The Airline Business in the Twenty-first Century

Rigas Doganis

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Airlines spell glamour, high profits and big business. Television viewers watch airline programmes spellbound. The charismatic heads of certain airlines are known to everyone. But few know the real story. This book for the first time sets the record straight.

The Airline Business in the Twenty-first Century focuses on the major issues that will affect the airline industry as we enter a new millennium. It tells of an industry working on low margins, of cut-throat competition resulting from ‘open skies’. It analyses the low-cost airlines, the impact of electronic commerce and fuels the debate on global airline alliances. In a particularly poignant chapter, the author – a former airline chairman and CEO – lays bare the perils and problems of privatising state-owned airlines.

Most importantly, the book carefully analyses the strategies that are needed for airlines to succeed in the twenty-first century.

This book is essential reading for anyone interested in aviation and a core text for those working in the industry.

Rigas Doganis is an airline and airport consultant. He is also Visiting Professor at the College of Aeronautics, Cranfield University and former Chairman/CEO of Olympic Airways in Athens. He is the author of *The Airport Business* and *Flying off Course*, also published by Routledge.

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To many, the international airline industry appears exciting, dynamic and forward-looking, operating at the frontiers of technological innovation. Few realise that despite its glamour, it is an industry whose long-term profitability is both marginal and very cyclical. Over the last three decades five to six years of reasonable profits have been followed by two to four years of declining profits and, in the case of many airlines, of losses. The airline industry is inherently unstable because it is an industry which is constantly buffeted by new developments and constraints – regulatory, operational and technological. This was particularly true at the end of the 1990s and the beginning of the new millennium.

In recent years, 'open skies', global alliances, low-cost, no frills carriers, electronic commerce and privatisation are just some of the crucial developments affecting the airline business. These changes in turn have required airlines to develop new policies and strategies for the twenty-first century. This is the focus of the present book. It sets out to examine the key factors affecting the airline industry and assesses alternative policies that can be used to respond to a dynamic and changing market place.

In writing this book I have been fortunate in two respects. First, from the beginning of 1995 till the late spring of 1996 as Chairman and Chief Executive Officer of Olympic Airways, the Greek national airline, I managed an airline which was buffeted by many of the same forces and developments described in this book. I also had to face up to similar policy issues. I was helped in this by many of Olympic's very capable managers, from all areas of the airline, who were unstinting in their help and advice. They are too many to name individually but I am indeed indebted to them all. Second, as Professor and Head of Air Transport at Cranfield University's College of Aeronautics, from 1991 to 1997 (except while I was at Olympic), I have been fortunate in working within an environment that provided a lively forum for discussing many aspects of the constantly changing airline business. I am particularly indebted to Peter Morrell, Dr Fariba Alamdari and Andrew Lobbenberg, now an aviation analyst with Flemings, for the many stimulating discussions and arguments we had over airline issues. Those discussions have undoubtedly influenced some of the chapters that follow.

I am also grateful for the help and support I received while at Cranfield and later from Ian Stockman and Conor Whelan. The latter has also been responsible for some of the better diagrams in this book. But I must also thank the numerous Cranfield postgraduate students in air transport who through their searching questions forced me constantly to re-examine my own views and thoughts regarding the airline business.

Finally a word of apology to my wife Sally for the many weekends I spent writing when we should have been walking on Hampstead Heath or playing tennis. Not once did she complain. I owe much to her support.

1 Recent trends and future prospects

1.1 The good, the bad and the indifferent

For the then Chairman of Air France, 1993 was an unhappy time. Every evening, as he left his office to go home, his airline had lost another US$4 million! This went on, day in day out, for a year or so. Of course, it was not quite like that. But by the end of that financial year, his airline had lost almost US$1.5 billion. Such figures graphically illustrate the depth of the crisis faced by the world's airlines in the early 1990s. This was a bad time for the airline business.

