

**Cir 312
AT/133**



Airline Traffic Forecasts and Financial Trends — 2006 to 2008

Approved by the Secretary General
and published under his authority

January 2007

International Civil Aviation Organization

Published in separate English, Arabic, French, Russian and Spanish editions by the International Civil Aviation Organization. All correspondence, except orders and subscriptions, should be addressed to the Secretary General.

Orders should be sent to one of the following addresses, together with the appropriate remittance (by bank draft, cheque or money order) in U.S. dollars or the currency of the country in which the order is placed. Credit card orders (American Express, MasterCard and Visa) are accepted at ICAO Headquarters.

International Civil Aviation Organization. Attention: Document Sales Unit, 999 University Street, Montréal, Quebec, Canada H3C 5H7
Telephone: +1 (514) 954-8022; Facsimile: +1 (514) 954-6769; Sitatex: YULCAYA; E-mail: sales@icao.int;
World Wide Web: <http://www.icao.int>

Cameroon. KnowHow, 1, Rue de la Chambre de Commerce-Bonanjio, B.P. 4676, Douala / Telephone: +237 343 98 42; Facsimile: +237 343 89 25;
E-mail: knowhow_doc@yahoo.fr

China. Glory Master International Limited, Room 434B, Hongshen Trade Centre, 428 Dong Fang Road, Pudong, Shanghai 200120
Telephone: +86 137 0177 4638; Facsimile: +86 21 5888 1629; E-mail: glorymaster@online.sh.cn

Egypt. ICAO Regional Director, Middle East Office, Egyptian Civil Aviation Complex, Cairo Airport Road, Heliopolis, Cairo 11776
Telephone: +20 (2) 267 4840; Facsimile: +20 (2) 267 4843; Sitatex: CAICAYA; E-mail: icaomid@cairo.icao.int

Germany. UNO-Verlag GmbH, August-Bebel-Allee 6, 53175 Bonn / Telephone: +49 (0) 228-94 90 2-0; Facsimile: +49 (0) 228-94 90 2-22;
E-mail: info@uno-verlag.de; World Wide Web: <http://www.uno-verlag.de>

India. Oxford Book and Stationery Co., Scindia House, New Delhi 110001 or 17 Park Street, Calcutta 700016
Telephone: +91 (11) 331-5896; Facsimile: +91 (11) 51514284

India. Sterling Book House – SBH, 181, Dr. D. N. Road, Fort, Bombay 400001
Telephone: +91 (22) 2261 2521, 2265 9599; Facsimile: +91 (22) 2262 3551; E-mail: sbh@vsnl.com

Japan. Japan Civil Aviation Promotion Foundation, 15-12, 1-chome, Toranomon, Minato-Ku, Tokyo
Telephone: +81 (3) 3503-2686; Facsimile: +81 (3) 3503-2689

Kenya. ICAO Regional Director, Eastern and Southern African Office, United Nations Accommodation, P.O. Box 46294, Nairobi
Telephone: +254 (20) 7622 395; Facsimile: +254 (20) 7623 028; Sitatex: NBOCAYA; E-mail: icao@icao.unon.org

Mexico. Director Regional de la OACI, Oficina Norteamérica, Centroamérica y Caribe, Av. Presidente Masaryk No. 29, 3^{er} Piso, Col. Chapultepec Morales, C.P. 11570, México D.F. / Teléfono: +52 (55) 52 50 32 11; Facsimile: +52 (55) 52 03 27 57;
Correo-e: icao_nacc@mexico.icao.int

Nigeria. Landover Company, P.O. Box 3165, Ikeja, Lagos
Telephone: +234 (1) 4979780; Facsimile: +234 (1) 4979788; Sitatex: LOSLORK; E-mail: aviation@landovercompany.com

Peru. Director Regional de la OACI, Oficina Sudamérica, Apartado 4127, Lima 100
Teléfono: +51 (1) 575 1646; Facsimile: +51 (1) 575 0974; Sitatex: LIMCAYA; Correo-e: mail@lima.icao.int

Russian Federation. Aviaizdat, 48, Ivan Franko Street, Moscow 121351 / Telephone: +7 (095) 417-0405; Facsimile: +7 (095) 417-0254

Senegal. Directeur régional de l'OACI, Bureau Afrique occidentale et centrale, Boîte postale 2356, Dakar
Téléphone: +221 839 9393; Fax: +221 823 6926; Sitatex: DKRCAYA; Courriel: icaodkr@icao.sn

Slovakia. Air Traffic Services of the Slovak Republic, Letové prevádzkové služby Slovenskej Republiky, State Enterprise, Letisko M.R. Štefánika, 823 07 Bratislava 21 / Telephone: +421 (7) 4857 1111; Facsimile: +421 (7) 4857 2105

South Africa. Avex Air Training (Pty) Ltd., Private Bag X102, Halfway House, 1685, Johannesburg
Telephone: +27 (11) 315-0003/4; Facsimile: +27 (11) 805-3649; E-mail: avex@iafrica.com

Spain. A.E.N.A. — Aeropuertos Españoles y Navegación Aérea, Calle Juan Ignacio Luca de Tena, 14, Planta Tercera, Despacho 3. 11, 28027 Madrid / Teléfono: +34 (91) 321-3148; Facsimile: +34 (91) 321-3157; Correo-e: ssc.ventasoaci@aena.es

Switzerland. Adeco-Editions van Diermen, Attn: Mr. Martin Richard Van Diermen, Chemin du Lacuez 41, CH-1807 Blonay
Telephone: +41 021 943 2673; Facsimile: +41 021 943 3605; E-mail: mvandiermen@adeco.org

Thailand. ICAO Regional Director, Asia and Pacific Office, P.O. Box 11, Samyaeak Ladprao, Bangkok 10901
Telephone: +66 (2) 537 8189; Facsimile: +66 (2) 537 8199; Sitatex: BKKCAYA; E-mail: icao_apac@bangkok.icao.int

United Kingdom. Airplan Flight Equipment Ltd. (AFE), 1a Ringway Trading Estate, Shadowmoss Road, Manchester M22 5LH
Telephone: +44 161 499 0023; Facsimile: +44 161 499 0298; E-mail: enquiries@afeonline.com; World Wide Web: <http://www.afeonline.com>

2/06

Catalogue of ICAO Publications and Audio-visual Training Aids

Issued annually, the Catalogue lists all publications and audio-visual training aids currently available. Supplements to the Catalogue announce new publications and audio-visual training aids, amendments, supplements, reprints, etc.

Available free from the Document Sales Unit, ICAO.

FOREWORD

INTRODUCTION

1. This circular, *Airline Traffic Forecasts and Financial Trends — 2006 to 2008*, analyses trends in airline traffic and financial results over the 1995–2005 period along with factors underlying air traffic demand and presents medium-term global and regional forecasts of scheduled passenger traffic and basic global airline financial trends through to 2008.

SOURCES

2. A dedicated ICAO aviation statistics website (www.icaoodata.com) is the main source of airline traffic and financial statistics. In addition to the website, sources of information include relevant and most recently available statistical publications of the United Nations (UN), BACK Aviation Solutions fleet and airline schedule databases, the Air Transport Association (ATA), the Association of Asia Pacific Airlines (AAPA), the Association of European Airlines (AEA), the International Air Transport Association (IATA), the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), the United States Department of Energy (DOE) and the World Bank (WB).

3. The statistical data for 2005 appearing in this circular are to be considered as preliminary: experience shows that the margin of error for world totals is probably less than 2 per cent, except in the case of operational results where it may be considerably higher.

4. Unless otherwise noted:

- a) all statistical data are applicable to ICAO Contracting States (189 at the end of 2005);
- b) regional breakdowns are by ICAO statistical region;
- c) traffic statistics are for scheduled services of commercial air carriers;
- d) total airline financial statistics relate to commercial air carriers with scheduled as well as non-scheduled operations;
- e) the expression “tonne-kilometre” means metric tonne-kilometre;
- f) the word “billion” means one thousand million; and
- g) all references to monetary units made in this circular mean “United States (U.S.) cents” for “cents” and “U.S. dollars” for “\$”.

STATUS

5. This circular has been approved by the Secretary General and is published under his authority.

TABLE OF CONTENTS

	<i>Page</i>	
Chapter 1. Trends in airline traffic and financial results.....	1-1	
Airline traffic: world	1-1	
Airline traffic: regions of airline registration	1-1	
Airline financial results: world	1-4	
Airline financial results: regions of airline registration	1-6	
Chapter 2. Trends in factors underlying air traffic demand	2-1	
Global and regional economic and demographic trends.....	2-1	
Airline productivity, input prices, financial performance and airline passenger yields	2-7	
Chapter 3. Forecast methodology and main assumptions.....	3-1	
Chapter 4. Airline traffic and financial forecasts	4-1	
Airline traffic forecasts	4-1	
Global	4-1	
Regions of airline registration.....	4-1	
Global airline financial forecast.....	4-3	
Appendix. Methodology for traffic forecasts	A-1	
 TABLES		
Table 1-1	Total international and domestic revenue traffic — World (1995-2005) (scheduled services of airlines of ICAO Contracting States)	1-2
Table 1-2	International revenue traffic — World (1995-2005) (scheduled services of airlines of ICAO Contracting States)	1-2
Table 1-3	Regional distribution of international and domestic traffic — 2005 (passenger-kilometres performed)	1-5
Table 1-4	Operating and net results — World (1995-2005) (scheduled airlines of ICAO Contracting States)	1-5
Table 3-1	Economic growth (GDP) by region (real average annual growth rates, per cent)	3-2
Table 4-1	ICAO scheduled passenger traffic forecasts — World and regions (2006-2008) (passenger-kilometres performed)	4-2

FIGURES

Figure 1-1	Regional distribution of total scheduled passenger traffic — World (1995 and 2005), (percentage of passenger-kilometres performed)	1-3
Figure 1-2	Scheduled airline operating revenues and expenses — Africa (1995-2005)	1-6
Figure 1-3	Scheduled airline operating revenues and expenses — Asia/Pacific (1995-2005)	1-7
Figure 1-4	Scheduled airline operating revenues and expenses — Europe (1995-2005)	1-8
Figure 1-5	Scheduled airline operating revenues and expenses — Middle East (1995-2005)	1-9
Figure 1-6	Scheduled airline operating revenues and expenses — North America (1995-2005)	1-10
Figure 1-7	Scheduled airline operating revenues and expenses — Latin America and the Caribbean (1995-2005)	1-11
Figure 2-1	GDP and scheduled traffic growth — World (1995-2005)	2-2
Figure 2-2	Annual change in real GDP and GDP per capita — World (1995-2005)	2-2
Figure 2-3	Annual change in real GDP and GDP per capita — Africa (1995-2005)	2-4
Figure 2-4	Annual change in real GDP and GDP per capita — Asia/Pacific (1995-2005)	2-4
Figure 2-5	Annual change in real GDP and GDP per capita — Europe (1995-2005)	2-5
Figure 2-6	Annual change in real GDP and GDP per capita — Middle East (1995-2005)	2-5
Figure 2-7	Annual change in real GDP and GDP per capita — North America (1995-2005)	2-6
Figure 2-8	Annual change in real GDP and GDP per capita — Latin America and the Caribbean (1995-2005)	2-6
Figure 2-9	Trends in performance of scheduled airline industry (1991-2005)	2-8
Figure 2-10	Financial return and aircraft supply — World (1995-2005)	2-9
Figure 2-11	Financial return and traffic growth of scheduled airline industry — World (1995-2005)	2-9
Figure 2-12	World average scheduled passenger yields (1995-2005)	2-10
Figure 2-13	Trends in fuel prices (2000-2006)	2-10
Figure 4-1	Scheduled passenger traffic growth (PKPs) — World (1995-2008)	4-2
Figure 4-2	Scheduled passenger traffic growth (PKPs) — Africa and World (1995-2008)	4-4
Figure 4-3	Scheduled passenger traffic growth (PKPs) — Asia/Pacific and World (1995-2008)	4-4
Figure 4-4	Scheduled passenger traffic growth (PKPs) — Europe and World (1995-2008)	4-5
Figure 4-5	Scheduled passenger traffic growth (PKPs) — Middle East and World (1995-2008)	4-5
Figure 4-6	Scheduled passenger traffic growth (PKPs) — North America and World (1995-2008)	4-6
Figure 4-7	Scheduled passenger traffic growth (PKPs) — Latin America and the Caribbean and World (1995-2008)	4-6

Chapter 1

TRENDS IN AIRLINE TRAFFIC AND FINANCIAL RESULTS

AIRLINE TRAFFIC: WORLD

1.1 Total scheduled airline traffic, measured in terms of total tonne-kilometres performed (TKPs), grew at an average annual rate of 5.2 per cent between 1995 and 2005. Passenger-kilometres performed (PKPs) grew also at an average rate of 5.2 per cent per annum and freight tonne-kilometres at 5.5 per cent per annum. Global airline traffic data for each year of the period 1995–2005 are given in Table 1-1 (total traffic) and Table 1-2 (international traffic).

1.2 After a decline in 1991, scheduled passenger traffic (measured in terms of PKPs) recovered in 1992 due to a significant decline in yields. It continued to grow until 1997 as economic growth provided a solid foundation for traffic increase. In 1998, the world gross domestic product (GDP) grew at only 1.9 per cent, providing for simultaneous growth of scheduled passenger traffic of only 2.1 per cent. In 1999 and 2000, traffic increased by 6.5 and 8.6 per cent, respectively, while supported by the strong performance of the world economy. The economic downturn and related decline in business and consumer confidence had a negative impact on traffic in late 2000 and in 2001, when the events of 11 September 2001 exacerbated an already difficult situation. As a result, traffic declined in 2001 by 2.9 per cent, the first decline since 1991 and only the second since 1945. In 2002, demand for air travel remained depressed and traffic grew at only 0.5 per cent. Following declines in the first part of the year due to the outbreak of the Severe Acute Respiratory Syndrome (SARS) and the war in Iraq, traffic rebounded in the second part of 2003 and increased by 1.8 per cent for the whole year. In 2004, traffic recovery gained strength registering a growth of 14.1 per cent as a result of the improved global economic performance. The continued momentum and resilience of the global economy in 2005 led to a traffic growth estimated at 8.0 per cent. However, the average annual growth during the period 2000–2005 is 4.1 per cent.

1.3 The regional distribution of total (international and domestic) scheduled passenger traffic for the years 1995 and 2005 is illustrated in Figure 1-1. While the respective shares of the airlines of the North American and Latin American and Caribbean regions declined, those of the airlines of Europe, Middle East and Asia/Pacific regions increased. In 2005, the airlines of Europe had the highest share in world scheduled international passenger traffic (39.4 per cent) and the airlines of North America had the highest share in world scheduled domestic passenger traffic (62.1 per cent), as shown in Table 1-3.

