

The World of Civil Aviation

2002–2005

*Approved by the Secretary General
and published under his authority*

INTERNATIONAL CIVIL AVIATION ORGANIZATION

HIGHLIGHTS

DURING 2002 ...

The world economy continued its slow recovery ...

The world's Gross Domestic Product (GDP) grew by an estimated 3 per cent in real terms. On a regional basis the change in GDP ranged from an estimated increase of 4.8 per cent for Asia/Pacific to no growth for Latin America and the Caribbean (Chapters 1, 5 and 6).

... as airline traffic performance was patchy...

Total scheduled passenger/freight/mail tonne-kilometres performed increased at a 1.6 per cent rate. Significant differences prevailed among regions with growth ranging from -4.8 per cent for carriers based in Africa to 12.6 per cent for those in the Middle East (albeit from a low base). After the steep 2001 decline, global passenger traffic grew at just 0.4 per cent (in terms of total passenger-kilometres performed), again masking differences among regions (Chapters 2, 5 and 6).

... and airline operating results continued to suffer...

Preliminary estimates indicate that the world's scheduled airlines suffered an aggregate operating loss of 2.3 per cent of their total operating revenues, following an operating loss of 3.8 per cent in 2001 (Chapters 2, 5 and 6).

... while aircraft orders were stalled.

A total of 497 turbo-jet powered aircraft were ordered, compared to 990 in 2001 and 1 553 in 2000. The financial commitment for these aircraft orders with major aircraft manufacturers is estimated at U.S.\$40 billion in 2002, down from \$69 billion and \$80 billion the previous two years (Chapter 2).

Bilateral and regional developments supported liberalization of air transport services.

Bilateral agreements remained the primary vehicles for liberalization of international air transport services for most States, though now with a substantial overlay of regional and plurilateral liberalization arrangements (Chapter 2).



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Privatization of airlines slowed...

Action taken towards privatization included five airlines achieving their goals, another four airlines announcing their objectives and some 40 State-owned carriers continuing preparation (Chapter 2).

...as airline alliances continued to expand.

Airlines continued to expand transnational strategic alliances to achieve enhanced market access and synergies (Chapter 2).

Low-cost carriers were challenging the full service network of major airlines and...

The traditional business model of the full service airline came under scrutiny, particularly for airlines with global reach, and spawned experimentation to remain competitive with low-cost carriers (Chapter 2).

...e-commerce development was transforming airline product distribution.

Airline distribution business and channels continued to be restructured. Rapid growth has been experienced in on-line sales of air transport services via the Internet, both through third-party providers and directly to consumers and other businesses (Chapter 2).

Airports and air navigation services providers incurred revenue losses ...

The slow recovery of air traffic placed financial constraints on airports and air navigation services providers (Chapter 3).

... and developed cooperative strategies...

Airports continued to pursue cooperative strategies or alliances among themselves (Chapter 3).

... while construction projects progressed.

Major airport expansion projects were underway in all regions with Europe, Asia and North America leading in airport projects completed, under construction or projected (Chapter 3).

Implementation of CNS/ATM systems components continued to yield early benefits.

Continued implementation of satellite-based communications, navigation and surveillance/air traffic management systems led to more efficient airspace utilization for international civil aviation. Air traffic service systems around the world continued to be upgraded as part of an evolving seamless global air traffic management system (Chapter 3).



Safety remained a top priority ...

Preliminary information on aircraft accidents involving passenger fatalities in scheduled air services worldwide shows 14 aircraft accidents in 2002 involving 791 passenger fatalities compared to 13 accidents involving 577 passenger fatalities in 2001. The number of passenger fatalities per 100 million passenger-kilometres increased from 0.020 in 2001 to 0.025 in 2002. By year-end, aviation administrations in 180 out of 188 ICAO Contracting States and five territories had been assessed through the ICAO Universal Safety Oversight Audit Programme (Chapter 4).

... and there was a greatly increased focus on security.

Twenty-two acts of unlawful interference were recorded in 2002, including two acts of unlawful seizure of aircraft, compared to seven in 2001, and eight facility attacks. The decrease in the number of unlawful seizures of aircraft could be attributed to enhanced global aviation security measures in place following the events of 11 September 2001 in the United States (Chapter 4).

A mechanism of war risk insurance for third-party liability was established.

The ICAO Council approved the establishment of an international mechanism of war risk insurance coverage for third-party liability (Chapter 4).

States continued to deal with environmental problems associated with aviation, including aircraft noise ...

European legislators adopted rules and procedures regarding the introduction of noise-related operating restrictions at community airports, taking into account the “balanced approach” to aircraft noise management adopted by the ICAO Assembly in 2001 (Chapter 4).

...and the impact of aircraft engine emissions.

Working through ICAO, developed countries continued to study policy options to limit or reduce greenhouse gas emissions from aviation, including both technical solutions and the application of market-based measures (Chapter 4).



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BETWEEN 2003 AND 2005

Initially stagnant, recovery of airline traffic growth is expected ...

The growth of total scheduled passenger traffic (in terms of passenger-kilometres performed) is forecast to remain stagnant (“zero growth”) in 2003, to rebound at a 4.4 per cent rate in 2004 and to continue to grow at 6.3 per cent in 2005 (Chapters 5 and 6).

... with recovery in airline finances taking longer.

The operating result — as a percentage of operating revenues (passengers, freight, mail and incidental revenues) — is forecast to remain negative at -2.1 per cent in 2003, then to improve progressively to reach break even by 2005 (Chapter 5 and 6).

Regional differences in passenger traffic growth will persist.

Scheduled passenger traffic of airlines based in Asia/Pacific is foreseen to gain momentum after an anticipated decline in 2003 due to the effects of Severe Acute Respiratory Syndrome (SARS). Traffic of North American and European airlines is expected to stabilize in 2003 and to rebound starting in 2004. Passenger traffic of airlines based in Africa and the Middle East is expected to achieve relatively strong growth rates, while Latin American/Caribbean airlines are projected to grow moderately above the world average throughout the forecast period (Chapters 5 and 6).



Foreword

Introduction

1. This circular, *The World of Civil Aviation — 2002 to 2005*, is the eleventh in an annual series of publications covering recent and future developments in civil aviation; the developments for the years 2001 to 2004 were published in Circular 291. In the present circular, Part I reviews the main events in or affecting international civil aviation in 2002; Part II analyses trends in the world economy and the air transport industry and presents global forecasts of scheduled passenger traffic and basic airline financial trends through to 2005; and Part III reviews, on a region-by-region basis, the year 2002 and gives passenger traffic prospects through to 2005.

Sources

2. Extensive aviation statistics may be found in the various ICAO Digests of Statistics. In addition to these Digests, sources of information for *The World of Civil Aviation* include relevant and most recently available statistical publications of the United Nations (UN); BACK Aviation Solutions fleet and airline schedule databases; the Airports Council International (ACI); the Air Transport Association (ATA); Association of Asia Pacific Airlines (AAPA); the Association of European Airlines (AEA); Avmark Inc.; the International Air Transport Association (IATA); the International Monetary Fund (IMF); the Organisation for Economic Co-operation and Development (OECD); the United Nations Conference on Trade and Development (UNCTAD); the United States Department of Transportation (DOT); the World Bank (WB); the World Tourism Organization (WTO-OMT); the World Trade Organization (WTO-OMC); and the WEFA Group (formerly known as Wharton Econometrics Forecasting Associates).

3. Another source of information used for *The World of Civil Aviation* is the large and constantly updated collection of research material on hand at ICAO, including completed ICAO studies, periodical and occasional publications of national administrations and international organizations, studies prepared by research agencies and individuals, and the aviation press. Finally, an information collection exercise specifically for *The World of Civil Aviation* was carried out through the seven ICAO Regional Offices.

4. A *Catalogue of ICAO Publications and Audio-visual Training Aids* is available on request from:

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5. The statistical data for 2002 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.

6. Unless otherwise noted:

- a) all statistical data are applicable to ICAO Contracting States (188 at the end of 2002);
- b) regional breakdowns are by ICAO statistical region (see map preceding Chapter 6);
- c) traffic statistics are for scheduled services of commercial air carriers;
- d) total airline financial statistics relate to non-scheduled as well as scheduled operations of commercial air carriers;
- 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 “\$”.

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PART I

THE WORLD IN 2002

Chapter 1

Economic Influences

1.1 While growth in air traffic has historically been greater than growth in the economy, there is a strong correlation between the two: demand for air transport is primarily determined by economic development. International trade in goods and services (including tourism) and other commercial activities generally have a direct impact on the demand for air travel and air freight. Development in personal income affects the level of purchasing power and the propensity to undertake leisure travel in general and air travel in particular. However, consumer confidence is influenced also by other factors because the air transport and tourism industries are very sensitive to safety and security concerns.

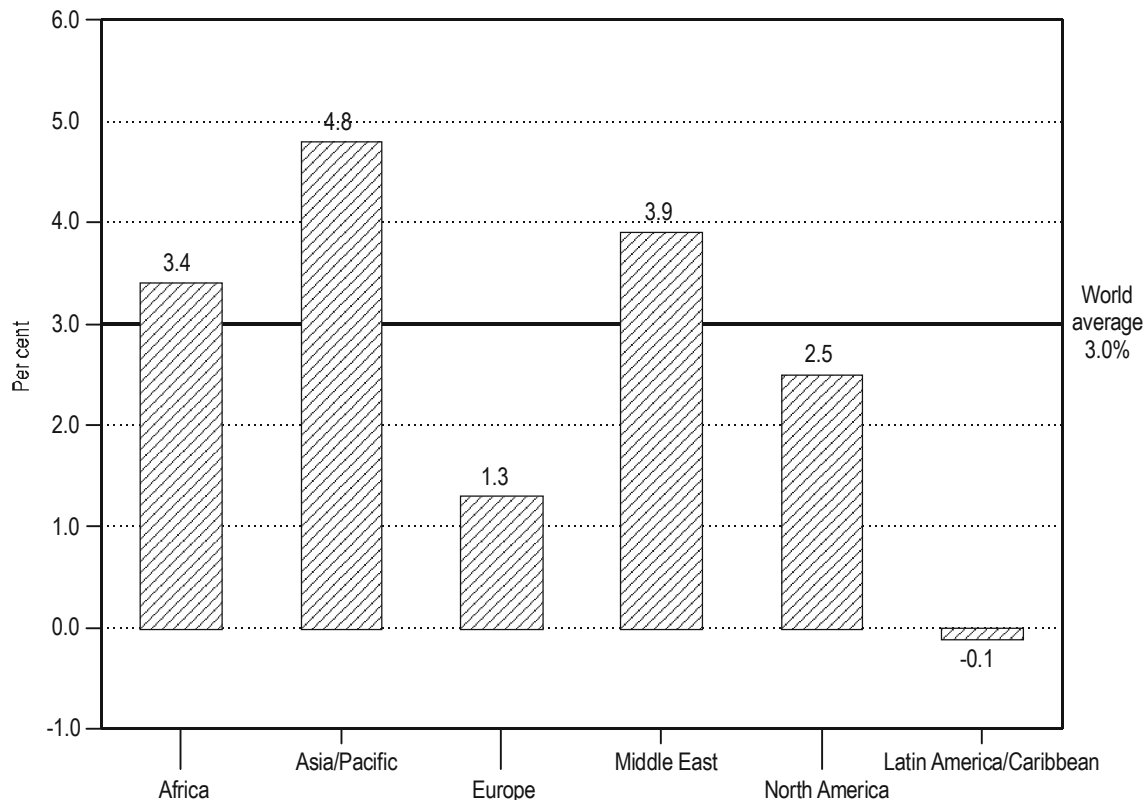
1.2 In 2002, the world economy began to recover from the sharp slowdown in 2001, with trade and industrial production improving across almost all major regions. The world gross domestic product (GDP) grew approximately 3 per cent in real terms. Much stimulus for that trend came from the North American economy while Europe saw weakened economic growth. The economic performance in the regions of Africa and the Middle East remained stable. The Asia/Pacific region regained some of its economic strength. In contrast, the economic performance of the Latin America and Caribbean region continued to weaken.