While the years 1987 to 1989 had been highly profitable, in the period 1990–93 the airline industry faced the worst crisis it had ever known. The crisis started early in 1990 as fuel prices began to rise in real terms while a worsening economic climate in several countries, notably the USA and Britain, began to depress demand in certain markets. The invasion of Kuwait on 2 August 1990 and the short war that followed in January 1991 turned crisis into disaster for many airlines. Eastern Airlines in the United States and the British airline Air Europe collapsed early in 1991 while Pan American and several smaller airlines such as Midway in the United States and TEA in Belgium had gone by the end of the year. The end of the Gulf War early in 1991 did not lead to any improvement in airline fortunes, since the underlying problem was the slowdown in several key economies, not the war. In many markets, such as the North Atlantic, liberalisation combined with inadequate traffic growth was resulting in overcapacity and falling yields as airlines fought for market share. Financial results in 1992 were worse than in 1991, and 1993 was little better. Of the world's twenty largest airlines, only British Airways, Cathay, SIA (Singapore Airlines) and Swissair made a net surplus in each of the three years 1991 to 1993. It was the North American carriers that posted the largest losses in this period. Conversely several Asian airlines continued to operate profitably.

A number of airlines required massive injections of capital to survive through the early 1990s, particularly Europe's state-owned airlines such as Air France. Those from member states of the European Union received

US$10.4 billion in 'state aid' in the period up to 1995. This was government funding provided after approval by the European Commission. Later in 1997 Alitalia was given $1.7 billion of state aid. In addition several airlines received government funds of various kinds totalling nearly $1.3 billion but not categorised by the European Commission as 'state aid'. Even privatised European airlines received capital injections from their shareholders through rights issues during this period (Chapter 8, Table 8.4). Outside Europe most state-owned airlines needed direct or indirect government subsidies to keep going.

After 1994 as the cost-cutting measures launched in the crisis years began to have an impact and as demand growth began to pick up, many airlines returned to profit. This improving trend continued in 1995, 1996 and 1997. Of the larger carriers two groups, the major Japanese carriers and the state-owned airlines of southern Europe, performed less well than their counterparts and several, such as Japan Airlines and Alitalia, continued to make losses. Overall, however, these were boom years for the airline industry. In absolute terms 1998 was the most profitable year ever.

The significant improvements in airline profit levels in the mid-1990s reflected the cyclical pattern that appears to characterise the airline industry (Figure 1.1). Four to six years of reasonable profits are followed by three or four years of marginal profits or losses. While the overall profits in the period 1994–97 appear to be higher than those of the corresponding period in the 1980s, the profit margins (i.e. profits as a percentage of revenues) are no better (Figure 1.2). However, even in the good years profit margins are low. The net profits, after interest and tax, rarely achieve even 2 per cent of revenues. In 1998, the best year in absolute terms, the net operating result was only 3 per cent. Clearly, the airline industry is not very profitable compared to other industries. Of course some airlines, as previously mentioned, performed much better than the average. But even they rarely achieved a 10 per cent operating margin.

Despite the overall improvement in airline financial performance after 1994, airlines had become increasingly indebted as they borrowed heavily to finance their losses or to pay for aircraft ordered in the good years of the late 1980s. As a result, during the 1990s interest payments rose alarmingly. Many airlines, while making an operating surplus, were pushed into the red as a result of their large interest payments. The total interest payments that had to be paid each year rose dramatically during this period and were an indication of the industry's growing indebtedness. Annual interest payments for the international operations of IATA's member airlines doubled from $1.8 billion in 1988 to $3.6 billion in 1992 and have remained at over $3 billion per annum since then. This is so despite the huge write-off of debts among many state-owned airlines in Europe who used their 'state aid' primarily to cancel some of their accumulated debts.

As the new millennium approached the airline industry was faced with conflicting signals. Early in 1998 the United States airlines announced that

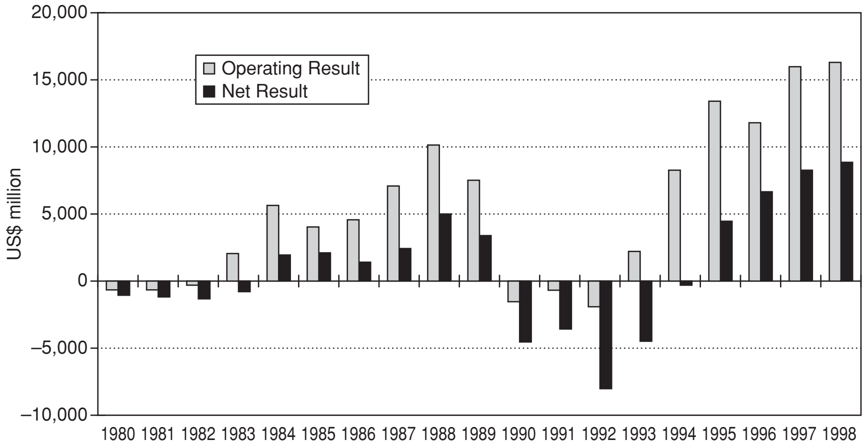

Figure 1.1 ICAO World airline financial results, 1980 to 1998 (US$).