AIRLINE TRAFFIC: REGIONS OF AIRLINE REGISTRATION

1.4 Over the 1995–2005 period, scheduled passenger traffic of the airlines of the **African region** increased at an average annual rate of 5.4 per cent. After achieving high growth rates in 1996 and 1997, traffic declined in 1998 but rebounded in 1999, and continued to grow in 2000. Slowdown in the world economy and the subsequent global crisis in the airline industry following the events of 11 September 2001 resulted in a 2 per cent growth in that year, a decrease of 3 per cent in 2002 and an increase of 1.0 per cent in 2003. The year 2004 witnessed 13.8 per cent growth. In 2005, the growth was 12.1 per cent compared to world average growth of 8.0 per cent.

Table 1-1. Total international and domestic revenue traffic — World (1995–2005)
(scheduled services of airlines of ICAO Contracting States)

Year	Passengers carried		Passenger-km performed		Freight tonnes carried		Freight tonne-km performed		Mail tonne-km performed		Total tonne-km performed	
	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %
1995	1 304	5.8	2 248 210	7.1	22.2	8.3	83 130	7.7	5 630	4.1	293 930	7.5
1996	1 391	6.7	2 431 690	8.2	23.2	4.5	89 200	7.3	5 800	3.0	317 150	7.9
1997	1 457	4.7	2 573 010	5.8	26.4	13.8	102 880	15.3	5 990	3.3	344 190	8.5
1998	1 471	1.0	2 628 120	2.1	26.5	0.4	101 820	-1.0	5 760	-3.8	348 600	1.3
1999	1 562	6.2	2 797 800	6.5	28.1	6.0	108 660	6.7	5 720	-0.7	370 420	6.3
2000	1 672	7.0	3 037 530	8.6	30.4	8.2	118 080	8.7	6 050	5.8	403 960	9.1
2001	1 640	-1.9	2 949 550	-2.9	28.8	-5.3	110 800	-6.2	5 310	-12.2	388 150	-3.9
2002	1 639	-0.1	2 964 530	0.5	31.4	9.0	119 840	8.2	4 570	-13.9	397 100	2.3
2003 ¹	1 691	3.2	3 019 100	1.8	33.5	6.7	125 760	4.9	4 530	-0.9	407 670	2.7
2004	1 888	11.6	3 445 300	14.1	36.7	9.6	139 040	10.6	4 580	1.1	458 910	12.6
2005	2 022	7.1	3 719 700	8.0	37.7	2.7	142 580	2.5	4 660	1.7	487 740	6.3

Source: ICAO Air Transport Reporting Form A.

1. On 1 October 2002, the United States Department of Transportation implemented new air traffic data reporting rules which, inter alia, have affected the reporting of domestic all-cargo operations. Consequently, compared with 2002, the reported data for the United States for 2003 shows a significant shift of domestic freight traffic from non-scheduled operations to scheduled services with a corresponding impact on the world traffic shown above. It is estimated that if the traffic for United States carriers had been reported under the old rules, the increases for freight tonnes carried (6.7 per cent), freight tonne-kilometres (4.9 per cent) and total tonne-kilometres performed (2.7 per cent) would have been reduced to 2.4, 2.7 and 1.6 per cent, respectively.

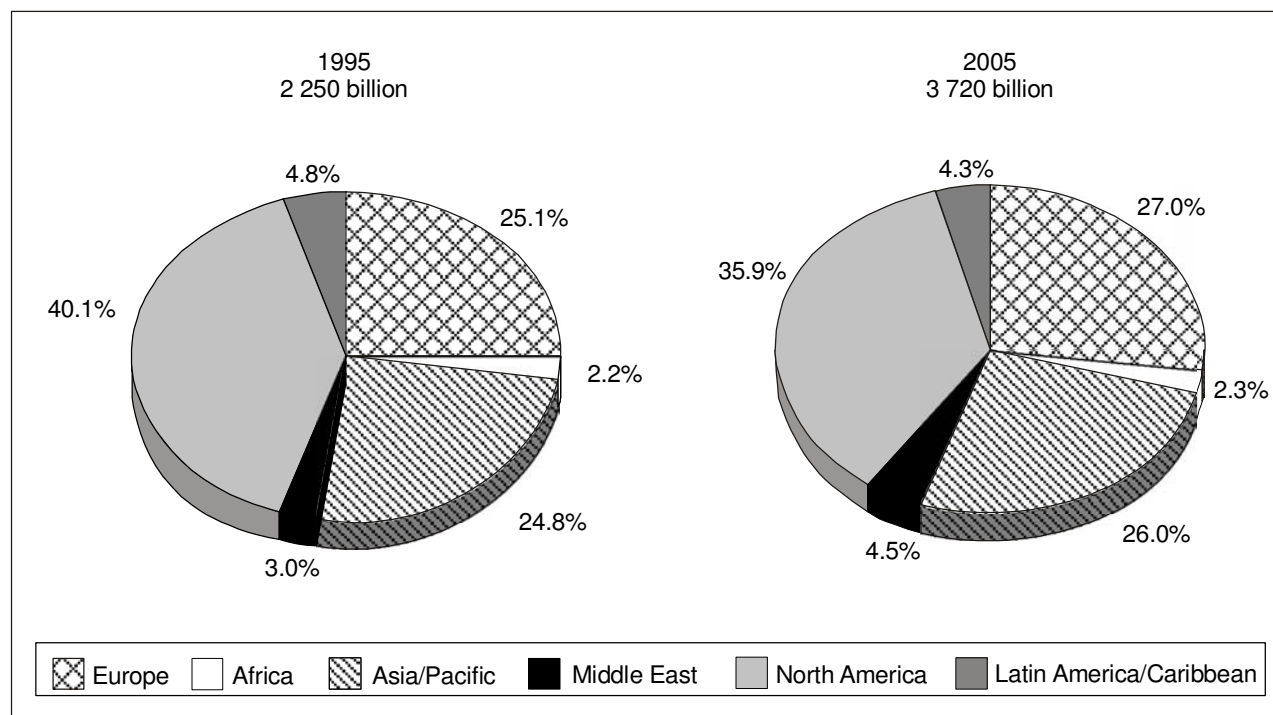
Table 1-2. International revenue traffic — World (1995–2005)
(scheduled services of airlines of ICAO Contracting States)

Year	Passengers carried		Passenger-km performed		Freight tonnes carried		Freight tonne-km performed		Mail tonne-km performed		Total tonne-km performed	
	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %
1995	375	8.1	1 249 160	9.3	13.0	10.2	70 340	8.7	2 400	7.1	189 430	9.4
1996	412	9.9	1 380 680	10.5	13.6	4.6	75 510	7.4	2 450	2.1	206 870	9.2
1997	438	6.3	1 468 150	6.3	15.7	15.4	87 740	16.2	2 490	1.6	227 390	9.9
1998	458	4.6	1 512 040	3.0	15.8	0.6	87 050	-0.8	2 480	-0.4	231 440	1.8
1999	493	7.6	1 622 250	7.3	17.3	9.5	93 280	7.2	2 480	0.0	247 610	7.0
2000	542	9.9	1 790 370	10.4	18.8	8.7	101 560	8.9	2 670	7.7	273 090	10.3
2001	536	-1.1	1 726 580	-3.6	18.0	-4.3	95 950	-5.5	2 660	-0.4	261 030	-4.4
2002	547	2.1	1 736 070	0.5	18.8	4.4	101 590	5.9	2 710	1.9	267 170	2.4
2003	561	2.6	1 738 510	0.1	19.6	4.3	103 130	1.5	2 710	0.0	268 420	0.5
2004	647	15.3	2 015 070	15.9	21.8	11.2	115 120	11.6	2 830	4.4	304 920	13.6
2005	704	8.8	2 197 360	9.0	22.6	3.7	118 480	2.9	2 980	5.3	325 250	6.7

Source: ICAO Air Transport Reporting Form A.

Table 1-3. Regional distribution of international and domestic traffic — 2005
(passenger-kilometres performed)

	International (%)	Domestic (%)
Africa	3.3	0.8
Asia/Pacific	28.3	22.7
Europe	39.4	9.1
Middle East	7.0	1.1
North America	17.7	62.1
Latin America/Caribbean	4.3	4.2
Total	100	100



Source: ICAO Air Transport Reporting Form A.

Figure 1-1. Regional distribution of total scheduled passenger traffic — World
(1995 and 2005)
(percentage of passenger-kilometres performed)

1.5 Scheduled passenger traffic of airlines of the **Asia/Pacific region** increased at the average annual rate of 5.7 per cent over the 1995–2005 period, higher than the world's annual average of 5.2 per cent. As a result of the speedy economic recovery of the Asian economies affected by the 1997/1998 recession, traffic rebounded in 1999 and 2000 achieving growth rates of 6.9 and 10.5 per cent, respectively. After a slowdown in 2001 with a growth rate of only 1.2 per cent, traffic regained momentum in 2002 and grew at 6.2 per cent. In 2003, traffic declined by 4.4 per cent due mainly to the SARS outbreak. However, the year 2004 witnessed an impressive 19.4 per cent growth. An increase of 7.2 per cent has been estimated for the year 2005.

1.6 Scheduled passenger traffic of the airlines of the **European region** grew at an average annual rate of 5.9 per cent over the period 1995–2005, largely due to a generally good performance in Western Europe and to the emergence of low cost carriers. After a decline of 3.4 per cent in 2001 and 0.8 per cent in 2002, traffic grew in 2003 by 7.6 per cent. The years 2004 and 2005 registered 11.1 and 9.0 per cent growth, respectively.

1.7 Airlines of the **Middle East region** managed to increase their scheduled passenger traffic at an average annual rate of 9.7 per cent over the 1995–2005 period, substantially higher than the world average. After a slowdown in 2001, traffic rebounded and increased by 9.7 per cent in 2002, 12.7 per cent in 2003, and 24.1 per cent in 2004. The year 2005 witnessed a 13.6 per cent increase over the previous year.

1.8 Airlines of the **North American region** experienced an average annual growth rate of scheduled passenger traffic of 4.0 per cent over the period 1995–2005. The traffic declines of about 5.6 per cent and 2.7 per cent suffered in 2001 and 2002, respectively, were among the largest of all ICAO regions. During 2003 traffic increased only by about 1.2 per cent. A growth of 12.2 per cent was registered for 2004. The year 2005 witnessed a 7.0 per cent increase over the previous year.

1.9 Scheduled passenger traffic of airlines of the **Latin American and Caribbean region** increased at an average annual rate of 3.9 per cent over the 1995–2005 period. In recent years, flag carrier privatization, intra-regional mergers and alliances along with extensive fleet and route rationalization were among the measures that enabled airlines of the region to capture a larger share of the United States–Latin American and Caribbean markets. Following declines of 5.1 and 1.6 per cent in 2001 and 2002, airline traffic recovered and grew by 2.8 per cent in 2003. The years 2004 and 2005 registered growth rates of 10.1 and 6.4 per cent, respectively.

AIRLINE FINANCIAL RESULTS: WORLD

1.10 Although there has been neither an improvement nor a decline in the long-term trend in the financial performance of scheduled airlines as a whole, there have been relatively large changes in operating results from year to year. Table 1-4 shows the annual development since 1995 in operating revenues and expenses, the operating result (earnings before interest, other non-operating items and taxes) and the net result (earnings after interest, other non-operating items and taxes). In the early 1990s, demand weakened and the utilization of airline resources tended to decline. The emergence of excess capacity and consequent competitive pressures depressed yields. In 1993 and 1994, the airline industry started to move towards a more appropriate balance of supply and demand and achieved operating surplus. Between 1995 and 2000, the industry continued to show positive operating and net results. In 2001, the trend reversed as shrinking operating revenues, due to declining traffic combined with increasing fuel, security and insurance costs, led to an unprecedented operational loss of \$11.8 billion and a net loss of \$13 billion. This trend continued in 2002 and 2003 but with significantly lower operating losses of about \$4.9 and \$1.5 billion, respectively. In 2004, this trend reversed and an operating profit of about \$3.3 billion was achieved. The preliminary estimates for the year 2005 indicate an operating profit of \$4.3 billion. Over the period 1995–2005, operating revenues and expenses increased at an average annual rate of about 4.5 per cent and 4.9 per cent, respectively.

Table 1-4. Operating and net results¹ — World (1995–2005)
(scheduled airlines of ICAO Contracting States)²

