INTERNATIONAL LABOUR ORGANIZATION

Restructuring of civil aviation: Consequences for management and personnel

Reference document

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Explanatory note

This document was originally prepared by the International Labour Office to serve as the basis for discussions at the Tripartite Meeting on the Restructuring of Civil Aviation: Consequences for Management and Personnel. It was completed in July 2001.

The events on 11 September 2001 dramatically changed the economic and social situation in the industry. The Governing Body of the International Labour Office decided in its 282nd Session (November 2001) to change the title and the purpose of the Meeting. The new title will be Meeting on Civil Aviation: Social and Safety Consequences of the Crisis Subsequent to the 11 September 2001 Events. The Office will prepare an Issues paper for this Meeting.

The present document will serve as a reference document.

Contents

Introduction

Air transport, including civil aviation, is one of the world's most important services. Its development and its technical and service achievements make air transport one of the great contributors to the advancement of modern society. Air transport is labour-intensive. Computers have enabled airlines to automate many tasks, but there is no changing the fact that they are a service business, whose customers require personal attention. More than one-third of the revenue generated by airlines goes to pay the workforce. In part because of its long history as a regulated industry, the airline sector is highly unionized.

The industry – as well as its workforce – is experiencing a period of unprecedented change. Three interlinked developments are combining to transform the structure of the industry: progressive liberalization of the product market, the drive to privatize or commercialize publicly owned carriers and other installations and services, and airline management's accelerated pursuit of globalization, in terms of both product market and labour market.

At its 280th Session (March 2001) the Governing Body of the International Labour Office decided that a Tripartite Meeting on the Restructuring of Civil Aviation: Consequences for Management and Personnel would be held in 2002. The purpose of the Meeting is to exchange views on the restructuring of civil aviation and consequences for management and personnel, using a report prepared by the Office as the basis for its discussions; to adopt conclusions that include proposals for action by governments, by employers' and workers' organizations and by the ILO; and to adopt a report on its discussions. The Meeting may also adopt resolutions.

At the same session, the Governing Body decided to invite the governments of the following 20 countries to be represented at the Meeting: Austria, Benin, Brazil, Canada, Czech Republic, Egypt, El Salvador, France, Kenya, Kiribati, Republic of Korea, Lebanon, Norway, Pakistan, Peru, Philippines, Sudan, United Kingdom, Venezuela, Zimbabwe. A number of countries were included in a reserve list from which further invitees would be drawn in the event that a government on the first list did not accept the invitation. The Governing Body decided that 20 Employer and 20 Worker participants in the Meeting would be selected on the basis of nominations made by the respective groups of the Governing Body. They will not necessarily come from the above list of countries.

The organizing theme for ILO's activities for the period 2002-05 is putting the Decent Work Agenda into practice through the implementation of the following strategic objectives:

■ promote and realize standards and fundamental principles and rights at work;

■ create greater opportunities for women and men to secure decent employment and income;

■ enhance the coverage and effectiveness of social protection for all;

■ strengthen tripartism and social dialogue.

The objectives of the Social Dialogue Sector, including the Sectoral Activities Department, are:

■ to promote social dialogue so that its fundamental role as an instrument of democracy and rights at work, and negotiations for consensus building and economic and social development is better understood and more widely accepted and used;

■ to strengthen institutions, machinery and processes of social dialogue in ILO member States; and

■ to strengthen the representation, capacity and services of the parties to social dialogue.

The Meeting is part of the ILO's Sectoral Activities Programme, the purpose of which is to facilitate the exchange of information among constituents on labour and social developments relevant to particular economic sectors, complemented by practically oriented research on topical sectoral issues. This objective is being pursued inter alia by holding international tripartite sectoral meetings with a view to: fostering a broader understanding of sector-specific issues and problems; promoting an international tripartite consensus on sectoral concerns and providing guidance for national and international policies and measures to deal with the related issues and problems; promoting the harmonization of all ILO activities of a sectoral character and acting as focal point between the Office and the ILO's sectoral constituents; and providing technical advice and practical assistance to the latter in order to facilitate the application of international labour standards.

This report has been prepared by the International Labour Office as a basis for discussions at the Tripartite Meeting. It is hoped that it will also be of value beyond the Meeting to all those concerned with and involved in civil aviation. The report was written by Bert Essenberg, Senior Industrial Specialist, Sectoral Activities Department, of the ILO. It is published under the authority of the International Labour Office.

The report focuses on the major issues in the restructuring of civil aviation and on topics that are important in resolving them. The first two chapters describe the changing environment of civil aviation, as well as technological and other developments. Chapter 3 describes recent developments in deregulation, liberalization and privatization or commercialization of various segments of the air transport sector. Chapters 4 and 5, looking at the implications for management and personnel, illustrate some of the problems that exist and look at "best practice" examples of how to deal with them. Chapter 6 discusses occupational safety and health issues, as well as violence and stress. Chapter 7 focuses on social dialogue; it provides an overview of various models of collective bargaining, labour-management relations and social dialogue practices around the globe. It is followed by a summary.

1. The changing environment of civil aviation[1]

Air transport is one of the world's most important services. Its development and its technical and service achievements make air transport one of the major contributors to the advancement of modern society. Since the first jet airliner flew in 1949, use of commercial aviation has grown more than seventyfold. This growth is unmatched by any other major form of transport. Air transport is essential to economic progress. In an increasingly global community and market-place, air transport makes possible the rapid movement of millions of people and billions of dollars' worth of goods to markets around the world. More than 3. 9 million people are directly employed by the industry throughout the world, nearly 1.3 million of them in the United States alone. The industry includes the suppliers and operators of aircraft, engine manufacturers, fuel suppliers, airports and air traffic control systems. Its customers come from every sector of the world's economy and from every segment of the world's population.

Figure 1.1.   The air transport industry today

Producers		Consumers
Manufacturers	*Air transport*	*Passengers*
Airframes/engines	Major airlines	Trains/car-hire/parking
Mechanical systems	Regional airlines	Hotels/restaurants
Computers/electronics	Charter airlines	Tourism/attractions
Software	Special services	Retail/purchases
Materials/chemicals	Air cargo carriers	Travel agents
	General aviation	Financial services
		Conferences/conventions
Governments		
Legislative bodies		
Regulatory bodies	AIR TRANSPORT INDUSTRY	
Aviation authorities		
Customs		
Aviation services	*Airports and services*	*Freight*
Insurance	Major airports	Freight forwarders
Leasing/financing/sales	General aviation airports	Transport
Distributors/suppliers	Training centres	Warehousing
Telecommunications	Terminal maintenance	Consolidation
Aircraft maintenance	Catering/inflight services	Input to other industries
Fuel and oil	ATC services	Mail
Consultants		

Source: ATAG: *The economic benefits of air transport,* op. cit.

[1] For more detailed information, see International Civil Aviation Organization (ICAO): "Annual Civil Aviation Report – 1999", in *ICAO Journal* (Montreal), Jul./Aug. 2000, pp. 10-36, 43. See also Air Transport Action Group (ATAG): *The economic benefits of air transport* (2000 edition) (Geneva), http://www.atag.org.

Air passenger transport demand is primarily determined by income levels and demographics, and the cost of air travel. World energy demand, supply and prices are critically important both to economic progress and to the cost of air travel, and therefore the airline industry is highly vulnerable to economic cycles and fluctuations in fuel prices.

In addition to the world economic situation, demand for air transport services will also depend on more specific developments such as the growth of international and domestic tourism, globalization and the growing integration and interpenetration of economies, the continuing trend towards lower air fares, increases in the international movement of labour, the tendency to make several shorter trips in the course of a year, and, lastly, air traffic liberalization.

In broad terms, the pattern of traffic growth over the 1988-99 period was a reflection of economic conditions over this period. Between 1988 and 1998 the aggregate world economy measured in terms of gross domestic product (GDP) grew at an average annual rate of 2.3 per cent in real terms. Growth rates varied across regions, from a high of 4.2 per cent to a low of zero. The world's population expanded at an annual average rate of 1.5 per cent, and world GDP per capita rose at an average annual level of 0.8 per cent, significantly lower than the growth of GDP itself.

1.1.   Airline traffic trends[2]

The relatively buoyant economic and traffic performance during most of the 1980s came to an end in the middle of 1990. The economic recession in 1991 had a serious effect on air traffic. The recovery in traffic volume in 1992, which occurred despite continuing poor economic performance, was achieved at a cost of significantly reduced revenue yield. Although real yields declined further in 1993 and 1994, the stimulating effect on traffic demand was less dramatic than had been the case in 1992. On the other hand, economic growth began to provide a more solid foundation for traffic growth. These trends continued until 1997 but reversed in 1998 when GDP grew by only 1.9 per cent, providing for a growth of total scheduled passenger traffic of only 2.1 per cent that year. However, in 1999, strong economic performance – world GDP grew approximately 3.0 per cent in real terms – resulted in a 6.1 per cent traffic growth in 1999, when airlines carried 1,558 million passengers and some 28 million tonnes of freight.

[2] For more details, see ICAO: "Annual Civil Aviation Report 1999", op. cit.; Air Transport Action Group (ATAG): *The Americas air passenger traffic 1985-2011* (1998 edition) (Geneva); idem: *Asia/Pacific air traffic growth & constraints* (1997 edition); idem: *European air traffic forecasts 1985-2015* (2000 edition); ICAO: *Annual Report of the Council, 1999*, Doc. 9752 (Montreal, 2001).

Table 1.1. Growth of air traffic by region, 1998-99 (percentage change)

Region of registration	Passengers carried	Passenger-km	Freight tonne-km	Mail tonne-km	Total tonne-km
International and domestic					
Africa	4.5	8.8	11.3	12.0	10.1
Asia/Pacific	5.0	6.9	10.1	3.6	8.4
Europe	6.2	7.3	5.2	-3.3	5.4
Middle East	-1.4	0.8	-0.5	1.4	1.4
North America	7.4	6.0	5.9	-2.0	5.7
L. America/Caribbean	1.7	-0.3	-10.4	-3.9	-3.4
Total	**5.9**	**6.1**	**6.2**	**-1.2**	**5.8**
International					
Africa	8.4	10.2	11.0	13.6	11.2
Asia/Pacific	8.0	8.4	10.0	4.6	9.4
Europe	7.5	7.5	5.2	-3.9	5.7
Middle East	1.2	2.5	-0.7	2.9	2.2
North America	5.6	5.6	7.7	-0.3	6.3
L. America/Caribbean	3.4	-1.4	-11.6	-9.1	-5.5
Total	**6.8**	**6.8**	**6.5**	**0.0**	**6.4**

Source: ICAO: "Annual Civil Aviation Report 1999", op. cit., p. 16.

Table 1.2. Air traffic forecasts for 2010 worldwide

	Actual	Actual	Forecast	Average annual growth rate	
				(%)	(%)
	1989	1999	2010	1989-99	1999-2010 [a]
Total scheduled services					
Passenger-km (billions)	1 779	2 788	4 620	4.6	4.5
Freight tonne-km (millions)	57 214	108 043	202 650	6.6	6.0
Passengers carried (millions)[b]	1 109	1 558	2 300	3.5	3.5
Freight tonnes carried (thousands)[b]	18 088	28 201	44 500	4.5	4.0
International scheduled services					
Passenger-km (billions)	822	1 614	2 960	7.0	5.5
Freight tonne-km (millions)	44 925	92 680	181 480	7.5	6.5
Passengers carried (millions)	262	489	834	6.4	5.0
Freight tonnes carried (thousands)	8 635	17 160	31 000	7.1	5.5

[a] Rounded to the nearest 0.5 percentage point. [b] Excludes the Commonwealth of Independent States (CIS).

Source: ICAO.

Cargo traffic will be stimulated by the development of global electronic commerce (e-commerce) and manufacturing trends, and freight tonne-kilometres will grow more rapidly than passenger traffic. It is expected that cargo traffic will increase at a rate of 6.1 per cent in the period up to 2009 and 5.3 per cent between 2009 and 2019. Belly freight on passenger aircraft, which presently accounts for 55 per cent of total global airfreight traffic, will continue to be important, indeed crucial, for particular types of freight. It is also seen by airlines as a key revenue element and most airlines are accordingly seeking to increase their belly freight.[3] According to a survey by Airports Council International (ACI), cargo accounts for nearly 700,000 jobs worldwide, not including off-airport freight forwarders, truckers and warehousing staff. [4]

Table 1.3. Freight growth forecast, 1999-2019

Sub-market 2009-19	Share of world freight tonne-km (%)	Average annual growth (%)	
		1999-2009	2009-19
Asia to Europe	6.21	7.7	6.1
Asia to North America	7.31	7.4	6.1
Domestic United States	15.05	4.8	4.0
North America to Asia	5.43	6.4	7.3
North America to Europe	5.8	5.3	4.8

Note: Only sub-markets with a share greater than 5 per cent of world freight tonne-km are shown.

Source: *Airports International,* Mar. 2001.

Traffic growth will vary by geographical region because of the impact of specific local or regional factors. The traffic of Asia/Pacific-based airlines is expected to grow at the highest rate, although significantly lower than the growth rates experienced by the region in the past decade. Among the countries in the region, Viet Nam will show the fastest growth in traffic to and from the Americas. Despite a very low traffic base reported in 1996, existing ethnic ties and increasing external trade with North America are expected to stimulate demand for air travel in the future. In absolute terms, Japan will be the largest contributor to total transpacific traffic growth in the future. There will be almost 11 million more scheduled and charter passengers flying between Japan and the Americas in 2011 than in 1996.

[3] K. Delve: "Cargo growth", in *Airports International* (Stamford, United Kingdom), Mar. 2001, pp. 18-19.

[4] *Lloyd's List* (London), 17 Jan. 2000.

Table 1.4.   Major travel markets in the Asia/Pacific region
(annual passengers in millions)

	1985			1995			2010		
	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total
China	6.0	1.9	7.8	51.2	10.4	61.6	229.1	62.3	291.5
Japan	43.8	16.3	60.1	78.1	40.7	118.8	134.0	91.6	225.6
Taiwan, China	5.9	4.8	10.7	28.7	15.8	44.6	104.1	52.8	156.9
Republic of Korea	3.3	4.2	7.6	21.0	14.3	35.3	54.0	54.9	108.9
Australia	13.1	5.5	18.7	23.5	12.8	36.3	61.4	32.5	93.9
Thailand	1.4	5.4	6.8	6.3	15.8	22.1	22.3	49.1	71.4
Hong Kong, China	0.0	9.3	9.3	0.0	27.3	27.3	0.0	70.8	70.8
India	8.6	4.8	13.4	12.3	9.1	21.3	38.3	22.1	60.4
Singapore	0.0	8.6	8.6	0.0	21.6	21.6	0.0	56.1	56.1
Indonesia	2.6	2.4	5.0	8.2	7.6	15.7	22.6	28.8	51.4
Malaysia	3.3	3.4	6.7	7.5	10.0	17.5	13.0	33.5	46.5
Philippines	3.3	3.1	6.4	4.7	6.7	11.4	17.4	18.3	35.7
Viet Nam	n.a.	0.1	0.1	1.5	2.1	3.6	11.3	17.1	28.4
New Zealand	2.7	2.2	5.0	4.0	4.6	8.6	8.2	10.9	19.1
Pakistan	2.3	2.7	5.0	4.6	4.0	8.6	10.9	7.4	18.4
Sri Lanka	0.0	1.1	1.1	0.0	2.1	2.1	0.0	4.1	4.1

Source: ATAG: *Asia/Pacific air traffic growth & constraints,* op. cit., p. 10.

Markets for European airlines are also forecast to be reasonably buoyant, surpassing world growth rates, with further benefits expected from liberalization and recovery in the Central and Eastern European countries.

Table 1.5.   Air traffic estimates for Europe, 1998-2015
(million passengers)

Year	All services		Domestic		International	
	Total passengers	Average annual growth (%)	Total passengers	Average annual growth (%)	Total passengers	Average annual growth (%)
1998	541.7	–	148.6	–	393.2	–
2005	750.8	4.8	198.0	4.2	552.8	5.0
2010	913.2	4.0	235.8	3.6	677.4	4.1
2015	1 100.6	3.8	276.9	3.3	823.7	4.0
Average annual growth 1998-2015		4.3		3.7		4.4

Source: ATAG: *European air traffic forecasts 1985-2015,* op. cit., p. 9.

Table 1.6.   Top 15 countries or territories in terms of international passengers in the Americas

1985				1996				2011			
Rank	**Country or territory**	**Passengers (000s)**	**Share (%)**	**Rank**	**Country or territory**	**Passengers (000s)**	**Share (%)**	**Rank**	**Country or territory**	**Passengers (000s)**	**Share (%)**
1	US mainland	62 437	79.1	1	US mainland	117 277	76.3	1	US mainland	239 457	73.7
2	Canada	16 702	21.2	2	Canada	28 826	18.8	2	Canada	52 314	16.1
3	Mexico	6 587	8.3	3	Mexico	13 595	8.8	3	Mexico	34 546	10.6
4	Puerto Rico	4 647	5.9	4	Puerto Rico	9 773	6.4	4	Brazil	19 917	6.1
5	Bahamas	2 727	3.5	5	Brazil	7 180	4.7	5	Puerto Rico	17 304	5.3
6	Brazil	2 635	3.3	6	Argentina	5 282	3.4	6	Argentina	15 179	4.7
7	Argentina	1 793	2.3	7	Dominican Rep.	4 029	2.6	7	Dominican Rep.	7 905	2.4
8	Jamaica	1 530	1.9	8	Venezuela	3 437	2.2	8	Chile	7 885	2.4
9	Venezuela	1 504	1.9	9	Bahamas	2 700	1.8	9	Venezuela	7 169	2.2
10	Dominican Rep.	1 473	1.9	10	Jamaica	2 661	1.7	10	Colombia	5 657	1.7
11	Colombia	1 245	1.6	11	Colombia	2 442	1.6	11	Jamaica	5 307	1.6
12	Barbados	952	1.2	12	Chile	2 419	1.6	12	Peru	4 709	1.4
13	Neth. Antilles	919	1.2	13	Peru	1 634	1.1	13	Bahamas	4 586	1.4
14	Panama	915	1.2	14	Guadeloupe	1 607	1.0	14	Guadeloupe	4 382	1.3
15	US Virgin Islands	847	1.1	15	Martinique	1 520	1.0	15	Martinique	4 160	1.3
Total		**78 945**				**153 699**				**324 823**	

Source: ATAG: *The Americas air passenger traffic 1985-2011,* op. cit., p. 18.

Demand for total air travel to, from and within the Americas (domestic and international, scheduled and charter) was estimated at 792 million passengers in 1996, or 54 per cent of total world passenger traffic in that year. This traffic is forecast to reach 1.4 billion passengers by 2011, or 50 per cent of total world passenger traffic. The expected average annual growth rate for the period 1996-2011 is 3.9 per cent. The United States Federal Aviation Administration (FAA) expects the number of passengers on international flights to and from the United States to increase by 5.1 per cent each year, reaching 239.4 million by 2011. Over the 12-year forecast period, growth is forecast to be strongest in the Latin American and Pacific markets, increasing by 6.1 and 6.0 per cent respectively, representing an annual growth rate of 6 per cent. [5]

Argentina, Brazil and Chile were among the fastest-growing international travel markets in the period 1985-96. The MERCOSUR trade agreement has contributed not only to the development of trade in Latin America, but also to passenger traffic between the three countries. A multilateral air service agreement between the governments of Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay will see the establishment of a new series of scheduled subregional services.

Airlines of the Middle East were expected to experience a moderate rate of passenger traffic growth for 2000 and slightly slower growth in 2001 and 2002.

The African air transport market has grown considerably since the mid-1980s, by a cumulative 56 per cent in 1985-96 in terms of revenue passenger-kilometres (RPKs). The rate of growth has been particularly high for Africa-Asian routes, reflecting the Far Eastern "economic miracle", but also the opening up of new destinations following the end of economic sanctions against South Africa. Passenger traffic in Africa is starting to become an important market, with 12 million passengers in 1998, an increase of 12.5 per cent over the preceding year.

For all its growth, however, the market share of Africa in world air traffic has diminished over the last decade, from more than 4 per cent in 1985 to 3.71 per cent in 1996 and 2 per cent in 1999. The composition of traffic flows is rather skewed, with routes to and from Europe accounting for roughly two-thirds of the total. The share of intra-African traffic, on the other hand, is limited and shrinking. Central America can be compared to Africa in so far as, for both regions, Northern partners – the United States and Europe, respectively – play a major role as catalysts of commercial and migration flows. [6]

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[5] "FAA predicts strong airline growth for the next decade", in *Airline Financial News* (Potomac, Maryland), Vol. 18, No. 10, 14 Mar. 2000.

[6] A. Goldstein: *Infrastructure development and regulatory reform in sub-Saharan Africa: The case of air transport*, OECD Technical Papers No. 154 (Paris, OECD, Oct. 1999), p. 17.