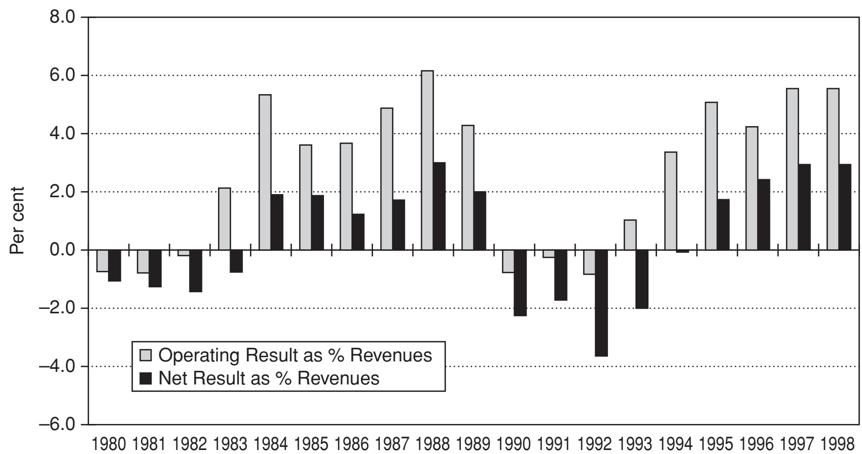

Figure 1.2 ICAO World airline financial results, 1980 to 1998 (as a percentage of revenues).

1997 had been their best year ever, with net profits reaching US$6 billion. Yet at the same time it was apparent that many Asian carriers were in dire straits. The economic crisis and meltdown that began to affect East Asia in the second half of 1997 hit Asian carriers hard. The economic downturn choked off the anticipated traffic growth. On many intra-Asian routes passenger and cargo traffic grew less rapidly than anticipated or even declined. At the same time, the dramatic devaluation of many airlines' home currencies significantly reduced the value of their foreign revenues while at the same time increasing those costs denominated in hard currencies. Fuel costs, interest charges and debt repayments rose sharply. Foreign currency denominated debts also rose.

By mid-1998 many East Asian airlines were posting large losses for the financial year 1997. Japan Airlines led the way with a net loss of US$513 million. Others' losses were not as high, but were still substantial. Asiana, the Korean airline, lost $425 million, Korean Airlines $424 million and Philippine Airlines $253 million. Only Thai Airways, Cathay Pacific and Singapore Airlines and some of the Chinese airlines bucked the trend, though the first two had significantly lower profits than in 1996.

For the East Asian airlines 1998 was even worse than 1997. While Japan Airlines and Korean managed to move from loss into profit, most carriers' financial performance deteriorated. Cathay Pacific nosedived into loss, its first ever. Philippine Airlines virtually collapsed in July 1998 after a disastrous pilots' strike. A very slimmed-down operation had to be resurrected twice through capital injections and financial restructuring in the months that followed. In Indonesia two large domestic airlines ceased operations while Garuda, the national carrier, teetered on the verge of collapse but kept flying. In 1999 both Philippine Airlines and Garuda brought in foreign managers to try and turn them round.

European and North American airlines were affected by the downturn in traffic on their routes to East Asia. In some cases, this forced them to close routes or switch some new capacity to other markets. Nevertheless, for these airlines, 1998 was as good or better in terms of profitability than 1997 had been. Results were helped by the fact that aviation fuel prices had dropped by nearly a third during 1998. Only a handful posted lower profits. British Airways, KLM and US Airways were among them. The first warning signs were appearing. Those American and European airlines which had performed so well in 1997 could see clouds gathering on the horizon. Yet they could still feel the pain of the deep economic crises they had suffered in the early 1990s.

The situation began to deteriorate further in 1999. Though in February 2000 the ten largest United States airlines as a group posted marginally higher net profits for 1999 than for the previous year, this was achieved through wide-ranging asset disposal. British Airways, which had maintained profitability throughout the crisis years of the early 1990s, was projecting losses for 1999. In fact, as the new millennium approached, many airline chairmen were issuing profit warnings.