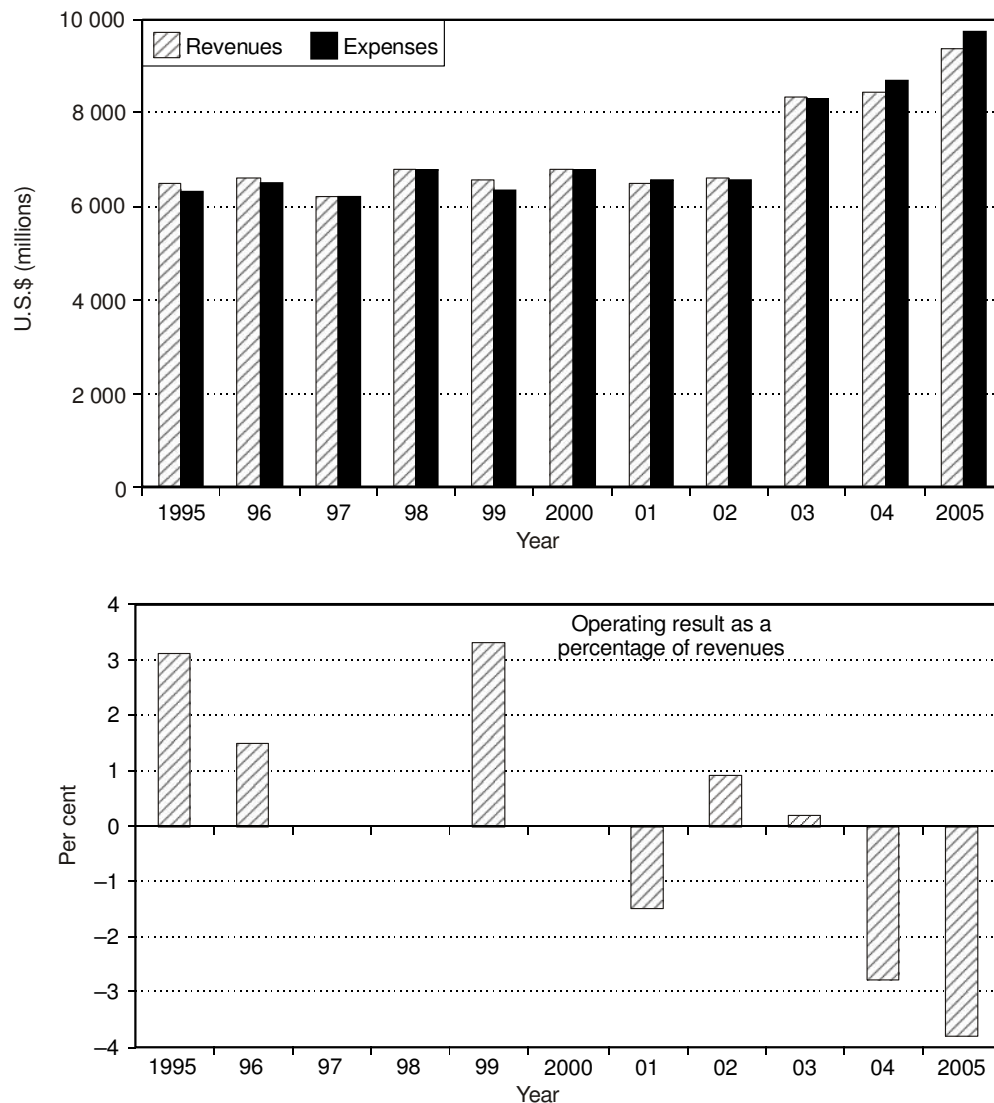
Year	Operating revenues U.S.\$ (millions)	Operating expenses U.S.\$ (millions)	Operating result		Net result ³		Direct subsidiaries U.S.\$ (millions)	Income taxes U.S.\$ (millions)
			Amount U.S.\$ (millions)	Percentage of operating revenues	Amount U.S.\$ (millions)	Percentage of operating revenues		
1995	267 000	253 500	13 500	5.1	4 500	1.7	100	-2 170
1996	282 500	270 200	12 300	4.4	5 300	1.9	30	-2 510
1997	291 000	274 700	16 300	5.6	8 550	2.9	180	-4 200
1998	295 500	279 600	15 900	5.4	8 200	2.8	10	-4 800
1999	305 500	293 200	12 300	4.0	8 500	2.8	10	-4 300
2000	328 500	317 800	10 700	3.3	3 700	1.1	10	-2 750
2001	307 500	319 300	-11 800	-3.8	-13 000	-4.2	10	3 610
2002	306 000	310 900	-4 900	-1.6	-11 300	-3.7	10	2 300
2003	321 800	323 300	-1 500	-0.5	-7 560	-2.3	10	-1 460
2004	378 800	375 500	3 300	0.9	-5 570	-1.5	10	-2 460
2005 ⁴	413 300	409 000	4 300	1.0	-3 200	-0.8		

1. Revenues and expenses are estimated for non-reporting airlines.
2. Up to and including 1997, operations within the Commonwealth of Independent States are excluded.
3. The net result is derived from the operating result by adding (with plus or minus sign as appropriate) non-operating items (such as interest and direct subsidiaries) and income tax. The operating and net results quoted, particularly the net results, are the small differences between the estimates of large figures (revenues and expenses) and are therefore susceptible to substantial uncertainties.
4. Preliminary data. The net results for 2005 have been provisionally estimated after excluding a USD 20.7 billion reorganization expense provision recorded by United Airlines. The same will be considered after the actual impact of reorganization is known and the provisions substantially reversed by the Carrier in the next financial year.

Source: ICAO Air Transport Reporting Form EF plus ICAO estimates for non-reporting States.

AIRLINE FINANCIAL RESULTS: REGIONS OF AIRLINE REGISTRATION

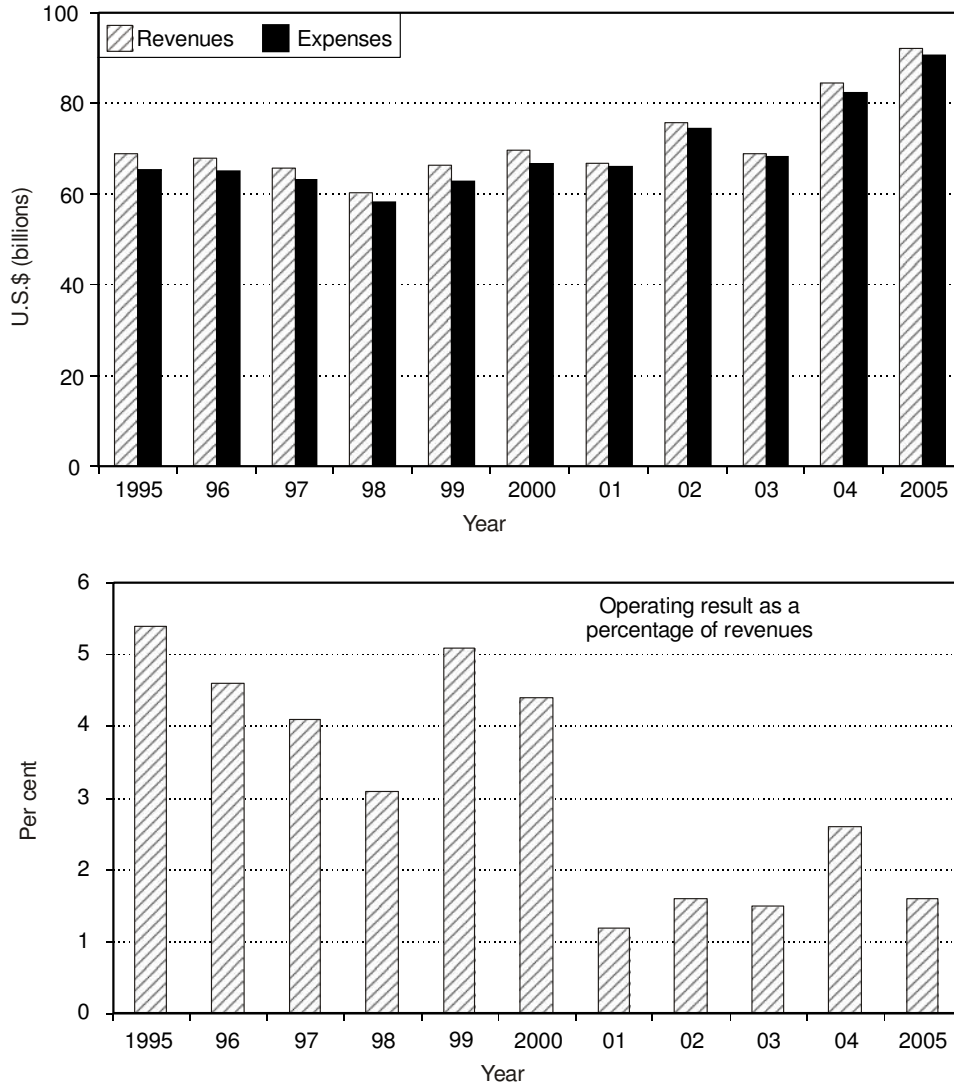
1.11 During the 1995–2005 period, operating revenues of the scheduled airlines of the **African region** increased at an average annual rate of 3.8 per cent. Operating expenses for the same period grew by 4.5 per cent per annum. These rates reflect the relatively low traffic growth experienced over most of the period, a steady decline in average yields, and efforts by African airlines to improve efficiency and financial performance. After experiencing operating losses of about \$100 million in 2001, the airlines of the region posted an operating profit of about \$200 million in 2002 and about \$16 million in 2003. The region, again, suffered an operating loss of about \$237 million in 2004 and \$355 million in 2005 as illustrated in Figure 1-2, due mainly to rising fuel prices.



Note.— 2005 figures are from estimated data.
Source: ICAO Air Transport Reporting Form EF.

Figure 1-2. Scheduled airline operating revenues and expenses — Africa (1995–2005)

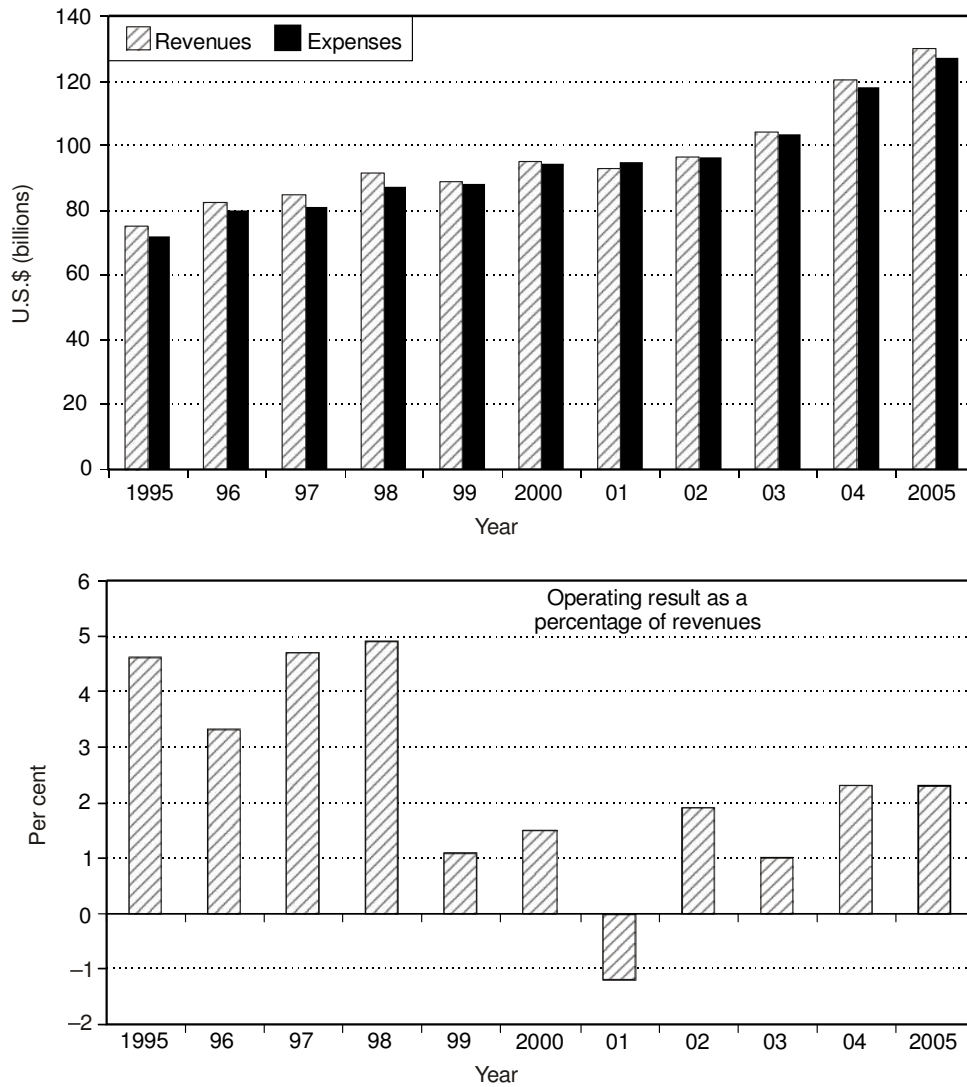
1.12 Operating revenues and expenses of the scheduled airlines of the **Asia/Pacific region** increased at an average annual rate of 2.9 per cent and 3.3 per cent, respectively, over the period 1995–2005. Airlines of the region enjoyed positive operating results throughout the last decade as illustrated in Figure 1-3. They achieved an aggregate operating profit of around \$0.8 billion and \$2.9 billion in the years 2001 and 2002, respectively. For 2003 and 2004, the operating profit was \$0.9 billion and \$2.2 billion, respectively. Preliminary estimates indicate that an operating profit of about \$1.5 billion was achieved in 2005.



Note.— 2005 figures are from estimated data.
Source: ICAO Air Transport Reporting Form EF.

Figure 1-3. Scheduled airline operating revenues and expenses — Asia/Pacific (1995–2005)

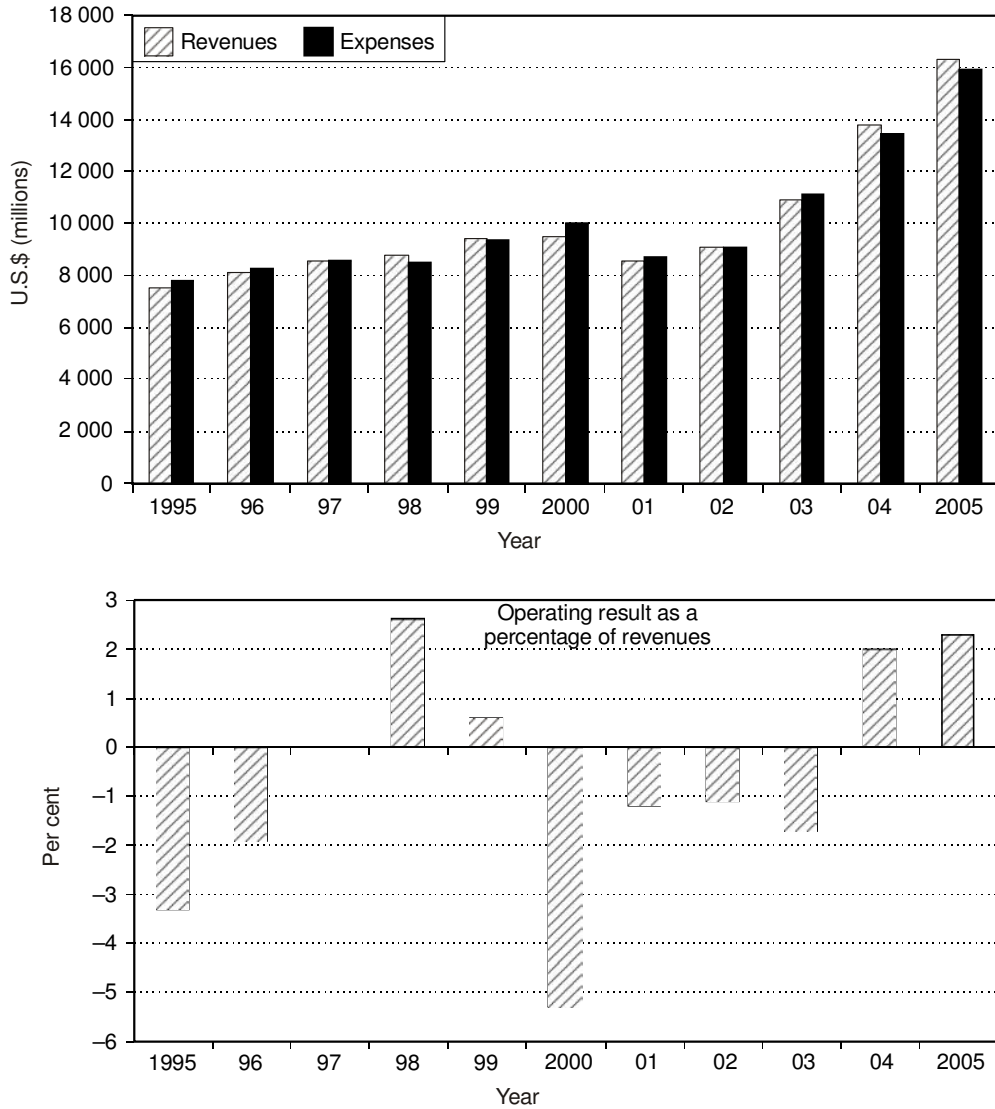
1.13 Operating revenues of the scheduled airlines of the **European region** increased at an average annual rate of 5.6 per cent and operating expenses increased by 5.8 per cent per annum over the period 1995–2005. As illustrated in Figure 1-4, positive operating results were achieved during the period except for the year 2001 when a loss of \$1.1 billion was recorded. The region registered operating profits of about \$2.8 billion and \$3.0 billion in the years 2004 and 2005, respectively, the highest among all regions.



