ANALYSIS OF THE EU AIR TRANSPORT INDUSTRY

Final Report 2004

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By Cranfield University

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Glossary

Abbreviations, Acronyms and Codes

Aviation Organisations

ACI	Airports Council International (formerly AACI)
AEA	Association of European Airlines
AFTN	Aeronautical Fixed Telecommunications Network
AOA	Airports Operators Association
ARINC	Aeronautical Radio Incorporated
BV	Bureau Veritas (France)
CAA	Civil Aviation Authority
CCA	Conference of City Airports
DOT	Department of Transportation (US)
ECAC	European Civil Aviation Conference
ERA	European Regional Airlines Association
FAA	Federal Aviation Administration (US)
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation (also known as OACI in French)
INMARSAT	International Maritime Satellite Organisation
JAA	Joint Aviation Authorities
LBA	Luftfahrt Bundesamt (Germany)
NATS	National Air Traffic Services (UK)
NTSB	National Transportation Safety Board
OAA	Orient Airlines Association
OAG	Official Airline Guide
RAI	Registro Aeronautico Italiano
RTCA	Radio Technical Commission for Aeronautics
SITA	Société Internationale de Télécommunications Aéronautique

Units of Measurement

ASK	Available Seat-Kilometre
ATK	Available Tonne-Kilometre
ATM	Air Transport Movement
FTK	Freight Tonne-Kilometre
LF	Load Factor
MTOW	Maximum Take-Off Weight
PAX	Passengers
RPK	Revenue Passenger-Kilometre
RTK	Revenue Tonne-Kilometre

Airports

ACI	Airports Council International (formerly AACI)
ATB	Automated Ticket and Boarding pass
BAA	former British Airports Authority
FIDS	Flight Information Display Systems

Country codes

Listed below are the thirty-two countries forming the core group for analysis in this report. They are defined by the twenty-five EU Member States, four candidate EU states and three EFTA members.

code	country	code	country
AT	Austria	IE	Ireland
BE	Belgium	IS	Iceland
BG	Bulgaria	IT	Italy
CH	Switzerland	LT	Lithuania
CY	Cyprus	LU	Luxembourg
CZ	Czech Republic	LV	Latvia
DE	Germany	MT	Malta
DK	Denmark	NL	Netherlands
EE	Estonia	NO	Norway
ES	Spain	PL	Poland
FI	Finland	PT	Portugal
FR	France	RO	Romania
GB	United Kingdom	SE	Sweden
GR	Greece	SI	Slovenia
HR	Croatia	SK	Slovakia
HU	Hungary	TR	Turkey

Notwithstanding the definition of Europe in the previous paragraph, some sources of data used in this report employ quite different definitions. In the table below, countries represented as members states, contracting states or represented by airline members of international organisations are listed.

EU Member States	EU candidate states	EEA	EFTA		ACI Europe	AEA	ECAC	Euro-control	IATA Europe	ICAO Europe
				Albania	✓		✓	✓		✓
				Algeria						✓
				Andorra	✓					✓
				Armenia	✓		✓	✓		✓
✓		✓		Austria	✓	✓	✓	✓	✓	✓
				Azerbaijan	✓		✓			✓
				Belarus	✓					✓
✓		✓		Belgium	✓	✓	✓	✓	✓	✓
				Bosnia & Herzegovina	✓		✓	✓		✓
	✓			Bulgaria	✓		✓	✓	✓	✓
	✓			Croatia	✓	✓	✓	✓	✓	✓
✓		✓		Cyprus	✓	✓	✓	✓	✓	♦
✓		✓		Czech Republic	✓	✓	✓	✓	✓	✓
✓		✓		Denmark	✓	✓	✓	✓	✓	✓
✓		✓		Estonia	✓		✓		✓	✓
✓		✓		Finland	✓	✓	✓	✓	✓	✓
✓		✓		France	✓	✓	✓	✓	✓	✓
				FYR Macedonia	✓		✓	✓		✓
				Georgia	✓		✓			✓
✓		✓		Germany	✓	✓	✓	✓	✓	✓
✓		✓		Greece	✓	✓	✓	✓	✓	✓
✓		✓		Hungary	✓	✓	✓	✓	✓	✓
		✓	✓	Iceland	✓	✓	✓		✓	✓
✓		✓		Ireland	✓	✓	✓	✓	✓	✓
				Israel	✓				✓	
✓		✓		Italy	✓	✓	✓	✓	✓	✓
				Kazakhstan						✓
				Kyrgyzstan						✓
✓		✓		Latvia	✓		✓		✓	✓
		✓	✓	Liechtenstein	✓				✓	
✓		✓		Lithuania	✓		✓		✓	✓
✓		✓		Luxembourg	✓	✓	✓	✓	✓	✓
✓		✓		Malta	✓	✓	✓	✓	✓	✓
				Moldova	✓		✓	✓		✓
				Monaco	✓		✓	✓		✓
				Morocco						✓
✓		✓		Netherlands	✓	✓	✓	✓	✓	✓
		✓	✓	Norway	✓	✓	✓	✓	✓	✓
✓		✓		Poland	✓	✓	✓	✓	✓	✓
✓		✓		Portugal	✓	✓	✓	✓	✓	✓
	✓			Romania	✓	✓	✓	✓	✓	✓
				Russian Federation	✓				✓	✓
				San Marino	✓					✓
				Serbia & Montenegro	✓	✓	✓	✓	✓	✓
✓		✓		Slovakia	✓		✓	✓	✓	✓
✓		✓		Slovenia	✓	✓	✓	✓	✓	✓
✓		✓		Spain	✓	✓	✓	✓	✓	✓
✓		✓		Sweden	✓	✓	✓	✓	✓	✓
			✓	Switzerland	✓	✓	✓	✓	✓	✓
				Tajikistan						✓
				Tunisia						✓
	✓			Turkey	✓	✓	✓	✓	✓	✓
				Turkmenistan						✓
				Ukraine	✓		✓	✓		✓
✓				United Kingdom	✓	✓	✓	✓	✓	✓
				Uzbekistan						✓

♦ **Cyprus** is an ICAO contracting state, but represented through the Middle East (Cairo) office of ICAO

As the representative of Europe's major scheduled airlines, the Association on European Airlines (AEA) is used extensively as a data source for this report. The organisation's airline membership is given below.

Country	AEA airline member(s)		
Austria	Austrian		
Belgium	SN Brussels		
Croatia	Croatia Airlines		
Cyprus	Cyprus Airways		
Czech Republic	CSA Czech Airlines		
Denmark	SAS		
Finland	Finnair		
France	Air France		
Germany	Lufthansa		
Greece	Olympic Airlines		
Hungary	Malev Hungarian Airlines		
Iceland	Icelandair		
Ireland	Aer Lingus		
Italy	Alitalia		
Luxembourg	Luxair	Cargolux	
Malta	Air Malta		
Netherlands	KLM		
Norway	SAS		
Poland	LOT		
Portugal	TAP Portugal		
Romania	TAROM		
Serbia and Montenegro	JAT Airways		
Slovenia	Adria Airways		
Spain	Iberia		
Sweden	SAS		
Switzerland	Swiss International		
Turkey	Turkish Airlines		
United Kingdom	Virgin Atlantic	Brirish Airways	BMI

The European Regions Airline Association represents the interests of regional carriers and other organisations involved in air transport in Europe's regions. Its airline membership (2006) is shown below.

STATE	ERA Member Airlines			
Austria	Air Alps Aviation	Tyrolean Airways	Welcome Air	
Bulgaria	Hemus Air			
Switzerland	Darwin Airline	Flybaboo	Swiss International Air Lines	
Germany	Augsburg Airways	Avanti Air	Cirrus Airlines	Contact Air
	European Air Express	Eurowings	Hahn Air Lines	dauair
	Lufthansa CityLine			
Denmark	Cimber Air	Danish Air Transport		
Estonia	Aero Airlines			
Spain	Air Nostrum	Binter Canarias		
Finland	Blue1	Finncomm Airlines		
France	Brit Air	CCM Airlines	Régional	
Greece	Aegean Airlines	Euroair		
Croatia	Trade Air			
Ireland	Aer Arann	CityJet		
Iceland	Air Iceland			
Israel	Arkia Israeli Airlines			
Italy	Air Dolomiti	Alitalia Express	ClubAir	
Lithuania	Amber Air	Danu Oro Transportas		
Latvia	airBaltic			
Luxembourg	Luxair			
Montenegro	Montenegro Airlines			
Morocco	Regional Air Lines			
Netherlands	Denim Air	Interstate Airlines	KLM cityhopper	
Norway	Coast Air	Widerøe's Flyveselskap		
Palestine	Palestinian Airlines			
Poland	EuroLOT			
Portugal	ATA - Aerocondor	PGA - Portugalia	SATA Air Açores	
Romania	Carpatair			
Russia	Kogalymavia Airlines			
Sweden	City Airline	Falcon Air	Golden Air	Malmö Aviation
	Skyways Express	West Air Sweden		
Slovenia	Adria Airways			
UK	Air Atlantique	Air Southwest	Air Wales	Eastern Airways
Ukraine	Air Urga			

Definitions of Commonly Used Air Transport Terms

Aircraft hours are the total number of aircraft block hours in revenue service, block hours being calculated from the moment it moves under its own power for purpose of flight until it comes to rest at the next point of landing

Aircraft kilometres are the sum of products obtained by multiplying the number of flights performed on each flight stage by the stage distance

Aircraft utilisation is the average number of block hours that each aircraft is in use. This is generally measured on a daily or annual basis

Available seat kilometres (ASKs) are obtained by multiplying the number of seats available for sale on each flight stage by flight stage distance

Available tonne kilometres (ATKs) are obtained by multiplying the number of tonnes (2,204 lb) of capacity available for carriage of passengers and cargo on each sector of a flight by flight stage distance

Average aircraft capacity is obtained by dividing available tonne kilometres by aircraft kilometres flown (or available seat-kms by aircraft kms flown)

Average passenger haul is obtained by dividing revenue passenger kilometres flown by the number of passengers

Average stage length is obtained by dividing aircraft kilometres flown by number of aircraft departures for each airline; it is the weighted average of stage/sector lengths flown by an airline (normally the great circle distances)

Block time (hours) is the time for each flight stage or sector, measured from when the aircraft leaves the airport gate or stand (chocks off) to when it arrives on the gate or stand at the destination airport (chocks on)

Break-even load factor (%) is the load factor required to equate total traffic revenue with operating costs

Code sharing is the use of the designation code of one or more airlines on a flight operated by another airline

Co-ordinated airport is an airport where an independent co-ordinator has been appointed to facilitate the allocation of take-off and landing slots (times) to airlines at congested airports in Europe

Flying time (hours) is the time for each flight stage or sector, measured from when the aircraft leaves the ground or lifts off to when it touches down on the runway on arrival at the destination airport

Freight tonne kilometres (FTKs) are obtained by multiplying the number of tonnes of capacity carried (passengers and cargo) on each sector of a flight, by flight stage distance

Grandfather rights is the convention by which airlines retain the right to take-off and landing slot times at an airport as long as they are used (also used in conjunction with route rights)

Interlining is the acceptance by one airline of travel documents issued by another airline for carriage on the services of the first airline, according to conditions laid down in an interline agreement (which include the allocation of revenues between the two carriers); an interline passenger is one using a through fare for a journey involving two or more separate flights and two or more carriers

Operating costs per ATK is a measure obtained by dividing total operating costs by ATKs. It includes flight operating expenses, sales ticketing and promotional costs, ground operations costs and general and administration costs. It usually excludes interest payments, but includes aircraft lease rentals

Operating ratio (%) is the operating revenue expressed as a percentage of operating costs

Passengers carried are obtained by counting each passenger on a particular flight (with one flight number) once only and not repeatedly on each individual stage of that flight (or one ticket coupon equals one passenger), with a single exception that a passenger flying on both the international and domestic stages of the same flight should be counted as both a domestic and an international passenger

Passenger load factor (%) is passenger-kilometres expressed as a percentage of available seat kilometres (on a single sector, this is simplified to the number of passengers carried as a % seats available for sale)

Punctuality is measured as the percentage of flights departing within 15 minutes of schedule, according to the most widely used airline industry standard

Revenue passenger refers to passengers paying 25% or more of the normal applicable fare (for ICAO statistical purposes)

Revenue passenger kilometres (RPKs) are obtained by multiplying the number of fare paying passengers on each flight stage by flight stage distance

Revenue tonne kilometres (RTKs) are obtained by multiplying the total number of tonnes of passengers and cargo carried on each flight stage by flight stage distance. Passengers tonne kilometres are normally calculated on a standard basis of 90 kg average weight, including free and excess baggage**,** although this has been increased recently by some airlines (eg British Airways have recently increased the average passenger weight from 75kg to 80kg, as a result of a CAA directive, to which the 20 kg free baggage allowance should be added)

Seat factor or passenger load factor on a single sector is obtained by expressing the passengers carried as a % of the seats available for sale; on a network of routes it is obtained by expressing the total passenger-kms as a % of the total seat-kms available

Seat pitch is the standard way of measuring seat density on an aircraft. It is the distance between the back of one seat and the same point on the back of the seat in front

Scheduled freight yields are obtained by dividing total revenue from scheduled freight by RTK from freight

Scheduled passenger yields are obtained by dividing the total scheduled passenger revenue by RTK from passengers

Scheduled services are services provided by flights scheduled and performed for remuneration according to a published timetable, or so regular or frequent as to constitute a recognisably systematic series, which are open to direct booking by members of the public; also extra revenue flights occasioned by overflow traffic from scheduled flights; and preliminary revenue flights on planned new air services

Slot at an airport is the right to operate one take-off or landing at that airport within a fixed time period. In practice, the slot timings are only nominal and flights often take-off and land at times outside their specified slot period, although airlines must possess the nominal slots to operate air services. Slots are traded between airlines legally in the US, and unofficially in other parts of the world (where only the exchange of slots is officially permitted)

Unduplicated route kilometres are the lengths in kilometres of all the flight stages operated by the airline, each counted only once, and regardless of frequency or direction

Unit costs are obtained by dividing total operating costs by ATKs

Weight load factor is revenue tonne kilometres performed expressed as percentage of available tonne kilometres (also called overall load factor)

Yields are obtained by dividing the total operating revenue by RTKs (or sometimes by ATK); passenger yields are obtained by dividing passenger revenues by RPKs, and cargo yields by dividing cargo revenues by FTKs. Revenues have historically been recorded before the deduction of travel agent commissions, giving gross rather than yields net of commissions

SECTION 1

AIR TRANSPORT INDUSTRY OVERVIEW

1. Air transport industry overview

2004 was a year of growth for the European Community and for its air transport industry. The Community itself was enlarged, giving access to its open skies to the populations of ten accession states.

Low-cost carriers, in particular, were quick to respond to the opportunities of the increased market size, and quick to take advantage of the lower costs of operating in the new member states.

In spite of very large increases in the price of aviation fuel, and the escalating low-cost competition within Europe, most network carriers had a good year. They saw the first positive recovery since 9/11. The recovery was led by the Asia-Pacific region, badly hit in 2003 by the SARS outbreak. A sign of potential future competition on long-haul services between that region and Europe came with a spate of orders from Middle-east airlines for large aircraft.

Airline alliances continued to evolve, the major movement here being the merger between Air France and KLM.

1.1 Regulatory/competition

Worldwide there was a significant rise in the number of "Open Skies" deals, with eleven such bilateral agreements being concluded in 2004, increasing the total number to 100. By the end of 2004 there were eleven regional plurilateral or multilateral agreements established, of which the most liberal is that involving EU Member States.

Major developments within the EU included a Council Regulation 847/2004 (OJ L157 of 30.04.2004) laying down the procedures to be followed in respect of future bilateral negotiations following the November 2002 ECJ ruling. Member States are now required to provide full information on any bilateral negotiations being undertaken, to treat all Community air carriers equally in respect of the allocation of traffic rights, and to establish non-discriminatory and transparent procedures for the distribution of traffic rights between Community air carriers. The main objective of this regulation is to bring the air service agreements in line with the Community law.

Common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights were also the subject of a new Council Regulation (OJ L46 of 17.02.2004).

The merger of Air France and KLM was approved by the Commission, subject to certain conditions being met by the two carriers (OJ C60 of 09.03.2004).

In February 2004, the Commission adopted a Decision (OJ L137 of 30.04.2004)on aid measures provided by the Walloon region to Ryanair. The Commission deemed that while measures that result in the development and improved use of infrastructure at Charleroi airport are compatible with Community aid rules, discounts on landing fees and reduced ground handling charges together with other sums granted to Ryanair are not. Wallonia was ordered to recover the latter from the low cost carrier. Ryanair brought action in the Court of First Instance. Further investigations have been triggered in respect of Ryanair and other LCC receiving

subsidies from airports in Denmark, Italy and Spain. The Commission subsequently initiated a formal consultation to elicit views on its proposed guidelines. The consultation document proposed a limit to state aid of between 30% and 50% of the additional start-up costs an airline would face in establishing new routes, with a further restriction on the duration for which the aid could be received of between three and five years.

The Commission approved a twelve months bridging loan of €400 million for Alitalia, with the amount strictly limited to the sum needed to manage the airline and being a necessary part of the company's restructuring plan (IP/04/965). A restructuring plan for the airline was presented to the Commission by the Italian government in October 2004.

1.2 Airlines

1.2.1 Connectivity

Although there was a high degree of connectivity among some European states, a number of others benefited from only a limited number of direct scheduled air services linking them to other European countries.

1.2.1 Capacity

On seven out of ten scheduled intra-European routes, capacity is provided by a single carrier. This measure is down by only a very small margin since 1994.

Passenger capacity of members of the Association of European Airlines (AEA) increased by an average of 7.3% (available seat kilometres), so that the RPK growth of 9.0% resulted in increased passenger load factors (PLF), up from an average 73.4% in 2003 to the 74.6% level reported for 2004. Intra-European PLF were up only slightly at 65.5%, but long-haul PLF increased by 1.6 points to 80.1%.

1.2.2 Traffic

IATA reports intra-European passenger flows as accounting for around 23% of total world passengers in 2004. This places the European market as the second busiest, behind the internal North American market, with 29% of the world's passengers.

AEA airlines experienced strong growth in passenger traffic. Passenger numbers increased by just under 5%, while revenue passenger kilometres grew by almost twice that amount – reflecting the very strong growth on long-haul markets, particularly on routes between Europe and Asia/Australasia (19% increase in RPK), and South America (17% up). The Asian and Australasian demand was fuelled by strong recovery from the SARS-depressed levels of 2003.

Freight traffic carried by AEA carriers increased strongly in 2004, fuelled by growth of almost 12% on Far East and Australasian routes. This was driven by buoyant export growth from China and other Asian manufacturing countries. High growth also occurred on South American routes.

1.2.3 Financial Results

Financial results for 33 European airlines show some improvement in 2004, but operating margins were still very low overall. Network carriers (20 included) still had a way to go to get back to pre-9/11 profitability, with major airlines such as Alitalia, Swiss, Finnair and SAS still making losses. Only three regional airlines produced data, and these fared even worse. Only the LCCs (4) and charter airline (6) produced more satisfactory results.

Table 1: Financial results: European airlines

Financial Year*	2003	2004	%(pts) change
Operating margin (%)	1.3	2.3	1.0
Total revenue per RTK (US cents)	80.3	88.8	10.6
Operating cost per ATK (US cents)	55.5	60.3	8.6
Overall load factor (%)	70.1	69.5	-0.6
Debt/equity ratio	3.2	3.0	-7.8
Pre-tax profit as % long-term capital	-0.5	1.6	2.1
After tax profit as % equity	-5.6	4.2	n/a
Operating leases as % long-term capital	41.1	41.4	0.3
Average sector length (kms)**	1,242	1,315	5.8

* Aggregate of airlines reporting different financial year ends: largest part of FY falling in 2003 or 2004
** based on IATA data for calendar year

Yields advanced by 10.6%, helped by a 13% strengthening of European exchange rates against the US dollar. A 5.8% increase in sector length would have reduced both yields and unit costs. Load factors were little changed at around 70%.

Returns on both investment and equity were very low in 2004, well below industry yardsticks. Given the high reliance on aircraft on operating lease, these were capitalised by multiplying annual operating lease rentals by seven. In Table 1, balance sheet weaknesses following 9/11 were still much in evidence, with an average debt/equity ratio of 3x in 2004. Total cash and deposits in current assets improved from US$9 billion to $13 billion: this would cover 52 days of cash expenses (versus 44 days at the end of 2003). However, some of the airlines still had very low cash reserves, and some of the airlines in the sample were part of larger tour operators, and their reserves may have been held by the parent company.

1.3 Airports

Traffic grew strongly at most European airports in 2004. The average increase in passenger traffic at ACI Europe's top twenty airports was close to 7%, but among these Munich and London Stansted recorded double-digit growth. Activity by low-cost carriers was an important contributor to traffic growth at some other airports in Europe, particularly in the accession states. In this category of airport, Prague and Budapest posted gains of over 25%, while Riga reported passenger traffic up by 50% over 2003 levels.

On the back of these traffic increases, many airport operators reported operating revenues sharply ahead of 2003 results. Significant increases were reported by Flughafen Wien (15%), Unique Zurich Airport (14%) and Athens International

(13%). The two largest airport operators from the accession states, Polish Airports State Enterprise and Czech Airports Authority also reported strong growth in operating revenues in 2004. The financial performance of the European airports industry remains robust with average operating margin increasing from 18% in 2003 to 22% in 2004.

1.4 Air traffic control

During the year, airspace harmonisation got under way with Eurocontrol initiating a formal consultation process on a common charging scheme, airspace design and the flexible use of airspace and then, towards the end of the year, commencing the procurement phase for its Single European Sky implementation programme. The establishment of a Community air traffic control license was proposed.

Eurocontrol reported total flights increased by 4.5% for 2004 compared to 2003, to reach almost nine million flights. Domestic traffic accounted for 37% of 2004 traffic and rose by just over 1%, while international traffic was up by 7%.

The average delay per departure was 10 minutes in 2004, up by 7.5% on 2003. For arrivals, the average delay was 10.4 minutes, an increase of 4.9%. Around half of departure delays in 2004 were attributed to airlines, 19% to airports and 11% to en route flow control.

1.5 The environment

Although amounts of the chief climate change pollutants, CO_2 and NOx, emitted by major European airlines increased by around 5.5% in 2004, the RPK these airlines generated grew by twice that rate, reflecting significant improvements in the rates of emissions.

These developments are partly explained by improvements in fuel consumption, measured in RTK per gallon. Changes in fleet composition, network and load factor led to fuel consumption improving by an average 3.8% among Europe's major airlines.

1.6 Consumer issues

In recent years there has been a trend towards a greater number of shorter trips by European travellers. There has also been a decline in the number of travellers opting for package holidays. Low fares booked through the internet have been the main stimulus for growth in leisure travel.

1.7 Airline alliances and mergers

The three global alliances, Skyteam, Star and Oneworld, accounted for 71% of world international RPK produced by IATA airlines in 2004.

Following announcement in 2003 by KLM and Air France of an unprecedented merger, the carriers gained approval of the European and US competition authorities in early 2004.

In October 2004 a binding agreement, placing SN Brussels Airlines and Virgin Express under the common ownership of SN Airholding, was announced.

1.8 Airline distribution

Advances in technology coupled with the pressure to reduce costs in the post 9/11 airline industry have forced every player in the distribution chain to re-evaluate its strategy and business processes. Fare transparency provided by airline websites and internet travel agencies has led to a behavioural shift in consumer purchasing, with the internet becoming a major distribution channel. Airlines are using the internet tool to increase direct on-line sales and put pressure on intermediaries to reduce fees. GDS deregulation in the US and the likely deregulation of GDSs in Europe have added to the turbulence of the market, affecting the business relationships between the four key stakeholders corporates, airlines, GDSs and travel management companies.

E-ticketing continued to spread in Europe, where over 20% of air tickets were issued in this format. This was slightly above the industry average of 19%. There were wide differences among European countries in the adoption of this technology.

1.9 Aircraft

For the second year running Airbus received more orders than Boeing ending the year with 53% market share of airliners with more than 100 seats. Boeing however was making strides with the 787 and Airbus eventually responded with the A350 "commercial launch". Airbus gained ten new orders for the A380, while Boeing still held off from announcing any development to the 747-400.

In the regional market, Bombardier and Embraer had mixed fortunes, both suffered from the downturn in the 50-seat regional jet market, while orders for their larger offerings, the CRJ700/900 and EJ170/190 families, did well.

ATR saw an increase in turboprop orders on the previous year although these were still well below the level of equivalent sized jets.

1.10 Labour

Total European airline employment was around 350,000 in 2004. ACI Europe estimated that European airports employed directly around 170,000 staff in 2001, part of a total on-airport employment of 1.2 million, which is unlikely to have changed significantly since that year.

A further 200,000 related jobs were considered to be located off-airport, making a grand total of 1.4 million.

SECTION 2

REGULATORY DEVELOPMENTS

2. Regulatory developments

2.1 Global Developments

Of the 76 bilateral air services agreements concluded or amended worldwide in 2004, over 70% comprised less restrictive arrangements. There was a significant rise in the number of "Open Skies" deals, which feature full market access with no limits on route rights, capacity, designation, code-sharing and tariffs. Eleven such bilateral agreements were concluded in 2004, increasing the total number to 100.

In terms of multi-state agreements, of which there were eleven by the end of 2004, noteworthy developments during the course of 2004 included the following:

EU – the number of Member States participating in the European Union increased by ten to 25.

ASEAN – ten Member States of the Association of South East Asian Nations agreed to accelerate the integration of air services, with the aim of establishing the ASEAN Economic Community by 2020.

Brunei, Singapore and Thailand agreed to fully liberalise air cargo services and partially liberalise passenger air services.

Banjul Accord Group – seven Member states concluded a multilateral agreement that liberalised the earlier Banjul Accord of 1997.

ACS – seven Member States of the Association of Caribbean States were signatories to the multilateral Air Transport Agreement.

The process of liberalising air transport policies at the national level continued in several states. Two developments of particular note involved firstly, India allowing privately owned domestic airlines to operate international services to certain South East Asian countries; and secondly, China implemented its Pricing Reform Plan partly liberalising the setting of domestic fares.

In terms of state aid, three carriers facing severe financial difficulties were in receipt of government aid, namely, Air Namibia ($366 million), BWIA West India Airlines ($10 million, plus $30 million debt to equity swap), and Alitalia (€400 million bridging loan).

2.2 EU Developments

Community air services agreements with third countries

A key outcome of the November 2002 ECJ ruling in respect of the legality of certain aspects of the bilateral air services agreements established between eight Member States and the USA was that all existing bilateral agreements between Member States and third countries that contain provisions contrary to Community law should be amended or replaced by new agreements that are wholly compatible with Community law. Regulation 847/2004 (OJ L157 of 30.04.2004) lays down the procedures to be followed in respect of future bilateral negotiations between Member States and third countries acknowledging the fact that the subject matter falls partly within the competence of the Community and partly within that of its

Member States. There is an obligation on each Member State to provide full information on any bilateral negotiations being undertaken and that if air carriers are involved in such negotiations all Community air carriers with an establishment in the territory of the Member State concerned should be treated equally. Member States are required to establish non-discriminatory and transparent procedures for the distribution of traffic rights between Community air carriers. The key aim of the Regulation is to achieve a harmonised co-ordinated approach in the negotiation, implementation and application of future bilateral air services agreements.

Two tools are available to bring existing bilateral agreements into line with Community law. The first comprises bilateral negotiations by individual Member States, as covered by the above mentioned Regulation, which provides for the insertion of standard clauses that were laid down jointly by the Commission and the Member States. In instances where it does not prove possible to incorporate the relevant standard clauses into an agreement, the Commission, in accordance with the comitology procedure, will conduct an examination whether the conclusion of such an agreement should be authorised or the Member State concerned should be requested to renegotiate it.

The second tool involves bilateral negotiation at Community level by the Commission in the framework of the *horizontal mandate*, which permits the insertion of the relevant standard clauses in the whole range of agreements between the Member States and a given third country. Given the magnitude of the task, the process of amending all existing air service agreements in order to comply with Community law is likely to take some time and involve much negotiation. The first agreement under the horizontal mandate was reached with Chile in September 2004 and was followed by agreements with Georgia, Lebanon and Azerbaijan.

During 2004, negotiations between the EU and the USA on a comprehensive air transport agreement (going siginficantly beyond the scope of the horizontal mandate) continued, and in December 2004 the Council authorised the Commission to open negotiations on a comprehensive agreement with Morocco, and to negotiate with Bulgaria, Romania, Norway, Iceland and the western Balkans aimed at establishing a European Common Aviation Area (ECAA) agreement.

Consumer protection

Regulation 261/2004 (OJ L46 of 17.02.2004) laid down common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights. IATA carriers subsequently challenged the Regulation, which came into effect in 2004, in the UK High Court. The level of compensation in respect of short haul flights (250 euros) is high relative to the fares charged on the services of low cost carriers. Obtaining compensation from some low cost carriers may well require redress to the courts. To cope with the new legislation, carriers will need to modify certain of their operating practices, particularly in respect of over-booking and flight cancellations. While the former will have little impact on LCC, the need to avoid cancelling lightly loaded flights at short notice will affect all types of airline.

State aids

In February 2004, the Commission adopted a Decision (2004/393/EC, OJ L137 of 30.04.2004) on aid measures provided by the Walloon region to Ryanair. The Commission deemed that while measures that result in the development and improved use of infrastructure at Charleroi airport are compatible with Community aid rules, discounts on landing fees and reduced ground handling charges together with other sums granted to Ryanair are not. Wallonia was ordered to recover the latter from the low cost carrier. Ryanair brought action in the Court of First Instance. Further investigations have been triggered in respect of Ryanair and other LCC receiving subsidies from airports in Denmark, Italy and Spain.

The Commission has initiated a formal consultation to elicit views on its proposed guidelines. These were requested by 7 March 2005, following which the Commission has been preparing guidelines on the financing of regional airports and start-up state aid to LCCs. Essentially, the guidelines will set out to establish the limits to size and scope of subsidy as well as to make clear the situations in which it might be applied. The consultation document proposed a limit to state aid of between 30% and 50% of the additional start-up costs an airline would face in establishing new routes, with a further restriction on the duration for which the aid could be received of between three and five years.

There is evidence that LCC are highly sensitive to airport charges and the associated costs of using airports. This evidence includes easyJet's shift from high-cost Zurich to Basle and Geneva, in spite of the high-yield traffic generated at Switzerland's primary business centre. This sensitivity is likely to be exacerbated where new routes are concerned, particularly those involving airports new to the carrier's network.

The impact of this legislation on LCC operations is unlikely to be very large overall, but may affect their willingness to operate more marginal routes, so limiting the development of low-cost networks in the EU.

In July 2004 the Commission approved a twelve months bridging loan of €400 million for Alitalia, with the amount strictly limited to the sum needed to manage the airline and being a necessary part of the company's restructuring plan (IP/04/965). The Italian authorities presented Alitalia's restructuring plan to the Commission in October 2004. Eight European airlines complained to the Commission about the restructuring plan in light of Alitalia's policy of reducing fares and expanding capacity, and urged that any additional funding for the company be disapproved.

Predatory pricing

Since May 2004 the Commission is authorized under Regulation 868/2004 (OJ L162 of 30.04.2004) to take measures to protect Community carriers against third country airlines that receive government subsidies and in cases where such airlines provide service at lower than normal fares. To redress unfair subsidization the Commission is empowered to impose countervailing duties and other measures on third country carriers in receipt of state subsidies or applying below normal fares.

Abuse of dominant position complaints

In December 2003 the Commission opened an investigation into airline pricing in response to complaints it had received that carriers were charging different fares for the same ticket depending on the customer's place of residence (IP/03/1786). A number of Community carriers were requested to state by the end of February 2004 if and why they engaged in this practice. Tests carried out by the Commission revealed that the discriminatory behaviour exhibited in 2003 was no longer evident.

Mergers

In February 2004 (OJ C60 of 09.03.2004) the Commission approved the merger of Air France and KLM, subject to the two parties, i) agreeing to surrender slots on routes on which competition would otherwise have been significantly reduced, ii) entering into intermodal agreements with surface transport organizations, and iii) refraining from regulating fares on long haul routes. EasyJet subsequently brought action against the Decision in the Court of First Instance, arguing that the Commission had failed to assess correctly the merged entity's dominant position on routes where previously no overlap had existed and on the market for airport services (OJ C201 of 07.08.2004).

Air safety

In April 2004 (OJ L143 of 30.04.2004) Directive 2004/36, which is concerned with improving air safety by ensuring that third-country aircraft using Community airports comply with international safety standards, was adopted. The directive establishes a harmonized approach to the effective enforcement of international safety standards in the community by harmonising the rules and procedures for ramp inspections of third-country aircraft landing at Member States' airports. Under the directive each Member State is required to put in place the appropriate means to ensure that third-country aircraft suspected of breaching international safety standards landing at any of its airports are subject to ramp inspections.

SECTION 3

CAPACITY

3. Capacity

3.1 Air services

Figure 1 exhibits air transport connectivity within Europe in 2004. It represents a snapshot of scheduled routes operated within and between European states in June of that year. Routes are city-to-city, rather than airport pairs. Germany and the United Kingdom were the only states offering at least one non-stop air link to every other state in the analysis.

Figure 1: Number of city-pair routes between and within states, June 2004

	AT	BE	BG	CH	CY	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	TR
AT	9																															
BE	1	0																														
BG	1	1	3																													
CH	9	4	1	3																												
CY	1	2	1	1	0																											
CZ	1	1	1	1	1	2																										
DE	31	8	28	23	9	9	98																									
DK	1	2	1	3	0	1	11	8																								
EE	0	0	0	0	0	1	4	1	0																							
ES	21	8	1	13	1	2	205	7	0	141																						
FI	1	1	0	2	2	1	8	3	2	5	37																					
FR	4	8	1	13	1	3	33	10	1	32	2	132																				
GB	9	12	1	15	11	12	45	13	1	77	4	63	135																			
GR	35	2	1	3	5	2	139	2	0	2	3	4	3	69																		
HR	4	1	0	3	0	2	7	2	0	0	0	3	8	0	8																	
HU	1	1	2	2	1	1	7	1	0	1	1	2	1	2	3	0																
IE	1	2	0	2	2	2	10	1	0	14	1	7	54	0	1	1	7															
IS	0	0	0	0	0	0	4	1	0	2	1	1	2	0	0	0	0	13														
IT	13	10	2	10	2	4	82	4	1	29	2	30	34	5	3	4	5	1	114													
LT	1	1	0	0	0	1	8	2	1	0	1	0	1	0	0	0	1	0	0	2												
LU	1	0	0	2	0	1	3	1	0	12	0	5	2	5	0	1	0	0	9	0	0											
LV	1	1	0	0	0	1	4	1	1	1	1	0	1	0	0	0	1	0	1	1	0	0										
MT	1	1	1	2	1	1	7	1	0	0	0	3	4	1	0	1	2	0	4	0	1	0	1									
NL	2	1	1	4	2	1	13	3	1	21	1	11	25	11	5	1	4	1	10	1	1	1	1	2								
NO	1	1	1	2	0	2	9	13	1	14	1	4	11	0	1	1	1	1	4	1	0	1	1	6	109							
PL	3	1	1	3	1	2	21	5	1	2	1	4	4	1	1	2	1	0	6	1	0	1	0	1	1	11						
PT	5	3	1	7	0	1	35	1	0	15	2	12	12	0	0	1	2	0	5	0	4	0	0	6	2	0	25					
RO	3	1	1	1	1	1	8	2	0	1	0	1	1	2	0	3	0	0	17	0	0	0	1	1	0	1	0	13				
SE	2	2	1	2	0	2	10	12	1	9	9	5	11	1	1	1	1	1	5	4	1	1	1	3	3	1	1	0	50			
SI	1	1	0	1	0	1	2	1	0	0	1	1	2	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0		
SK	1	1	1	1	0	3	3	0	0	1	0	1	1	0	2	0	0	0	3	0	0	0	0	1	0	1	0	0	0	0	1	
TR	5	3	1	4	7	1	60	2	0	2	0	4	7	2	1	1	0	0	2	0	0	0	1	8	0	1	0	1	2	1	0	37

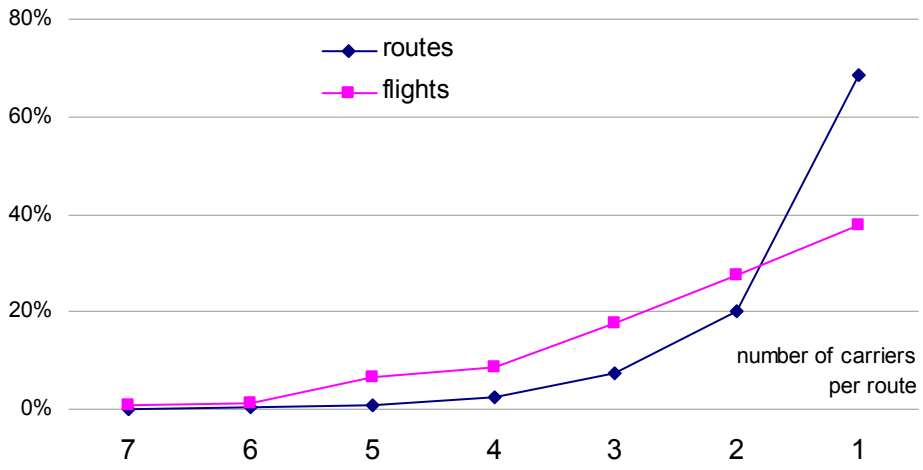
States less well connected to the rest of Europe tend to be smaller ones, particularly those with convenient access to airports in neighbouring countries (Luxembourg), or accession states and candidate states. Poland's relatively high degree of connectivity reflects the impact of low-cost carriers on the air transport market.

Not surprisingly, the countries offering the most developed network of domestic air services are those covering the greatest land areas (e.g. Germany), or those including communities and regions not easily accessible by surface transport (e.g. Norway).

Many European routes were operated by only one airline. Figure 2 demonstrates the extent to which the European network was dominated by routes with no competitive element. Around 40% of European flights are involved in single-carrier routes, and these routes themselves represent some 70% of total European routes.

While a few of these are de jure monopolies under the terms of public service legislation (PSO), most are a function of relatively low levels of demand.

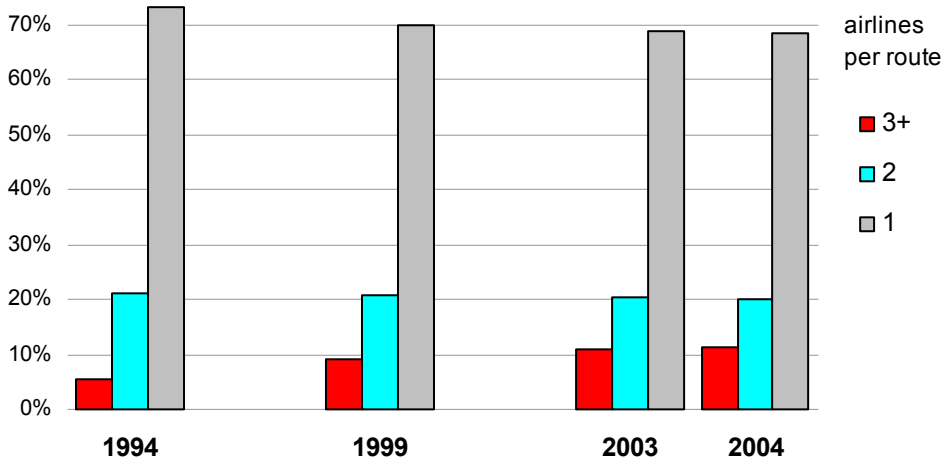
Figure 2: Proportion of European routes operated by multiple carriers, June 2004



Source: OAG

The evidence displayed in Figure 3 suggests that while there has been a continuous decline in the proportion of single-carrier routes since 1994, the decline has been slow and the net result has been less than might have been expected over the years following deregulation. Reasons for this include the expansion of point-to-point services and the growth of entrepreneurial activity, particularly by low-cost carriers, in opening new routes. Initial demand on these, even with the stimulation of direct air services, is unlikely to sustain competition in the short-term.

Figure 3: Evolution of %ge of European routes served by single carriers, 1994-2004



Source: OAG

On the other hand, there has been a doubling of the proportion of routes served by three or more airlines. This suggests that airlines have been attracted to compete for traffic on established city pairs.

3.2 Airline start-ups and failures, 2004

An indication of the degree of competition from airlines in the EU is given by the start-ups or births and exits (deaths). Acquisitions or alliances (marriages) will be discussed under chapter 10.

The list below shows the more prominent births and deaths that took place between January and December 2004. In some cases, operations were suspended pending reorganisation or the search for additional finance. In other cases, the AOC of the airline was withdrawn and/or they filed for bankruptcy. Some of the births were relatively short-lived.

The most popular business model was the LCC, with eleven new entrants. Four LCCs were discontinued, or five if snowflake is included. This was an airline within an airline which was in 2004 absorbed back into SAS as an economy brand. Normally the charter sector is characterised by more frequent entry and exit than the other business models: in 2004, six started up and three died.

Five regionals ceased operating with no new start-ups, while the entry costs of network airlines (and the previous collapse of both Sabena and Swissair) discouraged any entry there.

3.2.1 Airline start-ups

Network carrier start-ups

There were no births to report in 2004.

Regional airline start-ups

There were no births to report in 2004.

Charter airline start-ups

Aero Flight	started operations in March 2004 from the remains of the long established German charter carrier Aero Lloyd, which declared bankruptcy in November 2003. The new airline operated a fleet of three A320 and two A321 aircraft.
Air Madrid	started flying in May 2004, serving destinations in Latin America from Spain, using two A330-200 aircraft.
Hello	based in Basel, commenced operations in August 2004 using a fleet of three MD-90 aircraft.
Holland Exel	started operations in February 2004 using assets from bankrupt Air Holland. The new carrier, based in Amsterdam, operated a fleet of three B767-300 aircraft.
LTU Billa	started operations in May 2004

TUI Belgium was set-up by the TUI Group following the collapse of Sobelair. The new carrier began operations in April 2004 using a fleet of two B737-800 and three B737-400

World Focus World Focus Airlines, based in Istanbul, started operations in March 2004 using a fleet of two A310 aircraft.

Clearly the above is a sign of a vibrant market, since new entrants often bring new ideas and operating practices. However, a high proportion fail (see next section), with investors often looking for signs of profitability within between one and three years. A further discussion of competition will be provided in the remainder of this chapter, and under capacity in the following chapter.

Low cost carrier start-ups

FlyMe: began operations, 01 March 2004. This Stockholm-based carrier began by serving Gothenburg, Helsinki and Malmo at frequencies that would attract business traffic. Using smaller 130-seat B737-300s the airline focussed on the price-conscious business traveller and by the end of 2004 had succeeded in taking nearly 30% of the Stockholm – Malmo traffic and over 20% of Stockholm – Gothenburg traffic.

Thomsonfly: began operations, 31 March 2004. TUI started a seat-only LCC from Coventry and gave it the name Thomsonfly. Four B737-500s (131 seats) were based there and operated a dozen routes in the first year. Coventry had not previously seen much scheduled airline activity. Before the end of 2004 they had announced plans to set up similar bases at Bournemouth and the new airport at Doncaster/Sheffield.

SmartWings: began operations, 01 May 2004. This Prague-based carrier owned by Travel Servis Group began operations with a couple of B737s flying to mostly major cities in Europe on a daily basis.

Niki: began operations, 13 May 2004. Taking Air Berlin's business model Vienna-based Niki started City Shuttle services to Rome, Warsaw and Zurich in May before adding London Stansted and Palma in November. The airline also operates a significant programme of flights for tour operators.

Wizz Air: began operations, 19 May 2004. Budapest based Wizz Air began operations from Katowice in mid-May before Budapest flights got under way in late June. Before the end of the year bases were also established in Warsaw and Gdansk. Compared to its regional rival SkyEurope, Wizz operated much larger 180-seat A320s on routes that were mostly served three to four times per week. By the end of the year the airline had grown rapidly to six aircraft.

