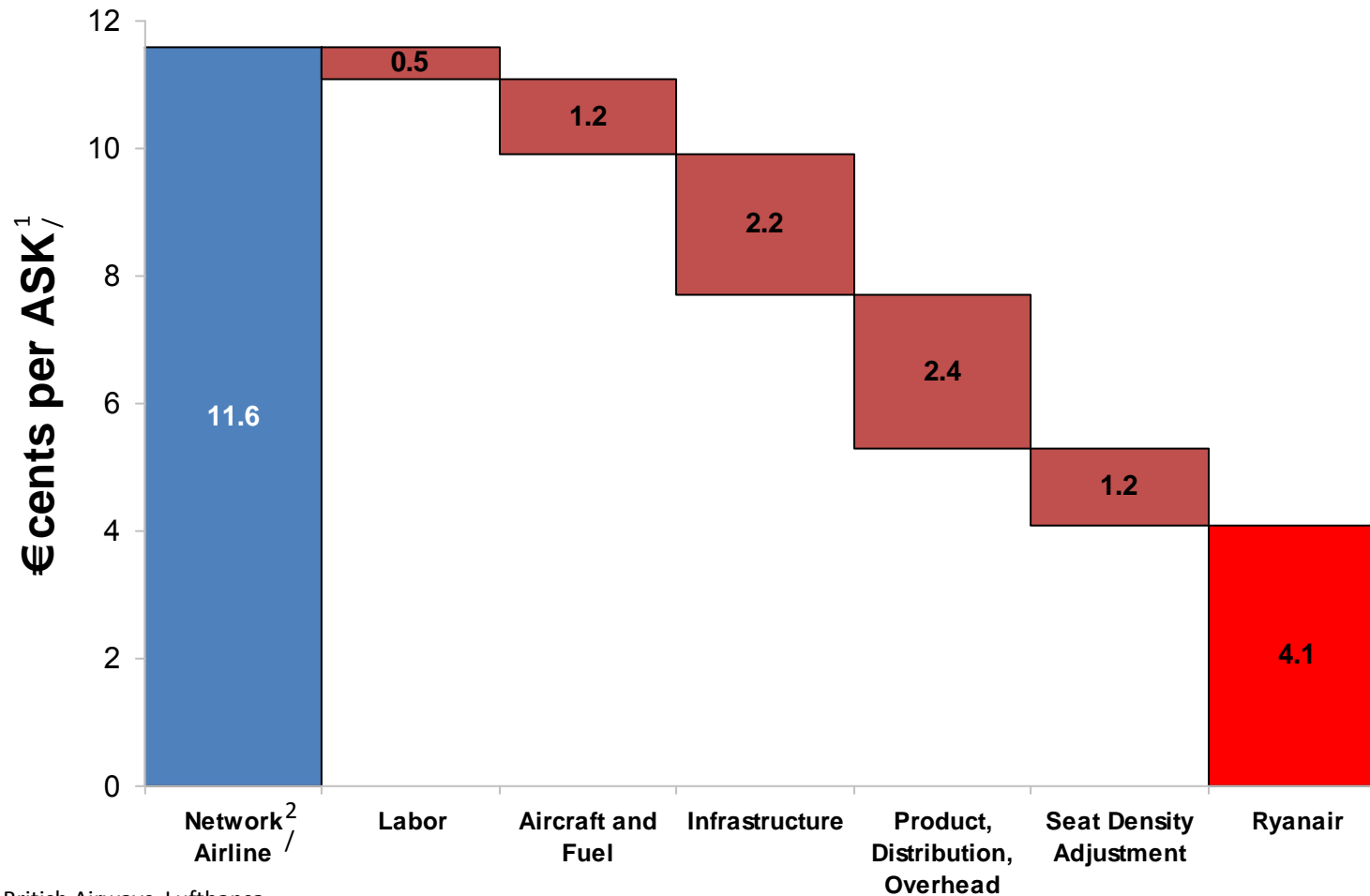
## North America

- Spirit Airlines, Allegiant Air

## Canada

- no ULCCs presently
- Rouge will not be ULCC according to AC’s CEO.
- “Is it ultra-low cost à la other low-cost carriers elsewhere in the world? You know, that was not necessarily achievable within the context of our unionized environment.”

# A newer fleet explains part of Ryanair's cost gap, but the largest gap still exists for product and distribution costs



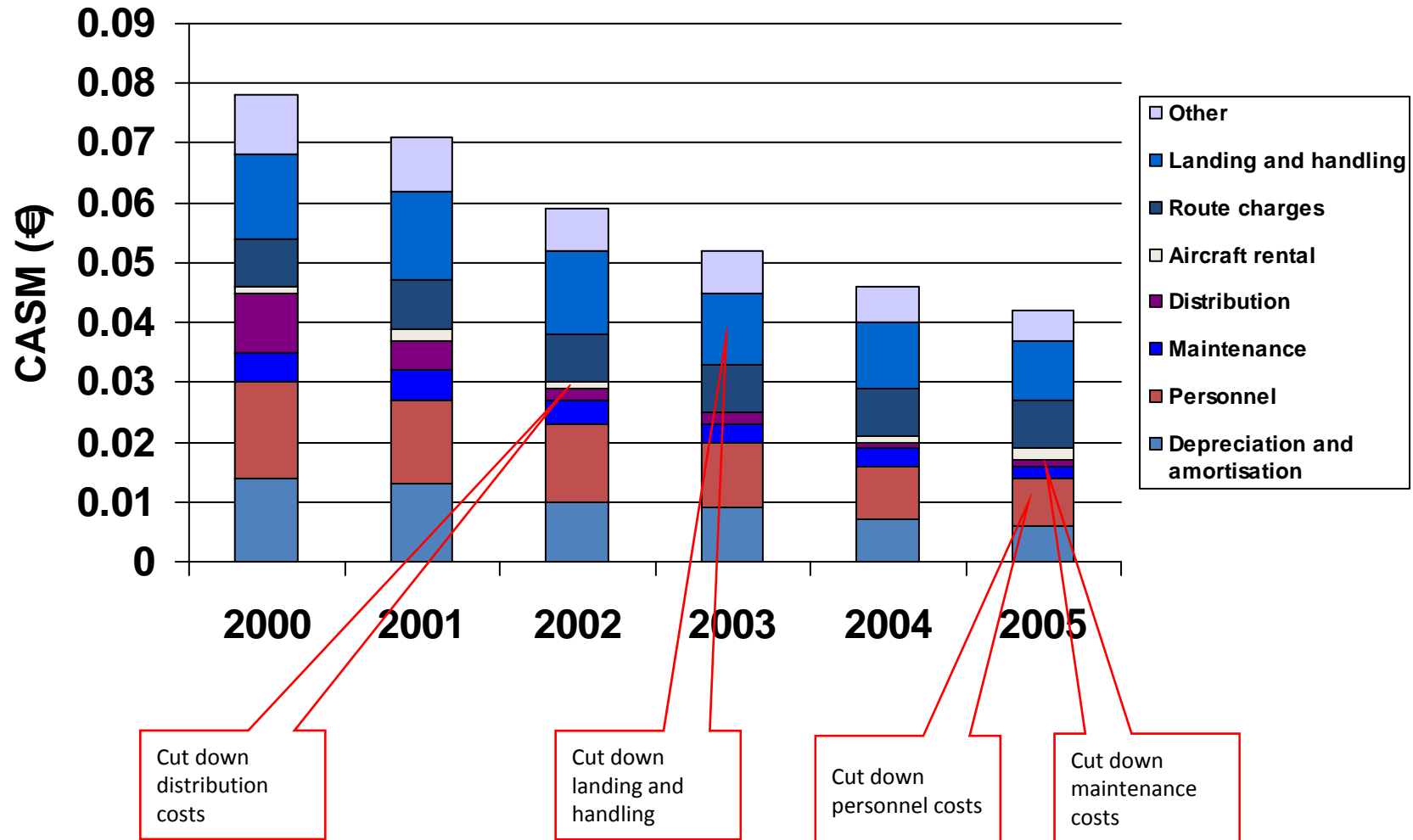
1/ CY 2005.

2/ Air France, British Airways, Lufthansa.

Source: IATA Airline Cost Performance Economics Briefing, March 2007.

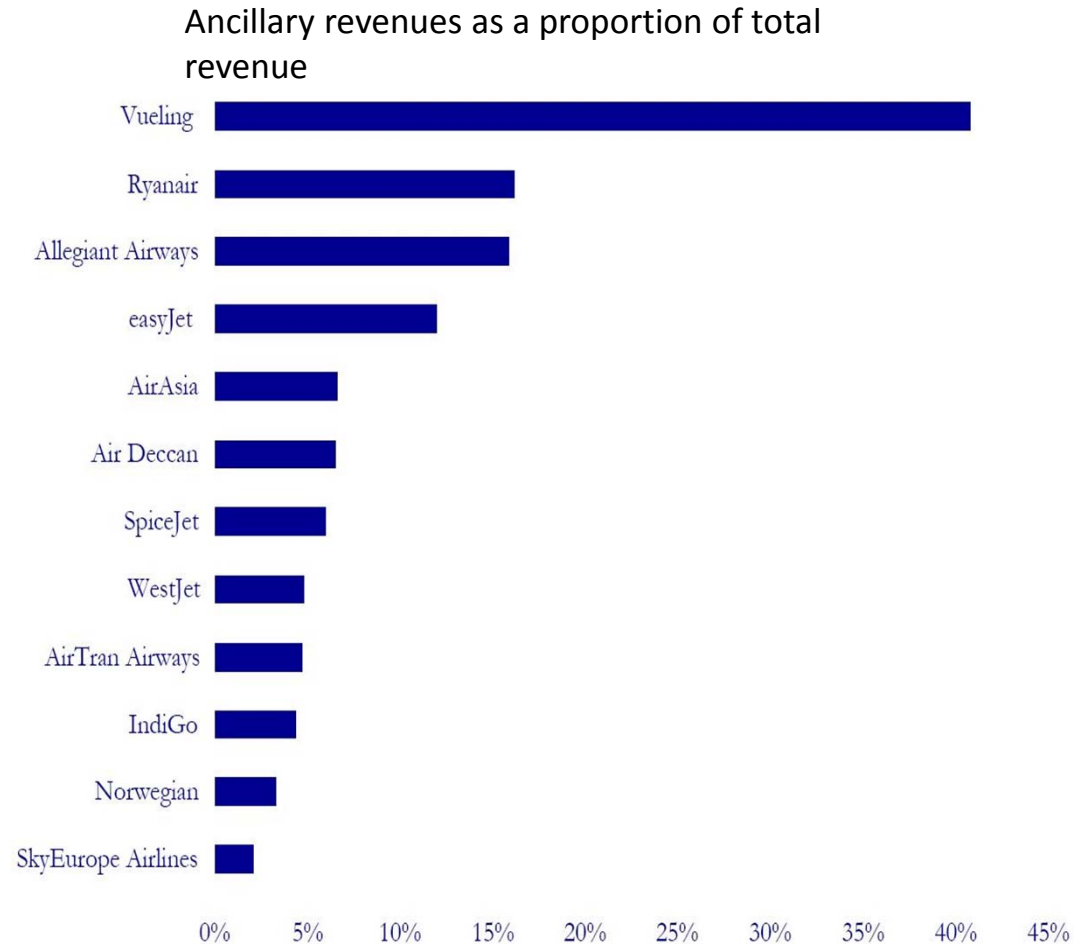


# Ryanair – pursuit to reduce its operational costs



# Ancillary revenues significantly contributes to revenues and profitability of low cost carriers

- **Ancillary services can bring substantial revenues**
- **But to generate them requires complex marketing and sales effort**
- **Passengers want to save with LCCs, instead of spending**