Note.— 2005 figures are from estimated data.
 Source: ICAO Air Transport Reporting Form EF.

Figure 1-4. Scheduled airline operating revenues and expenses — Europe (1995–2005)

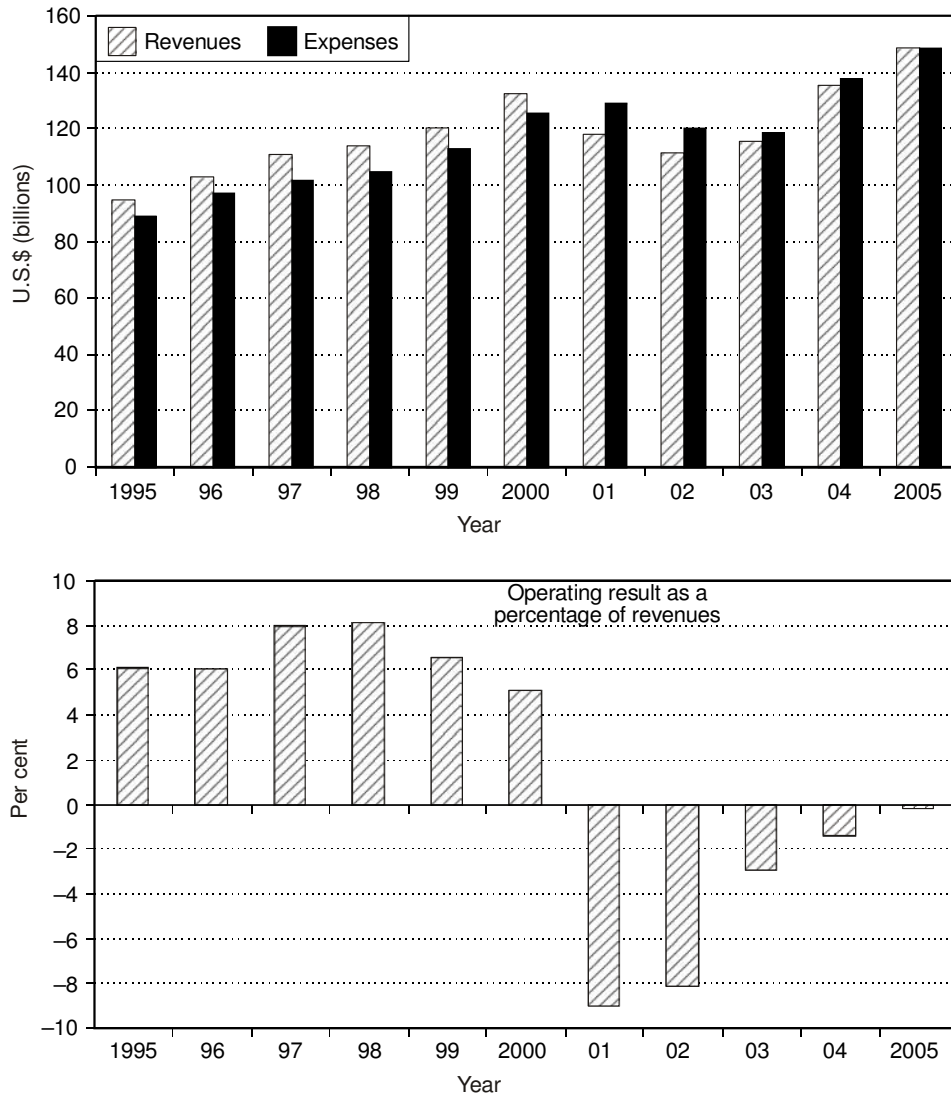
1.14 Operating revenues of the scheduled airlines of the **Middle East region** increased at an average annual rate of 8.0 per cent over the 1995–2005 period. Operating expenses for the same period increased by 7.4 per cent per annum. As shown in Figure 1-5, since 1995 and up to 2003 the airlines of the region have experienced a string of operating losses, except for 1998 and 1999. Operating profits of \$281 million and \$373 million are shown for the years 2004 and 2005, respectively.



Note.— 2005 figures are from estimated data.
 Source: ICAO Air Transport Reporting Form EF.

Figure 1-5. Scheduled airline operating revenues and expenses — Middle East (1995–2005)

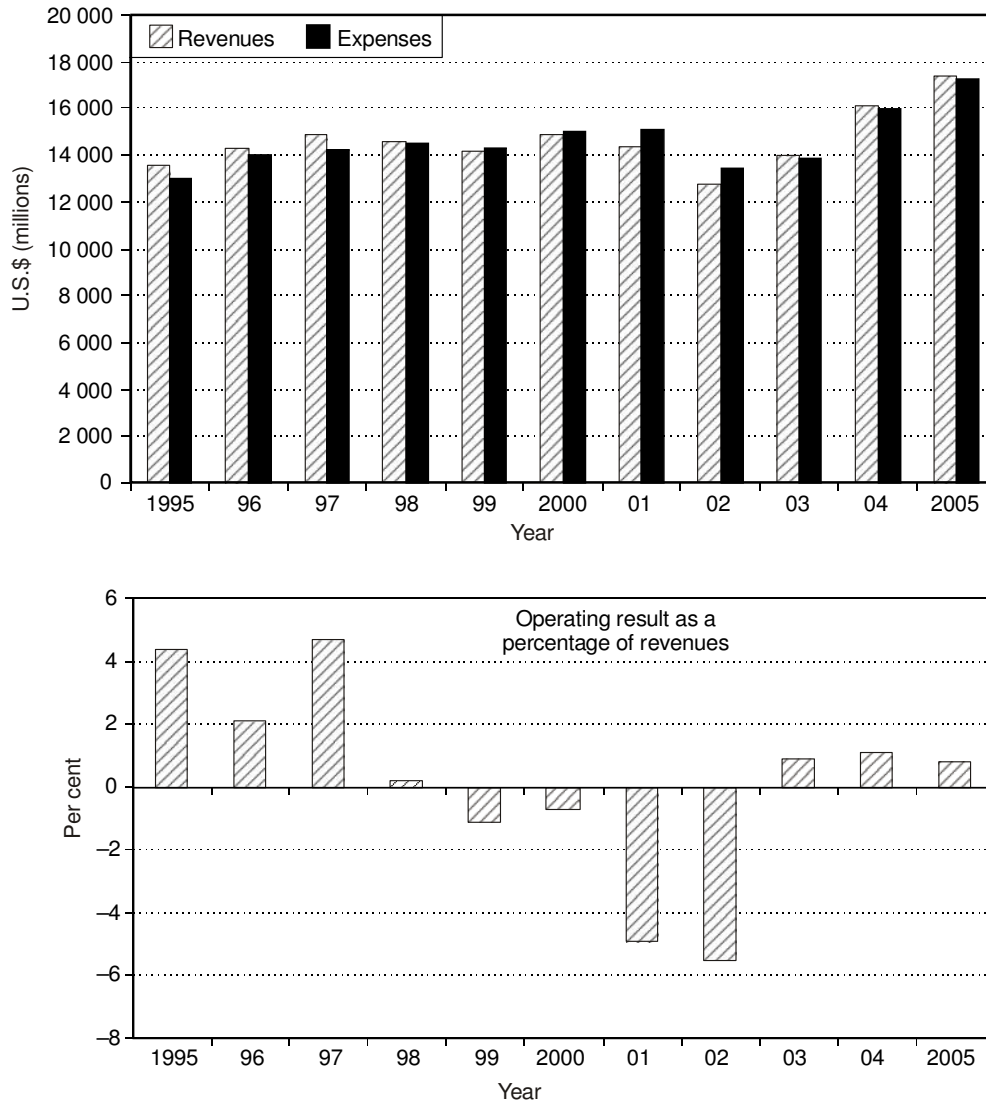
1.15 Operating revenues of the scheduled airlines of the **North American region** increased at an average annual rate of 4.6 per cent over the 1995–2005 period, while over the same period operating expenses increased by 5.2 per cent per annum. Following a three-year period of deficits, an operating surplus was achieved in 1993 and continued for seven consecutive years. Being the ICAO region most affected by the ramifications of the events of 11 September 2001 and the economic slowdown, the North American region posted heavy operating losses of \$10.6 billion and \$8.9 billion during the years 2001 and 2002, respectively. However, for the years 2003 and 2004, the airlines of the region showed reduced aggregate operating losses, at some \$3.3 billion and \$1.9 billion, respectively. The operating loss is estimated further at a reduced level of \$275 million for 2005 as illustrated in Figure 1-6.



Note.— 2005 figures are from estimated data.
 Source: ICAO Air Transport Reporting Form EF.

Figure 1-6. Scheduled airline operating revenues and expenses — North America (1995–2005)

1.16 Operating revenues of the scheduled airlines of the **Latin American and Caribbean region** increased at an average annual rate of 2.5 per cent and the operating expenses increased at an annual growth rate of 2.9 per cent during the period 1995–2005. As illustrated in Figure 1-7, the overall financial performance of the airlines of the region has been poor over most of the period. A concerted effort of drastic cost-cutting, airline industry restructuring and demand recovery brought positive operating results for five consecutive years (1994–1998). The trend, however, reversed in 1999 and, until 2002, the airlines of the region experienced continuous operating losses. The airlines of the Latin American and the Caribbean region have posted an operating profit of about \$123 million in 2003. The improvement of the financial performance continued in 2004 and 2005 with operating profits at about \$173 million and \$138 million, respectively.



Note.— 2005 figures are from estimated data.
 Source: ICAO Air Transport Reporting Form EF.

Figure 1-7. Scheduled airline operating revenues and expenses — Latin America and the Caribbean (1995–2005)

Chapter 2

TRENDS IN FACTORS UNDERLYING AIR TRAFFIC DEMAND

2.1 Demand for air passenger travel is primarily determined by socio-economic factors such as income levels, demographics and the cost of air travel. World energy demand, supply and prices are critically important both to economic progress and to the cost of travel. As a result, the airline industry is highly vulnerable to economic cycles and fluctuations in fuel prices.

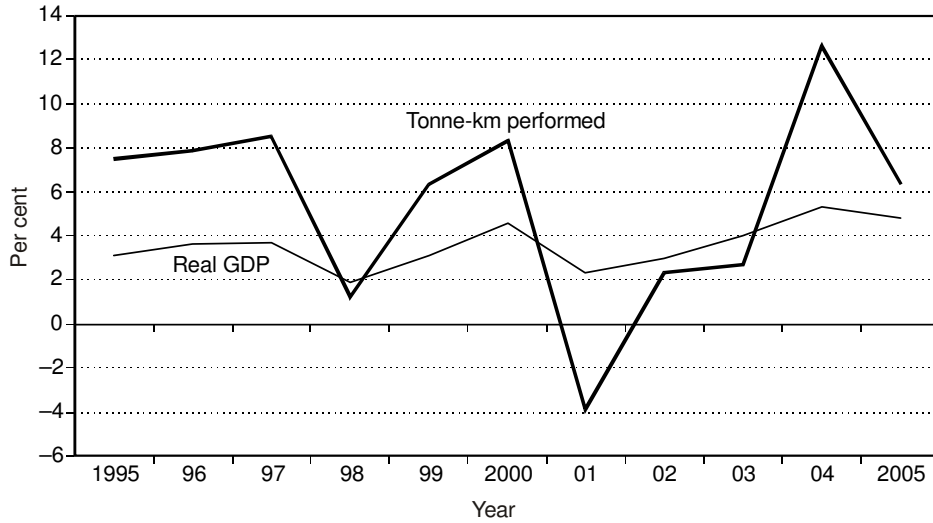
GLOBAL AND REGIONAL ECONOMIC AND DEMOGRAPHIC TRENDS

2.2 In broad terms, the pattern of traffic growth over the 1995–2005 period was a reflection of economic conditions experienced over this period, as depicted in Figure 2-1. During that period, the aggregate world economy measured in terms of GDP grew at an average annual rate of 3.6 per cent in real terms. Between 1995 and 2005 the world population increased at an average annual rate of 1.3 per cent. Hence, the world's GDP per capita increased during the same period at an average annual rate of 2.3 per cent, significantly lower than the growth of GDP itself, as indicated in Figure 2-2. The following paragraphs provide some highlights of world and regional GDP trends over the 1995–2005 period.

2.3 Following a global economic downturn in 1991, recovery commenced in North America in 1992, but it was not until 1994 that it took hold in most of Western Europe. In 1998, the world economy experienced some slowdown resulting from the financial crisis in several Asian countries, but in 1999 it rebounded and posted 3.1 per cent growth. The economy continued to grow in 2000, by 4.6 per cent, but experienced a slowdown in growth in 2001 in almost all major regions. This slowdown was accompanied by a marked decline in trade growth, significantly lower commodity prices, and deteriorating financing conditions in emerging markets. The events of 11 September 2001 amplified the impact on consumer and business confidence, demand and activity, particularly in the United States. Consequently, the global economy grew by only 2.3 per cent in 2001. In 2002, with trade and industrial production improving across all regions, the world economy recovered and grew at a rate of 3 per cent. Supported by increasing consumer confidence and demand, the world GDP registered a growth of 4 per cent in 2003 followed by a strong expansion of 5.3 per cent in 2004. World economic growth remained robust at 4.8 per cent in 2005.