Vueling: began operations, 01 July 2004. Based in Barcelona the first Spanish LCC grew quickly to have four aircraft by the

end of the year. With investment from Apax Partners, Inversiones Hemisferio and some members of jetBlue's management this was one of the best-funded start-ups in recent years. During 2004 the airline operated services from Barcelona and Valencia on a variety of domestic and international routes, but avoiding the UK and German markets.

JetX: began operations, 21 July 2004. An Italian airline but with an Icelandic operating licence JetX operated an MD82 from Forli on a variety of routes. For winter 2004 the airline switched to nearby Bologna.

EUjet: began operations, 01 September 2004. Operationally based at Manston in the UK this airline evolved from a Shannon based Irish regional airline. By the end of 2004 it had operated to 20 destinations, mostly at low frequency using a fleet of Fokker 100s. At the end of the year the airline was bought by the airport's owners, Planestation, which would prove to be an unwise investment.

MyAir: began operations, 17 December 2004. With the demise of Volareweb (see below) a number of the airline's staff became involved with this new airline which started operations from Milan Bergamo and Venice a week before Christmas with three A320s.

EIRJet based in Shannon in Ireland, started operations in December 2004 with a single A320 aircraft.

The low-cost market attracted a high number of new operators in 2004, each hoping to emulate the success of first mover airlines such as easyJet. However, some new-entrants failed within months of starting, joining the list of low-cost failures of 2004.

3.2.2 Airline failures

Network carrier failures

There were no deaths to report in 2004.

Regional airline failures

Air Littoral after a period of over year of restructuring and attempting to find a new buyer the Montpellier-based airline was put into liquidation by a French court on 17 February 2004.

Gandalf after five years of operation the Bergamo-based airline filed for bankruptcy on 19 February 2004 following its failure to attract additional investment, put down to its lack of profits and that its inability to renegotiate a restructuring of its debt with its creditors.

AzzurraAir was declared bankrupt by an Italian court in Milan on 21 July 2004, following the decision by Air Malta, who owned

49% of the airline, to withdraw support as it was affecting their own financial performance.

Duo — ceased operations and entered administration on 1 May 2004, it had been set up by the former management of Maersk Air UK who decided to withdraw from their long-standing BA franchise arrangement and go it alone, however financial performance did not match expectations and additional investment was not forthcoming.

JetMagic — Jetmagic ceased operations on 29 January 2004 ten months after launching services with Embraer regional jets from Cork. It blamed its demise on slow demand for its business destinations and its inability to raise further investment to cover short term costs.

Charter airline failures

Air Holland — Air Holland finally ceased operations in February 2004 following a number of turbulent years in the hands of different owners and often teetering on the edge of bankruptcy. The airline was originally established in 1985. The carrier had operated a fleet of two B757 aircraft during 2003.4

Dutchbird — a subsidiary of Bimoss Holdings, ceased operating in December 2004. The airline had been formed in 2000 and during 2004 operated a fleet of three B757 and two A320 aircraft.

Sobelair — the former charter subsidiary of Sabena, ceased operations in January 2004 with 450 employees losing their jobs. Originally formed in 1946, the carrier operated a fleet of two B767-300 and six B737 during 2003.

The Irish tour operator owned JetGreen operated for only one week before suspending operations (ATI, 12 May 2004).

Low cost carrier failures

Flying Finn: — ceased operations, 28 January 2004. This Helsinki-based carrier had begun operations on 16 March 2003 with a domestic route to Rovaniemi using an MD83. Its network grew to a total of seven destinations of which one, London Stansted was international. Services to Stockholm Arlanda, Joensuu and Vaasa were due to start on 02 February 2004, but the airline ceased operations in the preceding week.

Vbird: — ceased operations, 08 October 2004. Vbird had begun operations on 27 October 2003 from its base at Weeze (a.k.a. Dűsselsdorf Niederrhrin, RAF Laarbruch) using Airbus A320 operated on the AOC of Dutch carrier Dutchbird. Growing quickly to four aircraft, the carrier operated multiple-daily flights to Berlin, Copenhagen, Munich and Vienna as well as daily flights to Helsinki. During summer 2004 a number of low-frequency 'summer-

sun' destinations were added such as Alicante and Malaga. Without major financial support the airline ceased operations just under a year after it had launched flights.

Volareweb: ceased operations, 19 November 2004. As part of the Volare group of airlines Volareweb grew rapidly from nine aircraft during the summer of 2003 to 18 a year later. During the summer 2004 season the airline operated some 71 routes including 28 domestic routes from bases in Milan, Venice and Rome. The airline went into special administration in November 2004 and re-appeared on a much smaller scale in 2005.

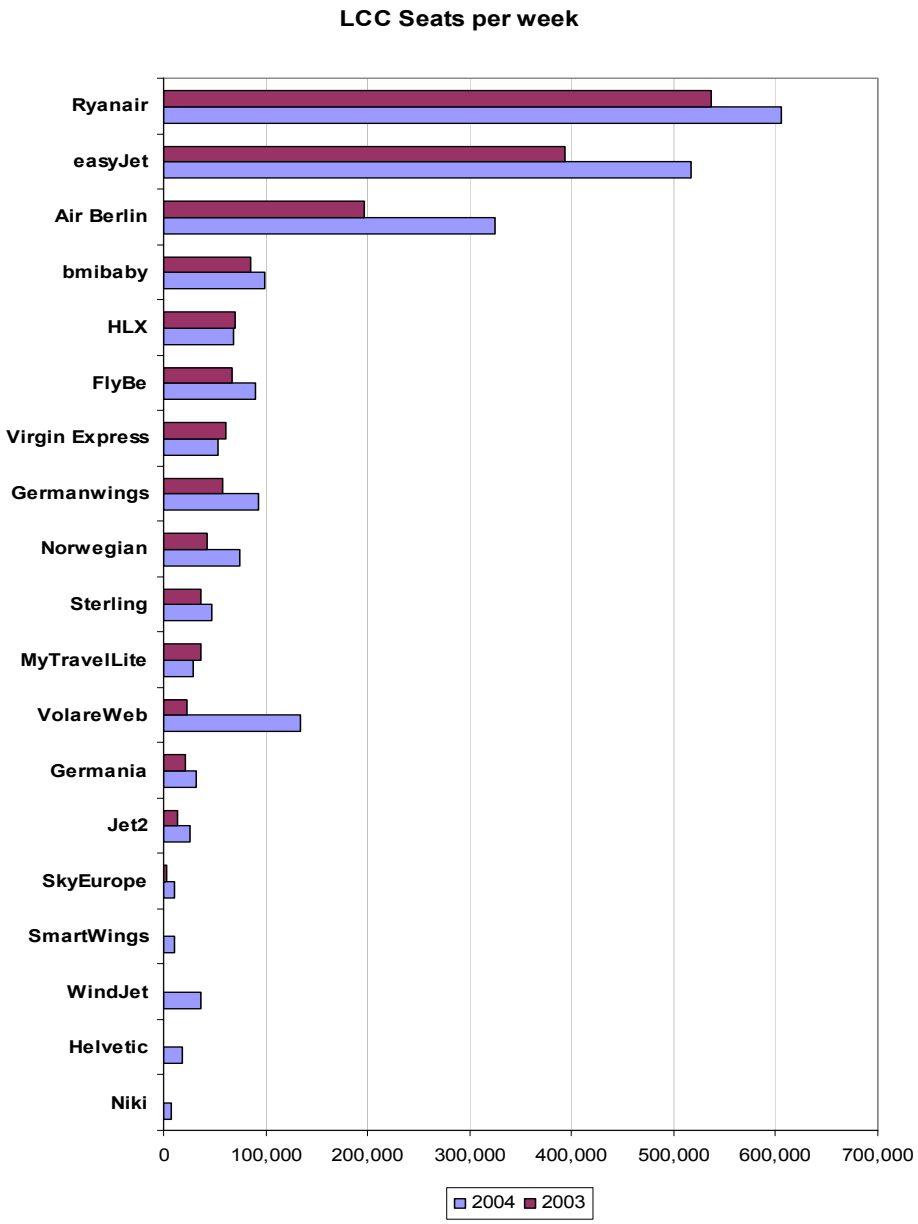
Air Polonia: ceased operations, 05 December 2004. Another airline that failed to last a year Air Polonia started flying on 08 December 2003. Led by A former LOT CEO, this Polish independent LCC also operated some charter services, mostly at weekends. The airline operated around a dozen routes using three B737s, two based in Warsaw and one in Katowice.

In addition, snowflake, the LCC operated by SAS melted away some time towards the end of 2004. Originally the airline had operated using five aircraft from the SAS fleet, two based in Copenhagen and three based in Stockholm. A wide range of mostly Mediterranean destinations were served at low frequency (typically 2-3 flights per week) using excess SAS capacity but operated by (high-cost) SAS crews. During summer 2004 a number of "Summer Special" destinations were put on sale for July and August. These consisted of typical European city-break destinations such as Amsterdam, Brussels, Dublin, Milan and Paris. The snowflake brand has survived within SAS's economy class product on certain routes.

3.3 Capacity: low-cost carriers

Figure 4 shows the increases in seats per week provided by low cost carriers between June 2003 and June 2004. The three largest carriers all added significant amounts of new capacity as both Ryanair and easyJet continued to take delivery of new aircraft ordered in 2002. Air Berlin continued to increasing the number of seats available for seat-only sale in their low cost business.

Figure 4: Seats provided by low-cost carriers, June 2003 and June 2004



Source: OAG

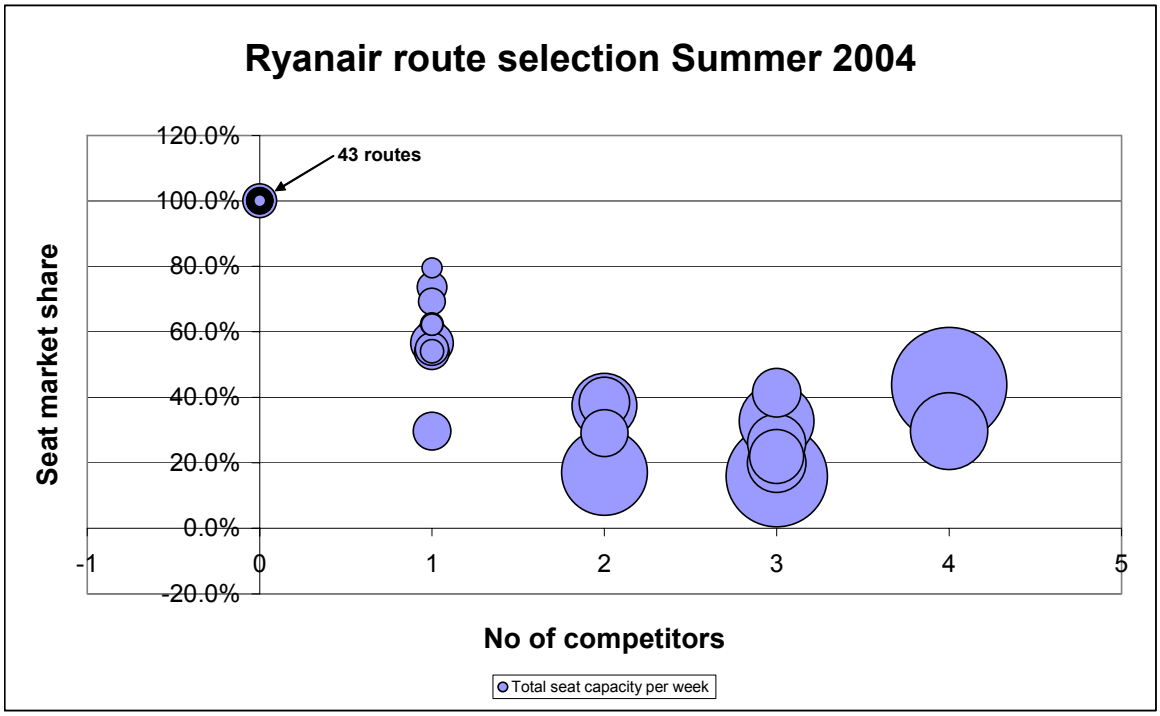
3.3.1 EasyJet and Ryanair networks in London

While most LCCs adopt a strategy to gain competitive cost advantage over network carriers using high aircraft and labour productivity, and low overheads to achieve low seat costs, differences in the strategy and style of those operating in the low cost sector have clearly emerged. The most apparent differences in strategy can be observed by looking at the carriers' route selections.

The following analysis examines the route selection strategy for Ryanair and EasyJet from London in 2004. Figure 5 shows the type of routes served by Ryanair from London in the summer of 2004. Each bubble reflects the seat capacity of the market from London for each city pair in which Ryanair competes.

The x-axis shows the number of competitors the airline faces on each route, while the y-axis shows Ryanair's share of the seat capacity.

Figure 5: Ryanair route selection (2004) – Ex- London

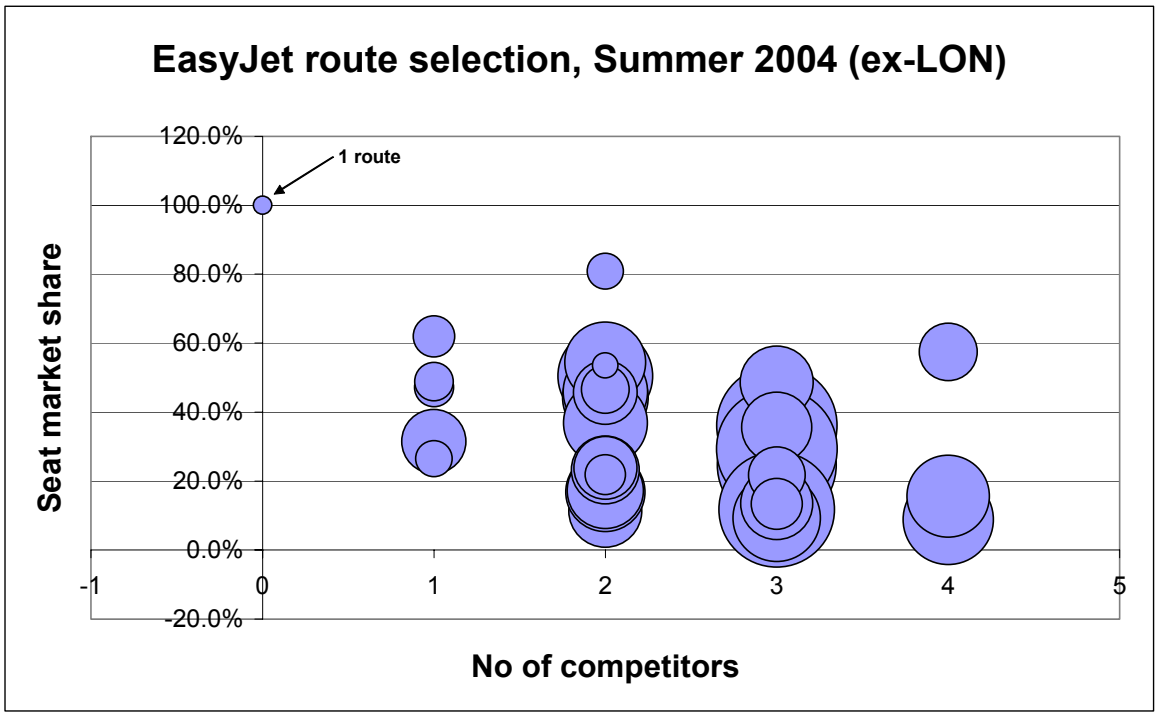


Source: OAG

During 2004, the airline served 65 routes from London, facing on average just 0.70 competitors per route, and providing an average of 46% of the capacity. The airline served these routes at just over the double daily level. Only nine routes it served had other LCC activity. The figure shows that Ryanair operates in a large number of small markets and a small number of considerably larger markets. In the larger markets Ryanair tends to have a smaller share of the seat capacity and also faces a large number of competitors. Not shown clearly are the 43 small routes that only Ryanair operates (i.e. where it has 100% of the capacity and no competitors).

While Ryanair is perfectly willing to compete directly with network carriers and other low-cost airlines, it has built a network of small, thin routes. It has a monopoly on two thirds of its routes from London, although these are mainly served on a daily or double daily basis. On another dozen larger routes it serves, the airline only has one competitor and a half or more of the capacity offered. It is on these routes where the airline is likely to be able to extract significant profits. The rest of its routes are larger and here they face considerably more competition. In these markets the airline uses its exceedingly low cost base to ensure profitable operation while undercutting its competitors.

Figure 6: EasyJet route selection (2004)



Source: OAG

In contrast, Figure 6 shows that EasyJet has pursued a strategy of generating leisure traffic while also aiming at attracting business travellers away from the network carriers. Necessarily, they compete in larger markets, offer higher frequency and face more competition. The strategy is to extract higher yields from passengers than Ryanair. Its desire to attract business travellers means that it tends to fly to principal airport destinations (although this has a cost implication), offering on average 4.6 return flights a day. Choosing larger markets also means that the airline faces more competition from other LCCs. Eight of its thirty-five routes from London have other low-cost carriers operating on them.

Table 2: Low-cost carriers' route selection, ex-London (2004)

Airline	Route Capacity	Average Frequency	Airline Capacity	Ave. Capacity share	Ave. no of competitors	with other LCAs	No of Routes
EasyJet	560909	32.1	168944	30%	2.26	8	35
Ryanair	368680	15.1	168357	46%	0.70	9	65

Source: OAG

The airline has succeeded, in the last two years, in driving up its average weekly frequency to a level that would suit most business travellers and also its average capacity share. This, of course, has been partly achieved by the purchase of Go. The degree of low-cost airline competition has also been reduced by the acquisition, from three-routes-in-five to just one-route-in-four.

These two strategies show that different airlines in the LCC sector will adopt different strategies as it is likely that as the sector develops that other strategies will become clear.

SECTION 4

AIR TRAFFIC

4. Air traffic

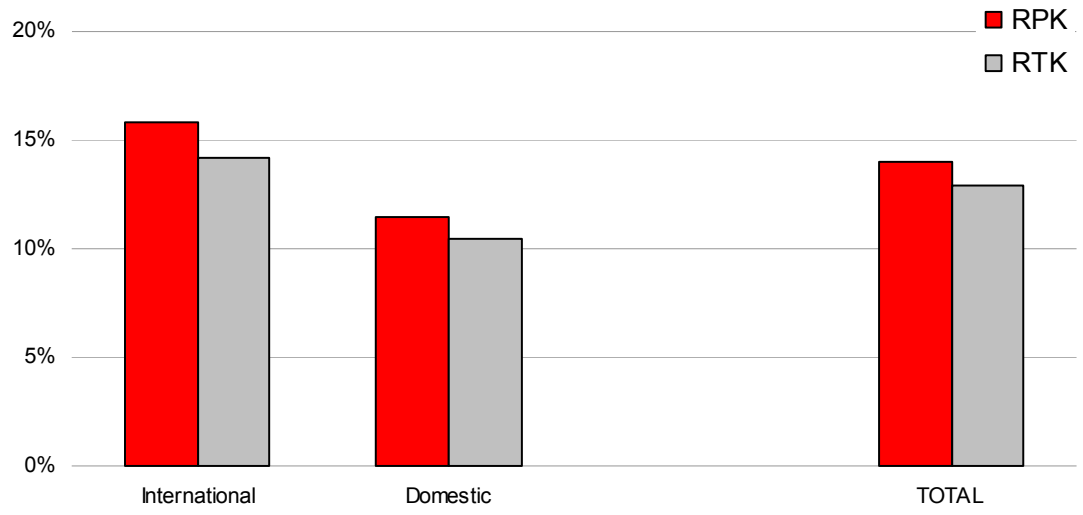
4.1 Scheduled world overview

ICAO reported healthy increases in traffic from airlines based in the organization's member states. The world air transport industry saw traffic rebound from the depressed levels of 2003.

Incorporating freight and passengers, revenue tonne kilometres offer a more comprehensive measure of airline activity: on this basis world growth is only slightly diminished, at 12.9%, reflecting a growth rate in freight tonne kilometres of 11.5%, below the level achieved by passenger traffic.

By keeping the growth in capacity below the increase in numbers of passengers carried, airlines generated higher load factors in 2004. The average passenger load factor for 2004 was two decimal points higher than in 2003, at 73%. The average weight load factor increased from 61% to 62%.

Figure 7: Change in RPK and RTK on scheduled services, 2004 v 2003



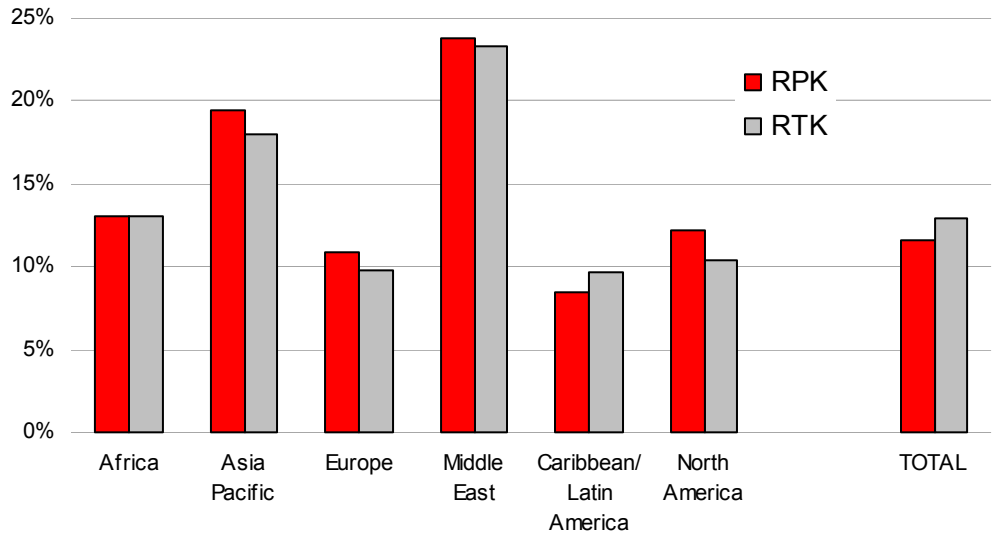
Source: ICAO

Growth was significantly stronger in international markets than in domestic markets. This was true for both passenger traffic and freight traffic.

Airlines of the Asia Pacific region contributed strongly to this growth in traffic, rebounding from the negative impact in 2003 of the outbreak of SARS (Figure 8). RPK growth for airlines of this region averaged around 20% for both domestic and international markets, while freight tonne kilometres increased by some 15%.

ICAO's European carriers reported growth figures somewhat below the world averages, just under 11% for RPK and 9.0% for freight tonne kilometres.

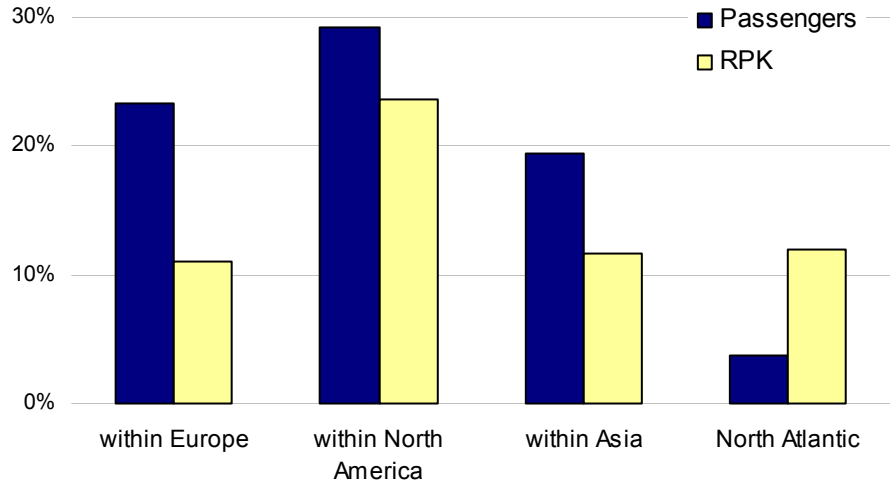
Figure 8: Changes in scheduled RPK and RTK, by region of airline registry, 2004 v 2003



Source: ICAO

Of IATA airlines' world passengers, 29% were carried on services within North America (Figure 9). Intra-European passenger-flows were in second place, with 23% of total world passengers. The relatively short lengths of many European trunk routes means that the world-share of intra-European air transport falls into third place (behind North America, Asia and the North Atlantic) when measures in RPK.

Figure 9: Four regions of greatest passenger flow, as % of world total, 2004



Source: IATA

4.2 European passenger traffic

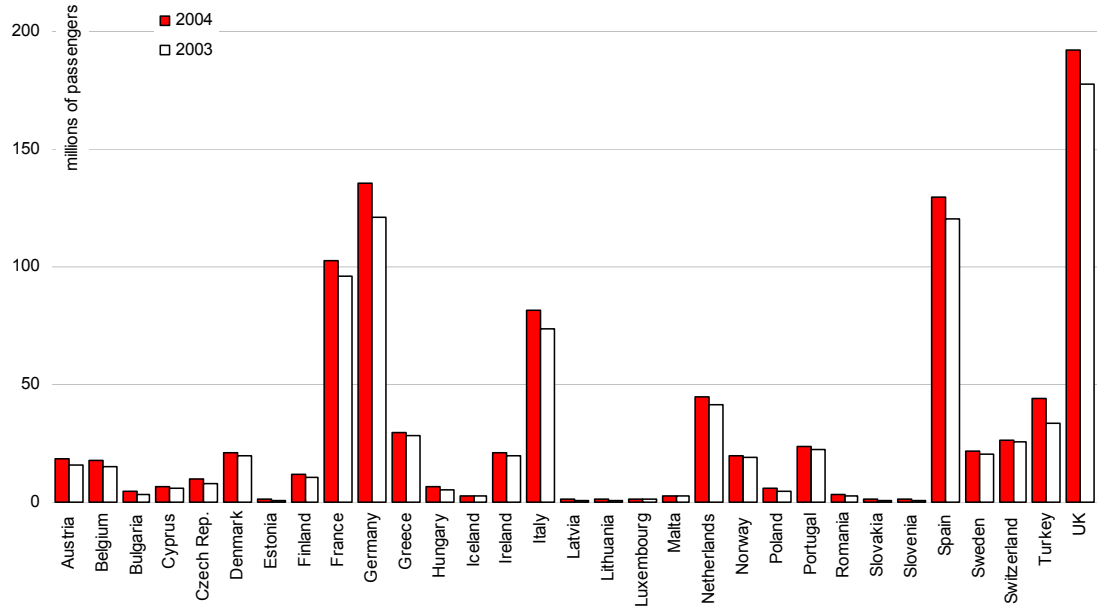
Over 425 million passengers travelled by air between airports in the EU-25 in 2004, and a further 225 million travelled between the EU and the world outside the EU. The total of 650 million passengers on flights involving EU countries was an increase of 8.8% over 2003. Including EFTA countries and EU candidate state, the

2004 total air passenger traffic increases to 750 million, representing 10% growth on 2003.

These overall figures mask very great differences in the traffic generated by states (Figure 10), although here there is an element of double-counting, where cross-border intra-EU passengers are recorded as arrivals in one state and as departing passengers in the other. Although there is a strong, positive correlation between traffic volumes and the size of a country, its economic activity and its population, other factors such as tourism flows and the relative isolation of a nation also have an effect on passenger numbers. Within the EU-25, over half the passenger traffic generated involves airports in just three states: UK (22%), Germany (15%) and Spain (15%).

The UK's leading position owes much to its dominance in the European development of the market for low-cost air travel, with the leading airlines this field, Easyjet and the Irish company Ryanair, both operating multiple bases in UK. In Germany, this market was developing rapidly in 2004, in both the domestic arena as well as the cross-border intra-EU market. Spain, as Europe's principal leisure destination, attracts the services of many low-cost and charter carriers to its Mediterranean and Canary Island airports, while at the same time the country's well-developed air transport network serves the Balearic and Canary island groups.

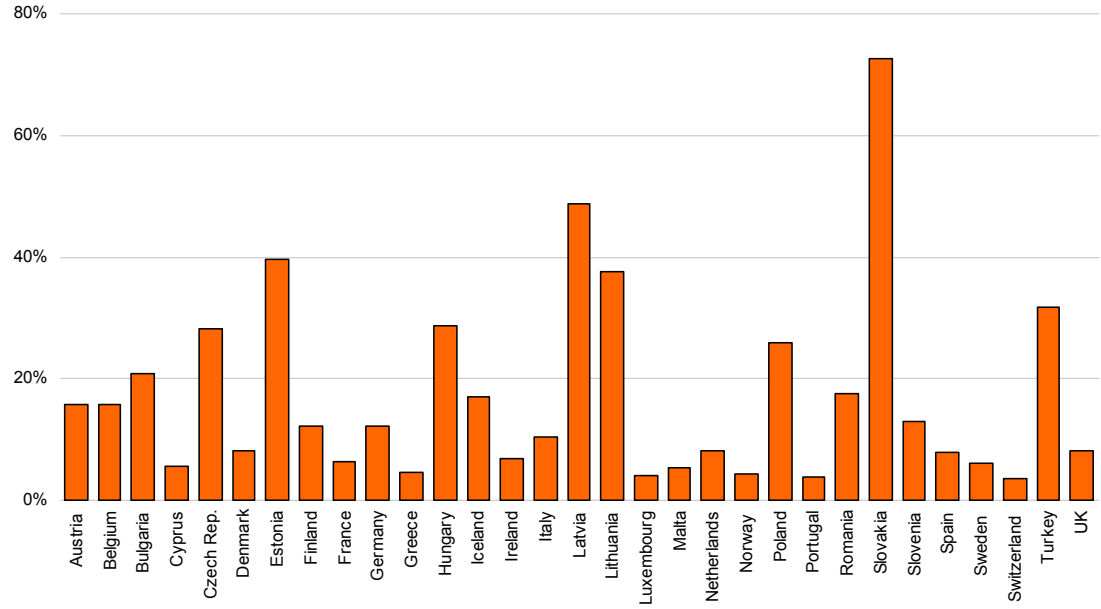
Figure 10: European air passenger traffic, 2004 and 2003



Source: Eurostat

The wide differences in traffic volumes among the countries represented in Figure 10 mask the year-on-year growth recorded by countries with relatively low levels of passenger traffic. Figure 11 remedies this, showing the extent to which passenger volumes changed between 2003 and 2004.

Figure 11: Change in air passenger traffic, 2003-2004



Source: Eurostat

The impact of the growth of low-cost airline activity can be seen clearly. For example, in Slovakia, where Sky Europe established a base in 2002, passenger traffic registered a near 80% growth between 2003 and 2004.

4.2.1 Network carriers

Not surprisingly, performance reported by AEA airlines mirrors the world picture. Europe's carriers performed most strongly in terms of RPK on the North Atlantic, where a 4.7% increase in capacity was met by 7.2% increase in traffic, generating a comfortable increase in passenger load factor of two decimal points.

Table 3: Scheduled services of AEA members, 2004

	Passengers *thousands*	RPK *millions*	ASK *millions*	Load factor *%*
Domestic	98.3	52,428	79,625	65.8
Geographical Europe	141.0	144,238	220,595	65.4
Europe / N Africa Mid East	9.8	27,747	39,946	69.5
North Atlantic	26.9	182,862	224,012	81.6
South/Mid Atlantic	9.6	78,157	96,177	81.3
Europe/rest Africa	7.1	47,616	61,000	78.1
Europe /Far East, Australasia	14.3	119,872	153,641	78.0
Other	0.2	238	351	67.8
TOTAL	307.1	653,158	875,345	74.6

European routes (domestic and cross border) produced 78% of AEA airlines' passengers, but just 30% in terms of RPK, very similar to their performance on the North Atlantic.

The greatest growth was on routes involving Asia and the Pacific (Table 4). Here, passenger numbers and RPK produced were both up by close to 20%, while a somewhat lower increase in capacity supplied (ASK) resulted in average increase of 1.4 decimal points in passenger load factor.

The second highest growth region was between Europe and the Middle East/ North Africa.

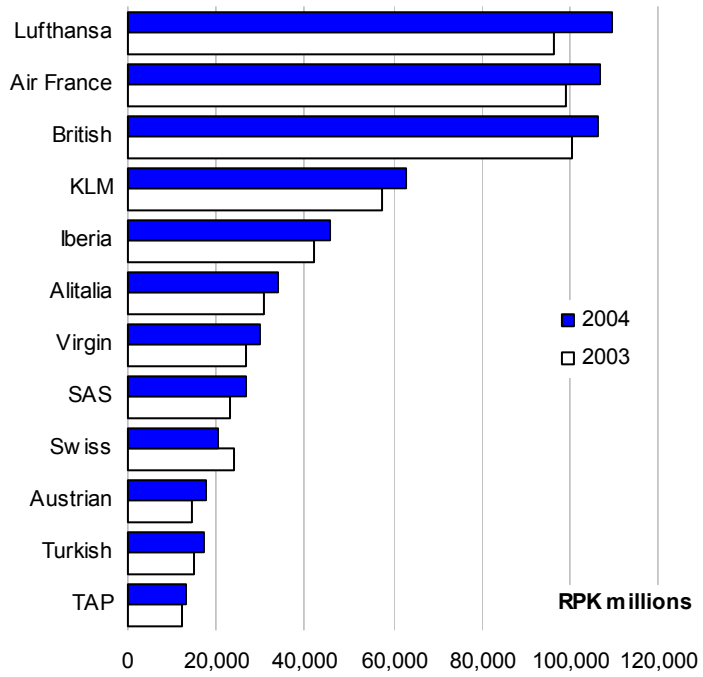
Table 4: Scheduled services of AEA members, 2004 vs 2003

	Passengers	RPK	ASK	Load factor
	Increase over 2003 (%)			(% points)
Domestic	-0.2	0.9	1.9	-0.6
Geographical Europe	5.9	7.6	6.4	0.7
Europe / N Africa Mid East	15.5	17.0	15.2	1.1
North Atlantic	7.8	7.2	4.7	2.0
South/Mid Atlantic	5.8	8.6	7.6	0.7
Europe/rest Africa	3.2	3.5	0.7	2.1
Europe /Far East, Australasia	19.6	19.2	17.1	1.4
TOTAL	4.8	9.0	7.3	1.2

Source: AEA

Figure 12 shows the traffic generated in 2004 and 2003 by the twelve top performing AEA airlines. Lufthansa's squeezed ahead of British Airways, reflecting the two carriers' approaches to fleet and network expansion.

Figure 12: Scheduled service RPKs of selected AEA members, 2004 and 2003

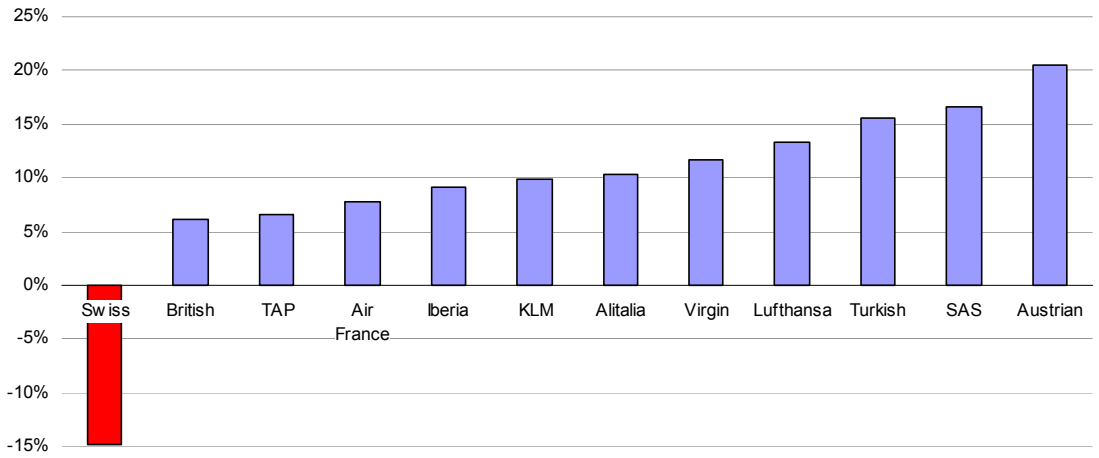


Source: AEA

Eleven of these twelve airlines experienced growth in 2004: only Swiss International posted a further significant fall in RPK, down by 15% (Figure 13).

The average RPK growth among AEA airlines was just over 9%. Lufthansa's growth was outstripped by Austrian, where RPK growth topped 20% in 2004, as a result of long-haul route expansion. SAS was the second ranking AEA carrier in terms of RPK growth, coinciding with the integration of the Braathens network into its operations as SAS Braathens.

Figure 13: Change in scheduled service RPK, selected AEA members, 2004 vs 2003



Source: AEA

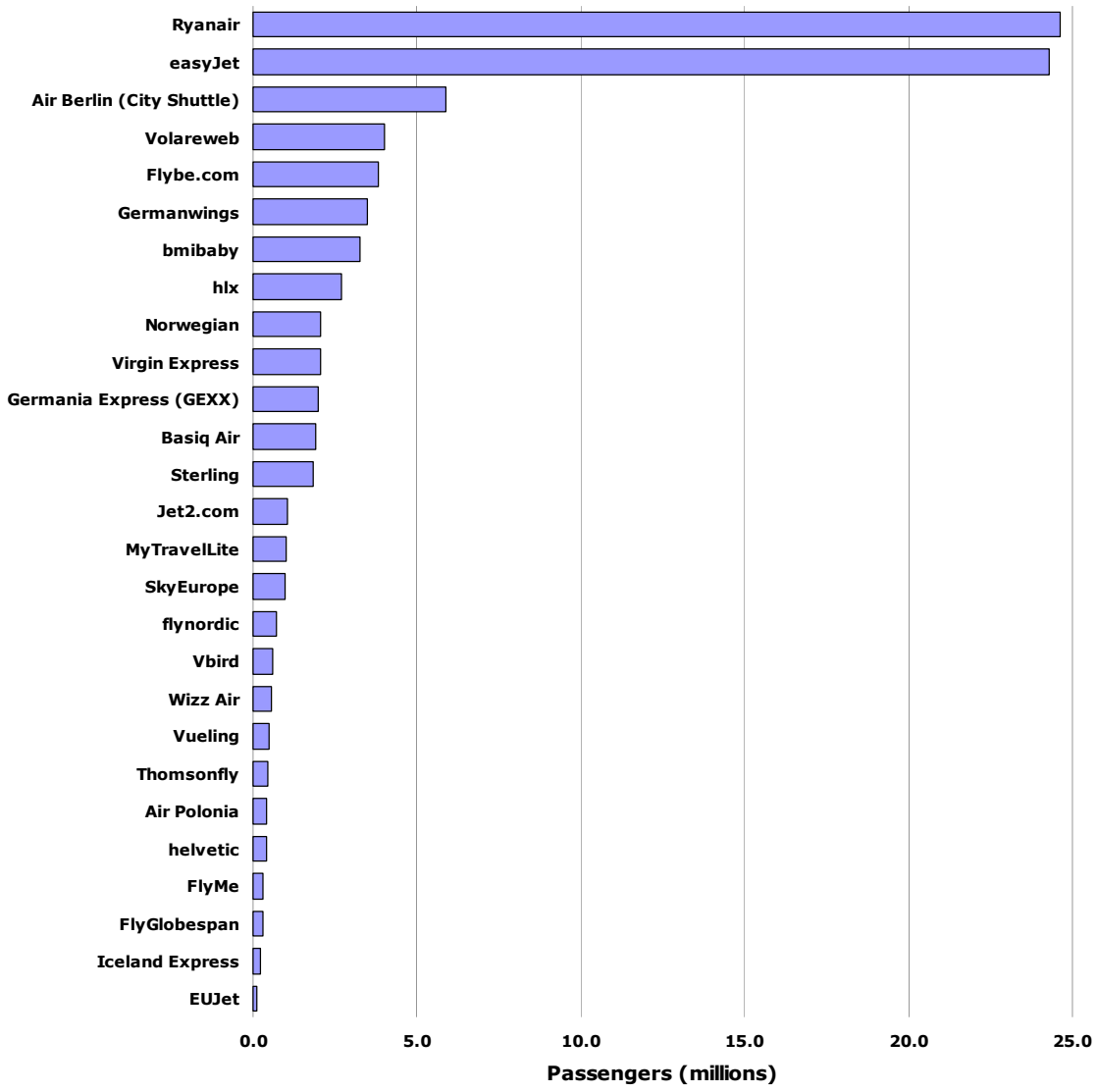
Low Cost Carriers (LCCs)

In 2004 the total number of passengers carried on recognised low-cost airlines came close to reaching 100 million.

Figure 14 clearly shows is the continued dominance of Ryanair and easyJet. Between them the two airlines carried almost a half of all intra-European low-cost airline passengers. Ryanair and easyJet each carried four times as many passengers as Air Berlin's City Shuttle operations.

Volareweb, ranked in fourth place, ceased operating before the end of 2004 after rapid growth proved to be financially unsustainable.

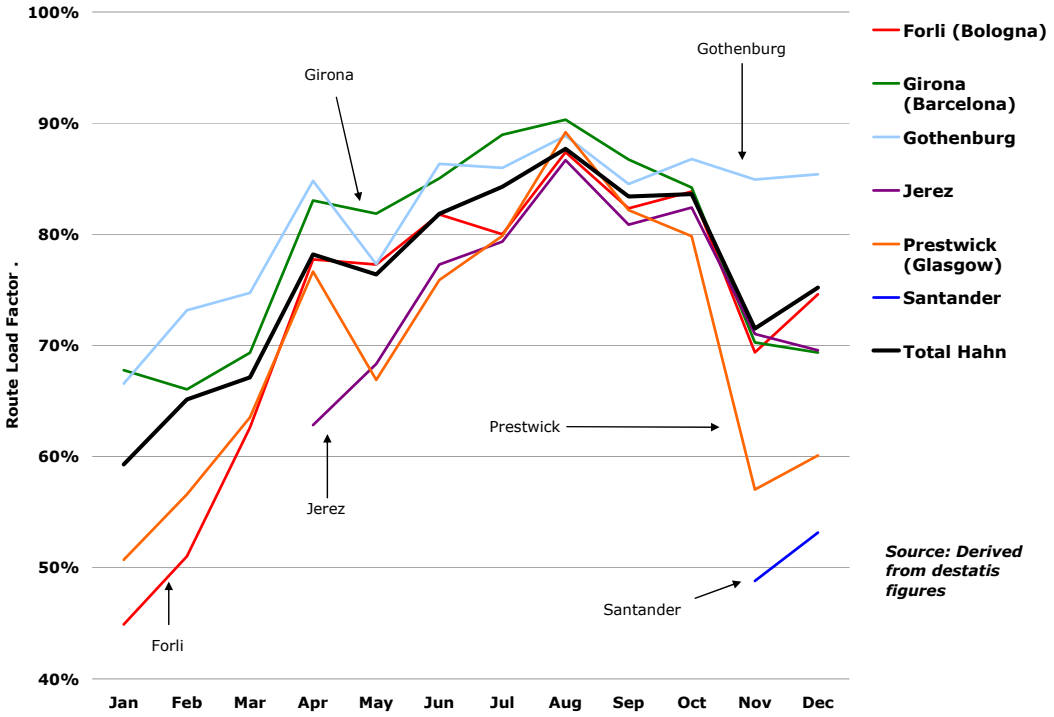
Figure 14: Total scheduled passengers by carrier 2004



Source: Airline reports, Airline websites, Cranfield estimates

Ryanair's growth of just over 25% carried them past easyJet whose passenger numbers grew by just under 20% in 2004. Many of the smaller LCCs showed impressive percentage growth (from small bases) but none came close to the volume growth achieved by either easyJet or Ryanair.

Figure 15: Ryanair load factors on selected Frankfurt HHN services, 2004



In 2004 Ryanair carried 2.65 million passengers through its main German base at Frankfurt Hahn airport (HHN). This represented nearly all of Hahn's passenger traffic at that time. Ryanair had established a base at HHN in February 2002. A total of 21 destinations were served during 2004 although services to Malmo ended on 14 January after less than a year of operations. This was replaced by a new service to Reus. Other new destinations served during 2004 were Jerez, Riga and Santander.