Table 1.7. **Air traffic statistics for Africa, 1985-2007**
(revenue passenger-kilometres (RPK) in millions)

	1985	1990	1995	1996	1998-2007 (Annual growth rate) (%)	
					Boeing	**Airbus**
Africa-Africa	13 540	14 689	14 775	15 335	6.7	4.0
Africa-China	181	311	1 274	1 834	5.8	7.1
Africa-Europe	43 037	47 732	57 178	66 897	5.5	4.5
Africa-Middle East	5 156	7 394	6 479	6 973	6.1	4.5
Africa-North America	1 220	1 298	2 640	3 052	6.9	5.2
Africa-Oceania	354	686	1 192	1 633	5.8	6.2
Africa-South America	985	1 000	1 373	1 765	8.2	5.7
Africa-South-East Asia	280	909	3 226	3 623	5.8	5.1
Africa-South-West Asia	751	818	1 025	1 585	5.8	5.1
Total from Africa	**65 504**	**74 837**	**89 162**	**102 697**	–	–
As a percentage of world total	*4.16*	*3.43*	*3.44*	*3.71*	–	–
As a percentage of each region's total						
Africa-Africa	20.67	19.63	16.57	14.93	–	–
Central America-Central America	16.58	13.10	13.25	10.66	–	–
Africa-Europe	65.70	63.78	64.13	65.14	–	–
Central America-North America	56.06	58.36	51.58	43.34	–	–

Source: Airbus: *Global market forecast 1998-2027* (1998); Boeing: *Current market outlook* (1998), cited in Goldstein, op. cit., p. 18.

1.2. Regional airlines

The deregulation of the market in the United States in the late 1970s changed the dynamics of the market completely, with a handful of dominant network carriers each focused on channelling traffic into their fortress hubs. However, they did not have either the cost base or the aircraft to run such feeder operations. This task has increasingly been left in the hands of the leaner and more flexible regional airline companies, which are now virtually all either owned by or affiliated to the major carriers and flying in their colours under familiar banners such as *American Eagle, Delta Connection or Continental Express*. [7]

Figures from the Regional Airline Association (RAA) in the United States show that passenger numbers have doubled during the 1990s alone, ending the decade at close to 80 million a year. United States regional carriers of tomorrow will be larger, but fewer in number because of the expected consolidation of the airline industry. In 2000, the number of regional carriers decreased for the seventh consecutive year, to 94 carriers. Those that remain must keep their costs in line as demand for larger regional jet equipment and

[7] K. O'Toole: "A regional revolution", in *ICAO 2000* (Montreal, ICAO, 2000), pp. 68-71.

salaries grow. The "scope clause" in pilots' contracts limiting the use of regional jets to protect mainline pilots will continue to be a determining factor in the regionals' growth.

The experience in Europe is not a direct copy of the United States model. Liberalization still has some way to go before national markets give way to United States-style continental hub networks. The role of European regional airlines has tended to be less dedicated to feeding traffic onto mainline services and focused more on the possibilities of exploring new city links where the majors simply could not hope to make profits. European regional airlines are more likely to see 75 to 80 per cent of passengers fly direct rather than connect. Subsidiaries such as *Lufthansa CityLine* or *KLM cityhopper* were set up to fulfil such a role. Passenger growth rates are expected to average more than 9 per cent a year over the next decade. However, the European Regions Airline Association, (ERA) warned that, if the European Commission's new slot allocation regulations are implemented, this will result in immediate and significant reductions in air services between regional communities and congested airports. According to the proposal, slot coordinators will be required to give a lower priority to services on routes where satisfactory service by other means of transport exists (i.e. routes with rail or road services between city centres). [8]

It is expected that regional companies everywhere will become more tightly owned and controlled by major operators, perhaps as semi-autonomous divisions rather than separate enterprises. Certainly the distinction between major and regional is beginning to blur: as larger jets enter the regional fleet and smaller types are added to the bottom of the mainline, it can only get more clouded. What is clear is the growing dominance of the regional jet, either substituting mainline aircraft with more profitable or frequent services, or probing direct connections on thinner, longer-range routes. [9]

The franchise concept has begun to take hold after a late start. *British Airways* led the charge in the early 1990s, pulling together a mix of owned and affiliated carriers to fly with its colours and codes. For example, it has franchise agreements with three companies in sub-Saharan Africa: *Comair* (South Africa), *Zambian Air Services* (Zambia) and *Regional Air* (Kenya). *Air France, KLM* and others have followed suit, building regional groupings that are not far from matching the size of some of their counterparts in the United States.

1.3. Operational results

In 2000, the world's scheduled airlines as a whole experienced an operating profit of 3.3 per cent of operating revenues, compared with the 4.0 per cent achieved in 1999. Operating revenues rose by 7.6 per cent, while operating expenses increased by 8.4 per cent. Expressed in United States currency, operating revenues per tonne-kilometre performed dropped slightly from 77.9 cents in 1999 to an estimated 77.6 cents in 2000, while operating expenses per tonne-kilometre performed increased from 74.7 cents in 1999 to an estimated 75.0 cents in 2000. The net result for 2000 (after inclusion of non-operating items such as interest and subsidies, and deduction of income taxes) is expected to be lower than in 1999, when it was 2.8 per cent of operating revenues. [10]

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[8] ATWOnline, 11 July 2001, http://www.atwonline.com/index.cfm.

[9] O'Toole, op. cit., p. 69.

[10] ICAO Press Release (PIO 05/2001), 11 June 2001.

The results of the airlines as a whole do not reflect the considerable differences in results achieved by individual carriers. In 1998 about 75 per cent of the airlines experienced operating profits, with 25 per cent reporting operating losses. A number of airlines in various parts of the world are struggling for survival. In recent years, there has been a series of airline failures in Latin America. In 1999 *Aeroperu* and Mexico's *Taesa* were grounded. In 2000 *Aerolineas Argentinas*, Brazil's *Varig*, Ecuador's *Saeta* and Venezuela's *Avensa* ran into serious financial trouble and were forced to curtail their operations. In one of these cases, on 18 June 2001 some 500 senior trade unionists – all members of the Workers' group at the International Labour Conference – urged the Spanish and Argentinian Governments to take action to rescue *Aerolineas Argentinas* from bankruptcy. They warned the two governments that 7,000 jobs could be lost if the airline were to collapse. [11]

Several airlines in Africa have already disappeared *(Zambia Airways),* have ceased operations *(Uganda Airlines)* or are struggling for survival, which may necessitate serious restructuring *(Air Afrique, Nigeria Airways)*.

At the same time, there are examples of airlines where restructuring has been successful, for example *Philippine Airlines* (PAL), which however had to cut its workforce from 13,052 to 7,042 and its air fleet from 59 to 32. It is also reviving routes abandoned when a pilot strike nearly closed the company in 1998. [12] Another example of successful restructuring is *Kenya Airways*.

The Association of European Airlines (AEA) members' consolidated financial results already registered a severe downturn in 1999, but in 2000 they posted a profit by the narrowest of margins. Estimated operating surplus after interest was US$100 million, or just 0.2 per cent of total revenues. Well over half the members failed to break even in 2000 and a substantial number failed to cover their costs by a margin of 10 per cent or more. According to the Secretary-General of the AEA, the figures revealed the precarious financial health of the sector. Looking back over the 1990s, the poor result in 1999 ensured that the net surplus of the second half of the decade failed to offset the accumulated losses of the period 1990-94, with a shortfall of just over US$1 billion. [13]

In 1999 and 2000 airlines were hit by the strong increase in fuel prices, which went up by 43 per cent between December 1998 and December 1999. Fuel amounts to about 10 per cent of the variable costs of airlines. To control increasing fuel costs, many airlines have developed risk management plans such as hedging and forward contracts. Heavily hedged carriers such as *American Airlines, Delta Air Lines, United Airlines, British Airways* and *Lufthansa* are better protected from high fuel costs than carriers with little or no hedging in place. The prospects for 2001 may even be worse because of the slowdown of the United States economy and the fierce competition between airlines, particularly in Europe and Australia.

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[11] International Transport Workers' Federation (ITF): *ITF News online*, Issue No. 18, 3 July 2001.

[12] R. Landingin: "PAL lifts profits despite fuel costs", in *Financial Times* (London), 7 June 2001.

[13] For more details, see Association of European Airlines (AEA): *Yearbook 2000* (Brussels), pp. I-1-17. See also ATWOnline, 25 July 2001.

Table 1.8.   Principal operational and commercial data, selected airlines

Airlines	Operating revenues (thousand US$)	Revenue passenger-kilometres (RPKs) (millions)	Freight tonne-kilometres (FTKs) (thousands)	Passengers (thousands)	Operating results (millions)	Net results (thousand US$)	Yield: Net results/RPKs
United	18 027 000	201 873	3 580 863	86 580	2 147	1 235 000	0.006118
American	17 730 000	177 334	2 511 439	81 507	1 156	985 000	0.005554
Delta	15 051 000	168 596	1 984 966	105 534	1 356	1 285 000	0.007622
Northwest	10 276 000	119 336	3 016 405	56 114	714	300 000	0.002514
British Airways	14 304 000	117 463	4 536 000	36 346	135	-33 600	-0.000286
Air France	9 922 299	83 736	4 726 604	37 028	347	340 173	0.004062
Lufthansa	12 847 527	81 401	7 072 000	38 872	771	632 971	0.007776
Singapore	4 773 680	64 529	5 481 708	13 545	673	737 452	0.011428
Qantas	5 584 591	58 134	n.a.	16 692	778	278 678	0.004794
Iberia	3 877 980	35 379	823 000	24 274	62	153 576	0.004341
Southwest	4 735 587	58 695	100 652	57 500	1 030	474 378	0.008082
Continental	8 639 000	93 367	1 114 941	44 012	600	455 000	0.004873
Swissair	8 135 351	34 670	1 948 724	14 501	n.a.	170 816	0.004927
Japan Airlines	n.a.	82 904	4 423 157	32 933	295	187 096	0.002257
Alitalia	n.a.	36 689	1 611 287	24 048	-112	-112 000	-0.003053
LANChile	n.a.	9 738	1 737 300	4 288	51	47 582	0.004886
Aeromexico	n.a.	12 190	90 990	8 672	n.a.	-52 500	-0.004307
Average							**0.004211**
Aerolineas Argentinas	780.374	9.835	214 433	3 979	n.a.	-281 000	-0.028573
Austral	146.501	1.331	3 112	1 221	n.a.	-29 920	-0.022476

Source: IATA: *Annual Report 2000; Air Tranport World*, July 2000, cited in Asociación del Personal Técnico Aeronáutico de la República Argentina (APTA): *Aerolineas Argentinas, Austral: ¿Destino final?* (Buenos Aires), p. 22.

The Director-General of the International Air Transport Association (IATA), Pierre Jeanniot, has commented on the increasingly frail profitability of the airline industry and highlighted the problems caused by competitive pressures on yields, the large rise in fuel prices, and the impact of the e-commerce revolution on airlines' marketing costs. In a globalizing world economy, the limits to size, the achievement of critical mass in marketing, service provision, cost control, and aircraft and other equipment ordering are being rewritten. The drive to further cost reduction suggests that the airline industry should become much more consolidated. Even the world's largest carriers, in the United States, are attempting to become larger.

For many of the world's airlines with a small domestic market base and unable to achieve critical mass owing to bilateral treaty limitations and foreign ownership rules, their long-term chances of survival in today's global market are likely to become increasingly diminished. [14]

1.4. National consolidation

The lamentable profits record of the aviation industry reflects the need for consolidation. The nature of the business means that big network carriers are especially susceptible to the economic cycle. Commercial aviation is plagued by overcapacity and volatile fuel prices and, thanks to deregulation, the more established players have to contend with low-cost start-up carriers. [15]

An important development is the ongoing process of consolidation in the United States. The takeover of *Trans World Airlines* (TWA) by *American Airlines* has been approved by the competent authorities. As of 10 April 2001 *TWA* is being operated by *TWA Airlines LLC*, a wholly owned subsidiary of *American Airlines*. After an undefined transition period, *TWA Airlines LLC* will be fully integrated into *American's* operations. The combined company will serve more than 300 cities worldwide with more than 900 aircraft. [16] The proposed takeover of *US Airways* by *United Airlines* was formally called off at the end of July 2001 after the Department of Justice threatened to file a lawsuit to block the deal, calling it anticompetitive.

Airline consolidation at the national level included the takeover of *Canadian Airlines* by *Air Canada*, securing nearly 80 per cent of Canada's domestic market. In approving the takeover, the Canadian Government imposed several conditions to protect competition, employees and air services to small communities.

Rapid consolidation of the airline industry is taking place in China. In April 2001, ten airlines agreed to form three groups under the *Air China, China Eastern Airlines* and *China Southern Airlines* names. Seven carriers would be swallowed up in the overhaul, which would solidify *China Southern* as the industry leader, with a fleet of 180 aircraft. *China Eastern* and *Air China* would each have 118 planes. The three groups will have about 82 per cent of China's growing airline market. In response to this consolidation, six Chinese regional airlines formed an alliance as a defensive step. The alliance, *China Sky*

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[14] P. Jeanniot: "Soft landings – Hard knocks?", Speech to the IATA Airline Financial Summit (New York), 5 Apr. 2001.

[15] P. Odell: "Consolidation puts pressure on alliances", in *Financial Times*, 24 July 2000.

[16] ATWOnline: "American completes acquisition of TWA", 10 Apr. 2001. See also: J. Doran: "American seals TWA takeover", in *The Times* (London), 10 Apr. 2001.

Aviation Enterprises Group, would have a fleet of nearly 100 aircraft. The pact, which includes *Shenzhen, Sichuan, Wuhan* and *China Postal Airlines*, accounts for about 12 per cent of China's airline market and about 35 per cent of industry profits. [17]

Brazil's four major airlines, *Varig, VASP, TAM* and *TransBrasil*, were also reported to be considering various alliances in an effort to overcome their financial difficulties.

In the United Kingdom, the Government approved the purchase of *Cityflyer Express* by *British Airways (BA)* on condition that the carrier would limit its take-off and landing slots at Gatwick Airport. In March this year, *British Airways* announced that it was taking over *British Regional Airlines (BRAL)*. This takeover will allow *BA* to merge some regional services offered by *BRAL* with those provided by *Bryman Airways*, a *BA* subsidiary. *BA* said that it could not give guarantees over jobs, but did not expect significant losses among the 2,250 staff of the two companies. [18]

The French regional carrier *Proteus Air System* finalized the takeover of its competitor, *Flandre Air*. In 2000 *Proteus*, as well as two other regional airlines, *Regional Airlines* and *Brit Air*, were taken over by *Air France*, which now directly controls more than 50 per cent of regional air transport in France. [19]

Aegean Aviation of Greece bought *Air Greece* to create the largest private Greek airline. In March 2001, *Aegean Airlines* announced its intention to merge with another private Greek airline, *Cronus Airlines*, subject to approval by the national competition commission. [20]

Ukraine's Government has unveiled plans to merge the country's splintered civil aviation business into a single airline. Three companies, *Air Ukraine International*, *Aerosweet* and *Ukrainian Airlines*, will form the basis of the new company. [21]

In Australia, however, the Australian Competition and Consumer Commission ruled that neither *Qantas* nor *Ansett Australia* could buy *Hazelton Airlines*, a regional carrier they both wanted. [22] In a more recent development, *Qantas* secured clearance from Australia's antitrust body for its alliance with *Impulse Airlines*, but only after agreeing to major competitive concessions. *Qantas* will have to provide some access for smaller carriers to its terminal at Sydney airport and relinquish a number of take-off and landing slots during morning and afternoon peak hours. It will also have to limit fare increases on routes flown only by itself and *Impulse*. In May *Impulse Airlines* terminated its interstate

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[17] *International Herald Tribune* online: "Chinese airlines to join forces", 2 May 2001, http://www.iht.com.

[18] A. Leathley: "British Airways takes over BRAL for £78m.", in *The Times*, 9 Mar. 2001.

[19] *La Tribune de Genève* (Geneva): "Air France rachète Brit Air", 21 June 2000.

[20] *Le Temps* (Geneva): "Fusion des Compagnies Aériennes Aegean et Cronus", 13 Mar. 2001.

[21] AeroWorldNet: "Ukraine's airlines to be merged", 13 July 2001, http://www.aeroworldnet.com.

[22] B. Gaylord: "Antitrust worries undercut Australian mergers", in *International Herald Tribune* online, 21 Feb. 2001.

jet services and sacked 200 employees and contract workers despite previous commitments to retain jobs at the airline. [23]

An example of subregional consolidation is the takeover of the Norwegian carrier *Braathens* by *Scandinavian Airlines System (SAS)* in a deal that promises to reduce overcapacity in the Nordic region, assuming it can pass muster with the regulators. [24]

Aviation experts foresee several mergers between European airlines in an effort to strengthen their position on the world market.

1.5. Low-cost airlines

Low-cost airlines are making increasing inroads into the market share of major carriers and in the process are rewriting the rules of commercial aviation. They have attracted many new passengers who would otherwise not have flown. This sector, comprising a series of new airlines (e.g. Venezuela's *Servivensa,* Singapore's *SilkAir* and India's *Jet Airways*) provides low-cost, no-frills services. In 2000, *Southwest Airlines*, the inventor of "no-frills flying", became the largest domestic airline in the United States, where it is estimated that around 25 per cent of passengers on domestic services use low-cost airlines.

In Europe, *Ryanair, easyJet* and other low-cost carriers account for around 15 per cent of United Kingdom domestic traffic and traffic from the United Kingdom to the rest of the world. About 5 per cent of passengers in Europe use low-cost airlines, indicating that this market has considerable growth potential. Both *Ryanair* and *easyJet* have placed orders for significant numbers of additional aircraft to almost double capacity over the next four years to meet this demand.

Some major European carriers have reacted to the challenge presented by the new carriers by introducing their own low-cost subsidiaries, for example *British Airways' Go* and *KLMuk's Buzz*. It remains questionable, however, how successful these companies will be. *British Airways* recently sold *Go* to *3i Group plc*, a British private equity firm.

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[23] ATWOnline: "Qantas moves closer to Impulse deal", 21 May 2001. idem: "Impulse makes final descent before Qantas takeover", 24 May 2001.

[24] idem: "SAS to acquire Braathens", 23 May 2001.

2. Technological and other developments

2.1. Aircraft developments

By 2006 airlines will be offering seats on the largest passenger aircraft ever made, *Airbus'* 555-seat A380, which will offer all the advantages of a completely new design while retaining commonality with the existing *Airbus* aircraft family. The A380 will provide 15 to 20 per cent lower operating costs than the largest aircraft flying today, coupled with 10 to 15 per cent more range, and, with the most spacious cabin, 35 per cent more seating and 49 per cent more available floor space.

The A380 can land, taxi and fit into a gate at only a handful of airports around the world, as its wingspan is wider than the largest B747 today. Gates to service a super-jumbo would have to be double height if passengers were to disembark on both levels. Inside an airport terminal, more of everything is going to be needed: more baggage carousels and customs officers, larger departure gates, lounges, toilets and so on, particularly if more than one super-jumbo lands or departs at the same time. [1]

The planned introduction heralds a new era of flying: the idea is that with fewer, larger aircraft in the sky, airspace and airport congestion will lessen. Most importantly for all of the airlines, bigger aircraft will reduce operating costs and, possibly, the cost of flights for travellers.

Boeing, which had always had reservations about the market potential for very large aircraft, has apparently shelved its plans for the development of the 747X, which would have seated more than 500 passengers. The company is instead thought to be concentrating on the development of a "sonic cruiser" capable of flying up to Mach 0.98 at an altitude of 41,000 feet and sized in the B767 class, to carry between 175 and 250 passengers, with about the same range as the B767. [2] Several chief executives of the world's leading airlines have endorsed *Boeing's* proposal. [3]

In the space of a decade a market for regional jets has been developed virtually from scratch and in the process pushed Canada's *Bombardier* and Brazil's *Embraer* into third and fourth place among civil aircraft manufacturers. In the seven years since the first 50-seat regional jet took to the skies, about 4,000 aircraft have entered service or have been ordered on firm contracts or options. There had been small jets before, but not as small as 50-seaters and not with the economics that would allow them to take over from small turboprops. The regional jet manufacturers are intent on completing their aircraft ranges with larger 70- to 90-seat versions and above, effectively creating complete regional airliner families.

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[1] G. Upton: "Seeking permission to land", in *Financial Times*, 17 Oct. 2000.

[2] ATWOnline: "Boeing boosts 'Sonic Cruiser', backs off 747X, 767X", 30 Mar. 2001. See also *The Times* online: "Boeing drops plans for 'super-jumbo'", 30 Mar. 2001, http://www.thetimes.co.uk.

[3] K. Done: "Airlines endorse faster Boeing jet", in *Financial Times*, 2 Apr. 2001.

2.2. Engine developments

In view of the anticipated growth in passenger and freight traffic over the next 20 years, it is expected that there will be demand for some 18,740 new aircraft deliveries, generating demand for 48,100 new engines. All the main engine builders *(Rolls-Royce, GE Aircraft Engines, Pratt & Whitney)* have concerns that, while they may be able technically to meet the increasingly stringent performance demands of the airlines, there is the problem of growing environmental pressures which have to be met, in terms of reduced noise levels and, perhaps more important, pollutant emissions.

Rolls-Royce's most powerful engine is the Trent, which is available at thrusts ranging between 53,000 and 104,000 pounds. In the United States, *GE Aircraft Engines* and *Pratt & Whitney* formed the *GE-P&W Engine Alliance* in 1996, specifically to design a new engine family to power future four-engined passenger aircraft. The result has been the GP7000 series of engines. The first model is due for testing in mid-2002, with certification at a thrust of around 75,000 pounds by 2003.

At the high-thrust end of the market, all three leading manufacturers can offer "families" of engines – the *Rolls-Royce* Trent, the *GE Aircraft Engines* GE90 and the *Pratt & Whitney* PW4000, with varying outputs to meet the many different demands of airlines. [4]

2.3. Air traffic control systems

While super-jumbos are being developed, the world's air traffic control system is trying to cope with the present traffic load, not always successfully. Europe's air traffic control system is fragmented into 49 centres and 31 national systems. Its hardware uses 30 programming languages and 22 operating systems. A third of all flights are delayed by more than 15 minutes, at a cost to airlines and passengers of some US$10 billion a year. The proposals by the European Commission to introduce a "single sky" aimed at centralizing air traffic control and reducing flight delays recently had to be shelved because of differences between two member States. [5]

In the United States congestion is especially bad in the north-eastern part of the country, where it is approaching European levels. This is exacerbated by the growing use of small regional aircraft to feed from small towns into airport hubs. The system is so saturated that one small problem can overwhelm the network. For example, a plane delayed five minutes on the runway at Newark International Airport now creates delays for more than 250 other planes as far as Minneapolis, according to the Federal Aviation Administration (FAA).