Source: Centre for Asia Pacific Aviation

# Regional carriers

---

## Beech

- 19 seats 1.5-2 hours

## Dash 8

- 37-74 seats 2+ hours

## CRJ/ERJ

- 50-90 seats 3 hours

## Embraer

- 70-180 seats 4 hours



## Charter carriers

---

**Canada & Europe: important industry players**

**U.S. & Asia: not common**

**Seasonal niche opportunities (35% of summer Europe are Charters)**

**Commonly 1-4 freq/wk. Maximize aircraft utilization**

**Varies significantly from year to year**

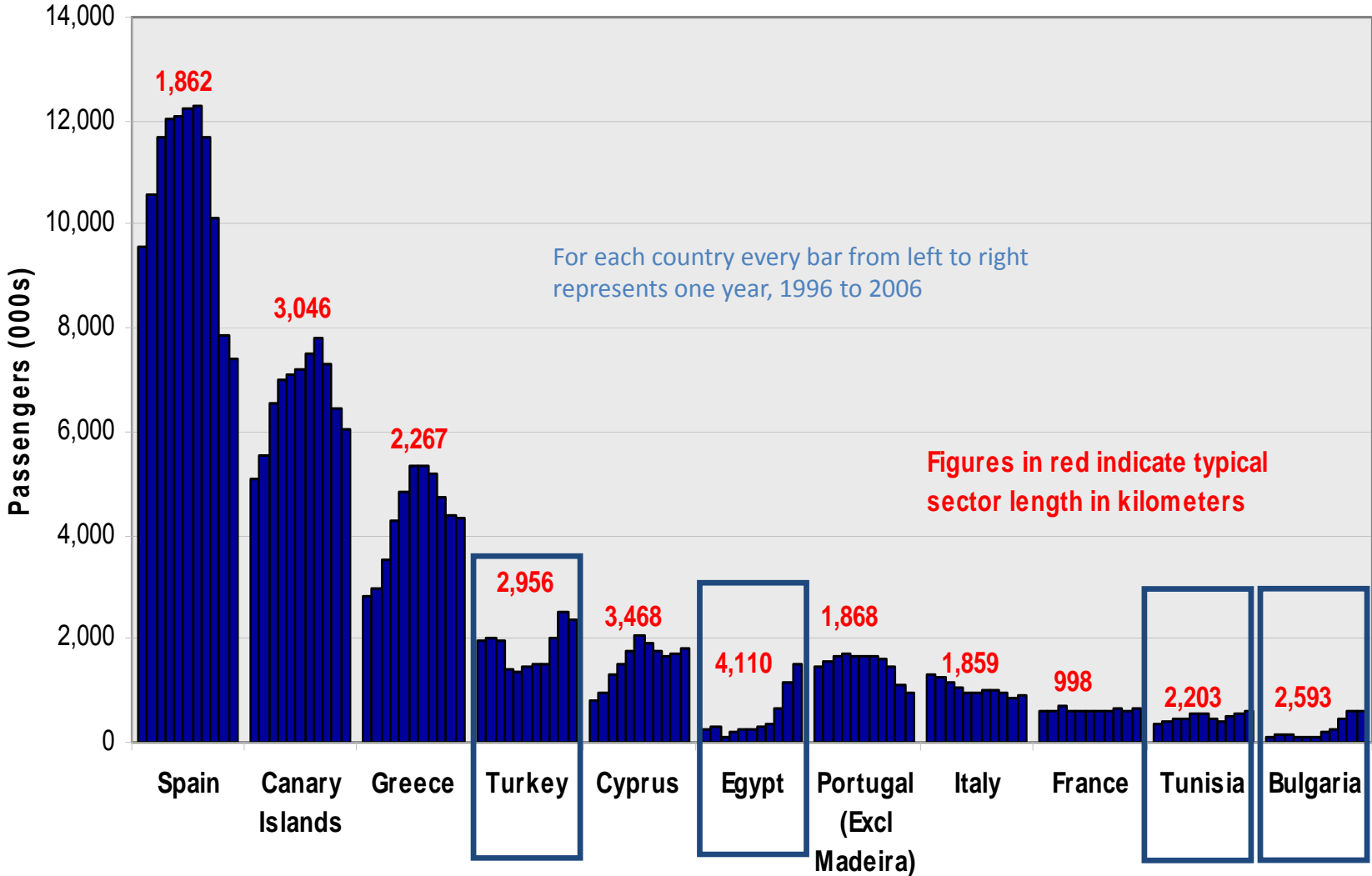
**Often affiliated with tour operators (i.e. Canadian Affairs)**