Yet the major world economies were doing reasonably well and the forecasts were good. Even those Asian tiger economies which had gone into freefall in 1997, and Japan, where growth had slowed down, were on an upswing by the end of 1999. What were the causes of so much concern? Two major factors were affecting profits. First, overcapacity in many markets, especially on international routes as airlines fought for market share, was pushing down average yields. This trend was exacerbated in Europe and the United States by the pricing strategies of low-cost, no frills carriers. While yields were going down costs were starting to climb in real terms. During 1999 the OPEC countries had imposed production quotas so as to push up the price of oil. They succeeded in this. Prices for Brent crude oil rose from \$10.28 per barrel in February 1999 to \$28.14 a year later. Prices for jet fuel followed the same trend. Airlines which had not hedged their future fuel purchases were badly hit. The strengthening of the US dollar against many currencies, including the Euro, made matters worse.

Falling yields and rising costs suggests that the worsening climate for airlines, especially international airlines early in the new millennium appeared to be supply-led. This contrasts with the much deeper crisis in the early 1990s, which was demand-led in that it was caused primarily by a sharp drop in demand growth as major industrialised economies slowed down. The conundrum which had to be faced was whether the supply side problems would be sufficiently serious and unmanageable to bring about a major cyclical downturn in the airline industry some time in the period 2000 to 2003. History, as indicated in Figures 1.1 and 1.2, suggested that a downturn was due, or would airline managements take corrective action in time?

1.2 Past trends

To gain an insight into the airline industry's prospects and problems one must appreciate the market environment within which it has been operating and which has affected its development in recent years.

The most significant trend since the early 1980s has been the gradual *liberalisation of international air transport*. This has had profound effects both on market structure and on operating patterns. On the transatlantic and transpacific routes liberalisation started in the early 1980s as the United States, following domestic deregulation in 1978, began to renegotiate more open and less restrictive bilateral air services agreements (see Chapter 2). In Europe, the first liberal 'open market' bilateral was that between the UK and the Netherlands in 1984, which was followed in December 1987 by the first 'package' of liberalisation measures introduced by the European Community. In many parts of the world, governments influenced by the tide of liberalisation allowed the emergence of new domestic and/or international airlines able to compete directly with their established national carriers. Thus, in Japan, the domestic airline All Nippon Airways was allowed to operate on international routes for the first time in 1986. Elsewhere many new airlines emerged, EVA Air in Taiwan, Asiana in South Korea, Virgin Atlantic and Ryanair in Europe among them.

In Europe, the process of liberalisation culminated in the so-called 'third package' of measures, which came into force on 1 January 1993. These effectively ensured open and unrestricted market access to any routes within the European Union for airlines from any member state while at the same time removing all capacity and virtually all price controls. They also removed the ownership constraints. Henceforward, airlines within an EU member state could be owned by nationals or companies from any of the other member states. (Chapter 3 deals with these developments.)

In the mid- to late 1990s liberalisation in Europe facilitated the emergence of a new breed of low-cost low-fare airlines, such as easyJet, Debonair and Air One, which modelled themselves on Southwest in the United States (see Chapter 6).

At the same time, from 1992 onwards, the United States began to sign a series of 'open skies' bilateral air services agreements. They too effectively removed most market access or price controls on the air services between the countries concerned. But the ownership constraints remained. Airlines designated by each state had to be 'substantially owned and effectively controlled' by nationals of that state. The first 'open skies' agreement was with the Netherlands in 1992. Over forty such agreements had been negotiated by the United States by early 2000. (See Chapters 2 and 3 for an analysis of the deregulatory developments.)

This trend towards liberalisation of economic regulations significantly changed market conditions in those parts of the world where such liberalisation took place. In particular, it resulted in the emergence of new airlines on many international air routes. In some cases, these were newly created airlines such as EVA Air; in others they were established carriers entering particular international routes for the first time. Very powerful but hitherto largely domestic United States carriers such as United, Delta, American and Brannif, launched new international operations. They were joined in the early days by new entrant airlines such as People Express, Air Florida and others, though few of these survived for long. United and Delta launched their international networks beyond the Americas by respectively buying out and expanding the transpacific and transatlantic operations of Pan American.

A further consequence of liberalisation was that there was much less control of capacity and frequency on many routes while at the same time there was considerably greater pricing freedom. While published international fares continued to be established through the machinery of the International Air Transport Association (IATA), such agreed fares were frequently and openly flouted.