1.3 As background to the analysis of the world of civil aviation in 2002, which follows in Chapters 2 to 4, this chapter reviews global developments in 2002 concerning: economic output, trade, international tourism, inflation, currency markets, and crude oil and jet fuel prices. The impact of economic trends on the medium-term outlook for commercial air transport at the global and regional levels is discussed in Part II, World Outlook to 2005 (Chapter 5) and Part III, Regional Perspectives 2002–2005 (Chapter 6), respectively.

GROSS DOMESTIC PRODUCT

1.4 Global GDP grew in real terms by 3 per cent in 2002, compared to 2.3 per cent in 2001. This global result masks a wide spread between the economic performances of industrial and developing countries, and among regions. Figure 1-1 illustrates the economic growth rates for the world and ICAO statistical regions in 2002 (see also Table 5-1).

1.5 The economies of industrialized countries expanded at an estimated 1.8 per cent GDP growth rate in 2002, double that of the previous year but still at a low level compared to decade averages of 3 and 2.6 per cent for 1985-94 and 1995-2004, respectively, according to IMF data and estimates. Since industrialized countries produce more than half of the global output, their performance had an overall stimulating effect on the world economy. Much



Source: ICAO estimates based on data from the IMF, OECD, WEFA Group, World Bank and other sources.

Figure 1-1. Annual change in real GDP by region — World (2002/2001)

impulse in 2002 came from the North American economy which grew by 2.5 per cent, a substantial recovery from the slowdown (0.4 per cent) in 2001.

1.6 The European region achieved an average GDP growth of 1.3 per cent in 2002, to which the European Community (EC) contributed at a rate of 0.8 per cent. Economies of Central and Eastern European countries grew in the aggregate around 2.9 per cent while the Russian GDP grew stronger, at 4.3 per cent, yet at a slower pace than in the previous two years.

1.7 The economic performances of developing countries continued above the world average at a 4.6 per cent GDP growth rate in 2002 compared to 3.9 per cent in 2001. Africa's economic performance remained stable with GDP growth of 3.4 per cent. The regional economy with the largest share in the world economy, Asia and the Pacific, grew at 4.8 per cent, above the world average. The developing economies in Asia/Pacific contributed significantly as their aggregate GDP grew by 6.5 per cent, but this result masks vast differences among countries. China's GDP growth of 8 per cent continued to reflect a strong economic performance which was to a varying extent also experienced by several South-East

Asian economies. Asia's four newly industrialized economies recovered significantly, averaging 4.6 per cent GDP growth, following their sharp slowdown to 0.8 per cent growth in 2001. Japan's GDP grew for the second consecutive year at a very low level (0.3 per cent), while the economies of both Australia and New Zealand expanded their growth momentum to around 4 per cent.

1.8 In the Latin America and Caribbean region adverse factors remained in force; still affected by weakening demand from some major trading partners and a financial crisis in Argentina, the region's GDP growth contracted by 0.1 per cent. The Middle East region's economy grew by about 3.9 per cent, impacted by oil market developments and concerns about the security situation in the region.

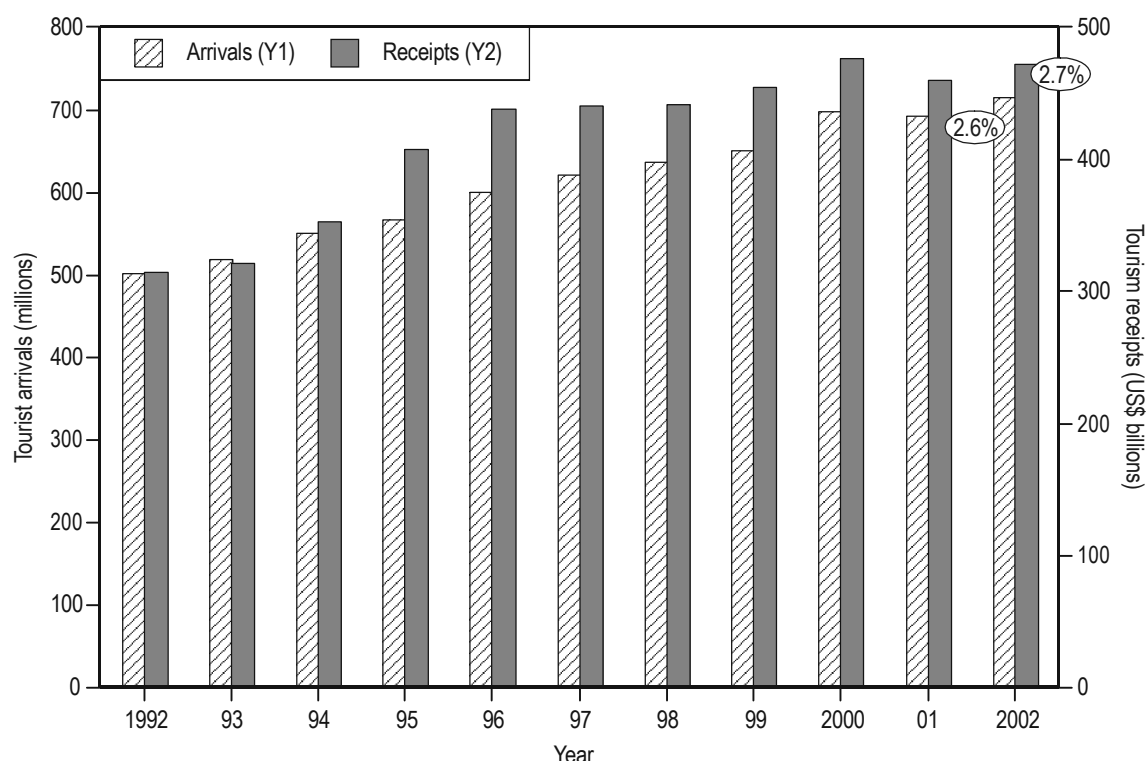
INTERNATIONAL TRADE AND TOURISM

1.9 International trade in goods and services improved (2.9 per cent) across almost all major regions in 2002 following the sharp economic slowdown in 2001 which caused world trade to almost stagnate (0.1 per cent) compared to 12.6 per cent growth in 2000, the highest rate achieved during the last decade. Industrialized economies started to recover both their export and import volumes (around 2 per cent), however, at a slower pace than developing countries (around 5 per cent).

1.10 Although internationally marketed services benefited from globalization of economic activities and gained importance in recent years, trading of goods still commanded an 80 per cent share of the value of world exports, amounting to \$6 245 billion in 2002, according to the IMF. Overall trading of goods recovered slowly at 3.1 per cent. Export and import volumes of industrialized economies improved slowly at 1.9 and 2.3 per cent rates from their respective 1.8 per cent declines in 2001. By comparison, both export and import volumes of developing economies grew stronger at 5.5 and 5.7 per cent, respectively. Their export growth can be solemnly attributed to non-fuel products (7.7 per cent) given that fuel products lost 2 per cent of their 2001 trading volume. Imports of non-fuel products were up by 5.9 per cent, while 4.5 per cent more fuel products were imported in 2002 over 2001.

1.11 Demand for international air travel is significantly fueled by international tourism. According to preliminary WTO-OMT statistics, a world total of 714.4 million international tourist arrivals (ITAs) were reported in 2002, i.e. 18 million more tourists traveled internationally than the previous year, representing an increase of 2.6 per cent over 2001. As a result, foreign exchange earned in host countries, in terms of international tourist receipts (ITRs), rose from \$459.8 billion in 2001 to \$472 billion in 2002, an increase of 2.7 per cent. Figure 1-2 provides global results in international tourist arrivals and receipts from 1992 to 2002. The regional developments reported below reveal some of the major factors behind this recovery from the 2001 decline of 0.5 per cent for ITAs and 2.8 per cent for ITRs.

1.12 Regional tourism statistics for 2002 are presented in Table 1-1. These most recent developments show that Europe maintained the leading position in the global market, holding a 58 per cent share in terms of ITAs and a 51 per cent share in terms of ITRs. Since 2001 Asia/Pacific overtook the Americas for the second rank in terms of global ITAs while the



Source: WTO-OMT.

Figure 1-2. International tourist arrivals and receipts — World (1992-2002)

Americas maintained the second rank in terms of global ITRs (see Table 1-1). International arrivals in countries of the Americas fell by 4.3 per cent, mirroring economic problems that started well before 11 September 2001 and prevailed for inbound/outbound tourist origins/destinations, such as Argentina, Brazil and Japan. This continuous low demand also reflected the temporarily shattered consumer confidence of travelers to and from the United States. Inbound and outbound tourism to the U.S. had suffered since the 2001 terrorist attacks which had brought its ITAs down by 10 per cent in 2001 and by 6.7 per cent in 2002. U.S. tourism industries were partly compensated by stronger domestic demand which would in other regions with smaller States count as intra-regional demand. Other tourism destinations also depend heavily on travelers from North America. Mexico (–0.7 per cent) and the Caribbean (–5.6 per cent) continued to suffer from loss of business while Canada was less affected (1.8 per cent). South America (–12.1 per cent) suffered in addition from contracting intra-regional tourism; national ITAs vary considerably with Brazil (–7.2 per cent) and Cuba (–5 per cent) hit worse and Argentina (15.4 per cent) recovering. In contrast, Central American States enjoyed 6.4 per cent growth, albeit from a rather low base.

1.13 In the Asia/Pacific region 131.3 million foreign tourists were received in 2002, over 10 million or 8.4 per cent more than in 2001. Sub-regional statistics show the diverse tourism developments in that vast region. ITAs of South Asia were just 2.3 per cent higher; overall tourism demand remained weak. While some countries suffered from negative impacts of civil unrest (including India at –6.6 per cent) others bounced back (including the Islamic Republic

Table 1-1. Regional distribution of international tourist arrivals and receipts — 2002

	Total arrivals ¹ (millions)	Market share 2002 ² (%)	Change 2002 ¹ /01 (%)	Rank 2002	Total receipts ¹ (US\$ billion)	Market share 2002 ² (%)	Change 2002 ¹ /01 (%)	Rank 2002
Africa	29.2	4.1	4.3	4 (3)	11.8	2.5	1.1	5 (5)
Americas	115.0	16.1	-4.3	3 (3)	113.3	24.0	-7.2	2 (2)
Asia/Pacific	131.3	18.4	8.4	2 (2)	94.7	20.1	8.0	3 (3)
Europe	414.4	58.0	2.3	1 (1)	240.1	50.9	6.0	1 (1)
Middle East	24.5	3.4	12.2	5 (4)	12.1	2.6	2.3	4 (4)
World	714.4	100.0	2.6		472.0	100.0	2.7	

1. Preliminary data as per July 2003, figures are rounded.

2. Calculations by ICAO.

Source: WTO-OMT.

of Iran at 17 per cent). There were still 4.9 per cent more international tourists traveling to South-East Asia; sub-regional growth in terms of ITAs stabilized through robust demand in Thailand (7.3 per cent) but was dampened by lost business in Indonesia (-2.2 per cent). North-East Asia saw a buoyant 12.2 per cent rise in ITAs with increases in China (+11 per cent) and its Special Administrative Regions of Hong Kong and Macao (20.7 and 12.4 per cent, respectively) as well as Japan (9.8 per cent).