**Canada: Zoom, Air Transat, Skywings**

**Europe: Thomas Cook, LTU, MyTravel**

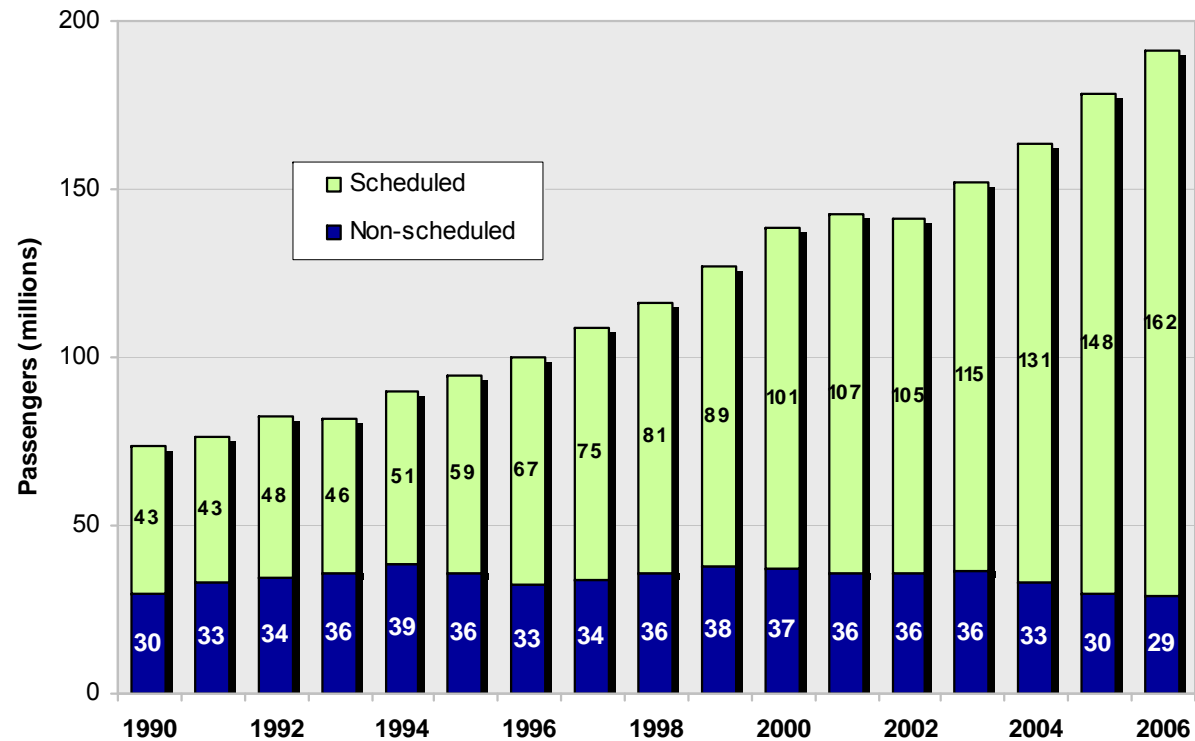
# Charter carriers in Europe

**Number of charter passengers from the UK to top destinations, 1996-2006**



# The growth in individual (seat only) travel has had a significant impact on the traditional charter market

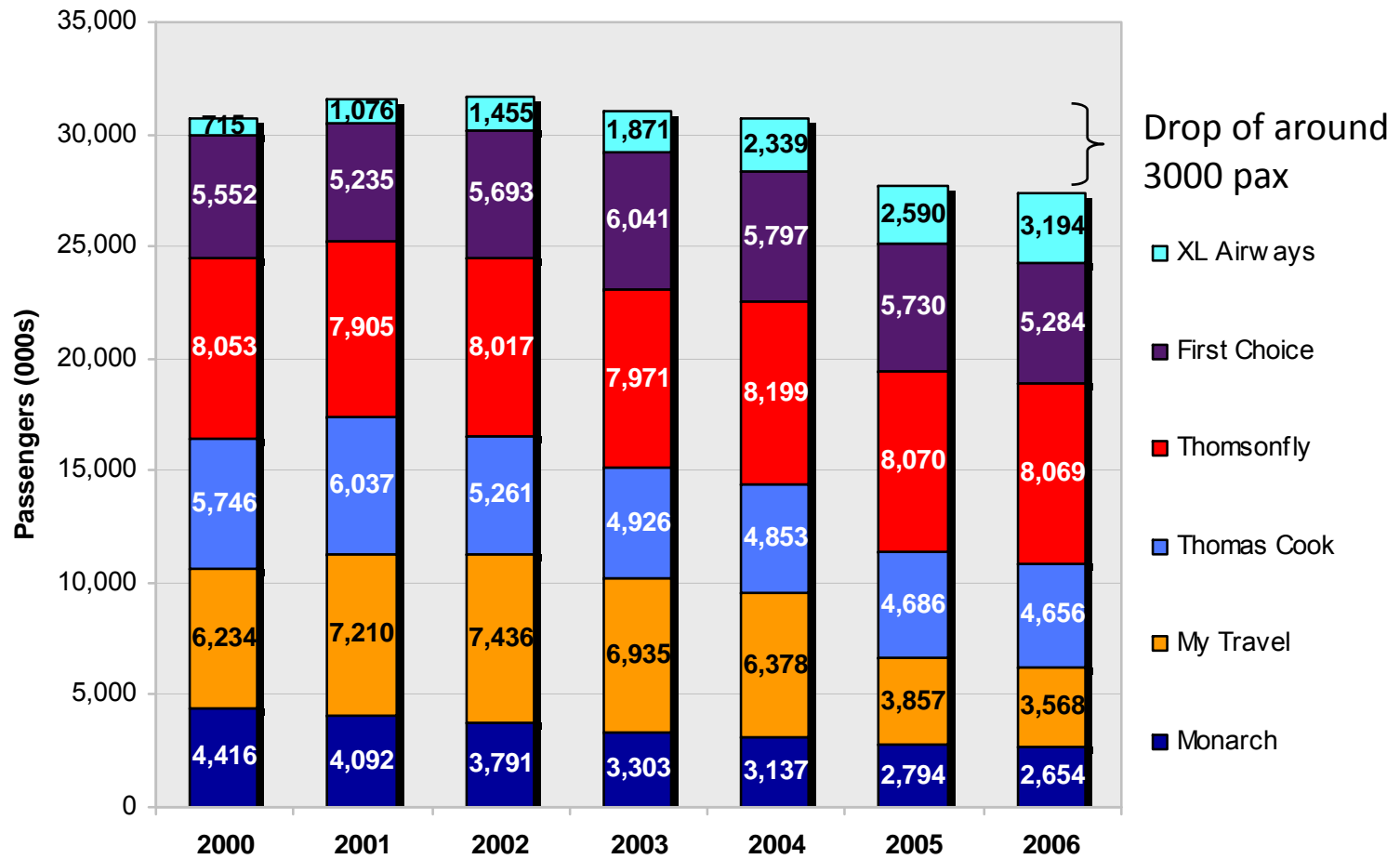
Passengers at Spanish airports (1990-2006)



- In Spain the charter market peaked in 1994 and has declined by 25% in 12 years
- In the same period the total market has trebled, with scheduled carriers growing four fold.
- Much of the scheduled growth since 2002 has been with Low Cost Carriers

# Example Decline of UK charter airlines

Non-scheduled passengers carried by key UK airlines

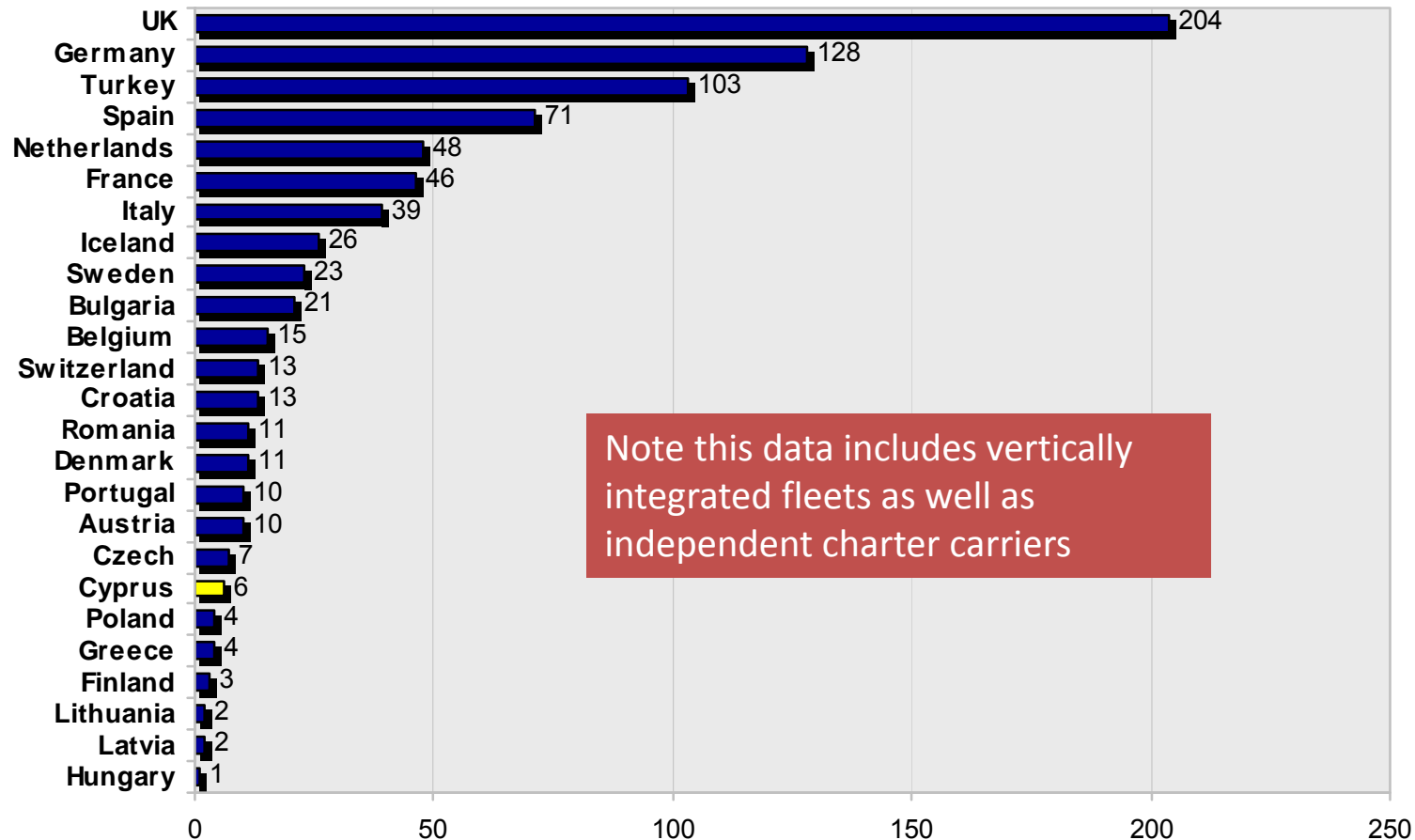


Source: UK CAA

# Circa 100 charter airlines in Europe, with over half of all charter aircraft operated by carriers from the UK, Germany or Turkey (2008)



## Number of aircraft over 50 seats operated by charter carriers

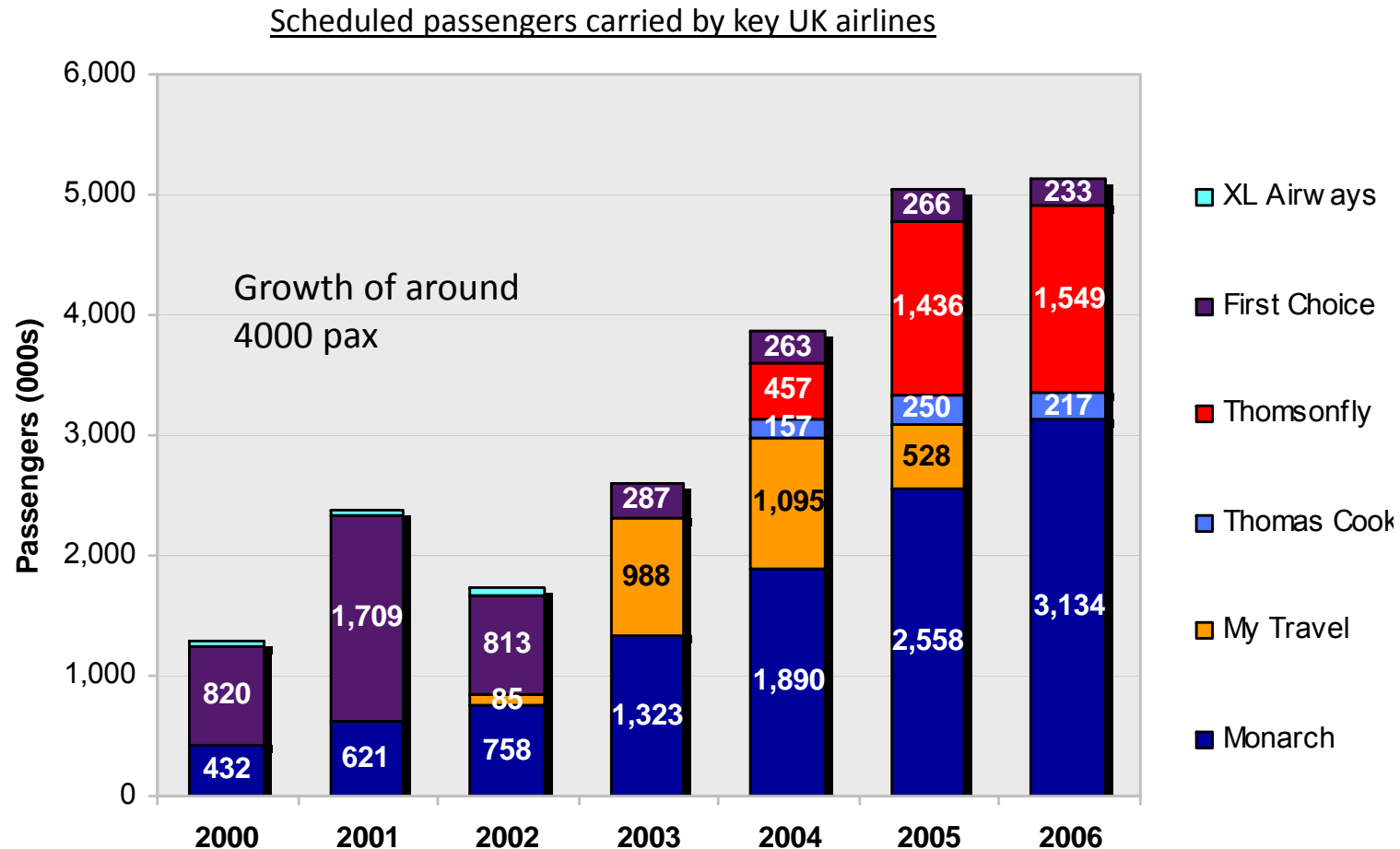


Note this data includes vertically integrated fleets as well as independent charter carriers