Figure 15 shows the estimated monthly load factor, by route, for a number of the destinations served by Ryanair from HHN. These load factors (derived from German Government statistics – destatis.com) refer to actual passengers flown rather than passengers booked. Across the year Ryanair's average load factor is estimated to be just over 76%. The seasonality of demand can be clearly seen in the graph above. While all routes show indications of seasonality some routes are more extreme in their behaviour. Even with consistently low fares demand can not always be stimulated to fill aircraft in off-peak periods and no route achieved even a 70% load factor in January 2004.

Following the decision in early 2003 not to exercise their option to acquire Deutsche BA, a British Airways subsidiary, easyJet needed to find an alternative strategy for operating in the German market. At that point easyJet's only German route involved linking Munich to London Stansted, a route they inherited in 2002 with the acquisition of Go. In April 2004 easyJet opened its first base in Germany at Berlin's Schőnefeld airport (SXF) with the commencement of services from their London Luton and Liverpool bases. By the end of 2004 easyJet was operating 20 routes, all of them to international destinations. A second German base was

established in July 2004 in Dortmund. From here easyJet would serve nine international destinations by the end of 2004.

Figure 16: Easyjet load factors on selected Berlin SXF services, April-Dec 2004

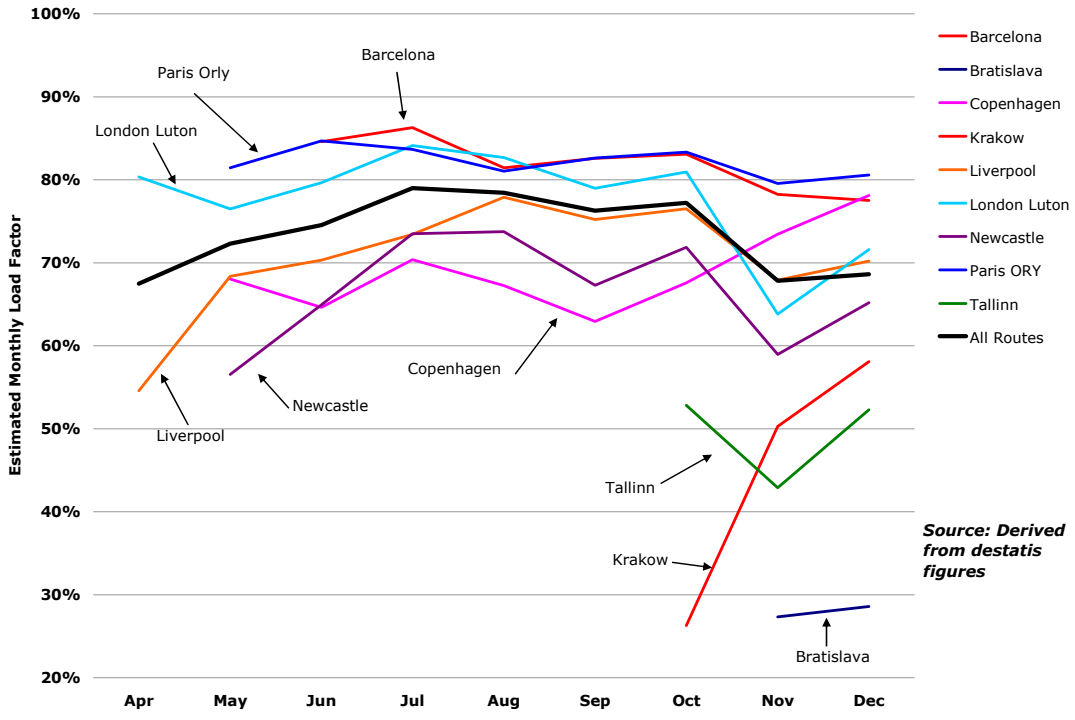


Figure 16 shows the estimated monthly load factor, by route, for a number of destinations served by easyJet from SXF. These load factors (derived from German Government statistics – destatis.com) refer to actual passengers flown rather than passengers booked. Thanks to an intensive marketing campaign nearly all routes achieved load factors between 60% and 90% for all months in 2004. Although load factor is not a perfect indicator of profitability it is accepted within the low-cost model that routes with poor load factors do not tend to be profitable. Amongst the top performing routes are large, attractive, cultural cities such as Athens, Barcelona, London, Madrid and Paris. In each of these cities (except London), easyJet flies to the major airport serving the city.

At the start of the winter season several new destinations to Central European cities were launched. In their first few months of operation these routes do not appear to be performing as well as others on the network. Bratislava's load factors of less than 30% are particularly noticeable. The airline chose to launch this as a double-daily service hoping to capture significant traffic that wanted to travel to or from nearby Vienna. However, Vienna was served directly from Berlin by another LCC, namely Air Berlin. easyJet quickly reduced frequency and within six months had abandoned the route, re-allocating capacity to other routes.

Figure 17: Easyjet and Ryanair load factors from German hubs, 2004

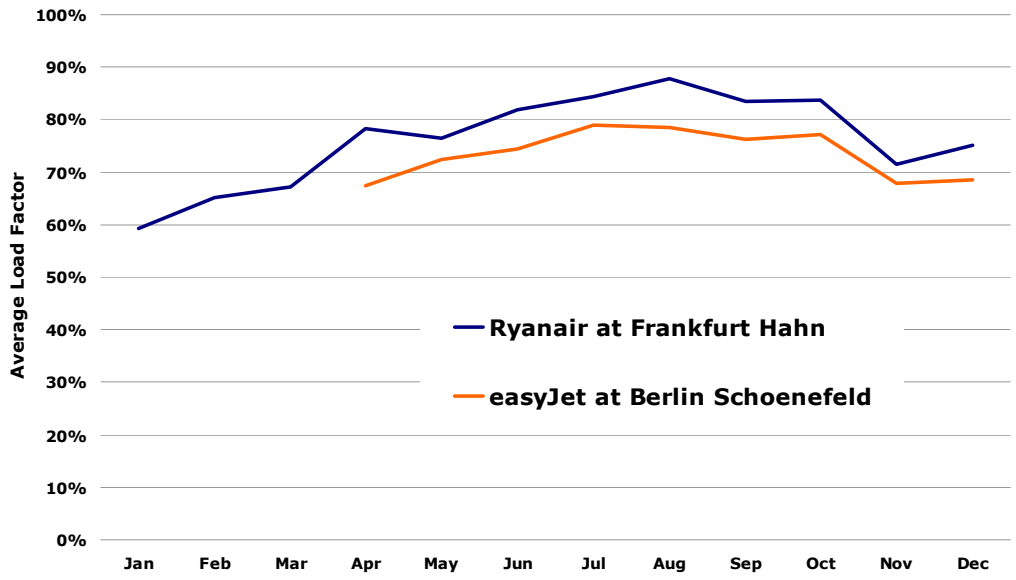


Figure 17 shows the average load factors for both Ryanair and easyJet at their main German bases in 2004. For easyJet this was the first season of operation in Berlin whereas Ryanair have been operating at Hahn since 2002. The seasonality profiles are very similar although Ryanair's load factor is consistently a few percentage points higher. This higher load factor when combined with the fact that Ryanair operate larger aircraft (189-seat B737-800s compared to easyJet's 156-seat A319s) means that Ryanair's flights from Hahn typically carry 30% more passengers per aircraft movement than easyJet's from Schoenefeld.

4.1.3 Charter/Leisure airlines

In 2004 there were 85 charter airlines based in Europe[1] operating commercial services with aircraft seating over 50 passengers. The average length of time these carriers had been in existence was 10 years, with six companies commencing operations during 2004.

Table 5 provides a listing of the 85 carriers; indicating country of registration, date established and fleet size in 2004. As may be seen, the countries with the largest number of passenger charter airlines are the UK (12), Turkey (10), Spain (9), France (8) and Germany (8). The fleets operated by the 85 airlines totalled 724 aircraft, of which 46% were flying for vertically integrated tour operating organizations, 36% for independent companies, and 18% were operated by carriers owned by other airlines. The charter airlines owned by tour operators accounted for 71% of passengers carried by the 85 airlines in 2004, with 18% travelling on services operated by independent carriers and 11% flying with companies owned by other airlines.

[1] Europe here includes the 25 EU Member States, Bulgaria, Croatia, Iceland, Norway, Romania, Switzerland and Turkey.

Table 5: Europe's passenger charter airlines in 2004

	year started	aircraft in fleet	comments
Austria			
LTU Austria	2004	1	
Belgium			
Thomas Cook Belgium	2002	6	
TUI Airlines Belgium	2004	5	
Bulgaria			
BHAir	2001	7	
Bulgarian Air Charter	2000	5	
VIA	1990	5	
Croatia			
Air Adriatic	2000	2	
Cyprus			
Eurocypria	1990	4	
Czech Republic			
Fischer Air	1996	3	Ceased operations 11/05
Travel Service Czech	1997	6	
Denmark			
MyTravel A/S	1994	11	
Finland			
Air Finland	2002	2	
France			
Aigle Azur	1970	6	
Air Horizons	2000	4	Ceased operations 12/05
Air Mediterranee	1997	10	
Axis Airways	2001	5	
Blue Line	2002	3	
Corsair	1981	10	
Eagle Aviation	1999	2	
Star	1995	5	
Germany			
Aero Flight	2004	5	Ceased operations 11/05
Blue Wings	2002	4	
Condor	1955	23	
Condor Berlin	1997	12	
Germania	1978	8	
Hamburg Int'al	1998	6	
Hapag-Lloyd	1972	35	Renamed Hapagfly 04/05
LTU	1955	24	
Greece			
Greece Airways	2003	1	
Hungary			
Travel Service Hungary	2001	1	
Iceland			
Air Atlanta Icelandic	1986	35	
Islandsflug	1991	19	Air Atlanta Icelandic 05/05
Italy			
Air Europe	1989	1	Reformed in 2004
Blue Panorama	1998	7	
Eurofly	1989	12	
Lauda Italia	1992	3	Livingston in 2005
Livingston	2003	6	
Neos	2001	4	
Netherlands			
Dutchbird	2000	5	Ceased operations 12/04
HollandExel	2004	3	Renamed Arke Fly 04/05
Martinair	1958	21	
Transavia	1966	27	
Portugal			
Air Luxor	1988	11	
EuroAtlantic	1993	6	
Yes	2000	1	
Romania			
Romavia	1991	5	
Spain			
Air Madrid	2003	2	
Air Plus Comet	1996	5	
Futura	1989	16	
Girjet	2002	2	
Hola	2002	4	
Iberworld	1998	7	
LTE Volar	1987	5	
Pullmantur Air	2003	3	
Visig	2003	1	
Sweden			
Britannia AB	1997	6	TUIFly Nordic in 2006
Falcon Air	1986	4	
Novair	1997	5	
Viking	2003	3	
Switzerland			
Belair	2001	3	
Edelweiss Air	1995	4	
Hello	2004	3	
Privatair	1977	4	
Turkey			
Atlasjet International	2001	6	
Fly Air	2002	7	
Freebird	2001	6	
Inter Airlines	2002	2	
MNG Airlines	1997	13	
Onur Air	1992	24	
Pegasus	1990	14	
Sky Airlines	2001	5	
Sunexpress	1990	7	
World Focus Airline	2004	2	
UK			
Air Atlanta Europe	2002	5	Merging into Excel 04/06
Air Scandic	1997	2	Ceased operations 09/05
Astraeus	2001	7	
Britannia	1962	33	
European Air Charter	1993	13	
Excel	1994	8	
First Choice	1986	32	
FlyJet	2002	2	
Monarch	1967	23	
MyTravel	1986	24	
Thomas Cook (UK)	1998	22	
Titan	1988	9	

Sources: JP Airline-Fleets International, ICAO, IATA, ATI, Airline Business, DGAC France, UK CAA.

Table 6 provides 2004 traffic statistics for 49 of the 85 carriers referred to in the previous table, data being unobtainable for the remaining airlines. Overall, the number of passengers carried by these 49 companies increased by 11.9% in 2004

compared to the previous year. In terms of RPKs, the equivalent increase was 13.9%.

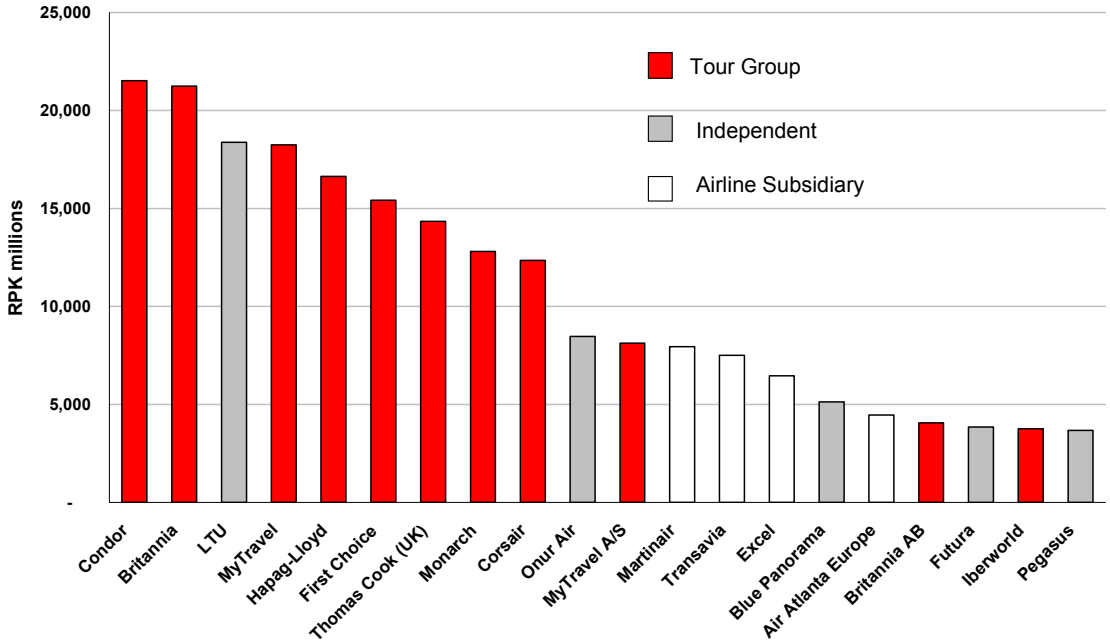
Table 6: Europe's charter airlines' demand in 2004, and change over 2003

	passengers		RPK	
Airlines	millions	% change	millions	% change
Britannia	8.66	8.7%	21,245	13.1%
MyTravel	7.16	-3.9%	18,248	-9.3%
Condor	7.11	9.0%	21,520	7.0%
Hapag-Lloyd	7.10	8.7%	16,631	12.5%
First Choice	6.06	-4.9%	15,420	-3.0%
LTU	5.92	7.2%	18,381	19.7%
Monarch	5.03	8.9%	12,807	7.0%
Thomas Cook (UK)	5.00	16.8%	14,338	24.2%
Onur Air	4.44	100.9%	8,472	55.1%
Transavia	4.03	-4.0%	7,504	-9.8%
Excel	2.35	25.0%	6,460	35.3%
MyTravel A/S	2.24	1.8%	8,127	0.3%
Corsair	2.06	-0.5%	12,349	1.4%
Martinair	1.81	0.6%	7,950	8.9%
Futura	1.70	-5.6%	3,843	-2.9%
Pegasus	1.66	11.4%	3,668	-6.4%
Sunexpress	1.36	16.2%	3,097	12.2%
Iberworld	1.35	-6.3%	3,834	-2.0%
Travel Service Czech	1.30	8.3%	2,347	-10.2%
Fly Air	1.16	70.6%	2,524	136.6%
Britannia AB	1.15	6.5%	4,059	8.3%
TUI Airlines Belgium	1.00		2,300	
Thomas Cook Belgium	0.97	7.8%	2,381	-1.6%
Astraeus	0.96	41.2%	2,088	38.9%
LTE Volar	0.85	7.6%	1,479	-10.6%
Star	0.82	-1.2%	3,075	16.7%
Air Mediterranee	0.81	80.0%	1,591	96.4%
Air Luxor	0.78	-15.2%	1,936	na
Aigle Azur	0.75	70.5%	1,147	61.5%
Hamburg Int'al	0.67	45.7%	1,066	45.0%
Blue Panorama	0.65	47.7%	5,127	121.7%
Air Horizons	0.62	-6.1%	1,533	-2.5%
Livingston	0.60	400.0%	1,401	399.1%
Edelweiss Air	0.59	-6.3%	2,362	7.1%
Neos	0.49	19.5%	1,192	17.7%
Air Atlanta Europe	0.43	330.0%	4,459	334.2%
Lauda Italia	0.41	-12.8%	3,390	-7.9%
Belair	0.38	-5.0%	1,157	27.3%
Air Finland	0.32	255.6%	874	196.3%
European Air Charter	0.31	-42.6%	1,402	-44.5%
Air Adriatic	0.25	127.3%	261	82.5%
FlyJet	0.23	76.9%	756	101.1%
Blue Line	0.18	157.1%	292	294.6%
EuroAtlantic	0.18	na	412	na
Axis Airways	0.17	13.3%	273	25.2%
Eagle Aviation	0.09	125.0%	218	211.4%
Titan	0.07	16.7%	228	9.6%
Romavia	0.01		16	45.5%
Total	92.02	11.9%	254,369	13.9%

Sources: JP Airline-Fleets International, ICAO, IATA, ATI, Airline Business, DGAC France, UK CAA.

The top 20 airlines accounted for 82% of the passengers carried by these 49 carriers and 84% of RPKs. Figure 18 ranks these twenty carriers in terms of RPKs, indicating which form part of a major tour-operating group, which are independent and which are owned by another airline.

Figure 18: Top 20 European charter airlines in RPKs



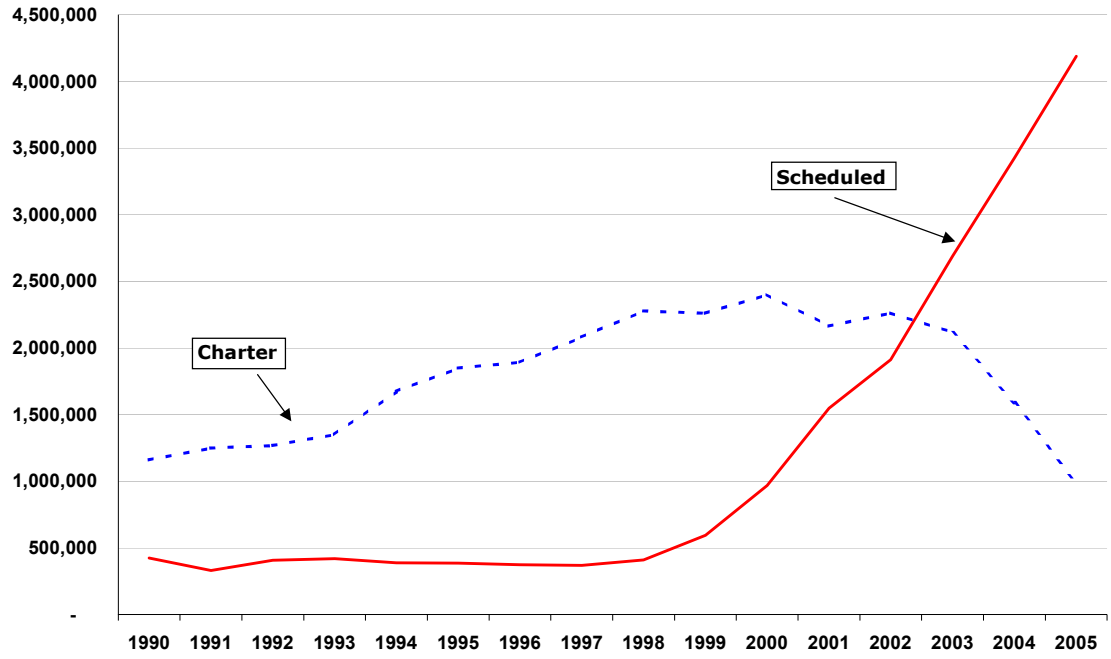
Sources: JP Airline-Fleets International, ICAO, IATA, ATI, Airline Business, DGAC France, UK CAA.

Key factors affecting operating and financial performance in 2004

The much greater flexibility provided by the low cost scheduled airlines (LCC) in short haul markets has attracted many travellers away from the conventional charter product. Use of the Internet as the favoured method of distribution by LCC has provided consumers with an instant supply of information on fares and seat availability, a feature that most charter carriers have been slow to emulate. Uncertainty as to how best to respond to this threat has resulted in widely differing strategies being adopted by the major tour operating organisations. While some have responded by establishing low-cost scheduled subsidiaries and increasing their seat only offerings on charter services, others have steered clear of this and reduced their reliance on traditional short haul markets focussing instead on longer haul destinations and on acquiring more specialist tour operators.

Despite the greater flexibility offered by LCC and the increasing opportunities for consumers to self assemble their holidays there continues to be substantial demand for traditional charter services which is falling only slowly. The number of package holidays abroad taken by UK residents fell only by 5% between 2001 and 2004, while the number of charter passengers carried to and from the UK fell 4% to 32.1 millions in 2004, a drop of 1.3 million over the previous year. The decline in charter demand however, has been particularly apparent in mainstream short-haul markets, such as UK – Malaga, which experienced a 24.9% fall in 2004 (Figure 19).

Figure 19: UK – Malaga passenger traffic



Source: UK CAA.

4.2 Air Cargo

4.2.1 European overview

In 2004, 10.7 million tonnes of freight and mail were transported within the EU, and between the EU and other nations. This represented an increase of 9.6% over the amount carried in the previous year. Including EFTA countries and EU candidate state, the 2004 total air passenger traffic increases to 11.5 million tonnes, representing an overall growth rate of 9.7% growth on 2003.

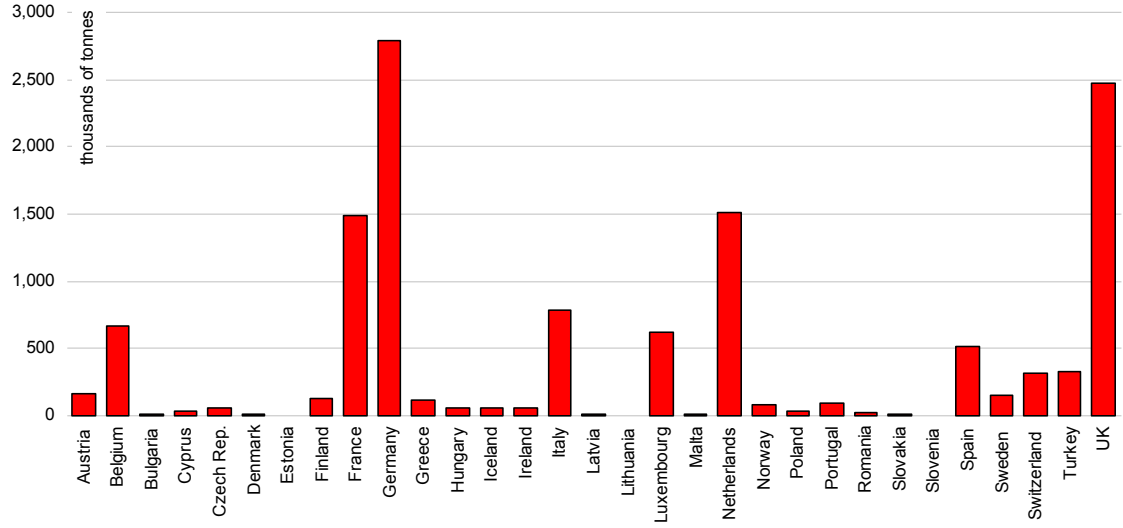
As in the case of passenger traffic, the overall figures mask very great differences in the traffic generated by states (Figure 20). Within the EU-25, over two-thirds of cargo traffic generated involves airports in just three states: Germany (24%), Germany (21%), Spain (13%) and France (13%).

There are great differences in the year-on-year rates of growth in cargo traffic among the countries represented in Figure 20. Figure 21 shows the extent to which cargo volumes changed between 2003 and 2004.

The accession states appear to have generated the greatest fall in cargo transported over the one year period, with Latvia down almost 40%, Slovakia 36% below 2003 levels, Poland 20% down and Estonia, Lithuania, Malta and Slovenia recording smaller, but still negative changes in cargo volumes.

EU states recording the greatest rates of increase were Ireland (up 42%), Finland (38%) and Sweden (24%). These growth rates were from relatively low levels of air cargo activity.

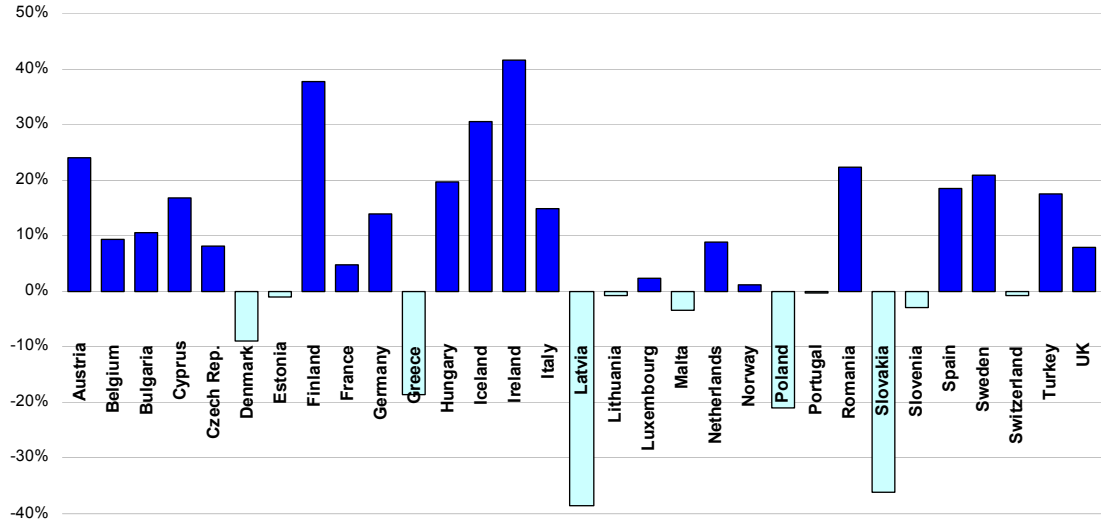
Figure 20: European freight and mail transport by state, 2004



Souce: Eurostat

The main players in the market also posted solid year-on-year gains: Germany was up 14% and Spain 18%, while in the UK and France cargo increased by more modest rates of 8% and 5% respectively.

Figure 21: Annual growth in air freight and mail, 2003-2004



Source: Eurostat

4.2.2 European airlines

AEA freight traffic moved ahead strongly in 2004, fuelled by growth of almost 12% on Far East and Australasian routes. This was driven by buoyant export growth from

China and other Asian manufacturing countries. High growth also occurred on South American routes.

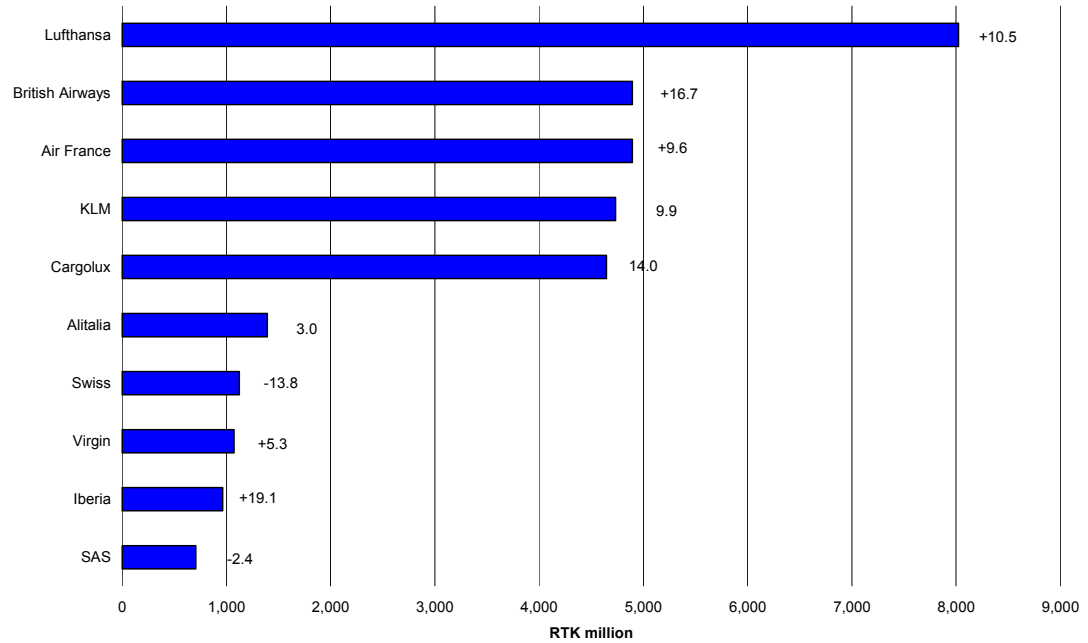
Table 7: Air freight traffic carried by AEA carriers, 2004 vs 2003

	FTKs m		
	2003	*2004*	*% change*
Domestic	160.8	141.2	-12.2
Geographical Europe	704.3	791.6	12.4
Europe/North Africa, Mid-East	1,030.2	1,056.5	2.5
North Atlantic	9,404.2	9,977.9	6.1
South/Mid Atlantic	3,302.0	3,767.3	14.1
Europe/Rest of Africa	2,613.3	2,696.9	3.2
Europe/Far East, Australasia	14,335.8	16,027.4	11.8
Other	133.9	394.1	194.4
TOTAL	31,684.5	34,852.9	10.0

Source: AEA

The top ten AEA air cargo carriers' performance in 2004 is shown in the chart below. These accounted for 93% of total AEA traffic in 2004. The top five which accounted for 78% of the total all reported strong increases in traffic compared to the previous year, especially British Airways and Cargolux. The former introduced a number of additional freighter services that picked up long-haul traffic in Germany and France. Cargolux added frequencies to Europe from its Hong Kong hub which accounted for 16% of its total turnover in 2004. It introduced a new freighter service from there to Barcelona, as well as Helsinki (in co-operation with Finnair).

Figure 22: Top 10 AEA airline cargo traffic in 2004, and % change over 2003



Iberia also expanded fast, much of their growth coming from mid and south Atlantic routes, where they have a competitive advantage. Both Swiss and, to a less extent, SAS experienced some retrenchment.

4.2.3 Integrators

DHL Express division increased its revenues by 16.3% in 2004 to €17.8 billion. Acquisitions made the largest contribution to this growth, with Airborne (the US air cargo carrier) taken over the previous year. Margins on sales, however, averaged just above 2% in 2004. Europe accounted for 65% of turnover in 2004, and was up by only 4.3%. The highest growth occurred in the Americas (+ 52%) and Asia/Pacific (+25%). The Express division accounted for 41% of the total group revenues.

FedEx's air freight business grew rapidly in the six months to end November 2004, with average daily LTL shipments up 14% compared to the same period in 2003. On the other hand, its Express products were ahead by only 1% over the same period. In terms of revenues, International Priority increased strongly by 23% with the US domestic express business up by only 7%. For traditional freight, the growth occurred in the US, with a downturn in international business.

UPS consolidated revenue increased by 9.2% to a US$36.6 billion in 2004, while operating profit rose 12.2% to US$5 billion. International package revenues rose by 21.6%, while US domestic packages by 6.3%. Average daily package volumes on international routes amounted to 1.4 million in 2004 (up 7%) compared to 12.8 million in the US (up 3%). Only around 2 million of the US packages are carried by air.

4.2.4 Other world regions

The total freight tonne-kms carried by the members of Association of Asia Pacific Airlines (AAPA) amounted to 49.7 billion in 2004, up 14% from the previous calendar year. Their freight load factor improved slightly to 67.4%.

Freight and mail traffic (tonne-kms) carried by the members of the Air Transport Association of America totalled 51.6 billion in 2004, up by 4.7% compared to 2003. Just under half was carried on domestic routes, with 26% to/from Asia/Pacific and 19% on the North Atlantic. FedEx accounted for 19.4% of the 2004 total, Atlas/Polar 10.4% and UPS 10.3%. Scheduled cargo yield was down by just 0.6% in 2004.

Air accounted for 33% by value of total US exports in 2004. The strength of the Euro encouraged exports to the EU from both Asia and North America.

The Asociation Internationale de Transporte Aereo Latino Americano (AITAL) reported freight tonne-kms of 2.0 billion in 2004, the largest part being carried equally on European and North American routes.

SECTION 5

AIRLINE FINANCIAL PERFORMANCE

5. Airline financial performance

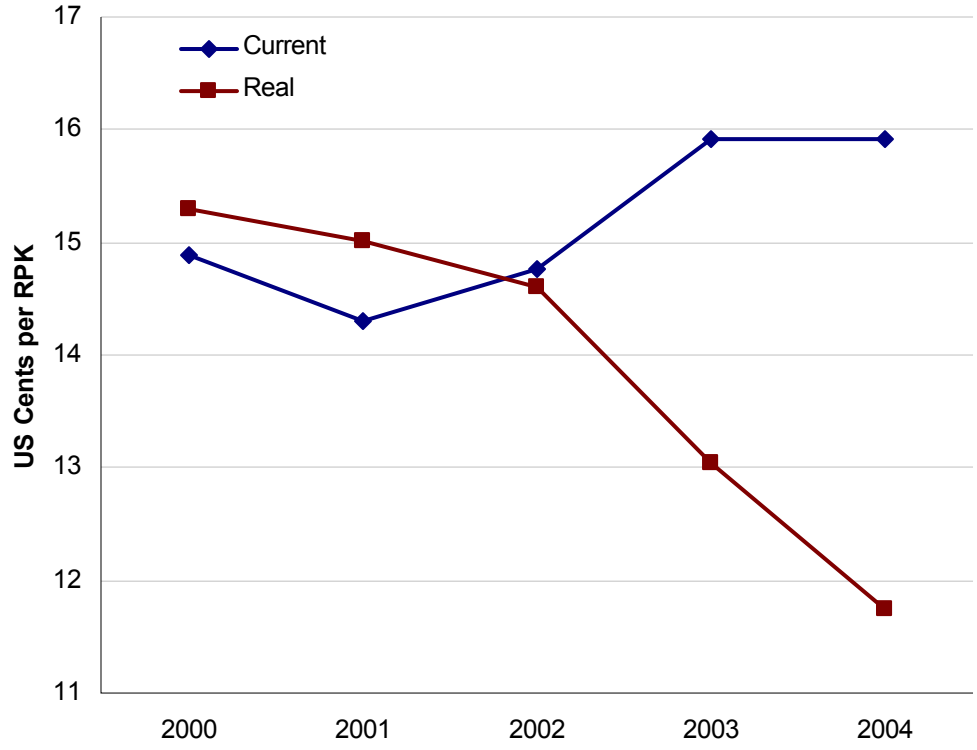
5.1 Network airlines

5.1.1 Yields and air fares

The growth of low-cost airlines in Europe and the increase in the use of internet as a primary method of search and travel booking have put great pressure on airline yields. Figure 23 illustrates the decline in average yields of 27 EU carriers' intra European operations. As can be seen, yields have fallen in real terms after adjusting for inflation and exchange rate. The fact that the majority of bookings with low-cost airlines are made through the internet has led to the growth in popularity of this channel, and in turn has made comparison of airline fares much easier to make, putting further pressure on airline fares and the pricing structure of scheduled airlines.

A number of scheduled carriers incorporated the pricing policy of low-cost airlines in response to increasing competition in the European air travel market and a drop in average air fares. Aer Lingus revamped its fare policy through fare reductions, offering one-way fares only, with no restrictions on length of stay for return journeys, while allowing changes in reservations for a surcharge. KLM also changed its European fares structure in December 2004, reducing prices by up to 40%. Alongside lower fares, airlines also introduced more fares transparency.

Figure 23 : Passenger yields - network carriers



Source: AEA 2005

5.1.2 Costs

The table below shows labour trends for the same sample as the financial results, but without Portugalia and KLM for which no data could be obtained.

Total direct airline employment among Europe's twenty-nine ICAO reporting airlines was just under 300,000 in 2004, up marginally from the previous year. Low-cost and charter carriers accounted for an additional 21,000 airline employees, bringing the total to the estimate of Airline Business of close to 350,00 employees. Significant reductions were evident for the financially challenged airlines, for example MyTravel and Swiss (and to a small extent Alitalia). Aer Lingus, Finnair and British Airways also reduced staff numbers, while the LCCs added staff.

Table 8: Labour costs and productivity: 29 European airlines

	2003	2004	%(pts) change
Total employees (year average)	295,727	297,894	0.7
Total labour costs (US$ million)	16,859	20,363	20.8
Average cost per employee ($)	57,008	68,357	19.9
Average ATKs per employee	454,307	453,609	-0.2
Unit labour costs (US cents)	12.5	15.1	20.1

Source: ICAO and airline annual reports

In addition to the total European airline employment of just under 300,000 in 2004, ACI Europe estimated that European airports employed around 170,000 staff in 2001 (York Aviation study published on the ACI Europe website on 10 February 2004). These were part of a total on-airport employment of 1.2 million, which is unlikely to have changed significantly since then. These figures came from a survey by York Aviation of 59 European airports. The 2001 breakdown for the total on-airport employment was:

- Airlines, handling agents and aircraft maintenance: 770,000 (64%)
- Airport operators: 170,000 (14%)
- In-flight and other catering and retailing: 144,000 (12%)
- ATC and related agencies: 7,200 (6%)
- Fuel and ground transport operators: 3,600 (3%)
- Freight operators: 1,200 (1%)

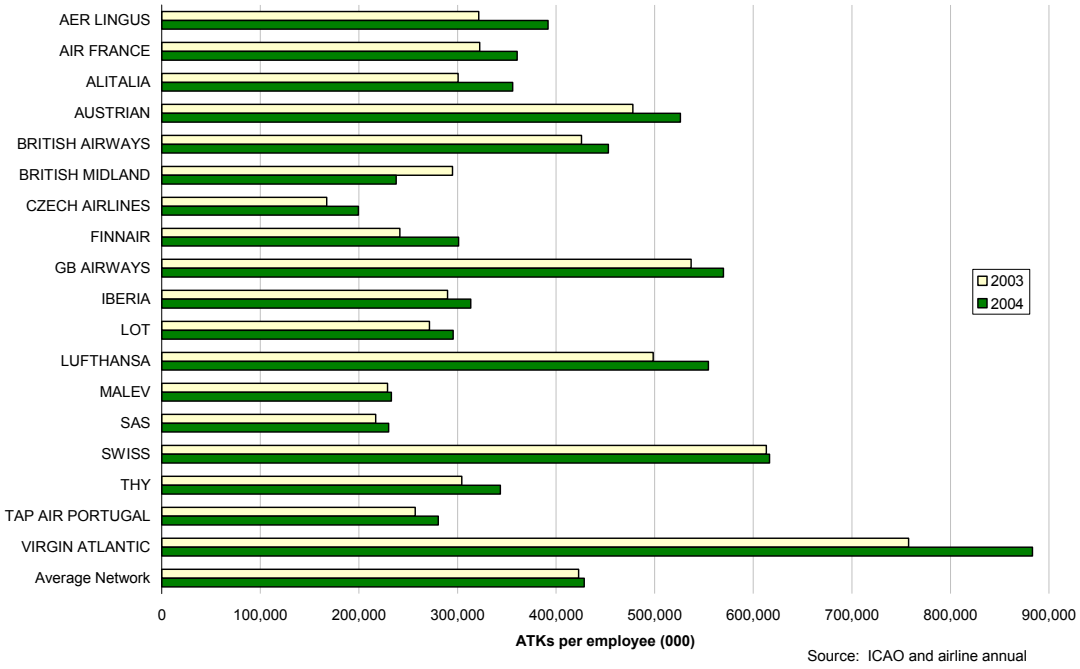
A further 200,000 related jobs were considered to be located off-airport, making a grand total of 1.4 million.

Total labour costs rose by 21% to US$20 billion, helped by a 13% stronger dollar conversion rate. Taking this into account, the increase in average cost was well above the rate of inflation. Productivity, on the other hand, was down marginally, in spite of a greater weight in 2004 of LCCs, with their higher labour productivity (see below). This meant that unit labour costs were increasing rapidly, perhaps explained by a catching up process in the first relatively good financial year for many airlines post 9/11.

Figure 24 shows labour productivity, expressed as ATKs per employee, for 18 of the largest European airlines. Changes between 2003 and 2004 are indicated, with

Aer Lingus, Finnair, Lufthansa and Virgin Atlantic improving the most. Average sector length is one factor explaining differences, but only just over 50% of such variations could be accounted for by this single factor.

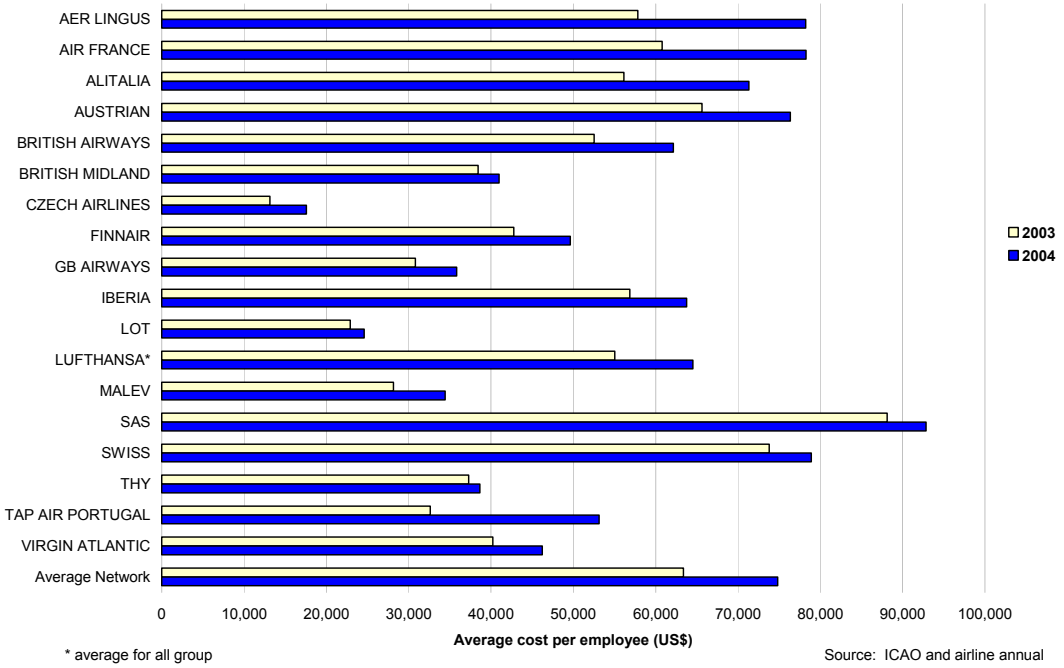
Figure 24: Labour productivity, 2004 v 2003



Source: ICAO and airline annual

The other dimension of unit labour costs is the average cost per employee. This is shown in the next graph, most of the data extracted from the ICAO Personnel statistical series.

Figure 25: Cost per employee, 2004 v 2003



* average for all group

Source: ICAO and airline annual

Scandinavia and Switzerland are a high wage region, and their airlines are no exception to this. Finland is also high cost, but Finnair's average was not so high: this might be explained by the staff working for travel and tour elements to Finnair, which tend to be much lower paid than many of the scheduled airline functions.

Airlines with the largest increases were Aer Lingus, Air France, Alitalia, Czech Airlines, and TAP. As previously explained, much of this was due to the higher USD conversion rates used. For Aer Lingus staff reductions might also have hit lower paid staff categories more. An element of catching up was also evident for some airlines, following post 9/11 cut-backs.

5.1.3 Financial results

The financial results of the European airlines are analysed below, followed by airlines from the other two largest regions of the world: USA and Asia. The ICAO world scheduled airline results for 2004 indicated a preliminary operating profit of US$3.5 billion, an operating margin of only 0.9%.

The Table 9 summarises the financial results for the twenty largest European network carriers for which data was available. Notable omissions were Air Malta and Cyprus Airways, as well as the airlines from the Baltic states. These are the largest AEA airlines in terms of passenger-kms apart from Olympic Airways (no data) and Spanair (part of SAS group).