Another key factor which has had a major beneficial impact on the airline industry during the last ten years or so has been the *relatively low price of aviation fuel* and the general stability of the price level. This contrasts sharply with the high prices experienced in the late 1970s and early 1980s. The price of fuel shot up dramatically on two occasions as a result of crises in the Middle East: first in 1973–74 when it more than doubled in price and in 1979 when again the price doubled. The average

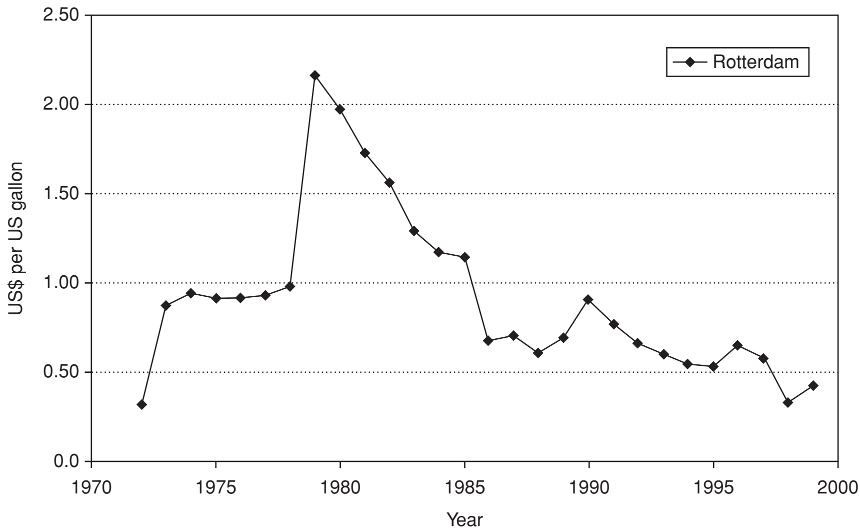

Figure 1.3 Fuel price trends 1972 to 1999 (Rotterdam spot prices at constant 1992 prices).

price of jet fuel rose from 32 US cents per gallon in 1972 (in 1997 US dollar values) to almost two dollars in 1980 (in 1997 US dollar values) (Figure 1.3). Fuel became the major airline cost for a time, representing 30 per cent to 33 per cent of total operating costs. These high fuel prices were one of the major causes of the losses incurred during the cyclical downturn of the early 1980s (Figure 1.1). But from 1981 onwards fuel prices began to decline gradually in real terms and dropped sharply in 1986. The sharp drop experienced in 1986 in turn partly explains the high profits achieved in the years 1986 to 1989.

What is more significant is that since 1986 the price of aviation fuel has stabilised at a value which in real terms is a little less than double the level prior to the two oil crises. But it is still substantially lower than the prices prevailing during the early 1980s. The price does fluctuate, but around a more or less constant level. Thus, while the 1990 Kuwait crisis and war of 1991 produced a sudden sharp hike in fuel prices, the prices were back close to their pre-crisis levels within a year (Figure 1.3). Again in late 1996 there was a sharp increase, but prices declined during 1997 to earlier levels. In fact, in 1998 jet fuel prices dropped even further to levels not experienced since 1972. Fuel prices did rise appreciably during 1999 and early 2000 as a result of OPEC cutbacks in petroleum output mentioned earlier. Average spot prices for jet fuel rose from around 32 US cents per gallon in February 1999 to almost 77 US cents in February 2000, an increase of 140 per cent or so. Despite this it is clear that fuel prices have tended to become less volatile in the long run because oil production is now much more dispersed geographically than it was in the 1970s. A crisis or shortfall in production in one area can more easily be met by increased production elsewhere. It is significant that low fuel prices prevailed in the late 1990s despite the fact that Iraq, previously the world's second-largest oil exporter, was no longer able to export oil as a result of a United Nations embargo on Iraqi exports. It is likely that in the medium term the high fuel prices of late 1999 and early 2000 will come down to levels prevailing in the mid-1990s, that is, 50 to 60 US cents per gallon. The decline and stabilisation in the price of aviation fuel means that the cost of fuel during most of the 1990s represented between 12 per cent and 15 per cent of airlines' total operating costs. Most forecasters predict that during the first decade of the new millennium fuel prices measured in constant values will either continue to be fairly stable, though with some sharp, short-term fluctuations, or at the very worst they may increase in real terms at a low rate of 1 or 2 per cent per annum.