1.14 In 2002, the Middle East rebounded strongly from an almost 4 per cent loss in 2001, reporting 12.2 per cent growth in ITAs (also from a rather low base) with Dubai (30 per cent), Lebanon (14.2 per cent), Egypt (12.6 per cent) and Jordan (9.7 per cent) benefitting significantly. Africa's ITAs grew by 4.3 per cent mainly due to a strong performance of South Africa and Ghana (10.9 and 9.9 per cent, respectively), Botswana, United Republic of Tanzania and Senegal (7.3, 6.8 and 5 per cent, respectively). However, individual North African countries, such as Tunisia (-6 per cent) and Morocco (-0.7 per cent), felt the unfavorable impacts of safety and security concerns on tourism, and their losses resulted in a negative sub-regional average (-2.4 per cent) for 2002.

INFLATION AND CURRENCY MARKETS

1.15 Since the early 1980s, consumer prices in industrial countries have increased at steadily declining levels despite sharp fluctuations in commodity prices, including oil. During 2002, inflation in most industrial countries increased moderately, resulting in an aggregate rate of 1.5 per cent for consumer prices, reduced from 2.2 per cent the previous year. In the

context of economic recovery, in the U.S., consumer prices increased by just 1.6 per cent in 2002, compared to 2.8 per cent in 2001. Europe's consumer prices rose almost at a similar rate during this period (2.3 per cent in 2002). In a climate of low domestic demand, Japan's consumers experienced declining prices for the fourth consecutive year (−0.9 per cent in 2002).

1.16 Consumer prices in developing countries as a group followed a similar trend, with an average inflation rate of 5.4 per cent in 2002. Large variations prevailed from region to region and among countries within regional groupings. Developing countries in Asia managed to keep consumer prices at low inflation levels as reflected in the regional average rate of 1.9 per cent in 2002. In Africa, inflation continued to stabilize, albeit with prices still rising at an aggregate rate of 9.3 per cent in 2002. In Latin America and the Caribbean, consumer prices stabilized below a 10 per cent increase for the fifth consecutive year (8.7 per cent in 2002). In the Middle East region, consumer prices were kept below the 20 per cent increase mark for the third consecutive year (16.4 per cent in 2002). For the countries-in-transition, the aggregate inflation rate continued to drop in 2002 to 11.1 per cent. Similarly, the Russian Federation experienced relative price stabilization with an increase of around 16 per cent in 2002. Central and Eastern European countries (excluding the CIS) continued to control the rise of their consumer prices and saw a 5.6 per cent increase in 2002.

1.17 Currency exchange rates responded to international differences in asset values, interest and inflation rates, trade balances and various speculative pressures in individual countries. Among the currencies of major industrial economies, the Japanese yen weakened further against the U.S. dollar in 2002. Depreciation of a number of Asian currencies in recent years contributed to a strengthening of the U.S. dollar against these currencies. At the same time, the common unit of the European exchange rate mechanism, called EURO, strengthened against the U.S. dollar, closely followed by the pound sterling. The monthly changes of these three currencies against the U.S. dollar, indexed over the two-year period 2001/2002, are illustrated in Figure 1-3.

1.18 Movements in exchange rates affect relative prices of international travel markets and hence the related demand and subsequent geographical distribution of traffic flows. Travel decisions are affected by exchange rates and price comparisons at different destinations. Differences in inflation rates for consumer prices and changes in exchange rates have at various times encouraged traffic in some markets and discouraged traffic in others.

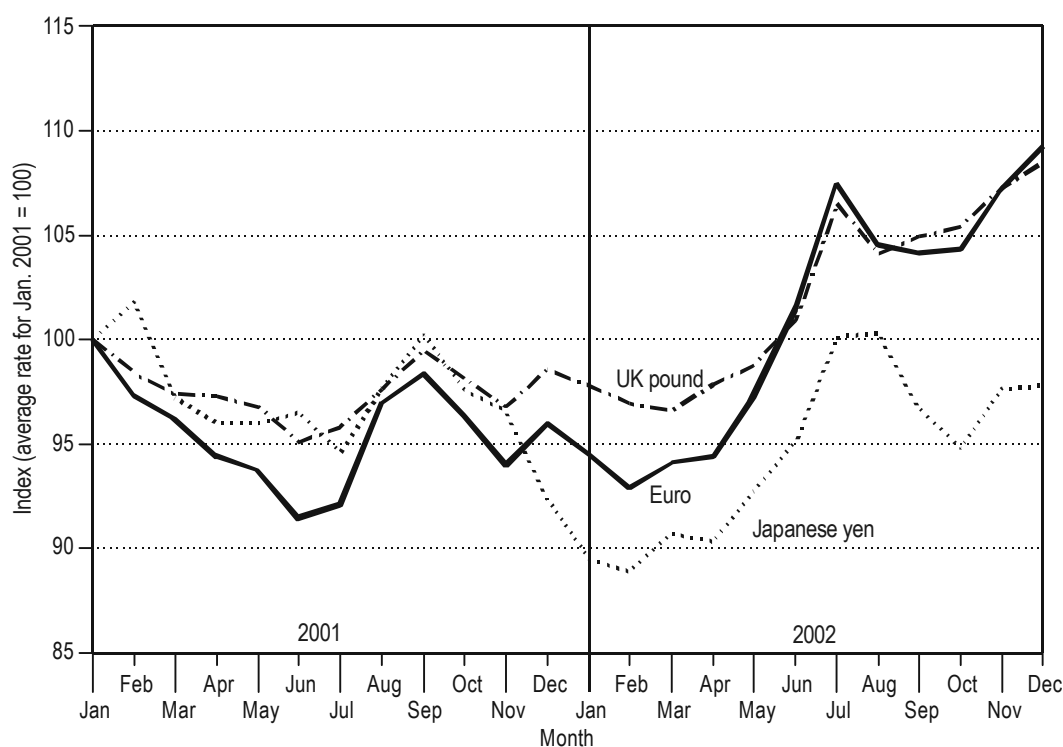
1.19 Fluctuations in exchange rates affect the profitability and balance sheet of an airline. If the proportion of an airline's expenses incurred in the foreign currency exceeds the proportion of its foreign currency revenues, then the devaluation of the local currency would tend to reduce the airlines' operating profit. On the other hand, there could be a benefit associated with that part of the airlines' debt denominated in a depreciated foreign currency. An appreciated foreign currency, however, would increase the debt burden.

CRUDE OIL AND JET FUEL

1.20 In the year 2002, world prices of crude oil started from a low level following falling production and commodity prices which had plummeted after 11 September 2001. Oil prices

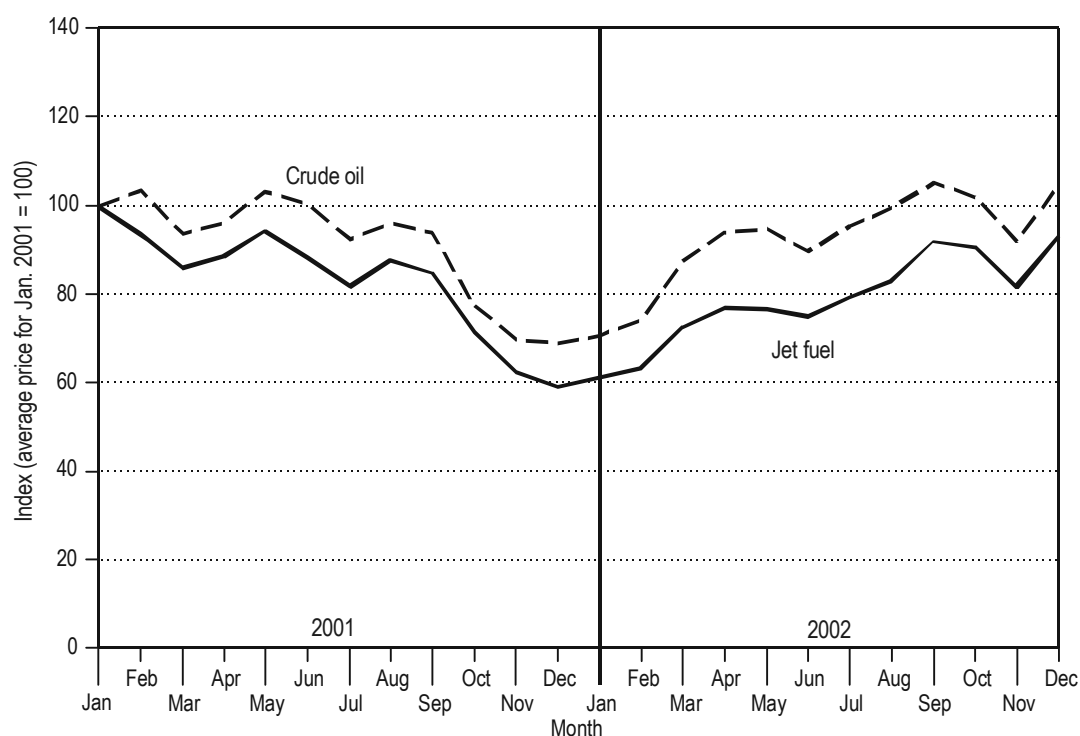
soared to as high as \$33 per barrel towards the end of 2000, then fell to as low as \$19 at the end of the year 2001 and recovered to \$29 by December 2002. The monthly changes of world trade prices for crude oil, indexed over the two-year period 2001/2002, are illustrated in Figure 1-4.

1.21 Jet fuel prices did not react directly in line with crude oil prices but remained low due to weakened demand. The average annual price of jet fuel in U.S. dollars dropped from about 85 cents per gallon in 2000 to 72 cents per gallon in 2001 and 69 cents in 2002, easing the pressure on airline operating costs. Over the past decade, costs for fuel and oil have ranged from 10 to 15 per cent of operating costs of scheduled airlines.



Source: IATA five-day rate.

Figure 1-3. Currency variations with respect to the U.S. dollar (January 2001 to December 2002)



Source: *Petroleum Economist* and *The Journal of Commerce*.

**Figure 1-4. Trends in crude oil and jet fuel prices
(January 2001 to December 2002)**

Chapter 2

Air Carriers and their Fleets

2.1 This chapter reviews developments in 2002 regarding economic regulation of air transport services as well as ownership, alliances and cooperation among air carriers. It further covers the fares and rates they offer, their product distribution, traffic, fleets, finances and personnel.