Table 9: Financial results: Network carriers

Financial Year*	2003	2004	%(pts) change
Operating margin (%)	0.6	1.5	1.0
Total revenue per RTK (US cents)	78.9	88.1	11.7
Operating cost per ATK (US cents)	54.3	59.5	9.7
Overall load factor (%)	69.2	68.6	-0.6
Debt/equity ratio	3.4	3.2	-6.6
Pre-tax profit as % long-term capital	-1.3	1.1	2.4
After tax profit as % equity	-9.1	2.1	n/a
Operating leases as % long-term capital	39.2	40.5	1.3
Average sector length (kms)**	1,276	1,361	6.7

* Aggregate of airlines reporting different financial year ends: largest part of FY falling in 2003 or 2004

** based on IATA data for calendar year

Table 9 shows that the European airlines were operating at just above break-even in 2003, with only a small improvement in 2004. This however disguises a large variation across the sample (Figure 26). The improvement was caused by yields increasing faster than unit costs, with the overall weight load factor little changed. Yields also benefited from a 6.7% increase in average sector length which would have reduced yields expressed per tonne-km.

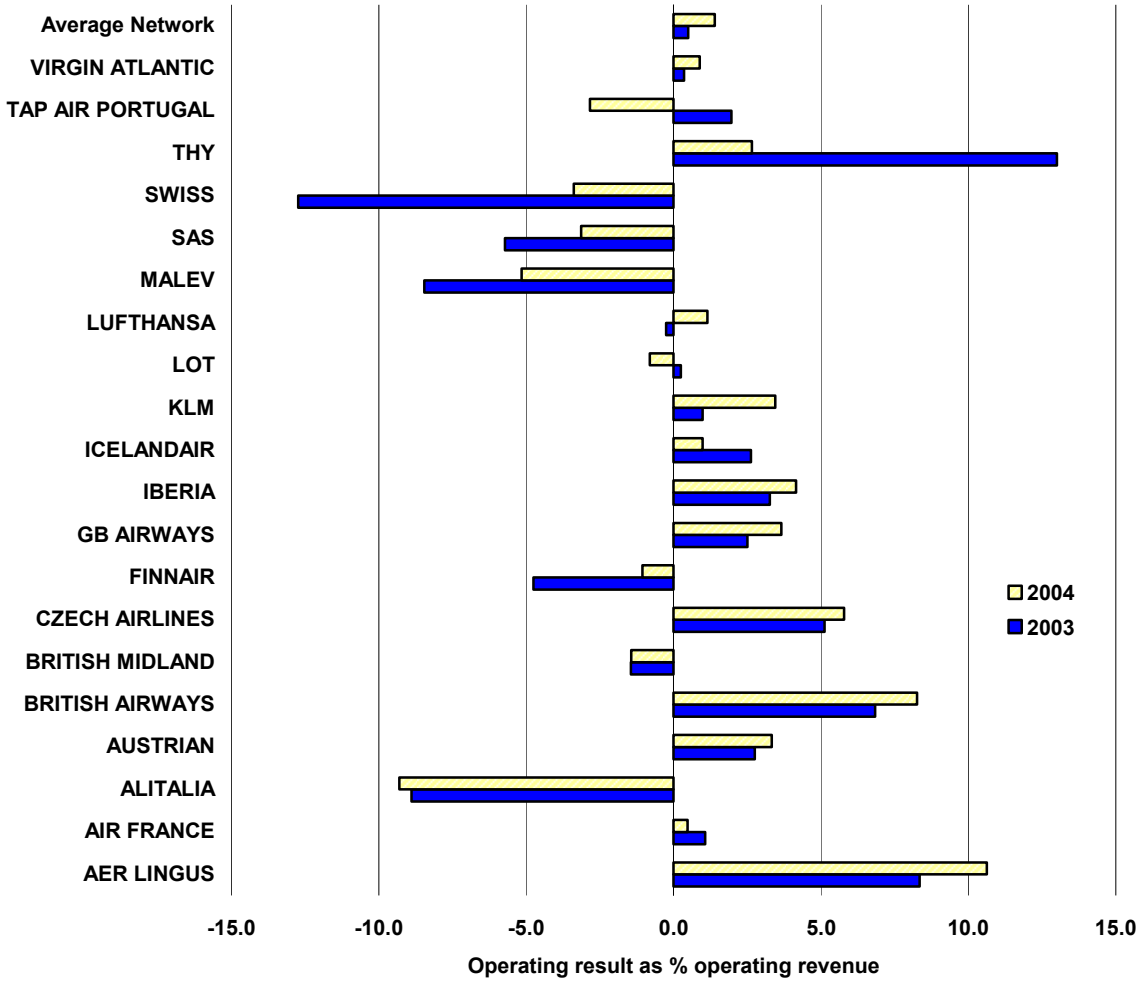
The weighted average rate of exchange used to convert local currencies to the US dollar rose by 13% over the year, such that most of the yield improvement was illusory. Costs were stable in local currency, with average fuel prices up by 42% in calendar year 2004. Some airlines end their financial year on 31 March: for

example, British Airways which experienced an increase in fuel price of 44% in US dollars and 32% in local currency.

The airlines as a whole made a pre-tax (and after tax) loss in 2003, and a small profit in 2004. Significant losses were recorded in 2003 by Lufthansa, Alitalia, SAS and Swiss. Of these, only Lufthansa were in profit in 2004. Return on both investment and equity was only meaningful in 2004, and these were both very low.

Long-term capital has been calculated as the total of shareholders' equity, long-term debt and capitalised finance leases (both on balance sheet), and capitalised operating leases. The latter were estimated by multiplying annual aircraft lease rentals (in the profit and loss account) by seven. Around 40% of the total capital was accounted for by operating leased aircraft, showing the importance of their inclusion in financial ratios.

Figure 26 : Operating results

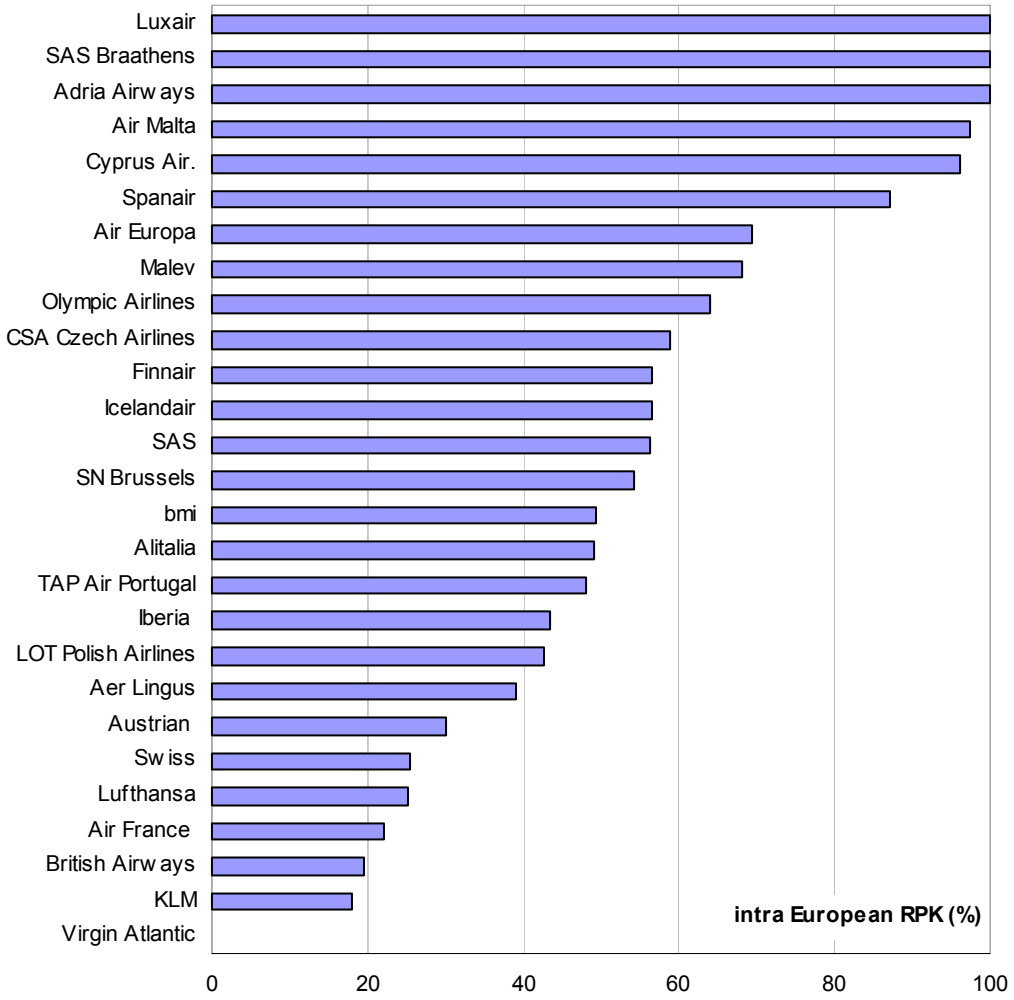


Debt/equity ratios (including operating leased aircraft) were relatively high in both years, with little improvement over the year. These are normally higher for airlines compared to other industries, due to the widespread use of asset based finance. However, in 2003 they were still recovering from the severe financial problems following 9/11.

5.1.4 Key developments – network carriers

The oil price at $50, rising interest rates and the rapid growth of low-cost carriers in Europe created a challenging environment for European scheduled carriers in 2004. Given that the major European network airlines have a high exposure to long haul routes as illustrated in Figure 27, they were not affected by low-cost carriers as much as their counterparts in the US. Network carriers also benefited from the weaker US dollar, and were generally successful in fuel price hedging.

Figure 27: Intra-European RPK as % of total operations (2004)



On 01 May 2004, 10 states with a combined population of 75 million joined the European Union, increasing the population of community by 20%. This enlargement has created expansion opportunities for many of the EU airlines.

Throughout 2004 scheduled airlines engaged in putting together plans to reduce costs. Aer Lingus, one of the pioneering European airlines in this area, continued its strategy of transforming itself into a streamlined and profitable company. British Airways set up its new Business Plan 2004-2006 aiming to achieve a 10% operating profit margin. KLM set a target of annual cost savings of €650 million by the start of the 2005-06 financial year. Air France announced a €1 billion three-year cost-cutting initiative. The figures did not take into account its merger with KLM.

Many airlines continued to lower their labour costs through reducing the number of employees, reducing wages and increasing productivity. Alitalia's management and labour unions agreed a deal which included 3,700 job cuts, around a sixth of the total workforce, as well as a step up in productivity. Pilot working hours were set to increase by 22%. However such cost cuttings fuelled labour tensions.

Ground staff belonging to the CFDT union, which claims to be Air France's second-largest union body, announced their plan to stage a walkout on 26 November 2004 in response to working conditions and staff shortages at Paris Orly airport.

Air France subsidiaries Brit Air and Regional faced further strike disruption in April 2004 with the cancellation of around 110 flights. The strike came over fears for job security due to the Air France-KLM merger.

BMI won its first long-haul route rights from London Heathrow airport with the award of four weekly frequencies to Mumbai, India in December 2004. Following UK Civil Aviation Authority scarce capacity hearing, Virgin Atlantic was awarded 10 weekly Indian frequencies and BA an additional seven. Subsequently the three airlines appealed against the recent India route rights decision by the UK's CAA.

Expansion of Finnair Asian traffic was a key element of the airline's 2004 business strategy. Iberia closed its 'mini-hub' in Miami for Central American connections, launching direct flights from Madrid to destinations in the region. Icelandair planned to operate its first service to the Pacific US coast in spring of 2004.

5.2 Low-cost carriers (LCCs) and charter airlines

Table 10: Labour costs and productivity: 4 LCCs

	2003	2004	%(pts) change
Total employees (year average)	6,747	7,276	7.8
Total labour costs (US$ million)	350,775	489,491	39.5
Average cost per employee ($)	51,994	67,279	29.4
Average ATKs per employee	565,685	707,436	25.1
Unit labour costs (US cents)	9.2	9.5	3.5

Source: ICAO and airline annual reports

LCCs expanded employment by 7.8% with a significant boost to average remuneration per staff member. Much of this is likely to be productivity related pay, since ATKs per employee rose by 25% in the year. The exchange rate was responsible for 13% of the increase. In spite of pay increases, unit labour costs were kept better in control than the other types of airline, rising by only 3.5% in 2004.

Table 11: Labour costs and productivity: 6 charter airlines

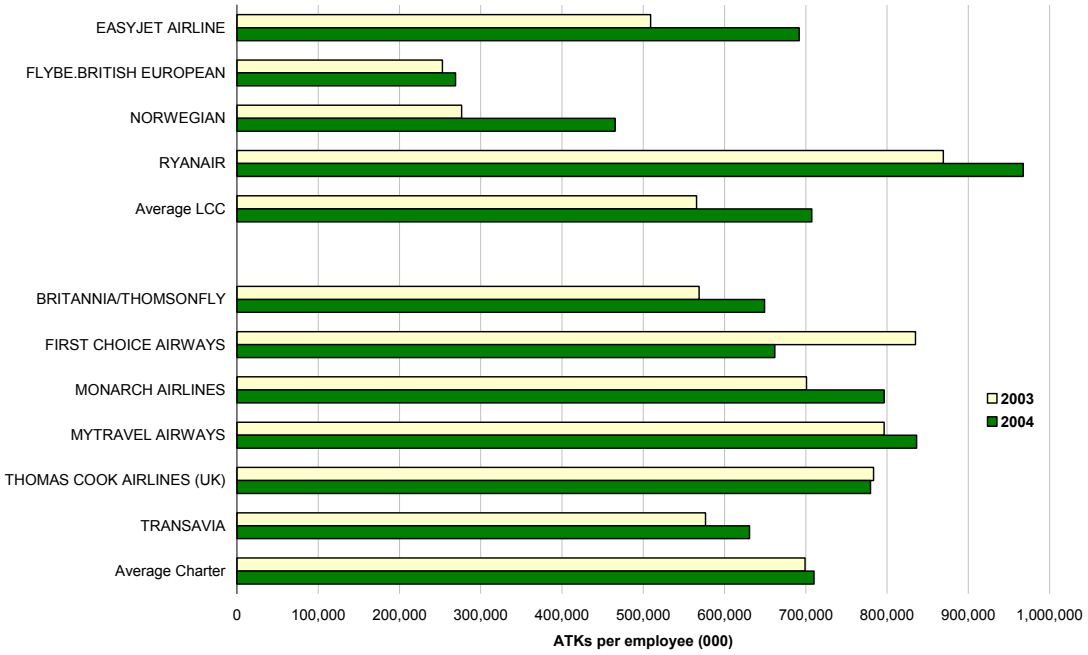
	2003	2004	%(pts) change
Total employees (year average)	13,117	13,440	2.5
Total labour costs (US$ million)	621,350	688,233	10.8
Average cost per employee ($)	47,370	51,208	8.1
Average ATKs per employee	699,143	710,149	1.6
Unit labour costs (US cents)	6.8	7.2	6.4

Source: ICAO

The sample of charter airlines expanded employment somewhat, with the total cost of labour advancing by 10.8%. Average labour cost rose by only 8.1%, which reflects some cuts given the 13% higher exchange rate applied compared to the previous year. This reflects the major financial problems that many of these airlines were facing at the time. Productivity climbed slowly, and is now little different from the LCCs analysed above. Unit costs were also kept well in check.

Figure 28 and Figure 29 show how labour cost and productivity changed over 2004 by individual airline, for both LCCs and charter carriers. As might be expected Ryanair is well ahead on labour productivity, but probably outsourced more than easyJet which in 2004 closed the gap somewhat. Norwegian also recorded a substantial improvement in 2004, helping it into profitability for the first year.

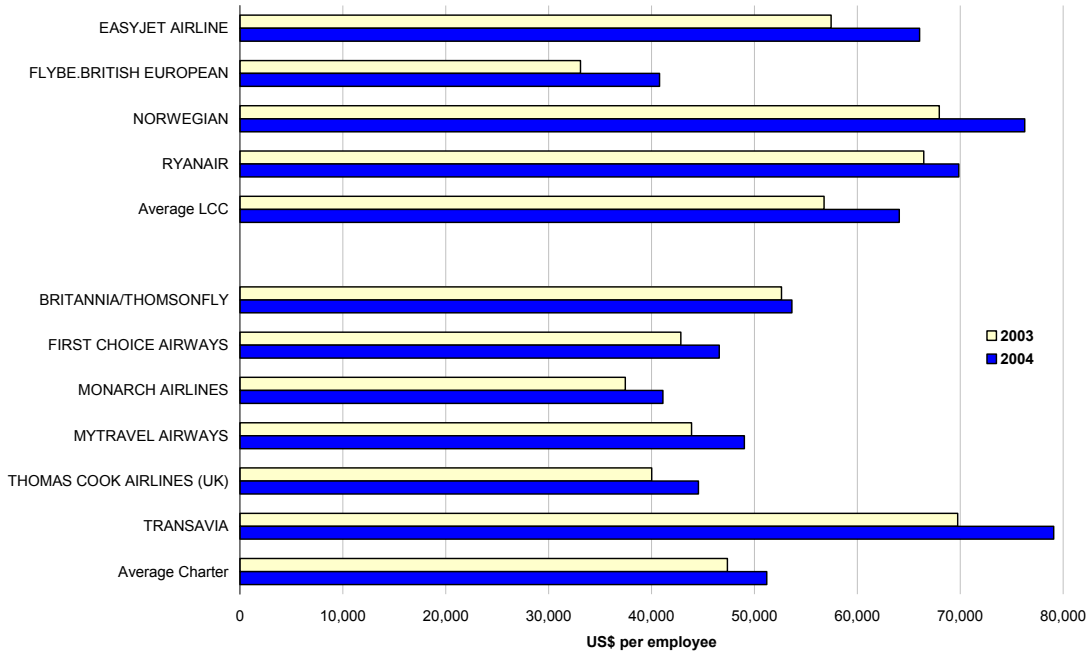
Figure 28: ATK per employee, LCC and charter airlines, 2003 v 2004



The charters are almost all from the UK, and Thomsonfly improved its labour productivity in 2004, while First Choice suffered a decline. Their average pay was lower than other UK based LCCs, giving them a significant unit labour cost advantage, albeit based on longer average sectors.

Average wage increases were awarded for LCCs, although these were probably geared to productivity.

Figure 29: Labour cost per employee, LCC and charter airlines, 2004 v 2003



5.2.1 Financial result, low-cost carriers

Table 12 includes only Ryanair, easyJet, flybe and Norwegian. Flybe is included although it still has many of the characteristics of a 'regional'. Of the remaining larger LCCs, SkyEurope only reported their first full year financial results for 2005, while Air Berlin publishes very little data (even on operations). Germanwings is consolidated with Eurowings, which did publish financial results, but these were heavily influenced by contract revenues for Lufthansa. In 2004, the LCC part of Eurowings only accounted for €240 million out of a total of €473m in turnover. Bmibaby is also combined with parent company bmi.

Table 12: Financial results: LCCs

Financial Year*	2003	2004	%(pts) change
Operating margin (%)	12.3	10.8	-1.6
Total revenue per RTK (US cents)	108.6	105.4	-2.9
Operating cost per ATK (US cents)	73.3	71.9	-1.9
Overall load factor (%)	77.0	76.5	-0.6
Debt/equity ratio	0.8	0.9	4.9
Pre-tax profit as % long-term capital	7.5	4.4	-3.1
After tax profit as % equity	11.7	10.1	-1.5
Operating leases as % long-term capital	25.4	25.9	0.5
Average sector length (kms)	766	811	5.9

* Aggregate of airlines reporting different financial year ends: largest part of FY falling in 2003 or 2004

** based on IATA data for calendar year

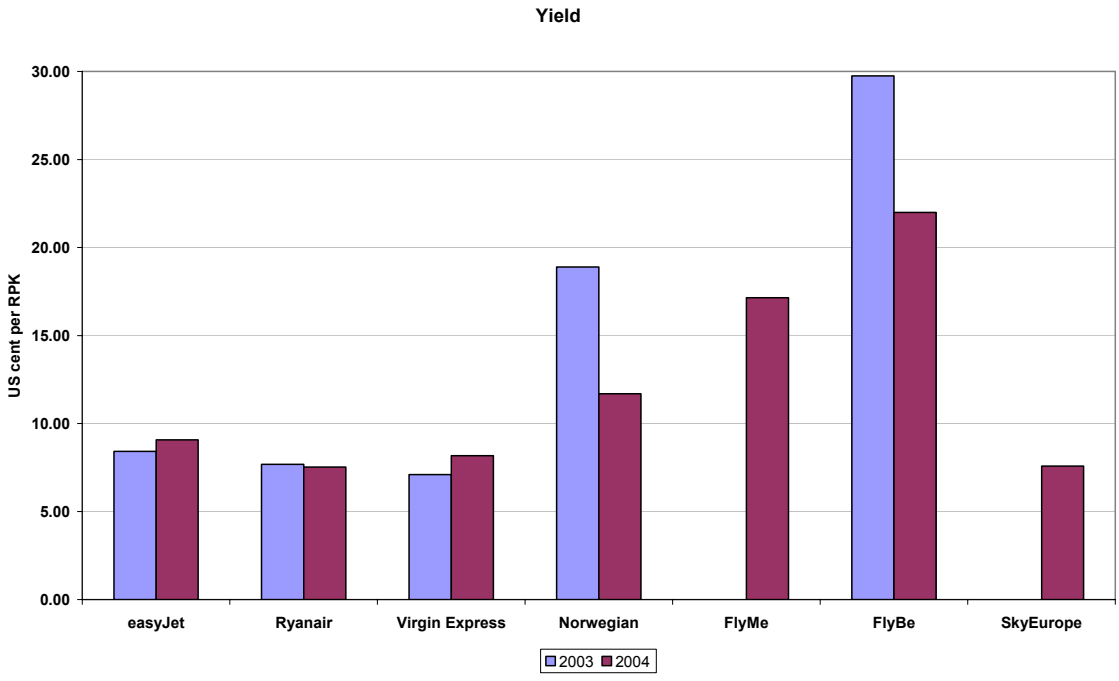
However, Ryanair and easyJet do account for a very large part of this sector. Operating margins for the three airlines were just above 10% in both years, with Ryanair's much higher margin offset by Norwegian's loss (see also figure below).

Both yields and costs declined in dollar terms, the fall cushioned by 10% stronger exchange rates. Yield would also have been affected by an increase in average sector length of 6%, most marked for Norwegian and Ryanair. The load factor declined somewhat, although Ryanair's gained just over a % point to 84%. Flybe, on the other hand, recorded an average load factor of just under 50% in 2004, and Norwegian increased theirs from 63% to 67%. EasyJet experienced a fall in load factor (based on flown rather than booked passengers) from 77% to 73%

Return on investment was down with return on equity little changed at just over 10%. The balance sheets of these LCCs are much stronger than the network airlines, with a debt/equity ratio of under unity in both years, after including aircraft on operating lease.

Where published data were available a number of comparative performance metrics were calculated for seven low cost carriers (representing over 60% of the sector). Data are principally taken from the airlines' published accounts and supplemented with data from ICAO and Air Transport Intelligence. Various currencies are reported and all were converted to US Dollars based on average exchange rates for the various fiscal years of the airlines.

Figure 30: LCC yields, 2003 and 2004

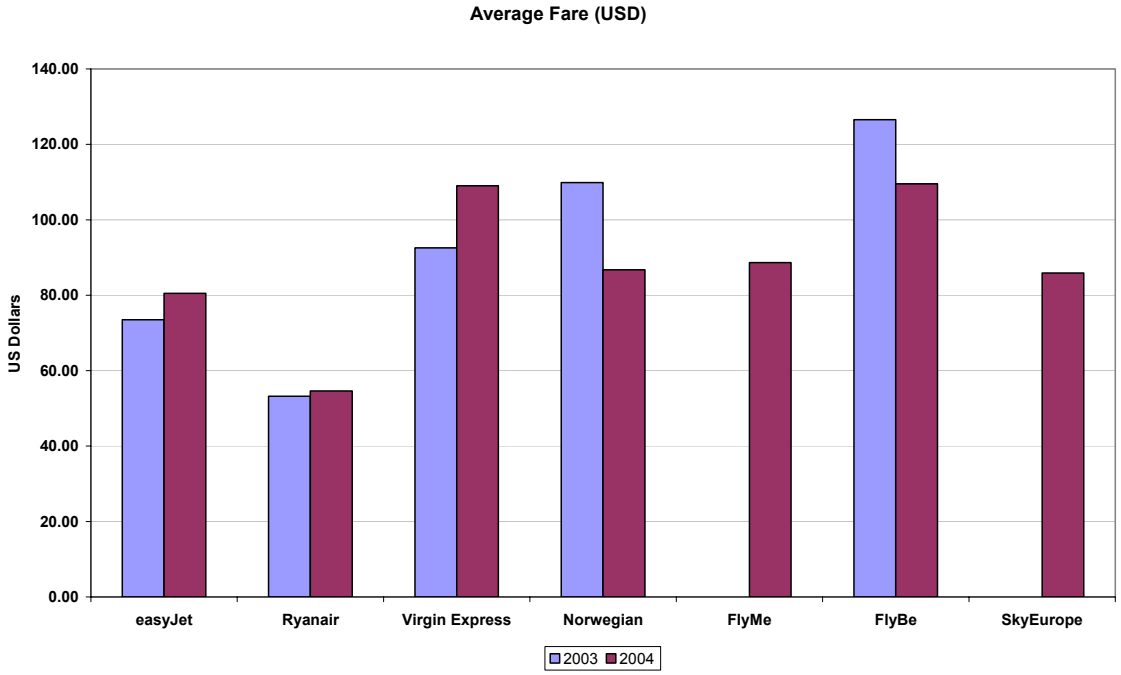


Looking at yield (US cents), Ryanair reports the lowest yield (revenue per revenue passenger kilometre), with easyJet and Virgin Express being not too dissimilar. FlyBe's 2003 yield near 30 US cents is more than three times higher than the market leaders (Figure 30). This airline was originally a regional carrier and began changing its business market in 2002/3.

The dramatic fall in yield in 2004 shows the carrier adapting to more competitive market conditions as it alters its business model. Of the new entrants, Scandinavian carriers Norwegian and FlyMe both have high yield for the low cost sector while SkyEurope entered the eastern European market as easyJet and Ryanair brought strong competition and consequently the airline is reporting one of the lowest yields.

The average fare achieved per passenger shows that Ryanair has the lowest average fare of the benchmark group, some $25 dollars cheaper than its main competitor easyJet. EasyJet's business model aimed at serving a significant proportion of business travellers and flying to more principal airports means that their average fares are higher. All the other carriers in the group have higher average fares, although Norwegian and FlyBe both saw average fares fall in 2004.

Figure 31: LCC average fares, 2003 and 2004



Considering unit costs (operating costs per available seat kilometre), it is clear that Ryanair enjoys the lowest costs of the benchmark group. It has costs some 40% lower than easyJet, Virgin Express or new entrant SkyEurope. While FlyBe saw yield fall very quickly in 2004 the airline was not able to reduce its costs as quickly. Norwegian was more successful in reducing costs as it was able to increase it fleet by 50% while its total costs only increased by 35% by keeping non-operational costs static and making its pilots more productive.

Figure 32: LCC unit costs, 2003 and 2004

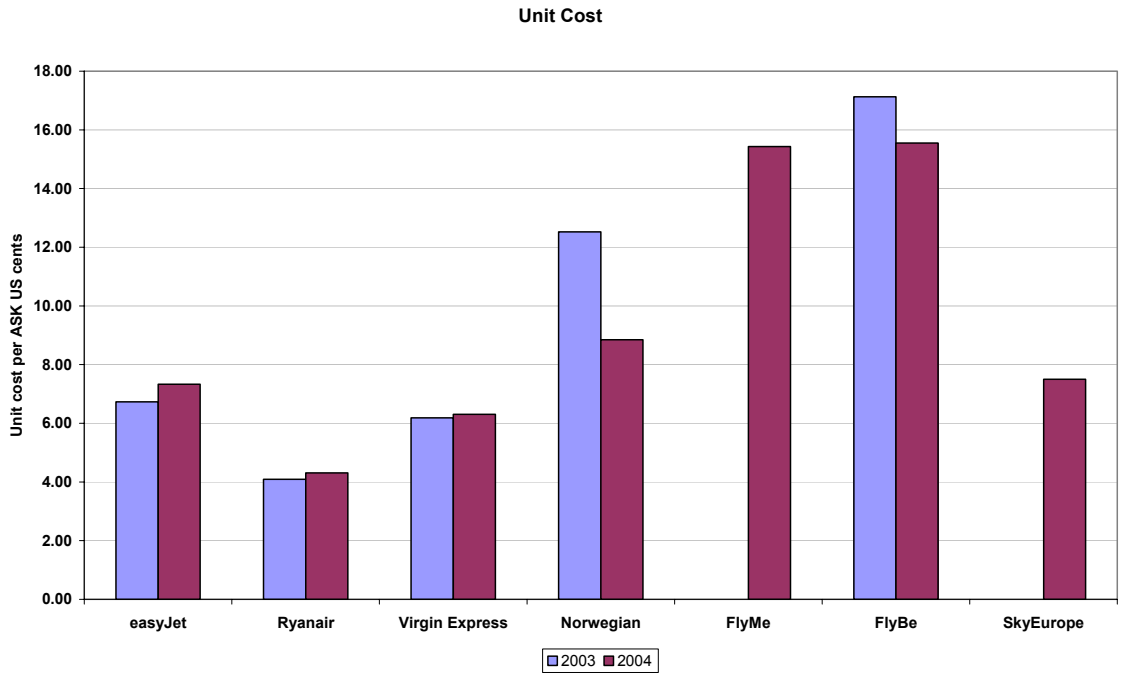
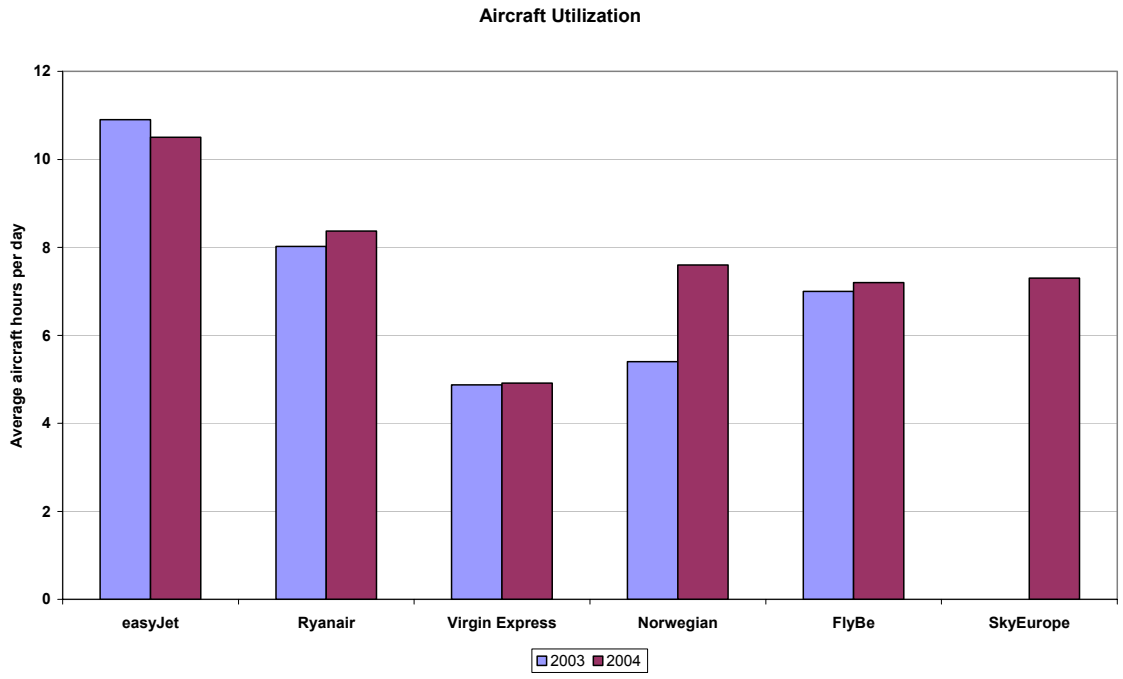


Figure 33 shows Norwegian making better use of its aircraft, increasing by over two block hours a day their use of their fleet. Virgin Express made poorest use of its fleet. At under five hours use per day, Virgin Express' aircraft are commercially productive less than half the time of easyJet's. The significant addition of capacity to easyJet, Ryanair and FlyBe's fleet has not had a great impact on their utilisation figures: it seems these airlines were able to put new aircraft to immediate productive use.

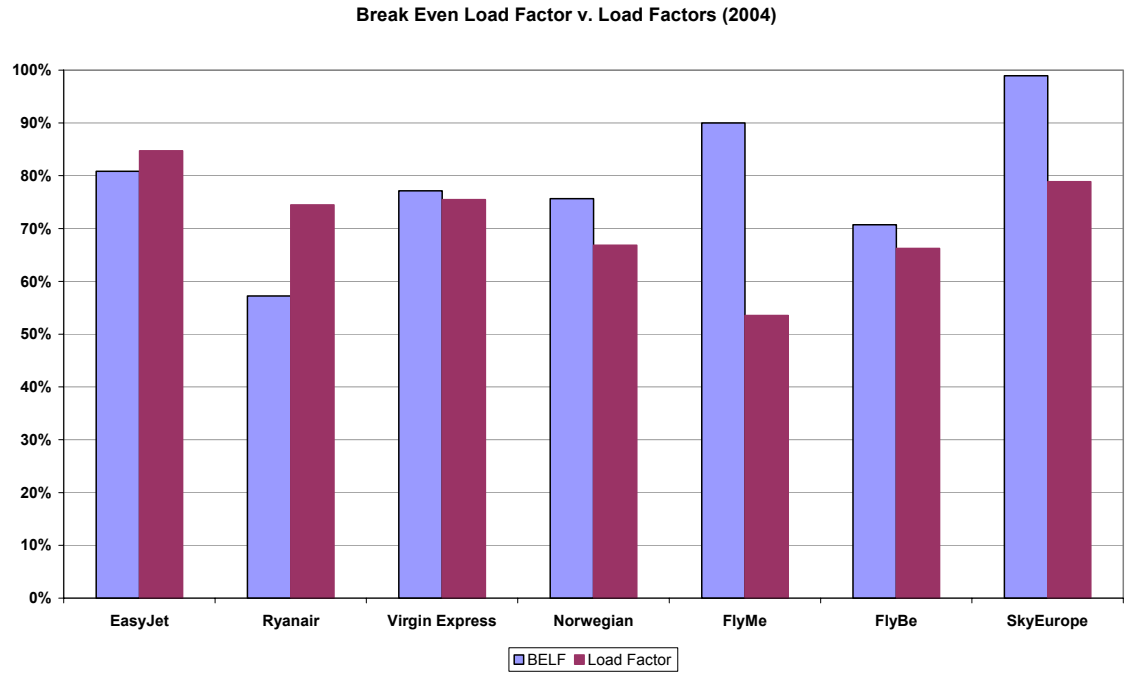
Figure 33: LCC aircraft utilization, 2003 and 2004



In terms of profitability airlines need to achieve load factors (the percentage of available seats filled with paying passengers) in excess of their break even load factors or BELF (unit cost / unit yield). In Figure 34 this means ensuring the bar on the left is lower than the bar on the right. In 2004, only easyJet and Ryanair achieve this leading to their profitability.

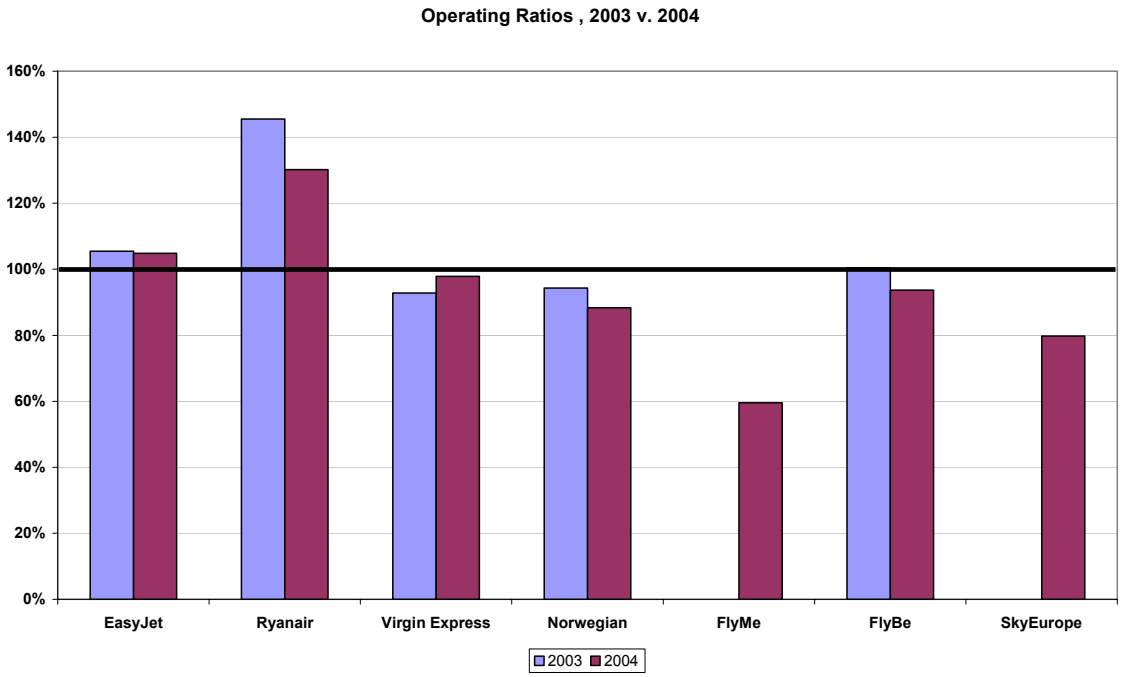
The difference between the actual load factor and BELF gives an indication of how comfortable is the profit margin. Ryanair could afford to lose about 15% load factor before it became unprofitable, while easyJet has less than 5% protection. Also as it is harder to increase load factor from a base of 85%, it would be hard to stay in profit if the BELF were to increase.

Figure 34: LCC break-even load factors and load factor achieved, 2004



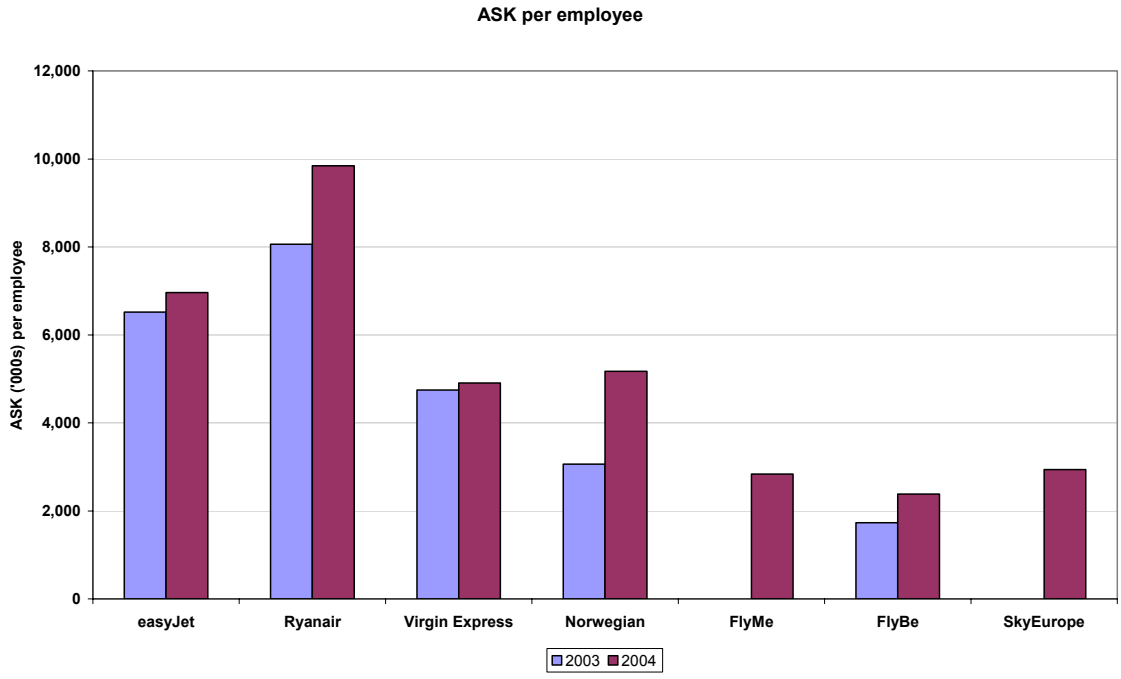
The large difference between Ryanair's load factor and break even load factor results in a healthy operating margin. EasyJet was the only other carrier in the group making profit in both years with FlyBe falling into the red in 2004 from a small profit in 2003.

Figure 35: LCC operating ratios, 2003 and 2004



The next four graphs looks at various aspects of the productivity of the airlines' employees. Firstly we see that employees at Ryanair produce more available seat kilometres per person than any other carrier in the group and that they increased this figure in 2004 to nearly 10 million ASK per employee..

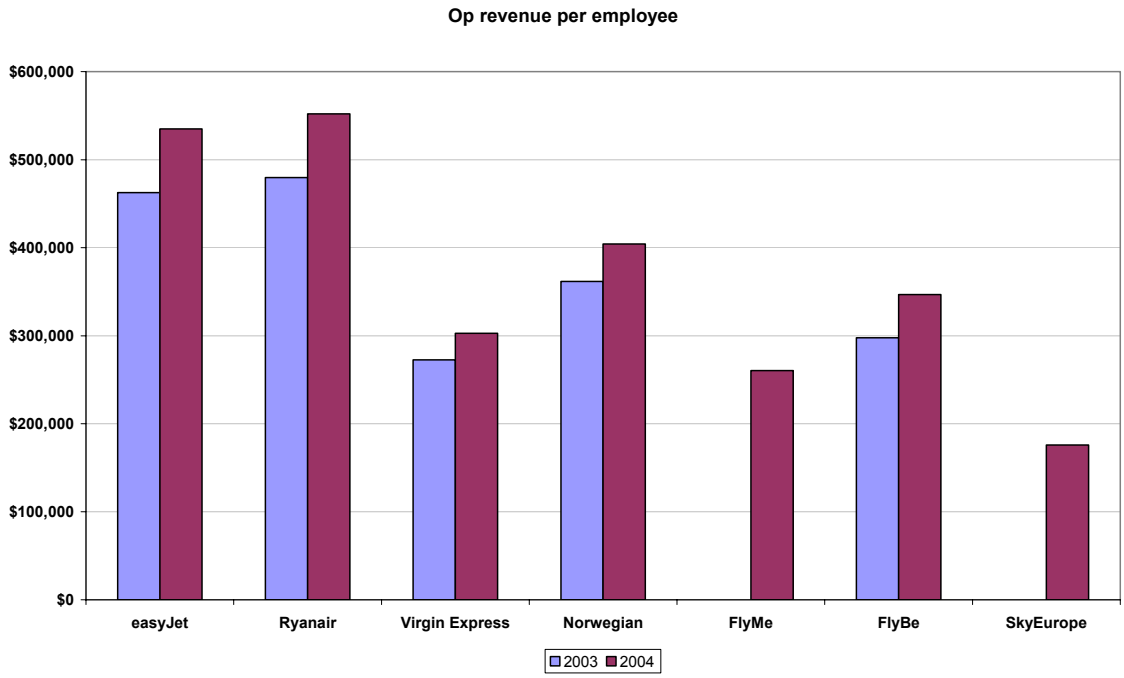
Figure 36: LCC capacity (ASK) per employee, 2003 and 2004



While Ryanair employees produce more ASKs than other airlines in the group, easyJet's higher average fare means that, on a per head basis, employees at the two

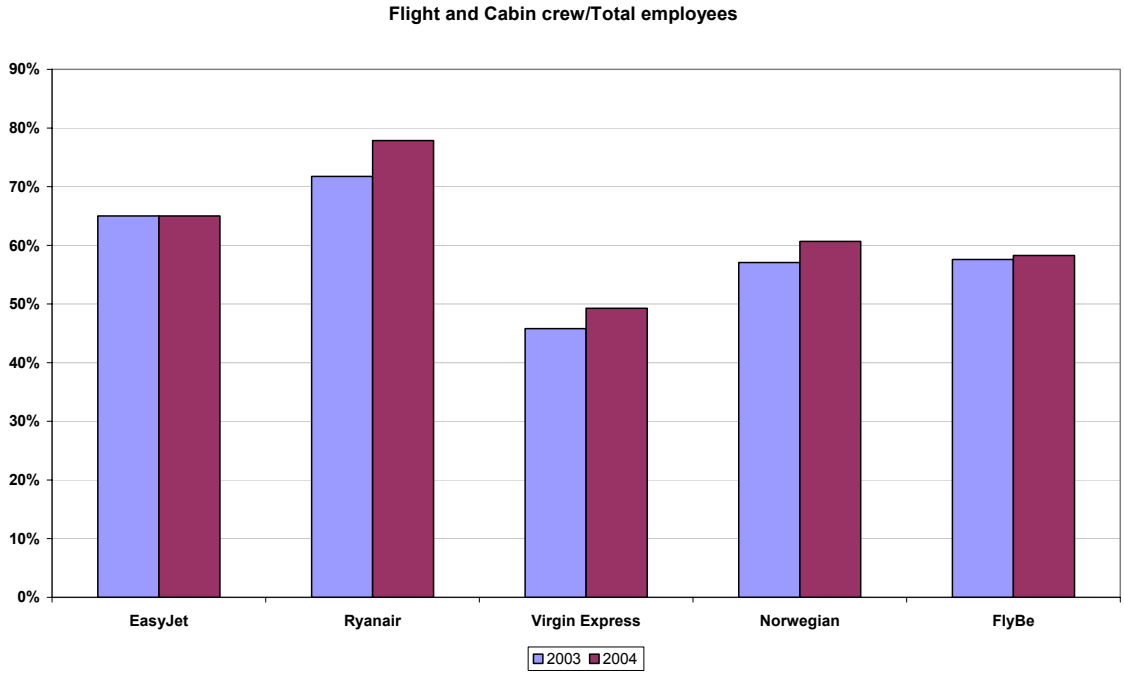
airlines earn similar levels of operating revenue. This level is significantly higher than other airlines in the group suggesting that these better established larger airlines benefit from some marketing economies of scale or first mover advantage.