The third trend underlying the development of air transport is that *traffic growth rates have been declining*. In the decade 1966–77 the world's air traffic measured in terms of passenger-kilometres grew at an annual rate of 11.6 per cent, effectively doubling every six or seven years. In the following decade up to 1987 annual growth was less but still high at 7.8 per cent. But during the period 1987 to 1997 the traffic growth declined further to around 4.8 per cent per annum. The average growth rate for the whole of the 1990s was expected to be a little below 5.0 per cent. Of course, in absolute traffic terms because of the much larger base a 5.0 per cent growth in the 1990s or today represents a huge jump in traffic compared to a 12 per cent rise in the late 1960s.

However, these global growth rates mask the fact that growth has been very uneven, with wide variations between different parts of the world and between different airlines. In particular, for the last twenty to twenty-five years, traffic to, from and between the countries of East Asia has been growing much faster than the world average.

The reasons for this are fairly clear. For more than twenty years, till late 1997, Japan and the tiger economies of South East Asia were developing much more rapidly than the traditional economies of Europe and North America. Their export-oriented economies generated considerable business travel while rising per capita incomes stimulated leisure and personal travel. At the same time countries such as Thailand, Singapore and Indonesia rapidly developed their tourism infrastructure, attracting growing numbers of tourists both from within and without the region. It should also not be forgotten that most of the countries and many of the major cities of East Asia are separated by large expanses of water. In many cases there is no alternative to air travel. Even when surface travel is possible, as between Kuala Lumpur and Bangkok, the infrastructure is poor and journey times are too slow. The 1970s and 1980s also saw the rapid growth of new Asian state-owned airlines such as SIA, Malaysia Airlines (MAS), Thai International, Garuda and the privately owned Cathay Pacific. Offering superior in-flight service and aggressive marketing, they both stimulated demand and captured a growing share of it.

As a consequence of above average traffic growth in East Asia and the dynamic expansion of Asian airlines, there has been a *dramatic restructuring* of the world's international airline industry away from the traditional United States and European international airlines and *in favour of the East Asian/Pacific airlines*. Whereas in 1972 the Asian and Pacific region airlines carried only 13 per cent of the world's international scheduled traffic, by the late 1990s their share was up to about one-third, around 31–2 per cent. In terms of tonne-kms carried on international services four of the world's top ten airlines are now Asian: Japan Airlines, SIA, Korean and Cathay. Conversely, the once dominant US and European airlines have lost market share. In 1972 airlines from these two regions carried three-quarters of the world's international traffic. Today their joint share is barely over 50 per cent though the United States airlines are currently slowly clawing back a greater market share.

Finally, a critical trend in recent years has been the gradual but *steady decline in the real value of airline yields* – that is the average revenue produced per passenger-km or tonne-km carried. Several factors have caused this. The liberalisation which, as mentioned earlier, has spread over more and more routes reduced or removed both capacity and price controls. New airlines emerged to compete with established carriers and in order to capture market share they reduced fares only to be matched in many cases by their competitors. Elsewhere competition focused on increased frequencies, but these extra frequencies had to be filled and fare reductions was one way of doing this. A widespread phenomenon in deregulated markets is that an ever-growing proportion of passengers is travelling on reduced or discounted fares while at the same time the fare reductions are cutting deeper and deeper into the scheduled fares. This first became evident on United States domestic air services during the 1980s following domestic deregulation in 1978.

The same trend is very evident within Europe. The average yield from promotional fares has gone down to less than half of the normal economy fare, whereas it was about 63 per cent in 1985. Yet the proportion of passengers travelling at these low fares has also risen from 57 per cent to 71 per cent of the total. The same pattern of more of the passengers flying at ever deeper discounts has been repeated in both the transatlantic and transpacific markets.

Fortunately, the fall in real yields has in many cases been matched by falling unit costs. This was made possible by the more widespread introduction of new-generation wide-bodied aircraft and by the great efforts made to reduce airline costs across the board during the crises years of the early 1990s. The fall in the real price of aviation fuel in the early to mid-1980s also helped. But, where average yields have fallen faster than unit costs airlines have been under great pressure to increase load factors to compensate for the lower yields.