The airlines blame the FAA and air traffic controllers for the delays; the FAA blames the sheer weight of traffic and federal budget caps; and, for their part, the controllers blame the airlines for scheduling so many flights at peak hours.

The FAA has outlined a ten-year air traffic control modernization plan to squeeze 30 per cent more traffic into the commercial aviation system while easing delays and

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[4] M. Donne: "Powerplants becoming ever-greener", in *Financial Times*, 24 July 2000.

[5] D. Dombey: "UK and Spain send air traffic reform into nosedive", in *Financial Times*, 8 Mar. 2001. B. James: "National politics blocks European adoption of air traffic upgrades", in *International Herald Tribune* online, 5 June 2001.

increasing safety by giving pilots better information on weather problems and the location of other aircraft. If the plan stays on schedule, only three things will remain unchanged in the air traffic control system of 2010: controllers will give air traffic clearances and orders to pilots, pilots will fly planes and planes cannot fly through severe thunderstorms. [6]

Air traffic control worldwide will be undergoing the most radical change in its history. It will see a switch from conventional ground-based radio navigation aids to satellite-based systems that, for the first time, will allow positive surveillance and high-quality communications. The range will cover the world's oceans and other remote or inaccessible areas where it is either impracticable or impossible to site and maintain radar or radio stations.

In technology terms, what communications, navigation and surveillance/air traffic management (CNS/ATM) will do is replace ground-based navigation aids with satellite-based systems as the primary navigation tool, releasing aircraft from the conventional and constricting system of airways and fixed route structures. And because satellite signals are not constrained by the range or line-of-sight constraints of conventional radio waves – which put radar and very high frequency communication (VHF) out of reach in oceanic or remote environments – aircraft can navigate accurately where ground-based navigation aids are not available.

As a result aircraft should be able to fly their most preferred route between two points, which will relieve congestion on the conventional airways, generate substantial operational cost savings for aircraft operators, and open up large amounts of additional airspace capacity. This is known as the "free flight" concept.

Because aircraft will no longer be confined to limited-capacity airways in which it is the air traffic controller's responsibility to ensure separation, the controller's job will evolve from control to management. Air traffic controllers will become air traffic managers, while continuing to be responsible for ensuring separation between aircraft.

The controller will be equipped to predict conflicts well in advance and will therefore be able to resolve them before they happen, coming up with a solution that will generate the least penalty to aircraft causing the conflict. Automatic conflict detection and resolution are crucial to the changing role of the controller in the future, and it is how these tools can be refined and used, and the extent to which they can be relied on, that are posing such ATM challenges. [7]

2.4. Environmental concerns

At the beginning of the twenty-first century, one of the main and perhaps most pressing challenges facing mankind is the preservation of the environment and its fragile ecosystems. Environmentalists' criticism of noise and airport expansion affects the airline industry's image. Civil aviation has a major role to play in improving the quality of the environment. The adoption of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) in December 1997 has given increased momentum to the global environmental debate.

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[6] D. Phillips: "US air traffic control: Finally, the overhaul", ibid., 5 June 2001.

[7] A. Paylor: "The move to satellite-based air navigation services", in *ICAO 2000*, Montreal (ICAO 2000), pp. 102-105. See also: *ICAO Journal*: "CNS/ATM Systems: Clarifying the vision", Vol. 55, No. 7 (Sep. 2000).

The Intergovernmental Panel on Climate Change (IPCC) published a report entitled *Aviation and the Global Atmosphere*, which assesses the effects of the past, present and potential future fleets of subsonic and supersonic aircraft on climate and atmospheric ozone. The report recognizes that aircraft emissions can be reduced through technological advances, infrastructure improvements and regulatory or market-based measures. [8]

The industry is constantly seeking to reduce its environmental impact and has considerably improved its environmental performance over time. With the volume of air traffic rising, air transport's environmental impact will also increase, albeit at a slower pace. But future growth is likely to depend on further reductions in the environmental impact of airline operations. The Air Transport Action Group (ATAG) has raised the concern that aviation's rapid expansion will outstrip improvements in the industry's environmental performance. [9]

European countries have given priority to environmental issues. Belgium vowed to be at the forefront in setting high standards, in regard to both airports and a clean environment. It is considering the possibility of taxing aviation fuel for environmental purposes, with equal treatment for both noise and emissions. Belgium strongly believes that as technology improves, so should environmental standards. [10]

Box 2.1.

The industry's environmental commitment

"Let me emphasize the commitment of the industry to improving its environmental performance. Increasingly, we accept the need to work with other parties to achieve this – even parties who do not agree with us."

Bob Ayling,
Chief Executive, *British Airways.*

Source: ATAG, op. cit., p. 12.

The International Civil Aviation Organization (ICAO) Council's Committee on Aviation Environmental Protection has reached agreement on new noise certification standards that will have to be approved by the ICAO Assembly in September-October 2001 and will enter into force in 2006. Aerospace and the environment will be high on the agenda of the Assembly.

As for the differences between Europe and the United States on noise issues, the Coalition for a Global Standard on Aviation Noise believes there is room for agreement around three standards: first, set a global noise standard, reflecting a global aviation industry; second, protect the industry; finally, ensure that there is real noise relief for citizens, so that major regions of the world do not feel constrained to set their own standards. [11]

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[8] R. Watson: "IPCC report assesses effects of the world's airline fleet on climate and atmospheric ozone", in *ICAO Journal*, Vol. 54, No. 7, Sep. 1999, pp. 9-11.

[9] Air Transport Action Group (ATAG): *Aviation and the environment* (Geneva, 2000).

[10] United States Department of Transportation: *Moving to the 21st century: Best practices of today and lessons for tomorrow*, Executive Report, International Transportation Symposium, Washington, DC, 9-12 Oct. 2000, p. 17.

[11] ibid.

Aircraft landing and taking off at airports generate high peaks of noise that occur as quickly as they fade. The number of people annoyed by aircraft noise is determined by the number of aircraft movements, by the types of aircraft and engines used, and by the population patterns around the airport. Containing the sound generated by aircraft operations whilst meeting increased demand is a major challenge for the industry. Increasingly active airport "neighbours" have forced governments and airport authorities to place restrictions on aircraft operations. Following complaints by groups in south-west Germany about the noise caused by aircraft movements to and from Zurich airport in Switzerland, the ministers of transport of the two countries have agreed, pending ratification by the parliaments, to reduce the number of movements by 35 per cent within three years and prohibit night flights between 10:00 p.m. and 6:00 a.m. and between 8:00 p.m. and 9:00 a.m. on public holidays and weekends. [12]

Noise abatement operating measures, such as preferential runways and routes and noise abatement procedures for take-off, approach and landing, help to attenuate the impact of noise at and around airports. For example, although the number of flights from Heathrow airport has increased by 60 per cent since 1974, the number of people disturbed by noise has dropped to one-fifth. [13]

Access to the airport is another source of environmental concern. With the increase in airline traffic and related vehicular congestion, getting to and from the airport has become difficult. Twenty years ago the solution to this problem would have been to add more highway lanes and build more parking lots. Today other solutions are being examined, such as extending urban or regional rail systems, improving airport bus services, and connecting outlying parking lots with automated people movers. However, adequate high-speed, high-density transportation links also have environmental implications.

Box 2.2.

Lufthansa's environmental commitments

Lufthansa has invested in new aircraft which meet environmental standards. The average fleet is seven years old and although they have increased transport kilometres by 70 per cent, they have kept the growth of flights, fuel consumption and pollutants at less than 40 per cent. *Lufthansa* also believes in integrating transportation modes into an intermodally optimized system to gain substantial environmental improvements. For example, passengers can purchase a ticket for travel by airplane, high-speed rail or bus and *Lufthansa* will fly passengers to their destinations for trips of two hours or longer, provide rail services for trips in the one-and-a-half to three-hour range, and arrange road travel for points up to two hours away. Integrated prices and ticketing are central to the concept.

Source: United States Department of Transportation, op. cit., p. 17.

In January 2001, the European Commission announced a series of proposals to be presented in the near future: first, a framework directive on aircraft noise which will allow member States wishing to introduce a noise tax to do so on the basis of the same norms; second, a new directive on the assessment and measurement of noise around airports; and third, the opening of a dialogue on the management of airport infrastructure in view of increasing competition between European airports. [14]

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[12] *Le Temps*: "Kloten ne pourra plus exporter sa pollution sonore en Allemagne", 24 Apr. 2001.

[13] ATAG, op. cit., pp. 11-12.

[14] *Bulletin Quotidien Europe* No. 7890, 27 Jan. 2001.

2.5. Air-rail: Competition or partnership?

The attitude of airlines, especially in Europe, towards high-speed rail networks has always been somewhat ambivalent. The best example is *Air France,* which expects demand for flights between Paris and Marseille to fall by 25 per cent once the high-speed train (TGV) services between the two cities are fully operational, while on the other hand as of the end of March 2001 it has stopped flying between Paris-Charles de Gaulle airport and Brussels. [15] Passengers on that route will be transferred to the high-speed Thalys train.

Other airlines in Europe too are nowadays actively switching passengers to high-speed trains in order to free precious runway capacity at busy airports. From March 2001, *Lufthansa* started offering the alternative of rail travel to customers flying from Stuttgart via its hard-pressed hub at Frankfurt airport. Trains will carry *Lufthansa's* flight codes and service on board will be identical to that in its European business class, and passengers will be able to check bags through to their final destination.

BAA, the United Kingdom airports group, has not ruled out reviving a plan to run *Eurostar* trains between London's Heathrow airport and Paris. Flights to Paris take up about 60 take-off and landing slots a day at Heathrow. Elsewhere in Europe, several airports will be directly connected to high-speed rail links in the near future.

In Germany, the Minister of Transport has called for a decrease in domestic air transport. It is intended that all major German airports will be linked to the high-speed rail network so that rail travel can replace air travel. In his opinion, the substantial increase in traffic calls for a linkage between rail and air transport, while the slots that would thus become available could be used for long-distance international flights. [16]

In the United States, transport planners will be keeping an eye on how much effect *Amtrak's* new Acela Express trains between Washington, DC, New York and Boston will have on air traffic. [17] Airline fares in the United States have dropped more than 35 per cent in real terms since deregulation in 1978. They have become so low, in fact, that the interstate bus and rail services have been hard pressed to compete with the airlines, which today provide the primary means of public transportation between cities in the United States.

Airlines are in favour of giving up short flights, as these are most expensive for them, provided the passenger has an acceptable alternative. The heavily subsidized high-speed train is such an alternative for distances up to 500 kilometres. In addition, the rail-air combination makes flying more attractive by eliminating expensive short-haul connecting flights and making it easier to get to airports.

2.6. Electronic ticketing and commerce

The Internet and aviation were made for each other: flights are a high-value, perishable commodity on which up-to-date information can be made available

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[15] ATWOnline: "Air France expects big competition from TGV rail link", 28 May 2001. See also: C. Bremner: " New French train will fly you to Med", in *The Times*, 24 May 2001.

[16] H.-J. Leersch: "Regierung will Indlandsflugverkehr massiv einschränken", in *Die Welt* online, 1 Mar. 2001, http://www.welt.de.

[17] R. Bray: "Passengers enticed to fly by train", in *Financial Times*, 27 Feb. 2001.

electronically. The buyer is hungry for such information in order to get the best deal. The airlines, for their part, depend for their profits on what they call yield-management systems, which are highly sophisticated computer models for altering the price of seats on a given flight to reflect the demand over time. This is the system that doles out cheap tickets to early bookers and ensures that last-minute travellers needing flexible tickets pay much more for the privilege. In the mainstream airlines in the United States the most expensive ticket can cost up to 20 times as much as the cheapest on the same flight. Even with low-fare, no-frills carriers such as *Southwest*, the most expensive fare will be twice the cheapest on a given flight.

The airlines have a further motive for embracing the Web: it offers them huge savings on their marketing and distribution costs, which make up about a quarter of their total operating expenses. It saves them commissions of up to 5 per cent on ticket sales and eliminates the cost of printing and sending out tickets and the fees (around US$11 per ticket) for the computerized reservation services that are the lifeblood of today's distribution. [18]

The International Air Transport Association (IATA) believes that electronic ticketing (e-ticketing) will be saving the airline industry US$1 billion annually in distribution costs. Already airline tickets are the biggest-selling commodity on the Web. For some budget carriers, online sales now make up 90 per cent of the total, although for mainstream airlines the share is still below 5 per cent.

The Internet will also change the passenger's experience of a flight. On many airlines nowadays, passengers need nothing more than some form of identification, a code number and/or their credit card to board the aircraft. IATA standards are now in place for e-ticket interlining, enabling passengers to use a single ticket to travel on more than one airline. *American Airlines* and *Canadian Airlines* claim to be the first partners to offer an interline e-ticket. Both airlines will accept each other's e-bookings. [19]

The Executive Committee of the Arab Air Carriers Organization (AACO) recommended that all Arab airlines hire an international consultant to prepare an e-business strategy and specific implementation plans to draw on the potential that e-business has created in the travel and tourism environment. [20]

The Internet has thrown up a host of online agencies which are essentially electronic versions of the traditional "bucket shop", agencies that buy blocks of spare seats from airlines and sell through small advertisements in the newspapers. Like the bucket shops, the online agencies are useful for the airlines because they enable them to offload empty seats at low prices without being seen to compromise their normal fares. If they own the agencies, as with *Travelocity* or *Hotwire*, they can also keep control of the prices at which seats are sold. [21]

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[18] *The Economist*: "The sky's the limit: A survey of air travel" (London), 10 Mar. 2001, pp. 20-21.

[19] R. Jolley: "Passport and wallet are all you'll need in hand", in *Financial Times*, 10 Feb. 2000. For a detailed description of the various online e-ticketing systems, see B. Sweetman: "Airlines and alligators", in ATWOnline, 2000.

[20] Arab Air Carriers Organization (AACO): Press release, Oct. 2000, http://www.aaco.org.

[21] *The Economist*, op. cit.

Other forms of e-commerce, particularly business-to-business (B2B) commerce, are also developing rapidly in various segments of the airline industry. To give only one example, in mid-May 2000, *Gate Gourmet International*, a subsidiary of the *Swissair Group*, and *i2Technologies* joined forces to form a B2B market-place, *e-gatematrix*. The new company was established to manage the entire supply chain for airline catering and also to introduce new suppliers to the industry via B2B. It has concluded a 12-year contract with *Delta Air Lines* under which it will provide *Delta* with management of its total global catering processes. [22]

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[22] *Inflight Asia* online: "Catering's brave new e-world", July/Aug. 2000, http://www.orientaviation.com.

3. The restructuring of the industry: Deregulation, liberalization, privatization

3.1. Deregulation

During the drafting of the Convention on International Civil Aviation in Chicago in 1944, most participating nations identified aviation with national security and went for a regime based on national ownership and a system of designated flag carriers. Operations would be governed by bilateral air-service agreements regulating which airlines flew where, when, and at what fares. The result was a highly regulated industry.

The passage of the 1978 Airline Deregulation Act in the United States – despite the fierce opposition of the airlines – launched a new era in the air transport industry. After decades of regulation-induced inertia, the number of airline firms tripled in just a few years. The new entrants competed aggressively with the incumbent airlines, offering lower fares, new routes and low-cost "no-frills" flights. The advent of open competition in the industry coincided with a rapid rise in energy prices and a prolonged recession. In the newly deregulated market-place this combination of supply and demand shocks proved too much for many incumbents: by 1985 the output share of the 11 original "trunk" airlines – i.e. those allowed by 1930s regulations to operate national or international flight schedules – had declined substantially, and several firms were in bankruptcy. [1]

There is wide consensus that in the United States deregulation has led to lower prices and significant gains to consumers. Some other less well-known effects also deserve to be mentioned: price discrimination has increased, especially at hub airports, and employment has risen, although wages have declined somewhat. It is still open to question whether reforms have increased competition. As predicted, a relatively large number of new firms entered the market in the first phase, but many did not survive the growth of competition, giving rise to the emergence of an oligopoly. The six major carriers alone share 70 per cent of the United States market and, together with their other partners (so-called "feeders" or regional airlines), account for 82 per cent of all domestic traffic. [2]

In Europe, airline deregulation started later and has followed a much slower pace, although it has gained momentum with the advent of the single market. In an important ruling in 1986, the European Court of Justice made explicit that even in the domain of air transport policy, the European Commission might make use of its powers to investigate cases of suspected infringements of the competition rules embodied in Articles 85 and 86 of the EC Treaty, and propose measures to end such infringements.

The Council regulations of the early 1990s adopted by the European Union (EU) have made all European routes accessible to EU carriers, granted them full operational flexibility and full rate freedom, and ended regulatory discrimination between scheduled and non-scheduled services. Establishing a single market has resulted in the reduction of

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[1] D. Card: "Deregulation and labor earnings in the airline industry", NBER Working Paper 5687 (Cambridge, Massachusetts, National Bureau of Economic Research, 1996).

[2] A. Goldstein: *Infrastructure development and regulatory reform in sub-Saharan Africa: The case of air transport*, OECD Technical Papers No. 154 (Paris, OECD, 1999), p. 14.

the discretionary powers of national authorities and the extension of the possibilities of air carriers to decide, on the basis of economic and financial considerations, fares, new routes and capacities to be offered on the market. As a result, air transport within the European Economic Area is now governed by common rules which provide for licensing, market access, pricing freedom and the application of competition rules. As of January 1999, access to ground-handling facilities for third parties at EU airports has been liberalized. This measure is expected to help reduce operating costs and improve quality of service for airport users. [3]

The deregulation experience in the Asia/Pacific region has been mixed. Already, in one form or another, Australia, India, Japan, New Zealand and Taiwan (China), have deregulated their home markets. Indonesia, Malaysia and Thailand are experimenting with domestic deregulation. The Philippines appears to be turning inward, protecting its domestic market rather than opening up the market. China, with its unique problems, is approaching each new development in its own way. In India, government attempts at domestic deregulation since the early 1990s have produced two ambitious new carriers capable of mounting a serious and lasting market challenge. But route and price controls remain, entry costs are high and airport facilities and access for start-ups are restrictive. Throughout Asia, most big airlines face the same challenges: the twin pressures of encroaching domestic deregulation and fast-increasing liberalization on the international front. [4]

3.2. Liberalization

The liberalization of air transport has been progressing in much of the world. There are more than 70 bilateral air service agreements providing for virtually full-market access, where traffic rights are unrestricted to, from and beyond the territories of partners. Significantly, no less than half of these "open skies" agreements are between developed and developing countries, and one-third of them do not involve the United States.

In addition, there are a number of regional multilateral agreements in place or in progress, most of which provide for instant or phased-in liberalization leading to full-market access. [5] For example, recently senior government officials of Brunei, Chile, New Zealand, Singapore and the United States signed a multilateral "open skies" agreement. According to the officials, this agreement can be seen as a move beyond the current system of bilateral aviation agreements and into the international aviation environment of the twenty-first century. [6]

In 1999, the Council of Arab Transport Ministers reached an agreement to liberalize intra-Arab air services over a period of five years, gradually reducing restrictions for carriers of member States of the Arab Civil Aviation Commission (ACAC).

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[3] ibid., p. 12.

[4] T. Ballantyne: "Deregulation", in *Orient Aviation* online, June 2000, http://www.orientaviation.com.

[5] A. Kotaite: "The liberalization of air transport", in *ICAO Journal*, Vol. 55, No. 6, July-Aug. 2000, pp. 7-9.

[6] ATWOnline, 2 May 2001.

At the Conference of African Ministers Responsible for Civil Aviation, held under the auspices of the United Nations Economic Commission for Africa (ECA) in Yamoussoukro (November 1999), African transport ministers adopted a region-wide provisional aviation agreement to liberalize the African skies, with the aim of reaching full integration by 2002.

Liberalization is not without its problems, however. As explained by Rigas Doganis, an aviation consultant, "While United States carriers can fly from any airport in the United States to a wide range of airports in the EU, European airlines can only operate to the United States from their own country. Consequently they cannot exploit fully the whole EU market of 360 million passengers ... In addition, United States carriers obtained and in many cases used extensive rights between European points which are now essentially domestic sectors within the European Union. Yet European airlines cannot enjoy the equivalent rights to serve city pairs in the United States." [7]

In 1998, the European Commission filed suits against Austria, Belgium, Denmark, Finland, Germany, Luxembourg, Sweden and the United Kingdom arguing that the countries broke EU treaties when negotiating open skies agreements with the United States because they did not give carriers from other EU countries the same rights as their own airlines.