Figure 37 : LCC operating revenue per employee, 2003 and 2004



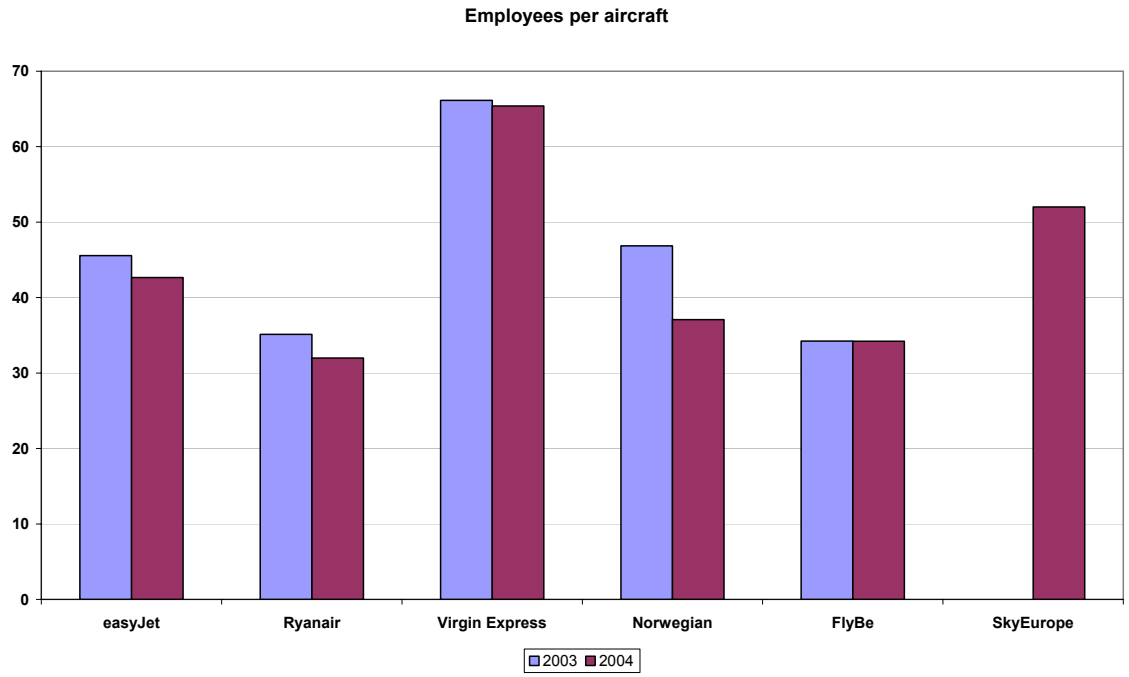
High levels of employee productivity at Ryanair and easyJet are partly explained by the higher proportion of employees work in flight operations as either pilots or cabin crew. These represent 75% of Ryanair's employees, but less than 50% of Virgin Express workers.

Figure 38: LCC flight crew as proportion of total employees, 2003 and 2004



The final chart show the number of people employed for each aircraft operated. Ryanair again is the benchmark carrier with the fewest employees per aircraft, a function of its low non-operational overhead personnel. FlyBe also has a very low figure, probably due to greater use of smaller aircraft. The analysis suggests that Virgin Express and SkyEurope could improve productivity by reducing headcount.

Figure 39: LCC employees per aircraft, 2003 and 2004



5.2.2 Key developments, LCC

The low cost sector in 2004 grew substantially. The sector saw nine new entrant airlines and the failure of four others. The sector was dominated by the oldest pair; Ryanair and easyJet that each carried nearly 25 million passengers. Profitability was hard to come by as new capacity entered the market and greater head to head competition between low cost carriers pushed yields down while higher fuel pushed costs up. 2004 saw low cost carriers seeking new market opportunities in central and Eastern Europe.

While Ryanair focused on the leisure market and easyJet increasingly focused on a strategy aimed at capturing business travellers and increasing yield, the newer carriers sought alternative business model including co-operative marketing agreements and codeshareing.

Ryanair

The airline started the year announcing it has been instrumental in increasing traffic at Brussels Charleroi airport by 42% to 1.8m in 2003. Unfortunately the European Commission ruled that the agreement that the airline had with the airport constituted unfair state aid. In response to the ruling the airline cut 10% of its capacity to the airport. A new agreement was reached and the airline had to repay €4m to the Walloon local government.

Following its massive order for 125 aircraft placed in 2002, the airline continued to take delivery of new Boeing 737-800s at a rate of two per month and consequently announced a major expansion at Luton, and expanded eastward with flights to Warsaw, Krakow, and Budapest. By October in 2004 the airline had 71 aircraft operated 161 routes to 87 destinations. It slowed it growth a little at the end of the year as it decided to retire more quickly its fleet of 737-200s, taking seven damaged aircraft out of the fleet immediately.

The airline suffered its first fall in full year profits as large rises in capacity, and higher levels of competition from new entrants pushed down yields, while the sterling/euro exchange rate did not work in the airline's favour.

EasyJet

Another busy year for easyJet with the launch of new bases in Berlin SXF (28 April), and Dortmund (15 July). Booked Traffic grew by over 20% to 25.7 million with a booked load factor for the year of nearly 85%. The airline started over 70 new routes during the year across many of its bases taking the airline from around 110 routes to over 180 connecting 52 airports. New destinations for easyJet were Berlin SXF, Basel, Budapest, Ljubljana, Dortmund, Cologne/Bonn, Warsaw, Krakow, Bratislava, Turin, Valencia, Almeria, Tallinn and Riga. The emphasis on developing the German market and gaining access to the new member states can clearly be seen. Zurich, however, was dropped from the network. The airline repeatedly sited the high airport charges for the airline's withdrawal before announcing plans to set up a base at Basel.

In May the airline reported the first flight to be completely checked-in using self-check-in kiosks. The flight was from East Midlands to Prague. In July the weight restriction on hand baggage was removed though the size restriction remained in place. In court easyJet won their case against Navitaire a supplier of reservation software and they chose to take action against COHOR the organisation responsible for slot co-ordination at airports in Paris. By the end of 2004 the airline's fleet had grown to 91 aircraft of which 23 were Airbus A319s.

Air Berlin

Air Berlin started the year by acquiring a 24% stake in Niki, the Vienna-based LCC. The airline leased some Fokker 100s from Germania Express to increase frequency on key routes to Vienna and Zurich. New destinations added during the year included Budapest, Manchester, Southampton and Warsaw. In November Air Berlin (with Niki) announced a major order for 120 Airbus aircraft (70 firm and 50 options). Previously Air Berlin had been a major user of Boeing aircraft. Air Berlin's total traffic (including charter operations) increased 25% to just over 12 million passengers in 2004. In 2004 ticket-only sales surpassed sales from tour operators for the first time, though both market segments grew.

FlyBe

FlyBe continued its move into the low cost sector in 2004. Two years after the airline decided to move away from its regional airline tradition, 2004 saw the airline dispense with its franchise agreement with Air France, sell its slots at Heathrow, and grow dramatically in regional airports, particularly at Southampton. The sale of six

Heathrow slots to Qantas and Virgin is thought to have raised some £40m. The sale of the slots brought its franchised service to Toulouse on behalf of Air France to an end. The airline found success at regional airports and it increased capacity in its winter schedule by 20% particularly at Southampton (where it has 18 routes), Exeter, Newcastle, Belfast City and Bristol. The marketing director indicated that its strategy was aimed at competing against "high-cost competitors" such as BA and regional carriers such as Eastern Airlines. The airline finished the year with 31 aircraft, was on target to carry 4.5m in 2004/5, accelerated its delivery of Bombardier Q400s, and switched its six BAe146-200s for the larger BAe146-300s.

Germanwings

Passenger numbers grew by nearly 50% to 3.5 million from the airline's two bases in Cologne/Bonn (CGN) and Stuttgart (STR). A total of 12 new destinations were added from CGN during 2004 including London Gatwick, a reaction to easyJet's decision to start CGN services. One new route was domestic (to Munich) while three were to destinations in new member states. Seven new destinations were added from STR in 2004 including two domestic routes and three to new member states. Load factor for the year was reported as 82% and according to the airline just over 40% of passengers were travelling on business.

bmiBaby

The low cost subsidiary of BMI British Midland began the year by announcing their entry into the Gatwick market for services to Cork and Prague, and gaining its own Air Operators Certificate, independent of its parent company. It also indicated that it would move towards an exclusively 737-300 fleet, as it believed the 737-500s it inherited from BMI were not as well suited to low cost operations. The carrier took three 737-300s from ILFC during the year. The airline also announced a new base at Birmingham International in direct competition with MyTravelLite. The airline introduced a codeshareing deal with Air Wales in Cardiff in which the Welsh ATR operator would take over two of its routes that were too small to support 737 operations. The spare capacity was moved to Nottingham East Midland's airport as it increased services in response to competitor easyJet's reduced capacity at the airport.

hlx

TUI's German LCC saw passenger numbers increase nearly 40% to 2.7 million passengers from their main bases in CGN, STR and Hannover. It reported profitability in the third quarter of the year and started international routes from Berlin Tegel and Hamburg during 2004. Biggest growth was in Stuttgart where nine new routes were launched. Nearly all new routes launched during the year were to Italy, Spain, UK or Austria. At the end of the year founding CEO Wolfgang Kurth resigned. He was also the leader of ELFAA, the European Low Fare Airline Association.

Norwegian

Norwegian CEO said there was "great scope for transfer" at Stansted following a BAA arranged meeting at the airport and indicated that it was interesting in forming

mutually beneficial alliances at a meeting to identify potential schedule synergies between five low cost carriers. The airline did form alliances with Nordic Airlink in the Oslo-Stockholm market, and with Danish carrier Sterling on throughout their respective networks. Three 737s were added to its fleet bringing the number of aircraft of that type to eleven. The new aircraft were mainly used in services to Eastern Europe (Prague, and Dubrovnik). In a novel marketing move the airline started distributing tickets through a large Norwegian retailer although increased fuel and marketing costs saw the airline record a full year loss of nearly $24m, a loss $16m worse than in 2003.

Virgin Express

Virgin Express began the year by planning to merge its activities with SN Brussels and losing its financially rewarding codeshare with VLM between Brussels and London City Airport. The planning for the merger saw the airline's codeshare with SN Brussels also terminated. The merger meant that the two airlines altered their schedules to reduce overcapacity in some duplicated markets. Virgin Express increased capacity to European beach destinations. The airline also reduced its fleet from 13 to 11 aircraft and consequently saw its revenues (and costs) decline. The merger was agreed in October and given regulatory approval in December. It made a full year loss as "uneconomic" pricing from it competitors forced down its yields.

Germania Express (GEXX)

GEXX's fleet of Fokker 100s were spread across four main German bases in Berlin, Dűsseldorf, Hamburg and Munich. The operational strategy focussed on operating three flights each day. The morning and evening flights were domestic or business destinations with a longer-haul leisure destination in the middle of the day. Two aircraft were based at downtown Berlin Tempelhof airport during the summer. In October the CEO, Juergen Branse left the airline.

5.2.3 Financial results, charter/leisure airlines

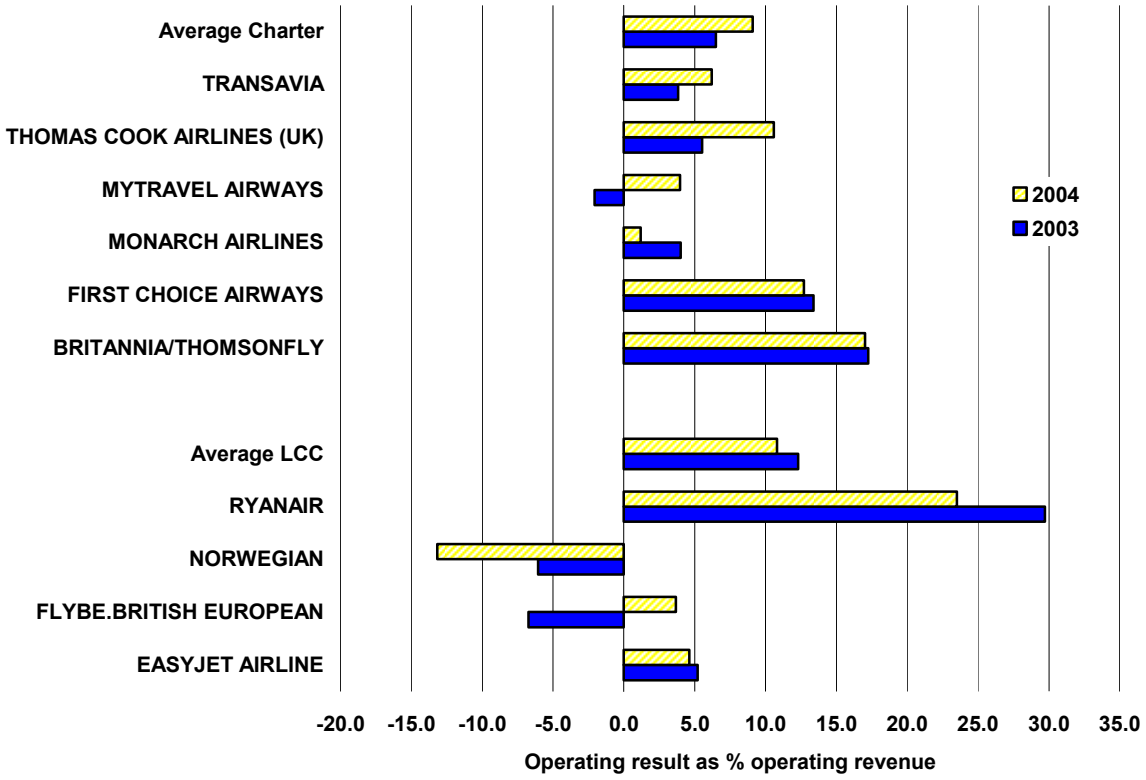
Table 13: Financial results: Charter

Financial Year*	2003	2004	%(pts) change
Operating margin (%)	7.7	9.6	1.9
Total revenue per RTK (US cents)	76.7	78.9	2.8
Operating cost per ATK (US cents)	57.2	56.6	-1.2
Overall load factor (%)	80.8	79.4	-1.5
Debt/equity ratio	7.4	5.1	-31.2
Pre-tax profit as % long-term capital	6.2	7.4	1.2
After tax profit as % equity	34.7	34.2	-0.4
Operating leases as % long-term capital	79.1	69.9	-9.2
Average sector length (kms)	2,335	2,357	0.9

* Aggregate of airlines reporting different financial year ends: largest part of FY falling in 2003 or 2004
** based on IATA data for calendar year

Figure 40 displays the results of six charter or leisure carriers included in the analysis. Apart from Transavia, these were from the UK, where the CAA reports financial data for charter airlines, including those part of larger, multinational tour operators.

Figure 40: Operating results, charter airlines



Somewhat surprisingly, charter airlines produced operating margins that were not much below those of the LCCs in both years. Their average load factor remained at around 80%, somewhere between the Ryanair and easyJet levels. Like the LCCs, overall load factor is depressed by carrying little cargo (LCCs carrying none at all).

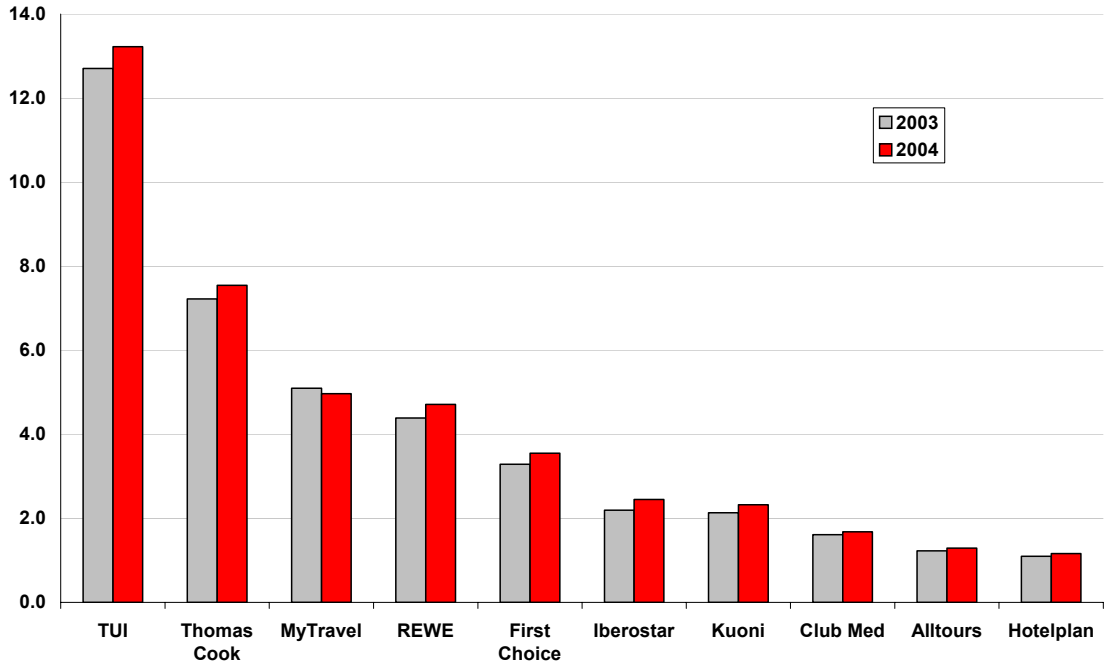
Their margins improved mainly as a result of an increase in yields outweighing the small drop in load factor, with unit costs down by 1.2%.

5.2.4 Major Tour Operating Groups

Figure 41 shows the turnovers of Europe's largest ten travel groups in 2003 and 2004. With the exception of MyTravel, all increased their turnover in 2004.

Table 14 lists the largest tour operators with charter airline subsidiaries in operation in 2004. There were two changes to the list of carriers owned by the TUI Group in 2004, with TUI Belgium Airlines beginning operations as a result of the collapse of Sobelair in 2003, and its 50% shareholding in Italian charter carrier, Neos, being sold. Thomas Cook Airlines (Germany) reverted to its original Condor name during 2004. This policy contrasts with the strategy adopted by most of the tour operating groups, which adopted common brands for the various elements of their businesses.

Figure 41 : Turnover (EUR billions) of Europe's top ten travel groups



Source: Kuoni 2004 Annual Report

Table 14: Charter airline subsidiaries of Europe's largest tour operators

TUI	Thomas Cook	MyTravel	First Choice	Kuoni
Britannia	Condor	MyTravel	First Choice	Edelweiss
Hapag-Lloyd	Condor Berlin	MyTravel A/S		Novair
Britannia AB	SunExpress			
Corsair	Thomas Cook (Belgium)			
TUI Airlines (Belgium)	Thomas Cook (UK)			

First Choice

First Choice increased its earnings by 15% in 2004 compared to 2003 giving the organisation an operating margin of 4.1% (Table 15). Its turnover rose by just 3% over the same period. The organisation's strategy of reducing its dependence on short haul mainstream holiday destinations and developing long haul and specialist markets appears to be paying off.

Table 15: Financial performance of First Choice

	Earnings * (£m)	Turnover (£m)
2002	75.7	2183
2003	87.1	2249
2004	98.3	2350

* Profit (loss) before tax, exceptional items and goodwill.

Table 16 gives details of the company's share of passengers by length of haul. First Choice operated with a fleet of 32 aircraft in 2004, the same fleet size as in 2003.

Table 16: Split of First Choice passengers by length of haul

	Short-haul (%)	Medium-haul (%)	Long-haul (%)	Total (000)
2003	44.6	49.9	5.6	2906
2004	41.0	52.8	6.2	2809

Source: First Choice Annual Reports.

MyTravel

MyTravel was forced to downsize its activities considerably during 2004 as a result of its very poor financial performance. Overall, the tour operating group's turnover fell by 23.5% compared to 2003, in the process reducing its losses before tax and exceptional items by £364.2 millions (Table 17). MyTravel's bondholders formally approved a financial restructuring plan in December 2004. Bondholders had been resisting the debt-for-equity restructuring plan, the terms of which give them 8% of MyTravel's enlarged share capital.

MyTravel reduced the fleet operated by its two in-house airlines in summer 2004 by nine to 44 compared to a year earlier. The numbers of passengers carried by the two carriers declined by only 2.6% over the same period, the bulk of the reduced flying activity being incurred by other airlines. Around 10% of the group's passengers travelled long haul in 2004.

Table 17: Financial performance of MyTravel

	Earnings (£m)	Turnover (£m)
2002	(11.9)	4379
2003	(411.3)	4190
2004	(47.1)	3204

Source: MyTravel Annual Reports

TUI

The TUI group's Tourism division increased its earnings by 74% in 2004 compared to 2003 yielding an operating margin of 2.8%. The increased profit was mostly due to an improvement in its Central Europe earnings, particularly in the German market that accounts for 88% of the region's turnover. The Central Europe 2003 loss of €16.5 million was translated into a profit of €82.4 million in 2004. Overall, the Tourism division's turnover rose by just 3.6% over the same period, with a total of 18.4 million passengers taking TUI's package holidays (up by less than 1% on 2003). The group's five airlines operated 104 aircraft in 2004 compared to 83 operated by its four fully owned carriers the preceding year. In 2004, seat only sales accounted for 30% of Hapag-Lloyd's passengers and 25% of those of Corsair.

Table 18: Financial performance of TUI's tourism division

	Earnings (€m)	Turnover (€m)
2002	336	12416
2003	208	12671
2004	362	13123

Source: TUI Group Annual Reports.

Thomas Cook

The Thomas Cook Group reduced its losses by €116.5 millions in 2004 compared to 2003 (Table 19). Turnover rose by 3.3% to €7479 million. Its improved financial performance was due to a major restructuring involving a continued reduction in staffing (down from 25,978 in 2003 to 24,628 in 2004). The highest profit (EBIT) contribution was generated in the UK market (€44.9 million), while losses in the German market were reduced to €30.1 million. During 2004 the group's German airline, which reverted to its former name of Condor, operated a downsized fleet of 37 aircraft and carried 6.9 million passengers. Of Condor's passengers, 23.6% were seat only customers.

Table 19: Financial performance of Thomas Cook Group

	Earnings (€m)	Turnover (€m)
2002	(26.8)	8059
2003	(151.0)	7242
2004	(34.5)	7479

Source: Thomas Cook Group Annual Reports.

Kuoni

Kuoni increased its earnings by 24.6% in 2004 compared to 2003 yielding an operating margin of 3.6%. Turnover rose by 8.7% in 2004 compared to a year earlier. Kuoni Group employees totalled 6,719 as of December 2004.

Table 20: Financial performance of Kuoni Group

	Earnings (CHFm)	Turnover (CHFm)
2002	120.7	3739
2003	102.4	3295
2004	127.6	3581

Source: Kuoni Group Annual Reports.

5.3 Regional airlines

Only three European regionals published separate accounts: BA CitiExpress, Air Nostrum and Portugalia. Overall they made an operating loss in both years, with Air Nostrum the only one that was profitable.

Yields were down by 10% in spite of a 13% improvement in weighted average exchange rate against the dollar, but helped by longer average sectors operated. Competition from LCCs must have put considerable pressure on yields. Load factors are the lowest of the different airline business models, and declined by a further 1.5% points. Formerly, higher yields compensated for very low load factors, but the changing mix of traffic makes these more difficult to achieve.

Table 21: Financial results: regional airlines

Financial Year*	2003	2004	%(pts) change
Operating margin (%)	-2.0	-4.0	-2.0
Total revenue per RTK (US cents)	290.3	261.2	-10.0
Operating cost per ATK (US cents)	157.9	141.0	-10.7
Overall load factor (%)	53.3	51.9	-1.5
Debt/equity ratio	n/a	n/a	
Pre-tax profit as % long-term capital	n/a	n/a	
After tax profit as % equity	n/a	n/a	
Operating leases as % long-term capital	75.2	80.2	5.0
Average sector length (kms)**	581	625	7.5

* Aggregate of airlines reporting different financial year ends: largest part of FY falling in 2003 or 2004
** based on IATA data for calendar year

Regional airlines made greater use of aircraft on operating lease than the other airline types. The independent Air Nostrum had an 11:1 debt/equity ratio in 2004, with Portugalia at 5:1. BA CitiExpress had negative equity at the end of 2004.

Figure 42 includes available data on Europe's top revenue-producing regional airlines in 2004. Lufthansa Cityline's reduced revenue (down to a half of 2003 levels) stems from the different business model the airline adopted from the start of 2004. Under this model, the carrier no longer recorded ticket sales as revenue, this being earned exclusively from leasing aircraft to its parent, Lufthansa.

Figure 42: Top-twenty European regionals in terms of revenue (USD million) 2004

	Country	Revenues		Operating margin		Net result		Net margin		Year
		$ million	change	2004	2003	2004	2003	2004	2003	end
SN Brussels Airlines	Belgium	817	22.8%	1.8%	-1.9%	1	1	0.2%	0.1%	Dec-04
BA Citiexpress	UK	684		-0.1%		-79		-0.1%		Mar-04
Lufthansa CityLine	Germany	633	-50.1%	13.8%	4.2%	26	25	4.1%	2.0%	Dec-04
Air Nostrum	Spain	612	19.4%		11.7%	26	33	4.2%	6.4%	Dec-04
Eurowings	Germany	587	-18.4%	3.1%	1.3%	8	1	1.4%	0.2%	Dec-04
Brit Air	France	502	12.7%		1.1%		0			Mar-05
Regional	France	463								Mar-05
Aegean Airlines	Greece	348	37.0%	3.9%	2.6%	11	7	3.0%	2.8%	Dec-04
Widerøe's Flyveselskap	Norway	341	10.4%	4.6%	3.9%	11	10	3.4%	3.1%	Dec-04
CityJet	Ireland	256	27.4%	8.8%	4.2%	19		7.5%		Mar-05
KLM Cityhopper	The Netherlands	255	estimate							Dec-04
Alitalia Express	Italy	249	41.6%	2.3%	2.2%	0	3	-0.1%	1.7%	Dec-04
Air Dolomiti	Italy	220	estimate							Dec-04
Austrian Arrows	Austria	215	14.2%	6.5%	17.5%	5	13	2.1%	7.1%	Dec-04
CCM Airlines	France	203	22.9%		0.5%		0		0.1%	Mar-05
Portugália Airlines	Portugal	192	19.4%	-8.7%	-4.3%	-6	-5	-3.2%	-3.2%	Dec-04
Malmö Aviation	Sweden	180	7.3%	-6.0%	-4.4%	-11	-1	-6.0%	-0.8%	Dec-04
Blue1	Finland	178	50.6%	-7.0%	8.3%	-15	-10	-8.5%	-8.4%	Dec-04
Binter Canarias	Spain	160	estimate							Dec-03
Air Greenland	Greenland	140	8.3%	12.5%	7.1%	11	6	7.7%	4.4%	Dec-04

Source: Airline Business

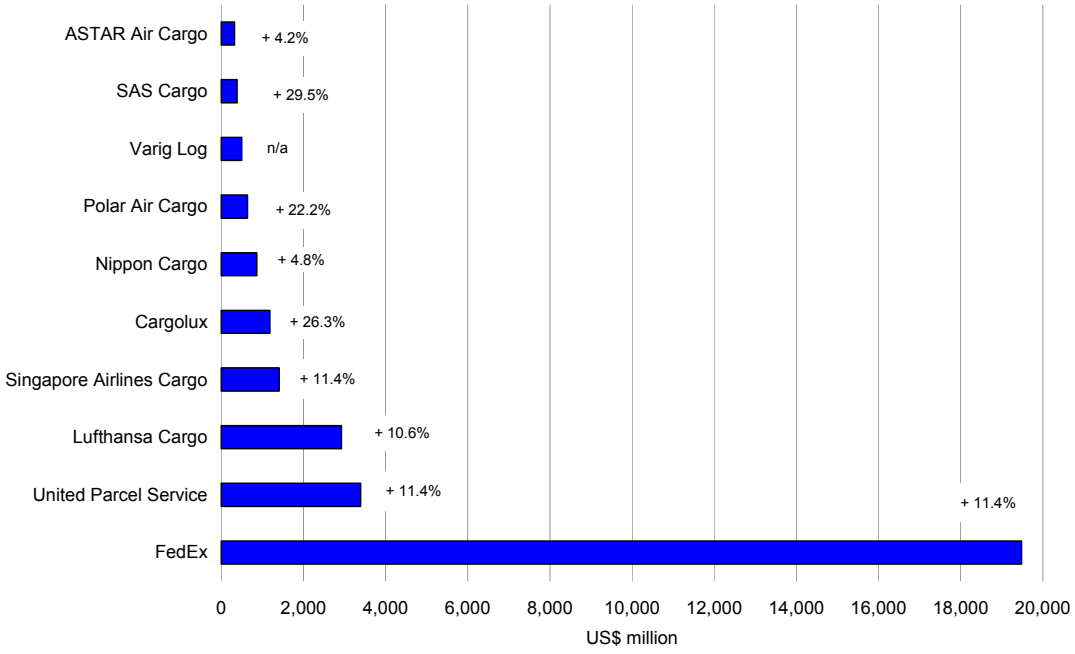
5.4 Cargo airline economic performance

Air cargo is carried on both passenger and freighter services. The latter are carried on aircraft and trucks, the latter on many of the shorter sectors in Europe. This section will focus on air services, since there is little data available on airport to airport truck services.

Airline Business (November 2005) reported that air cargo revenues earned by the top-100 cargo carriers in 2004 were around US$52 billion. In this total, revenues for the all-cargo airlines were US$26.9 billion in 2004, up 11.3% compared to the previous year. The profitability of cargo carried on passenger flights depends on the method of cost allocation, and IATA no longer publishes these estimates.

The all-cargo airlines made a combined profit of US$1.85 billion in 2004, or a margin on revenues of 6.9%. Their net profit was US$138 million, or 2% of revenues. The only global European all-cargo carrier, Cargolux, made an operating profit of US$80.7 million in 2004, with a margin of 6.7%, and a net margin of 6.9%. The largest all-cargo carriers in 2004 are shown in terms of total revenues below:

Figure 43: Top 10 all-cargo airlines worldwide in 2004 (and % change over 2003)



Source: Airline Business, November 2005

Lufthansa, Singapore Airlines, SAS and Varig have all formed air cargo subsidiaries, entirely separate from their air passenger operations. However, in terms of turnover, none of these approaches the size of FedEx. UPS is also significantly smaller, but has a much larger ground transport operation than FedEx.

Lufthansa's cargo subsidiary made an operating profit of only €34 million in 2004 (an operating margin of 1.4%) compared to a loss of €16 million in 2003. SAS's cargo subsidiary made an operating profit of only SEK32 million in 2004 (an operating margin of 1.1%) compared to a profit of SEK77 million in 2003. However, it should be noted that the revenues and margins of these subsidiaries are

entirely dependent on the rates for lower deck capacity agreed with their passenger divisions.

In addition to the above airlines, the largest cargo revenues generated by European passenger carriers are Air France-KLM with revenues in 2004 of US$2,900 million, followed some way behind by British Airways with $889 million, Martinair with $615m (the airline also operates passenger charters), and Alitalia with $532 million. AF-KLM's cargo revenues only accounted for 12% of total group operating revenues, with 6% for British Airways, 63% for Martinair and 11% for Alitalia.

Figure 44: Index of AEA airline air cargo yields by region

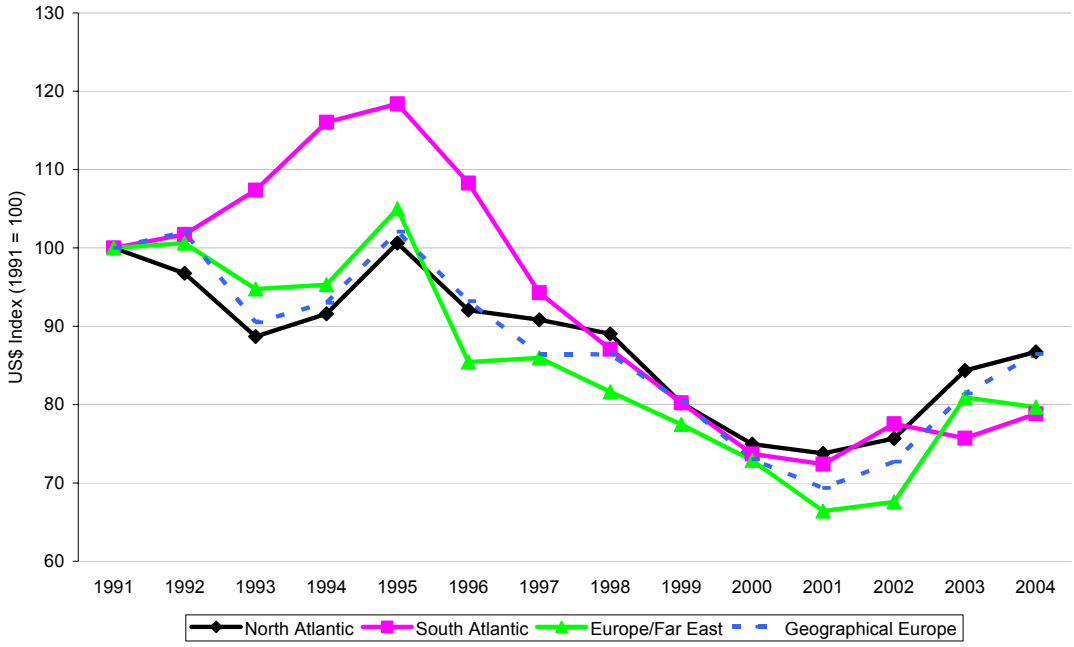


Figure 44 shows that AEA cargo yields have firmed since 2001, after a period of decline. These are expressed in US dollars, and the dollar weakness has been a major factor in this more recent trend. Transatlantic yields are the lowest with the North Atlantic at just over and the South Atlantic just under 23 US cents per tonne-km in 2004. The Far East yield was 30 cents/tonne-km and the intra-European yield 76 cents, reflecting the much shorter average sector length. There is likely to be more integrator competition on the North Atlantic, with trucks feeding hubs on both sides. Integrators tend to siphon off some of the higher yielding traffic.

If yields in 2004 are compared with 2003, the Atlantic routes recorded small increases in current terms of 3% and 4% respectively, while the Far East was down by 2%.

Little data is released on the operating costs of carrying air cargo on both network carriers and integrators. The only major EU all-cargo carrier, Cargolux, provided a cost breakdown, reporting an increase in the share of fuel in total operating costs rising from 25.9% in 2003 to 29.7% in 2004. Personnel costs were down almost 2% points to 15.1%, while trucking costs rose from 7.9% to 8.2%. The average cost per employee rose by 13% to US$119,000 in 2004. In 2004, the airline spent $66 million on aircraft rentals, of which 58% was on ACMI leases and 30% block space

rentals, the remainder being aircraft on operating leases. Depreciation accounted for a further $82 million of aircraft expenses in 2004.

5.5 Other major world airlines

5.5.1 North American airlines

ATA member airlines made an overall net loss of US$9.071 billion in 2003 compared to $3.7 billion the year before. This includes data from 140 US airlines, including Majors (19 including LCCs such as Southwest, JetBlue and AirTran), Nationals (35), Regionals (31), and Commuters (55). The operating loss was reduced from $2.1 billion to $1.4 billion, but the loss of contribution from Stabilization Act payments (around $2 bn in 2003) caused a large deterioration in net result.

Table 22: Financial results: US airlines (ATA members)

Calendar Year	2003	2004	%(pts) change
Operating margin (%)	- 1.8	- 1.0	0.8
Total revenue per RPK (US cents)	11.2	11.1	- 0.9
Operating cost per ASK (US cents)	8.3	8.5	2.1
Passenger load factor (%)	73.5	75.5	2.0
Debt/equity ratio*	3.0	4.9	59.8
Average trip length (kms)	1,635	1,705	4.3

Source: Air Transport Association of America, Annual Report, 2005
* excluding capitalised operating leased aircraft

Passenger traffic rose faster than capacity to give a 2.1% point increase in average load factor, with yields just a little down on the previous year. However, cost control continued to be a problem, given the rise in fuel costs that could not be passed on in surcharges (at least not in domestic markets). A small improvement in operating margin was evident, although still negative.

It should be noted that the US airlines do not carry much air cargo, since the integrators have taken the lion's share domestically. Thus they do not tend to report freight tonne-kms or capacity on an available tonne-km basis.

5.5.2 Asia/Pacific airlines

Table 23 shows financial results for 15 member airlines of the Association of Asia Pacific Airlines for both 2004/05 and 2003/04. The two members that did not report were Dragonair and Air New Zealand, and JAL provided data only for its international operations. The financial year was to end of March.

The results show the rebound from the year 2003/04 which was severely affected by SARS. Strong traffic growth pushed up the passenger load factor by 1.6 points (in spite of capacity being up by 10.5%) and helped the yield to increase by 7.8%. With costs up by 6.5%, helped by a rise of 38% in average fuel prices, the operating margin improved significantly by 3.5% points to a reasonably good level by international airline standards.

Table 23: Financial results: Asia/Pacific airlines (AAPA members)

Calendar Year	2003/04	2004/05	%(pts) change
Operating margin (%)	2.5	6.0	3.5
Total revenue per RPK (US cents)	61.3	66.1	7.8
Operating cost per ASK (US cents)	39.8	42.4	6.5
Passenger load factor (%)	66.6	68.2	1.6
Debt/equity ratio*	1.4	1.3	- 12.1
Average trip length (kms)	2,380	2,366	- 0.6

Source: Association of Asia pacific Airlines, Annual Report, 2004/05
* based on total long-term liabilities (excluding capitalised operating leased aircraft)

Total employment by the 15 airlines increased by 2.6% to 198,000, with the average pay rising by 9.5% to just over US$50,000.

5.6 Aviation fuel

Average spot fuel price in 2004 was 117.6 US cents per gallon, an increase of 42.2% compared to the previous year. The range over the year also grew, widening to a high of 156.8 US cents per gallon and a low of 92.1 cents.

The average fuel cost per gallon paid by airlines depends on market prices, individual contracts and gains or losses from hedging activities. Individual contracts tend to be similar, with some discounts for volume and variations depending on transport costs from the nearest refinery.

Table 24: Average aviation fuel price trends*

	US cents per US gallon			
	Average	High	Low	Standard deviation
2000	86.1	107.6	72.3	21.7
2001	71.5	81.9	50.3	16.1
2002	68.3	84.6	53.5	15.9
2003	82.7	104.9	69.6	17.8
2004	117.6	156.8	92.1	35.4

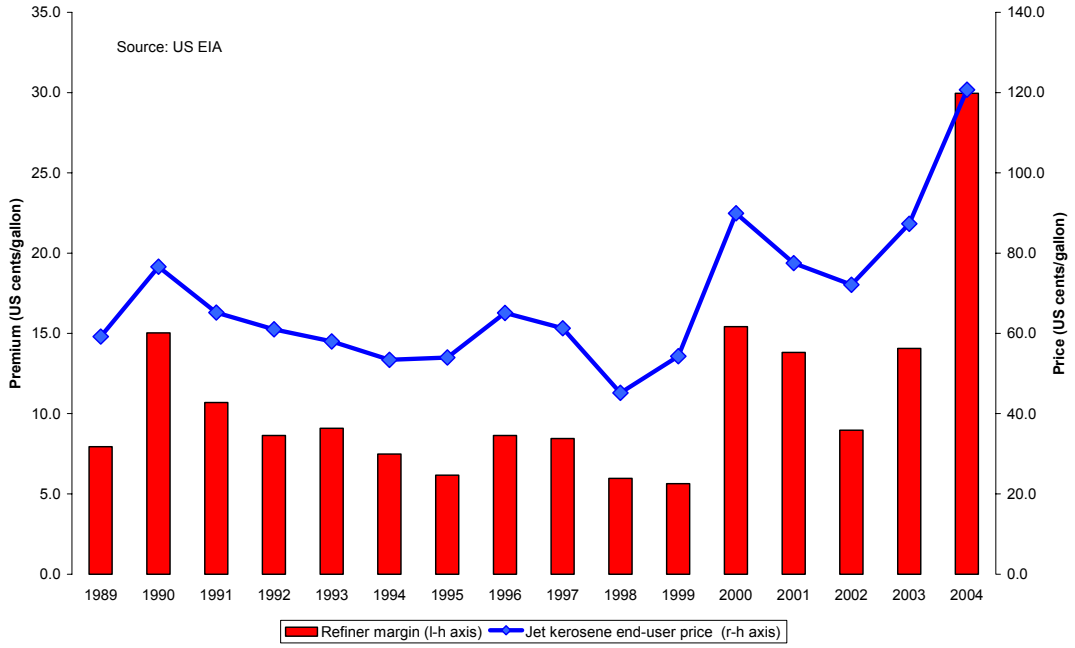
* from Lufthansa cargo website: average of the principal spot markets (Rotterdam, Mediterranean, Far East Singapore, US-Gulf, and US westcoast)

The share of fuel costs in total operating costs reported by the world's scheduled airlines by ICAO rose from13.6% in 2003 to 17.2% in 2004.

Figure 45 shows the average aviation fuel price and the margin over crude oil, commonly called the crack spread. This has increased sharply since 2002, with the shortage of jet refining capacity and strong demand for the other middle distillates which are produced in much larger volumes. Some diversion to military supplies was also evident.

Table 25 shows the extent and type of hedging activity for the larger non-US airlines that provide the information. Of the US majors, only Southwest, Delta and Continental had any significant hedge contracts for the year 2004.

Figure 45: Average aviation fuel price and margin over crude oil, 1989-2004



Some of the large increases in fuel costs were passed on to the consumer in the form of fuel surcharges. These are differentiated according to length of haul by many airlines (Table 26).