Note: Europe includes EU27, plus Croatia, Iceland Norway, Switzerland and Turkey

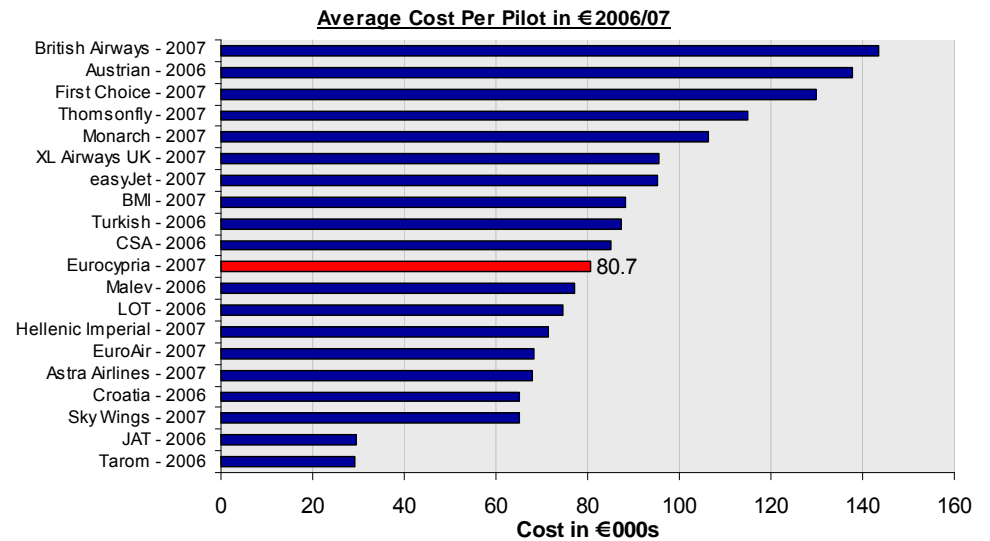
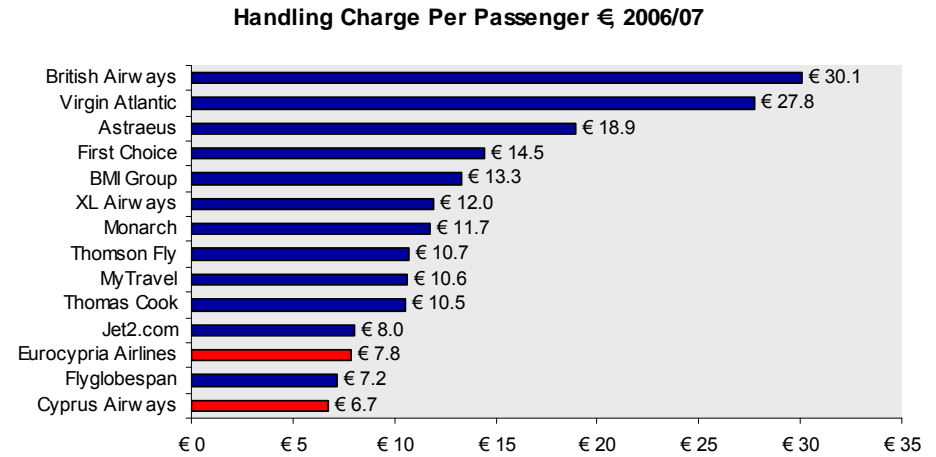
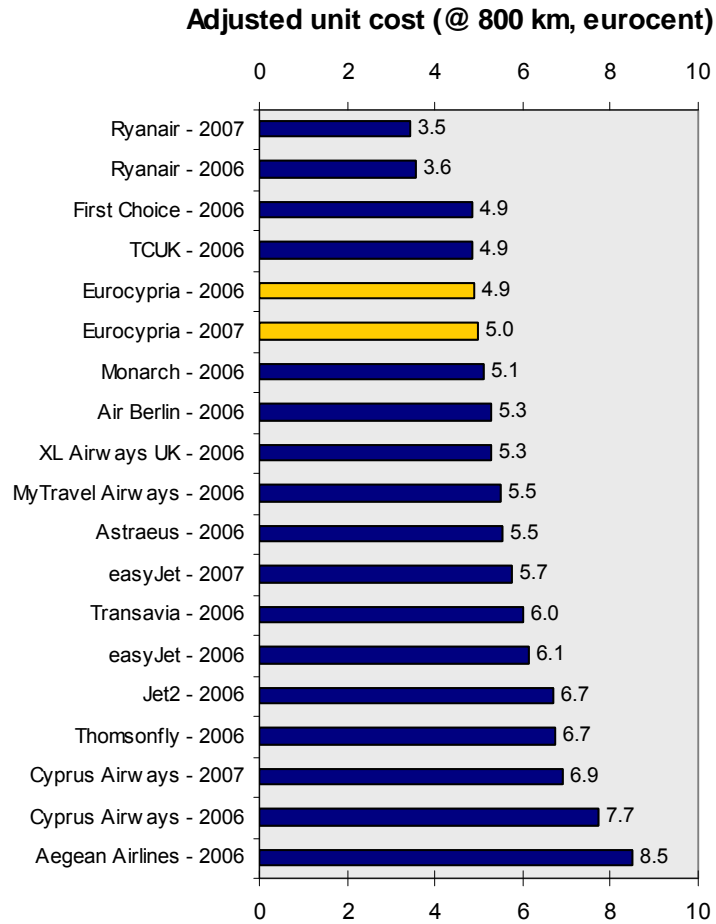


# Growth of seat-only market to try to compensate decline of the traditional package tour market

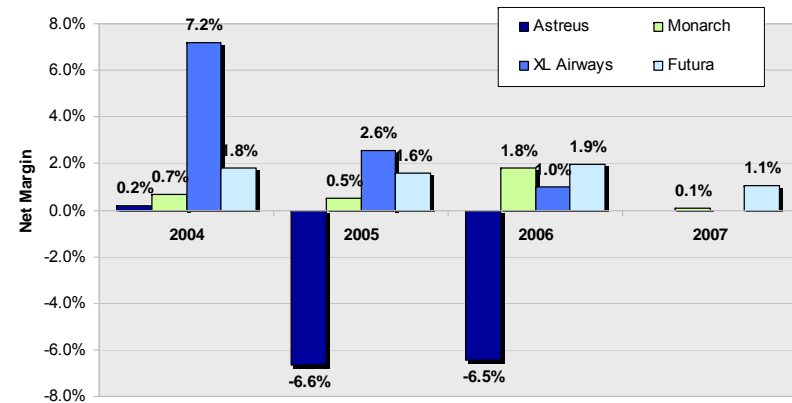
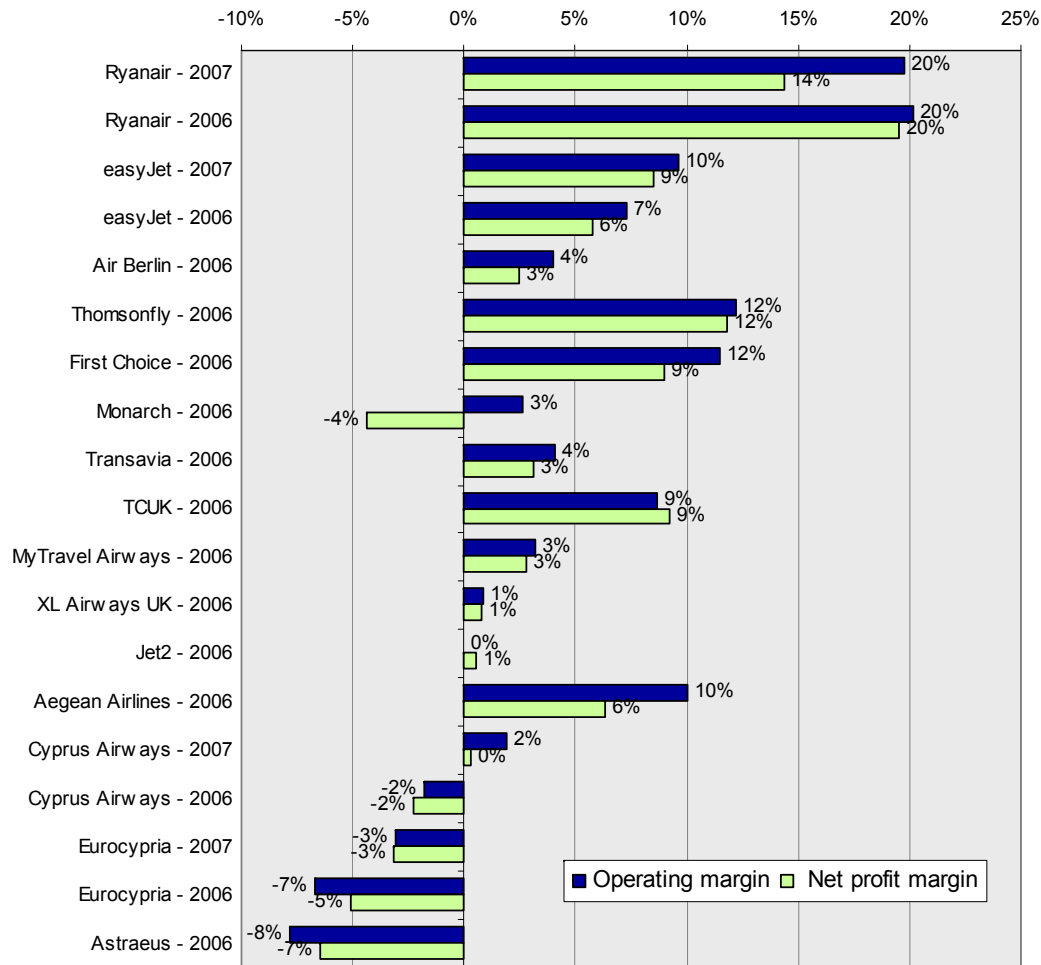