At the heart of the dispute is the clash between Brussels' insistence that Europe needs a unified approach to overcome its disadvantage with the United States and the Member States' reluctance to give the Commission more power. Brussels insists that it does not want to rip up the open skies agreements already in place – the point about which the United States is most concerned – but merely to add to them. Ironically, many of the countries battling the Commission are actually in favour of an EU-wide open skies deal with the United States along the lines of the Transatlantic Common Aviation Area proposed by the EU body. [8]

In the EU, liberalization measures have not introduced competition on all markets. The Commission noted in 1996 that 64 per cent of EU routes were operated by monopolies, although many of these were new or thin routes, and that the fares for business passengers had not decreased. According to a recent report by the Civil Aviation Authority (CAA) of the United Kingdom, the percentage of European routes with more than two EU carriers rose marginally from 4 per cent in 1992 to 7 per cent in 1997, while major airlines increased the overall proportion of flights from main hubs from 77 to 85 per cent. Nonetheless, there can be no doubt that liberalization has increased product variety, as evidenced by the emergence of no-frills passenger carriers – such as *Southwest* in the United States and *Ryanair*, *Go*, *easyJet* and *Virgin Express* in the EU – and integrated cargo "express services" (*Federal Express (FedEx), United Parcel Services (UPS), DHL* and others). [9]

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[7] Cited in *The Economist*: "The sky's the limit: A survey of air travel", 10 Mar. 2001, p. 5.

[8] D. Dombey, K. Done: "Brussels fights for right to arrange air deals", in *Financial Times*, 8 May 2001. See also ATWOnline: "EUC hears arguments on open skies policy", 9 May 2001.

[9] Goldstein, op. cit., p. 14.

3.3. Privatization and/or commercialization

3.3.1. Airlines

The trend towards partial or full privatization of government-owned airlines is continuing. Preparations for privatization continued for some 30 carriers which had been targeted in previous years, while privatization objectives were announced for another two airlines. Plans to privatize several airlines, such as *Air Botswana*, *Air Pacific* of Fiji, *CSA Czech Airlines*, *Middle East Airlines* of Lebanon, *Myanmar Airways International*, *Tarom* of Romania and *Ukraine Airlines,* had to be abandoned or postponed. Among the obstacles were reluctance of the government concerned to lose control of its national carrier, the impact of an unfavourable financial and economic situation, or international political circumstances. It is often argued that state-owned airlines are overstaffed because of political interference and therefore unions are also opposed to privatization and the necessary restructuring involved. These trends have been confirmed by recent developments, such as the cancellation of the auction for the privatization of *Turkish Airlines* after no bidders emerged for a 51 per cent controlling stake in the carrier. *Swissair*, the only airline seriously interested in bidding, announced that it was no longer in the market for acquisitions following a revision of the group's strategy.

There is a wholesale move towards privatization in the airline sector in Central and Eastern Europe, a process that has met only limited success to date. *CSA Czech Airlines* (Czech Republic) led the way in the privatization process, with an ambitious and market-leading sale to *Air France* in 1992. *Malév* (Hungary) followed with an equity investment by *Alitalia*, while most recently *Balkan Airlines* (Bulgaria) and *LOT* (Poland) have completed sales to *Zeevi/Arkia Group* (Israel) and *Swissair* respectively.

However, success has not followed and the *CSA/Air France* and *Malév/Alitalia* transactions were subsequently unwound. Similarly, *Zeevi* may be seeking to offload some or all of its investment within one year of completion of the *Balkan* deal. [10] Having already cut *Balkan's* destinations from 55 to 22, sold most of the aircraft and laid off more than a third of the 3,000 employees in a cost-saving and restructuring programme, *Zeevi* ordered the suspension of all of its flights. Bulgaria's Privatization Agency is now looking into ways to solve the airline's problems. [11]

In another development, the Government of Spain had to cut the price for its stake in *Iberia* by 44 per cent amid slack demand for the initial share sale of the state-controlled carrier. *Iberia* was sold by Spain after the Government spent five years cutting costs and reorganizing the airline to make it into one of Europe's most profitable carriers. The Government will maintain a veto right for five years after the privatization to prevent too strong an influence by *British Airways*, which holds a 9 per cent stake in *Iberia*. [12]

In contrast to the general trend, the Government of Qatar purchased a 50 per cent stake in the privately owned *Qatar Airways*, paving the way for the carrier to assume

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[10] C. Steedman, J. Dawson: "Prospects for transport in Eastern Europe", in *Privatisation International* (London), May 2000, pp. 18-20.

[11] AeroWorldNet: "Bulgaria to seek reversal of national airline sale, official says", 19 Feb. 2001.

[12] *International Herald Tribune* online: "Spain cuts asking price in Iberia IPO", 3 Apr. 2001. M. Odell: "Spain aims to raise €1.1bn in Iberia IPO)", in *Financial Times*, 27 Feb. 2001.

national carrier status instead of *Gulf Air*, which is jointly owned by four governments (Bahrain, Oman, Qatar and the United Arab Emirates).

Tables 3.1 and 3.2 reflect civil aviation unions' and pilots' associations' assessment of the impact on their membership of privatization and other industry developments. The perceived effects on their working conditions will be discussed in Chapter 5.

Table 3.1. **Perceived effects of restructuring on workers in the global airline industry** (percentage of replies to survey)

	Positive effect	Neutral/no effect	Negative effect
Privatization	11	39	50
Commercialization	16	37	47
Low-cost carriers	3	23	74
Global alliances	23	34	43

Source: Cardiff University/ITF survey, 1997, cited in P. Blyton et al.: *Contesting globalisation: Airline restructuring, labour flexibility and trade union strategies* (London, ITF, 1998), p. 13.

Table 3.2. **Perceived effects of restructuring on European pilots** (percentage of replies to survey)

	Positive effect	Neutral/no effect	Negative effect
Privatization	75	17	8
Commercialization	33	42	25
Low-cost carriers	–	46	54
Global alliances	15	46	39
Global outsourcing	8	23	69
Takeover of smaller airlines	8	58	34

Source: Cardiff University/ECA survey, 1998, cited in P. Blyton et el.: *Globalisation, deregulation and flexibility on the flight deck* (Oct. 1998), p. 5.

3.3.2. Airports [13]

The main reason for the privatization of airports – which employ some 2.5 million people around the world – is the recognition that government expertise in managing airports may be limited, and that others can provide it with reduced costs, increased revenues, and improved and more efficient services. Between 1954 and the end of the 1980s, the regulated status of airports and their ownership remained almost constant. Beginning in the 1960s, in many countries, the ownership of airports by governments, usually through ministries of civil aviation, was transferred to publicly owned airport authorities.

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[13] This section draws on *Airports International:* "Oiling the wheels", Vol. 34, No. 1, Jan./Feb. 2001, pp. 16-19. See also: N. Ashford: "Large-scale airport privatization promotes non-traditional planning processes", in *ICAO Journal*, Vol. 55, No. 9, Nov./Dec. 2000, pp. 8-9, 26-27. G. H. Carnaroli: "Privatization of airport operations increases the need for their effective economic regulation", ibid., pp. 5-7, 25.

Airports nowadays have to face many challenges – airline alliances, globalization, important capital investments, privatization, new competitors – and therefore need to find new openings. From a public entity offering ground services, they are becoming profitable companies. At the same time, they are developing into intermodal cross-points linking transportation by air, road, rail and even sea. They play an important role in regional economic development.

The first major instance of airport privatization was that of the British Airports Authority into a private company, *BAA plc*. This has been followed by privatization of airports worldwide that are deemed capable of sustaining themselves once removed from the public sector. Fully privatized European airports include Vienna and Copenhagen, whilst the Government of the Netherlands is preparing for the privatization of Amsterdam-Schiphol airport later in 2001 or early 2002, and Frankfurt airport launched an Initial Public Offering (IPO) for part of its shares in early June 2001.

Successful airport privatization has been achieved in Australia and in Mexico and other Latin American countries, introducing new capital for further infrastructure development. In the developing world, airport terminals are frequently developed using a "build-operate-transfer" (BOT) model over a limited period, usually 20 to 30 years. Privatization is gaining adherents in Asia too. For governments finding themselves short of cash, privatization offers one way out: passing over ownership on a temporary or longer term basis allows for a gain in efficiency and helps governmental cash flows.

Latin American labour laws typically grant a wide range of benefits to employees; these must be taken into account in airport privatizations. Under the doctrine of "acquired rights" employee benefits cannot be reduced or eliminated, meaning that once an employer grants an employee a benefit, such as free lunches or a transportation pass, that benefit cannot be taken away, even if the employer's business is not performing well financially. Another important concept is *sustitución patronal*, under which the successor employer inherits the labour law regime of its predecessor, including the employees' acquired rights. Investors must thus make sure they fully understand what obligations they are taking on when they absorb state employees.

In the United States, airports are traditionally in public ownership, with new developments financed through revenue bonds topped up with federal government funding, such as the Airport Improvement Program (AIP). Under the terms of the 1996 Airport Privatization Pilot Program, up to five airports can receive waivers from federal regulations that would otherwise make privatization virtually impossible. The AIP contains regulatory provisions that virtually preclude privatization as all profits made by a grant-receiving airport must be reinvested in the airport (or in the city's airport system). Also, grant-receiving airports are subject to economic regulation by the Federal Aviation Administration (FAA), which seriously constrains a private owner's ability to run the airport as a business. So far one airport, Stewart International Airport, has completed the process. The United Kingdom transport firm, *National Express* negotiated a 99-year lease for the airport. Other airports involved in the process are Niagara Falls, San Diego's Brown Field, New Orleans' Lake Front and Puerto Rico's Rafael Hernandez. [14] United States airlines remain strongly opposed to airports-for-profit, insisting that all sites should remain in local or state government hands.

In the United Kingdom, restrictions on government funding for regional airports have led many local authorities to sell all or part of their airport assets. Purchasers have been

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[14] R. Poole: "US airport privatisation gains altitude", in *Privatisation International*, Sep. 2000, pp. 13-14.

property companies such as *TBI, Peel Holdings* and the *Wiggins Group* or companies with wider transport interests such as *National Express, First Group* or *Stagecoach*. More recently, these companies have been joined by specialist construction firms such as *Hochtief, Cintra* and *Groupe GTM*.

Box 3.1.

Airports in the Russian Federation

In the former USSR, air transport was provided by a single organization, *Aeroflot*, which was divided into semi-autonomous joint airline/airport units. Following the move to a market economy, state governments have revised their legislation on air transport, and have begun the process of privatization, which has included the separation of airlines and airports, and establishing these as joint-stock companies. In the Russian Federation, 20 out of the 42 main airline-airport enterprises legally required to be split have in fact been separated.

Despite this technical separation, Russian airlines continue to be directly involved in the development of the country's airports. *Aeroflot Russian International Airlines*, the main national flag carrier, has recently launched a tender for a new US$300 million terminal at Moscow Sheremetyevo airport. This terminal, designated as Sheremetyevo-3, would handle all international traffic, not just *Aeroflot* flights. The new terminal is expected to increase Sheremetyevo's traffic from its current 11 million passengers per annum to 30 million passengers per annum by 2010.

The development of Moscow Domodedovo airport is currently being funded by the Russian airline, *East Line*, which has built up an extensive network of scheduled and charter cargo services, together with a few passenger routes. To date, nearly US$200 million have been spent on upgrading the airport's facilities, including rebuilding and extending the passenger terminal, installing new check-in, baggage and security systems and building a new cargo terminal.

At St. Petersburg Pulkovo airport, *Lufthansa* is planning to build a new US$13 million cargo terminal in a joint venture with the local authorities and private investors. Finance would be provided by the European Bank for Reconstruction and Development (EBRD). Plans for a new international terminal at Pulkovo, also to be funded by the EBRD, are currently on hold.

Most other Russian regional airports have so far failed to attract Western funding, although Vladivostok airport in the Far East has recently completed a new US$13 million passenger terminal funded through the Euroasia Investment Promotion Company of Japan.

Source: *Airports International*, op. cit., p. 18.

If the present trend continues, the airport sector will see the emergence of a handful of companies controlling most of the big airports. BAA, for example, is the world's largest airport operator, owning the major part of the airports in the United Kingdom. Other operators include the *Schiphol Group* and *Frankfurt Airport Group*.

3.3.3. Air navigation services [15]

Until recently, all governments carried out their responsibility to provide air navigation services (ANS) themselves. They employed the staff working in this field as civil servants within government-financed facilities. In recent years, there has been an increasing trend towards separating ANS provision from government, although, in most cases, ownership of the body established to provide ANS services remains with the State.[16] ICAO has chosen to use the term "autonomous authority" to reflect the fact that the commercialization of air navigation services does not necessarily mean that the

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[15] This section draws on Civil Air Navigation Services Organisation (CANSO): *Corporatisation of air navigation services* (Geneva, 1999).

[16] D.J. McLauchlan: "Corporatisation of air navigation services provision" (Geneva, CANSO, 1 Sep. 1998).

organization has to move out of the scope of government jurisdiction, or that the government can abdicate its responsibility for the provision of ANS services.

Around 20 States have set up corporatized bodies to provide services (Austria, Australia, Canada, Czech Republic, Germany, Ireland, Latvia, Netherlands, New Zealand, Portugal, Romania, South Africa, Spain, Switzerland, Thailand and Ukraine) and more are expected to follow suit.

The key feature of corporatized organizations is the separation of ANS service provision from government. In general, most governments have either retained their regulatory responsibilities for safety and economic aspects or allocated them to bodies independent from the service provider. The establishment of corporatized bodies has produced a number of organizations whose sole task is the safe and efficient provision of ANS, unencumbered by the wide range of responsibilities typical of government departments. As service providers, they must be measured in terms of their ability to satisfy their customers – principally airlines and airports, but also, of course, the ultimate customer of the aviation industry: the airline passenger.

Canada is the only nation so far in which the service provider, *NavCanada*, has passed out of government ownership. In 1995, *NavCanada* was incorporated as a fully private, non-share capital corporation.

In March 2001, the Government of the United Kingdom announced its decision to accept the not-for-commercial-return offer for 46 per cent of the National Air Traffic Control Services (NATS) from the *Airline Group*, a consortium including *British Airways, Virgin Atlantic, bmi British Midland, Airtours International Airways, Britannia Airways, easyJet* and *Monarch Airlines*. The decision comes after almost two years of fierce resistance to the part-privatization on safety grounds from controllers, Members of Parliament, the House of Lords and the Commons Transport Select Committee. The 5,500 employees will each be given shares worth just under £1,000, or about 5 per cent of the total shares, and the Government will retain a 49 per cent stake and appoint several directors to the board. The controllers' main union was pleased that the not-for-commercial-return bid had won. It had said that the pursuit of profit could lead to short cuts, possibly leading to an air disaster. [17]

The International Federation of Air Traffic Controllers' Associations (IFATCA) and its member organizations remain opposed to privatization of air traffic service providers as they fear that the drive to maximize profits may threaten the safety of the system. Private companies do exist to provide ANS services; for example, *SERCO* (United Kingdom) supplies services under contract to States, mostly in the Middle East. It also provides ANS services to airports, for example in the United Kingdom and Canada.

3.4. Spinning off non-core activities: New global operators

While traditionally major airlines did most of their own work, it was common for them to subcontract certain tasks to other companies. These tasks could include aircraft cleaning, fuelling, airport security, food service and, in some instances, maintenance work. Airlines might contract out for all of this work or just a portion of it, keeping the jobs in-house at their hubs and other key stations.

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[17] B. Webster: "Airlines buy control of air traffic", in *The Times*, 28 Mar. 2001. ATWOnline: "Airline Group wins NATS bid", 28 Mar. 2001.

More recently, airlines have begun divesting themselves of non-airline businesses and retreating into the "core airline", i.e. commercial aviation operations. Many traditional airline functions are either being outsourced or put into independent subsidiaries. The sale by airlines of non-core-activity subsidiaries is generally positively viewed by shareholders. The result has been a radical restructuring of the aviation industry, leading to the creation of new global operators, owned either by airline companies or by companies from outside – a process which is still going on. It has also brought about a radical restructuring of aviation employment.

3.4.1. Catering

One of the first functions to undergo this restructuring process was airline catering. While ten years ago or so most airlines owned and operated their own flight catering, today just two companies control 60 per cent of the US$11 billion a year market. With the exception of some carriers in Asia, most of the world's airlines now buy in their catering and keep a careful eye on their catering bills. Industry specialists estimate that over the past five years the price of airline food has fallen by between 15 and 20 per cent.

According to Peter Jones, the world's first professor of airline food at the University of Surrey (United Kingdom), "Airline catering is a highly sophisticated business – a combination of culinary skills and a great deal of logistical know-how – but for too long it has been seen as the poor relation of the hotel industry." [18]

LSG Sky Chefs (Lufthansa Group) controls around 34 per cent of the market, while rival, *Gate Gourmet*, owned by the *Swissair Group*, has a share of about 25 per cent. Pending regulatory approval, *Lufthansa* will buy up the majority interest (52 per cent) in its United States catering partner *Sky Chefs*. The move will allow management to speed up the integration of the Texas-based business with the LSG catering unit, to create the world's largest airline catering company. The combined group, which operates 200 flight kitchens around the world with 260 airline customers, has 41,000 employees with a turnover of US$2.6 billion. [19]

Qantas is in negotiation with officials from the Transport Workers Union, Australian Services Union and the Liquor, Hospitality and Miscellaneous Workers Union over the future of its catering division. It is understood that the unions have agreed to freeze wages at existing levels under a plan that ensures that the catering division remains in-house for at least another five years and preserves 3,500 jobs. [20]

3.4.2. Ground handling

At present airports and airlines still control around 75 per cent of ground-handling services, but these services are set to become the latest part of the aviation industry to be affected by the ongoing process of deregulation and liberalization. The liberalization of ground handling in the EU will open up the market to competition from independent companies with low costs.

By 2010 at least 50 per cent of the $27 billion global ground-handling market is expected to lie in the hands of these specialist companies. At the moment they vary in

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[18] K. Cooke: "Better air fare is not pie in the sky", in *Financial Times,* 23 Jan. 2001.

[19] M. Odell: "Lufthansa to swallow United States partner", ibid., 30 Mar. 2001.

[20] ATWOnline, 11 July 2001.

nature from local operators active in only one airport to regional companies like *Aviapartner* (active in Belgium, France, Germany and the Netherlands) and large international operators like *GlobeGround, Swissport* and *Menzies Aviation Group* (which took over *Ogden Aviation Services* in 2000). *Ogden* is one of the world's largest non-airline-owned aviation support operators, with passenger and cargo businesses in North America, Latin America, Europe and the Asia/Pacific region. [21]

With the sale of *Lufthansa's* subsidiary *GlobeGround* to the French company *Penauille Polyservices*, a world leader in ground-handling services is being created, operating at 199 airports in 39 countries worldwide and employing more than 30,000 employees. Both partners expect additional jobs to be created through this merger. *Penauille Polyservices* had already acquired *Servisair* United Kingdom, one of its main competitors. [22]

In the meantime, many of those airlines which choose not to sell off their ground services are working within new global alliances to pool their resources and combine them. The likelihood is that new alliance-based subsidiary companies will be set up to operate these combined ground services and compete in the new global market. [23]

Box 3.2.

Swissport buys out *Aer Lingus'* ground services

"When Swissport offered to buy out Aer Lingus we negotiated that staff would come along with all their benefits – both contractual and voluntary. We managed to retain everything the staff already enjoyed plus a goodbye payment from *Aer Lingus* of between £6,000 and £19,000 per person. They lost nothing. We even tried to get a 'hello payment' from the new company. But we didn't quite manage that.

Of course with this kind of negotiation, the buyer ends up taking the cost of all the employee benefits from the asking price. This can then put the original company off making the sale. But that can be just fine from our point of view. The way we look at it, the first prize is often to stop the sale, second prize is to retain all the benefits.

Of course only those formerly employed by Aer Lingus benefit, which creates problems for the union and tensions when new recruits realize which benefits existing staff are enjoying. Now the proportion is 70 per cent former Aer Lingus, 30 per cent new Swissport staff. To recognize their different concerns we suggested they elect separate shop stewards, working closely together but representing the two different interest groups.

On the whole, Swissport has been a good outcome for us. Even the management is the same. This seems to be Swissport style, keeping the different local companies largely autonomous. It has also invested a huge amount in new equipment. And that is a positive outcome for staff, who benefit from working with the most up-to-date technology.

But generally our experience is that competition between the new companies is getting cut-throat. I would expect this environment to last about five years, and then airports and airlines will have to stop and recognize that they must spend more money if they want better standards."

Source: George Ryde, National Secretary for Civil Aviation, Transport and General Workers' Union (TGWU), United Kingdom, cited in ITF, op. cit, p. 8.

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[21] R. Hailey: "John Menzies joins big league with Ogden Aviation Services takeover", in *Lloyd's List* (London), 26 July 2000.

[22] *Die Welt* online: "Lufthansa verkauft Bodenabfertiger Globe-Ground", 31 May 2001. ATWOnline: "Lufthansa deals GlobeGround to Penauille Polyservices", 1 June 2001.

[23] International Transport Workers' Federation (ITF): "Ground control", in *Transport International* (London), No. 3, 2000, pp. 7-10.

3.4.3. Maintenance

Aircraft maintenance is in the process of global restructuring: more and more airlines are contracting out their maintenance work and selling off their maintenance facilities. The new technologies required for modern aircraft maintenance make it an extremely cost-intensive and increasingly specialized business, while improved aircraft models needing less frequent maintenance make it harder for any individual airline to justify the investment.

At present, about 75 per cent of the maintenance of aircraft frames is done by the airlines themselves, while the remainder is carried out by third-party providers or the original manufacturers. The maintenance of aircraft engines is largely conducted by the manufacturing companies. The maintenance of regional jets shows the same pattern as for mainline aircraft.

The three leading third-party providers in the world are *Lufthansa Technik, Air France Industries* and *SR Technics*. *Air France Industries* employs over 10,000 employees and has about 100 international clients all over the world. [24] *KLM* has postponed the joint venture of its wholly-owned maintenance subsidiary with *United Technologies Corporation (UTC)*. *UTC* includes the aircraft engine-maintenance centres of *Pratt & Whitney* and the aircraft components producer *Hamilton Sundstrand*. The joint venture would have become the world's largest complete aircraft maintenance provider. Although legal, fiscal and social differences prevented the creation of the new company at this point in time, it still remains the objective. [25]

3.5. Other developments

3.5.1. Outplacing

Despite employee opposition, an increasing number of airlines have been setting up or expanding crew bases outside their home countries in countries such as India, Thailand and the Republic of Korea, where labour costs are much lower than in the home base of the airline.