Table 25: FY2004/05 fuel needs hedged at YE2003/04: Largest non-US carriers

	% hedged*	Av. cents/gallon*	Value** $m	Products	Instruments
British Airways (2003/04)	41	68.1	53	n/a	Collars & swaps
KLM (2003/04)	80	n/a	n/a		n/a
Air France (2003/04)	78	n/a	n/a		n/a
Iberia (2003)	54	55-62	n/a	Jet NWE	Swaps & options
Lufthansa (2003)	72	72.6*	72	Crude/heating oil	n/a
Air New Zealand (2003/04)	47	bands	84	WTI crude & jet	Options & collars
Cathay Pacific (2003)	25	n/a	n/a	n/a	Various
Singapore Airlines (2003/04)	n/a	n/a	59		Options & swaps
Thai Airways (2003/04)	12				Various
Emirates (2003/04)	19	n/a	n/a	n/a	Options & futures

* average price locked into to hedge contracts (for Lufthansa on only 35% of annual needs)

** market value of fuel hedge derivatives at financial year end Source: Airline annual reports and websites.

Table 26: Fuel surcharges announced by major airlines in 2004

		*US$ or equivalent**	
Airline	*Date*	Short/ medium haul	Long haul
Europe:			
Air France	Aug-04	3.66	14.64
British Airways	Aug-04	4.55	10.92
Bmi	Aug-04	4.55	10.92
KLM	Aug-04	4.88	4.88
Lufthansa	Aug-04	2.44	8.54
North America:			
United Airlines	Jun-04	n/a	5%
Asia/Pacific:			
Air China	2004?	7.00	7.00
Air New Zealand	May-04	3.93-9.83	13.11
All Nippon	May-04	5%	5%
Cathay Pacific	Aug-04	n/a	13.85-18.97
China Eastern	2004?	7.00	7.00
China Southern	2004?	7.00	7.00
Dragonair	Aug-04	5.38-6.92	n/a
Qantas	Aug-04	7.11	15.64
Singapore	Aug-04	4-7	12
Virgin Blue	Aug-04	7.11	n/a

* converted at average exchange rates in August 2004

5.7 European airline financing

The first stage of the privatisation of Turkish Airlines took place in December 2004, with the sale of 23% of the airline to the public. The price per share of the issue was 6,975 lira, valuing the airline at 244 trillion lira or €150 million. The Turkish government's holding fell from 98% to 75%.

The next stage of the privatisation of Air France was completed by the merger with KLM: Air France shares were swapped for KLM shares, with the result that the French government stake dropped below 50%.

Icelandair took a 10.1% in easyJet, while British Airways sold its 18.25% stake in Qantas to institutional investors, having held the shares since the trade sale and subsequent privatisation 11 years ago.

Table 27 shows the principal financial flows for the largest EU airlines in 2004. Of the network airlines, only SAS was unable to finance fixed asset capital investment from internal cash flows. BA continued to impose strict controls on capital spending, using cash to pay off loans and lower the debt/equity ratio. Both the LCCs had relatively large numbers of aircraft deliveries to finance: easyJet did this from internal funds and sale/leasebacks. Ryanair used ExIm Bank guaranteed loans for most of its deliveries, with some sale/leasebacks.

AF-KLM's "subsidiary acquisition" in Table 27 was the positive inflow of cash resulting from the consolidation with KLM. SAS acquired the outstanding shares it did not already hold in Spanair, and made good its significant cash shortfall by

sale/leasebacks on 14 aircraft (including newer A340s) and the sale of 9 older aircraft.

Table 27: Cash flow summary for major EU airlines, 2004

€ million	AF-KLM	BA	Iberia*	Lufthansa	SAS	easyJet	Ryanair	TOTAL
Cash flow from operations	1,955	1,532	559	1,881	85	246	504	6,761
Purchase of fixed assets	-2,131	-442	-349	-1,647	-336	-545	-619	-6,070
Acquisitions of subsidiaries/associates	506				-67	-5		-227
Disposals of subsidiaries/associates	109	610	25	497				1,241
Sale of fixed assets			227		730	454	2	1,413
New equity issued			22	740				762
New debt/loans	858	171	44	641	n/a	97	550	2,360
% new fixed assets from cash flow	92	100	100	100	25	45	81	100
Exchange rate €/local currency	1.00	1.47	1.00	1.00	9.13	1.47	1.00	

* Iberia company, not group; Source: Airline annual reports for 2004

British Airways disposed of its shares in Qantas, and Lufthansa, Iberia and AF-KLM their shares in Amadeus.

Lufthansa was the only airline issuing new equity in a rights issue: in June 2004, 76.32 million shares were offered to existing shareholders on the basis of 1 for 5 at a price of €9.85. With 99.8% of the shares taken up, this enlarged the share capital by 20%, and raised €740 million.

SECTION 6

AIRPORTS

6. Airports

6.1 General traffic trends

ACI airports recorded strong, world-wide growth in 2004. Reflecting the regional growth reported in other sections of this report, Asia Pacific airports were in the lead of 2004's recovery in demand for air transport, showing double the rate of growth seen in European passenger demand (Figure 46). European airports posted significant increases in traffic, somewhat ahead of gains seen in North America.

Cargo traffic performance recorded the same ranking among the three regions. The corresponding increase in European cargo traffic was 8.0%, one percentage point above North America's growth, but well below the 14% recorded by Asia Pacific airports.

Figure 46: 2004 traffic change over 2003, ACI airports by region

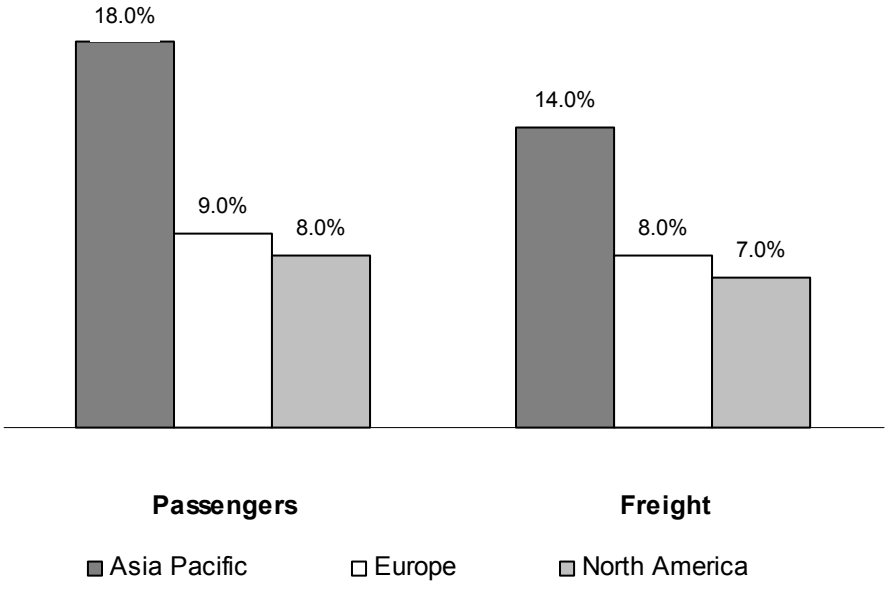
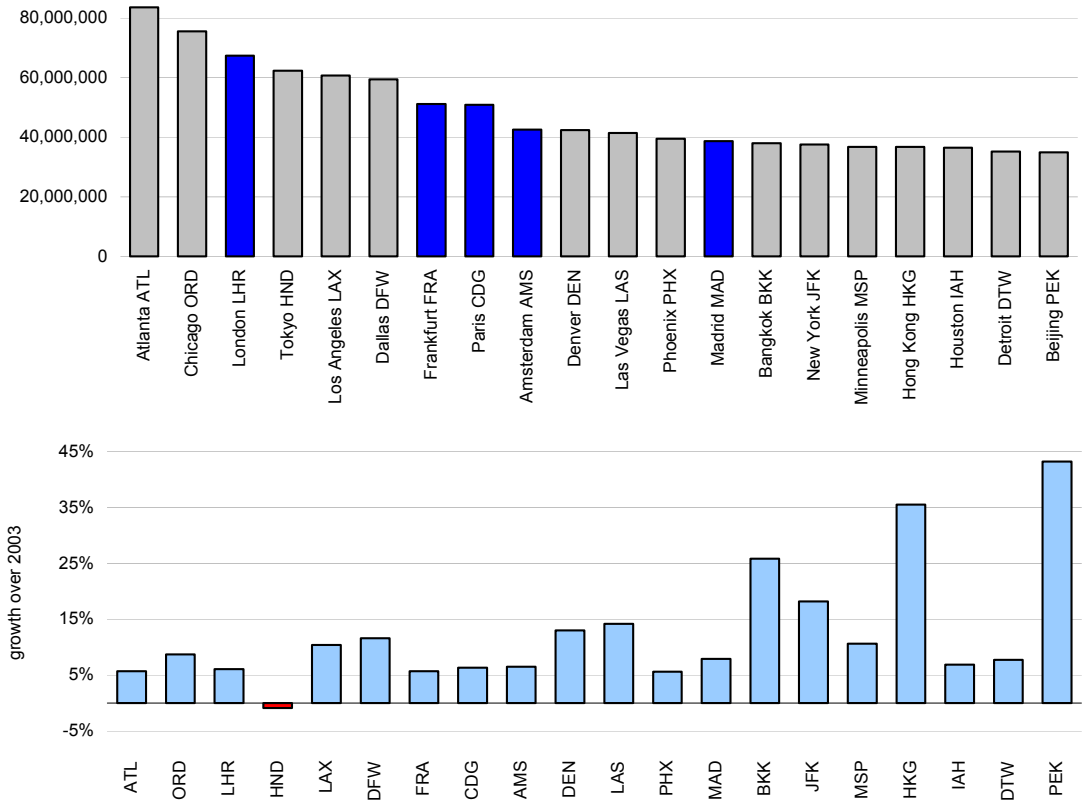


Figure 47 shows the place of European airports within the world's twenty busiest. US airports dominate the group in terms of passenger traffic. Europe's busiest airports, London Heathrow, Paris Charles de Gaulle and Frankfurt, grew in terms of annual passenger throughput by around 5%, a lower rate than that achieved at some of the busier US airports such as Los Angeles and Dallas Fort Worth. Madrid was Europe's fastest growing airport in the world's top twenty, increasing its passenger traffic in 2004 by 7.5%.

However, the fastest growing airports in 2004 were in the Asian region, reflecting that region's rapid recovery from depressed levels brought about by the SARS epidemic. Hong Kong and Bangkok posted annual growth rates of over 25%, while Peking reached almost 50%.

Figure 47: Eurpopean airports in the world's top twenty (by passenger traffic), 2004



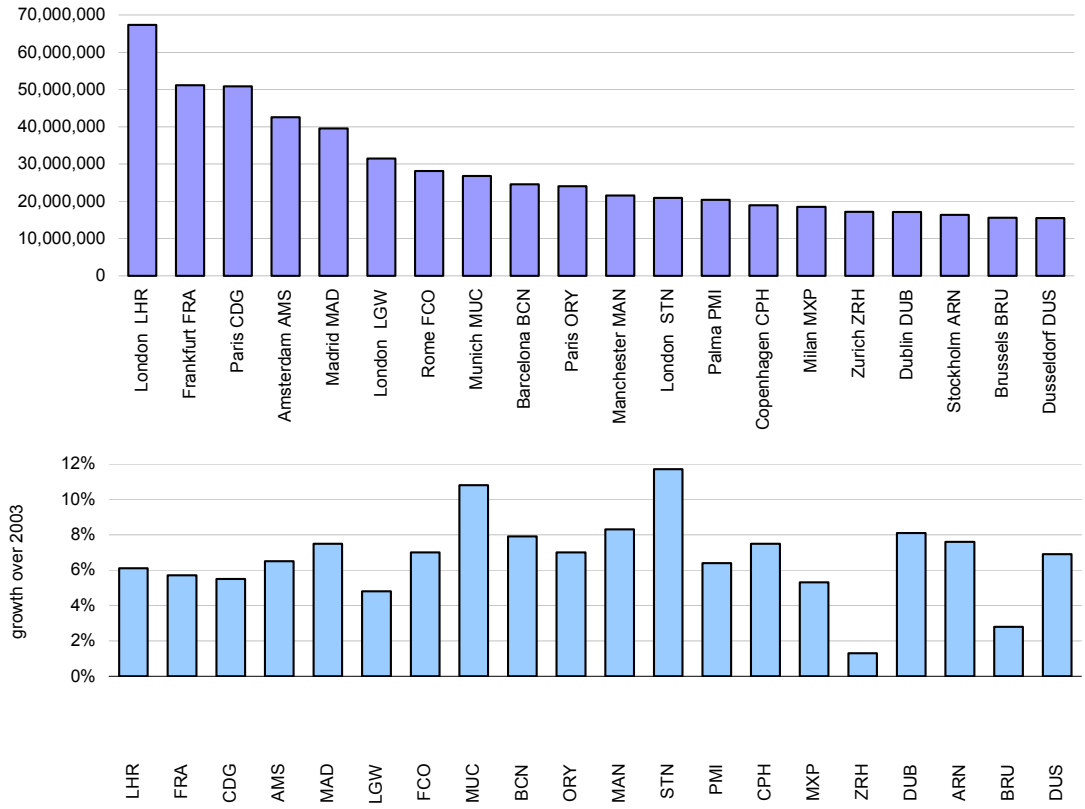
Source: ACI

Tokyo's domestic airport, Haneda, was the exception to the ACI story of growth. The fall in passenger traffic here is attributable to the significant increase in service level and frequency offered on rail services between Tokyo and major cities in Japan. October 2003 saw the introduction of Nozomi trains on trunk routes, running at up to 270 km per hour. The Tokyo Kyoto line offered seven of these services each peak hour.

6.2 Traffic growth at European airports

Average year-on-year growth of passenger traffic in 2004 at Europe's top twenty airports was 6.6%. As seen in the preceding section, this is below growth rates achieved by a number of airports in the Asia Pacific region. However, the average masks very high growth at a number of airports and quite disappointing performance in passenger terms at one of the continent's largest hubs. While London's Stansted and Munich airport both recorded annual increases in passenger traffic of over 10%, Zurich struggled to achieve 1% traffic growth and Brussels managed to return just 3%.

Figure 48: Passenger traffic, 2004, at the top 20 ACI Europe airports

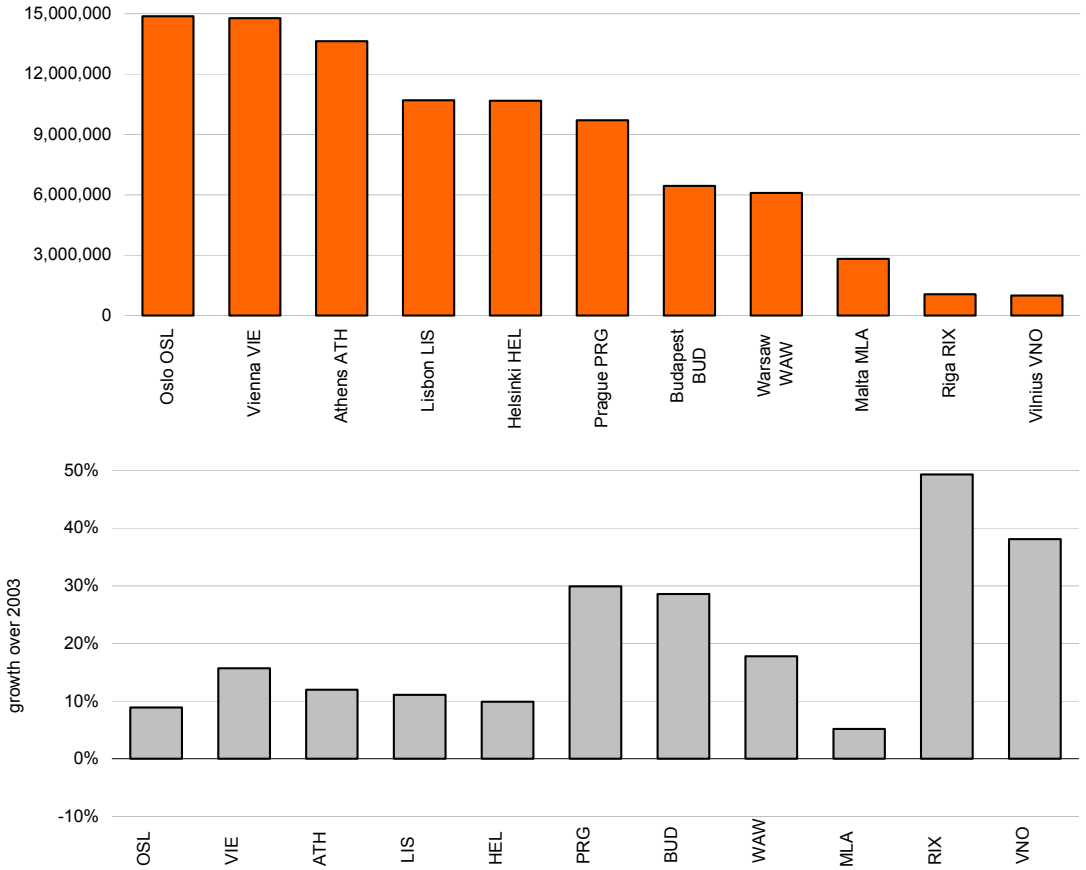


Source: ACI Europe

There was significant levels of growth in passenger traffic at many of Europe's smaller airports.

Of these, the accession states figured among those returning the highest growth statistics. At Riga traffic increased by almost 50%, Vilnius grew by 40% while Prague and Budapest reported growth exceeding 25%. Quite clearly the activities of low-cost carriers were essential to fuelling, and maintaining this level of expansion (Figure 49).

Figure 49: Passenger traffic, 2004: selection of smaller EU airports



Source: ACI Europe

6.3 Developments in airport ownership

The top twenty airport authorities (turnover) in the European Economic Area are listed in Table 28. Also included are the top two airport authorities from the group of accession states. The table also lists the core airports (fully owned) associated with these entities. Some airport authorities such as Flughafen Munchen and Athens International are responsible for managing one airport while there are several examples of airport authorities managing networks of airports such as BAA, Aena and Avinor.

Table 28: Top twenty EEA airport operators and top two from accession states

	Core airports
BAA (UK)	Heathrow, Gatwick, Stansted, Aberdeen, Edinburgh, Glasgow, South'ton
Aena (Spain)	Madrid, Barcelona and 44 other Spanish airports
Fraport (Germany)	Frankfurt Main
Aéroports de Paris (France)	Paris Charles de Gaulle, Paris Orly, Paris Le Bourget and 10 airfields
Schiphol Group (Netherlands)	Amsterdam, Rotterdam, Lelystad
Flughafen München (Germany)	Munich
Luftfarstverket (Sweden)	Stockholm Arlanda, Gothenburg & 17 other Swedish airports
SEA Aeroporti di Milano (Italy)	Milan Linate, Milan Malpensa
Avinor (Norway)	Oslo, Bergen and 44 other Norwegian airports
Aeroporti di Roma (Italy)	Rome Fiumicino, Rome Ciampino
Manchester Airports Group (UK)	Manchester, East Midlands, Bournemouth, Humberside
Dublin Airport Auth'y (Ireland)	Dublin, Cork, Shannon
Flughafen Wien (Austria)	Vienna
Unique Zurich Airport (Switz'd)	Zurich
Copenhagen Airport (Denmark)	Copenhagen Kastrup, Roskilde
Athens International (Greece)	Athens
Flughafen Düsseldorf (Germany)	Düsseldorf
BIAC (Brussels)	Brussels
CAA Finland (Finland)	Helsinki and 25 other Finnish Airports
Flughafen Koln-Bonn	Koln-Bonn
Polish Airports State Ent (Poland)	Warsaw, Rzeszów, Zielona
Czech Airports Auth (Czech Rep)	Prague *

* Ostrava, Brno and Karlovy Airports were all managed by the Czech Airports Authority to July 1 2004. They were subsequently transferred to local ownership and control.

Table 29 lists the proportion of share capital held by the private sector, national government, regional government and municipal authorities in 2004. Of the 22 airports included in the list, only one is managed by a fully privatised entity while another nine airport authorities are part-owned by the private sector.

The vast majority of airports listed are predominantly owned by public sector institutions. However, it should be noted that the public sector stake in Aeroporti di Roma is very small. In 2004, the French government outlined its intention to part-privatise Aéroports de Paris while the Belgian government sold 70% of its stake in Brussels International Airport to Australian-based venture capital company, Macquarie.

Five of the airport operators listed in Table 29 have either all or a proportion of their shares listed on their respected national stock exchanges. For other privatised airports, such as Aeroporti di Roma, Athens and BIAC, shares are held by either a single or group of strategic airport investors (e.g. Macquarie, Hochtief).

Of the 22 airport operators included in Table 29, eleven have established overseas operations, taking advantage of increased opportunities afforded by the proliferation of airport privatisations since the mid-1990s. These overseas interests are either in the form of equity stakes, concession agreements or management contracts.

Table 29: Share ownership structure 2004

	Private Sector	National Government	Regional Government	Municipal
BAA	100			
Aena		100		
Fraport	29.40	18.30	31.90	20.40
Aéroports de Paris		100		
Schiphol Group		75.80		24.20
Flughafen München		26.00	51.00	23.00
Luftfarstverket		100		
SEA Aeroporti di Milano	0.88		14.56	84.56
Avinor		100		
Aeroporti di Roma	96.99		1.58	1.43
Manchester Airports Group				100
Dublin Airport Authority		100		
Flughafen Wien	60.00		20.00	20.00
Unique Zurich Airport	47.84		46.76	5.40
Copenhagen Airport	60.80	39.20		
Athens International	45.00	55.00		
Flughafen Düsseldorf	50.00			50.00
BIAC	70.00	30.00		
CAA Finland		100		
Aeroportos de Portugal		100		
Polish Airports State Enterprise		100		
Czech Airports Authority		100		

Source: complied from airport annual reports and other sources

Equity stakes are usually in the form of minority shareholding in consortia that include other investors. Also fairly common is the retention of some degree of government control through minority equity stakes in partially privatised airports (e.g. Brussels) or through the establishment of long-term concession agreements with airport investors (e.g. London Luton airport).

Table 30: Interests in other airports, 2004

	N America	Europe	Middle-East / Africa	Asia	South & Central America	Australasia
BAA	Baltimore Pittsburgh Indianapolis Boston	Naples	Oman *			Australia Pac Perth Melbourne Launceston N Territories
Aena					GAPA Mexico Cartagena Calli Barranquilla	
Fraport		Hahn, Hannover Antalya		PIATCO	Lima	Brisbane
Aéroports de Paris		Liege		Beijing Phnom Penh Siem Reap		
Schiphol Group	JFK (IAT)	Eindhoven			Aruba	Brisbane
Flughafen München			No other airport interests			
Luftfarstverket			No other airport interests			
SEA Aeroporti di Milano		Naples Orio al Serio Rimini			Argentina Guayaquil	
Avinor			No other airport interests			
Aeroporti di Roma		Genova SAC	ASA			
Manchester Airports Gr			No other airport interests			
Dublin Airport Authority		Birmingham Dusseldorf Hamburg				
Flughafen Wien		Istanbul Malta Riga Cuidad Real	Tehran			
Unique Zurich Airport				Bangalore	Porlamar Calama La Serena Puerto Mont	
Copenhagen Airport		Newcastle		Hainan	ASURMexico	
Athens International			No other airport interests			
Flughafen Düsseldorf			No other airport interests			
BIAC			No other airport interests			
CAA Finland			No other airport interests			
Flughafen Koln-Bonn			No other airport interests			
Polish Airports State Ent		Bydgoszcz Gdańsk Katowice Kraków Poznań Szczecin Szczytno-Szymany Wrocław				
Czech Airports Authority			No other airport interests			

* BAA hacquired a 25% stake in Oman Airports Management company in 2001, but pulled out late 2004

6.4 Regulation / government policy

The European Commission published the findings of an investigation into the legality of a fifteen year agreement between the Walloon Regional Government and Ryanair regarding the carrier's use of Charleroi airport in Belgium. The Commission concluded that aspects of the deal were incompatible with the functioning of the internal market. This focussed on state aid awarded by the Walloon Regional Government to Ryanair to promote new services from Brussels Charleroi Airport. The Commission ruled that concessions awarded to Ryanair were not transparent and were discriminatory as the same terms and conditions were not offered to all carriers. Ryanair was required to pay back a proportion of the aid that it received. The low cost carrier subsequently launched an appeal against the decision.

The European Commission approved aid awarded by the Tuscan regional authorities in Italy to Aerelba the owner of Marina di Campo airport on the island of Elba to develop and expand facilities. The Commission concluded that the aid was not likely to distort competition within the EU.

The European Commission dropped infringement proceedings against the UK government in relation to its "golden share" in the airport operator BAA. The European Court of Justice had ruled in 2003 that the "golden share" was in violation of the principles of free movement of capital. The UK Government moved to comply with the ruling. However the EC issued infringement proceedings because the BAA article of association contained a 15% voting right limit. Infringement proceedings were lifted when the UK Government gave assurances that the voting rights would be amended at the next company AGM.

The European Commission permitted €1 million of state aid awarded by the Catalan Government to a local airline Intermed SL to launch a Madrid-Gerona route as part of a strategy to promote air services at Gerona.

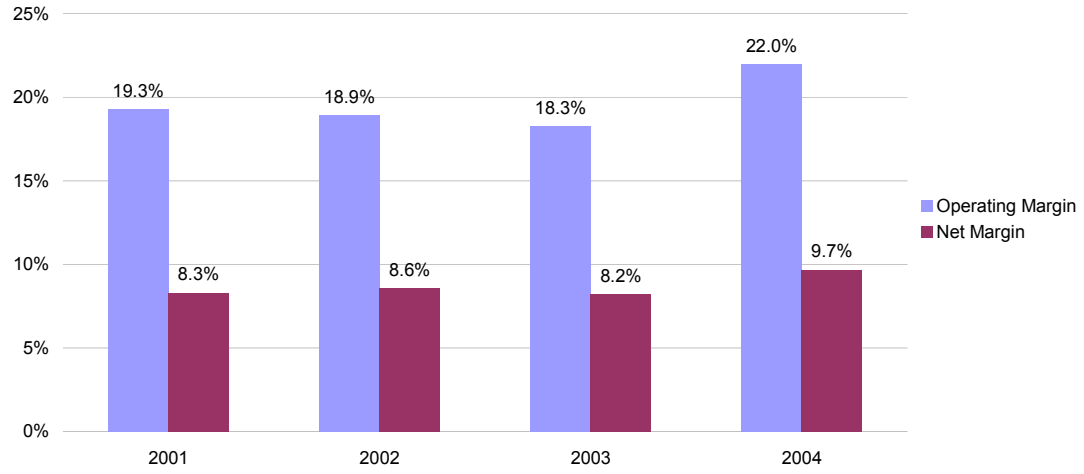
The European Commission approved the proposed takeover of the company that operates Brussels National Airport, BIAC by Macquarie Airports. Macquarie airports were seeking to secure a 70% shareholding in BIAC.

6.5 Financial performance

Figure 50 shows the average operating and net margins for the group of EEA airport operators referred to earlier, covering the financial years 2001 to 2004.

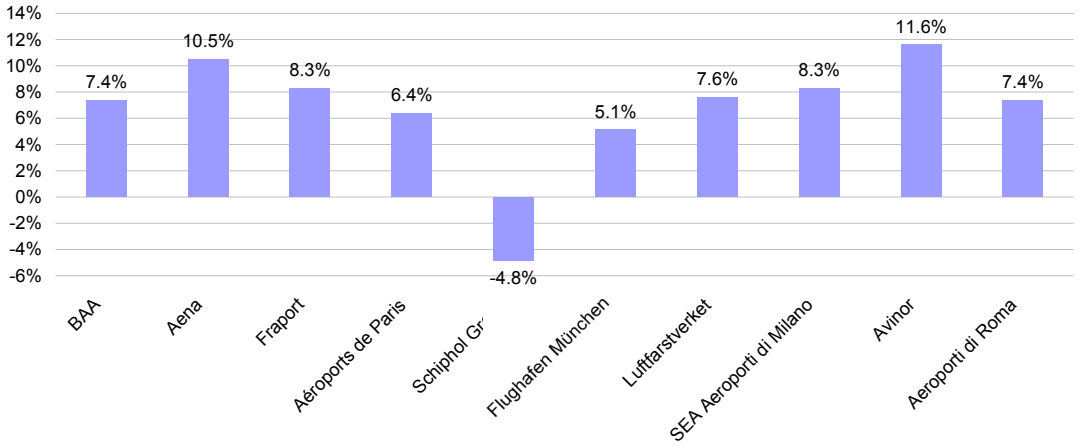
Aggregate operating and net margin results for 2004 were both higher than in 2001. There was a slight reduction in operating margin from 2001 to 2003 followed by a significant increase to 2004.

Figure 50: Aggregate results for some leading EEA airport operators 2001 -2004.



Between 2001 and 2003 airport revenue streams appear to have been impacted initially by the effects of September 11 followed by general airline capacity downsizing, particularly evident in several domestic markets. Airport operators have also had to incur additional security costs over this period. Both operating and net margin results improve sharply between 2003 and 2004 on the back of rising airline traffic volumes at major airports. Nine out of the top ten EEA airport operators achieved an increase in operating revenue between 2003 and 2004.

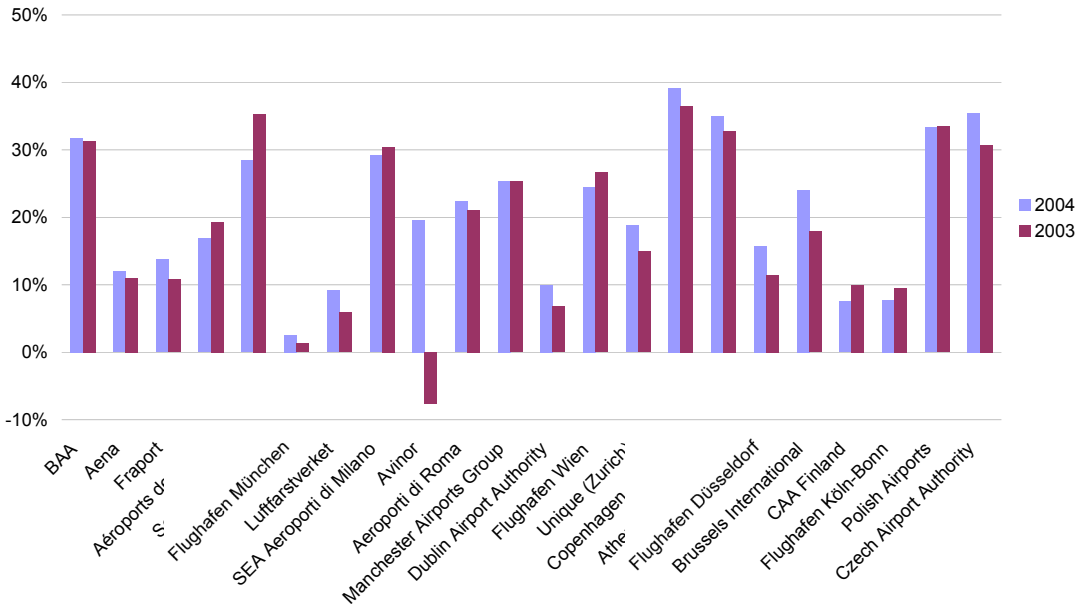
Figure 51: Change in operating revenues, top ten EEA airport operators, 2004 v 2003



Significant growth was reported by both Avinor and Aena. All operators, with the exception of the Schiphol group, achieved growth in excess of 5%. The reduction at Schiphol was entirely due to the effects of exceptional items.

Figure 52 shows operating margin achieved by the group of EEA airport operators in 2003 and 2004. The majority achieved an improvement in margin especially Avinor where operating margin was adversely impacted by the effects of company restructuring in 2003.

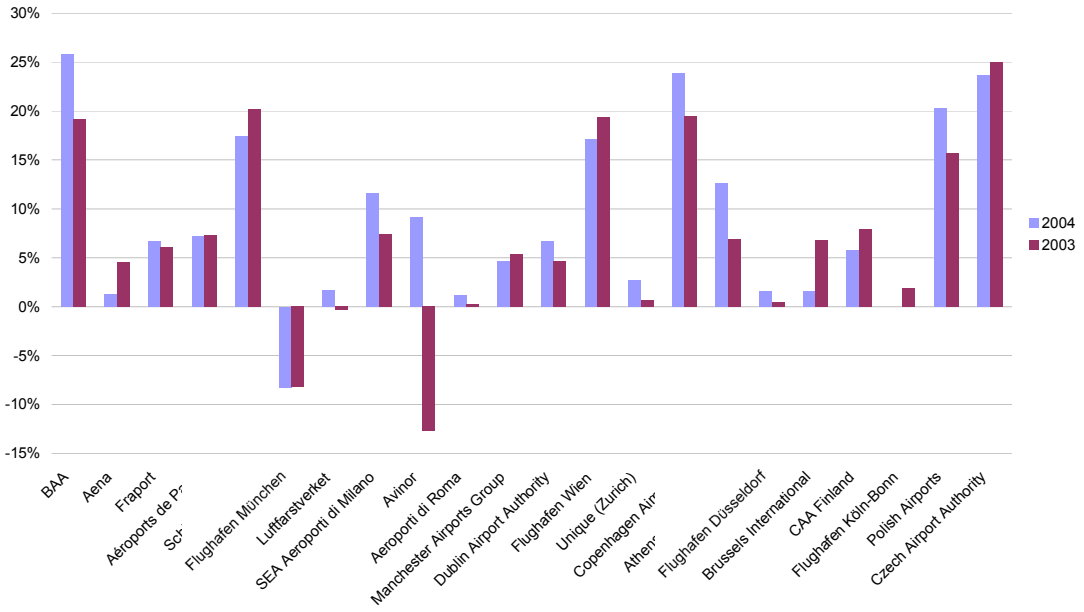
Figure 52: Operating margins, EEA operators, 2003 and 2004



Incorporating the effects of interest income and expenses and taxation fourteen operators achieve an improvement between 2003 and 2004. Munich airport appears to have been affected by high interest payments incurred on debt related to the financing of a second terminal.

High operating and net margins achieved by BAA, Flughafen Wien (Vienna) and Copenhagen Airports appear to indicate a strong relationship between margin and ownership as all three have been majority-owned by the private sector for many years. But both Polish and Czech state-owned operators also achieved high operating and net margin results.

Figure 53: Net margin by EEA operator 2003 and 2004



6.6 Key developments EEA top ten airport operators

BAA

BAA secured a ten-year contract to provide retail management services at Baltimore Washington Airport in the United States. BAA already operates retail management contracts at Pittsburgh and Boston Logan in addition to a general airport management contract at Indianapolis.

BAA outlined a series of additional investments at its London airports. Gatwick will receive £840 million and Stansted £600 million while additional investment at Heathrow has been approved in order to enable the airport to accommodate A380 operations. BAA also announced plans to develop a second terminal at Glasgow International to cater for low cost carriers.

The UK government announced that it was dropping its annual aircraft movement limit at London Stansted airport. The airport's annual capacity was previously limited to 185,000 movements under a 5-year legal obligation established by the UK government.

BAA generated £672 million operating revenue in financial year 2004-5, an increase of 7.4% on 2003-4. Operating margin in 2004-5 was 32% a slight improvement on 2003-4 while the company recorded a net margin of 28% in financial year 2004-5. Overall passenger numbers handled by all seven core airports increased by 6.3% with strongest growth recorded at Southampton (13%) and London Stansted (9%).

Aena

Aena announced that it was giving Iberia and its oneworld partners the go ahead to occupy the new Terminal 4 at Madrid. Under the new arrangements, Star Alliance carriers will use Terminal 1 and part of Terminal 2 while Skyteam airlines will use both Terminals 3 and 2.

Aena's operating revenue increased from €1.9 billion in 2003 to €2.1 billion in 2004. There was a slight improvement in operating margin from 11% to 12% over the same period. However, there was a reduction in net margin from 5% to 1%. There was an 8% increase in passenger traffic and 4.5% increase in commercial aircraft movements over the period. The highest rates of passenger growth were recorded at Gerona (105%), Reus (34%) and Jerez (32%); all three airports served by low cost airline Ryanair.

Fraport

Fraport reduced its stake in Frankfurt Hahn Airport from 73% to 65% after selling a proportion of its shares to the State of Hesse for €20 million. The funds will be used to contribute to a €42 million development programme at Hahn. The State of Hesse already controls 32% of shares in Fraport.

The State of Hesse which is also responsible for planning applications in relation to Fraport indicated that a new runway for Frankfurt Main will not come into operation until 2009. It also approved a zoning application submitted by Fraport to build an A380 MRO base at Frankfurt Main.

Fraport established a new subsidiary, Fraport Cargo Services, to focus on offering freight handling facilities to airlines.

Aéroports de Paris (AdP)

AdP announced that it was going to invest €100 million in preparing Charles de Gaulle for A380 operations. This follows the decision by Air France to place an order for the aircraft. The additional investment will be used to finance work on extending taxiways and aircraft stands.

AdP announced the termination of its international airport development partnership with Vinci. AdP will assume 100% control of their joint venture company, AdP Management.

The French government presented a bill before the country's National Assembly to transform AdP from a state enterprise into a public limited company paving the way for the company's eventual partial privatisation.

AdP secured the contract to run five Egyptian Airports; Sharm El-Sheikh, Hurghada, Luxor, Aswan and Abu Simbel. This contract is in addition to its existing contract at Marsa Alam Airport

AdP's two major airports, Charles de Gaulle and Orly, processed together 6% addtional passengers in 2004 compared to 2003. Operating revenues for the company increased by 6.4% while operating margin declined slightly from 19% to 18%. Net margin remained unchanged at 7%.

Schiphol Group

Schiphol Group and Sweden's Luftfartsverket launched a joint-venture company, Arlanda Schiphol Development Company AB, to manage retail facilities in Stockholm Arlanda's North Terminal.

Schiphol Group signed a two-year strategic partnership agreement with the Government of Aruba to provide commercial management advice to operators of the Island's Queen Beatrix International Airport.

The Netherlands government announced its intention to begin the process of privatising Schiphol Group through selling a large tranche of its shares in the company. The final decision on privatisation needs to be made by the national parliament. The government also gave the go-ahead for construction of a new passenger terminal at Eindhoven.

Operating revenue was lower in 2004 compared to 2003 due to the effects of exceptional items unrelated to business activity. There was also a decline in operating margin from 35% to 29% mainly due to rises in a number of operating expenses, especially charges for depreciation. Net margin also fell from 20% to 17%. Both passenger and cargo traffic handled by the Schiphol Group at its core airports increased by 7.6% between 2003 and 2004, with particularly sharp growth recorded at Rotterdam (78%).

Flughafen München

The Bavarian Ministry of Transport issued Flughafen München with a permit to handle Airbus A380 operations. The airport's Terminal 2 which opened in 2003

was designed to handle A380 operations through making available two pier positions and three boarding bridges.

Operating revenues generated by Flughafen München increased by 5% to €655million. In spite of higher costs associated with the new second terminal, operating profit margin increased from 1.26% to 2.53%. High interest costs mean that the airport company incurred net losses in both 2003 and 2004. The net margin in 2004 was -8.2% which was unchanged from 2003.

Passenger traffic at Munich increased by 11% between 2003 and 2004 largely as a result of the development of hub and spoke operations at the airport by Lufthansa.

Luftfartsverket (Sweden)

Luftfartsverket announced a new airport charges initiative designed to stimulate domestic passenger traffic at its airports. The scheme involves reductions in passenger facilities charges at all its airports for domestic flights.

Lufttfartsverket completed a runway extension at Örnsköldsvik airport increasing the length of the runway from 1,800 metres to 2,000 metres.

Luftfartsverket submitted a recommendation to the Swedish Government which involved transferring ownership of Norrköping and Jönköping airports to local and regional interests. Both airports had been particularly badly affected by the slump in domestic air travel in Sweden and as a consequence were both incurring large operating losses.

Passenger traffic handled by Luftfartsverket airports increased by 5% between 2003 and 2004, with a high proportion of growth generated by international services. Operating revenue increased by 7.6% over the same period while operating margin increased from 6% to 9%. The Swedish airport group moved from a net loss in 2003 to a small net profit in 2004. Luftfartsverket also manages Sweden's air navigation system and in 2004 was also responsible for civil aviation regulation.

SEA Aeroporti di Milano

SEA Aeroporti di Milano together with the Eurnekian Group of Aregentina were awarded a 15-year concession to operate Guayaquil Airport in Ecuador.

SEA's operating revenue increased by 6% to €458 million in 2004 while there was a very modest decline in operating margin from 30% to 29%. Net margin increased from 7% in 2003 to 12% in 2004.

Passenger traffic handled by its two core airports (Linate and Malpensa) increased by 4.2% over the period 2003 to 2004. Higher growth was recorded at Orio al Serio where SEA has an equity stake in the company that manages the airport. Developments by various low cost carriers generated 17% passenger traffic growth between 2003 and 2004.

Avinor

The Norwegian airports operator, following a poor financial performance in 2003, announced a series of cost-cutting measures in 2004 mainly in its air navigation business. One significant initiative was the decision to reduce the number of air traffic control centres from four to two. Operating revenue increased by 11.5% to

€607 million while there was a significant improvement in operating margin over the same period from -7% to 19%, in spite of incurring higher security costs. Net margin also improved markedly from -13% to 9%.

Aeroporti di Roma

Aeroporti di Roma reported an increase of 7.3% in operating revenue to €567 million in 2004 while operating margin increased slightly from 21% to 22%. There was also an improvement in net margin from 0.2% to 1.14%.

Aeroporti di Roma's two airports, Fiumicino and Ciampino collectively experienced a 9% increase in passenger traffic between 2003 and 2004. However growth was much higher at Ciampino over the period (43%) compared to Fiumicino (7%). All of the traffic growth was in the international market as there was a slight fall in domestic traffic handled over the period due primarily to reductions in airline capacity on domestic routes.

6.7 Departure delays

The Association of European Airlines publishes annual data of the punctuality of their members, both by airline and by major European airport. Departure punctuality is defined as the percentage of flights operated that arrive within 15 minutes of their scheduled arrival time.

Table 31: Arrival punctuality by AEA airline

	Arrival Punctuality <15 mins		
	2003	2004	%pts change
Finnair	91.3	89.8	-1.5
Luxair	91.1	86.9	-4.2
SAS	89.1	86.0	-3.1
Spanair	85.1	84.9	-0.2
Tarom	84.5	84.7	0.2
SN Brussels	88.7	84.2	-4.5
JAT	82.5	83.4	1.0
Lufthansa	84.1	83.1	-1.0
Malev	85.3	83.1	-2.2
KLM	85.7	82.4	-3.3
Air France	78.7	82.3	3.6
LOT	86.5	81.8	-4.7
Alitalia	68.0	81.5	13.5
Cyprus Airways	78.4	81.5	3.1
Iberia	81.1	79.9	-1.3
Croatia	78.0	79.5	1.4
Swiss	78.3	79.4	1.0
Adria	83.2	78.9	-4.3
Austrian	81.6	77.1	-4.5
British Airways	79.8	76.7	-3.1
British Midland	80.4	76.6	-3.8
Czech	69.8	76.0	6.2
Olympic	75.6	74.6	-1.1
Air Malta	81.2	73.9	-7.2
Icelandair	80.3	68.2	-12.1
TAP	67.3	64.3	-3.0
TOTAL	82.0	83.2	1.2

Source: AEA

Arrival punctuality improved by 1.2% points in 2004 compared with the previous year, in spite of a significant deterioration for some of the larger members such as BA and SAS. Alitalia was much improved, and Air France also made good progress.

Departure punctuality for the AEA airlines as a whole was only marginally up in 2004. Similar trends were evident as for arrivals, at least in terms of the direction of change. Finnair slipped somewhat but remained close to the top of the table.