ECONOMIC REGULATION

Bilateral agreements and negotiations

2.2 During the year, a total of 91 bilateral air services agreements were reportedly concluded or amended by 69 States. Of these States, Canada, China, Hong Kong Special Administrative Region (SAR) of China, India, Japan, Malaysia, Qatar, Republic of Korea, Singapore and the United States each concluded or amended five or more agreements. Continuing a trend, over 70 per cent of these agreements and amendments contained some form of liberalized regulatory arrangements such as unrestricted traffic rights (covering Third, Fourth and in some cases Fifth Freedom rights), multiple designation with or without route limitations, free determination of capacity, a double disapproval or country-of-origin tariff regime, and broadened criteria of air carrier ownership and control.

2.3 One notable development is the continued increase in the number of “open skies” agreements, which provide for full market access without restrictions on designations, route rights, capacity, frequencies, codesharing and tariffs. During 2002, six “open skies” agreements were concluded among 10 States. Since 1992, over 85 “open skies” bilateral agreements have been concluded, involving approximately 70 States, with the United States being one of the partners in 59 cases (see Table A1-1). These agreements involve not only developed countries but also an increasing number of developing countries (involved in about 60 per cent of the agreements). In addition to the basic market access elements, about 50 agreements also grant “Seventh Freedom” rights for all-cargo services (four agreements also grant this right for passenger services). Twenty-one of the “open skies” agreements concluded by the United States have a transition annex that places limits on or provides for the phase-in of, inter alia, frequencies, Fifth Freedom rights, “Seventh Freedom” rights for all-cargo, third-country codesharing, charter services and ground handling, some of which are applied only to U.S. carriers.

2.4 Some bilateral negotiations have not been easy. For example, the seven-year-long “open skies” negotiations between the United States and the United Kingdom were

deadlocked early in 2002 because American Airlines and British Airways did not accept conditions imposed by the U.S. Department of Transport (DOT) to an approval of their proposed alliance. The United States declined to consider a “mini-deal” package proposed by the United Kingdom in August, although informal talks continued. In August, Colombia suspended the existing bilateral arrangement with Panama, which wanted a new “open skies” agreement; an interim deal was concluded in September to enable restoration of air services between the two States.

Regional regulatory developments

2.5 Some agreements negotiated in recent years have sought to liberalize air transport services on a regional or sub-regional basis or among a group of like-minded States. These regional and/or plurilateral liberalization arrangements have the basic objective of providing greater market access and improving services among the Member States concerned. Small groups of States of comparable size and development would find it easier to agree on market access than larger, diverse groups of States. The small groups would also provide a more manageable environment to test liberalized air transport policies. As shown in Table 2-1, there were at least 11 such regional or plurilateral arrangements with several other potential arrangements in the pipeline.

2.6 The year 2002 saw six noteworthy regional developments. First, 14 Member States of the Pacific Islands Forum concluded in October the negotiations of the Pacific Islands Air Services Agreement, which would progressively create a single aviation market in the sub-region after formal endorsement by the Member States. Second, Peru and Samoa joined, in May and November respectively, the Multilateral Agreement on the Liberalization of International Air Transportation known as the “Kona” agreement, a plurilateral “open skies” agreement, which had been signed originally by five Members of the Asia Pacific Economic Cooperation Forum (APEC) in 2001. Third, 10 Member States of the Association of Southeast Asian Nations (ASEAN) signed in September the ASEAN Memorandum of Understanding on Air Freight Services, which allows the designated airlines of each Member State to operate all-cargo services up to 100 tonnes weekly with no limitations on frequency and/or aircraft type, as a first step in the full liberalization of air freight services. Fourth, CLMV States (Cambodia, Lao People’s Democratic Republic, Myanmar and Viet Nam) developed a draft Multilateral Agreement on Air Transport in the CLMV sub-region, which will be considered for adoption in 2003 to formalize a 1998 arrangement. Fifth, a series of bilateral agreements between Member States of the European Union (EU) on the one hand and Switzerland on the other officially came into force in July after completion of the ratification process by all Member States; the agreements, one of which covers air transport, integrated Switzerland into the European Economic Area (EEA). Sixth, the Council of the EU completed in December the enlargement negotiations with 10 Central and Eastern European States, which would bring them into the EU in 2004.

2.7 Within the EU, there was a significant development affecting a common foreign EU policy. In November, the European Court of Justice ruled on several cases brought in 1998 by the European Commission against eight Member States, which had concluded or amended bilateral air services agreements with the United States (seven of them “open skies”

Table 2-1. Regional/plurilateral agreements and arrangements

Region / Agreement	Year	Member States
Regional		
European Union (EU)/ European Economic Area (EEA)	1987 (First package); 1990 (Second package); 1993 (Third package with full implementation in 1997)	Austria (joined in 1995), Belgium, Denmark, Finland (joined in 1995), France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden (joined in 1995) and the United Kingdom; Iceland, Liechtenstein and Norway belonging to the EEA (entry into force in 1994); Switzerland (bilateral agreement, entry into force in 2002)
Andean Pact	1991	Bolivia, Colombia, Ecuador, Peru (suspended from 1992 to 1997) and Venezuela
Caribbean Community (CARICOM)	1996 (entry into force in 1998)	Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti (joined in 2002), Jamaica, Monserrat, St. Kitts and Nevis, St. Lucia, St. Vincent & Grenadines, Suriname and Trinidad and Tobago
Banjul Accord	1997	Cape Verde, Gambia, Ghana, Guinea-Bissau, Nigeria and Sierra Leone
Fortaleza Agreement	1997	Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay
CLMV Agreement	1998	Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam
Arab Civil Aviation Commission (ACAC)	1999	Bahrain, Egypt, Iraq, Jordan, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates and Yemen
Economic and Monetary Community of Central Africa (CEMAC)	1999	Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea and Gabon
Common Market for Eastern and Southern Africa (COMESA)	1999	Angola, Burundi, Comoros, Congo (Democratic Republic), Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, United Republic of Tanzania (withdrew in 2000), Zambia and Zimbabwe
Yamoussoukro II Ministerial Decision	1999 (entry into force in 2000)	53 African Union (formerly OAU) States

Region / Agreement	Year	Member States
<i>Plurilateral</i>		
Multilateral Agreement on the Liberalization of International Air Transportation (MALIT, "Kona" agreement)	2001	Brunei Darussalam, Chile (signed in 2001, joined in 2002), New Zealand, Peru (joined in 2002), Samoa (joined in 2002), Singapore and the United States; Brunei Darussalam, New Zealand and Singapore were also the parties to the Protocol in 2001
<i>Sub-regional</i>		
IMT-Growth Triangle	1999	A part of regions in Indonesia, Malaysia and Thailand
BIMP-East ASEAN Growth Area	1999	A part of regions in Brunei Darussalam, Indonesia, Malaysia and Philippines

Source: Texts of the Agreements and aviation press.

agreements). The judgements affirmed the ability of the Member States to enter into bilateral agreements with third countries to the extent that these do not affect European Community rules on air transport, but found that some of the provisions in these bilateral agreements infringed the European Community's exclusive external competence as regards air fares and computer reservation system (CRS) services. The Court also found that clauses regarding national ownership and control of airlines infringed European Community law on Community-wide freedom of establishment. Following the Court's judgement, the Commission indicated it would request the European Council to issue urgently a mandate for the Commission to open negotiations for a Community-wide air services agreement with the United States, as well as for similar agreements with Japan and the Russian Federation.

Trade in services developments

2.8 At the multilateral level, the General Agreement on Trade in Services (GATS) has had some limited influence on air transport services since 1995. The GATS provides a multilateral regulatory framework for the liberalization and expansion of trade in all service sectors under such trade principles as most-favoured nation and transparency. Currently, the GATS Annex on Air Transport Services covers three so-called soft" rights, namely aircraft repair and maintenance, selling and marketing of air transport, and CRS services.

2.9 In 2002, the WTO-OMC continued its mandated review of the Air Transport Annex, which started in 2000. At the fourth session of the review, in March, views in the Council for Trade in Services (CTS), which oversees the operation of the GATS, were divided as to the continuation of the review and the possible expansion of the coverage. The CTS discussed a proposal for Members to make more substantial commitments on aircraft repair and

maintenance, as well as to strengthen existing commitments in view of the importance and potential that this holds for developing countries. The CTS also suggested the participation of the WTO-OMC at ICAO's Fifth Worldwide Air Transport Conference in March 2003. With respect to the date of the next review, the CTS envisaged holding a session following the Conference so as to address the implications and the relevance it might have for the Air Transport Annex.

2.10 Separately, the OECD completed a three-year examination of the liberalization of air cargo services in January. The OECD Secretariat subsequently published a Bilateral Protocol to be used with existing air service agreements, which focuses on the liberalization of traffic rights for air cargo services, ancillary services and other specific air cargo transportation issues that can be dealt with separately under existing bilateral air services agreements. A draft Multilateral Agreement was also published to provide a means for liberalization of existing market restrictions and restrictions on commercial flexibility and "doing business" matters on a multilateral basis.

National liberalization policies

2.11 Several States launched a review process of their overall air transport policies, which was considered necessary in light of the global trend toward increased liberalization. Some of these policies seek to liberalize air transport services, in whole or in part, on a unilateral basis without requiring comparable rights from bilateral partners in return. Others aim at liberalizing domestic air transport markets and also at permitting more carriers to fly international routes.

2.12 In 2002, major policy developments were reported as follows. In May, the Government of Canada announced a new multiple designation policy for international scheduled air services, which removed restrictions on the number of Canadian carriers designated to serve foreign markets whenever multiple designation was possible. In July, the Government of Mozambique announced that it would lift the monopoly status granted to LAM Mozambique Airlines, allowing other smaller carriers to operate internationally. Also in July, the Government of Sri Lanka announced its intention to pursue an "open skies" policy designed to encourage foreign airlines to serve the country. In November, the Government of India announced an experimental "open skies" policy for four months between December 2002 and March 2003. During this period, airlines would be allowed to increase their frequency or capacities from the destinations already being served; this unilateral offer was restricted to airlines from the United States and Europe.

Fair competition

2.13 As liberalization spreads, the question of how to maintain fair competition in international air transport is increasingly becoming an issue. One indication is the more frequent use of competition laws in dealing with anti-competitive behaviours, which may range from predatory practices against a specific competitor on a particular route to monopolistic activities serving to strengthen existing market power. However, one of the

fundamental problems is how to distinguish between unfair and normal competitive behaviours, and reliance has increasingly been placed on analyses and development of standards through a case-by-case approach.

2.14 In the regulatory area, one notable development in 2002 was that States belonging to the Common Market of Eastern and Southern Africa (COMESA), the Southern African Development Community (SADC) and the East African Community (EAC) jointly developed a comprehensive set of competition rules specifically for the air transport sector for common application to these sub-regions. Another development was a proposed regulation by the European Commission on protection of Community airlines against subsidization and unfair pricing practices from third-country airlines; this would permit the Commission to impose duties on third-country airlines benefiting from State aids/subsidies, including non-commercial advantages.