British Airways (BA) has been a trendsetter in establishing different duty stations in the same country. In 1992, for example, *BA* established *British Airways Regional*, which operates from Birmingham, Manchester, Glasgow and other regional airports, and the purchase of *Dan-Air* in 1991 led to the establishment of *BA's EuroGatwick* operations. *British Airways Regional* and *EuroGatwick* have very different terms and conditions of employment compared to *BA* employees working on short-haul routes from London Heathrow, which are different again from London Heathrow long-haul operations. In April 1998 *BA* launched a "no-frills" carrier called *Go*. The new *Go* subsidiary will pay wages

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[24] J.-C. Ferrier: "Air France en piste pour faire redécoller ses Concorde", in *La Tribune de Genève*, 26 Mar. 2001.

[25] A. Burlage: "Joint venture KLM en UTC voorlopig van de baan", in *De Telegraaf* (Amsterdam), 30 Mar. 2001.

some 20-30 per cent below *BA* mainline rates, frozen for three years, and a third of the employees' pay will be based on performance. [26]

For European and United States airlines expanding their Europe-Asia services, offshore recruitment means hiring and integrating mainly Chinese-language speakers into their cabin crews. In Asia, the process is reversed as Asia/Pacific-based airlines go offshore in search of flight attendants fluent in English and the major European languages of their increasing numbers of European passengers. Language fluency, cultural comprehension and cost-cutting have dictated the choice by two of the world's leading international carriers to increase recruitment of cabin crew offshore. *Japan Airlines (JAL)*, for example, established its first offshore cabin crew base in Taiwan (China), and has now six offshore cabin crew bases (Singapore, Frankfurt, London, São Paulo, Shanghai and Hong Kong (China) worldwide. Ten per cent (674) of *JAL's* cabin crew of 6,569 are non-Japanese hired and based outside Japan. [27]

In 1999, the airline pilots' association *(Asociación de Pilotos Aviadores Salvadoreños)* of El Salvador complained that a company, *Servicios Productivos de Aviacion* (SPAVA), had been set up which employed foreign pilots. These pilots would then work for *TACA International Airlines* at lower salaries and conditions, thus violating the principle of equal remuneration laid down in the laws of the country.

One of the demands of the pilots' union at *Korean Air* during the strike in June 2001 was a say in the hiring of foreign pilots, who according to the union earn far more than Korean nationals, and that the practice of recruiting them should gradually be phased out.

3.5.2. Other forms of outsourcing

Several airlines (*British Airways* and *Swissair*, for example) have transferred their call centres and ticketing operations, either directly or through a subsidiary, to India and other countries.

Airlines are increasingly outsourcing crisis communications and concluding contracts with rapidly deployable crisis management staffs. The crisis managers would establish call centres to handle on short notice a massive flow of requests for information. An efficient crisis communications centre can be set up in 60 minutes, and up to 180 positions can be staffed in 90 minutes to handle the high volume of inquiries that follow an aircraft accident.

In the aftermath of the Concorde accident, however, *Air France's* crisis communications relied only on in-house resources and proved to be efficient. "Careful preparation is mandatory; voluntary staff members must be educated and strict guidelines available to enable an airline to initiate a [crisis] 'system' nearly automatically", *Air France* Chief Executive Jean-Cyril Spinetta noted. [28]

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[26] P. Blyton et al.: *Contesting globalisation* …, op. cit., p. 11.

[27] C. McGee: "Offshore crew search", in *Inflight Asia* online, Feb. 2001.

[28] P. Sparaco: "European airlines face information challenges", in *Aviation Week & Space Technology* (New York), 20 Nov. 2000.

4. The implications for management

Structural change poses several challenges to airline management, such as how to maintain its share – or, preferably, to gain a bigger share – of the growing market, how to participate in the consolidating market, and how to adapt to increasing domestic and international competition. Given the frail profitability of the industry, airlines must invest judiciously. In order to remain competitive, airlines concurrently compete on the basis of lower costs, higher quality and product innovation. This chapter reviews some of the strategies adopted by airlines to meet the challenges.

4.1. The problems of mergers and acquisitions: What is involved?

Airlines are artificially restricted in their ability to grow beyond their own national markets. Normal merger and acquisition activity in aviation is made virtually impossible by foreign ownership limits, which are set at 49 per cent within the European Union and at lower levels in many other countries, for example 25 per cent in New Zealand or 20 per cent in Brazil. In the United States, domestic consolidation has been allowed to run its course over the last 20 years. A new wave of merger activity is under way. However, past experience has taught that mergers and acquisitions often create more problems than they solve, as has been demonstrated in several cases in Europe. Nevertheless, over the years the airline industry has built up a wealth of experience in handling the multitude of problems related to the integration of two or more airlines.

One of the most difficult problems to solve in many cases is the question of seniority, which plays a very important role in most airlines. A key reason for labour tension involving pilots is the fact that seniority is such a crucial factor in determining the type of aircraft and the routes pilots fly. Senior pilots who lose their jobs have to start out on the least desirable route on some other carrier – a situation that makes pilots highly sensitive to and critical of management decisions about routes and mergers. The question of seniority also applies to other categories of airline staff, such as cabin crews.

In Canada, following the merger between *Air Canada* and *Canadian Airlines, Air Canada* had to seek an order from the Canada Industrial Relations Board (CIRB) to declare both airlines to be a single employer with respect to all bargaining units. This declaration allowed *Air Canada* to work with the unions to reach agreement on a number of merger-related issues, such as the intermingling of the workforces of the airlines, as well as to establish a framework to accelerate labour integration, including the consolidation of bargaining units and determination of applicable collective agreements.

Box 4.1.

Case study: The merger between *American Airlines* and *Trans World Airlines*

The marriage between *American Airlines* and *Trans World Airlines (TWA)* – like most airline mergers – promises to be a difficult passage for travellers, employees and shareholders alike. *American* has struggled to assimilate such smaller acquisitions as *AirCal* in 1987 and *Reno Air* in 1998. It faces a much bigger challenge in trying to meld together two major carriers with very different and deeply ingrained cultures, a combined workforce of 113,000 and 900 jets serving 300 cities.

For example, switches and circuit breakers are in different places in *TWA's* and *American's* cockpits. If pilots are eventually to fly both airlines' planes, the combined carrier must either spend millions of dollars to rearrange cockpit gear or spend a similar sum to train pilots in the differences.

TWA's planes also are on different maintenance schedules from those of *American's* jets. For *American* to see any savings from combining maintenance operations, it will have to gradually synchronize those schedules. Meanwhile, *TWA's* workers will have to be schooled in *American's* business methods. Planes will have to be repainted and seats rearranged: *American* plans to remove 6 per cent of *TWA's* seats to match the legroom in its own jets.

Simply ordering priorities can be a minefield. If the airline were to change the food served on former *TWA* airplanes to *American's* standard fare before converting *TWA* to *American's* computerized provisioning system, chaos could ensue. Since *TWA's* planes require a different size of food cart than *American's* the airline will have to replace the galleys on all 173 of its newly acquired *TWA* aircraft.

For this merger, *American* has mapped out a methodical go-slow approach designed to minimize disruption. Teams of *American* and *TWA* managers have already identified an estimated 10,000 to 12,000 merger-related projects that need attention. *American* managers have been ordered to find at least 200 *TWA* practices that *American* should consider adopting.

After the first three months of work focused mainly on human resources issues 40 department heads at each airline were assigned tasks such as replacing *TWA's* long-term airport leases with short-term ones, combining some cargo operations, changing over the automatic deposits of *TWA* employees' paychecks and implementing *American's* environmental-response programme at *TWA* in case of, say, a fuel spill at an airport.

But *American* has yet to decide many issues. It has agreed to keep on nearly all of *TWA's* 18,000 unionized workers and plans to decide the fate of its almost 2,000 white-collar and management employees on a case-by-case basis. *TWA's* union workers, who would have lost their jobs had *TWA* shut down, have gotten on board with the merger. And *American* has won a tentative agreement with its own pilots' union on a plan to integrate the carriers' cockpit crews. Prickly seniority issues remain, however, and *American* still needs to win over its flight attendants and mechanics.

Source: S. Carey, S. McCartney: "Flying lessons: With TWA, American plots course to avoid airline-merger pitfalls", in *Wall Street Journal* (New York), 20 Apr. 2001.

In the United States, the board of directors of the Allied Pilots Association (APA) ratified the tentative agreement reached covering the integration of *TWA Airlines LLC's* assets into *American Airlines'* operations. The ratification means substantial job protection for *American's* pilots, guarantees steady growth in the number of captain positions and creates a "hard fence" around *TWA Airlines LLC* operations to keep them separate from *American's* during the transition period. The deal also creates a process for transitioning *TWA* pilots to *American Airlines* work and rules and a schedule for gradual transition of *TWA* aircraft into *American's* fleet, as well as restoring length-of-service credit to *American's* pilots who were furloughed in the past. The airline still has to resolve the issue of integrating *TWA* pilots into the APA seniority list. [1]

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[1] ATWOnline, 13 July 2001.

4.2. Reaching the market: The value of alliances

Airlines throughout the world started forming alliances a decade ago. The global alliances allow their partners to gain access to a more comprehensive route network with far less risk, securing economies of scale and scope that would otherwise be beyond their reach. In the framework of alliances, airlines are seriously interested in the possibility of sharing crews and aircraft throughout the network. Alliances and other forms of cooperative agreements between airlines are an answer to the need to increase traffic feed and to adapt to an increasingly competitive environment. Alliances also offer a form of consolidation without the full cross-border mergers that most governments have refused to countenance: airlines sell tickets on their routes as if they were through-flights and share such frills as airport lounges and frequent flyer programmes. [2] Overall, airline alliances are widespread but still evolving, with partnership relations becoming more intertwined and complex.

Alliances do not just bring the revenue benefits from increased traffic. A close alliance could bring benefits on the cost side, by eliminating duplication and increasing buying power in such capital-intensive areas as aircraft purchasing. A study by Commerzbank of the cost benefits that the *Star Alliance*, the world's most developed alliance grouping, could bring to *Lufthansa* suggested they could boost the airline's profit margin by 10 percentage points, or three times the average margin for the airline industry since the start of the jet age in 1947. [3]

According to *Airline Business* there were no fewer than 579 bilateral partnerships in 1999 involving the 220 main airlines. That is an increase of nearly 50 per cent over the past four years. From these alliances have emerged five large groupings *(Star Alliance, Oneworld, Sky Team, Wings* and *Qualiflyer)*, plus a host of bilateral joint-marketing deals. [4] Each alliance group is composed of some major airline members based on different continents with fairly extensive networks. Through the alliances, these carriers have combined route networks and together reportedly carried nearly 50 per cent of the world scheduled passenger traffic. Several existing alliance groupings continued to streamline their operations through the launching of joint fares, products and services, purchasing and management. [5] Airlines are seriously interested in the possibility of sharing crews and aircraft through their alliance networks.

But as deregulation progresses, it threatens to destabilize some of the existing alliances, because it is beginning to allow mergers to happen. Recently, the EU, Belgium and Switzerland allowed the *Swissair Group* to take control of *Sabena*, the Belgian flag-carrier, once the bilateral agreements between Switzerland and the EU come into force. Even though the EU market had been deregulated seven years earlier, this was the first international takeover to be allowed in Europe.

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[2] *The Economist*: "Dangerous liaisons", 8 July 2000.

[3] M. Odell: "European airlines seek solace in looser alliances", in *Financial Times*, 12 Feb. 2001.

[4] *The Economist,* op. cit.

[5] ICAO: "Annual Civil Aviation Report 1999", in *ICAO Journal*, Vol. 55, No. 6, July/Aug. 2000, p. 26.

The *Qualiflyer* alliance, however, is in difficulty. The *Swissair Group* has been trying to build a fourth force in Europe by taking minority stakes in a collection of unprofitable airlines to compete with the three leading players – *Air France, British Airways* and *Lufthansa*. The ever-increasing losses of the partner airlines in France *(AOM, Air Littoral, Air Liberté)*, Belgium *(Sabena)* and Germany *(LTU)* have forced the group to revise its strategy as the losses threaten the future of *Swissair* itself. The company stopped its financial support to *Air Littoral* in April 2001 and sold its participation in June of the same year. *AOM-Air Liberté* filed for bankruptcy protection in June 2001. At the end of July, the court approved a restart plan that had the support of the *AOM-Air Liberté* unions. *Holco*, the new owner, proposed to take on up to 3,600 of the airline's 5,500 employees. Also in July, *Swissair* announced that it intended to maintain its 49.5 per cent share in *Sabena* and had reached an agreement with the Belgian Government to put up fresh money for *Sabena* in return for being released from its obligation to raise its stake in the Belgian airline to 85 per cent.

The Executive Committee of the Arab Air Carriers Organization (AACO) decided in October 2000 to launch a marketing alliance between the Arab airlines on the basis of exchanging cross-feeding on some long- and medium-haul routes that are covered by some members of the alliance and not by others. Moreover, the Executive Committee has called upon all AACO members, which total 20 airlines, to join the nucleus of this alliance established by the heads of *Saudia, EgyptAir, Royal Jordanian, Middle East Airlines* and *Royal Air Maroc*. The Committee also decided to open dialogues with the major strategic alliances around the world to explore areas of common interest and possible future cooperation. [6]

The consolidation currently taking place in the aviation industry on an unprecedented scale, particularly in the United States, has thrown the process of international alliance-building back into confusion just as the nascent groupings appeared to have settled down into a stable pattern.

4.3. Reaching the customer

Reaching the customer should be the main objective of airline managers, but both in the United States and in Europe, airlines have been the target of criticism from their passengers. Airlines in the United States have been operating under a minimalist service philosophy for a number of years in response to passengers' desire to fly as cheaply as possible. While impressive resources have been ploughed into making operations as efficient and safe as possible, most investments on the passenger side have been focused on getting travellers to chip in to the efficiency effort by doing some of the work for themselves, or enticing the high-profit, high-mileage passenger to stick with a particular airline.

Industry critics argue that airlines have not done enough to provide sufficient surplus resources to deal with the abnormal operations that aviation is exceedingly prone to experiencing. Too often they assume that worker overtime is a good way to complete schedules all of the time. When the weather is really bad or labour negotiations reduce worker enthusiasm for overtime, passengers suffer because airline recovery strategies and passenger information efforts are minimal. All this is a result of tight control of resources in the pursuit of "shareholder value". In an effort to remedy the situation, Air Transport

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[6] Arab Air Carriers Organization (AACO): Press release, Oct. 2000.

Association (ATA) carriers in the United States adopted the Airline Customer Service Commitment, also in a bid to prevent new legislative measures by Congress. [7]

A study by the inspector-general of the Department of Transportation (DOT), however, revealed that the airlines are still not doing enough to address the public's No. 1 complaint: the absence of straight talk about flight delays and cancellations. In 21 per cent of the 550 delays observed in the investigation, the information boards indicated that the flights were on time when in fact they were actually delayed more than 20 minutes. At the gates, airlines made flight status announcements 66 per cent of the time but the announcements were accurate only 57 per cent of the time. [8]

In a renewed effort to stave off passenger bill-of-rights legislation introduced in Congress following the DOT report, 14 United States airlines announced that they had incorporated 12 customer service commitments into their contracts of carriage. The airlines argued that voluntary industry action was a better approach than a one-size-fits-all legislative solution. [9]

European airlines have also recognized the need to improve both internal and external communications efforts in the face of rising public concern about flight delays, environmental issues, labour unrest and high-profile accidents. The growing discrepancy between the airline industry's marketing-driven image of efficiency and comfort and actual reality is creating a lack of confidence in air transportation.

Recently, the European Commission succeeded in convincing Europe's airlines to sign a voluntary code of practice under which airlines will commit themselves to: undertake to offer the lowest fare available; not raise fares after the contract has been concluded; allow travellers to hold a telephone reservation for 24 hours, without a cancellation penalty, so they can shop around for a better deal; provide better information in such areas as delays and which airline is actually operating the flight; provide refreshments for passengers delayed for more than two hours; improve assistance in tracking down lost luggage; ensure quicker refunds on tickets; and call for volunteers if a flight is oversold rather than unilaterally deciding which passengers to "bump". [10]

A new development in the airline industry may be the birth of a new kind of airline service, in which the perks and frills extend beyond free alcohol and personal space to include the choice of when and where the aircraft flies. Targeting a small and high-paying group of travellers is not a new airline strategy, but what is new is to take the service out of the standard airline flow, as *United Airlines* and *British Airways* are proposing. Conventional carriers, such as *British Airways*, *Virgin Atlantic* and *United Airlines*, are starting corporate jet services for "premium" passengers and single-class business only airlines, such as *Blue Fox*, are "segmenting" the market for business air travel, both short- and long-haul.

British Airways has teamed up with *Air Partner*, Europe's largest charter broker, to form *Business Jets*, a service that lets *BA* passengers hire a plane – from turbo-prop to

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[7] J. Donoghue: "Rethinking service", in *Air Transport World* (Cleveland), Aug. 2000.

[8] *International Herald Tribune* online: "Manners for airlines", 23 Feb. 2001.

[9] ATWOnline: "US airline chiefs promise to do better (gain)", 8 June 2001.

[10] M. Odell: "Charter may flounder", in *Financial Times*, 11 May, 2001. B. Webster: "Air passengers' charter offers diluted benefits", in *The Times* online, 11 May 2001.

high-end jet – for a day or more at a fixed price, and earn frequent-flyer miles. Travellers can connect directly from any *BA* flight onto a private aircraft at two hours' notice. *Virgin Atlantic* is exploring a different strategy by offering jet services between London and New York, Washington, DC, and Los Angeles and Dubai, using aircraft with up to 20 seats. [11]

United Airlines has placed billions of dollars of orders for a fleet of corporate jets for its subsidiary *United Bizjet Holdings* – the first move by a leading commercial airline into business aviation. It plans to start operations in the United States by targeting corporations with its own fractional ownership programme, a time-share concept that greatly reduces the cost of owning a jet, but also intends to expand this later into corporate shuttle and charter services. The company estimates that there are 75,000 United States businesses that could support part-ownership of a jet but only 4,000 have signed up with incumbents so far. [12]

It is a response to the threat posed by the fractional ownership of business jets. Time-share ownership and use of business aircraft grew from 26 airplanes in 1995 to 455 at the end of 2000, with another 140 to be added in 2001. One of the biggest operators in this sector, *Executive Jet*, presently manages 338 jets – although not all in fractional plans – with 440 more on order. In the last five years, *Executive Jet* has ordered more than 800 new aircraft for the *NetJets* fractional programme and accepts delivery of between six and eight new jets each month. This explosive growth is driven completely by passenger demand for timely service to specific destinations at a level of comfort and convenience difficult to achieve in most airline operations. [13]

Clearly, no mass transportation system can cater to all of the needs of all of the passengers, and to the extent that this new breed of animal can satisfy special needs it can be seen as a natural growth of the mass system, a complement. In addition, when operating at off-peak times and between little-served points, it is a net benefit to the rest of the system, turning what would be multi-stop, multi-hub connecting trips into efficient point-to-point service, freeing up seats for others.

The airline business seems to be on the threshold of several developments that will segment the system by aircraft rather than seat row. *Boeing's* high-speed project presents the potential to segment by speed. The fractionals segment by convenience and comfort. Both are high-end draws and both are signs of a mature industry becoming increasingly sophisticated.

4.4. Managing competition

The challenges modern chief executives (CEOs), including airline CEOs, are facing are almost intractable. Boards, shareholders and Wall Street are asking unrealistic goals of their top leaders. Jeffrey Garten, dean of the Yale School of Management in the United States, sees three reasons for this: "The sheer difficulty of running a multinational company during a time of tremendous technological change, the great uncertainties of the global environment and the need for a CEO to be both a business leader and a global statesman concerned with everything from environmental protection to rules for

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[11] R. Collis: "Corporate jet services", in *International Herald Tribune* online, 25 May 2001.

[12] K. Done; M. Odell: "UAL flies into corporate jet market", in *Financial Times*, 9 June 2001.

[13] J. Donoghue: "The fractional airline", in ATWOnline, Vol. 38, No. 6, June 2001.

cyberspace." [14] The emergence of the global alliances exposes carriers to the superior performance of their partners and facilitates the process of "benchmarking". While on domestic and short-haul routes the performance of the low-cost carriers will become the benchmark to aim at; the benchmarks for employee performance and acceptable costs on long-haul operations are more likely to be the higher labour productivity of United States carriers and the lower labour costs of Asian carriers.

Product or process innovations can now be more easily translated into competitive advantage in the market-place or higher profits for shareholders, creating much stronger incentives for management to restructure their operations and cut costs. Liberalization and privatization not only open up greater possibilities for airlines to pursue different strategies, they also provide the motive for doing so.