Table 32: Departure punctuality by AEA airline

	Departure Punctuality <15 mins		
	2003	2004	%pts change
Tarom	92.6	92.3	-0.3
Luxair	93.1	89.6	-3.5
Finnair	91.0	89.0	-2.0
SN Brussels	91.8	88.2	-3.5
SAS	90.3	87.1	-3.1
JAT	84.6	85.5	0.9
Czech	78.4	84.7	6.2
Cyprus Airways	82.9	84.2	1.2
Alitalia	75.1	83.9	8.8
Spanair	84.0	83.9	-0.1
LOT	89.0	83.8	-5.2
Lufthansa	82.9	83.6	0.7
Air France	81.5	83.1	1.6
Malev	86.0	83.1	-2.9
Adria	85.8	82.2	-3.6
Iberia	83.8	82.2	-1.6
Croatia	80.6	81.3	0.7
British Midland	81.6	79.2	-2.4
Austrian	83.8	78.3	-5.4
KLM	81.2	78.0	-3.3
British Airways	80.5	77.4	-3.1
Swiss	75.9	76.8	0.9
Icelandair	84.4	75.6	-8.8
Olympic	76.6	75.4	-1.2
Air Malta	77.4	74.4	-3.0
TAP	71.8	69.4	-2.4
TOTAL	83.1	83.7	0.6

Source: AEA

AEA also reports reliability for their members: the percentage of flights departing as a percentage of the total that were scheduled to operate/ This is consistently very high, as was above 97% for all members, with some reporting figures that were close to 100%.

Table 33 shows that the airlines with the worst punctuality record also tend to operate from main bases with poor punctuality.

The five worst of the major airports in terms of departure punctuality were the main hubs for BA, Swiss, Austrian, Iberia and KLM respectively.

An AEA survey covering 27 airports reveals member airlines experienced delays exceeding fifteen minutes on 22% of intra-European departures between July and September 2005. This represents a deterioration from the same three-month period in 2004, but hides an improvement in August set against a significant drop in

punctuality in the other two months. The reasons for delay were little changed over the previous year, the majority due to infrastructure constraints. The five airports experiencing the highest rates of delay remained unchanged. These were Istanbul, Athens, London Gatwick, Rome and London Heathrow.

Table 33: AEA departure punctuality by major European airport

	% flights > 15 mins		
	2003	**2004**	**%points change**
Oslo	11.1	12.9	1.8
Helsinki	10.8	13.0	2.2
Brussels	11.1	13.9	2.8
Duesseldorf	16.1	13.9	-2.2
Copenhagen	10.5	14.1	3.6
Stockholm	12.2	14.4	2.2
Larnaca	16.8	15.3	-1.5
Geneva	16.1	15.9	-0.2
Milan Linate	17.1	16.3	-0.8
Gatwick	14.2	16.9	2.7
Paris Orly	16.5	17.2	0.7
Lisbon	18.1	18.0	-0.1
Athens	19.2	18.1	-1.1
Frankfurt/Main	16.7	18.2	1.5
Milan Malpensa	24.4	18.6	-5.8
Manchester	18.8	19.3	0.5
Barcelona	21.3	20.7	-0.6
Munich	22.7	20.7	-2.0
Istanbul	23.5	22.6	-0.9
Paris CDG	24.4	22.7	-1.7
Dublin	20.3	23.5	3.2
Rome FCO	28.7	23.5	-5.2
Amsterdam	19.7	23.6	3.9
Madrid	22.0	23.7	1.7
Vienna	18.6	24.8	6.2
Zurich	29.9	26.1	-3.8
Heathrow	22.4	27.8	5.4

SECTION 7

AIR TRAFFIC CONTROL

7. Air Traffic Control

7.1 Galileo

Introduction

Much of the news on the proposed Galileo satellite navigation system in 2004 concentrated on discussions with the United States on transmissions specifications, the groups bidding for the Galileo concession, enlargement of the stakeholder group and, at the end of the year, approval to move from development to deployment.

Transmission specifications

At the beginning of 2004 USA officials were quoted as saying that an agreement on a compatible signal structure for the USA and European satellite navigation systems could be months away despite a recent advance in negotiations. The European Commission had been considering a compromise offered by USA government officials that could end the long-running feud over signal structures for the USA global positioning system and Europe's Galileo programme. Both sides have continued to wrangle over the signal modulation standard for Galileo's free open service. USA sources claimed that the European standard would limit the Pentagon's freedom to deny access to Galileo or GPS navigation signals in a war zone. The question was: why should the USA be able to deny access to Galileo?

However, by March 2004, the European Commission had reversed its initial opposition to using US-defined transmission specifications for military operations under its satellite positioning system Galileo. The EC agreed to adopt the binary offset carrier (BOC) 1.1 standard rather that the preferred choice of BOC1.5, to integrate with the planned new M-code military signal for the rival USA global positioning system. Under the agreement, reached in February 2004, the USA will lose its right to jam European signals and veto future Galileo development. The deal cleared the final hurdles and paved the way for future commercial development of the European system.

Finally, in June, the European Union and USA resolved the last of their differences on the competing satellite navigation systems. This will allow the USA's Global Positioning System (GPS) and Europe's Galileo to co-exist without creating security risks. Officials from both sides announced at a 21st June press briefing that a final agreement on GPS/Galileo was set to be signed at the upcoming EU-USA summit in Ireland on 26th June.

The agreement essentially resolved the few remaining legal and procedural aspects left after the two sides met in February 2004 to work out operational issues, most notably a signal structure that would not degrade the navigational warfare capabilities of USA and NATO military forces or interfere with the classified M-Code used by the US military. Around €300 million will be spent during the development phase strictly on security for Galileo signals.

It should be noted that, while Galileo will in many ways duplicate the functionality of GPS, its technology will be far more advanced until the USA launches the GPS III, which is in the early stage of design. Galileo and GPS III are now set to transmit

a common open signal from both constellations of satellites, creating more benefits to civilian users than previously planned.

Operating concession groups

At the beginning of 2004, concession groups led by EADS, Eutelsat and Finmeccanica were competing for the operating concession for Galileo. A fourth bid, led by German manufacturer OHB, was excluded after the Galileo Joint Undertaking, the European Union / European Space Agency body that runs the programme, decided that the OHB consortium lacked the financial muscle to put the system into operation. The successful bidder, to be selected in late 2004 or early 2005, will have to raise an estimated €2.15 billion ($2.67 billion) that will be needed to put the 30 satellites and two ground control stations into operation.

However, in September 2004, the consortium headed by European satellite operator Eutelsat dropped out of the contest to operate the Galileo navigation satellite system, citing the strict requirements set by the programme. Their departure left two consortia competing for the concession to deploy and operate the constellation of 30 satellites. The Inavsat group is headed by Inmarsat and includes EADSSpace and Thales, while the Eurely consortium is led by Alcatel Space and includes Finmeccanica and Vinci Concessions.

Eutelsat had announced in February that it had been pre-selected for the second phase of negotiations to run the Galileo concession along with consortium members LogicaCMG, Hispasat, Fiat and AENA. Eutelsat said that it had decided that it was not in a position to meet the exact terms of the bids defined by the Galileo Joint Undertaking [GJU], but insisted that it believed in the strategic importance of the Galileo programme. Individual members of the consortium may decide on a unilateral basis to pursue alternative opportunities in Galileo. The decision meant that one of the world's largest satellite operators will not participate in Europe's first major programme to be run on a public private partnership basis.

The GJU, set up by the European Commission and the European Space Agency to manage the development phase of the Galileo programme, was due to report to the EC at the end of September on the two remaining bids and that the EC was expected make its recommendation to the European Parliament and Council of Ministers in October.

Galileo Industries consortium

In 2004, Thales became the sixth member of the Galileo Industries consortium that will be responsible for building the European navigation satellite system. The French company will take a 12% stake in the five-nation partnership. The four main shareholders, France's Alcatel Space, Italy's Alenia Spazio and the German and UK divisions of EADS Astrium, will reduce their holdings from 21% to 19%, while the share held by a grouping of seven Spanish companies will fall to 12%.

Galileo's owners, the European Space Agency and European Union, were expected to award the consortium the €1.1 billion ($1.31 billion) in-orbit verification contract later this year to build the first four test satellites and ground infrastructure. If successful, these will be followed by a further 26 satellites, the so-called full operational capacity phase, between 2006 and the end of the decade.

This was confirmed in December 2004 when the Galileo programme was cleared and financed for its move from development to deployment. Approval for Galileo's deployment funding and go-ahead to launch the satellites and build the ground receiving stations was given by the European Council, and the Commission stated that the system will be operational in 2008.

As a consequence of this, Europe has now ordered the first four satellites for the Galileo satellite navigation constellation through the signing of an initial deal for the programme's in-orbit validation phase. Industrial joint venture Galileo Industries has now signed a €150 million ($200 million) contract with the European Space Agency. It covers, among other aspects, delivery of the first four of 30 satellites as well as supply of a number of ground stations. The overall in-orbit validation phase is valued at around €950 million.

A preliminary experimental phase is already under way with a view to launching a test satellite; two such satellites are being constructed at present, by the end of 2005.

Galileo stakeholders

European Commission officials reached an agreement under which Israel will be able to take a stake-holding in the agency managing the Galileo satellite navigation programme. The agreement, reached after intense discussions between both sides since January 2005, cleared the way for co-operation on satellite navigation and timing in a number of areas, such as manufacturing, service and market development, and will also give Israel the opportunity to contribute financially in the project by taking a share in the management organization, the Galileo Joint Undertaking, which is overseeing its development. The EC-Israeli agreement was submitted to a European Union Transport Council meeting in June for final approval.

This agreement followed a similar agreement with China towards the end of 2003 which laid the grounds for Chinese investors to contribute up to €200 million ($245 million) in the Galileo programme.

In September 2004, European Commission (EC) officials were seeking to begin talks with Ukraine over co-operation in developing the Galileo civil satellite navigation system. It follows a preliminary expression of interest from Ukrainian authorities to participate in the programme. The EC is seeking approval to begin negotiations to seal a formal agreement. Such an agreement would probably cover industrial co-operation, research and financial investment in Galileo.

As noted above, international agreements on Galileo co-operation have now already been signed with Israel and China. Talks are also in progress with Russia, India, Brazil, South Korea, Mexico and Australia.

7.2 European Single Sky

Introduction

Much of 2004 was taken up with securing the agreement of member states to the European Single Sky initiative. Although general agreement was reached early in the year, a number of contentious issues remained to be resolved. This included civil/military cooperation rather than the development of specific rules for

interaction, and legal issues, for example, the merger of air navigation service providers.

In the middle of the year, airspace harmonisation got under way with Eurocontrol initiating a formal consultation process on a common charging scheme, airspace design and the flexible use of airspace and then, later in the year, commencing the procurement phase for its Single European Sky implementation programme. At the same time, National Air Traffic Services (UK) and the Irish Aviation Authority announced plans for a combined airspace study.

Single Sky initiative

In December 2003, Europe's Single Sky initiative to reform air traffic management (ATM) was given the go ahead after transport ministers and the European Parliament agreed a common position. Although the European Commission's (EC) initial outline for the project had been watered down, it still represented the first example of significant co-operation across an entire continent in the ATM sector. The European Parliament had coaxed some major concessions from member states, which had threatened to block progress on key issues of military/civil co-operation and design of functional blocks of airspace based on efficiency rather than national boundaries.

Nevertheless, airspace design still remains in the hands of member states, rather than the Community institutions. However, the states agreed that Eurocontrol, the region's ATM co-ordinator, would be invited to the Single Sky Committee, if appropriate, as observers or experts. The European Parliament had been demanding that Eurocontrol be given official observer status, but then appeared to find this compromise acceptable, believing that this will see airspace designed in consultation with and on the basis of technical advice from Eurocontrol.

As a further consequence of the European Commission signing a memorandum of co-operation with Eurocontrol, this meant that Eurocontrol and the commission will now extend their co-operation to other areas such as research and development, technical information, data collection and analysis in the air traffic and environmental areas, global satellite navigation systems [Galileo] and international co-operation with a view to building a unified European vision of future air traffic management systems.

In March, European legislators formally adopted the conciliation agreement which cleared the way to create the ‘single sky’ concept for pan-European air traffic control. This follows the European Council’s agreement to several crucial European Parliament amendments on civil / military co-operation, the role of Eurocontrol and the idea of ‘functional blocks’ of airspace which would bring several regions under the control of a handful of air traffic centres. This was considered to be a major breakthrough given earlier reluctance by European Union member states to cede exclusive control of their airspace, this being a hurdle that has prevented closer integration of European air traffic management for years on the basis that national defence issues were not a matter for the EU.

The consensus now is that member states should improve civil / military co-operation and facilitate co-operation where necessary between their armed forced in all matters relating to air traffic management.

The Council had also previously opposed the development (with Eurocontrol assistance) of uniform 'functional blocks' of airspace which would be independent of national boundaries. However, this reconfiguration of airspace now also secured Council acceptance. Any dispute between member states over airspace responsibility will be referred to the Single Sky Committee, the body overseeing the programme, which will forward an opinion to the states involved.

At the same time, the agreement resolved issues concerning air traffic controller licensing, a transitional timetable, and the creation of a European lower flight information region. The agreement also enables the creation of an industry consultation body by the European Commission. This body, comprising air navigation authorities, airspace users, airports and industry representatives, will seek advice on the technical aspects of the 'single sky' concept.

Military issues

In February 2004, agreement was reached over military use of airspace. The issue had been delaying implementation of the Single European Sky (SES). Ministers dropped their opposition to the plan after agreeing that the SES proposal will not define the mechanism through which airspace will be shared. Instead, the new draft obliged European Union countries to improve civil/military co-operation and harmonise air traffic management between their respective armed forces.

Military/civilian co-operation is potentially a contentious issue. In economic, social and environmental policies, the Commission has the power to make the law, whereas in areas of common foreign and security policy national governments hold sway. Under current circumstances, therefore, power cannot be given to the Commission for air traffic management while military aircraft use the same airspace as civilian jets. For this reason, the final SES text contained a clause in which countries pledged to co-operate on the military use of airspace, and military representatives will sit on the Single Sky Committee (SSC).

Legal issues

Despite having finally signed off the framework for SES in 2004, European politicians were left with much to discuss. Although final political clearance for the SES was achieved only at the end of 2003, preparations for it had been under way for several years. However, as implementation was planned to start officially in January 2005, there were several issues still to be resolved where conflicts between national and European law could arise. Legal experts consider that the final text of the SES was sufficiently general to win over governments, but leaves a number of areas open to interpretation.

The most important issue is the potential merger and acquisition activity amongst any newly privatised air navigation service providers (ANSP). Although the treaty does not explicitly call for the privatisation of ANSP's, it could have that effect by calling for a "more efficient provision of air traffic management through the establishment of separation between the regulator and the service provider". Some countries, notably Germany, have converted their formerly state-run ANSP's into corporate entities, albeit government-owned, while the UK transferred the ownership of National Air Traffic Services (NATS) to a public-private partnership

that included a consortium of seven UK airlines and BAA, which holds a significant minority share.

Should the UK government decide to sell its 49% equity, and if other nations follow suit, there may be a natural desire to merge operations to increase efficiencies. This will bring the spirit of the treaty into conflict with national laws in many EU countries that enshrine ATM as a matter of strategic national importance, and so not controllable by non-nationals.

Also, although many of the UK carriers with a stake in NATS are eager to dispose of this government-engineered structure, carriers in other countries might be tempted to increase their vertical integration and acquire the old national ANSP. If an airline controlled a majority share in its most important ANSP, this would also contravene competition policy.

Lastly, when ANSP's are freed from direct government control, the role of the state will be more important in monitoring their results in all fields, because ANSP's will have to be certificated by the national aviation authority (NAA), not only for air traffic control, but for other services, such as training and the provision of meteorological and aeronautical data. Under the International Civil Aviation Organisation treaty, states do not have to be the providers of air traffic services, but are responsible for ensuring their provision and quality.

The sharing of airspace between military and civilian areas is not the only vague area of the SES treaty left to lawyers to decipher. Many European Union countries define national territorial areas in their constitution, often extending sovereignty vertically into space. However, unlike other bodies of international law, it is generally recognised that EU law overrides the national laws of its member states. In practice this means that if an aggrieved party, an air traffic controllers' union or a Euro sceptic political party, say, were to launch a legal challenge to the SES on the grounds that it is anti-constitutional, judges would have to take EU supremacy into account.

Finally, there is the question of defining the SES's central concept for the reorganisation of the sky into functional airspace blocks based on operational efficiency rather than national boundaries. Although the implementation of the SES initiative is set to begin on 1 January 2005, the negotiation and design of these blocks is expected to take several years to complete. As an example of potential negotiation / design problems that will be faced, it was believed that the then current French view in 2004 was that one such efficient block of airspace traced the hexagonal borders of France. This was believed to be partly driven by demands by French air traffic controllers to avoid job losses, and as such is an invalid argument.

Arguments over the exact shape of each block will be mediated by the Single Sky Committee, and if a government were to consistently refuse to consider the Committee's opinions and cede parts of its airspace for reasons other than operational efficiency, then it is believed that the EC could launch legal action for treaty breach. This complaints procedure can take up to a year and therefore legal action is likely to be the last resort.

Implementation

In July, Eurocontrol initiated a formal consultation process on a common charging scheme, airspace design and the flexible use of airspace. These are three of the

seven mandates which it is overseeing for the Single European Sky programme. Eurocontrol proposed to retain the present charging scheme formula, which is largely based on distance flown and the square root of the maximum take-off weight of aircraft. This is an issue which had become controversial given that the same air traffic control service has to be granted to all commercial aircraft, regardless of size, although the counter-argument is that larger aircraft generate additional revenues per traffic movement.

Eurocontrol also proposed to harmonise and simplify upper airspace classification, airspace above flight level 285 will be defined as ICAO Class C, and apply common principles to the design of upper airspace air traffic services routes and air traffic control sectors. Its consultation will extend similarly to the implementation of flexible use of airspace; with particular attention paid to the importance of civil/military co-operation. Eurocontrol stated that the proposals had been drawn up with the assistance of a range of stakeholders and that consultation would ensure a timely and effective dialogue with the stakeholders in order to take into account their views and demands. The airspace design and flexible use of airspace consultation period remained open until 27 August while the charging scheme period remained open until 17 September.

In November, Eurocontrol stated that they were preparing to enter the procurement phase for its Single European Sky implementation programme, known as SESAR (previously as SESAME), and were inviting potential bidders to participate in an information session on the project objectives In December.

The SESAR programme, being conducted in association with the air traffic management industry, covers the technical implementation of the Single European Sky initiative. European Commission officials have agreed to fund 50% of the definition phase for SESAR, including the development of a European air traffic management 'master plan', for which Eurocontrol was seeking interested parties. The master plan was to cover the phased introduction of new technologies and functions within the European ATM system. The phase periods are set for 2007, 2012 and 2017.

The UK air navigation provider, NATS, and the Irish Aviation Authority announced that they were to study the ramifications of combining their airspace regimes into a single 'functional block' in line with the 'Single European Sky' initiative. The providers planned to commission the study from an independent consultant and initial findings were anticipated in 2005.

Combining the two countries' airspace into a single functional block would raise a number of issues. NATS is a privatised company with a separate regulator while the Irish Aviation Authority is state-owned and acts both as service provider and regulator. The study would assess the consequences for the organisations' legal and regulatory frameworks, as well as address matters such as charging structures, the UK being one of the most expensive navigation regions in Europe, with a unit rate nearly three times that of Ireland.

As of the end of 2004, Europe's efforts to link airspace regions have so far been limited to the creation of the Maastricht upper airspace zone above the Benelux countries and parts of Germany and the proposed Central European Air Traffic Services (CEATS) upper airspace region involving eight countries in southern and

central Europe. Studies have also been conducted with a view to establishing a combined Nordic airspace zone.

7.3 Community air traffic controller licence

The Single European Sky package tackles different forms of fragmentation through a number of initiatives such as certification of air navigation service providers, establishment of functional airspace blocks, harmonisation of airspace classification, and interoperability of equipment.

The Community air traffic controller licence also does this through the establishment of Community rules leading to higher levels of competence which will become more comparable at European level. This is all the more important as air traffic management is a labour-intensive industry with a market of about €6bn. About 60% of air navigation costs are personnel-related.

In 2001, the EU air traffic management industry had an overall labour force of about 33,000, some 35% or about 13,500 of them air traffic controllers. The profession of air traffic controller holds a key position in the safety chain. The directive would cover all these air traffic controllers, together with military controllers involved in the provision of air traffic control to general air traffic.

Adoption of the four regulations composing the Single European Sky package will fundamentally change the air traffic management landscape. This complementary proposal for a Community air traffic controller licence is important for several reasons. The licence contributes to the *balance* between the different elements of the Single European Sky package, to ensure that not only institutional, economic or technical aspects are dealt with, but also social aspects. The licence is part of a wider *safety policy* enshrined in the package: it should provide the opportunity to revise or reinforce safety aspects of air traffic management and introduce high standards for the training system. The Single European Sky legislation will lead to the establishment of *cross-border* functional airspace blocks. The consolidation process of air navigation service providers will require more flexible use of manpower. The licence will facilitate the organisation of transnational work. The proposed directive will recognise *training* as a specific service and contribute to the quality of the different types of training. The certification process would effectively create a level playing field for training services.

7.4 Delays

Eurocontrol produces delay statistics from two sources: the Central Office for Delay Analysis (CODA), which obtains data direct from airlines; and the Central Flow Management Unit (CFMU) which compares scheduled with actual slot times.

CODA's annual report for 2004 reports total flights (from CFMU data) to have increased by 4.5% for 2004 compared to 2003, to reach almost nine million flights. Domestic traffic accounted for 37% of 2004 traffic and rose by just over 1%, while international traffic was up by 7%.

The average delay per departure (all causes of delay) was 10 minutes in 2004, up by 7.5% on 2003. For arrivals, the average delay was 10.4 minutes, an increase of 4.9%.

Around half of departure delays in 2004 were attributed to airlines, 19% to airports and 11% to en route flow control. The latter two causes fell slightly compared to 2003. Weather was also slightly improved in terms of causing departure delays.

Airport delays are due to a variety of causes. Some stem from government agencies such as security, immigration, customs and health; others are due to restrictions at either origin or destination airport. This could be because of runway closure or restrictions, night curfews, noise abatement, industrial action, or staff shortages.

Table 34: Primary causes of departure delays, 2004 vs 2003

Percent	2003	2004	+/- % pts
Airline	47	51	4
Airport	21	19	-2
En-route	13	11	-2
Weather	13	11	-2
Security	4	4	0
Miscellaneous	2	4	2
Total	100	100	

Source: eCODA

Air Traffic Flow Management (en route) delays could be because of capacity/demand problems, military exercises, reduced capacity stemming from industrial unrest or staff shortages, equipment failure, and weather.

Table 35: Average ATFM delay in minutes, 1997 to 2004

Minutes	Airport	En route	Total	% airport
1997	0.74	2.12	2.86	25.9
1998	0.72	2.83	3.55	20.3
1999	0.83	4.49	5.32	15.6
2000	0.85	2.89	3.74	22.7
2001	0.79	2.47	3.26	24.2
2002	0.74	1.42	2.16	34.3
2003	0.77	0.92	1.69	45.6
2004	0.81	0.85	1.66	48.8

Source: CFMU

Focusing on ATFM delays, it can be seen from Table 35 that airports have increased over the past seven years to almost equal en-route delays in 2004. However the average delay from each cause was less than one minute, compared to 10 minutes for overall flight delays.

The twenty most affected country/city pair flows produced an average CFMU delay of 4.4 minutes, the highest being UK/Ireland to Greece/Cyprus with 6.07 minutes, followed by the Nordic States to the Paris airports of 5.67 minutes.

SECTION 8

THE ENVIRONMENT

8. The environment

8.1 Noise

Early in 2004, ICAO's Committee on Aviation Environmental Protection (CAEP)[2] recommended further reductions in aircraft noise and exhaust pollution. This guidance material will be reviewed in ICAO before being submitted to ICAO's 35th Assembly later in the year. It is designed to assist states implement a 'balanced approach' to noise management." This approach consists of four principal elements: the reduction of engine and aircraft, or source, noise; land use planning and management; noise abatement operational procedures; and operating restrictions on aircraft.

CAEP/6 also recommended alternative administrative systems for noise certification documentation; further guidance on recertification of engines; and guidance to assessing the environmental benefits of noise abatement operating procedures.

8.2 Aircraft engine emissions

In February 2004, CAEP/6 recommended a new NOx standard that is 12% stricter than the levels agreed to in 1999. The new standard formally takes effect in January 2008 and the situation will be further reviewed when CAEP/8 meets in 2010.

As regards market-based measures to counter the impact aviation's emissions on climate change, CAEP/6 was unable to reach agreement on further guidance to states on emissions charges and the Assembly decided such charges could not be introduced unilaterally for this purpose until after further consideration of the next Assembly in 2007. However CAEP recommended, and the subsequent ICAO Assembly approved, the concept of including international aviation in States' wider emission trading schemes consistent with the UN Framework Convention on Climate Change and Kyoto Protocol.

ICAO also approved a model voluntary agreement to reduce emissions and recommended voluntary trading be investigated. And, at EU's instigation, the Assembly also noted, though without changing it, that the long standing ICAO policy of exempting aviation fuel from tax no longer enjoyed unanimous support among all contracting States.

Eurocontrol is carrying out research into aircraft condensation trails (contrails) involving air traffic management (ATM) procedures to route aircraft around the pockets of cold, damp air that lead to their formation. The technique is one of several options being studied by the organisation as part of efforts to alleviate the environmental impact of civil aviation through ATM measures. Eurocontrol estimates that the introduction of reduced vertical separation minima has reduced annual CO_2 emissions by 975,000t - equivalent to 5,600 transatlantic flights.

Towards the end of 2004, the EC began work to consider the possibility of including aviation in the EU's emission trading scheme (which began operating on 1 January 2005). It commissioned a study of the technical and legal feasibility of doing

[2] Composed of 19 member states, airlines, airports, aircraft manufacturers and other industry representatives.

this.The study complemented prior studies into the use of other economic instruments to reduce aviation emissions - taxation (1999) and emission charges (2002).

This was followed up by a report from a UK House of Lords committee urging the UK government to take the lead on getting aviation included in the EU ETS, once they take over the presidencies of both EU and G8 in 2005.

The Canadian airline trade group, the Air Transport Association of Canada (ATAC), has reached an 'agreement in principle' with the country's government to take voluntary steps to reduce greenhouse gas (GHG) emissions over the next seven years. The agreement, which still requires formal signature by the ATAC, outlines a plan for Canadian carriers to improve fuel efficiency, thereby reducing their collective GHG emissions by an average of 1.1% a year.

Table 36: Fuel consumption for major EU airlines, 2004 vs 2003

	Fuel consumption RTK/gallon		Average sector	Average fleet
	2004	% change vs 2003	length (km)	Age (years)
Air France-KLM	10.7	4.1	1,316	9.4
British Airways	9.6	4.0	2,432	8.5
Lufthansa	9.0	2.4	1,228	9.3
Iberia	7.8	6.8	1,241	n/a
SAS	5.3	4.8	854	9.0
Total/Average	9.3	3.8	n/a	

Source: Airline annual and environmental reports

Table 36 shows that, of the EU majors, Air France-KLM achieve the best fuel performance, especially taking into account their sector distance and fleet age. Iberia does worst, but still have an older fleet, and is catching up. SAS is penalised by operating over shorter sector distances, with a higher proportion of heavier fuel consumption in the take-off and landing phase of flight. The above change on the year of 3.8% suggests the ACARE target of a 50% reduction in CO_2 per passenger-km over a 20 year timespan may be achievable.

Table 37: Change in tonnages of pollutants emitted: major EU airlines, 2004 v 2003

% change	CO_2 emissions	NOx emissions
Air France-KLM	4.6	4.3
British Airways	2.4	n/a
Lufthansa	9.6	7.1
Iberia	3.9	2.1
SAS	6.3	3.3
Total/Average	5.5	5.3
Total RTKs	9.5	0.0

Source: Airline annual and environmental reports (BA does not report NOx)

Table 37 compares the change in the two main climate change pollutants emitted in 2004 with the previous year. Both increased by just under 6% and traffic rose by almost 10%, giving a significant improvement in emission rate. British Airways reported the slowest increase, but their traffic also expanded more slowly than the other airlines.

SECTION 9

CONSUMER ISSUES

9. Consumer issues

It appears that leisure travel is growing faster than business travel as low cost carriers generate traffic. For example, the table below shows leisure travel into and out of six principal UK airports to a number of European countries growing more quickly than business travel. In 1996 the leisure market represented 55.8% of the passengers, however over the seven year period leisure travel grew more quickly (at 9.4% pa) than business travel (just 2.5% pa) and by 2003, the latest year available, the leisure market represented 66.6% of the market.

Table 38: Scheduled passengers ex-UK airports by purpose of travel

	2003 Passengers		1996 Passengers		Annual % growth 1996 - 2003		Leisure share	Leisure share
Destination	**Business**	**Leisure**	**Business**	**Leisure**	**Business**	**Leisure**	**1996**	**2003**
Austria	315,357	782,086	307,545	513,818	0.36	6.19	62.6%	71.3%
Belgium	856,444	728,307	992,136	577,808	-2.08	3.36	36.8%	46.0%
Denmark	720,890	1,077,308	631,075	718,399	1.92	5.96	53.2%	59.9%
Finland	254,223	250,375	216,752	226,525	2.30	1.44	51.1%	49.6%
France	2,328,962	5,029,358	2,098,315	2,822,137	1.50	8.60	57.4%	68.3%
Germany	3,323,932	4,916,891	2,933,951	3,380,707	1.80	5.50	53.5%	59.7%
Luxembourg	82,690	72,928	106,668	54,178	-3.57	4.34	33.7%	46.9%
Netherlands	1,967,767	2,446,149	1,656,336	1,756,224	2.49	4.85	51.5%	55.4%
Portugal	384,056	1,397,200	314,238	677,386	2.91	10.90	68.3%	78.4%
Spain	1,581,031	7,522,923	873,923	2,182,573	8.84	19.34	71.4%	82.6%
Sweden	642,887	1,242,262	625,562	605,603	0.39	10.81	49.2%	65.9%
Switzerland	1,309,332	2,076,950	1,078,062	1,409,122	2.82	5.70	56.7%	61.3%
Total	14,162,671	28,243,490	11,929,660	15,076,150	2.48	9.38	55.8%	66.6%

Source data aggregated from CAA surveys (Incl. LCY, LGW, LHR, LTN, MAN, STN)

9.1 The business travel market

The business travel market has seen a marked change in recent years but remains vital to the airline industry. The airline industry has long relied on the business travel market as a major source of profit. As illustrated in Table 39, although only 15% of the IATA airlines' capacity is allocated to Business Class, it generates 28% of revenue. More importantly, the operating profit margin from Business Class in 2002 was 29% compared to just 5% from Economy Class.

Table 39: Passenger services results by class of service (2002)

Class of Service	Capacity ASK %	Load Factor %	Yield per RPK USc	Revenue %	Operating Ratio Revenue as % of Total Costs
First	2.4	36	23.5	3.8	73
Business	14.8	52	18.8	28.1	129
Economy	82.8	77	5.5	68.1	105
Total	100.0			100.0	

Source: Airline Economic Results and Prospects, IATA Airline Economic Task Force, December 2003

First Class does not usually generate profits, which explains why many airlines have removed or reduced the size of first class cabin.

A survey by Company Barclaycard shows that the proportion of business passengers that have used low cost carriers for business trips has risen to 69% in 2003/4 compared to just 28% in 1998/9 (see Table 40).[3] This is due not only lower fares but the fact that business passengers have more choice of business destinations by low cost airlines.

Table 40: Business travel behaviour and attitudes

Traveller behaviour and attitudes	1998/99	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004
Use low cost airlines for business travel?	28%	39%	53%	62%	-	69%
Travellers used e-tickets	19%	31%	46%	57%	64%	67%
Percentage of annual business travel in Business Class	33%	28%	32%	41%	38%	27%
In general do you think Business Class provides value for money?						
Yes	24%	25%	24%	37%	-	15%

Source: Company Barclaycard, Business Travel Survey (1999 – 2005)

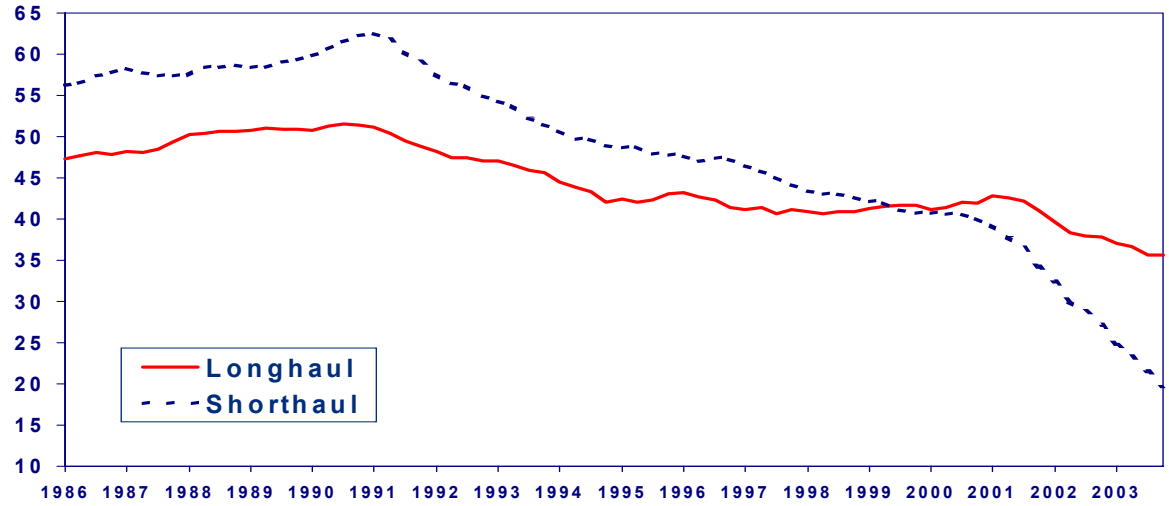
CWT Solutions Group research[4] confirms that business travellers are not only prepared to give up extra comfort in favour of economy class on short haul European flights, but are also willing to trade ticket flexibility in return for low fares. A Cranfield University study shows that low cost carrier provision of ticket flexibility on-passenger-demand has meant business travellers are increasingly only prepared to pay for ticket flexibility when they need to change their tickets.

The decline in business passengers travelling in business class on British Airways is ullustrated in

Figure 54. The number of short haul European business class trips from the UK has fallen dramatically from nearly 65% in 1991, to 25% in 2003. It is forecast that as few as 15% of short haul business trips will be taken in business class by 2006.[5]

[3] Company Barclaycard, Business Travel Survey, 2003/4
[4] European Air Trend Survey, Carlson Wagonlit Travel, 2004
[5] Growth and restructuring in the global airline industry. Presentation at Cranfield University by Dr Andrew Sentance of British Airways, 7 October 2003

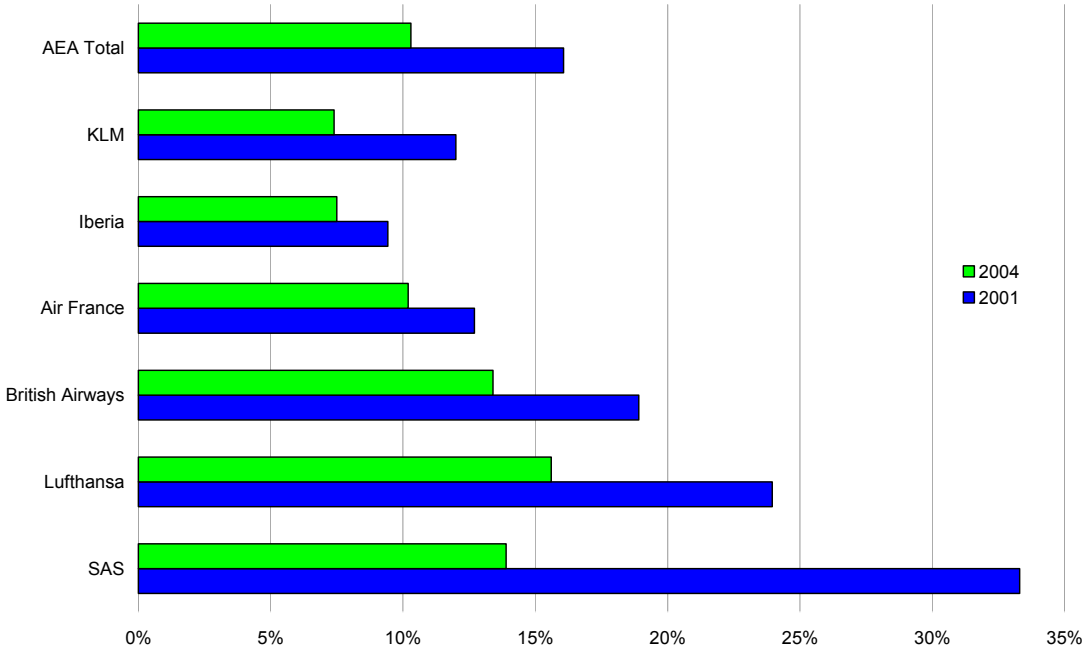
Figure 54: Percentage of business travellers in premium cabins, 4 quarter average



Source: British Airways, 25.08.04

Figure 55 shows the decline in proportion of passengers using Business Class products has been similar to the experience of British Airways for many other European carriers. SAS and more recently bmi have had the most significant switch away from Business Class while Lufthansa has been most successful in minimizing the change in behaviour, although the very significant growth of low cost carriers in Germany in 2004 may mean significant declines in business class passengers may be observed in future studies.

Figure 55: Decline of intra European business class passengers (2001 - 2004)

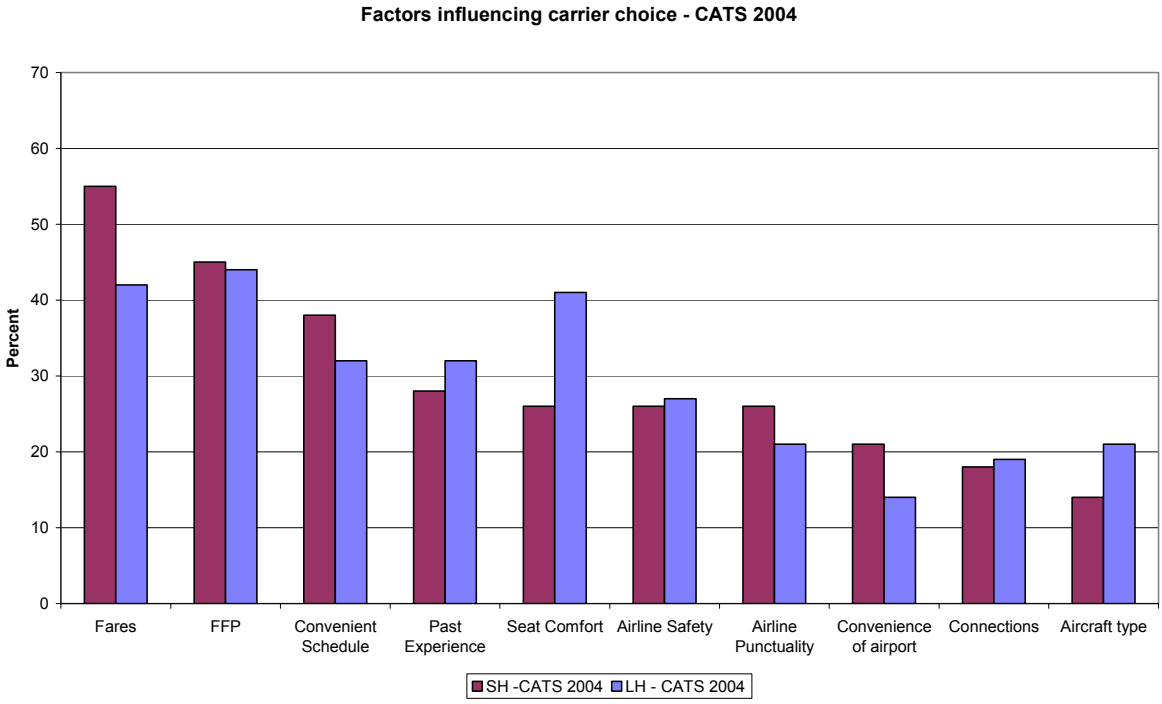


Source: AEA

Another major change in the travel market is that business passengers have embraced the internet as a major distribution channel. It appears that corporates increasingly book simple point-to-point trips online and more complex itineraries are dealt with by their Travel Management Companies (TMCs)[6].

The latest IATA Corporate Air Travel Survey shows (Figure 56) that price has become the principal determinant for short haul business travellers with FFP points and convenient schedule being next most important.

Figure 56: Factors influencing carrier choice (2004)



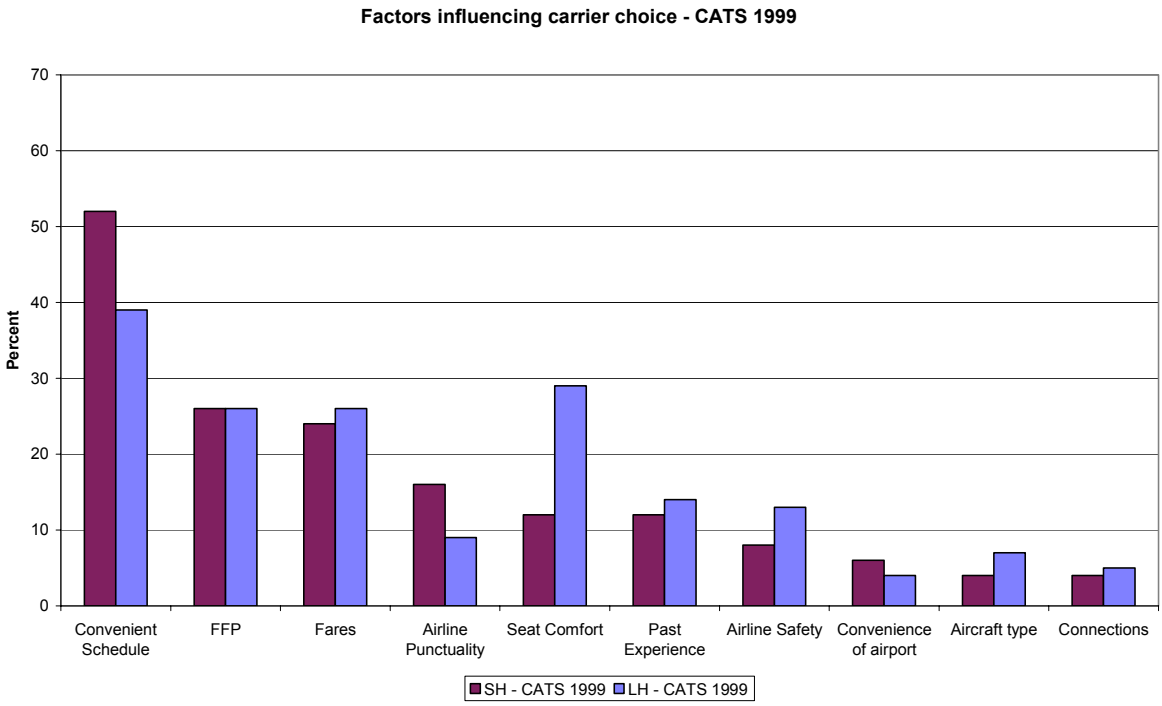
Source: Corporate Air Travel Survey, IATA, 2004

For long haul travel, seat comfort, price and FFP seem to be the principal purchase factors, although price would seem to be relatively less important than for short haul travel.

Figure 57shows the results of a similar survey undertaken in 1999. We can see how the customer choice was more focused on the convenience of the schedule than price or FFP rewards. The growth of competition in the market, combined with a general economic downturn, has meant that business travellers have become increasingly price sensitive.

[6] Results from a survey undertaken on behalf of Association of Corporate Travel Executives by Cranfield University

Figure 57: Factors influencing carrier choice (1999)



Source: Corporate Air Travel Survey, IATA, 1999

Table 41: Annual spend on business travel per capita

		2004		
Rank	**Country**	**Spend ($ bn)[1]**	**Popn (mill)[2]**	**Per capita ($)**
1	USA	168	295.7	568.14
2	Japan	65	127.4	510.20
3	Germany	50	82.4	606.80
4	UK	41	60.4	678.81
5	France	39	60.7	642.50
6	Italy	38	58.1	654.04
7	Spain	15	40.3	372.21
7	Canada	14	32.0	437.50
9	Netherlands	11	16.4	670.73
10	Australia	10	20.1	497.51

Sources: World Travel & Tourism Council, [2] CIA Fact book

The table shows that the UK, Netherlands, France, Italy and Germany are the highest per capita spenders on business travel, spending significantly more than other leading economies such as the US and Japan.