1.3 Future developments in the operating environment

The long-term prospects for air transport look good. At the start of the new millennium, the decline in annual growth rates appeared to have been stemmed. Most long-term forecasts were modified downwards after the East Asian crisis of 1997–98, but they still predicted that growth rates for worldwide air traffic would average about 5 per cent over the first decade of the new millennium. But year to year, there will be fluctuations around this average figure. Despite the continuing economic problems in some European countries, and to a lesser extent in Japan, most forecasts prepared in 1998 and 1999 are optimistic. This optimism stems from the close link that has been established historically between the demand for air travel and world economic growth. The rate of growth of air traffic seems to follow closely developments in the world's gross domestic product (GDP). Though frequently there is a time lag before air traffic responds to changes in GDP, air traffic worldwide measured in terms of scheduled passenger-kms appears to have an income elasticity of around 2. This means that in general air traffic grows about twice as fast as the annual growth in the world's GDP. It is because economic forecasters early in 2000 were predicting medium-term growth in world GDP to average 2.5 to 3.0 per cent per annum that airline traffic is expected to grow annually at 5 per cent to 6 per cent.

Airbus Industrie, in their long-term forecasts presented in May 1999, predicted that airline traffic measured in terms of revenue passenger-kms would grow at an annual rate of 5.1 per cent in the ten years from 1999 to 2008. Growth would slow down to 4.9 per cent per annum in the decade after that. Boeing was forecasting somewhat lower annual growth of 4.7 per cent in the first decade to 2007. Both manufacturers were forecasting growth rates for the first decade of the new millennium which were close to those achieved in the 1990s. In other words, there would be no slowing down.

In the light of past trends, all air traffic forecasters, including Airbus and Boeing, expect much higher than average growth in particular markets, notably on routes to and from the East Asia and Pacific regions. Traffic growth to and from Latin America is also expected to be above the world average. On the other hand, traffic in two of the largest international markets, those of the North Atlantic or within Europe, will grow at or below the average world growth rate.

In a climate of long-term optimism but short-term uncertainty, the market environment for air transport during the first decade of the new millennium will be characterised by significant changes both in the regulatory regime and in market structures. The *trend towards a very liberal 'open skies' international regime is unstoppable*. Within Europe, the more or less total deregulation of intra-European air services that has already taken place within the European Union will increasingly spread eastwards to the former communist states. Ten states have been negotiating to adopt the 'third package' and the associated competition rules. They are expected to formally join the Common European Aviation Area during 2001, which already contains the fifteen member states of the European Union together with Norway and Sweden. This will create a vast single deregulated market for air transport covering most of Europe. Other states such as Switzerland or Cyprus are expected to join shortly, even before becoming full members of the European Union. Meanwhile, the removal since 1993 of any real distinctions between charters and scheduled services within the European Union will increasingly draw the two sectors closer together. New airlines will appear though several will collapse or be taken over including some of the weaker, state-owned carriers. The most dramatic impact on air transport in Europe will come from the rapid growth of low-cost, no frills airlines (Chapter 6).

In Asia and South America a number of states have already signed 'open skies' air services agreements with the United States while continuing to operate on the basis of traditional and more restrictive bilateral agreements with their own neighbouring states. Such an anomalous situation cannot continue for long. The emphasis in the near future will be on liberalising the economic regime between neighbouring states. This may be done on a bilateral basis, but is more likely to be implemented under the auspices of regional economic groupings such as ASEAN in South East Asia and ECOSUR in South America. In Africa the pressure to liberalise will not come from external sources but will arise from the dire financial position of most of the African state-owned airlines. Governments will liberalise both their domestic and international aviation regimes to ensure adequate air services in the event of the collapse of the state airline when government support is no longer forthcoming. In November 1999, African nations meeting in Yamoussoukro in the Ivory Coast signed an agreement aimed at achieving a single aviation market for the continent by 2002.

While liberalisation of market access will spread, another more controversial issue, namely that of airline ownership, will also need to be tackled. In one very important respect air transport is still treated quite differently from any other industry. The traditional and even the newer 'open skies' bilateral air services agreements require the airlines designated by each of the two states to be 'substantially owned' and 'effectively controlled' by nationals of the designating state. As other regulatory constraints on airlines' freedom of action in international operations are removed and as other industries become more internationalised in their ownership then the pressure to remove the nationality constraint on airlines will become overwhelming. It is inevitable that, during the first few years of the third millennium, more and more states will abandon this commercial constraint either through bilateral or multilateral agreements (Chapter 3, section 3.2). *Airline ownership will become increasingly multinational rather than national* as at present. Privatisation of hitherto government-owned airlines will facilitate this process. The airline business will become no different from any other multinational industry. The first decade of the new millennium will finally see the complete transformation of the airline industry from a protected, nationally owned industry into a true multinational business operating freely across frontiers.