2.15 Major competition cases in 2002 (except those related to mergers, alliances and State aids, which are covered separately) were as follows. In February, Germany's competition authorities accused Lufthansa of predatory pricing against the new entrant Germania on the Frankfurt - Berlin route and prescribed certain minimum fares to be charged by Lufthansa; in April, it imposed a fine on Lufthansa for refusal to grant slots at attractive times of day to Germania in accordance with the conditions to clear the Lufthansa — Eurowings merger. Both cases were subsequently appealed by Lufthansa. In May, the Australian Competition and Consumer Commission (ACCC) instituted legal proceedings against Qantas, alleging that the carrier had misused its market power on the Brisbane — Adelaide route after Virgin Blue's entry in 2000. In July, Italy's competition authorities fined Alitalia for granting special incentives to travel agents in an effort to establish customer loyalty, following a similar ruling in the previous year; in August, it again fined Alitalia, along with five smaller carriers, for simultaneous introduction of fuel surcharges on domestic routes, which was regarded as an illicit agreement.

State aid

2.16 State aid and assistance may take various forms. These include provision of capital, loans or guarantees by the State or by public institutions for national airlines having financial difficulties and seeking additional resources. In addition, many States have provided assistance to their national airlines through less direct methods such as preferential tax status, discounts on charges for airport services, and "buy national" policy (exclusive military and government contracts or travel purchasing policy). Some bankruptcy codes also contain generous provisions (for example, exemption from interest and pension fund payment), which act as an indirect form of State assistance for financially-troubled airlines.

2.17 In 2002, many States continued to provide State aid to their national airlines facing financial difficulties caused mainly by the economic slowdown and the impact of the events of 11 September 2001. For example, the Brazilian Government approved in September a comprehensive aid package for Brazilian carriers which included a provision for \$320 million in tax relief. The European Commission approved in June the Italian Government's plan for a \$1.43 billion capital increase for Alitalia, which was partly underwritten by the private

sector, while the Commission decided in December that the Greek Government must recover, *inter alia*, part of the aid previously granted to Olympic Airways since the carrier did not implement the restructuring plan linked to aid approval. The United States Government provided over 400 U.S. carriers with about \$4.6 billion in direct financial compensation for losses incurred due to the events of 11 September 2001. In addition, the U.S. Air Transportation Stabilization Board (ATSB) received applications for a federal loan guarantee under the Air Transportation Safety and System Stabilization Act from 16 carriers. It has approved so far six applications (America West Airlines, US Airways, American Trans Air, Aloha Airlines, Frontier Airlines and Evergreen International Airlines), while rejecting eight applications including one by United Airlines. Chapter 11 of the U.S. Bankruptcy Code was also invoked to provide relief to Vanguard Airlines, US Airways and United Airlines, which filed for protection under its provisions.

Consumer protection

2.18 While contract terms and conditions for transporting passengers have traditionally been developed by airlines, a number of States have adopted some regulatory measures that address consumer interest issues. Denied boarding compensation, bans on smoking, on-time performance statistics and access for incapacitated passengers are a few examples. In addition, the Warsaw Convention liability system deals with the liability of air carriers in the case of accidents, loss of baggage and delays. In spite of this legal framework, the quality of service offered by airlines has not always met consumers' expectations. With the continuing liberalization of air transport regulation, the protection and improvement of airline passenger rights have achieved greater importance, particularly, but not exclusively, in major markets.

2.19 In Europe, the year 2002 saw three developments. First, two voluntary codes, namely the Airline Passenger Service Commitment and the Airport Voluntary Commitment on Air Passenger Service, became effective in February. Second, in June the European Commission started a consultation process about airline contracts including conditions of carriage focussing in particular on the industry standards. Third, in response to the European Parliament's amended proposal, in December the Commission revised its proposed regulation establishing common rules on compensation and assistance to passengers when facing denied boarding, cancellation of their flight or a long delay. However, the Commission rejected the Parliament's proposal for a reduction in compensation amounts and limited application to flight-only bookings. In the United States, the DOT modified in November certain reporting requirements on the service quality performance of airlines in order to collect data on the causes of flight delays and cancellations, which would be publicized monthly.

Airport access

2.20 The growth in commercial air services has continued to outstrip the available capacity at more and more airports. Because of the interconnected operations of the international air transport system, capacity constraints at some airports impact on other airports. Environmental, economic, political and physical constraints on airport capacity have, in some instances, exacerbated this problem. Governments, airlines and airports have each

developed measures to overcome or ameliorate situations of insufficient airport capacity. However, governments are increasingly likely to face situations where the demand by airlines to initiate or increase commercial operations cannot be met because of a lack of airport capacity.

2.21 In Europe, the reduction in traffic volume which took place after the events of 11 September 2001 had a significant impact on infrastructure congestion. According to the AEA delays of intra-European departures exceeding 15 minutes showed some improvements, affecting 19.9 per cent of departures, compared with 24.2 per cent in 2001. In June, the European Commission extended by a further year until June 2005 the block exemption from certain aspects of competition law requirements for slot allocation and airport scheduling. In November, in response to amendments adopted by the European Parliament, the Commission issued a revised proposal (originally issued in 2001) to amend its existing regulation on the common rules for the allocation of slots at Community airports. The Commission accepted amendments regarding the definition of new entrant, slot allocation criteria, and function of airport coordinator, but rejected more extensive derogations for a “use it or lose it” principle and increased flexibility for designation of coordinated airports.

2.22 In the United States, airport congestion at formerly busy airports has decreased since 11 September 2001. In March and April, the U.S. Federal Aviation Administration (FAA) and the DOT resumed two proceedings which had been suspended indefinitely in the autumn 2001, namely, a) on alternative policy options for managing capacity and mitigating congestion and delay at New York’s LaGuardia Airport, and b) on the possible role, feasibility and effectiveness of using market-based solutions, including the use of auctions, peak-period fees, or “flat” fees, to relieve airport congestion and delay. The U.S. Department of Justice (DOJ) submitted in June its comments on the first proceeding, urging the FAA to rely to the maximum extent possible on market-based solutions and supporting the adoption of an auction mechanism for allocating capacity at LaGuardia Airport.

OWNERSHIP, ALLIANCES AND COOPERATION

Privatization

2.23 Privatization with respect to airlines is a term that is often loosely applied. It tends to be more of a process than a quantifiable objective or result. The process is one of divestment, by various methods, of State-owned or -controlled equity and may be carried out in a phased manner over time. Some States may consider a minor sale of shares as privatization. Subject to this use of the term, the privatization of State-owned airlines has been one of the preeminent transformations in international air transport, where airlines in all but a handful of States had been State-owned until recent times. The motives for privatization have been highly diverse, ranging from purely economic considerations, to improving operating efficiency and competitiveness, to a more pragmatic desire to reduce the heavy financial burden for States for financing capital investment in new equipment. Whatever the reasons, the privatization of airlines has accompanied a more commercially-

oriented outlook within an increasingly competitive environment. Since 1985, about 130 States have announced privatization plans or expressed their intentions of privatization for approximately 190 State-owned airlines. During this period, about 90 of these targeted carriers have achieved privatization goals.

2.24 In 2002, the trend towards partial or full privatization of State-owned airlines continued, but at a slower speed. As shown in Table 2-2, only five carriers achieved privatization aims, namely Air Tanzania, Arkhangelsk Airlines, and three Chinese carriers

Table 2-2. State-owned airlines targeted for partial or full privatization — 2002

Announced during 2002	Announced before 2002 and progress reported	Aim achieved during 2002
Baikal Airlines	Aer Lingus (delayed)	Air Tanzania
Chitaavia	Aeromexico/CINTRA (delayed)	Arkhangelsk Airlines
KMV Kavkazskie Mineralnye Vody	Air China	China Postal Airlines
Voronezhavia	Air France	Shanghai Airlines
	Air India (delayed)	Sichuan Airlines
	Air Malawi	
	Air Namibia	
	Air New Zealand	
	Biman Bangladesh (delayed)	
	China Southern Airlines	
	El Al Israel Airlines	
	Garuda	
	Ghana Airways	
	Hemus Air	
	Iberia	
	Indian Airlines (delayed)	
	Iran Air	
	LAM Mozambique Airlines	
	Lineas Aerea del Ecuador (TAME)	
	Lithuanian Airlines	
	Malaysian Airlines	
	Malev	
	Merpati Nusantara Airlines	
	Mexicana/CINTRA (delayed)	
	Nigeria Airways	
	Olympic Airways	
	Philippine Airlines	
	Royal Jordanian (delayed)	
	Royal Nepal Airlines	
	Saudi Arabia Airlines	
	Siberia Airlines	
	Singapore Airlines	
	South African Airways	
	TAP Air Portugal	
	Thai Airways International (delayed)	

Source: Aviation press.

(China Postal Airlines, Shanghai Airlines and Sichuan Airlines). The Government of the United Republic of Tanzania sold 49 per cent of Air Tanzania to South African Airways in December, while keeping a 51 per cent stake. Russia's Arkhangelsk Airlines was fully privatized in mid-2002. China Postal Bureau sold a 49 per cent stake in China Postal Airlines to a parent company of China Southern Airlines in June, while keeping a 51 per cent stake. The Shanghai City Government reduced its stake in Shanghai Airlines from 75 per cent to about 40 per cent as a result of an initial public offering for domestic investors in September. An arm of the Sichuan Provincial Government reduced its stake in Sichuan Airlines from 100 per cent to 40 per cent in October by establishing a joint holding company with, inter alia, China Southern Airlines, Shandong Airlines and Shanghai Airlines.

2.25 In addition, another 40 State-owned carriers were reported to be in various stages of preparation for partial or full privatization. However, achievement of privatization has not been easy. Many of the initial privatization plans had to be deferred or postponed because of the complexities encountered in the process or the economic condition of the airlines concerned, or local circumstances, though in most cases the intention to privatize remains. The uncertainties surrounding the privatization process are also illustrated by a small counter trend of renewal, usually as a temporary measure, of State ownership as a national interest response to the potential demise of a national airline. For example, South Africa's state-owned company, Transnet, increased in February its shareholding in South African Airways from 75 per cent to 95 per cent by a buy-back from bankrupted Swissair's parent company, which had acquired a 20 per cent stake in 1999. In May, the Government of the Russian Federation strengthened its management control of Aeroflot without increasing its 51 per cent shareholding. In August, the Government of Italy increased its stake in Alitalia from 53 per cent to 62.4 per cent by subscribing a part of share capital increase.

National consolidation

2.26 Airlines in many parts of the world continued the pursuit of enhanced market strength through mergers, acquisitions or operational integration under a single holding company. The common thread of this trend is the continuing development of growth strategies designed to hold and expand existing market shares, gain access to new markets, achieve unit cost reduction, shield against fierce competition, and increase the scale of operations in order to attain a critical market position. While mergers or acquisitions are easier to achieve within the same country, some Governments have expressed concerns regarding the industry consolidation and have scrutinized it with great caution.