Source: UK CAA

# Unit costs of charter carriers



# .Profitability of Charter Carriers



**Charter operators must extract higher prices in the market to survive.**

# Future trends in airline business models

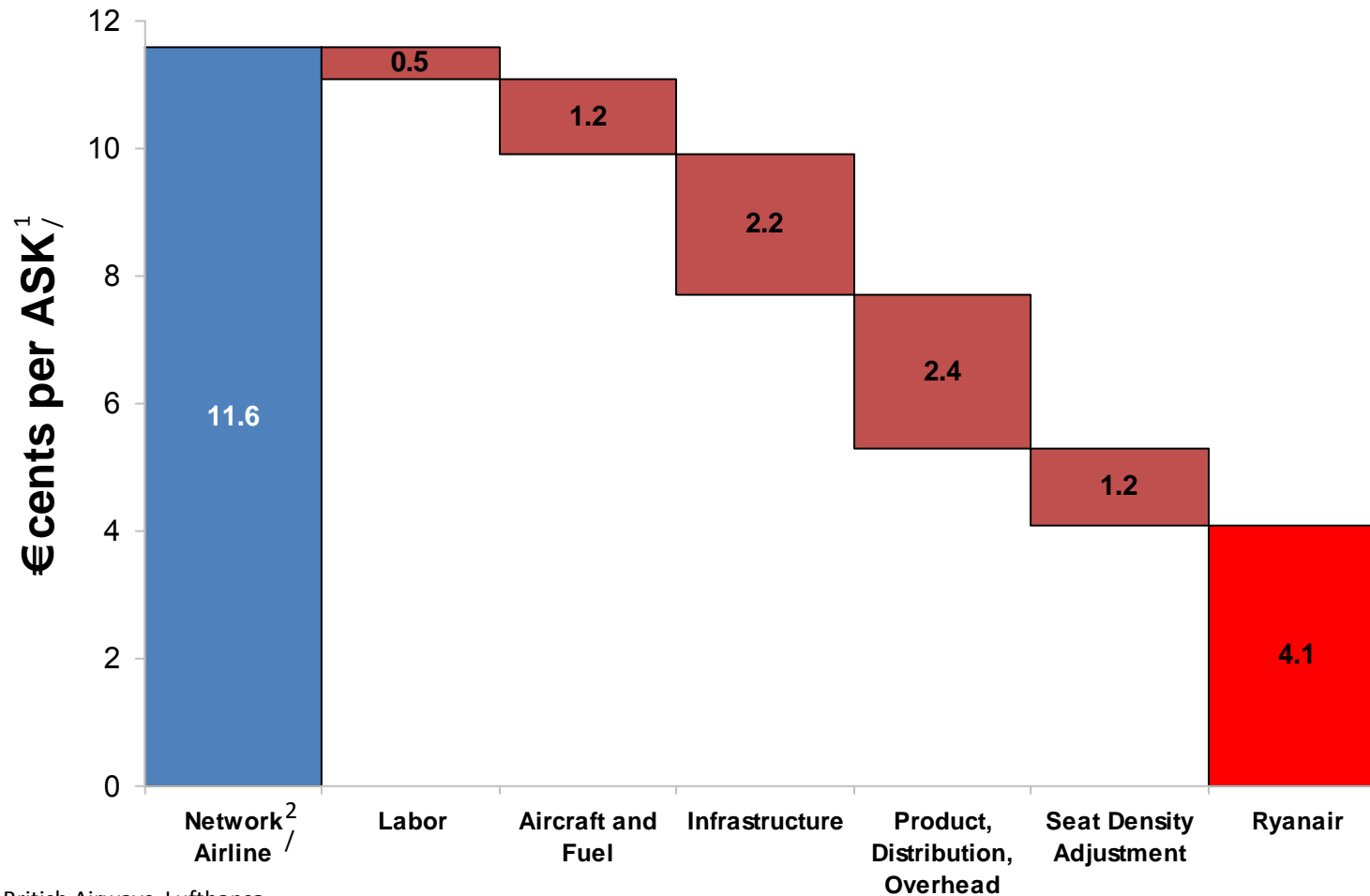
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**Hybrid models develop as airlines move away from 'pure' legacy or low cost models.**

**Airline business models are converging towards one another as:**

- Legacy carriers face increased pressure to lower costs, cut on 'frills', charge for 'ancillaries', renegotiate labour contracts, etc.
- Low cost carriers look for new markets and expansion opportunities

# A newer fleet explains part of Ryanair's cost gap, but the largest gap still exists for product and distribution costs

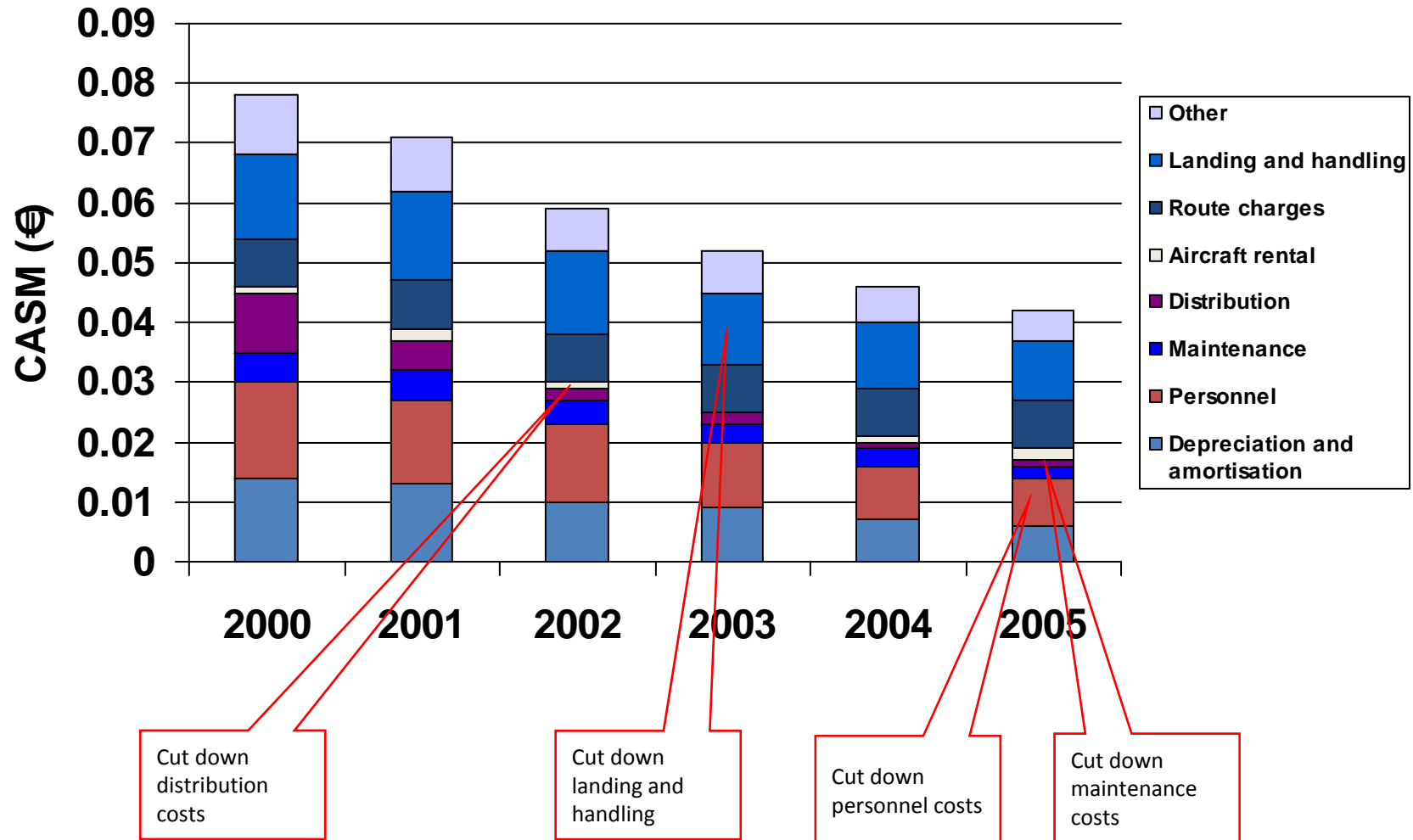


1/ CY 2005.

2/ Air France, British Airways, Lufthansa.

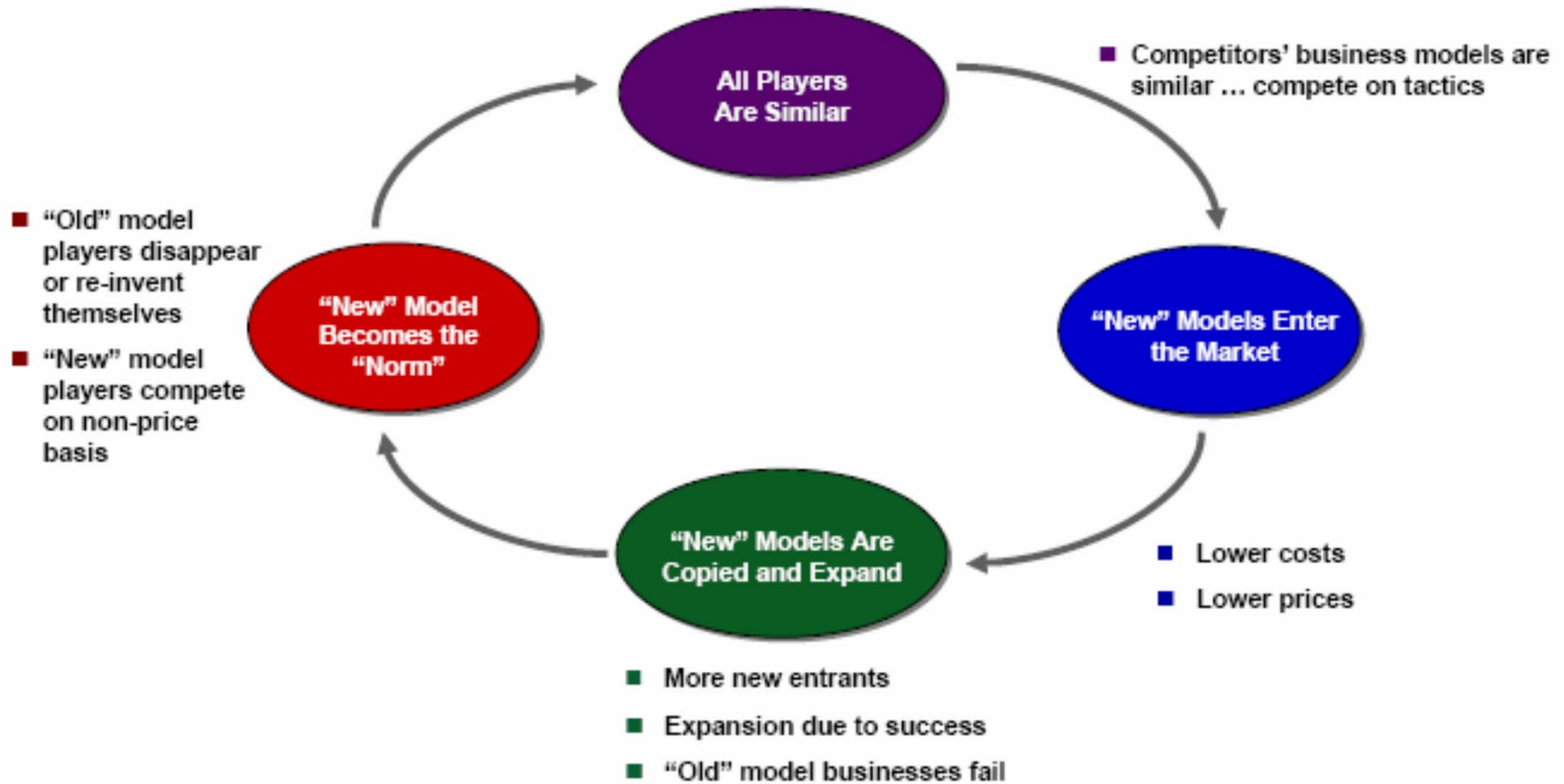
Source: IATA Airline Cost Performance Economics Briefing, March 2007.