In any industry, companies can compete on the basis of lower costs, higher quality or product innovation. In civil aviation, the choice is typically between low costs and high quality/service innovation. Increasingly, however, airlines seek to compete on all three criteria, because in a deregulated environment the process of emulation becomes more rapid, so that it is difficult for individual carriers to maintain competitive advantage solely on the basis of service quality or product innovation. [15]

Managerial programmes which aim to shape the feelings of service employees during their interaction with customers often emphasize the importance of "quality service" and "customer satisfaction" within an increasingly competitive business environment. In parts of the service sector, quality of customer service is perceived as one – if not *the* – key differentiation strategy by management. Such strategies have been identified in the airline industry, as competition for passengers increases in the context of deregulation of airline services, globalization of the airline business and the perceived ever-heightening individualized expectations of airline passengers. [16]

4.5. Leasing

In 1986, approximately 60 per cent of the airlines leased some or all of their aircraft, but now the figure is closer to 85 per cent. The current leasing level shows that airlines, including some of the strongest globally, use a hybrid of different types of financing, including at least some leased aircraft. The prime motivation for this is the need to provide sufficient operational flexibility in an increasingly competitive environment.

In order to determine the correct balance of owned and leased aircraft, airlines need to take into account the structural factors in the industry as well as financial, operational and strategic considerations. The structure of the industry has become less stable than in the past because of the erosion of regulatory stability, of national ownership of airlines and of government financial support for them.

During the economic turmoil in Asia, airlines employed sale and leaseback strategies in an effort to adjust the proportion of leased and owned aircraft for the purpose of

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[14] M. Skapinker: "Under pressure", in *Financial Times*, 31 May 2001.

[15] P. Blyton et al.: *Contesting globalisation: Airline restructuring, labour flexibility and trade union strategies* (London), ITF, 1998, pp. 10-11.

[16] S. Taylor; M. Tyler: "Emotional labour and sexual difference in the airline industry", in *Work, Employment & Society* (Cambridge), Vol. 14, No. 1, Mar. 2000, pp. 77-95.

establishing greater fleet flexibility, as well as to improve profits, generate cash and reduce financial leverage.

According to an industry expert, it seemed a natural division of labour for airlines to outsource aircraft residual value risk to specialist industry players, including operating lessors. This was because lessors could manage risk more efficiently by holding diversified portfolios of different aircraft types on lease to many different airlines throughout the globe. [17]

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[17] *Orient Aviation* online: "A delicate balancing act", Nov. 2000.

5. Implications for personnel

The restructuring of the civil aviation industry has consequences for the workers in that industry. The drive of airlines is to cut costs, including labour costs, and to demand higher productivity and improved service quality from the workforce. These strategies have important implications for trade unions and industrial relations, as decentralization invariably creates fragmentation, detachment involves shifting responsibility for employment and industrial relations to an external supplier, and disintegration can create a two-tier workforce, typically with inferior terms and conditions of employment. This chapter will look at employment and skill shortages, productivity, wages and working conditions as well as training and licensing. Gender issues and trade union alliances will also be discussed.

5.1. Employment

Employment of airline personnel is linked tightly to air transport output. Ninety-nine per cent of the variation in numbers of employees in the United States from 1958 to 1996 can be predicted on the basis of industry output. Over time, however, fewer employees are hired for a given amount of additional business because technological and operational progress as well as the process of work intensification allow more efficient use of both old and new employees. Like output, employment in the industry in the United States has grown almost every year since 1958. From 1958 to 1996, despite various mass lay-offs, mergers and failures, employment in the air transport industry as a whole grew from 165,000 to 847,000, a 413 per cent increase, or an average of 4.4 per cent per year.

Table 5.1.   Employment in the scheduled airline industry, United States, 1990-98
(thousands)

Occupational group	1990	1992	1993	1994	1995	1996	1997	1998
Pilots/co-pilots	47.1	51.1	52.1	52.9	55.4	57.6	60.4	64.1
Other flight personnel	8.9	8.2	8.1	7.7	8.6	8.9	10.7	11.1
Flight attendants	83.4	86.3	85.0	86.5	86.7	89.1	96.2	97.6
Mechanics	61.0	58.6	57.5	55.8	50.5	50.8	65.5	69.9
Aircraft and traffic-servicing personnel	251.2	243.1	242.8	247.2	251.1	266.5	269.6	290.1
All other	94.2	93.2	91.7	89.7	94.8	91.6	84.1	88.3
Total	**545.8**	**540.4**	**537.1**	**539.8**	**547.0**	**564.4**	**586.5**	**621.1**

Source: United States Census Bureau: *Statistical Abstract of the United States: 2000,* p. 651.

A study [1] showed that mergers in the United States airline industry only have a statistically significant direct effect on employment for flight attendants, while the combination of direct and indirect effects on employment through changes in the level of activity and earnings resulted in a significant negative impact on employment for both pilots and flight attendants. Mechanics' employment levels, on the other hand, were left relatively unscathed by mergers.

Industry employment worldwide has tended to remain stable, with just a 1 per cent increase over the last ten years, despite an average annual growth in combined passenger-kilometres flown of 7 per cent over the same period. As table 5.2 shows, whilst employment among certain occupational groups – notably pilots and cabin crew – directly employed by the world's airlines has increased it has declined or stagnated amongst other occupational groups (many of these jobs may have been outsourced to non-airline companies, which are excluded from IATA statistics). In the survey of affiliates of the International Transport Workers' Federation (ITF) (see table 5.3), unions representing general support services such as cleaning and catering were far more likely to report declining employment levels, as were unions with members in refuelling and servicing areas, baggage handling, and ticketing and sales. At the same time, whilst many of these jobs have been outsourced in recent years, airlines have simultaneously sought to improve the quality of "customer service" at key points of customer contact. This, combined with the growth of industry passenger traffic, accounts for the increase in cabin crew employment. [2]

Table 5.2.   **Global trends in airline employment** (annual percentage change)

Occupational group	1992	1993	1994	1995	1996	5-year average	10-year average
Pilots	3.5	-0.4	2.3	1.6	5.1	2.4	3.2
Other flight deck	-8.2	-13.5	-15.4	-6.6	-4.8	-9.8	-7.8
Cabin crew	5.2	-1.2	0.7	3.5	4.7	2.6	3.5
Maintenance	-4.7	-4.0	-3.0	1.1	0	-2.2	-0.1
Ticketing and sales	-1.9	-2.9	-0.9	0.9	4.0	-0.2	1.1
Ground handling	0.6	-3.4	0.5	1.3	-0.4	0.5	-0.4
Other	0.6	-0.7	-1.3	-0.8	-0.4	-0.5	-0.4
Total	**0.1**	**-2.3**	**-0.7**	**1.0**	**2.2**	**0**	**1.1**

Source: IATA, cited in P. Blyton et al., *Contesting globalisation ...*, op. cit., p. 14.

[1] P.-Y. Crémieux; M. Van Audenrode: "Mergers and bargaining in the airline industry", in *Labour – Review of Labour Economics and Industrial Relations* (Oxford), Vol. 10, No. 2, Summer 1996, pp. 297-318.

[2] P. Blyton et al.: *Contesting globalisation ...*, op. cit., pp. 14-15.

It has to be noted that when airlines have to adopt cost-cutting measures because of declining operational results or restructuring, reductions in the number of employees are often high on the list. These reductions are mainly achieved either through natural attrition or through early retirement plans often developed in consultation with trade unions and workers' representatives. Companies tend to avoid lay-offs as much as possible.

Table 5.3. Perceived employment change over previous five years
(percentage of replies to survey)

Occupational group	Decreased	Stable	Increased
General support	45	29	26
Refuelling and servicing	40	47	13
Ticketing and sales	36	32	32
Baggage handling	39	22	39
Maintenance	32	26	42
Management	32	36	32
Flight deck	20	40	40
Cabin crew	14	25	61

Source: Cardiff University/ITF survey 1997, cited in P. Blyton et al., *Contesting Globalisation* ..., op. cit., p. 15.

Unlike some airline groups that have experienced a decline in employment in recent years, flight and cabin crew have registered an overall increase in employment. This does not reflect the situation for flight engineers, however, who have seen a steady decline in employment as changes in flight deck operations (generalization of the two-pilot cockpit crew) have worked their way through the industry. These general industry trends reported by IATA were also reflected in the experience of European Cockpit Association (ECA) members. Two-thirds of member associations responding to a survey in 1998 reported an increase in the number of captain and first officer posts over the previous five years; in two other cases, the number of these positions was said to have decreased, and one association registered stable employment levels over the same period. [3]

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[3] Blyton et al.: *Globalisation, deregulation and flexibility on the flight deck* (Oct. 1998), pp. 6-7.

Table 5.4.   Employment levels of selected airlines, 1978-99

	1978	1985	1991	1995	1998	1999
North America						
Air Canada	20 700	22 100	19 920	20 051	19 906	Merged with Canadian
American Airlines	n.a.	43 800	88 130	83 463	82 470	90 136
Continental	12 276	13 931	34 672	30 228	37 299	40 811
Delta	34 074	39 405	71 755	66 302	69 560	72 450
United	53 801	50 051	75 050	75 634	88 097	92 625
Asia and Pacific						
Air India	12 676	17 636	17 425	n.a.	18 658	n.a.
Air New Zealand	8 717	7 020	n.a.	n.a.	n.a.	n.a.
Japan Airlines	20 689	20 711	21 451	20 218	n.a.	20 900
Pakistan International Airlines	19 433	20 201	20 968	n.a.	n.a.	17 829
Qantas	13 174	11 710	n.a.	n.a.	23 478	24 174
Singapore Airlines	8 699	10 208	11 668	n.a.	17 686	17 536
Thai Airways	5 240	10 250	17 715	21 541	24 222	24 138
Europe						
Alitalia	16 936	18 301	n.a.	17 636	n.a.	n.a.
Air France	31 983	34 990	39 469	36 181	48 921	52 721
British Airways	55 438	36 861	47 603	51 689	55 751	55 237
Iberia	21 811	22 862	29 321	23 617	23 966	26 936
KLM	17 929	19 966	n.a.	n.a.	n.a.	28 635
Lufthansa	29 400	n.a.	49 641	27 010	25 360	26 925
Sabena	10 112	n.a.	n.a.	n.a.	n.a.	12 717
SAS	16 571	19 489	21 037	17 648	20 713	21 488
Swissair	14 777	17 262	19 302	n.a.	n.a.	n.a.
Other regions						
Aerolineas Argentinas	8 258	10 340	n.a.	5 488	5 384	5 489
LANChile	3 087	851	1 974	n.a.	4 975	n.a.
Mexicana	8 047	12 986	11 168	6 499	6 354	6 345
Varig	15 612	18 722	26 236	19 541	18 014	15 852

Source: ICAO fleet and personnel statistics.

Table 5.5.   Employee/aircraft ratio (personnel per aircraft), selected airlines

	Fleet	Total personnel per aircraft	Aircraft technicians	Pilots to co-pilots	Flight technicians	Cabin crew	Ticket sales personnel	Ground handling	Managerial staff
United	594	168.21	26.87	16.18	1.48	39.73	17.45	47.61	18.89
American	697	129.32	21.04	12.89	0.78	30.30	24.81	20.54	18.96
Delta	584	124.06	14.11	13.82	0.17	29.49	15.80	23.29	27.38
Northwest	423	124.20	25.45	14.54	n.a.	24.98	11.05	41.17	7.00
British Airways	283	197.54	28.67	11.97	0.60	52.39	21.00	43.50	39.41
Air France	234	225.30	39.88	13.38	1.26	42.57	53.21	56.36	18.64
Lufthansa	240	151.43	41.45	16.10	0.81	49.20	23.44	40.41	21.47
Qantas	100	241.74	53.59	18.59	0.80	58.04	36.44	63.64	10.59
Iberia	172	156.60	25.45	10.38	1.28	24.98	17.18	60.22	17.12
Continental	370	124.57	10.73	12.09	n.a	22.22	19.31	35.65	24.56
Swissair	73	241.48	44.40	15.88	0.47	52.01	38.26	57.05	33.41
Japan Airlines	138	137.49	29.08	15.58	4.19	51.64	17.28	15.34	4.38
Aeromexico	95	72.06	n.a.	8.47	n.a.	15.19	n.a.	n.a.	48.40
Varig	80	198.15	48.55	15.70	0.88	36.78	37.53	37.89	20.84
International Average		**150.99**	**24.95**	**13.89**	**0.77**	**34.96**	**21.43**	**36.26**	**21.17**
Aerolineas Argentinas	44	124.75	21.84	11.61	1.80	28.64	25.11	20.84	14.91
Austral	11	102.45	25.09	9.64	n.a.	18.09	37.00	n.a.	12.64
AA/AU Average		**120.29**	**22.49**	**11.20**	**1.44**	**26.52**	**27.49**	**16.67**	**14.45**

Source: IATA, cited in Asociación del Personal Técnico Aeronáutico de la República Argentina (APTA): *Aerolineas Argentinas, Austral: ¿Destino final?* (Buenos Aires), p. 25.

5.2. Skill shortages

Airlines in many parts of the world are having great difficulties in recruiting the necessary staff, including pilots, cabin crew staff and mechanics. [4] In the United States, the present shortage of pilots – not a new problem – started around 1997. The post-1997 hiring frenzy had several components, the surging post-1993 economy being the most important. The wave of retiring Jet Boom hires (1965-68) began to crest (thanks to the "age 60" retirement rule for pilots) just when deregulation spurred the growth of "new entrant" and commuter airlines. Amazing job growth throughout the economy siphoned off people who might otherwise have chosen flying careers. Military downsizing, which began in the late 1980s and accelerated after the Gulf War, repeated the post-Korean War pattern of reduced pilot production. The military further increased obligated-service requirements for flight training, while private civilian flight training became almost prohibitively expensive. Industry turmoil in the 1980s, wage "give backs" and nasty intramural merger fights among pilot groups disillusioned many veteran pilots, who retired early. [5]

In the United States, concerns over the shortage of commercial pilots have led to a renewed congressional debate over extending the mandatory retirement age for commercial airline pilots from 60 to 63, authorizing the Federal Aviation Administration (FAA) to mandate medical and cognitive testing for the pilots concerned. The Federal Aviation Regulations (FAR) (14 CFR § 121.383(c)) prohibit any air carrier from using the services of any person as a pilot, and prohibit any person from serving as a pilot, on an airplane engaged in operations under Part 121 of the FAR if that person has reached his or her 60th birthday. The "age 60 rule" was adopted in 1959. [6] According to the FAA, scrapping of the age 60 rule is unlikely to enhance safety regardless of medical findings, a view shared by the Air Line Pilots Association (ALPA) and the Allied Pilots Association (APA) – the two largest pilot labour groups in the United States. [7]

In Europe, there also is a severe shortage of pilots, largely as a result of the increase in the number of flights. The difficulty in finding new recruits is basically due to the cost of training. Until a few years ago, future pilots could follow part of their training in the United States or Canada, where costs were less prohibitive. Since the introduction in 1999 of new directives on training criteria, this practice has become extremely difficult. Furthermore, in Europe there are only a few financial assistance schemes for training and too few airlines offer financial facilities, although some companies offer loans to future pilots. But the cost of training is not the only reason why young people are less interested in a career as pilot. It is also because of the growing gap between the cost of training – on the increase – and salaries, which are decreasing as a result of falling ticket prices. Major European companies are now looking for recruits in countries such as Canada, Australia

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[4] J.-C. Ferrier: "Air France en piste pour faire redécoller ses Concorde", in *La Tribune de Genève*, 26 Mar. 2001.

[5] G. Hopkins: "A short history of pilot shortages", in *Air Line Pilot* (Herndon, Virginia), Feb. 2001, p. 18.

[6] D. Broach: *Pilot age and accident rates* (Oklahoma City, Oklahoma, Federal Aviation Administration, Civil Aeromedical Institute).

[7] "'Age 60' debate heats up", in *Business & Commercial Aviation* (New York), Vol. 88, No. 4, 20 Apr. 2001.

and South Africa. [8] Some of the low-cost airlines are recruiting pilots from Turkey, Bosnia and Herzegovina and Yugoslavia. One company is taking Yugoslavian pilots (who are being given Irish license validations and work permits) and basing them in the United Kingdom. In effect, companies like this are exploiting European Union labour laws, where national legislation has yet to catch up. [9] *EasyJet*, the fast-growing low-fare carrier based in the United Kingdom, is scouring the world for pilots, offering sign-on fees of US$43,000. [10]

In Switzerland air traffic management was commercialized in the mid-1990s. As part of cost-cutting measures, there has been a reduction in the recruitment and training of new technical staff. At present, there is a 20 per cent shortage of air traffic controllers in Switzerland, which now recruits trained controllers from abroad. In addition, between now and 2007, one-third of the controllers of the "baby boom" generation will retire. Europe, as a whole, has a 12 to 15 per cent shortage of air traffic controllers. [11] A survey carried out by the International Federation of Air Traffic Controllers' Associations (IFATCA) in 2000, revealed that many air traffic service providers were understaffed. Those with adequate staffing levels were located in Bulgaria, Cyprus, Czech Republic, France, Ireland, Sweden and United Kingdom.

In the United States, along with ageing aircraft and air traffic equipment, the nation's aviation system will soon face the problem of ageing air traffic controllers, who will be eligible to retire en masse in the next few years. Like the baby boom cohort, many of the country's 15,000 controllers are getting old at the same time. This is largely an aftershock of the controllers' strike in 1981, which ended when President Reagan fired 11,350 of them. The replacements, many young military veterans, become eligible for retirement if they have 20 years' service by the time they are 50. Many will reach that milestone this summer. Veteran controllers who were hired before 1972 face no legal limit on how long they can work; they can stay on the intense and demanding job as long as they like. Congress changed the rules in 1972 to require controllers to retire at age 56. Thus, those hired after the 1981 strike who do not retire when they are eligible to do so will have to soon anyway. Because so many young people came into the system in the years immediately after the strike, the Washington Air Traffic Control Center hired only a few hundred annually throughout most of the 1990s. Agency officials acknowledged that they would have to quadruple the hiring rates of recent years. One complication is the nature of the training, much of which is dispensed on the job with close, labour-intensive supervision. [12]

Faced with the fierce competition for skilled employees, human resources departments have developed new approaches to recruitment, using marketing techniques such as "employer branding". According to its most basic definition, employer branding markets the company as a place where people want to work, attempting to persuade potential employees that they will feel more satisfied and fulfilled in company X than in a competitor.

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[8] C. Dubouloz: "Les compagnies aériennes souffrent d'une grave pénurie de personnel", in *Le Temps*, 2 Mar. 2001.

[9] C. Dodd: "Rewriting the 'Rules of Engagement'", in *Air Line Pilot*, May 2000, p. 10.

[10] *The Economist*: "A crunch in the cockpit", 12 May 2001.

[11] M. Piaget: "L'avenir des aiguilleurs du ciel se discute à Genève", in *Le Temps*, 23 Mar. 2001.

[12] M. Wald: "Growing old at air traffic control", in *New York Times* (New York), 3 Apr. 2001.

5.3. Training and licensing

Tomorrow's employer will need to provide adequate opportunities for workers to acquire new skills if they are going to be in a position to keep up with the pace of change and take full advantage of future employment opportunities. The airline industry has always devoted substantial resources to training, largely owing to the nature of the industry and as an essential means to meet the technical and safety standards dictated by external regulatory authorities. Much of this training was (and remains) occupation-specific. Pilots have licences and many hours of flying experience before they join the major airlines and they receive further training upon their recruitment. Considerable training in safety, interpersonal skills and personal presentation is given to flight attendants. On the ground, maintenance engineers often come through a comprehensive system of apprenticeship in which on-the-job training is combined with off-the-job instruction.

The quality of aviation training, however, remains an area in which improvements need to be made because of lack of consistency in levels of competence. While training methodologies and technologies have changed tremendously over the past 50 years, licensing requirements are still very similar to what they were in the mid-1940s. The basis for training flight crew members is typically a combination of the licensing requirements

and the training programmes developed by the airframe manufacturers and specialized training organizations.

Most licensing regulations essentially provide inventories of required knowledge, skill and experience requirements, but do not indicate how well a flight crew member must perform the skills required in order to be considered qualified. When no explicit standards of performance exist, the determination of an acceptable level of competence is left to the individual judgement of the examiner. It is therefore not surprising to see significant variations in the competence of flight crews.

ICAO Annex 1, *Personnel licensing*, identifies the standards and recommended practices (SARPs) for the licensing of flight crew, air traffic controllers and maintenance engineers and has served as the benchmark for national licensing regimes since it was established in 1944. Although much has changed in the operational realities of piloting, there has been little change in the minimum standards recommended by ICAO. A new set of specifications is required to provide transition from training to air transport operations. There is a need for new curriculum initiatives which assume no prior operational experience but are designed to inculcate the knowledge and performance required for operating as part of a crew, following air transport standard operating procedures in the context of a high-speed jet environment.

The Civil Aviation Authority (CAA) and Massey University in New Zealand have agreed to a research and development programme which may become the model for a future new basic air transport pilot licence in that country. The programme would provide students with an equivalent flight experience of 248 hours (in contrast to the 150-hour training programme requirement contained in ICAO Annex 1). Although the curriculum is prescribed in competency terms and will call for measuring student performance rather than prescribing the minimum flight hours, for comparative purposes it is expected that the course will reflect 159 hours of single-engine operation, 50 hours of multi-engine time and 39 hours of airline transitional experience. Approximately 34 per cent of this flight experience will be acquired through flight training devices and flight simulation. [13]

For *South African Airlines (SAA)* high-quality training and development programmes for managers, aircraft crews and ground staff have been instrumental in turning its fortunes around. Employee incentive schemes have been introduced, including fast-tracking for high-calibre staff. Opportunities have been opened up for women and for people from all ethnic backgrounds. *SAA* offers one of the most extensive and valued pilot training schemes in the industry. [14]

Air traffic control (ATC) controls aircraft arriving at and departing from a range of airports. Acting as the mainstay of ATC's operations are two types of controller. Area controllers work at area stations and are responsible for en-route traffic or aircraft descending to or ascending from congested airspace. Airport controllers operate the tower, in which they manage take-off, landing and aircraft movement, as well as radar approach to control aircraft at 40 miles from landing. Controllers achieve ratings in area and/or airfield disciplines at air traffic control colleges. However, they are also required to be confirmed as competent by the unit at which they work. On transfer the controller must "validate" by undertaking lengthy on-the-job training overseen by validated and trainer-

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[13] G. Hunt: "System of regulating aircrew licensing in need of surveillance-based approach", in *ICAO Journal*, Vol. 55, No. 8, Oct. 2000, pp. 18-20, 27.