2.27 The year 2002 saw a relatively smaller number of mergers, many of which were announced in previous years. In March, the proposed merger of Aloha Airlines and Hawaiian Airlines was abandoned after a three-month negotiation. In May, Avianca, ACES and SAM Colombia started integrated operations under a holding company named Alianza Summa, which had been approved by the Colombian competition authorities in 2001. In August, easyJet, one of the largest European low-cost carriers, completed a merger deal with Go, another low-cost carrier in the United Kingdom. In October, Japan Airlines and Japan Air System created a joint holding company named Japan Airlines System, which was approved by Japan's Fair Trading Committee in April after the carriers agreed to conditions in terms

of slots at Tokyo's Haneda Airport and of domestic fares. In the same month, three Chinese airline groups headed by Air China, China Eastern Airlines and China Southern Airlines were officially launched through mergers with other smaller State-owned airlines in accordance with the final consolidation plan of the Civil Aviation Administration of China (CAAC). Air China was merged with China Southwest Airlines and China National Aviation Company to form the China National Aviation Holding Company. A parent company of China Eastern Airlines was merged with China Northwest Airlines and Yunnan Airlines as China Eastern Aviation Holding Company, and a parent company of China Southern Airlines took over China Northern Airlines and Xinjiang Airlines under China Southern Aviation Holding Company. Together, these three groups account for more than 80 per cent of China's domestic market.

Transnational ownership

2.28 The opportunity for equity investment in foreign carriers increased as many States adopted a new policy or amended existing rules on foreign investment or control in national airlines and relaxed air carrier ownership and control conditions in air services agreements. Most attempts to initiate transactions involving a foreign majority ownership, including cross-border mergers or acquisitions, however, were abandoned owing to the aero-political, economic and regulatory complexity. Even in the successful cases, the control and management of foreign carriers was not financially risk-free. Because of these difficulties in successful implementation, most foreign investments in the airline industry have been made on a limited scale, instead of taking a majority stake or pursuing a full-scale merger, and often as part of a strategy to forge or strengthen alliances and expand market access. Nevertheless, foreign investments have sometimes been short-lived. At the end of 2002, over 60 airlines had shareholdings in foreign airlines while about 220 airlines had equity owned by foreign investors in various degrees.

2.29 In 2002, the scale of new or expanded equity investments in foreign airlines was relatively small compared to previous years. The major transactions (except ones related to privatization) were, inter alia, an acquisition of a 30 per cent stake in Air Hong Kong, Cathay Pacific's wholly-owned subsidiary, by DHL Worldwide Express in October; an increase of Lufthansa's stake in bmi British Midland to 30 per cent (less one share) by acquiring 10 per cent from the BBW Partnership in November; and an acquisition of a 70 per cent stake in Armavia, a private Armenian carrier, by Siberia Airlines in November. Additionally, Qantas announced in November that it would acquire a maximum 22.5 per cent stake in Air New Zealand to form a trans-Tasman alliance, and as a first step subscribed to redeemable convertible notes (a 4.99 per cent stake once converted to equity) in December. By contrast, several airlines reduced their shareholdings in foreign carriers. For example, bankrupted Swissair's parent company divested its 49.8 per cent stake in Volare Airlines and Air Europe in February. British Airways' shareholding in Qantas was reduced from 21.4 per cent to 18.9 per cent in August as a result of British Airways' non-participation in Qantas's capital rising. Aer Lingus's 85 per cent stake in Futura, a Spanish charter carrier, was reduced to 20 per cent by selling to the latter carrier's management consortium in November.

2.30 Another significant development in 2002 was the turbulence surrounding multinational airlines. The debt-ridden Air Afrique, in which 11 Western and Central African States owned an approximate 70 per cent stake, filed for bankruptcy in February due to the failure to reach agreement on a bailout package backed by Air France. In April, the commercial court of Abidjan announced the liquidation of Air Afrique. Gulf Air, which also faced severe financial problems, was saved by emergency aid from three of four owner States, Abu Dhabi, Bahrain and Oman; however, Qatar announced in May its intention to withdraw from the treaty establishing Gulf Air and subsequently divested its 25 per cent stake. As a result, Qatar's stake was divided by the three remaining States, each of which increased its shareholding from 25 per cent to 33.3 per cent.

Alliances and cooperation

2.31 A relatively recent and rapidly evolving global phenomenon is the formation by airlines of alliances, i.e. voluntary unions of airlines held together by various commercial cooperative arrangements. There are now over 600 such alliance agreements in the world which contain a variety of elements such as codesharing, blocked space, cooperation in marketing, pricing, inventory control and frequent flyer programmes (FFPs), coordination in scheduling, sharing of offices and airport facilities, joint ventures and franchising. Intermodal alliances with railways have also grown in Europe and North America. The steady expansion of transnational alliances for strategic purposes and to achieve market access and synergies are a consequence of air carriers' response to, inter alia, perceived regulatory constraints (for example, bilateral restrictions on market access, ownership and control), a need to reduce their costs through economies of scope and scale, and a more globalized and increasingly competitive environment.

2.32 While numerous agreements concern cooperation on a limited scale (for example, codesharing on certain routes), the number of wide ranging strategic alliances has been on the rise. Most notable was the emergence of several competing "global alliance" groupings. As shown in Table 2-3, there are currently four global alliances, namely Star Alliance, oneworld, SkyTeam and Wings. Each group is composed of some major airline members having different geographical coverage with fairly extensive networks. Through the alliances, these carriers have combined their route networks, which extend to most parts of the world, and carry together over 50 per cent of worldwide scheduled passenger traffic.

2.33 Airline alliances are widespread but still evolving, with partnership relations becoming more intertwined and complex. In February, Swissair-led Qualiflyer terminated all the collaborative activities except its joint FFP, which also disbanded at the end of December. In June, Star Alliance announced that Asiana Airlines, LOT Polish Airlines and Spanair will join the group in 2003. In July, the cargo alliance named WOW, which was launched by three Star Alliance carriers (Lufthansa Cargo, SAS Cargo and Singapore Airlines Cargo) in 2000, gained Japan Airlines Cargo, whose passenger business has a close relationship with oneworld members. In July, United Airlines and US Airways announced a comprehensive marketing agreement including codesharing, following the failure of a merger plan in 2001. Continental Airlines, Delta Air Lines and Northwest Airlines announced in August a similar

Table 2-3. Global alliances

Alliance	Date	Members
Star Alliance	May 1997	Founded by Air Canada, Lufthansa, SAS, Thai Airways International, and United Airlines; subsequently joined by Varig (October 1997), Ansett Australia (March 1999), Air New Zealand (March 1999), All Nippon Airways (October 1999), Austrian Airlines Group (Austrian Airlines, Lauda Air and Tyrolean Airways, March 2000), Singapore Airlines (April 2000), bmi British Midland (July 2000) and Mexicana (July 2000); Asiana Airlines, LOT Polish Airlines and Spanair will join in 2003
oneworld	September 1998	Founded by American Airlines, British Airways, Canadian Airlines (withdrawn in June 2000), Cathay Pacific and Qantas; subsequently joined by Iberia (September 1999), Finnair (September 1999), LanChile (June 2000), and Aer Lingus (June 2000)
SkyTeam	June 2000	Founded by AeroMexico, Air France, Delta Air Lines and Korean Air; subsequently joined by CSA Czech Airlines (April 2001) and Alitalia (July 2001)
Wings	—	Founded by KLM and Northwest Airlines in 1989; subsequently joined by Continental Airlines and Alitalia in 1999, but Alitalia and KLM ended their partnership in April 2000; Kenya Airways and Malaysia Airlines are regarded as potential members

Source: Aviation press.

extensive marketing agreement, which is expected to ultimately bridge the SkyTeam and Wings groups. In November, Air New Zealand and Qantas announced a trans-Tasman alliance, while retaining their current different global alliance memberships.

2.34 The expanded consolidation through alliances raised increasing regulatory concerns in terms of a potential adverse impact on competition and consumers. Some proposed major alliances received close examination by relevant national and regional regulatory bodies (see Table A1-2) and, in some cases, certain regulatory measures were introduced to ameliorate the potential anti-competitive aspects of the arrangements. In practice, there has been no systematic regulatory treatment of these arrangements but decisions have been taken on an ad hoc basis within generic competition policy and often dictated by general aero-political considerations of the States concerned.

2.35 In 2002, the U.S. DOT approved and granted antitrust immunity to agreements filed by Delta Air Lines, Air France, Alitalia and CSA Czech Airlines in January; by United Airlines, Austrian Airlines, bmi British Midland, Lauda Air, Lufthansa and SAS in April (subject to the achievement of an “open skies” agreement between the United Kingdom and the United States within a specific period); by Delta Air Lines, Air France, Alitalia, CSA Czech Airlines and Korean Air in June; by American Airlines and Finnair in July; and by American Airlines and Swiss International Air Lines in November. In addition, the DOT

tentatively approved an agreement filed by American Airlines and British Airways (a second application, the first application having been dismissed in 1999) in January, but subsequently dismissed it because the carriers were not prepared to accept the conditions imposed by the DOT including the divestiture of a significant number of slots at London's Heathrow Airport. In November, American Airlines and British Airways filed a third time but for a limited scope agreement under which they would operate codeshare flights except for routes between London and U.S. airports. The DOT allowed an agreement between United Airlines and US Airways in October and was continuing to review an agreement between Continental Airlines, Delta Air Lines and Northwest Airlines.

2.36 The European Commission approved an intra-European alliance agreement between Austrian Airlines Group and Lufthansa in July, and transatlantic alliance agreements between KLM and Northwest Airlines without conditions, and between Lufthansa, SAS and United Airlines with conditions, each in October. The U.K. Office of Fair Trading (OFT) approved a transatlantic alliance agreement between bmi British Midland and United Airlines in November, with the condition that the bilateral restrictions preventing bmi British Midland from operating transatlantic services from Heathrow Airport be lifted. The ACCC and New Zealand Commerce Commission started to investigate a proposed trans-Tasman alliance between Air New Zealand and Qantas in December.

AIRLINE BUSINESS MODELS

2.37 In recent years, successful low-cost carriers have been challenging the full service network models of major airlines. The common features of the business model of low-cost carriers are, with some variations: point-to-point network focusing on short-haul routes, high frequencies, simple low-fare structures, high-density single class with no seat assignment, simple in-flight services, staffing flexibility and minimal overheads, and intensive use of electronic commerce for marketing and distribution (including on-line booking via the Internet and electronic ticketing). To sustain low-cost structures, these carriers usually operate a single aircraft type with high daily aircraft utilization. They also use less-congested secondary airports to ensure short turnarounds and high punctuality and to save airport-related costs. Low operating costs enable low-cost carriers to allocate all their seats to low fares.

2.38 This low-cost formula is not new but has been adopted by many new entrants in the United States following domestic deregulation. Although only a few of the earlier new entrants survived, successful low-cost carriers have established sustainable significant cost advantages and grown rapidly, not only at the national level (for example, Southwest Airlines and jetBlue Airways in the United States, Virgin Blue Airlines in Australia) but increasingly regionally (for example, easyJet, Ryanair and Virgin Express in Europe), and some of them have attracted business as well as vacation passengers. Other entrants into the low-cost market, primarily in the Europe-Mediterranean area, are former tour operator and charter carriers, who are increasing their "seat only" offerings to reflect the greater flexibility demanded by their customers and to avoid loss of business to the new low-cost carriers. The low-cost formula is likely to spread to other regions and be increasingly adopted for international services, market conditions and regulatory arrangements permitting.