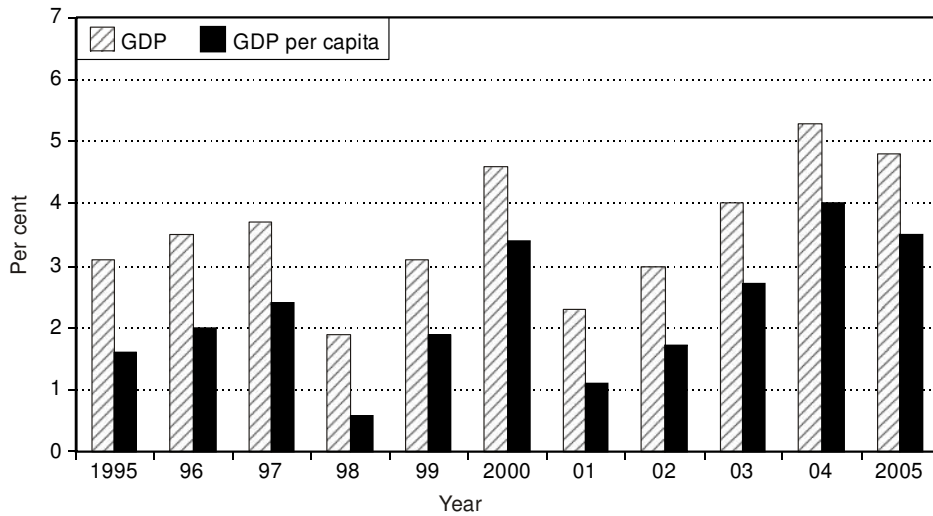
2.4 Over the 1995–2005 period, the aggregate economy of the **African region** grew at an average annual rate of 3.9 per cent, while GDP per capita increased at a rate of 1.6 per cent per annum in real terms. Figure 2-3 illustrates the year-to-year changes in the region's GDP and GDP per capita. Factors such as greater macroeconomic stability, modest progress in liberalizing markets and privatizing state enterprises helped the region's improved economic performance significantly. Favourable external conditions such as the rapid growth in world trade, surging private capital flows and a mini-boom in commodity prices (1994–1995) also helped. After achieving a GDP growth of 5 per cent in 1996, the aggregate economy witnessed a decline in growth rates through to 1999. The years 2000 through 2002 were not very impressive in terms of economic growth either. The contributing factors include increases in oil prices, the resurgence of civil conflict, and the losses from terms of trade resulting from weak commodity

prices. The aggregate African economy has, however, been performing better and grew at 4.6, 5.5 and 5.2 per cent during 2003, 2004 and 2005, respectively, mainly due to the positive effects of economic reforms and the increase in some commodity prices.



Source: IMF, ICAO Air Transport Reporting Form A.

Figure 2-1. GDP and scheduled traffic growth — World (1995–2005)



Source: IMF.

Figure 2-2. Annual change in real GDP and GDP per capita — World (1995–2005)

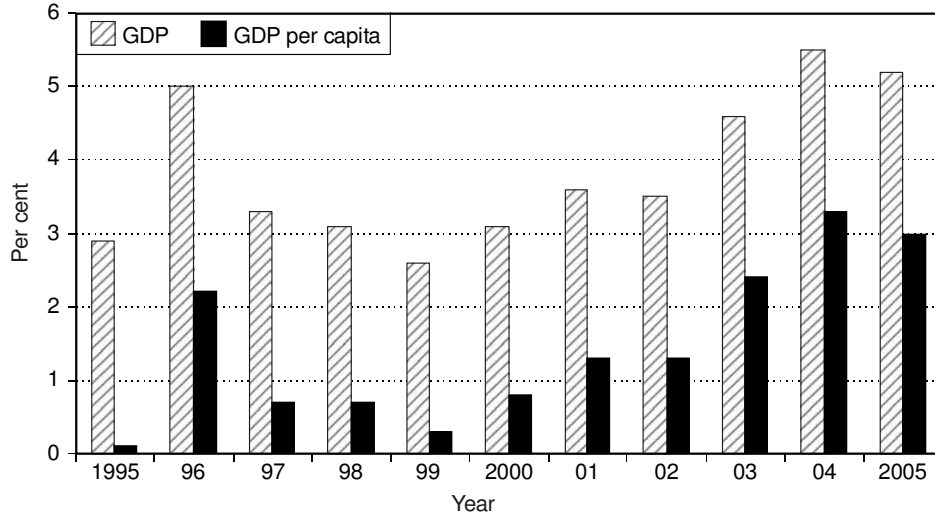
2.5 Over the 1995–2005 period, the aggregate economy of the **Asia/Pacific region** grew at an average annual rate of 4.6 per cent in real terms, and GDP per capita increased at 3.2 per cent per annum. The Asia/Pacific region has achieved the largest share in the world economy and has also been the fastest growing region despite a slowdown and recession when GDP growth dropped from 3.9 per cent in 1997 to –0.3 per cent in 1998. Following a financial crisis, the region regained its economic strength and GDP continued to grow well above the world average even in 2001 (3.9 per cent) despite a global slowdown that year. In 2002, the region's economy grew by about 4.6 per cent. Despite the adverse effects of the SARS outbreak in the first half of 2003, the economy bounced back in the second half of the year with a surge in domestic demand coupled with export growth boosted by increased global activity, the upturn in demand for high technology goods, favorable exchange rates, higher consumer confidence and a boost in tourism, resulting in a growth rate of 5.9 per cent for 2003. The region's GDP grew at 6.8 per cent in 2004. It is estimated that the region's economy has grown at 6.6 per cent in 2005, the highest growth rate among ICAO regions. The year-to-year changes in the region's GDP and GDP per capita are illustrated in Figure 2-4.

2.6 The aggregate economy of the **European region** went into decline starting in 1990, the primary reason being the serious contractions of the economies of Eastern Europe and the Commonwealth of Independent States (CIS). By 1997, total output was back to where it had been in 1989, but masked a persistent divergence between countries in Western and Eastern Europe. Over the 1995–2005 period, the GDP for the entire region (including the CIS), grew at an average annual rate of 2.4 per cent in real terms while the aggregate GDP per capita grew at a rate of about 2.0 per cent. It is estimated that the European economy grew by 2.4 per cent in 2005. The European Union GDP grew at 1.8 per cent, the economies of Central and Eastern European countries grew in the aggregate at around 5.3 per cent while those of the CIS grew faster, at 6.5 per cent. Figure 2-5 illustrates the annual changes in GDP and GDP per capita for the region over the 1995–2005 period.

2.7 The economy of the **Middle East region** has been characterized by some pronounced cycles over the past decade, as illustrated in Figure 2-6, which presents the year-to-year changes in the region's GDP and GDP per capita in real terms. With political and economic stability in the region, GDP growth, which was comparatively low (1.6 per cent) in 1994, regained its momentum in 1995 and sustained varying degrees of strength for the following nine years. In 2004 and 2005, the economy achieved growth rates of 5.4 per cent and 5.9 per cent, respectively, in real GDP, well above the 5 per cent level for the third consecutive year, benefiting from higher oil prices. Over the 1995–2005 period, the aggregate GDP for the Middle East grew at an average annual rate of 4.3 per cent in real terms, while GDP per capita averaged a 2.1 per cent growth rate per annum.

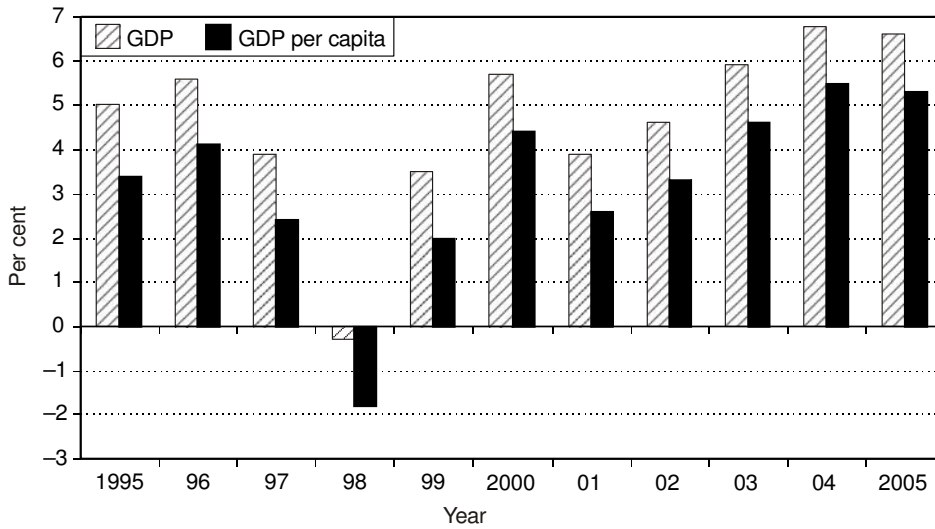
2.8 Over the 1995–2005 period, the economy of the **North American region** grew at an average annual rate of 3.2 per cent in real terms and GDP per capita increased at 2.2 per cent. The U.S. economic expansion, which began in 1991, has been the longest since 1945. By the end of 2000, an economic slowdown had affected economic activities, with a worsening impact after the events of 11 September 2001. As a result, the year 2001 saw GDP growth of 0.4 per cent only. In the years 2002 to 2004, the region's economic growth showed a steady recovery with growths of 2.3, 2.9 and 4.1 per cent, respectively. The year 2005 witnessed a growth of 3.4 per cent. The year-to-year changes in the region's GDP and GDP per capita are illustrated in Figure 2-7.

2.9 Over the 1995–2005 period, the aggregate economy of the **Latin American and Caribbean region** grew at an average annual rate of 2.8 per cent in real terms, whereas GDP per capita grew at 1.3 per cent. After a record 5.3 per cent growth in GDP in 1997, the regional economic growth declined to 2.1 per cent in 1998 and further to 0.2 per cent in 1999. It managed to rebound in 2000 and grew by 4.4 per cent, in part as a result of the implementation of strong adjustment measures in many countries, but slumped again towards stagnancy in 2001 (0.6 per cent growth) and 2002 (–0.1 per cent). In 2003, GDP rebounded and grew by 2.2 per cent. In 2004, the region's economy grew at 5.6 per cent, the highest growth rate experienced during the 1995–2005 period. The region's GDP growth rate in 2005 is estimated at 4.3 per cent. The year-to-year changes in the region's GDP and GDP per capita are illustrated in Figure 2-8.



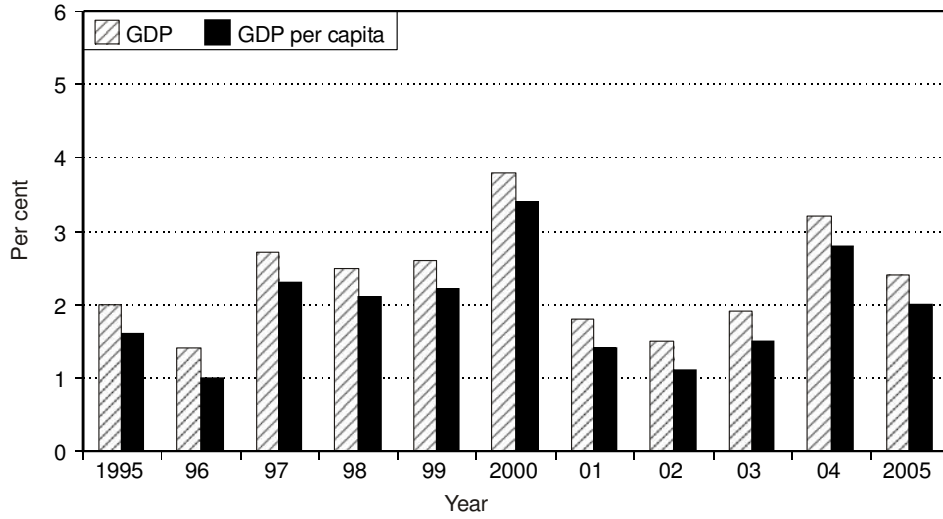
Source: IMF.

Figure 2-3. Annual change in real GDP and GDP per capita — Africa (1995–2005)



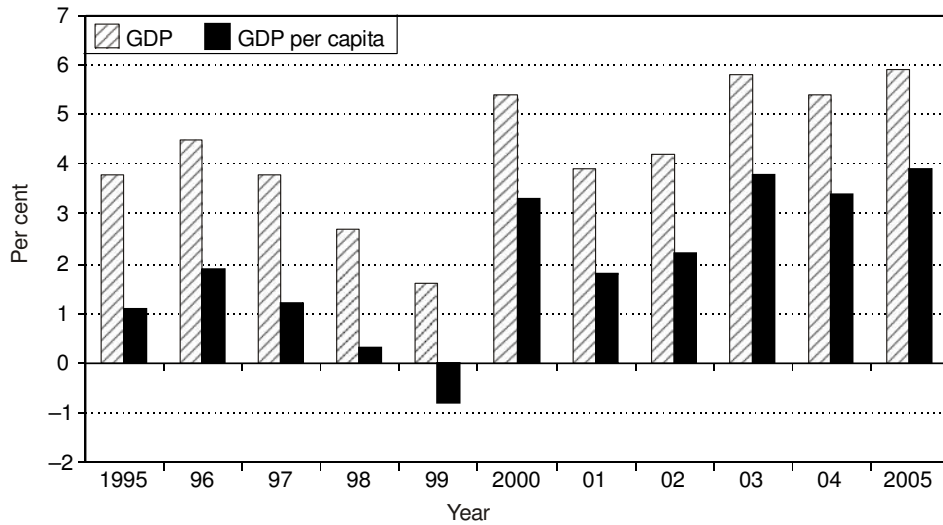
Source: IMF.

Figure 2-4. Annual change in real GDP and GDP per capita — Asia/Pacific (1995–2005)



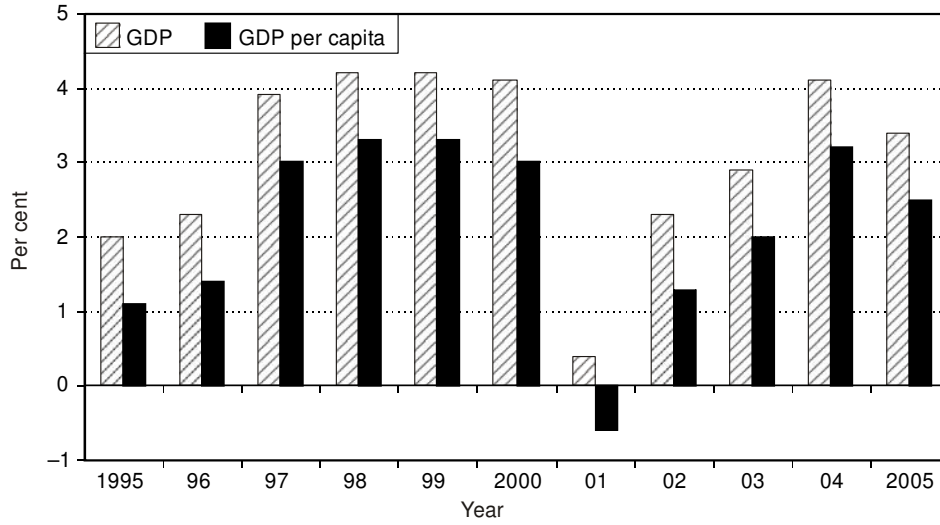
Source: IMF.