# Ryanair – pursuit to reduce its operational costs



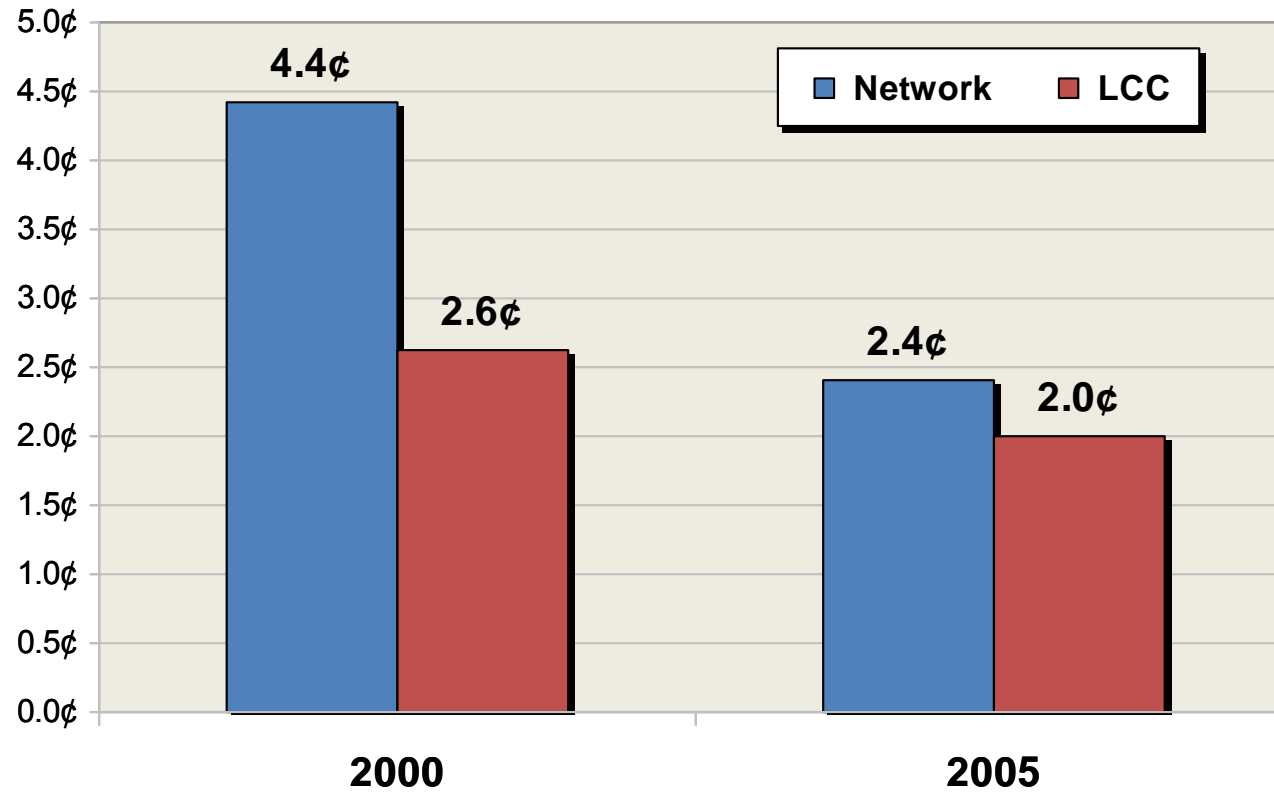
# Are we seeing the evolutionary business model in action and changing the industry ?

## Business Cycle



# In US legacy carriers started closing the gap from mid 2000's

Labor Costs per ASM  
CY 2000 & CY 2005



Not adjusted for Stage Length

Source: U.S. DOT, Form 41 Domestic Only



# US carriers have been successful in reducing their distribution costs taking advantage of lower cost distribution channels



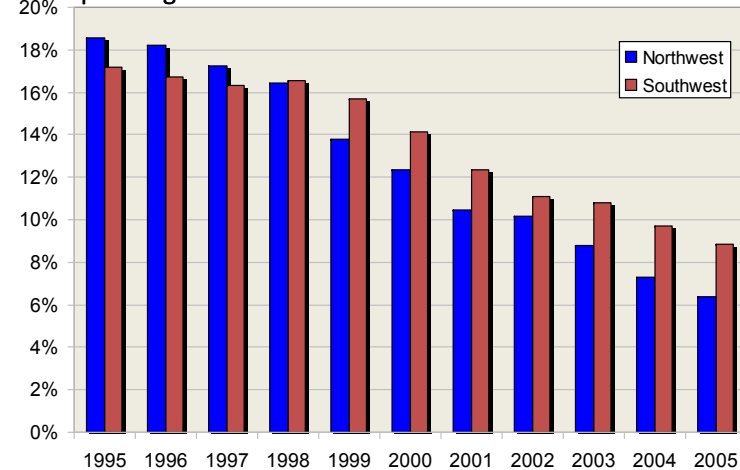
**Continental increased internet sales from 5% of total to nearly 50% of total between 2000 and 2005**

- Hawaiian went from around 3% to 50% as well

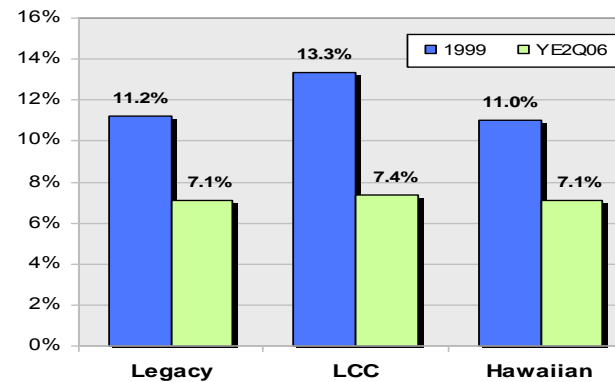
**Airlines have brought their costs down by:**

- **Redirecting customers to direct channels**
  - . On to websites and away from agents
  - . B2B
  - . On line agencies
- **Renegotiating contracts with GDS providers**
- **Increasing e-ticket use**
- **Significant reduction in ATO**

Promotion and Sales Costs as a Percentage of Operating Costs -- Selected US Carriers' Domestic Sectors



US Airline Distribution Costs as a Share of Operating Revenue 1999 vs. YE2Q06



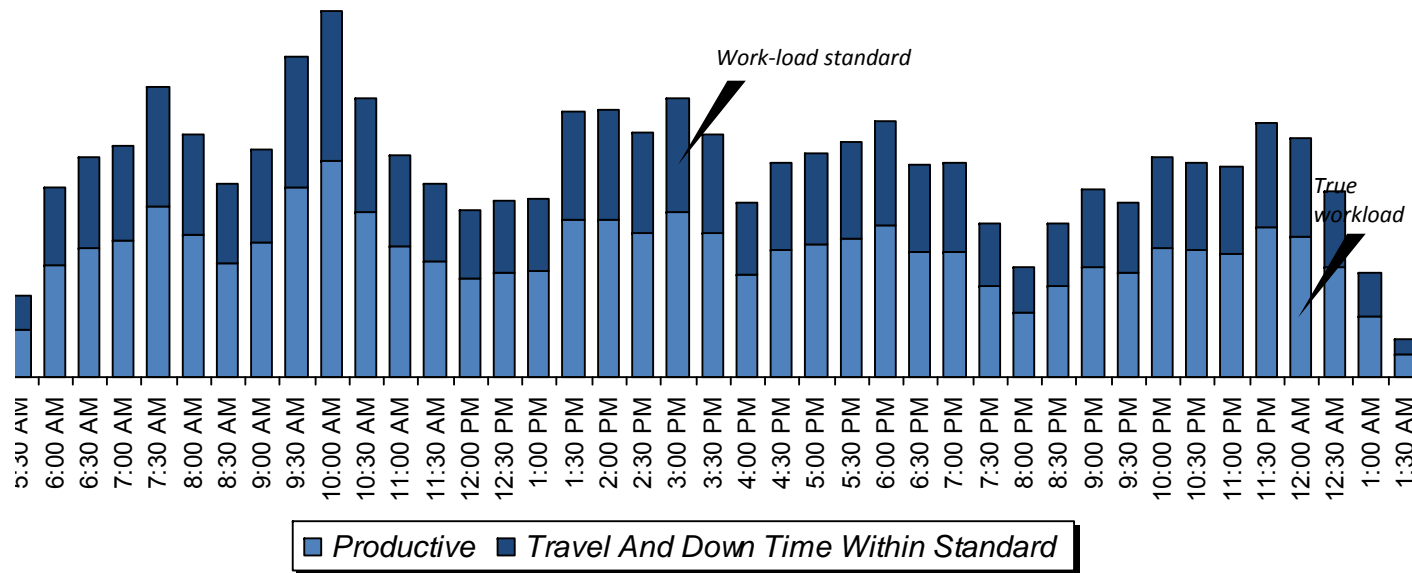
## Emulate learnings from the success of Low Cost Carriers