[14] S. MacKenzie: "Bok-ing clever lifts airline out of trouble", in *Lloyd's List* (London), 21 Apr. 2001.

accredited controllers, and pass an oral and practical examination. Failing to validate at a unit may result in transfer to another unit and in some cases dismissal. [15]

In Africa, many air navigation service providers (ANSPs) have unfortunately tended to invest in equipment but have hardly paid attention to the training needs of the human beings who must operate the equipment. ICAO has established minimum standards for approved ATC training to ensure efficient operations and uniformity of practices. It has approved institutions in several African countries, but the total capacity of these ICAO-recommended ATC training institutions is less than 30 per cent of the total training requirements of Africa. Many ANSPs in Africa are compelled to send their student controllers to foreign ATC training institutions, especially those in Europe, for training. However, since there is a global shortage of air traffic controllers, most of the ATC training institutions outside Africa are fully booked to train their own nationals to meet local needs. In addition, training fees keep increasing as a result of growing demand. [16]

The Eighth Global Trainair Conference and Training Symposium (held in Madrid in September 2000) discussed an all-important issue at a critical point in aviation history: how to harness global cooperation to address the training challenges of the twenty-first century. The lack of properly qualified and trained human resources is the greatest impediment to the implementation of regional air navigation plans and similar organizational and operational structures. This weakness can severely impact on the safety and efficiency of civil aviation. The answer lies in setting up national training centres to meet the specific needs of States, and in the development of regional capabilities in specialized, comprehensive training that States cannot justify on the basis of their national human resources needs alone. [17]

ICAO convened the first in a series of global symposia on flight safety and human factors in 1990. This was followed by a series of meetings over the past decade to increase the awareness of States, industry and organizations about the importance of human factors. The ICAO flight safety and human factors programme, which was recently extended for a five-year period to the end of 2004, will continue to develop countermeasures to human error in flight operations, seek to understand the effect of cross-cultural issues on safety and work to improve the human-technology interface. The range of activities of the new plan of action is intended to support the development of safety strategies such as human factors data safety analysis and identification of safety markers. The focus is on the prevention of controlled flight into terrain (CFIT) accidents, including those that occur during approach and landing, and the safe deployment of technology related to the new communications, navigation, surveillance and air traffic management (CNS/ATM) systems. Until now, ICAO human factors endeavours were primarily concerned with the flight deck, but in the extended programme there will be new emphasis on the ground

[15] J. Hallier; P. James: "Management enforced job change and employee perceptions of the psychological contract", in *Employee Relations* (Bradford), Vol. 19, No. 3, 1997, pp. 222-247.

[16] A. Taylor: "Controller training problems in Africa", in *The Controller* (Geneva, IFATCA), Vol. 40, No. 1, Mar. 2001, pp. 18-23.

[17] A. Kotaite: "Training challenges of the 21st century best solved through global cooperation", in *ICAO Journal*, Vol. 55, No. 8, Oct. 2000, pp. 5-6.

component of the CNS/ATM systems, maintenance and ramp operations, cabin safety and civil aviation security. [18]

The European Organisation for the Safety of Air Navigation (EUROCONTROL) has developed a human factors programme which provides training in teamwork for ATC staff. The course parallels similar training which has been provided to flight crews and other airline personnel. The European Air Traffic Management Programme (EATMP) human factors integration programme concentrates on the development of harmonized and integrated human factors methodology for current and future air traffic management. The main objective is to develop and apply human factors principles and methods for maximizing human performance and making the best use of evolving technology. [19]

5.4. Productivity

Labour productivity, which is highly relevant to the rate of job growth had already been increasing impressively before deregulation: larger and faster aircraft made greater productivity on the part of flight crews possible. After 1978, the causes of increasing productivity changed, as management developed responses to the newly competitive environment. In earlier years, the expanding capacity of the average airliner allowed more passengers to be transported by a flight crew, aided by a dispatcher and other ground personnel whose efforts also became more efficient as the airliner grew. But in the new competitive market, the average capacity of a passenger aircraft (in seats) levelled off, then dropped by 14 per cent from 1986 to 1996. When a price war strained airline budgets soon after deregulation, massive lay-offs by certain major airlines, reduced pay and renegotiated work rules were used to cut costs. Reservation systems were computerized and shared among airlines, reducing the manual workload entailed in reservations. In the United States, productivity per worker has shown almost continuous improvement since 1947, increasing every year except 1980, 1981, and 1988 to 1991 (mostly years of recession, when reduced business activity in general worked against load factors).

Table 5.6.   Annual indices of output per employee per hour for
air transportation, United States, 1988-98

Year	Index (1987 = 100)	Year	Index (1987 = 100)
1988	99.5	1994	105.7
1989	95.8	1995	108.6
1990	92.9	1996	111.1
1991	92.5	1997	111.6
1992	96.9	1998	108.5
1993	100.2		

Source: Bureau of Labor Statistics: *Monthly Labor Review* (Washington, DC), Dec. 2000, p. 96.

[18] D. Maurino: "ICAO human factors programme expands scope beyond the flight deck and ATC facility", in *ICAO Journal*, Vol. 55, No. 1, Jan./Feb. 2000, pp. 15-16, 29.

[19] European Organisation for the Safety of Air Navigation: "New concept in human factors training develops controllers' skill at efficient teamwork", in *ICAO Journal*, Vol. 54, No. 5, June 1999, pp. 15-17, 26.

The European Commission stated that during the period 1990-96, the ten major European airlines had, on average, registered an increase of 53 per cent in productivity per worker and a decrease in operating costs of 13 per cent per production unit. However, the productivity in the ten major United States companies remains higher, hence the need to continue restructuring efforts. [20]

Because corporatized ANS providers are forced to concentrate on improving the efficiency of their operations, new methods of working have been introduced, in agreement with the staff and unions, which have led to efficiency gains through a combination of better working practices and voluntary staff reductions. From the staff point of view, release from the civil service has often meant that salaries have increased significantly. From the customer's point of view, efficiency gains have led to reduced charges and improved levels of service. [21]

Box 5.2.

Money for peace

The working conditions [in the Deutsche Flugsicherung GmbH (DFS)] changed inasmuch as salaries almost doubled for some of the younger controllers and, at least, increased noticeably even for those who were approaching retirement, with that being transferred in full to the company pension as a bonus for decades of faithful, underpaid commitment. Also, in some places we even have modern, although not necessarily state-of-the-art, equipment. So much for the positive changes. Where that sort of money was sufficient to buy the staff commitment to the new company, it was also deemed to be worth a few hours of extra working time, namely a reduction of the relief time we should be entitled to. This proved to be a hard sacrifice, given that the ensuing reduction of operational staff ate up all the leeway that we used to have, and that had granted controllers generous relief periods to that date.

Source: Klaus Berchtold, German Air Traffic Controllers' Association (VDF), in *The Controller*, 4/2000.

Despite the overall increase in the number of captains and first officer posts, this has not been sufficient to prevent adverse effects from restructuring on working time and work intensity. European Cockpit Association (ECA) member organizations surveyed were more likely to report a negative impact on hours of work of their members compared to other unions in the airline industry, many of which noted the negative impact of restructuring on work intensity. [22]

5.5. Wages and working conditions

There are considerable differences in wages and working conditions between employees working for major airlines and those employed by regional airlines. Pilots' unions within the major carriers are keen to limit the amount of core mainline services which are being handed over to the regional airlines, with their lower pay rates. Most regional airlines in the United States are affiliated to or owned by big long-distance airlines, whose pilots have in many cases won "scope clauses" in their contracts. These ban the big airlines from working with regional carriers that fly planes of 70 seats or more, and

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[20] Economic and Social Committee of the European Communities: "Transports aériens – défis mondiaux", CES 657/99, 13 Jan. 2000, p. 3.

[21] D. McLauchlan: "The advantages of corporatisation", in *Corporatisation of air navigation services* (Geneva, CANSO, 1999), p. 8.

[22] Blyton et al., *Globalization …*, op. cit., p. 7.

are designed to prevent pilots of big planes from being undercut by lower-paid regional jet (RJ) pilots. [23]

Delta Air Lines and its pilots have apparently set the standard for how many 70-seaters will be flown by the regional pilots of *Atlantic Southeast Airlines* and *Comair*. In April 2001, *Delta* and the ALPA, which represents *Delta's* 9,800 pilots, signed a tentative five-year contract limiting the number of 70-seat RJs *Delta's* regionals can fly to 57, the exact number it has on firm order. To exceed the 57 aircraft limit, *Delta* must order three mainline jets for every RJ.

The ALPA-represented pilots of *United Airlines* and *US Airways* have liberalized their scope provisions to allow their carriers to buy more 50-seat RJs. *United's* pilot accord signed in the summer of 2000 allows the *United Express* carriers to add up to 390 50-seat RJs. Of that number, 150 aircraft can be turboprop replacements. At *US Airways*, mainline pilots amended their contract in April 2000 to allow *US Airways Express* partners to operate 35 additional RJs or up to 9 per cent of the total mainline fleet. Neither pilot group allows regional airlines to fly 70-seat aircraft and above.

At *American Airlines*, the pilots failed to ratify an extension of their contract in 2000, which would have strengthened the scope clause by allowing only mainline pilots to fly any RJs above 50 seats. ALPA President Captain Duane Woerth has said repeatedly that the scope clause pertaining specifically to 70 to 90-seat RJ flying will remain an important issue at all ALPA-represented airlines. [24]

One of the main causes of the strike at Comair (United States) was to break the two-class system that separates regional and mainline pilots. Pilots from *Comair* and fellow *Delta* affiliate *Atlantic Southeast Airlines* (*ASA)* established a group called the RJ Defense Coalition, which filed a lawsuit against the ALPA – the collective bargaining representative of *Delta, Comair* and *ASA* pilots. The lawsuit seeks some US$100 million in damages and charges ALPA with breach of fair representation and fiduciary duties. Formed after ALPA refused to support a proposed merger of the three airlines' seniority lists last summer, the group claims that ALPA's obligation to negotiate and enforce a scope clause on behalf of *Delta* pilots while simultaneously attempting to defend the interests of regional crews represents an irreconcilable conflict of interest. According to a Coalition statement, "If you are fortunate enough to fly an aircraft with more than 70 seats your employment rights are to be protected; if not, they are to be restricted".

ALPA President Duane Woerth, however, denied the existence of a conflict of interest. "Our view is that every aircraft, whether it be a 50-seater, a 70-seater, a 100-seater or 150-seater, carries a cost rationale that can be supported and should be more consistent across the entire industry. So whether a *Delta* pilot is flying the airplane or a *Comair* pilot is flying it, we think that the job carries a certain value. If there's no longer an incentive for management to move flying [to regional carriers], then we'll stop having all these huge issues." [25]

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[23] *The Economist*: "Regional jets: Small is beautiful", 17 Mar. 2001, p. 72.

[24] R. Moorman: "Regionals looking more like their major partners", in *Aviation Week & Space Technology* (New York), 30 Apr. 2001.

[25] G. Polek: "RJ pilot lawsuit targets ALPA", in *Aviation International News* Online, 28 Mar. 2001, http://www.ainonline.com. See also: J. Ott: "Picketing ALPA President attacks two-class pilot system", in *Aviation Now*, 27 Mar. 2001, http://www.aviationnow.com.

In Europe scope clauses are rarer, but the major carriers still have to tread carefully as they set about handing more mainstream routes to regional affiliates. And even if the unions were to agree, there is a question about how far the majors would be prepared to hand stronger routes and larger aircraft to independent regional affiliates. [26]

The transformation of the airline labour market continued long after deregulation. Airline wages in the United States changed little immediately following deregulation, implying either the absence of regulatory rents or the maintenance of product market power and union strength. Analysis for the period 1973-97, however, indicates that prior to recent gains, the relative earnings of air transport workers decreased markedly during the latter half of the 1980s and the early 1990s. Some of the earnings advantage of airline workers represents returns to occupational skills and worker-specific quality. Labour rents are attributable largely to union bargaining power, which, in turn, is constrained by the financial health of the carriers.

The abovementioned study on mergers and bargaining in the United States airline industry [27] shows that mergers have a direct, negative, and significant impact on earnings for flight attendants, and to a lesser extent mechanics, but no direct effect on pilots' earnings. Mergers and acquisitions can have four types of effects on earnings. First, they disrupt normal bargaining relations between workers and management. Second, the increased power gained by firms following a merger can affect workers' ability to extract rents. Third, airline mergers can decrease the amount of rents available to workers through the commitment of assets for the merger. Last, but not least, mergers increase the firm's market share, thereby enhancing its monopoly power and raising the amount of rents available for its workers to capture. The four effects will have competing impacts on employees' ability to extract rent or benefit from gift exchange-type agreements. The empirical results show that increased concentration in the labour market, reduced rents due to the commitment of large assets to a merger, and the breakdown of normal bargaining relations outweighed the increased available rents resulting from greater monopoly power for flight attendants, but the factors balanced each other in the case of pilots and mechanics, leaving their earnings virtually unchanged. The combination of limited bargaining power and the absence of similarly paid opportunities outside the industry probably explains flight attendants' difficulties following mergers. On the contrary, pilots, who wield significant power at the bargaining table, and mechanics, who enjoy similarly paid opportunities outside the industry, lose little in terms of earnings after mergers.

For many airline groups, a relative or absolute deterioration in pay in recent years has stemmed from nominal wage reductions or pay freezes. In the ECA survey, around half the respondents reported wage decreases or freezes during the previous five years, whilst two associations had also experienced the withdrawal of cost-of-living agreements or allowances. At the same time, over the same period five associations reported real increases in wage levels among their members. Also significant in some airlines has been the introduction of two-tier wage systems, with lower starting levels and slower wage progression for those entering the occupation. [28]

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[26] K. O'Toole: "A regional revolution", in *ICAO 2000* (Montreal, ICAO, 2000), p. 71.

[27] Crémieux and Van Audenrode, op. cit.

[28] Blyton et al., *Globalization* ..., op. cit., p. 9.

Table 5.7.   Wages and salaries as a percentage of operational costs, selected airlines

	Wages and salaries and related costs (thousands of US$)	Operational costs (millions of US$)	Wages and salaries as % of operational costs
United	5 670 000	16 636	34.08
American	5 763 000	16 574	34.77
Delta	4 993 000	13 695	36.46
Northwest	3 393 000	9 562	35.48
British Airways	2 909 244	14 169	20.53
Air France	2 779 275	9 577	29.02
Lufthansa	2 690 099	11 830	22.74
Singapore	1 799 500	4 297	41.88
Qantas	2 206 000	5 120	43.09
Iberia	1 112 575	3 820	29.13
Southwest	1 455 237	3 954	36.80
Continental	2 510 000	8 039	31.22
Swissair	2 149 779	7 713	27.87
Average			**32.54**
Aerolineas Argentinas	168 573	948	17.77
Austral	43 496	163	26.66

Source: IATA, Air Transport World 7/2000, cited in APTA, op. cit., p. 23.

Figure 5.1.   Average gross wage per flying hour for pilots of selected European airlines, 2000 (in Swiss francs)
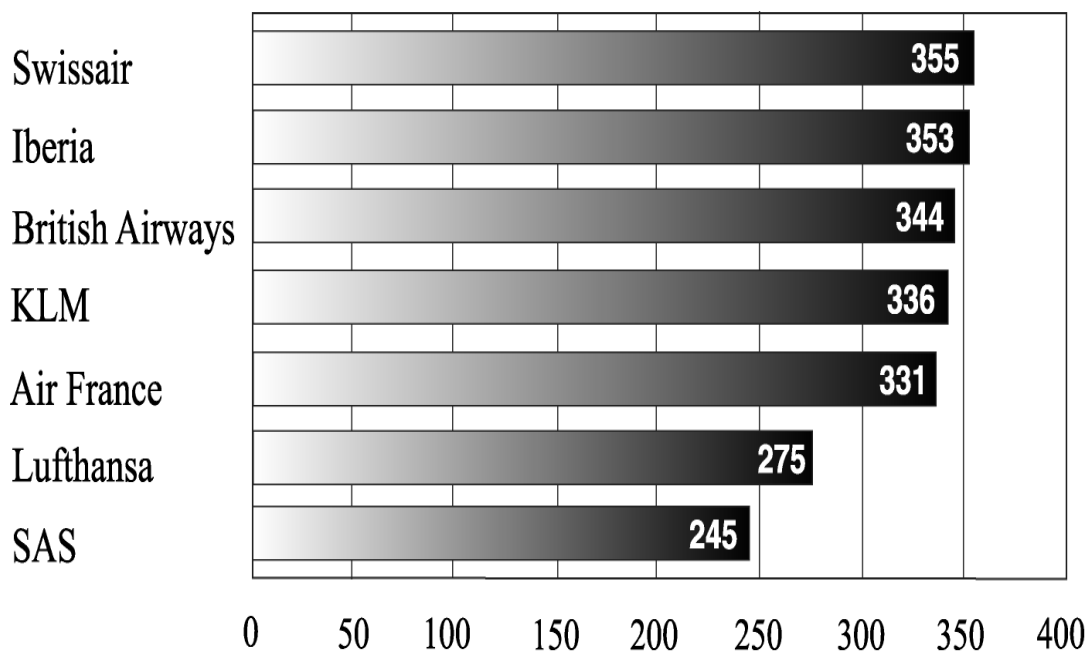
Source: F. Artigot: "Les pilotes de Swissair sont les mieux payés de toutes les compagnies aériennes d'Europe, in *Le Temps,* 19 June 2001.

Table 5.8.   Perceived impact of global restructuring on the experience of work
(percentage of replies to survey)

	Negative impact	No impact	Positive impact
Work intensity	78	20	2
Job security	70	21	9
Job satisfaction	69	26	5
Management-labour relations	68	22	10
Earnings	56	31	13
Hours of work	54	39	7
Careers	44	44	12
Health and safety	37	43	20
Pensions	24	62	14

Source: Cardiff University/ITF survey 1997, cited in Blyton et al., *Contesting globalisation* ..., op. cit., p. 16.

Table 5.9.   Perceived impact of European restructuring on pilots' experience of work
(percentage of replies to survey)

	Negative impact	No impact	Positive impact
Hours of work	91	-	9
Management-labour relations	88	12	-
Job security	10	60	30
Job satisfaction	64	27	9
Work intensity	82	9	9
Earnings	55	18	27
Career progression	33	17	50
Health and safety	70	30	–

Source: Cardiff University/ECA survey 1998, cited in Blyton et al., *Globalization* ..., op. cit., p. 7.

5.6. Gender issues

Among the rights enshrined in the ILO Declaration on Fundamental Principles and Rights at Work is the elimination of discrimination in respect of employment and occupation. There are indications that many companies in the transport sector, including civil aviation, are not living up to the provisions of the ILO's Equal Remuneration Convention, 1951 (No. 103), Maternity Protection Convention (Revised), 1952 (No. 103) (revised in 2000 as Convention No. 183), and Discrimination (Employment and Occupation) Convention, 1958 (No. 111). [29]

A recent study examined service work in the airline industry, which has recently been shaped by managerial initiatives aiming to deliver "quality service". The study focused on the gender consequences of this. On the basis of original empirical research, the authors

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[29] International Transport Workers' Federation (ITF): "From exclusion to segregation: The sources of discrimination against women in transport" (Feb. 1999, draft).

argue that "recent competitive pressures and accompanying managerial initiatives are intensifying demands upon female employees for the production of emotional labour, subjective commitment to organizational aims and sexual difference within parts of the airline industry". [30]

The United States Equal Employment Opportunity Commission announced that *Trans World Airlines Inc. (TWA)* agreed to pay US$2.6 million to settle a sexual harassment and retaliation class-action suit involving female employees at New York JFK airport. Under the terms of the settlement, the airline did not admit liability. The suit, filed in June 1998 by three employees, alleged that *TWA* subjected its female employees to a sexually hostile work environment over a ten-year period and repeatedly harassed and retaliated against them for complaining about the discrimination. According to the suit, female employees were subjected to lewd comments, abusive and/or offensive language, unsolicited touching and sexual propositioning by on-duty male supervisors. The suit alleged further that TWA officials took no remedial action following the complaints to stop further harassment but instead retaliated against those who complained. [31]

Female flight attendants sued in 1992 over *United Airlines'* policy requiring flight attendants to meet weight restrictions set according to sex and height. They claimed the policy treated men and women flight attendants differently, in violation of the 1964 Civil Rights Act, and that it especially discriminated against older women. The federal court eventually threw out the case on grounds that the weight limits were the subject of a class-action case resolved in 1979 and dismissed the age discrimination claim on other grounds.

The court in the 1979 case found that *United* had enforced its weight limits unfairly, but that the limits themselves were not discriminatory. The judgement applied to present and future female attendants. Both sides then agreed to let the split decision stand and the airline agreed to make the enforcement of the weight limit less subjective the following year. The airline also increased weight limits for both men and women on a sliding scale as they age. It was those revised limits that the second group of flight attendants challenged in 1992. *United* scrapped its weight programme in 1994, but the case continued.