This global airline business, however, will *become increasingly concentrated into a handful of worldwide airline alliances*. Experience in the United States domestic market during the 1980s showed that it was not the low-cost new entrants who were most likely to survive in a competitive environment but those large airlines which were successful in exploiting the marketing benefits of large scale and spread. It was the realisation of this that led to the growing concentration of the US airline industry through takeovers and mergers. As liberalisation spread to Europe in the late 1980s European carriers began to examine how they too could achieve the marketing benefits of large scale. They began to take over their smaller domestic competitors and looked to buying minority shares in European airlines outside their own countries.

By the early 1990s the process of concentration was internationalised. It was apparent that linking together the networks of airlines in different countries to create global networks could create not only marketing benefits for all the partner airlines but also help them in reducing distribution and sales costs. Thus, in the mid- and late 1990s one saw a host of airline alliances which took a variety of forms, from those that were little more than traditional commercial agreements, to code sharing, and share swaps between airlines or even outright mergers. (Chapter 4 deals with the growth of airline alliances.) A complex web of interlocking alliances was built up. Though it is true that many of these alliances had little logic and minimal commercial benefit to the alliance partners.

Many of the early alliances have not survived and collapsed after a few years as one or other of the partners sought new alliances. As part of its global network strategy British Airways bought 19.9 per cent of USAir in 1993 But in June 1996 it announced a new alliance with American Airlines, one of USAir's major domestic competitors, and was forced to sell its shareholding in USAir. Perhaps the first truly global alliance was that between Delta Airlines, Swissair and Singapore Airlines (SIA) launched in 1990 and involving a swapping of up to 5 per cent of shares between each of the partners. The share swap suggested long-term stability for this alliance. Yet seven years later the alliance suddenly collapsed when Singapore Airlines, in November 1997 unexpectedly signed a commercial agreement with Lufthansa which included code sharing and joint marketing. Then in November 1999 Delta announced it was in turn abandoning Swissair in favour of an alliance with Air France. The experience of the Delta-Swissair-SIA partners illustrates the marked instability of alliances in the second half of the 1990s as airlines jockeyed for position. Currently most alliances appear to be engagements rather than weddings. They can be broken relatively easily.

In the latter part of the 1990s alliance activity accelerated as, with a few exceptions most airline chief executives and chairmen felt alliances were a panacea that could solve many of their airlines' problems and create new market opportunities. Governments with loss-making state-owned airlines announced that what these airlines needed to be turned round was little more than a strategic partner (i.e. another airline) who would buy 15–30 per cent of their shares from the government. In 1998 the Greek, Irish, Portuguese, Thai and Jordanian governments among others all announced that strategic alliances for their airlines was one of the two cornerstones of their strategies for saving their national airlines. The other was *privatisation*.

During the next few years the global pattern of the major alliances will be rationalised through withdrawal of some partners and inclusion of others. A period of great instability will occur as soon as the nationality and ownership constraints are relaxed and cross-border acquisitions and mergers become possible. New alliance groupings are likely to emerge. At the same time competitive pressures will ensure that the commercial linkages between partners will be strengthened while commercial co-operation with non-partners will gradually diminish. The airline market will increasingly be dominated by a few global alliances or megacarriers, together with their partners and franchisees. Concentration will gradually give way to consolidation. Moreover, virtually all of the major airlines will be wholly or largely privatised and multinationally owned.

Growing consolidation within the airline business through the expansion and strengthening of alliances will raise the issue of market dominance and the possible abuse of that dominance when alliances operate as monopolists or duopolists in particular international markets. The risks of abuse will be greatest when and where an alliance dominates a major airport hub.

Despite greater industry concentration there will be a *strong downward trend in fare levels* and airline yields in real terms. A number of factors will create pressure to reduce fares. First, further liberalisation and more 'open skies' bilaterals will remove any vestiges of tariff controls while encouraging the launching of new airlines and the expansion of existing airlines onto new routes from which they were previously barred by the regulatory regime. Second, low-cost low-fare airlines will increasingly impact on international air routes, snapping at the heels of the established major carriers. Till the mid-1990s airlines identified as 'low cost', such as Southwest or the former Valujet, had been confined to United States