- **Divestiture of business units airline MRO etc and provide focus on that with holding company**
- **Privatisation, formation of new labour contracts in business friendly environment with hire and fire and performance based compensation**
- **Delay and rationalise the business: most airlines can achieve that by leveraging growth**
- **Intelligent use of front office back office strategies to maintain focus and synergies across back office**
- **Creation of focused airlines with front office specialisation and back office synergies Network focus on variable contribution and restructuring**
  - Focus assets on few destinations (concentrate fewer destinations and dominate the city pair)
  - Eliminate tag flights, two stop one stop routes
  - Day of week, time of day and convenience of the schedule
  - Hub Optimisation - improve flight connection either side of the banks
  - Use of professional modelling tools and develop scheduling skills

Depeaking is reducing costs through squeezing out the embedded unproductive time within a 'bank', while crews wait for baggage to travel

CLIENT EXAMPLE

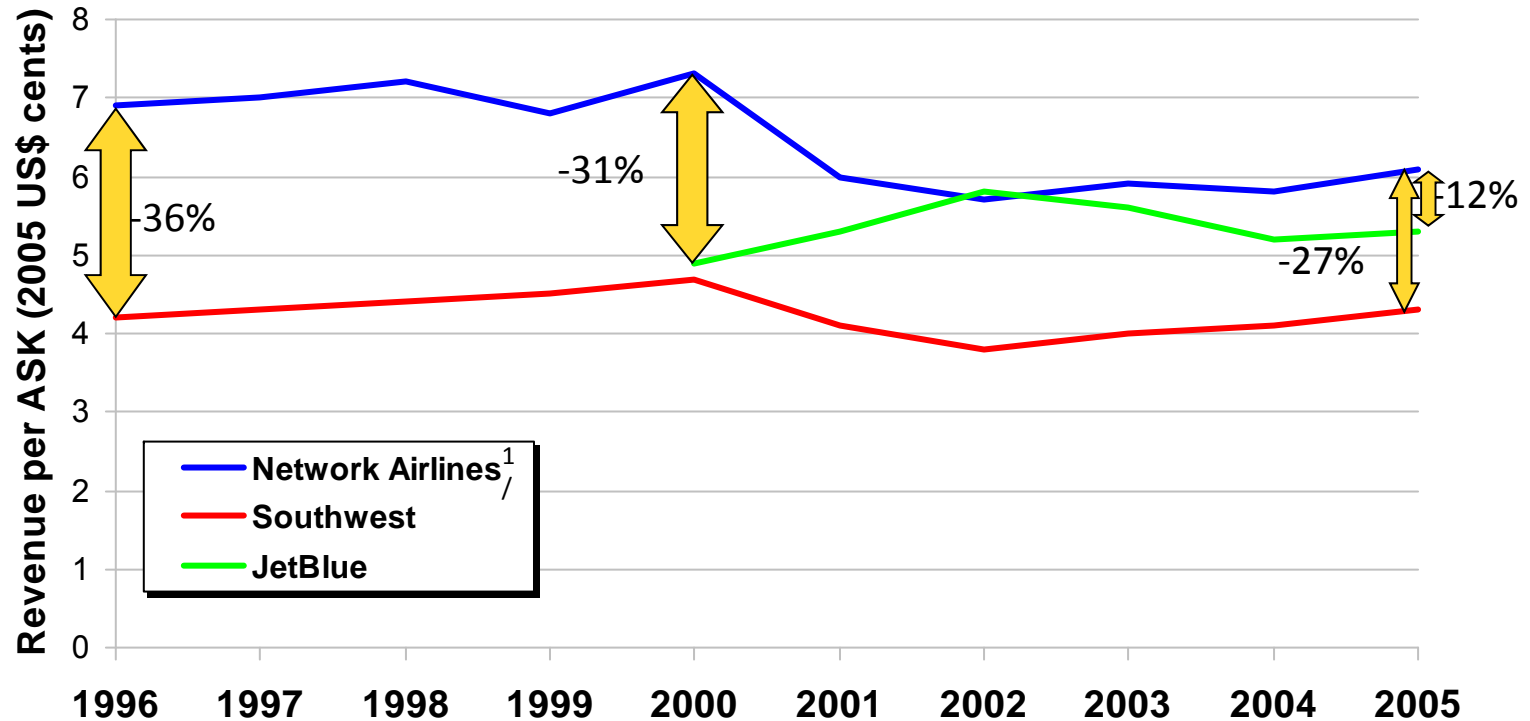
Baggage Handling: Workload vs. Staffing Requirement  
(Within A Turnaround)



Continuous scheduling eliminates a lot of the underlying complexity

# Rising revenues also helped US network carriers improve operating profitability

## Adjusted Revenue per ASK



1/ American, Delta, United.

Source: IATA Airline Cost Performance Economics Briefing, March 2007.

# Full service carriers have implemented some of LCC's practices into their business model to improve efficiency

**Traditional Flight Plan Structures**

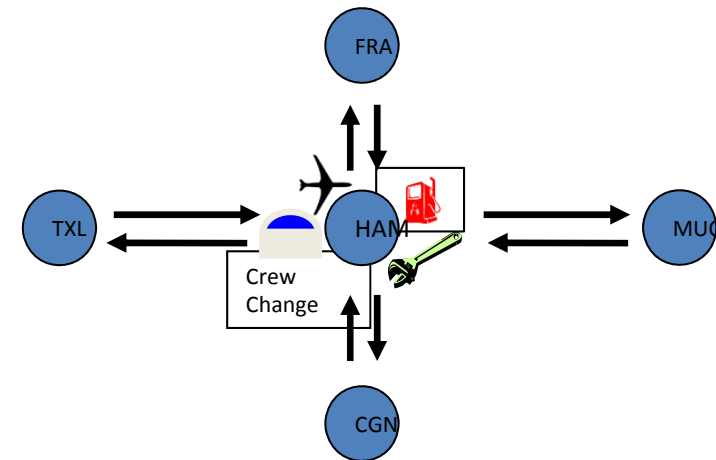
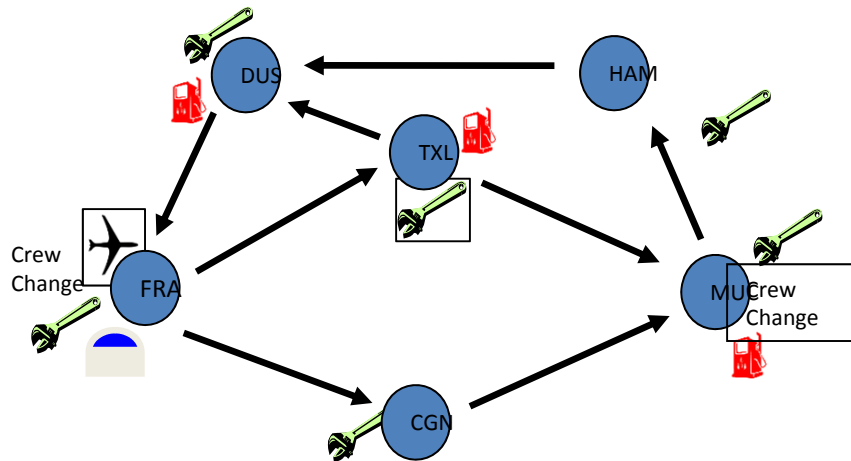
- Aircraft – Crew assignment changes frequently
- Aircraft and crew rotate independently
- Aircrafts rotate via multiple airports in rotation
- Maintenance is conducted at multiple locations
- Night-stops at different airports

VS.



**Adjusted Structures**

- Dedicated flight crews
- Aircraft and crew rotate together
- Point-to-point operation of aircraft
- Maintenance is only conducted at home base
- 100% night-stop rate at home base



# Dedicated Hamburg Operations profits from using LCC Structures

## Aspects of Lufthansa Hamburg

- Dedicated 737 Fleet
- Autonomous MRO Teams with fix Members
- Point to point Operation of Aircrafts
- Nightstop Rate 100% in Hamburg
- Dedicated Flight Crews



- Easy and efficient Flight Planning
- Easy and reliable Prediction of available Capacity
- Optimized Maintenance Planning
- Simplified Crew Roster Creation
- Effective Reaction on Disturbances



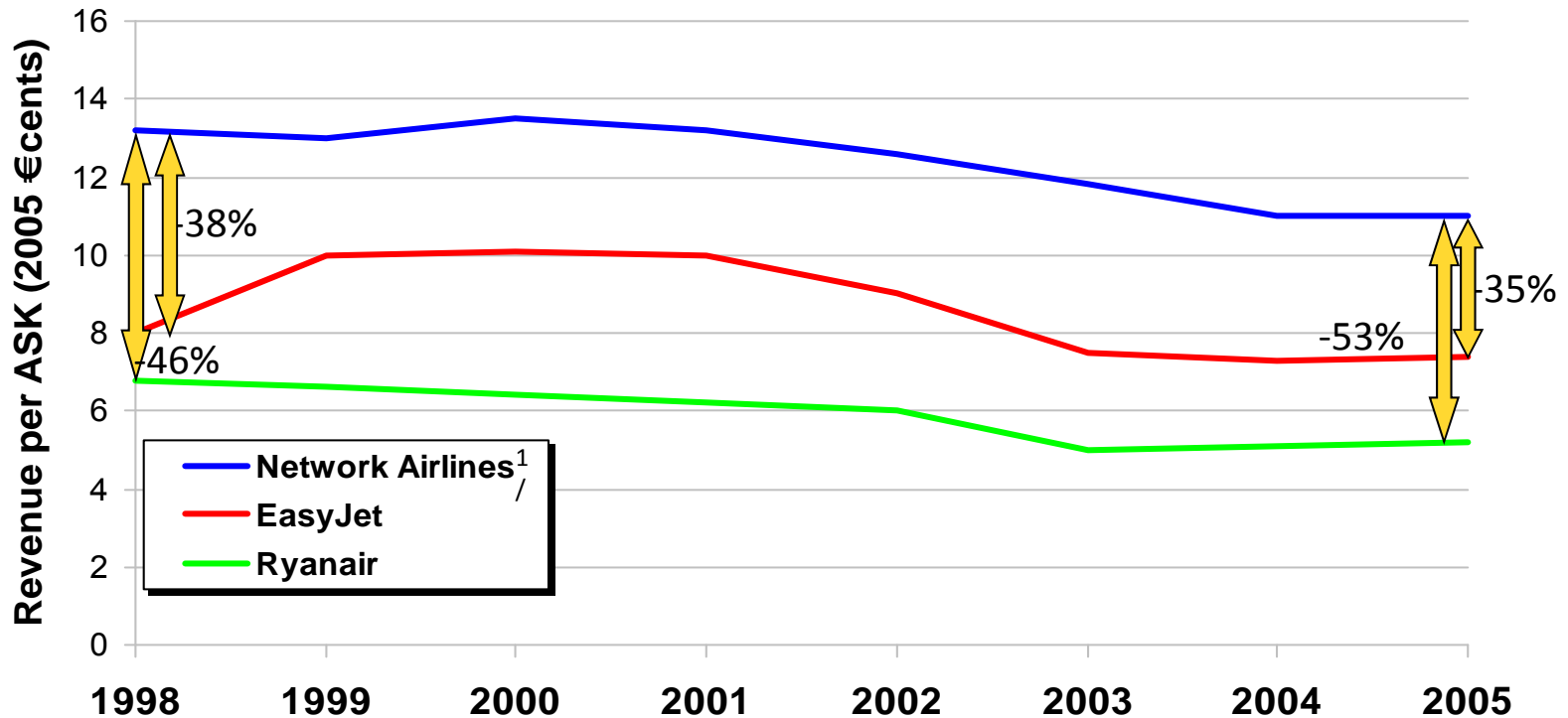
## Measurable Benefits

- Ground Time at Airports: 30 min avg.
- Aircraft Rotation: 5 per day
- Air - Ground Ratio: 7:1
- Fleet Utilization improved: \*\*\*