9.2 The leisure travel market

As in the business travel market, the changes in socio-economic factors, growth of low cost airlines, and ease of access to internet have had a profound impact on leisure passengers' travel patterns in 2004.

Europeans tend to enjoy long paid annual leave. Table 42 illustrates the annual leave entitlement in a number of large countries in Europe for 2004. There appears to be some variation in leave entitlements among states, with those in Western Europe tending to enjoy more generous holiday provision than their neighbours in the East. Comparing the holiday taking pattern in 2004 with that in 2003 shows that while, as one would expect, the duration of holiday entitlement has not changed, the proportion of people who take holidays has slightly declined in 2004 in Germany, UK and Italy. Overall, it can be seen that a large proportion of the population in all the selected countries take advantage of their holiday entitlement. This should certainly have a positive impact on air travel within and from Europe.

Table 42: Paid holiday in major European countries (2004)

	Paid holidays	Total holidays including public holidays	% of population taking a holiday	
			2003	2004
Germany	25	45	75%	74%
France	25	48	74%	74%
UK	20	33	70%	68%
Spain	20	44	51%	52%
Italy	26	40	89%	87%
Czech Republic	15	35	83%	83%
Poland	20	38	54%	54%

Source: Euromonitor, various country reports

In recent years there has been a trend towards a greater number of shorter trips by European travellers. Traditionally, a single long holiday each year was the norm. However, there seems to be a growing trend to split the annual holidays and take shorter breaks. Table 43 illustrates the annual growth rate in the number of short and long holidays. It can be seen that short breaks of 4 to 7days are increasingly popular in the majority of the European countries in the sample.

Table 43: Leisure trips by length of stay - average annual % growth (2000 - 2004)

	1-3 days	4-7 days	More than 7 days
Germany	0	10.2	-7.5
France	-85	66.7	9.2
UK	0	0	0
Spain	1.3	3.3	4
Italy	4.8	4.9	-5.5

Source: Euromonitor, various country reports

Another trend is the decline in the number of travellers opting for package holidays. For example, in 2003, for the first time ever, the number of independent holidays taken by UK travellers exceeded that of inclusive tours. The number of independent travellers in 2004 is estimated to be 55% of all overseas holidays. The increase in

popularity of independent holidays appears to be largely due to the internet and growth of low costs airlines, enabling travellers to book directly with the suppliers. Almost three quarters of UK independent holiday makers are travelling by air, and the popularity of such holidays is expected to increase further at the expense of inclusive tours, especially for trips within the EU.

The internet has had a profound impact on the way consumers search for and book their holidays. The fact that the majority of bookings with low cost airlines are made through the internet has led to the growth in popularity of this channel, and in turn has made comparison of airline prices much easier, putting further pressure on airline fares.

The trend in leisure passengers indicates that they expect and will continue to expect low fares. Low fares have been the main stimulus for growth in leisure travel, with leisure passengers being prepared to switch destination for good deals.

SECTION 10

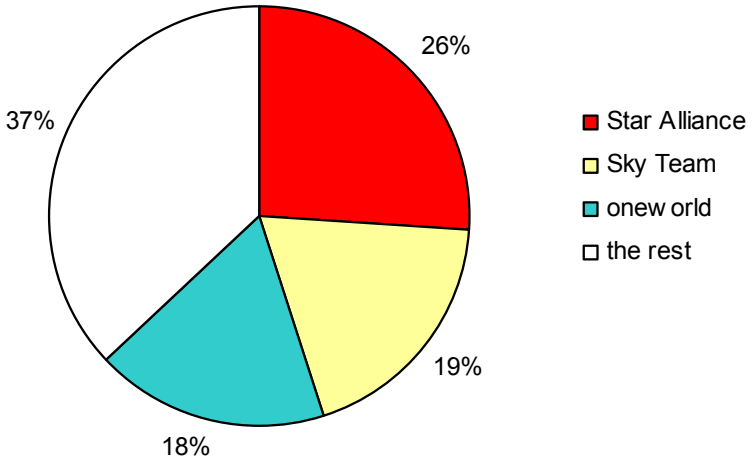
AIRLINE ALLIANCES

10 Airline alliances

10.1 Performance of the major global alliance groups

Three global alliances, Oneworld, Skyteam and Star, counted for 65% of world RPK produced by IATA airlines in 2003, breaking down into 63% of international RPK, and 67% of domestic. In 2004, the alliances' share of world-wide passenger-kilometres fell slightly, to 63%. In these terms, Star was the largest of the three, accounting for just over one-quarter of world RPK. Major airlines not included in the three alliance groups featured in Figure 58 include Emirates, Malaysia Airlines and Japan Airlines.

Figure 58: Share of IATA airlines' traffic by alliance group, 2004



Source: IATA

According to IATA's Corporate Air Travel Survey, Star's lead was mirrored in customer awareness, topping the response to the question "Which airline alliance have you heard of?" in Asia/Pacific, Europe and North America by a comfortable margin. From the same survey, only between 20% and 40% of respondents were aware of the existence of Sky Team, between 40% and 60% were aware of Oneworld, but over 80% knew about Star.

10.2 Strategic partnerships and European airlines

Collaboration has always been an integral part of the European airline business. Airline alliance activities in 2004 showed no sign of slowing, as the industry witnessed a large number of tactical partnerships, and a handful of strategic partnerships. This report focuses mainly on strategic partnerships as the tactical co-operation is very narrow and prevails in only one field such as code-sharing agreement, designed mainly to reap benefits in the short term although they could act as stepping stones to deeper partnerships. A list of all agreements involving European carriers in 2004 is presented in Table 44.

The philosophy behind the strategic alliances has continued to encompass the following factors:

- Increase in the level of traffic through access to new markets and traffic feed which otherwise would not have been possible
- Ability to code share, which has the effect of upgrading an interline connections to on-line status, offering substantial advantages in selling, especially in terms of CRS display.
- Greater market power through increased joint market share, frequent flyer programme combination, ease of baggage transfer, single check-in for multiple sector trips and shared airport lounges
- Increases in load factors through improved traffic feed, and through fares
- Joint scheduling and hub co-ordination to increase operational efficiency
- Cost reductions through the operation of joint services and rationalisation of schedules, reciprocal sales arrangements, joint ventures such as catering and maintenance, and joint purchasing of supplies
- Improving customer benefits

The year 2004 witnessed a few strategic partnerships involving share-holding investments:

Following announcement in 2003 by KLM and Air France of an unprecedented consolidation, the carriers gained approval of the European and US competition authorities in early 2004. In May 2004 Air France acquired 86% of KLM's share capital. Later in the year France sold 18.4% of its equity stake in Air France-KLM, reducing its stake to just under a 20% holding in the company. The move was in line with arrangements which were agreed between the French and Dutch states under the two national carriers' merger deal.

Since the merger, the combined operation of these two airlines has done well in terms of traffic, revenue and profit. In November 2004 Air France-KLM Group reported pre-tax profits of €289 million for the second quarter, a strong improvement on the €210 million posted by the newly consolidated European airline group for the same period in the previous year. The two airlines have also been successful in integrating their networks. The airlines common strategy on the connectivity of Paris CDG and Amsterdam which are the two best hubs in Europe has played an important role in the success of their alliance. Despite some concern at the time of the airlines' alliance, the integration and cooperation of their workforce has also gone well. It seems the adopted strategy of the gradual integration of AF and KLM operation coupled with being based at the two best hubs in Europe has enabled the airlines to achieve their goal of profitable growth.

Another partnership involving equity deal was by FL Group who made its first significant investment in October 2004 with the purchases of 10.1%.of stock in the low cost airline easyjet. This appeared to be part of the company's investment policy to make investments in sectors where the group has specialised knowledge. The investment in easyjet was based on FL Group's views that Icelandair's structure is closer to the European low-cost airlines than its traditional carrier counterparts.

Table 44: Airline alliances commenced by EU airlines in 2004

Airline 1	Global Alliance	Alliance Type	IATA Code	Airline2	Year Started
Air Europa		Codeshare	AM	Aeromexico	2004
Air France	SkyTeam	Codeshare	QF	Qantas Airways	2004
Air France	SkyTeam	Codeshare	KL	KLM	2004
Air France	SkyTeam	Codeshare	CZ	China	2004
Air France	SkyTeam	Codeshare	MA	Malév	2004
Air France	SkyTeam	Codeshare	VN	Vietnam Airlines	2004
Austrian	Star Alliance	Codeshare	SQ	Singapore Airlines	2004
Austrian	Star Alliance	Codeshare	MK	Air Mauritius	2004
bmi	Star Alliance	Codeshare	SQ	Singapore Airlines	2004
bmi	Star Alliance	Codeshare	UL	SriLankan Airlines	2004
British Airways	oneworld	Codeshare	JL	Japan Airlines	2004
CSA Czech Airlines	SkyTeam	Marketing Alliance	KE	Korean Air	2004
CSA Czech Airlines	SkyTeam	Codeshare	VV	AeroSvit Airlines	2004
Iberia Airlines	oneworld	Codeshare	CX	Cathay Pacific	2004
Iberia Airlines	oneworld	Codeshare	MN	Comair	2004
Iberia Airlines	oneworld	Codeshare	MX	Mexicana	2004
KLM		Codeshare	AF	Air France	2004
LOT Polish Airlines	SkyTeam	Codeshare	AC	Air Canada	2004
LOT Polish Airlines	SkyTeam	Codeshare	TP	TAP Air Portugal	2004
Lufthansa	Star Alliance	Codeshare	FM	Shanghai Airlines	2004
Maersk Air		Codeshare	CO	Continental Airlines	2004
Malév		Codeshare	AF	Air France	2004
Malév		Codeshare	HU	Hainan Airlines	2004
Malév		Codeshare	SN	SN Brussels	2004
Malév		Codeshare	TP	TAP Air Portugal	2004
Olympic Airlines		Codeshare	CY	Cyprus Airways	2004
SN Brussels		Codeshare	MA	Malév	2004
SN Brussels		Codeshare	FV	Pulkovo Aviation	2004
SN Brussels Airlines		Codeshare	AT	Royal Air Maroc	2004
SN Brussels Airlines		Codeshare	TV	Virgin Express	2004
Spanair	Star Alliance	Codeshare	TG	Thai Airways	2004
TAP Air Portugal		Codeshare	LO	LOT Polish Airlines	2004
TAP Air Portugal		Codeshare	MA	Malév	2004
Virgin Atlantic		Codeshare	HP	America West Airlines	2004
Virgin Atlantic		Codeshare	SA	South African Airways	2004
Virgin Express		Codeshare	SN	SN Brussels	2004

NB: Codeshare agreements with other EU airlines are presented twice.

In October 2004 a binding agreement, placing SN Brussels Airlines and Virgin Express under the common ownership of SN Airholding, was announced. Under the agreement Virgin Express Holding transferred all its shares to SN Airholding, in which it subsequently took a 29.9% stake. By December that year all the necessary regulatory authorities had given their approval.

In April 2004 EC competition regulators gave the green light to the alliance between Air France and its SkyTeam partner Alitalia. The partners were granted a six-year antitrust immunity by the EC after agreeing to surrender up to 42 pairs of daily slots at French and Italian airports. Air France and KLM, however, insisted Alitalia must

first resolve its own financial and ownership issues before any strategic partnership could take place.

Other partnerships included British Airways agreement with Iberia to develop a joint business on key routes between London and Spain. This raised speculation that the two airlines will be following the path of Air France and KLM towards forming a closer partnership involving equity investment.

Star Alliance accepted three new European members in 2004, namely Adria Airways, TAP Portugal and Croatia Airlines. KLM joined SkyTeam and Malev signed a memorandum of intent to support its entry into the alliance

Despite the above cooperation, there were a few divestments and some discontinuation of partnerships in 2004. In September British Airways completed the sale of its 18.25% shareholding in Australian carrier Qantas, purchased in March 1993. However, the joint service agreement between the two companies was given draft approval for a 5 year extension.

CSA code-share operations with Lufthansa were terminated at the end of October. KLM and Air Exel ended their 13-year relationship in November 2004. This appeared to be part of Air Exel's strategy of developing its own brand.

In conclusion , 2004 could be marked as the year of the deepest strategic partnership so far struck between two European network airlines, Air France and KLM paving the way for similar mergers between other network airlines in the region.

SECTION 11

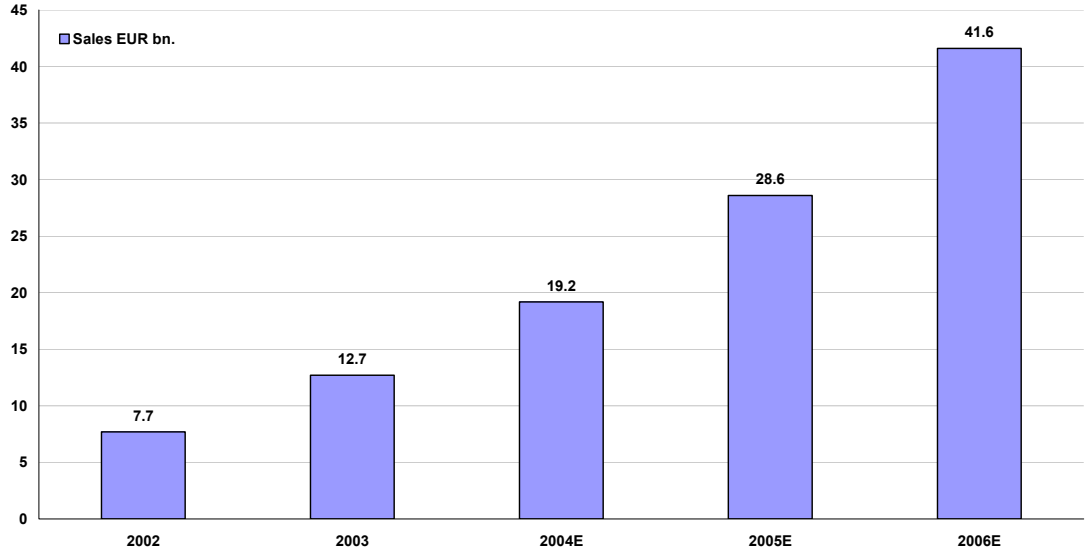
AIRLINE DISTRIBUTION

11. Airline distribution

Distribution is an area of the airline business that has been going through a period of change following a static market place for over 20 years. The development of the internet as a suitable alternative to Global Distributions Systems (GDS) normally used by travel agents to book tickets, and also the liberalisation of regulations regarding the use of Computer Reservations Systems (CRS) and GDSs has meant airlines have begun to change their distribution strategies and business relationships.

The widespread adoption of the internet by travellers to book airline tickets has meant that more and more of all tickets within Europe are now sold online. While online sales in the North America are ahead of the level in Europe it is likely that the proportion of sales that are made online will increase in the future. This view is supported by a study by research (Figure 59) suggesting that the online European travel market is growing at about 50% per year.

Figure 59: The value of the European online travel market



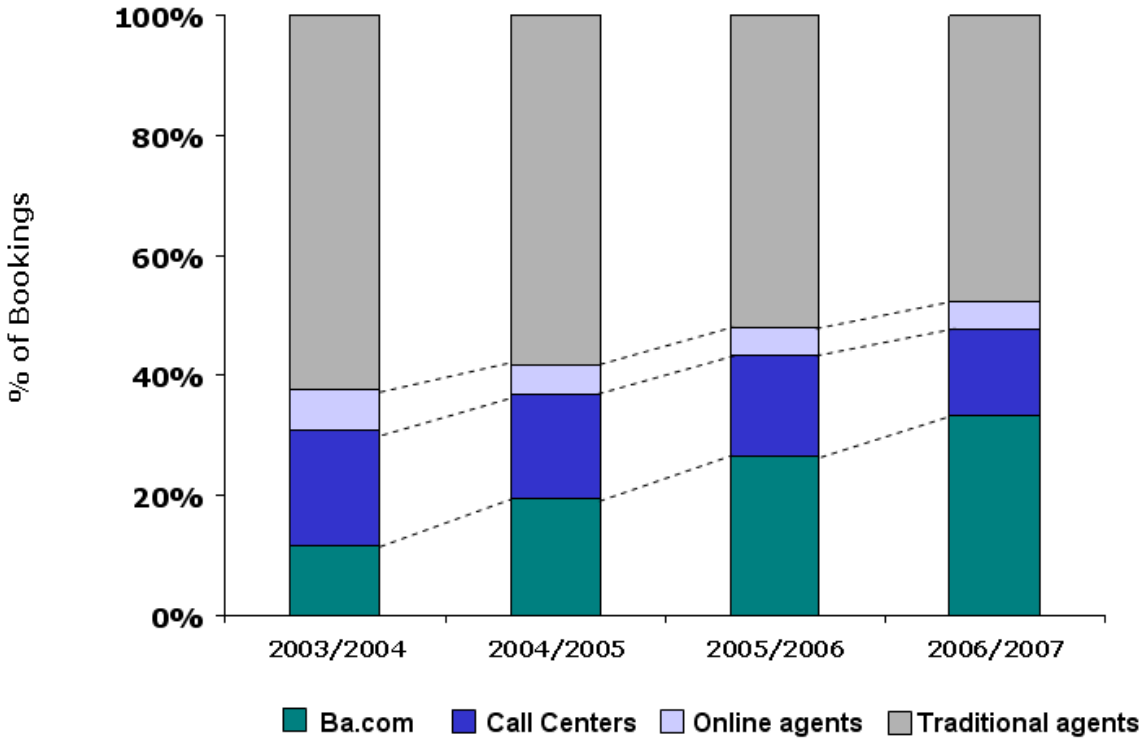
Source: PhoCusWright, Hapag Lloyd Flug, 2005

Distribution is an area of cost that has been rising steadily for airlines for many years. For example, in 1998 British Airways' cost of sales (e.g. travel agency commission) and distribution (including GDS fees) was £30 per passenger, accounting for some 18% of their total costs. This figure had risen by 50% in the previous ten years. In an effort to stem the rise in costs and thereafter to reduce them, airlines have adopted two broad measures: to reduce or eliminate fees to intermediaries; and to increase direct sells through the internet. By adopting such measures BA was able to drive down the cost of their sales and distribution to £15 per passenger in 2004. Following some years of cutting commission payments to

travel agents[7], 2004 was the year when airlines focused on reducing the cost of GDS fees and adopting new distribution solutions and strategies. Airlines have been seeking a reduction in GDS booking fees which have been rising at about 3% a year. The development of alternative forms of distribution such as airline internet websites, online travel portals and internet travel agencies have provided an opportunity for airline to develop some negotiating leverage with GDSs from a position in the past where they used to be "captive customers".

Figure 60 shows BAs strategy to shift sales away from more expensive distribution channels (travel agents and their own call centre) and towards channels that have significantly lower costs (online travel agents and at the BA website). The transaction cost of accepting a booking on its own website is very low and thus it is not surprising that BA is keen to grow sales through this channel from its current level of 14% (Jan 2004), to 30% in 2006.

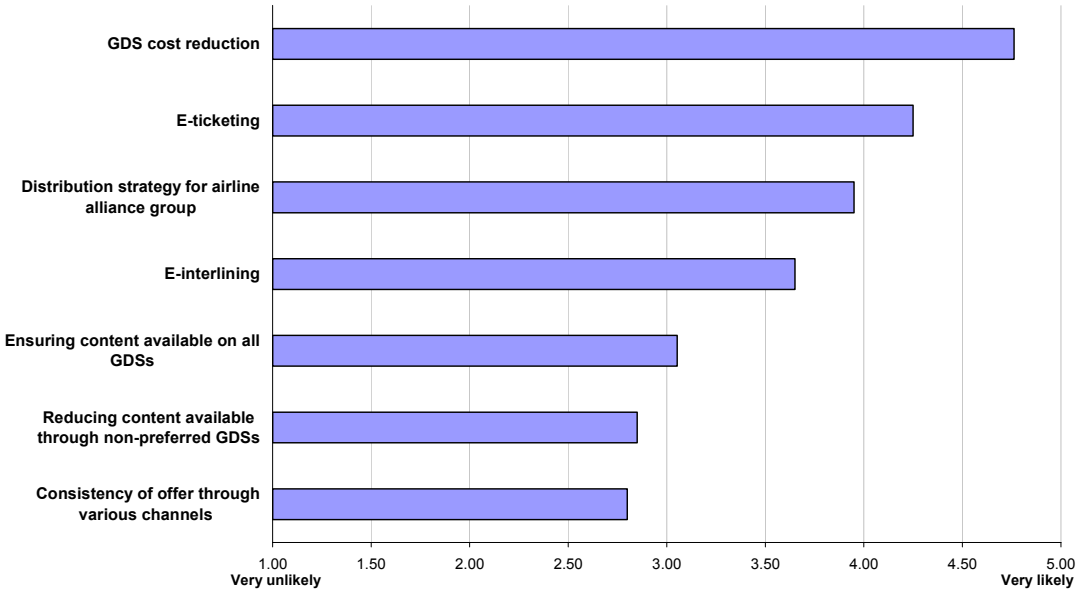
Figure 60: British Airways strategy: distribution channels



In a bid to increase the proportion of sales that are made through their website, airlines have introduced channel based transaction fees, with direct online booking attracting no or minimum fees. Airlines also tend to offer the lowest fares only on their website, providing a dual incentive for travellers to bypass travel agents and GDSs and book direct. As airlines seek to switch traffic away from traditional travel agents, the online travel agents including Expedia, Orbitz and Travelocity have been increasingly gaining power. However, if the intermediaries can provide airlines with reduced transaction costs, they tend to give them access to such fares. For example, BA agreed significant price reductions (thought to be about 15%) with Sabre and Galileo in a three year deal.

[7] For example, in 2004 Air France axed travel commissions and replaced by service fees to agents at a significantly lower cost to the airline.

Figure 61: Strategic issues for airlines



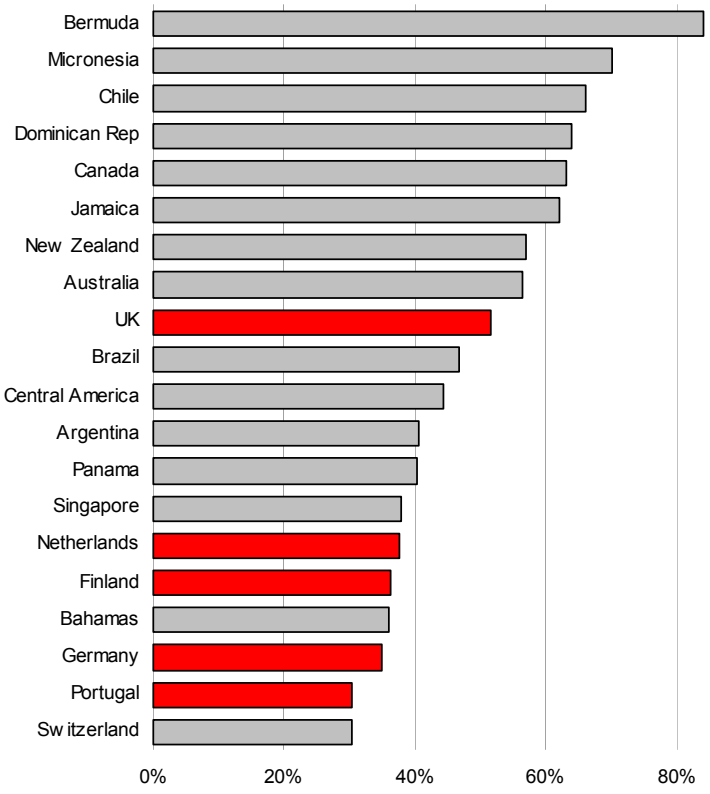
According to a White Paper on the future of distribution[8] the main strategic concerns of airlines in respect of distribution included cost reduction including GDS fees, a move toward e-ticketing (and e-interlining) and how airlines within alliances should select their distribution strategy.

Airline respondents in the study believed that GDS deregulation would reshape the fee model by channel and accelerate the consolidation of TMCs. GDS deregulation was completed in the US in 2004. Over 60% of airlines see deregulation as an opportunity to gain greater control over their distribution channels, and to have their relationship with GDS companies on a "value for money" basis. The corporate consumer is viewed as likely to bear any additional costs. Deregulation may also lead to the consolidation in the GDS market.

In terms of e-ticketing, IATA reported just over 20% of a tickets sold in the European region were issued electronically in January 2004. The rate varied among world regions, and among countries within each region (Figure 62).

[8] The Future of Distribution: White Paper, Dept of Air Transport, Cranfield University and Association of Corporate Travel Executives.

Figure 62:Top twenty countries (excluding USA) in terms of proportion of tickets sold in electronic format, 2004



Source: IATA

The survey of 26 airlines showed that most would drive up their level of online sales.

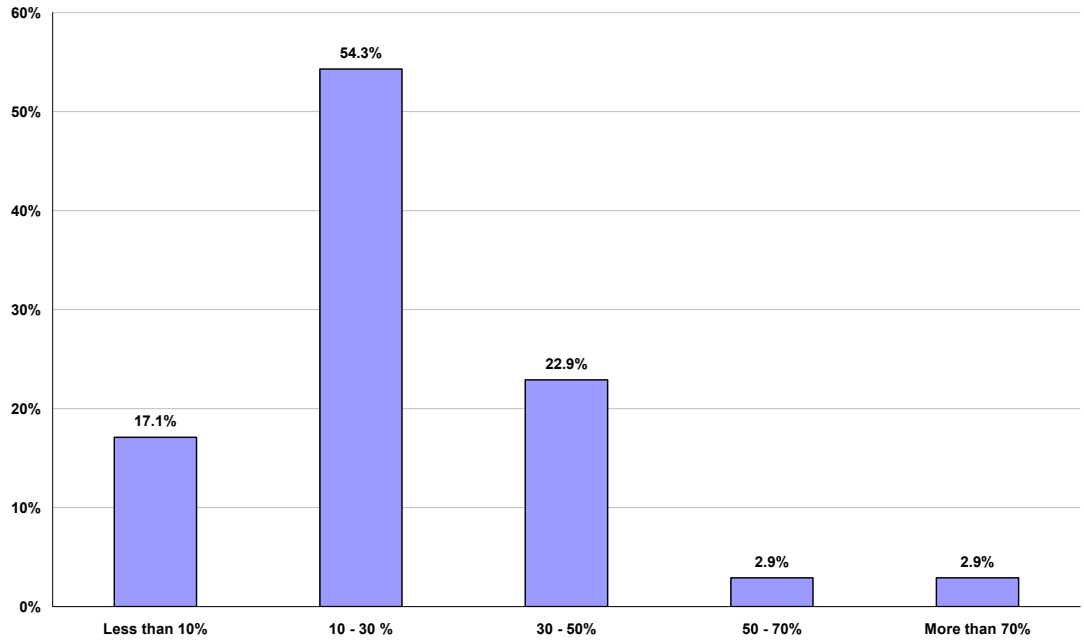
Airline will increasingly look to clarify where travel management companies (TMC) and travel agents provides value to airlines, and where they add value to travellers and ensure that they only pay for the value the TMC provides for them. The airlines will look to the TMCs to sell the products that are considered difficult to sell, while directing easy selling products to their own direct channels (Table 45). The airlines will also work much closer with TMCs to develop global strategies with large accounts, with little change in local/regional accounts.

Table 45: Airlines' changing relationships with TMCs

Change in relationships with TMCs in three years	Score
Encourage direct booking for simple itineraries	4.22
Airlines & TMCs develop global strategies for large accounts	4.00
TMCs will aggregate content for corporates	3.94
Develop new fee structures for complex itineraries	3.59

Scale: 1 = very unlikely; 5 = very likely.

Figure 63: Airline estimates of % sales online by 2006



In conclusion, the advances in technology coupled with external shocks experienced by the airline industry have forced every player in the distribution chain to re-evaluate its strategy and business processes. These have also contributed to a behavioural shift in consumer purchasing, embracing the internet as a major distribution channel. The GDS deregulation in the US and potential revision in Europe have also added to the turbulence of the market, affecting the business relationships between the four key stakeholders corporates, airlines, GDSs and travel management companies. Airlines will continue to use the internet as a tool to increase direct on-line sales and put pressure on intermediaries to reduce fees.

SECTION 12

AIRCRAFT AND MANUFACTURERS

12. Aircraft and manufacturers

12.1 Large airliners (over 120 seats)

During 2004 the two main aircraft manufacturers received orders for commercial airliners to the book value of $62.8 bn, which represented an increase of 36% over the figure for 2003.

The combined total in terms of net orders was 647, with Airbus for the second year running bettering its US rival with 53% market share. However, its share of the net value of orders was down on last year from due to Boeing's better showing in the wide-body market and the relatively few orders for the A380 (10 in 2004 compared to 34 in 2003).

The number of aircraft delivered by Airbus and Boeing in 2004 was 605 up 3% on the figure for 2003 – Airbus' total was 320 (down 5 units on 2003) while Boeing's was 285 (up by 4 on the previous year).

Airbus

The A320 gained the lion's share of the European manufacturers' orders with some 180 orders for the single aisle airliner, following the placement of large orders by Low Cost Carriers. Other members of the A320 family, the A318, A319 and A321, achieved a combined total of 99 orders. In the wide-body market the A330 and A340 made up 79 units with the A380 picking up 10 new orders and the long-running A300 making up the final 2 units.

In May final assembly began on the first A380 which by the end of the year had gained a total of 139 firm orders from 13 customers. In December Airbus finally responded to the market (and Boeing's lead) with the commercial launch of the A350 in two versions the –800 and –900.

Looking to 2005 Airbus expected to increase production rates by around 10% on those for 2004.

The average value per aircraft for Airbus in 2004 was $93.0 million - an increase of 8.3% on 2003 figures. The total turnover of Airbus was quoted by the company as being greater than 20 billion Euros, around 5% up on the previous year.

Boeing

The 7E7 (later designated as B787) continued to attract customers with a total of 56 orders being received in 2004. Boeing was put under pressure by a number of airline customers to press ahead with the stretched variant (the 7E7-9) and to try to get its entry into service no later than 2010 (which was two years later than the US manufacturer was aiming for and only two years after the baseline 7E7-8 was planned to enter service).

The Boeing 777-200LR was nearing its completion at the end of 2004, offering a range of up to 17,000 km (c 9,200 nm) it represented a response to the A340-500, but by the end of 2004 only 5 orders had been received for the type from EVA (3) and PIA (2) respectively.

With regard to the large aircraft category, Boeing did not make commit to any development of the 747-400 despite pressure from several 747 operators.

Total revenue generated by Boeing in 2004 was $21,037 million, a fall of around $1.4 million on the previous year. This was put down to the "model mix" i.e. more single-aisle narrow-body aircraft and less twin-aisle deliveries. For the full year Boeing Commercial Airplanes had an operating margin of 3.6%, an increase in 0.4 percentage points on the previous year.

12.2 Regional airliners

The market for regional aircraft in 2004 was still dominated by the regional jet (with over 300 delivered and 238 ordered from Bombardier and Embraer) but the turboprop airliners produced by ATR, AvCraft (formerly Dornier) and Bombardier did show an improvement on the previous year with 33 delivered (compared to 29 in 2003) and 47 ordered (34 in 2003).

ATR

The Franco-Italian turboprop manufacturer had a better year than previously with a total of 12 orders (compared to a net total of zero the year before). Production of the ATR42 and 72 increased from 9 in 2003 to 12 in 2004.

AvCraft and Raytheon

Hanging on to existence in the regional airline manufacturing business, AvCraft received two orders in 2004 for the 328 aircraft and Raytheon a single order for the 1900.

Bombardier

The Canadian manufacturer led the regional market in terms of orders and deliveries overall, but suffered a 20% reduction in production following the previous years' fall off in orders for the CRJ200/400 family. In terms of orders the total for its regional jets was up by 80% to 130 – with 90 of this total being for the larger CRJ700/900 aircraft. In terms of turboprops the total of deliveries and orders for the 37-78 seat Q200/300 and 400, at 19 and 32, were about the same as the previous year.

Bombardier was working on a brand new 110/130 seat aircraft during the year, dubbed the C-Series it was aimed at expanding regional and full-service airlines looking for a sub-150 seat aircraft with trans-continental US range. Discussions were ongoing during the year with national and regional governments for launch aid and engine manufacturers for a new powerplant to aid the reduction in operating costs which Bombardier were looking for.

Embraer

Overall deliveries at Embraer in 2004 at 134 showed a dramatic 50% rise on 2003's figures with a large number of ERJ145s and the recently launched E170 being delivered, however, orders declined by around one fifth to 108, mirroring the collapse witnessed by Bombardier in the 50-seat market.

12.3 Aircraft orders and deliveries in 2004

The tables below indicate the numbers of aircraft ordered from and delivered by the major manufacturers. Table 46 includes the narrow-body and wide-body aircraft manufactured by Airbus and Boeing. Data includes A319CJ and Boeing BBJ. In the column "changes" a negative entry refers to cancellations, while a positive number indicates orders converted from one model to another, without a "new" order taking place.

Table 46: Jet airliner orders and deliveries

	2004					2003	
	Deliveries	**Orders**	**Changes**	**Net Orders**	**Backlog**	**Deliveries**	**Net Orders**
Airbus							
A300	12	2	0	2	54	8	6
A310	0	0	0	0	5	0	0
A318	10	4	-22	-18	42	9	-5
A319	87	67	+38	105	379	72	69
A320	101	180	+5	185	516	119	82
A321	35	28	-21	7	92	33	-12
A330	47	51	-3	48	188	31	50
A340	28	28	-1	27	85	33	30
A380	0	10	0	10	139	0	34
Airbus total	320	370	-4	366	1,500	300	254
Boeing							
717	12	8	0	8	32	12	6
737	202	152	-5	147	776	173	206
747	15	10	0	10	32	19	4
757	11	0	0	0	2	14	-1
767	9	9	0	9	25	24	10
777	36	42	0	42	174	39	12
7E7	0	56	0	56	56	0	0
Boeing total	285	277	-5	272	1,097	281	239
Grand total	**605**	**647**	**-9**	**638**	**2,597**	**586**	**493**

* Data from AvSoft ACAS databases **Year-end

Source: ATI

Table 47: Regional jet airliner orders and deliveries

		2004			2003		
	Seats	**Deliveries**	**Orders**	****Backlog**	**Deliveries**	**Orders**	****Backlog**
AvCraft							
328Jet*	33	8	18	11	7	11	1
AVIC							
ARJ21	70/90	0	0	35	0	35	35
BAE Systems							
Avro RJ	85/100	0	0	0	4	4	0
Bombardier							
CRJ100/200	50	75	69	123	132	55	129
CRJ440	40	33	0	1	23	0	34
CRJ700-701	70	52	51	70	56	-3	71
CRJ700-705	75	0	-10	15	0	25	25
CRJ900	90	15	20	20	10	-5	15
Bombardier total		175	130	229	221	72	274
Embraer							
ERJ-135	37	1	1	17	14	0	17
ERJ-140	44	0	0	20	16	-80	20
ERJ-145	50	87	9	66	57	92	144
170	70	46	38	112	0	32	120
175	78	0	15	15	0	0	0
190	98	0	45	155	0	110	110
195	108	0	0	15	0	-15	115
Embraer total		134	108	400	87	139	526
Jet total		**317**	**256**	**675**	**319**	**261**	**747**

Source: ATI

Table 48: Turboprop airliner orders and deliveries

		2003			2004		
	Seats	**Deliveries**	**Orders**	****Backlog**	**Deliveries**	**Orders**	****Backlog**
ATR							
ATR 42	48	5	1	4	3	10	8
ATR 72	68	8	11	10	6	-10	7
ATR total		13	12	14	9	0	15
AvCraft							
Dornier 328*	33	0	2	2	0	0	0
Bombardier							
Dash 8 Q200	37	1	1	1	1	1	1
Dash 8 Q300	50	8	18	20	6	10	10
Dash 8 Q400	74	10	13	26	12	23	23
Bombardier total		19	32	47	19	34	34
Raytheon							
Beech 1900*	19	1	1	0	1	0	0
Grand total		**33**	**47**	**63**	**29**	**34**	**49**

* Data from AvSoft ACAS databases **Year-end

Source: ATI

SECTION 13

PUBLIC SERVICE OBLIGATIONS

13 Public service obligations (PSO)

Introduction

In order to enable governments to maintain essential air services, Article 4 of Regulation (EEC) No 2408/92 defines a system of public service obligations (PSO) which can be imposed on a carrier operating on designated routes. In essence, the legislation allows Member States to impose such obligations on any route involving an airport in a peripheral or development region, or on a thin regional route considered vital for economic development of the region.

The obligations concern capacity, frequency and fares as well as continuity of service. If no airline is prepared to provide a service under the conditions imposed, the government may restrict access to the route to a single carrier and award financial compensation to the carrier in return for compliance with the PSO.

Consultation on PSO simplification

In 2004 the EC published a consultation paper inviting responses to a number of options for simplifying the PSO procedure. Included in the responses were twenty-two national directorates of civil aviation (DCA) and eleven airlines. All cited the procedure itself as too complex, and many suggested the concession period of three years to be too short. The duration of the concession is particularly important for any new-entrant airlines interested in operating under PSO conditions. These airlines could find themselves at a disadvantage as the three-year period would make difficult the recovery of fixed costs involved in starting the service.

Of the responding parties, airlines in particular highlighted the risk of market distortion under excessive use of PSO. They suggested that such obligations be limited only to the most vital of services.

At a fundamental level, a number of member states and other interested parties have claimed that the criteria for intervention, i.e. for attaching PSO to a route, are unclear. The UK government, in particular, voiced concern at the interpretation of the terms used to define the conditions under which PSO could be imposed.

Use of the PSO

The number of PSO designated air routes in Europe has grown significantly since the first was established in 1994 (Table 49). The principal reasons for this are the increasing competition faced by incumbents on trunk routes, reducing their ability to cross-subsidise, and the increasing pressure from communities in peripheral and other remote areas for better access.

Table 49: Number of domestic PSOs imposed (includes Norway)

Year	*Number of PSO routes*
1997	67
2001	168
2003	230

Source: Cranfield University 2004.

During 2004 an additional thirty-three PSO were imposed, while on eight routes the obligations were lifted (Table 50). This information relates only to the publication of the lifting or imposition of obligations in the Official Journal.

Table 50: PSO lifted and imposed during 2004

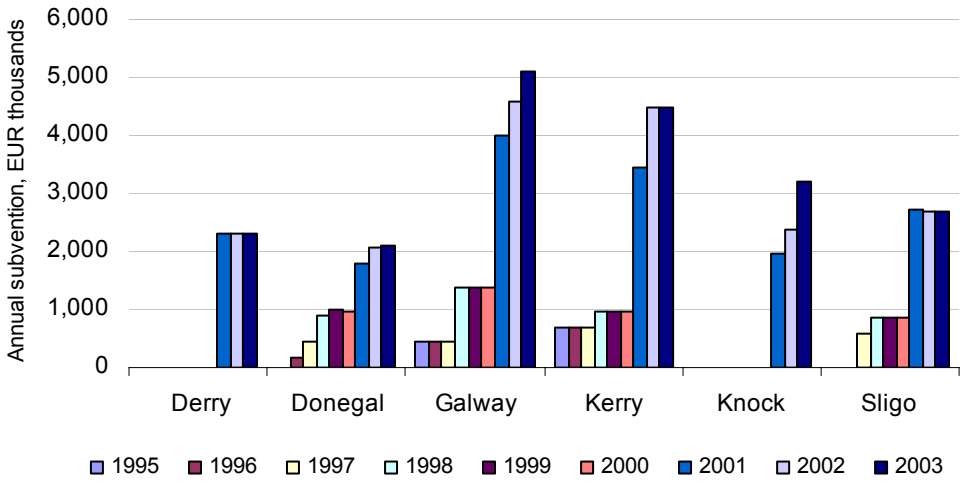
France		Germany	Italy	Norway
lifted	**imposed**	**imposed**	**imposed**	**imposed**
La Rochelle Poitiers	Paris Limoges	Hof Frankfurt	Alghero Bologna	Narvik Bodo
Paris Albi	Poitiers Lyon	Rostock Cologne	Alghero Milan	Vaeroy Bodo
Paris Montlucon	Paris Annecy	Rostock Munich	Alghero Pisa	
Paris Rochefort	Angers Lyon		Alghero Rome	
Pau Clermont-Ferrand	Paris Bergerac		Alghero Turin	
Reims Bordeaux	Tours Lyon		Cagliari Bologna	
Reims Lyon	Paris Perigueux		Cagliari Naples	
Roanne Paris	La Rochelle Lyon		Cagliari Palermo	
	Tarbes Paris		Cagliari Pisa	
	Toulon Lyon		Cagliari Rome	
			Cagliari Turin	
			Cagliari Verona	
			CAgliari Milan	
			Olbia Bologna	
			Olbia Milan	
			Olbia Rome	
			Olbia Turin	
			Olbia Verona	

Source: Wilmer, Cutler, Pickering, Hale and Door, 2004

Aside from the large increase in the number of PSO routes, subvention levels required to maintain individual PSO services have been on the rise, in some instances dramatically so. Ireland, for example, has seen annual subsidy levels on four of the country's PSO routes, Dublin – Donegal, Dublin – Galway, Dublin – Kerry and Dublin – Sligo rise from 4.2 million euros in 2000 to 14.4 million euros in 2003.

While service levels improved significantly, it is not realistic to attribute this to the hugely increased amount of subvention required.

Figure 64: Subvention levels on Irish PSO routes from Dublin



Source: Department of Transport, 2004

The amount of subsidy required per one-way journey varies widely between routes, in the case of these four Irish PSOs in 2003 from EUR53 on Dublin-Galway to EUR290 euros on Dublin-Knock. Data available from 2000 demonstrates the variation in terms of subsidy per passenger on a wider selection of PSO routes (Table 51).

Table 51: Average subsidy per passenger and traffic volumes in 2000

PSO Route/Routes	*Country*	*Traffic*	*Average subsidy per passenger (euros)*
Paris-Corsica	France	840,461	21.77
Group 9	Norway	158,911	48.26
Group 1	Norway	115,438	118.81
Group 10	Norway	102,048	31.91
Group 8	Norway	101,515	46.44
Group 12	Norway	81,751	102.41
Dublin-Kerry	Ireland	78,578	12.27
Dublin-Galway	Ireland	72,315	19.01
Group 11	Norway	54,907	53.58
Group 3	Norway	47,352	34.78
Group 4	Norway	37,295	48.20
Group 7	Norway	32,974	25.54
Roros-Oslo	Norway	24,597	20.95
Dublin-Sligo	Ireland	24,434	36.10
Glasgow-West Scotland	UK	17,278	93.35
Dublin-Donegal	Ireland	12,417	82.06
Western Isles	UK	12,218	37.31
Group 2 [10]	Norway	9,100	172.68
Orkney	UK	6,863	39.95
Shetland	UK	4,523	82.73

Source: Cranfield University, 2004.

Table 51 includes Norway's PSO routes, which are organised in groups:

- Group 1: Mo i Rana-Bodø, Mo i Rana-Trondheim, Rørvik-Trondheim, Namsos-Trondheim, Mosjøen-Trondheim, Mosjøen-Bodø.
- Group 2 Hasvik-Hammerfest, Hasvik-Tromsø, Vadsø-Båtsfjord-Berlevåg-Mehamn-Honningsvåg-Hammerfest and between these airports and Kirkenes and Alta, Sørkjosen-Tromsø.
- Group 3 Florø-Bergen, Florø-Oslo.
- Group 4 Brønnøysund-Bodø, Brønnøysund-Trondheim, Sandnessjøn-Trondheim, Sandnessjøn-Bodø.
- Group 5 Ørsta-Volda-Bergen, Ørsta-Volda-Oslo, Sandane-Bergen.
- Group 6 Førde-Oslo, Førde-Bergen.
- Group 7 Lakselv-Tromsø.
- Group 8Andenes-Bodø, Andenes-Tromsø.
- Group 9 Narvik-Bodø.
- Group 10 Vardø-Kirkenes.