Figure 2-5. Annual change in real GDP and GDP per capita — Europe (1995–2005)



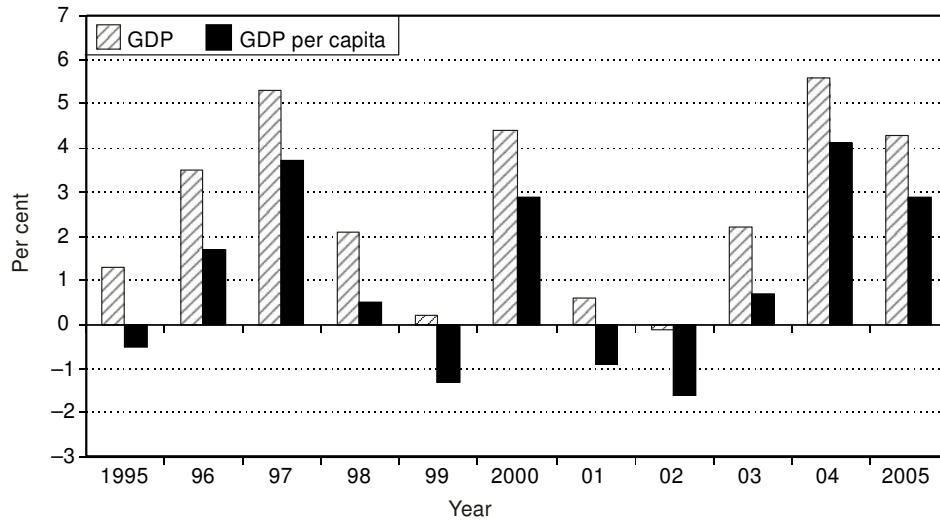
Source: IMF.

Figure 2-6. Annual change in real GDP and GDP per capita — Middle East (1995–2005)



Source: IMF.

Figure 2-7. Annual change in real GDP and GDP per capita — North America (1995–2005)



Source: IMF.

Figure 2-8. Annual change in real GDP and GDP per capita — Latin America and the Caribbean (1995–2005)

AIRLINE PRODUCTIVITY, INPUT PRICES, FINANCIAL PERFORMANCE AND PASSENGER YIELDS

2.10 The scheduled airline industry has a long history of improving productivity. As a result, the growth in output (traffic volumes measured by tonne-kilometres performed or TKP) has been greater than the growth in the various inputs used by the industry (mainly labour, fuel and aircraft). For the purposes of the present forecasts, separate partial productivity measures for labour (TKP per employee), fuel (TKP per tonne of fuel consumed) and aircraft (TKP per tonne of fleet payload) have been developed. The trend in total productivity, which is a combination of the partial productivities, is shown in Figure 2-9. The average annual growth in productivity since 1995 has been about 3.4 per cent. The progressive absorption of new technology aircraft into airline fleets has been a major reason for the improvement in productivity. In particular, the new aircraft are more fuel- and labour-efficient. Improved aircraft utilization and load factors have also made important contributions. Although productivity declined in 2001, caused by a sudden output (TKP) contraction, flight cancellations, and personnel and fleet reductions, the total productivity index showed positive growth in recent years, signalling an increase in overall demand and other factors which contribute to airline productivity growth.

2.11 Improvements in productivity can, in principle, be used either to reduce the real fares and rates paid by passengers and shippers, to pay for increases in real input prices (e.g. wage rates, fuel prices), or to provide airlines with improved financial results. The trends in airline yields (revenue per tonne-kilometre performed) and input prices, deflated by the Consumer Price Index of industrial countries, are presented in Figure 2-9, together with the trend in the revenue/expense ratio representing the financial performance of the scheduled airline industry. Expenses are defined here as operating expenses, excluding taxes and interest on debt. It is clear that, over the past decade, airline customers have benefited from lower real yields made possible by the impact of productivity growth despite an increase in the index of real input prices. The 2001 decline in productivity translated into significant operational losses for the airlines despite a marginal decline in real input prices, while real yields declined. During 2002, productivity increased but airlines still suffered minor losses, the input prices remained almost steady and the real yields continued to decline moderately, creating some incentive to accelerate demand. The real yields for 2003 declined slightly and demand showed signs of progressive improvement during the latter part of the year. The years 2004 and 2005 registered a reversal in the trend of real yields with increases of 4.0 and 3.2 per cent, respectively, as demand for air travel recovered and airlines continued to adjust supply.

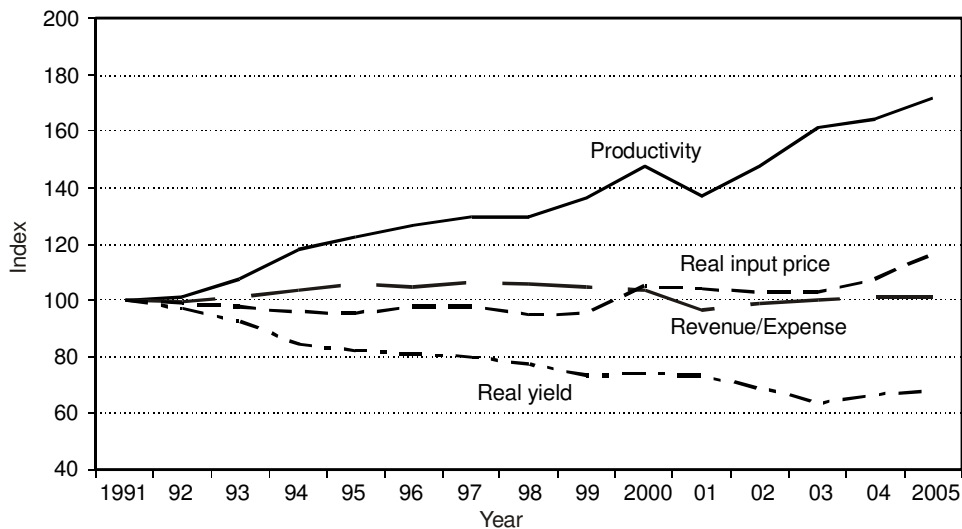
2.12 The high rate of aircraft deliveries in the early 1990s resulted from very high volumes of aircraft orders in earlier years, which were generated by strong economic growth and a ready availability of financing. Because of the time lag between orders and deliveries, the buoyant market conditions which existed at the time of peak order levels had changed by the time the peak deliveries were made, which exacerbated the mismatch between supply and demand in the industry. With aircraft orders at low levels after 1990, aircraft deliveries returned to moderate levels in 1994 and 1995. Together with improved demand, this helped to reduce excess capacity in the industry. Aircraft orders started to increase again from 1996, surpassing aircraft deliveries for the first time since 1990. In 1999, orders dropped almost to the level of deliveries, but rebounded significantly in 2000. During 2001 and 2003, they again dropped below the level of deliveries, primarily due to airlines deferring their deliveries as a result of the traffic decline. In 2003, aircraft deliveries continued to drop while orders increased reaching almost the same level. While orders remained flat in 2004, they increased substantially in 2005 exceeding 2000 aircraft orders. Deliveries remained almost at the same level as in 2003 (see Figure 2-10).

2.13 The variations in the annual operating result, measured as a percentage of airline revenue, are illustrated graphically for the period 1995–2005 in Figure 2-11, which also shows the fluctuations in traffic growth over the same period. There is a positive correlation between this measure of financial return and the growth in traffic. In 1995, yields became somewhat more stable compared to previous years and cost efficiency increased progressively, resulting in successive improvements in operating results. Financial performance was hampered slightly in 1996 by the increase in fuel prices. It improved in 1997 and 1998 due

to increases in average passenger load factors in 1997 and declines in fuel prices in both years. In 1999, it was less buoyant than in preceding years and in 2000 it deteriorated further, mainly due to substantial increases in fuel prices. The unprecedented traffic decline in 2001, combined with high fuel prices in the early part of the year and increasing security and insurance costs in the latter part led to a significant deterioration in airline financial performance. Subsequent to the events of 11 September 2001, during both years 2002 and 2003, airline financial results remained negative. The years 2004 and 2005 registered positive operating results.

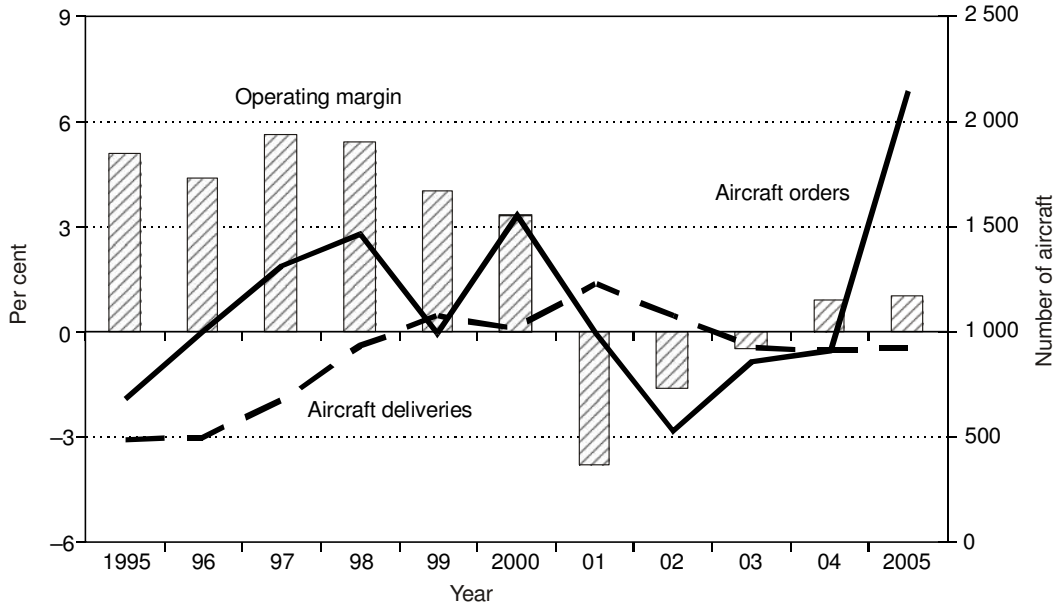
2.14 The share of aircraft fuel and oil expenses in total operating expenses has increased from 11.4 per cent in 1995 to 16.3 per cent in 2004. After soaring in 1999 and 2000, fuel prices declined moderately in 2001 and have been on an increasing trend since 2002, as illustrated in Figure 2-13. Changes in fuel prices have had important effects on costs and hence on both financial returns and airline yields at certain times in the past.

2.15 Airline passenger yields (revenue per passenger-kilometre performed) are dependent on a number of factors such as productivity gains, operational expenses and level of competition. Major developments related to these factors include efficiencies achieved in fuel and labour costs as well as the continued introduction of new, more efficient aircraft types. As a result, over the period 1995–2005 world average scheduled passenger yields, expressed in real terms and measured in cents per passenger kilometre, declined at a 3.3 per cent average annual rate, contributing significantly to traffic growth. The annual changes ranged from an increase of 0.7 per cent in 2004 to a decline of 6.4 per cent in 2001, as illustrated in Figure 2-12. For the regions, the average annual declines during the same period ranged from 5.4 per cent for the Asia/Pacific region to 2.1 per cent for the European region.



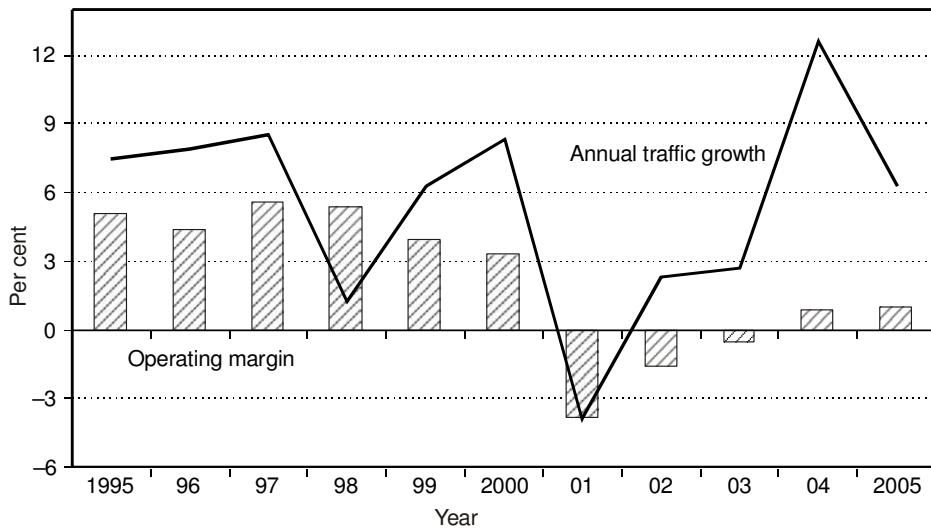
Source: IMF, ICAO Air Transport Reporting Forms A and EF.

Figure 2-9. Trends in performance of scheduled airline industry (1991–2005)



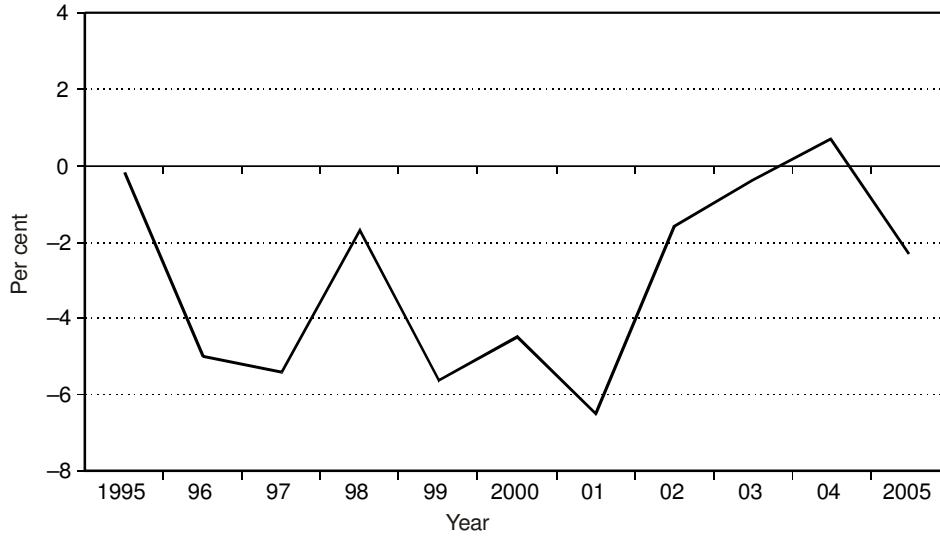
Source: ICAO Air Transport Reporting Form EF and aircraft manufacturers.