European network airlines are able to achieve a much higher revenue premium over LCC competitors on short-haul markets than their counterparts in the US



### Adjusted Revenue per ASK



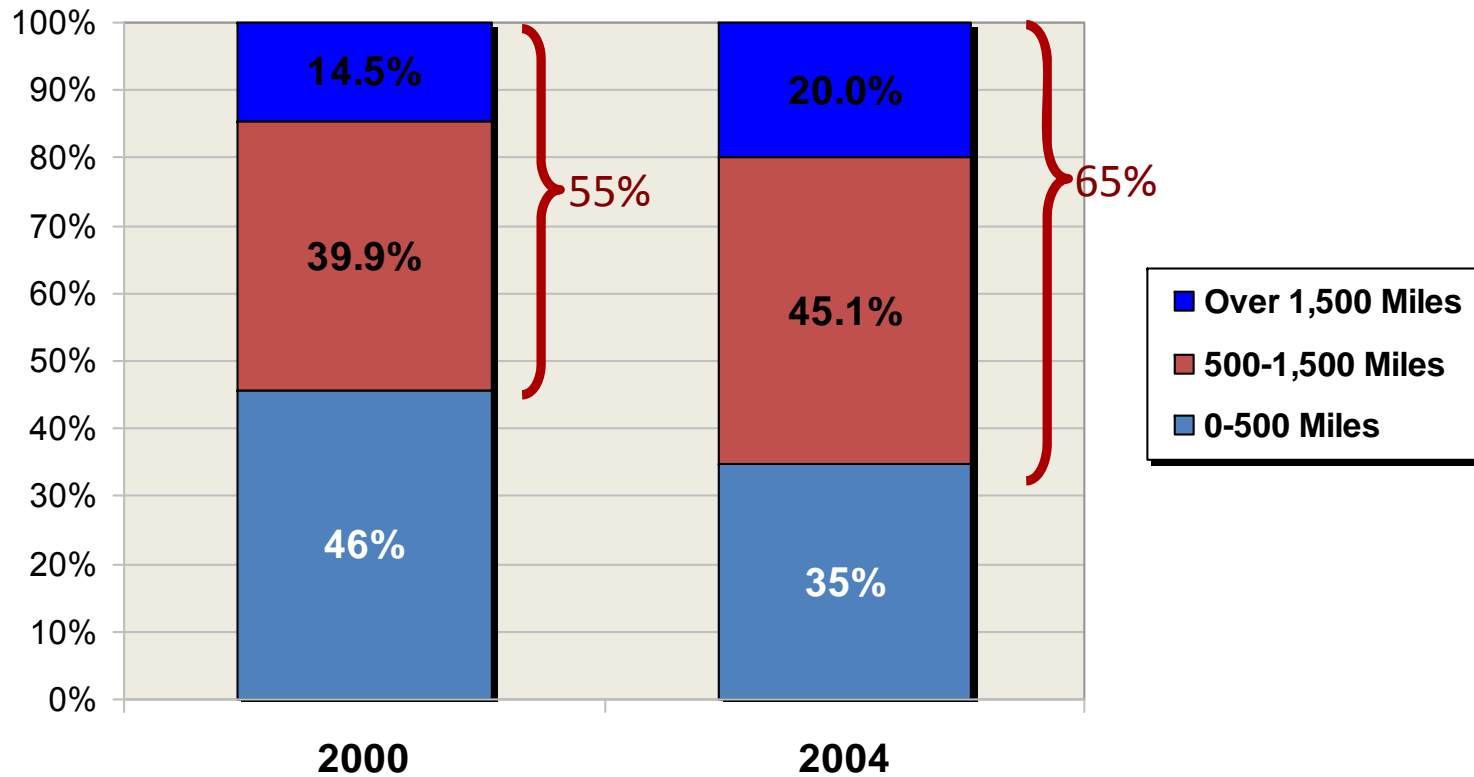
1/ Air France, British Airways, Lufthansa.

Source: IATA Airline Cost Performance Economics Briefing, March 2007.

# LCCs have targeted longer haul markets for expansion: they operate 65% of their domestic capacity in markets over 500 mi.



LCC Distribution of Traffic By Trip Stage Length  
U.S. Domestic Markets >75 Passengers Per Day Each Way  
CY 2000 vs. CY 2004

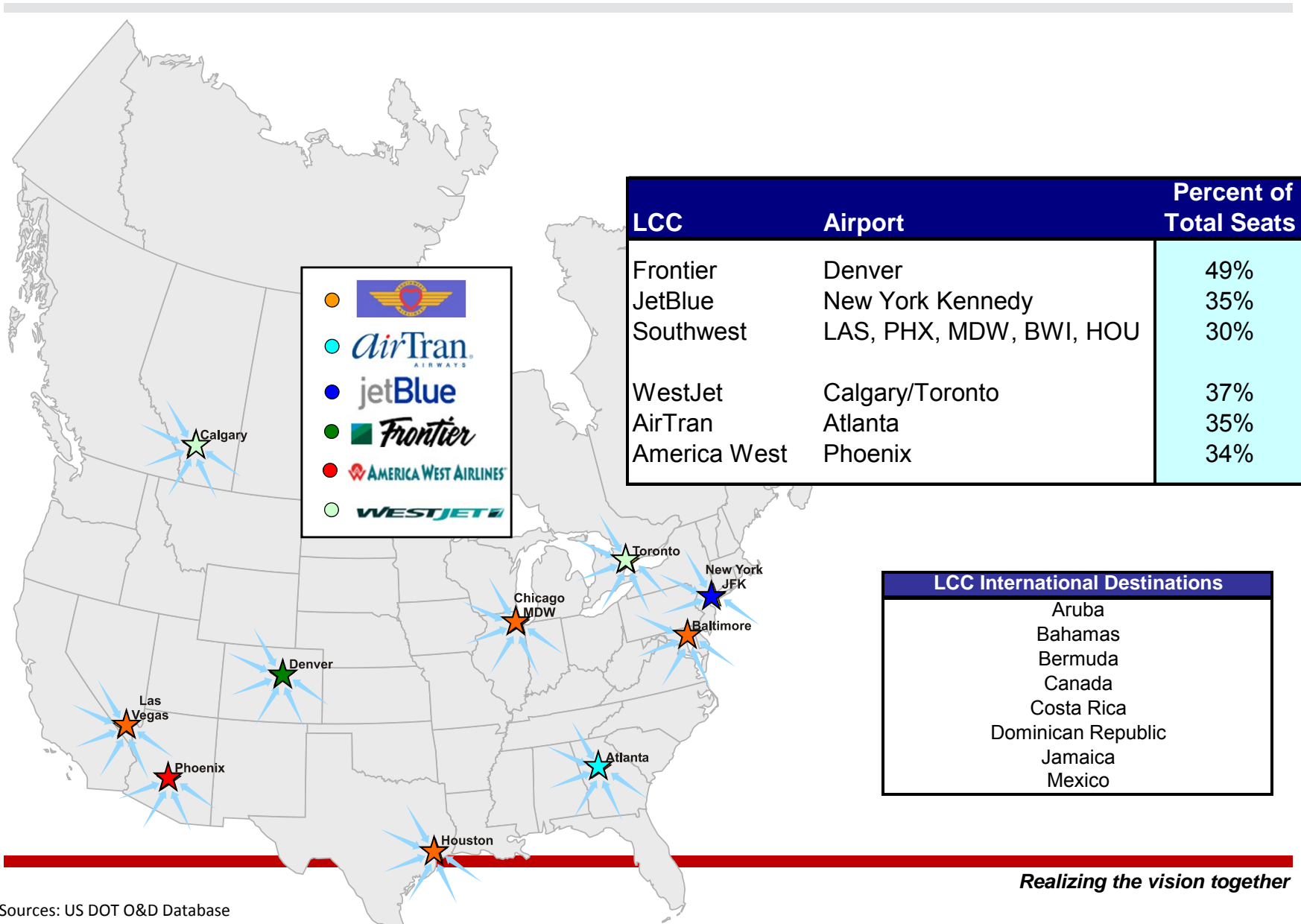


LCCs - WN, JetBlue, HP, Airtran, ATA, Frontier

Sources: US DOT O&D Database, via Database Products Hub Supplement Database



# Low-cost carriers increasingly resemble hub & spoke systems, in addition to expanding their previously limited international offerings



Sources: US DOT O&D Database

# As legacies increasingly erode LCC advantages, LCCs will increasingly hybridize to meet the growing challenge

Southwest Airlines in 2000	
Number of Aircraft in Fleet	326
Percent of Markets Under 2 Hrs	83.9%
Avg No. of Daily Flights per Market	4.4
Average Stage Length	470
Code-Share Agreements	None

Southwest Airlines in 2005	
Number of Aircraft in Fleet	412
Percent of Markets Under 2 Hrs	76.5%
Avg No. of Daily Flights per Market	4.1
Average Stage Length	584
Code-Share Agreements	ATA



# Future trends in airline business models – cont.

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## **Legacy carriers introduce low cost subsidiaries**

- Air Canada – Rouge
- Qantas – Jetstar
- Lufthansa – Germanwings



**Thank You!**

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