2.39 Facing growing cost pressures and the inability to continue to charge business passengers higher fares, the business priorities of major airlines have been forced to shift to redesigning their operation to run more efficiently and developing alternative models which serve to bring passengers (especially business passengers) back to them. One of the responses taken by major airlines has been to set up separate organizations or subsidiaries to handle operations on short-haul routes competing with low-cost carriers or having the potential threat of new entrants. This low-cost “airline-within-an-airline” strategy taken by major airlines tries to combine key ingredients of the low-cost carriers’ approach with the reputation and quality of their own brand (for example, Tango by Air Canada, bmi British Midland’s bmibaby, and Delta Air Lines’ Song), though it is not always durable (for example, British Airways’ Go was sold to competitors, while Shuttle by United and US Airways’ MetroJet were shut down). Again, this “airline-within-an-airline” is a formula that is likely to take on an international dimension including long-haul and leisure-oriented routes, as it already has in the case of Australian Airlines, a low-cost subsidiary of Qantas.

FARES AND RATES

Tariff establishment

2.40 IATA traffic conferences (including tariff coordinating conferences) have developed most of the support mechanisms for multilateral interlining, such as standards for tickets, handling of passengers and baggage, and interline fares. IATA multilateral interlining among airlines occurs based on fixed IATA fares, which simplify administrative procedures for the interchangeability of tickets. The revenues for interline services are allocated in accordance with either the Multilateral Prorate Agreement (MPA) or special prorate agreements. Almost all IATA carriers (including non-tariff coordinating members) assume that passengers charged IATA fares have a full interline privilege with generally the highest booking availability if the transporting carrier is a party to the Multilateral Interline Traffic Agreement (MITA) or a bilateral interline traffic agreement with a ticketing carrier. This industry recognition serves to facilitate a wide-ranging multilateral interlining system, even though not all airlines actually participate in IATA tariff coordinating conferences. Although non-IATA interlining has grown rapidly in recent years, stimulated by the proliferation of inter-carrier alliances and liberalization of tariff setting, IATA currently estimates that IATA multilateral interlining accounts for about 15 per cent of worldwide passenger traffic.

2.41 Since inter-carrier activities through the traffic conferences involve the cooperation of competitors, exemptions from competition laws have been granted, in some jurisdictions, recognizing the public benefit of the interline system. In recent years, however, more States have looked closely at the application of existing exemptions to such inter-carrier activities. In Australia, the ACCC authorized the IATA passenger agency programme and exempted it from the Trade Practice Act in November 2002. The ACCC subsequently started a formal investigation of the IATA cargo agency programme including IATA tariff coordination arrangements for air cargo. In Europe, the European Commission extended in June the regulation on existing block exemptions from certain aspects of competition law requirements for another three-year period, which allowed airlines of European Economic Area (EEA)

States to continue participating in IATA consultations on passenger tariffs until 30 June 2005. In order to facilitate the Commission's re-examination of whether the block exemption should be further extended after that date, an obligation was newly introduced requiring airlines to report data periodically on the extent and degree of interlining. With respect to U.S. antitrust immunity for tariff coordination activities, the DOT continued to require airlines participating in one of the immunized alliance agreements to withdraw from IATA tariff coordination activities between the United States and countries of designated carriers that were granted antitrust immunity.

2.42 To manage a decline in scope of immunized inter-carrier activities through the IATA machinery and to enhance the attractiveness of IATA's multilateral interline system, a multi-disciplinary task force named the Blue Ribbon Group was established. During 2002, the Group held a series of meetings and studied a new "Standardized Premium Service Interlinable Fare" (SPS-Fare), which would be attractive to passengers, economically satisfactory to airlines and supported by competition authorities. IATA also tried to increase the number of tariff coordinating members, and succeeded in recruiting several major carriers, especially in Asia where Singapore Airlines, Malaysia Airlines, Philippine Airlines, China Airlines and EVA Air all joined.

Tariff developments

2.43 It has been widely recognized that current fare-construction rules, governed either by place of sale and/or ticket issuance, have become unworkable in an environment of Internet and electronic ticketing that does not identify where the passenger is located and what is perceived as the place of sale of a ticket. Since 2000, IATA tariff coordinating members have tried to develop a so-called "Internet package" with the aim of establishing a single set of fare-construction rules that would cover all sales and ticketing media. To make the process easier, in 2002 the expert group concerned decided to split the Internet package into two elements. The first was a new fare construction package related to the removal of the international sales indicators, and the second was a package containing technical changes to simplify rules. In February, IATA tariff coordinating members adopted the fare construction package by a mail vote, while leaving some outstanding issues such as the implementation date to future discussion. In July, the IATA Composite Tariff Conference revisited these issues but did not reach a consensus because of the divergent opinions among members.

2.44 The year witnessed new competitive moves in airline pricing. In Europe, major network carriers began to revamp short-haul fare structures to remain competitive with low-cost airlines. Initiatives included the elimination of some traditional fare restrictions such as Saturday night stay and advance purchase requirements as well as general reduction in fare levels. In the United States, major U.S. airlines continued to offer short-term sale fares targeting leisure passengers, while relaxing fare restrictions attached to higher fares to boost business passenger demand. In August and September, major U.S. carriers implemented a new ticketing policy for non-refundable fares to limit booking changes and stand-by and waiver of fare restrictions, in order to better manage low-fare demands.

PRODUCT DISTRIBUTION

Computer reservation systems (CRS)

2.45 CRS provide subscribers with up-to-date information not only on airline flight schedules and availability of fares and seats but also on a range of travel and leisure services such as hotels, car rentals, rail services and tours. It also enables subscribers to make reservations and to issue tickets. While CRS subscribers have been limited to travel agents and corporate travel departments, consumers accessing reservations services via the Internet also use CRS indirectly. As their presence has expanded, the four major CRS — Amadeus, Galileo, Sabre and Worldspan — have increasingly seen themselves as global distribution systems (GDS), i.e. providers of electronic global distribution services on travel information, reservation capabilities, and e-commerce solutions including the Internet.

2.46 Since the late 1990s, the CRS business has been affected significantly by increasing public awareness of the Internet with a large number of third-party providers in the area of business-to-consumer (B2C), i.e. a business that sells products or provides services to end-user consumers. The major CRS vendors have adapted to a challenge of translating their existing system designed mainly for the use of traditional travel agents into one applicable to any activity of business-to-business (B2B), i.e. a business that sells products or provides services to other businesses, and business-to-business-to-consumer (B2B2C), i.e. transactions in which a company sells a service or product to end-consumers using other companies as intermediaries. As a result, all the major CRS are now serving as a booking engine behind most B2C Web sites and as an on-line travel booking system for major corporations and airlines. They are also providing participating travel agents with a customized Web-booking facility so that CRS vendors can reach consumers indirectly via their travel agents.

2.47 Although many of the original regulatory concerns with CRS have diminished in recent years as sole ownership has moved away from air carriers, some other concerns have emerged with the rapid development of e-commerce. In Europe, the European Commission continued considering amendments to its existing regulation on CRS. In the United States, the DOT, for a fifth time, extended the effectiveness of the current CRS rules for one year (i.e. up to 31 March 2003), allowing additional time to complete a comprehensive review of industry development in light of the airlines' diminishing control of CRS and the rapid growth of Internet use. In November, the DOT invited comments from interested parties on the proposed final revisions to its CRS rules which would eliminate several provisions in the existing rules and concluded that rules regulating Internet use were unnecessary at this stage. With respect to the ICAO CRS Code, at the end of 2002, 31 States either followed the Code or had CRS regulations which were consistent or compatible with it.

Electronic ticketing

2.48 Electronic ticketing, a paperless method for documenting and distributing airline ticket coupons, has seen rapid expansion since it was first implemented for U.S. domestic travel in 1993. In an era of increased competition, electronic ticketing offers considerable cost savings for airlines and travel agents and provides convenience to consumers.

2.49 In the United States, following the initiatives by Alaska Airlines, American Airlines and Continental Airlines in 2001, other major U.S. carriers also started charging paper ticket fees. The carriers subsequently increased fees from \$10 to \$20 or \$25, and expanded applications to more fare types and markets in order to promote phasing out paper tickets. In June, American Airlines announced that it would cease issuing paper tickets for wholly domestic itineraries by March 2003 and plans to stop issuing paper tickets for all other itineraries by December 2003. United Airlines also announced in July that it would stop issuing paper tickets within the United States by July 2003 and issue only electronic tickets for all eligible itineraries, at all locations, domestic and international, by January 2004. According to the Airlines Reporting Corporation (ARC), which manages travel agents' transactions with air carriers in the United States, electronic tickets processed through ARC rose sharply accounting for 80 per cent of the total volume in December 2002, compared with 60 per cent a year earlier and 58 per cent two years earlier. In Canada, Air Canada stopped issuing paper tickets for domestic flights at the end of December. In Europe, it was reported that about 20 per cent of passengers were using electronic tickets.

2.50 Although the use of electronic tickets has been normally applied to single-carrier on-line itineraries, interline electronic ticketing, i.e. the ability to use electronic tickets on flights involving more than one airline, has also been developing since it was first introduced in 1999. During 2002, interline electronic ticketing was launched by American Airlines and Continental Airlines in March, American Airlines and United Airlines also in March, American Airlines and Northwest Airlines in April, American Airlines and Finnair in June, Delta Air Lines and United Airlines in August, United Airlines and US Airways in October, and Delta Air Lines and Northwest Airlines in December.

Travel agents

2.51 The advance of information technology, together with the liberalization of tariffs, continues to have a significant impact on the long-established relationship between airlines and travel agents. Travel agents traditionally acted as distribution outlets on behalf of airlines in exchange for the commissions that airlines paid to them. The heavy reliance on travel agents, however, has gradually been diminished as many States have moved towards liberalized tariff regulations and as e-commerce has led to the emergence of alternative cost-effective outlets. With pricing flexibility and Internet facility, airlines have been able to introduce various kinds of fares and to sell them directly or through the Internet to consumers, thereby cutting down on commission payments. In addition, increasing cost pressures in more competitive environments have provided an incentive for airlines to continue cutting commissions.

2.52 A stepped series of cutting commissions, which started in 1995, continued in March when Delta Air Lines eliminated base commissions (5 per cent capped at \$20 for round-trip and \$10 for one-way) payment to travel agents for tickets issued in the United States and Canada. American Airlines and Continental Airlines soon followed suit, and subsequently all the major U.S. carriers (with the exception of Southwest Airlines) and Air Canada joined this movement. In Europe, several major carriers adopted a flat-fee booking payment system

depending on the sector flown instead of paying traditional percentage commission on each ticket. The trend to reduce or eliminate commissions has also been growing in Asia and the Pacific, and in Latin America.

2.53 The reduction and elimination of commissions accelerated moves by travel agents toward product specialization, operational efficiencies and the establishment of some service fee schemes, whereby passengers pay a fee to the agent. Some reactions from travel agents to airline commission cuts included threats of boycott and legal action, as well as a call for government intervention. For example, in May 2002 the Canadian Standard Travel Agency Registry (CSTAR) filed a class action lawsuit against six U.S. and Canadian carriers and IATA. In November, Peru's competition authorities fined Iberia, KLM and Lufthansa, siding with the Peruvian Association of Travel Agents that accused the carriers of collaborating to lower commissions. In December, the U.K. Office of Fair Trading rejected a complaint made by the Association of British Travel Agents (ABTA), concluding that British Airways did not infringe the Competition Act 1998 by making low booking payments to travel agents for short haul flights.