Figure 2-10. Financial return and aircraft supply — World (1995–2005)



Source: ICAO Air Transport Reporting Forms A and EF.

Figure 2-11. Financial return and traffic growth of scheduled airline industry — World (1995–2005)



Source: ICAO Air Transport Reporting Forms A and EF.

Figure 2-12. World average scheduled passenger yields (1995–2005)

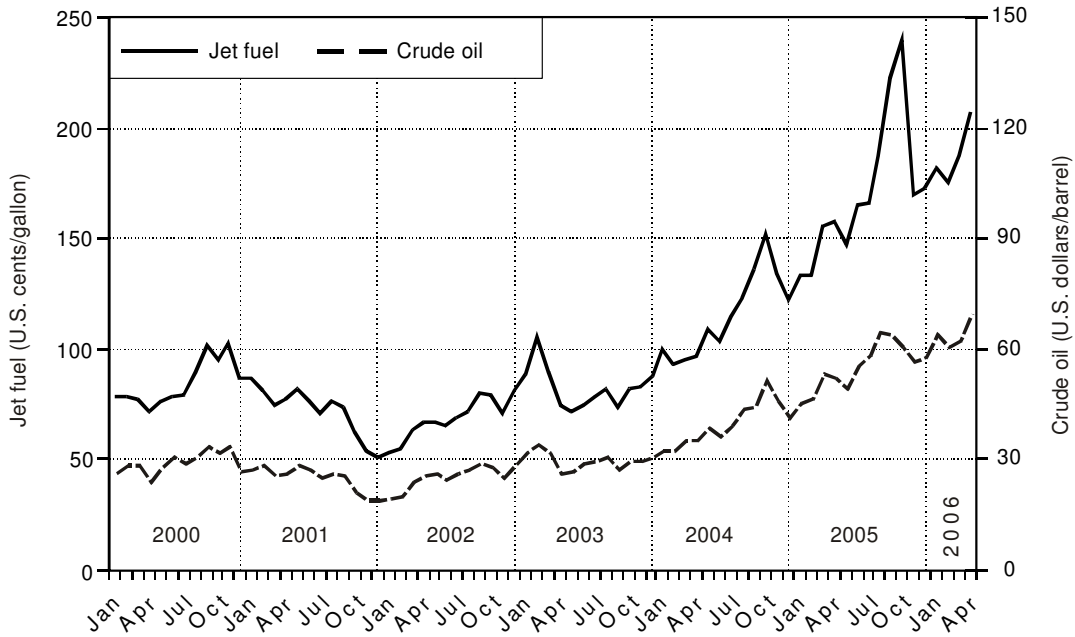


Figure 2-13. Trends in fuel prices — 2000–2006

Chapter 3

FORECAST METHODOLOGY AND MAIN ASSUMPTIONS

3.1 As a basis for the passenger traffic forecasts in this circular, econometric analyses were carried out to determine the historical relationship between airline passenger traffic, economic performance and airline yield levels. These analyses were used to translate the expectations of future global economic development and yield levels into annual projections of traffic demand for the years 2006, 2007 and 2008 using the methodology described in the Appendix. These forecasts were then reviewed in light of the factors that could not be quantified by the econometric model.

3.2 Even though at the global level the model seems to be reliable, it has been less than adequate at the State or regional level because of the influences of unique factors and uncertainties in the air transport industry in recent years. Therefore, annual projections of regional traffic demand for the years 2006, 2007 and 2008 included a combination of both the econometric analyses and somewhat subjective inputs based on expectation of future development of economic and demographic factors as well as other factors. Due consideration was also given to the recorded activity in the first four months of 2006.

3.3 The projections for global and regional economic growth that have been used as a basis for ICAO's air traffic forecasts over the period to 2008 are presented in Table 3-1. These regional and global assessments of the economic outlook take into account the most recent forecasts from the IMF, OECD and the World Bank as well as the views of other organizations in both the governmental and private sectors. According to these projections, the world economy is expected to grow by 4.9, 4.7 and 4.6 per cent in 2006, 2007 and 2008, respectively.

3.4 The reasonably positive economic outlook augurs well for global traffic demand over the forecast period. The prospects for airline yields are closely related to cost developments and market conditions in the airline industry. It is expected that productivity improvement will continue to produce cost savings, but these savings will probably be used partly to offset the accumulated losses, and their effect on air fares will therefore be limited. Despite airline efforts at "hedging" fuel prices, airline fuel expenses are expected to remain high during the forecast period. Salaries and wages represent the largest airline expense item. It is expected that cost pressures may increase over the next few years. These various cost pressures will provide a benchmark for airline yields, with revenues needing to be sufficient to cover costs over the long term. However, in the short term, movements in yields will be influenced by competitive conditions in airline markets.

3.5 Among ICAO regions, economic growth in Asia/Pacific is expected to remain solid in 2006, and to maintain momentum through to 2008. Having shown some resilience to geopolitical tensions and conflicts, the Middle East economy is expected to experience higher than world average growth through to the end of the forecast period. The African economy is projected to grow at 5.7, 5.5 and 5.4 per cent in 2006, 2007 and 2008, respectively. Having shown significant recovery in 2004 and 2005 following stagnation and recession during the 2001–2003 period, the economy of the Latin American and Caribbean region is expected to achieve growth rates of 4.3, 4.1 and 4.0 per cent in 2006, 2007 and 2008, respectively. It is anticipated that the economy of the North American region will continue to grow at around 3.4 per cent in 2006 and 3.3 per cent both in 2007 and 2008. A weakness in internal demand, a tight fiscal policy and the appreciation of the Euro currency are anticipated to lead to lower than the world average growth rates in the

European region, throughout the 2006–2008 period, although economic growth is expected to be higher than the average for the 1995–2005 period for that region.

Table 3-1. Economic growth (GDP) by region
(real average annual growth rates, per cent)

Region	Average annual growth (%) 1995-2005	FORECAST			
		Estimated 2005	2006	2007	2008
Africa	3.9	5.2	5.7	5.5	5.4
Asia/Pacific	4.6	6.6	6.4	6.1	6.0
Europe	2.4	2.4	2.9	2.8	2.6
Middle East	4.3	5.9	5.7	5.4	5.2
North America	3.2	3.4	3.5	3.3	3.3
Latin America/Caribbean	2.8	4.3	4.3	4.1	4.0
World	3.6	4.8	4.9	4.7	4.6

Source: ICAO estimates based on data from the International Monetary Fund (IMF) and other economic sources.

Chapter 4

AIRLINE TRAFFIC AND FINANCIAL FORECASTS

AIRLINE TRAFFIC FORECASTS

Global

4.1 The global and regional scheduled passenger traffic forecasts for 2006, 2007 and 2008, based on economic assumptions and other considerations, are presented in Table 4-1 and Figure 4-1. Global passenger traffic in terms of passenger-kilometres performed is expected to continue to expand and grow at 6.1 per cent in 2006. For the years 2007 and 2008, it is forecast to grow at 5.8 and 5.6 per cent, respectively.

Regions of airline registration

4.2 Traffic growth will vary by geographic region because of the impact of specific local or regional factors. For the period 2006–2008, it is anticipated that the traffic of the airlines of the Middle East region will show the highest annual growth rates over the forecast period. The airlines of the Asia/Pacific and African regions are forecast to experience fairly strong traffic growth rates throughout the forecast period, well above the world average. The markets for the European airlines are also expected to grow at rates higher than the world average as a result of the improved economic performance. The airlines of the North American and Latin American and the Caribbean regions are expected to grow somewhat below the world annual growth rates during the forecast period. The regional scheduled passenger traffic forecasts for the years 2006, 2007 and 2008, for each of the ICAO regions, are depicted in Figures 4-2 to 4-7.

GLOBAL AIRLINE FINANCIAL FORECAST

4.3 Financial trends in the airline industry are difficult to forecast because airlines are able to adjust capacity over time and manage yields through fare adjustments at relatively short notice to respond to (or to create) changes in demand. In addition, fluctuations in the value of the U.S. dollar complicate the interpretation and forecasting of global financial results which are presented in U.S. dollar terms. Also, as ICAO receives airline financial data on an annual basis only, the period between transaction and reporting is much greater than for traffic data, and there are significant gaps in reporting. Because of these considerations, the forecasts in this circular are restricted to indicative global trends in financial results.

**Table 4-1. ICAO scheduled passenger traffic forecasts —
World and regions (2006–2008)**
(passenger-kilometres performed)

Region of Airline Registration	1995 (billions)	2005 (billions)	Average Annual Growth (%) 1995-2005	FORECAST					
				2006 (billions)	Growth (%)	2007 (billions)	Growth (%)	2008 (billions)	Growth (%)
Africa	49.9	84.8	5.4	90.7	6.9	96.4	6.3	101.9	5.7
Asia/Pacific	556.5	967.4	5.7	1 036.1	7.1	1 105.5	6.7	1 176.3	6.4
Europe	565.4	1 004.9	5.9	1 070.2	6.5	1 136.6	6.2	1 204.8	6.0
Middle East	66.9	168.9	9.7	189.2	12.0	209.0	10.5	228.9	9.5
North America	900.6	1 334.5	4.0	1 394.6	4.5	1 454.5	4.3	1 517.1	4.3
Latin America/ Caribbean	108.9	159.2	3.9	167.2	5.0	175.0	4.7	182.4	4.2
World	2 248.2	3 719.7	5.2	3 947.8	6.1	4 177.0	5.8	4 411.2	5.6



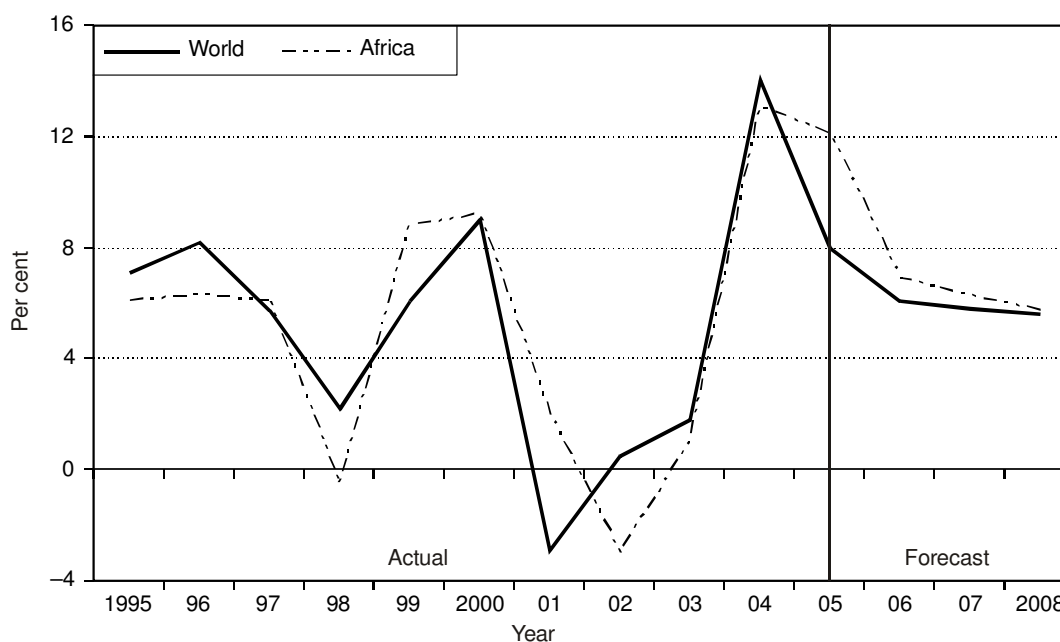
Source: ICAO.

**Figure 4-1. Scheduled passenger traffic growth (PKPs) —
World (1995–2008)**

4.4 The forecast for total revenues for scheduled airlines is based on assumptions for passenger yields and on the passenger forecasts presented above, together with further assumptions for the trend in the share of airline revenue from sources other than scheduled passengers (i.e. freight, mail, non-scheduled operations and incidental). On this basis, total revenues in current U.S. dollars are expected to increase substantially by about 8.2 per cent in 2006, and to slow down slightly to grow by 7.9 and 7.7 per cent in the years 2007 and 2008, respectively.

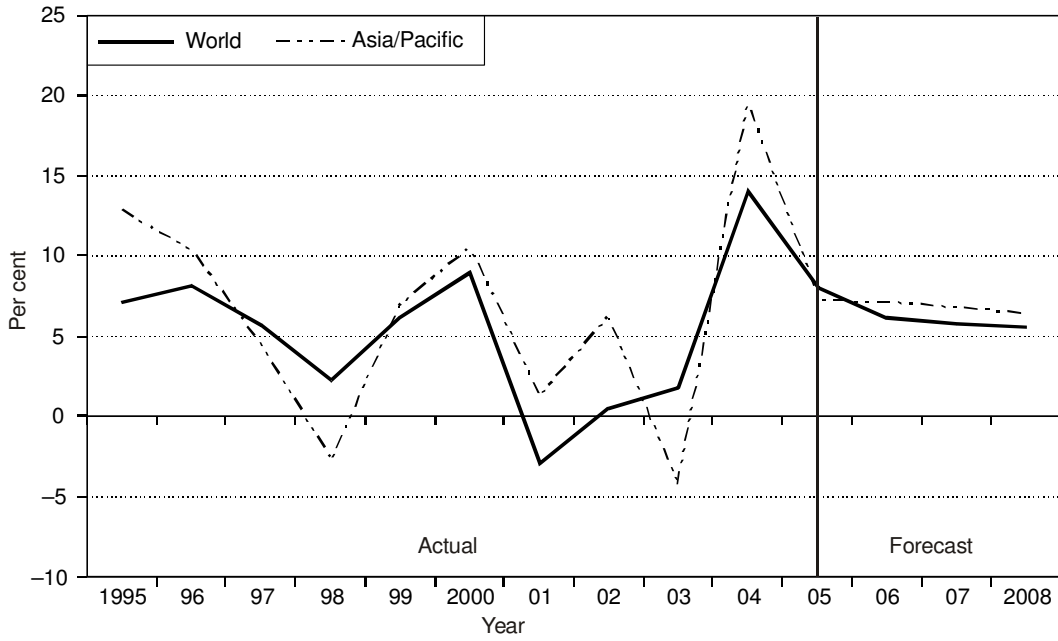
4.5 The forecast for airline expenses is based on assumptions for the expected trends in quantity of inputs (labour, fuel and aircraft capacity) and the prices of those inputs, the latter being primarily determined by the outlook for general inflation. Airlines are taking steps to trim employment levels and generally improve productivity in order to contain costs. In the light of these considerations, airline expenses in current U.S. dollars are expected to increase at the rate of about 7.7 per cent in 2006 and grow by 7.5 and 7.3 per cent in the years 2007 and 2008, respectively.