Internet

2.54 Multiple distribution channels now co-exist. The pace of acceptance of the new technology-led channel, the Internet, varies among States and according to market segments. However, the use of the Internet both through third-party providers and recently, in particular, directly to consumers and other businesses, has shown a dramatic increase.

2.55 In the area of B2C, four different types of Web sites have emerged: 1) traditional travel agents' Web sites which constitute a simple extension to "brick-and-mortar" outlets and business processes; 2) on-line travel agents which do not have conventional retail outlets; 3) airlines' own Web sites; and 4) Web sites jointly owned by groups of airlines which offer wider product choices than the ones offered by a single airline's Web site. The latter two types of B2C Web sites have enabled airlines to reach more consumers, reduce agency commissions (and a part of booking fees) and manage their inventory more effectively.

2.56 With respect to on-line travel agents, Expedia overtook Travelocity in sales, reporting an 82 per cent increase in gross bookings in 2002. Travelocity, in which Sabre increased its shareholding from about 70 per cent to almost 100 per cent in April, reported an increase of 12 per cent. Some other on-line travel agents use non-traditional approaches. For example, Priceline allows consumers to bid for discounted tickets at fares they choose (a reverse auction system in discounted tickets). Hotwire, which is owned by the Texas Pacific Group with six U.S. major airlines, also adopts a bid-based system for discounted tickets. Trip.com, which was relaunched in April by Cendant Corporation, a parent company of Galileo, also targeted discounted leisure travel products by integrating its service with Cheap Ticket.

2.57 On-line booking facilities on the airlines' own Web sites attracted more consumers, allowing airlines to increase their share of direct sales, reduce costs and better manage inventory. Low-cost carriers tended to use Internet booking to a much wider extent than

major carriers. For example, easyJet claimed that it sold an average of 90 per cent of all seats through the Internet. Southwest Airlines reported that approximately 49 per cent, or over \$2.5 billion, of its passenger revenue for 2002 was generated by on-line bookings via its Web site, compared to 40 per cent or \$2.1 billion in 2001.

2.58 Another development in the B2C area was the rapid growth of Web sites jointly owned by groups of airlines (see Table 2-4 in detail). In the Asia and Pacific region, Zuji began

Table 2-4. B2C Web sites jointly owned by groups of airlines

Name	Announcement / Operations	Ownership	Service providers	Regulation
Orbitz	Announced in November 1999 (known as "T2"); started operations in June 2001 (U.S.).	American Airlines (joined in April 2000), Continental Airlines, Delta Air Lines, Northwest Airlines and United Airlines; filed a registration for initial public offering in May 2002.	Worldspan, Hotwire	The U.S. DOT gave tentative antitrust clearance in April 2001
Opodo	Announced in February 2000 (known as "Online Travel Portal Ltd"); started operations in November 2001 (Germany), January 2002 (United Kingdom) and April 2002 (France).	Aer Lingus, Air France, Alitalia, Austrian Airlines, British Airways, Finnair, Iberia, KLM and Lufthansa; Amadeus to join in 2003.	Amadeus, Galileo	The European Commission gave competition clearance in November 2001
Zuji	Announced in June 2000 (known as "Travel Exchange Asia"); started operations in July 2002 (Australia, Singapore) and December 2002 (Hong Kong SAR).	All Nippon Airways, Cathay Pacific, China Airlines, Dragon Airlines, EVA Air, Garuda Indonesia, Japan Air System, Japan Airlines, Malaysia Airlines, Northwest Airlines, Philippines Airlines, Qantas, Royal Brunei Airlines, Silk Air, Singapore Airlines, United Airlines and Travelocity.	Abacus and Travelocity (using Sabre's CRS)	The Australian Competition and Consumer Commission (ACCC) gave competition clearance in November 2002
Tabini	Announced in August 2000; Started operations in March 2002 (Japan).	All Nippon Airways, Japan Airlines System (Japan Air System and Japan Airlines), Northwest Airlines, United Airlines, Zuji (AGC Holdings), and Travelocity.	Travelocity (using Sabre's CRS)	—

Source: Aviation press.

operations in Australia and Singapore in July, and in Hong Kong SAR in December. Tabini started operations in Japan in March. In Europe, Opodo opened its local United Kingdom (U.K.) and French sites in January and April, respectively.

2.59 In the B2B area, there was continued development of e-marketplace, connecting airlines with suppliers and buyers through the Internet with the objective of creating cost savings by integrating and streamlining the supply chains. For example, AeroXchange (founded by 13 airlines in 2000 and subsequently joined by 20 affiliated airlines) and Cordiem (formerly AirNewco, founded by nine airlines in 2000), both of which started operations in 2001, enable airlines to purchase airframes, engines and avionics components, maintenance services, fuel and other goods and services from respective suppliers on-line. Global Freight Exchange (GF-X) Operations, which was established by Air France Cargo, British Airways Cargo and Lufthansa Cargo in February 2002, provides an electronic B2B trading platform to facilitate the sale of air freight capacity between air freight forwarders and air cargo carriers.

2.60 One of the primary issues regarding competition and the Internet is whether certain practices associated with the use of the Internet are likely to undermine competition and consumers' benefits. The particular regulatory focus has been on Web sites jointly owned by horizontal competitors holding dominant positions in the relevant markets. In Australia, the ACCC investigated the launch of Zuji and gave competition clearance to it in November. In Europe, the European Commission gave competition clearance to GF-X Operations in October. In the United States, the DOT continued to review Orbitz's business practices. In November, a special commission of the U.S. Congress issued a report which expressed concern related to Orbitz and recommended that the DOT and DOJ immediately consider whether Orbitz should be allowed to maintain its "most-favoured-nation" (MFN) clause. Under the MFN clause, airlines have to agree to provide all fares on, for instance, a) Internet-only fares that the airline posts on its Web site, and b) any fare available for sale to the public through any other distribution channels.

TRAFFIC

2.61 Indicators on the development of airline scheduled traffic in 2002 are given below in terms of international and domestic traffic (including rates of growth and load factors), rankings of carriers as well as countries by traffic volume, along with some estimates regarding non-scheduled traffic.

Scheduled carriers

2.62 On the basis of schedules published in multilateral airline schedule guides, it is estimated that at the end of 2002 there were approximately 806 air carriers worldwide providing international and/or domestic scheduled passenger services (including 76 air carriers which provide both scheduled passenger and all-freight services) and about 90 operating only scheduled all-freight services. The total number of 896 air carriers operating in 2002 compares closely with the 894 recorded in 2001.

Scheduled traffic: world totals

2.63 The total scheduled traffic (domestic plus international) carried by airlines of the 188 Contracting States of ICAO in 2002 is estimated at about 392 billion tonne-kilometres performed, an increase of 1.6 per cent over 2001. These airlines carried a total of about 1 615 million passengers and some 30 million tonnes of freight in 2002, compared with 1 624 million passengers and 29 million tonnes of freight in 2001. In 2002, there was a small reduction in the overall capacity with a relatively small increase in traffic. Hence average load factors on total scheduled services for passenger traffic increased from 69 per cent in 2001 to 71 per cent in 2002 and for passenger/freight/mail traffic combined from 59 per cent to 61 per cent, respectively (Table 2-5).

2.64 Compared with the previous year, in 2002 international scheduled traffic showed increases of about 2 per cent both in tonne-kilometres performed and in the number of passengers carried, and about 6 per cent in freight tonnes carried. International traffic accounted for some 59 per cent of total passenger-kilometres performed, 86 per cent of the freight tonne-kilometres performed and some 68 per cent of the total tonne-kilometres performed — these proportions remained almost unchanged compared to the previous year.

Table 2-5. Scheduled services of airlines of ICAO Contracting States (2002/2001)

	Passengers carried (millions)	Passenger- km performed (millions)	Passenger load factor (%)	Freight tonnes carried (millions)	Freight tonne-km performed (millions)	Mail tonne-km performed (millions)	Total tonne-km performed (millions)	Weight load factor (%)
TOTAL (International plus domestic)								
2001	1 624	2 929 845	69	29	110 698	5 305	385 451	59
2002	1 615	2 942 412	71	30	116 628	4 533	391 795	61
Percentage Change	-0.6	0.4	2.0	3.1	5.4	-14.6	1.6	2.0
INTERNATIONAL								
2001	532	1 715 739	70	18	95 950	2 655	259 521	62
2002	545	1 732 160	73	19	100 588	2 676	265 646	65
Percentage Change	2.4	1.0	3.0	5.6	4.8	0.8	2.4	3.0
DOMESTIC								
2001	1 092	1 214 106	69	11	14 748	2 650	125 930	56
2002	1 070	1 210 252	67	11	16 040	1 857	126 149	54
Percentage Change	-2.0	-0.3	-2.0	-0.9	8.8	-29.9	0.2	-2.0

Source: ICAO Air Transport Reporting Form A.

**Table 2-6. Growth of scheduled traffic by region of airline registration — World (2002/2001)
(annual percentage change)**

	Passengers carried	Passenger- kilometres performed	Freight tonne-km performed	Mail tonne-km performed	Total tonne-km performed
TOTAL (international plus domestic)					
Africa	-3.2	-1.0	-9.7	-16.0	-4.8
Asia and Pacific	4.4	5.5	10.7	2.4	7.3
Europe	-0.2	-1.1	1.2	-2.1	-0.6
Middle East	9.7	10.1	18.1	10.5	12.6
North America	-4.2	-2.4	3.8	-27.8	-1.4
Latin America and Caribbean	-1.0	-1.5	-6.2	12.9	-1.0
Total	-0.6	0.4	5.4	-14.6	1.6
INTERNATIONAL					
Africa	-2.5	-1.2	-10.0	-22.6	-5.3
Asia and Pacific	7.3	4.9	10.7	4.7	7.3
Europe	1.5	-1.2	1.0	-3.4	-0.6
Middle East	13.5	11.0	18.4	9.8	13.4
North America	-2.3	-2.5	2.0	-0.7	-0.5
Latin America and Caribbean	-5.5	-1.4	-11.6	35.9	-3.3
Total	2.4	1.0	4.8	0.8	2.4

Source: ICAO Air Transport Reporting Form A.

2.65 In 2002 there was little change in total domestic traffic, which remained at about 126 billion tonne-kilometres performed.

Scheduled traffic: regional breakdown

2.66 From 2001 to 2002, developments in total and international scheduled traffic varied considerably among regions of carrier registration with respect to passengers, freight and mail (Table 2-6). In terms of passenger-kilometres performed, the change in traffic ranged from a decrease of some 2 per cent in total traffic for airlines registered in Latin America and the Caribbean and those in North America, to an increase of about 10 per cent for airlines registered in the Middle East. Changes in the passenger-kilometres performed on international services ranged from a decrease of over 2.5 per cent for airlines registered in North America to an increase of 11 per cent for those registered in the Middle East. In terms of freight tonne-kilometres performed, carriers registered in Africa experienced a decrease of about 10 per cent each in total and international traffic while those in Latin America and the