4.6 The operating result for the world's scheduled airlines is the difference between operating revenues and expenses, the forecasts of which have been made independently; both are subject to significant margins of error. It is therefore not possible to forecast the operating result with any reasonable degree of certainty. Nevertheless, the above forecasts of operating revenues and expenses imply that the operating result as a percentage of operating revenues will improve to show an operating profit of about 1.5 per cent in 2006. This result improves progressively to about 1.9 per cent in 2007 and 2.2 per cent in 2008. These estimates suggest a gradual improvement in the financial outlook for the global airline industry during the forecast period, in line with expectations for traffic growth and general economic development.



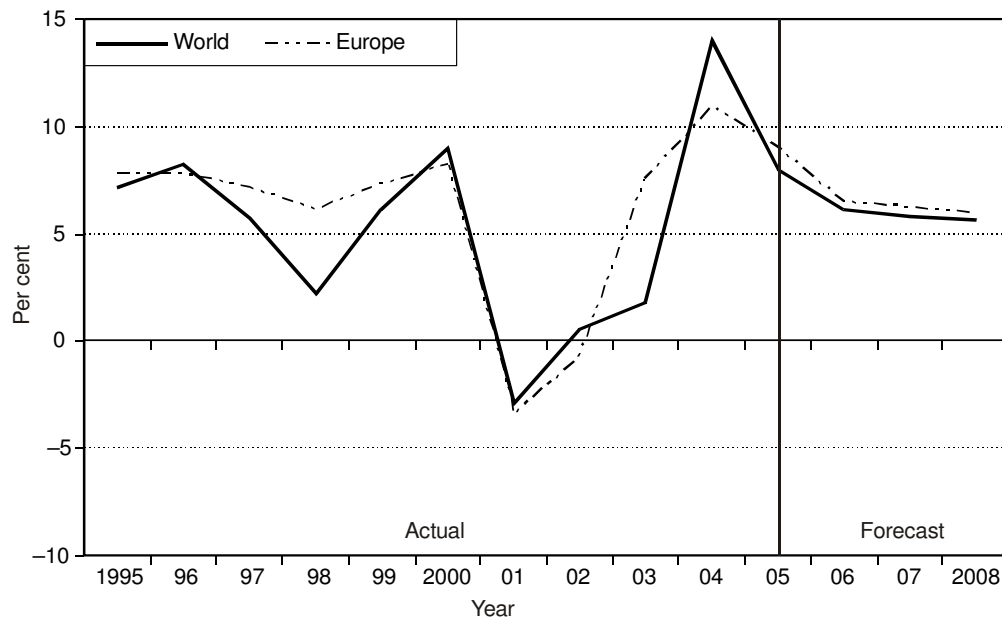
Source: ICAO.

Figure 4-2. Scheduled passenger traffic growth (PKPs) — Africa and World (1995–2008)



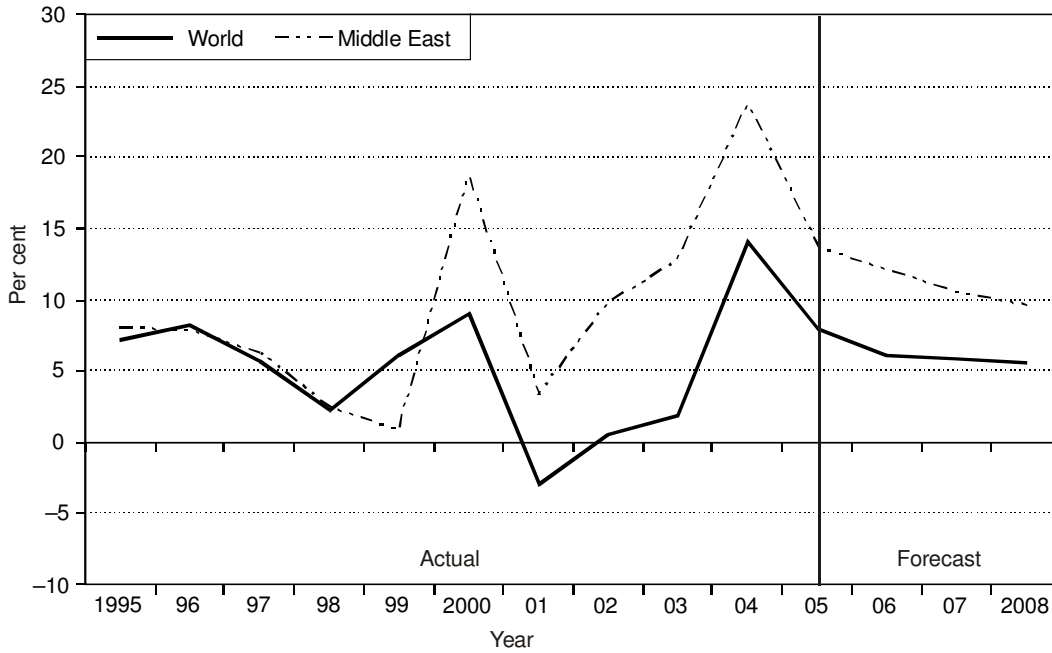
Source: ICAO.

Figure 4-3. Scheduled passenger traffic growth (PKPs) — Asia/Pacific and World (1995–2008)



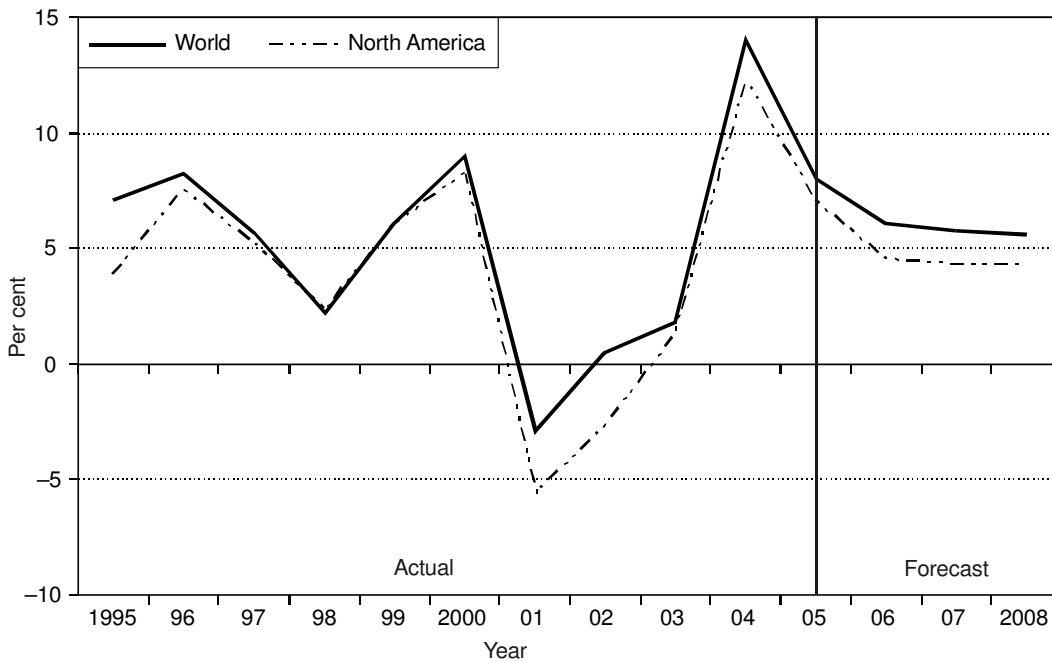
Source: ICAO.

Figure 4-4. Scheduled passenger traffic growth (PKPs) — Europe and World (1995–2008)



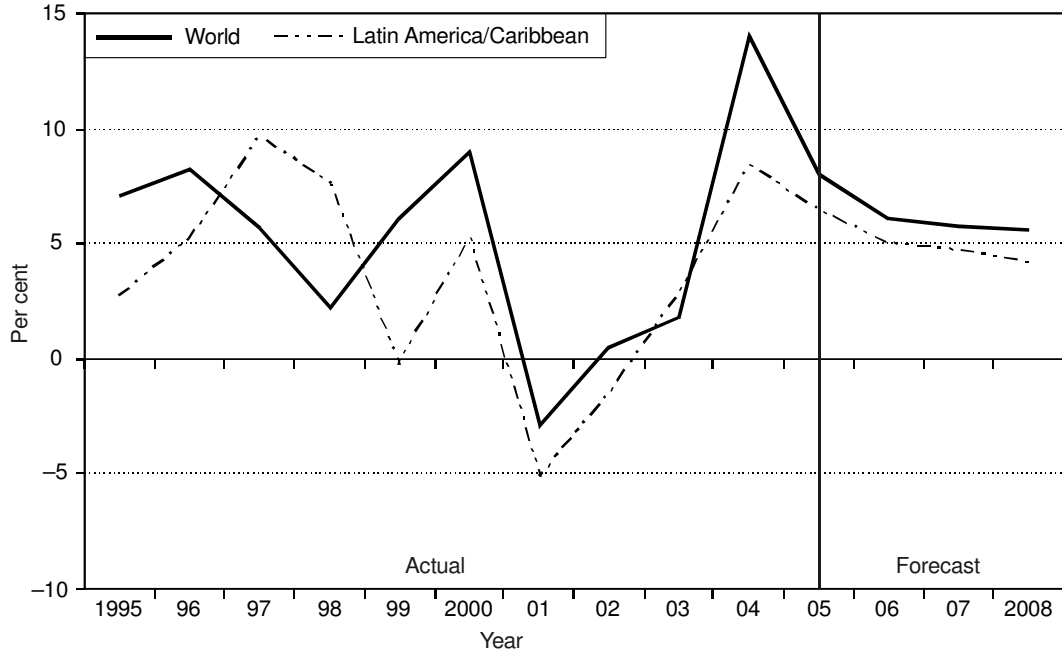
Source: ICAO.

Figure 4-5. Scheduled passenger traffic growth (PKPs) — Middle East and World (1995–2008)



Source: ICAO.

Figure 4-6. Scheduled passenger traffic growth (PKPs) — North America and World (1995–2008)



Source: ICAO.

Figure 4-7. Scheduled passenger traffic growth (PKPs) — Latin America and the Caribbean and World (1995–2008)

Appendix

METHODOLOGY FOR TRAFFIC FORECASTS

1. Short- or medium-term air transport forecasting methods depend heavily on careful analysis of recent trends in the aviation industry and of the operating environment as well as economic and demographic factors affecting air travel and the cost of air travel itself.

2. As a basis for the development of traffic forecasts, econometric analyses were carried out which established a relationship between passenger traffic demand, GDP and airline yields. Several econometric models were developed at global and regional levels. While at a global level these models appear to provide reliable results, they have been less adequate at the regional level.

3. Based on forecasts of economic developments and expectations of yield, traffic forecasts for the years 2006, 2007 and 2008 were estimated using the econometric model referred to in 6 below. The forecast traffic growth rates were then reviewed in the light of recent trends in the airline operating environment and prospective changes in other factors that could not be accommodated in the econometric analyses.

4. The basic model form used for the global analysis is described below:

$$y = a \cdot x_1^{b_1} \cdot x_2^{b_2}$$

where:

y = passenger-kilometres performed (PKP)

x_1 = gross domestic product in real terms (GDP)

x_2 = passenger revenue per passenger-kilometre in real terms (PYIELD)

5. The a , b_1 and b_2 are constant coefficients whose values were obtained by statistical estimation procedures using econometric analysis; b_1 and b_2 are equal to the elasticities of demand with respect to corresponding x_1 (GDP) and x_2 (PYIELD), i.e. elasticities of income and price.

6. Using logarithmics, the above relationship was transformed into the equivalent linear relationship $\ln y = a + b_1 \ln x_1 + b_2 \ln x_2$. Annual data covering the 1975 to 2005 period were used in the subsequent econometric (least squares regression) analysis, with the following results at the global level:

$$\ln \text{PKP} = 5.43 + 1.30 \ln \text{GDP} - 0.67 \ln \text{PYIELD} \quad R^2 = 0.97$$

(3.65) (-2.24) S.E. = 0.08

R^2 = coefficient of determination
 S.E. = standard error of the estimate
 () = "t" values of the corresponding coefficient estimates.

— END —

ICAO PUBLICATIONS AND RELATED PRODUCTS IN THE AIR TRANSPORT FIELD

The following summarizes the various publications and related products in the air transport field issued by the International Civil Aviation Organization:

- *International Standards and Recommended Practices (SARPs)* adopted by the Council in accordance with Articles 37, 54 and 90 of the Convention on International Civil Aviation and designated, for convenience, as Annexes to the Convention. Annex 9 — *Facilitation* — contains SARPs dealing with customs, quarantine, immigration and health matters concerned with international air navigation. Annex 17 — *Security* — is composed of SARPs on all matters related to safeguarding civil aviation against acts of unlawful interference. Any differences between the national regulations and practices of a State and what is prescribed by an International Standard must be notified to the Council in accordance with Article 38 of the Convention. The Council has also invited Contracting States to notify differences from the provisions of the Recommended Practices.
 - *ICAO's policies* on the regulation of international air transport, charges for airports and air navigation services, and taxation in the field of international air transport.
 - *Technical specifications* on machine readable travel documents (MRTDs).
 - *Tariffs* for airports and air navigation services, including charges applied towards users in more than 180 States.
 - *Manuals* providing information or guidance to Contracting States on such issues as regulation of international air transport, financial management of airports and air navigation services, air traffic forecasting methods, and compliance with Annex 17 provisions.
 - *Circulars* providing specialized information of interest to Contracting States. They include studies on medium- and long-term trends in the air transport industry at a global and regional level and specialized studies of a worldwide nature covering issues such as the economic and financial aspects of CNS/ATM systems implementation, regional differences in airline operating economics, economic contribution of civil aviation, privatization of airports and air navigation services, and regulatory implications of slot allocation.
 - *Aviation Security Training Packages (ASTPs) and courses* on a range of subjects designed to assist security professionals, managers and staff in developing a more comprehensive understanding of SARPs, as well as to offer specialized practical expertise in the implementation and monitoring of measures and provisions in accordance with local programmes. For further information, please contact avsec@icao.int or visit the training page on the ICAO AVSEC website at www.icao.int/avsec.
 - *Publications in electronic form*, in database and interactive forms, such as the world's air services agreements and the ICAO template air services agreements. *Civil aviation statistics* can be accessed by purchasing an annual subscription to one or more of the data series distributed by ICAO through its commercial website at www.icaodata.com. Questions regarding ICAO statistics or special orders for statistical data should be sent to sta@icao.int.
 - *Reports of meetings in the air transport field*, including reports on the Facilitation and Statistics divisional-type meetings and those related to conferences on aviation security, regulation of international air transport, and economics of airports and air navigation services.
-