A federal appeals court reinstated the case last year and the Supreme Court has decided that it will not review a case challenging the right of female flight attendants to make discrimination claims based on sex and age when many of the same issues were covered by a previous class-action case. [32]

Research into the work of flight attendants has found that the role is defined (by airline management, cabin crew themselves and passengers) as "women's work"; it is deemed to involve skills which women are seen to possess simply by virtue of being women. The work is deemed to involve "caring", physically and emotionally, for others and women are seen as capable of carrying out this work, by virtue of their sexual difference from men. Female flight attendants were seen as inherently capable of

[30] S. Taylor; M. Tyler: "Emotional labour and sexual difference in the airline industry", in *Work, Employment to Society*, Vol. 14, No. 11, Mar. 2000, p. 77.

[31] ATWOnline, 31 May 2001.

[32] *Chicago Tribune* online: "Flight attendants win court fight with United Airlines", 5 Mar. 2001.

presenting themselves as "feminine", as aesthetically pleasing, not only by their employers, but also by customers and many flight attendants. [33]

The ITF has been campaigning against sexual discrimination in the airline industry. It wants fair treatment for women civil aviation workers. The airlines should commit themselves to marketing their services without using images which treat employees as sex objects or encourage passengers to view them this way. The main emphasis should be on promoting cabin crew employees as safety professionals in communications with the public, including in-flight literature, as opposed to promoting them as decorative and sexy. Such action would mean rejecting the use of discriminatory weight limits or other requirements linked to appearance in recruitment and employment; applying equal retirement ages for men and women; providing equal and positive employment and career development opportunities for men and women; ensuring that all employees enjoy their full rights to marry and have children; and making concrete commitments to equality in negotiations with trade unions.

On the positive side, women have started to break through the glass ceiling and more women are being appointed at managerial levels, either as managing directors or as presidents of the board of airline companies (Australia, China, United Kingdom, United States). Women are also entering jobs that were until now largely male-dominated, such as those of pilot and mechanic. In *South African Airlines (SAA)*, for example women were previously only used on flight simulators, but many women pilots are now flying scheduled services, with the first female captain recently having been appointed. *SAA* is also actively recruiting racially mixed cabin crews. [34]

5.7. Worker alliances

A probably unforeseen effect of the creation of airline alliances has been the establishment of trade union "alliances" bringing together representatives of unions and associations involved with the airline companies belonging to a given alliance or their autonomous subsidiary companies. The basis for these alliances is the recognition that the airline industry in general, and groups of airlines in particular, are rapidly evolving towards a global airline network. While it is recognized that airlines desire to maximize the potential of their alliances, it is also understood that this will have significant long-term effects for various groups of employees.

The *oneworld* Cockpit Crew Coalition, consisting of 12 pilot associations, believes that mutual cooperation and unity of purpose are essential to protect mutual professional interests. For example, the member associations commit themselves to a timely exchange of information between the associations and to meet on a regular basis and as events require to protect and further mutual interests; to develop a common strategy to protect the professional interests of their members; and, to use all lawful, reasonable and appropriate actions to protect the members' contractual and lawful rights, career expectations and professional interests, including the negotiation into the respective labour agreements of jointly fashioned provisions designed to protect the stated goals. [35]

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[33] Taylor; Tyler, op. cit., p. 86.

[34] Mackenzie, op. cit. See also *Orient Aviation* online. "2000 in review", Dec. 2000, ATWOnline, 11 July 2001.

[35] *Statement of Principles for the oneworld Cockpit Crew Coalition*, http://www.alliedpilots.org.

The International Federation of Air Line Pilots' Associations (IFALPA) recently conducted a three-day negotiating seminar staffed by United States pilots. The alliances, and the associations the pilots have created for themselves within them, "are really starting to show up one airline against the other", says Stan Clayton-Smith, director of professional affairs of the IFALPA. "Pilots are seeing what terms and conditions they're getting for the same work." United States pilots want Europeans to be well paid to ensure that the wage gains made in recent years are not compromised by cheaper foreign labour, hence the need to equalize labour costs. [36]

The ITF has made union coordination within global airline alliances one of its major priorities. Regular meetings are being organized for different sections (maintenance, cabin crew, ground staff) of unions in each global alliance (such as the *oneworld* Solidarity Alliance).

Given the growth of industry globalization, the increase in inter-company and cross-border alliances, and the likelihood of investment, outsourcing and a host of other decisions increasingly being taken on a multi-company and multinational basis, trade unions and employee associations based in single countries and without adequate inter-union networks could be left without an effective voice in the future restructuring of the industry and the determination of where work will be located and the terms and conditions of those employed to perform that work. In this environment, inter-union cooperation, at both national and international levels, is likely to assume greater importance in the future. [37]

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[36] D. Michaels: "Pilot alliances spook airlines", in *Wall Street Journal Europe* (Brussels), 1-2 June 2001.

[37] Blyton et al., *Globalisation ...*, op. cit., p. 17.

6. Decent work, occupational safety and health, violence and stress

6.1. Occupational safety and health

Rapid change in the global economy, engendering heightened competitive pressures and reduced job security for many, has injected new uncertainties into the world of work. There are a variety of undesirable side effects. At low income levels, basic income security may be at stake. At higher income levels, increased workplace anxiety, depression and exhaustion are often reported. [1] The civil aviation industry is often seen as "glamorous" but civil aviation workers may be subject to higher occupational risks than is generally assumed. According to the United States Bureau of Labor Statistics (BLS), in 1998 the industry-wide rate of recordable injuries and illnesses for the "transportation by air" industry was higher (14.5 per cent) than in construction (8.8 per cent), agriculture (7.9 per cent), or mining (4.9 per cent). The national industry average is 3.1 per cent. [2]

Table 6.1. Accident numbers in the air transport industry, United Kingdom, 1992-98

Year	Fatal	Major	>3 days	Total	Overall total
Air transport					
1992 to 93	2	44	431	477	
1993 to 94	0	56	478	534	
1994 to 95	0	41	561	602	
1995 to 96	0	47	469	516	
1996 to 97	1	67	431	499	
1997 to 98 (provisional)	0	60	423	483	
Supporting services to air transport					
1992 to 93	0	31	483	514	**991**
1993 to 94	1	35	509	545	**1 079**
1994 to 95	0	44	596	640	**1 242**
1995 to 96	0	51	614	667	**1 183**
1996 to 97	0	79	561	640	**1 139**
1997 to 98 (provisional)	0	71	538	609	**1 092**

Source: Health and Safety Executive (HSE), cited in Rowe, op. cit.

[1] ILO: *Reducing the decent work deficit: A global challenge*, Report of the Director-General, International Labour Conference, 89th Session, Geneva, 2001.

[2] Association of Flight Attendants (AFA): "Dangerous airplane cabin and consumer safety issues spotlighted at United Airlines", at http://www.flightattendant-afa.org/oshanow071900release.htm, July 2000.

Recently, the Health and Safety Executive (HSE) in the United Kingdom has become increasingly alarmed at both the number and the severity of airside accidents at airports. According to the HSE's accident database, the number of accidents reported by both airlines and service providers has risen in the 1990s from just under to just over 1,000 per annum. The air transport industry saw around 270 accidents per 100,000 workers in 1998, slightly less than for example construction – which has one of the highest accident rates of any industry in the United Kingdom at 400 major accidents per 100,000 workers.

But when the HSE looked at all "three-day accidents" – i.e. those resulting in three or more days' absence from work – it became clear that the rate in the supporting services of the air transport sector, which include ground handling, was very high indeed at 2,000 per 100,000 workers. In other words, one in 50 workers has an accident that involves absence from work for three days or more every year. [3]

6.1.1. Flight deck and cabin crew staff

6.1.1(a) The responsible agency

Flight deck and cabin crew staff in the United States lost Occupational Safety and Health Administration (OSHA) protection in 1975 when the Federal Aviation Administration (FAA) claimed jurisdiction over their health and safety. While pilots are medically certified and their health is closely monitored by the FAA's Office of Aerospace Medicine, occupational health and safety hazards faced by the overwhelmingly female flight attendant profession have essentially been ignored.

In December 2000, a report was issued by the FAA/OSHA Aviation Safety and Health Team that concluded that OSHA's standards on medical records, record-keeping, anti-discrimination, hazard communication and sanitation should apply to aircraft. The blood-borne pathogen and noise standards can also be applied in a modified form. A problem yet to be solved is OSHA's jurisdiction, which is currently limited to within three miles of the United States borders. The issue of jurisdiction needs to be carefully studied in light of the fact that a flight attendant's workplace is a United States-registered aircraft, wherever that aircraft happens to be.

If the recommendations of this report are fulfilled, flight attendants will, for example, have the right to refuse dangerous or life-threatening work, while employers will be required to share injury and illness records as well as medical and exposure records with OSHA and the flight attendants. [4]

Employees in the United Kingdom airline industry are exempt from the statutory cover enjoyed by most other workers under the Health and Safety at Work Act (HSWA). Instead, the airline industry regulatory body, the Civil Aviation Authority (CAA) is responsible for the provision of safe working conditions aboard aircraft.

6.1.1(b) Exposure to radiation

Exposure to high levels of cosmic radiation, including solar radiation, is an area of concern for jet cockpit and cabin crew members, as well as passengers, particularly on the

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[3] R. Rowe: "HSE targets client airlines", in *Airports International*, May 1999.

[4] AFA: "Flight attendants and aircraft cabin safety score a major victory", at http://www.flightattendant-afa.org/oshanow121400release.htm, Dec. 2000.

recently inaugurated North Pole routes between New York and Hong Kong (China) because doses are higher at higher latitudes. Reducing flying time between the two cities, these routes are seen as an asset in the competition between airlines for passengers. While FAA Advisory Circular 120-61 published in May 1994 recommended that all air crew members receive training in the hazards associated with radiation exposure, no regulatory action has been taken by the FAA or any United States government agency to properly address the radiation health hazards posed for air crew members.

A European Directive on radiation protection, [5] which took effect in May 2000, requires airlines to assess radiation dosages received by air crew members likely to be exposed to more than 1 millisievert (mSv) per year and to inform them of the health risks their work involves. Pregnant crew members shall not be exposed to doses likely to exceed 1 mSv during the remainder of the pregnancy. Some European airlines go further and ground pregnant employees until after maternity leave. The International Federation of Air Line Pilots' Associations (IFALPA) has a policy proposal that would mandate an annual exposure limit of 6 mSv per year, the equivalent of approximately 67 typical chest X-rays. [6]

Anecdotal reports of high rates of miscarriage and menstrual disorders among flight attendants have prompted the United States Government's Centers for Disease Control and Prevention to start a broad-based study on the impact of in-flight radiation due for completion this year. A large-scale study on cancer rates among flight crews will soon be completed by the Radiation Protection Commission in Germany. Early reports of the findings suggest that flight attendants have breast cancer rates that are twice those of the general population and that their skin cancer rates may be 15 times as high. [7]

6.1.1(c) The cabin environment

For many years, the question of the cabin environment, especially air quality, has been an issue of debate. The most common allegations are that cabin air quality is bad and even harmful to occupants, that cabin recirculating systems spread contagious diseases, and most recently that air travel can cause deep vein (or venous) thrombosis. The United States Aviation Investment and Reform Act 2000 provides for the National Academy of Sciences to conduct a 12-month independent study of air quality in passenger cabins of aircraft used in air transportation to identify contaminants in the aircraft air and develop recommendations for means of reducing such contaminants. The study should examine whether contaminants would be reduced by the replacement of engine and auxiliary power unit bleed air with an alternative supply of air for the passengers and crew.

In November 2000, the House of Lords Select Committee on Science and Technology in the United Kingdom released a study, *Air travel and health*, which dealt with many aspects of cabin health, concluding that "for the great majority, any risks from the aircraft cabin environment seem very small – and certainly less than individuals accept with little or no apparent thought in other aspects of their daily lives". At the same time, the industry

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[5] Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation.

[6] J. May; R. Standifer: "Aircrew radiation exposure", in *Flightline* (Fort Worth, Texas), April/May/June 2000, pp. 27-34.

[7] T. Crampton: "Flying on top of the world: A radiation risk", in *International Herald Tribune* online, 24 May 2001. See also: idem: "Fliers can calculate their levels of exposure", ibid.

was castigated for "woefully neglecting" the issues. The airline community should be doing a lot more research into the areas discussed – cabin air quality, carbon dioxide levels, the possible spread of disease and contaminants, and deep vein thrombosis – and making a better effort to keep the public informed of the latest knowledge. Aviation regulatory authorities were criticized for not taking a firmer hand in setting cabin environmental standards. [8]

6.1.2. Issues for cabin crew staff

It cannot be denied that flight attendants suffer injuries related to operating poorly designed food and beverage carts that can weigh up to 500 pounds, slipping on galley floors, handling or being struck by heavy carry-on baggage, falling on icy walkways and sustaining cuts and burns from galley equipment and oven racks. They are concerned about possible exposure to the human immunodeficiency virus (HIV) and hepatitis, since flight attendants must provide in-flight emergency medical treatment including mouth-to-mouth resuscitation and assistance during childbirth, without the proper equipment or medical follow-up. Air crew also suffer from memory loss and disorientation because repeated jet lag shrinks the brain. [9] AFA's review of injury and illness logs at 11 United States airlines showed that out of 31,024 flight attendants, 10 per cent reported an injury that required follow-up medical attention or caused them to lose time from work in 1998. [10]

The recently adopted ILO code of practice on HIV/AIDS and the world of work states that "All workers [who come into contact with human blood and other body fluids] should receive training about infection control procedures in the context of workplace accidents and first aid. The programmes should provide training in the provision of first aid; about Universal Precautions to reduce the risk of exposure to human blood and other body fluids; in the use of protective equipment; in the correct procedures to be followed in the event of exposure to human blood or body fluids; rights to compensation in the event of an occupational incident, and emphasize that the taking of precautions is not necessarily related to the perceived or actual HIV status of individuals." The code also states that "HIV/AIDS screening should not be required of job applicants or persons in employment". [11] In some countries there is a debate about the compulsory screening of airline personnel, in particular pilots, for safety reasons.

Laws in many countries require employers to take steps to control risks of slips, trips and falls; to assess these risks; and to take action to safeguard health and safety. Nick Butcher, head of the United Kingdom CAA's Flight Operations Department Cabin Safety Office, said that the CAA records "incidents where injuries to cabin crew have occurred, and these would include falls out of aircraft doors during normal operations. These types of incidents sometimes have a weather factor such as wind and rain, when maybe the floor surface in the exit vicinity may be wet. Also, some time ago we advised operators that cabin crew should wear sensible footwear and this [is] especially important during

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[8] P. Flint: "Close-up on cabin health", in ATWOnline, 9 Apr. 2001.

[9] D. Charter: "This is your stewardess speaking. Er, where are we going?", in *The Times* online, 21 May 2001.

[10] *Transport News* online: "As concern over on the job injuries grows, flight attendants ask: Which airline is safe, United or US Airways?"; http://www.transportnews.com, 11 July 2000.

[11] ILO: *An ILO code of practice on HIV/AIDS and the world of work* (Geneva, 2001), pp. 4, 14.

emergency situations when cabin crew may have to open doors with the evacuation slide engaged". [12]

6.1.3. Ground staff

6.1.3(a) Ramp (tarmac) workers

When an aircraft pulls up at a gate, vehicles come from all directions. To someone unfamiliar with ramp operations, the scene around an aircraft looks like chaos. Many activities are conducted quickly by diverse vehicles and the compact ramp area around an aircraft becomes very congested. However, servicing and dispatching are well orchestrated and each person has a specific function.

For regulators, the task of enforcing airside health and safety is similar to that of a referee overseeing a rugby scrum. In the United Kingdom, the HSE is one of the three main government bodies with a direct interest in health and safety matters at airports.

In the United States, ramp-area collisions and accidents are an area of special concern to the National Transportation Safety Board (NTSB) and the FAA. The causes have been analysed by airlines and their ramp-services contractors and have been addressed by ongoing ramp-safety campaigns. Damage has ranged from minor paint scratches to crushing of wing structures and perforation of the fuselage. Because of ramp-area accidents in the mid-1990s, the FAA told its aviation safety inspectors to place particular emphasis on the departure and arrival procedures being utilized by airlines. [13]

Little public data and few studies are available in the United States and elsewhere to provide information about specific types of occurrences, such as falls in, on or from aircraft. The most recent United States Department of Labor data show that more than 10,000 non-fatal slips, trips and falls resulted in days away from work during 1997 among workers in scheduled air transportation. A study published in 1997 reviewed 1980 and 1990 data on fatalities in aviation. The study identified five deaths in 1980 attributed to "fall in, on or from aircraft" among 1,543 aviation-related fatalities, and one death in 1990 attributed to that cause among 1,011 aviation-related fatalities. Four of the 1980 deaths and one of the 1990 deaths were classified as involving "ground workers", but the report did not specify the cause of death. The study used public data from the National Center for Health Statistics and other cause-of-death databases. [14]

A search of similar public data in a cause-of-death database maintained by the United States Centers for Disease Control and Prevention found that from 1979 through 1997, deaths attributed to "fall in, on or from aircraft" included two fatalities among crew members (defined as "crew of commercial aircraft in surface-to-surface transport"), eight fatalities among passengers (defined as "other occupant of commercial aircraft in surface-

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[12] Flight Safety Foundation (FSF): "Working in, around aircraft cabins requires awareness of fall prevention", in *Cabin Crew Safety* (Alexandria, Virginia), Vol. 35, No. 1, Jan.-Feb. 2000.

[13] idem: "Flight attendant training helps prevent injuries in aircraft ramp-area collisions", in *Cabin Crew Safety*, Vol. 35, No. 3, May-June 2000.

[14] G. Li; S.P. Baker: "Injury patterns in aviation-related fatalities: Implications for preventive strategies", in *American Journal of Forensic Medicine and Pathology* (Philadelphia, Pennsylvania), Vol. 18(3), 1997, pp. 265-270, cited in FSF, *Working in, around aircraft ...*, op. cit.

to-surface transport"), one "ground worker" fatality and eight fatalities among "other persons". [15]

A 1995 report used five categories to classify 523 accidents that occurred among 2,000 airport ground personnel employed by an Israeli airline from 1988 through 1992 – counting accidents that resulted in at least three days' loss of work. [16] "Airport ground personnel" were defined only as "full-time employees" and "airline ground workers" with 82 per cent males and 18 per cent females with mean experience of 21 years (plus/minus four years). The report classified 211 accidents (40.3 per cent) that occurred during the five-year period in the "slips, trips and falls" category. There were 54 such accidents in 1988, 42 in 1989, 41 in 1990, 42 in 1991 and 32 in 1992.

"The incidence of such events in our study was 27 [accidents per] 1,000 worker-years in 1988 and 16 [accidents per] 1,000 worker-years in 1992, which is similar to that reported in a study of a large automobile manufacturing company," said the report. The data showed that in accidents involving slips, trips and falls, 63 per cent of the employees lost three to ten days of work, 22.8 per cent lost 11 to 20 days, 9 per cent lost 21 to 30 days and 7.5 per cent lost more than 30 days of work.

Advances in ergonomics continually improve the flight decks and cabins of transport aircraft, but some researchers believe that improvements should be made in areas below the cabin floors to help prevent back injuries among baggage handlers. A 1997 study [17] found that back injuries to baggage handlers at 15 airlines and one ground-handling company cost an average of US$21 million per year during the period from 1992 to 1994, that 8.5 per cent of baggage handlers suffered back injuries each year and that the average annual back-injury lost-time frequency rate (LTFR) during the period was 41.5 (per million hours worked). Airline safety professionals surveyed in this study also rated loading and unloading of narrow-body aircraft as the greatest back-injury causation risk.

Another study [18] summarizing the opinions of 156 baggage handlers from ten airlines and two ground-handling companies worldwide (Argentina, Australia, Germany, Sweden and the United States) on tasks associated with back-injury risk identifies elements of the baggage-handling system and equipment that are believed to present significant manual-handling problems, [19] and suggests appropriate solutions.

Seventy per cent of the baggage handlers participating in this study cited the narrow-body aircraft baggage compartment as the workplace location likely to cause the most back injuries. "Baggage check-in" was the second most common response to this question. Concerning heavy baggage, 89 per cent of the baggage handlers said that they were

[15] Centers for Disease Control and Prevention (CDC): CDC WONDER Database. Search conducted 10 Dec. 1999, cited ibid.

[16] J. Ribak; B. Cline; P. Froom: "Common accidents among airport ground personnel", in *Aviation, Space and Environmental Medicine* (Alexandria, Virginia), Dec. 1995, pp. 1188-1190, cited ibid.

[17] G. Dell: "The causes and prevention of baggage-handler back injuries: A survey of airline safety professionals", in *Safety Science Monitor* online, Vol. 1, Oct. 1997, http://www.ipso.asn.au, cited in idem: in "Survey of airline baggage handlers suggests methods to prevent back injuries", in FSF: *Airport operations* (Alexandria, Virginia), Vol. 24, No. 5, Sep./Oct. 1998.

[18] Dell: "Survey of airline baggage handlers ...", op. cit.

[19] "Manual handling" refers to physical baggage movement in general, including tasks such as loading, moving baggage within a compartment, stacking, unloading and transferring.

required to lift pieces of baggage that weighed more than 70 pounds, and 90 per cent believed that pieces of baggage heavier than 70 pounds created a significant injury risk.

Box 6.1.

Prevention of back injuries among baggage handlers

Aircraft manufacturers will be the key for long-term design solutions to the risk of back injuries among baggage handlers. Nevertheless, there is a need to implement short-term solutions quickly. Airlines that already have retrofitted semi-automated baggage-handling systems in narrow-body aircraft should share their experience and data with other airlines in the interest of back-injury prevention. Air transport industry associations should play a leading role in setting global standards that account for the known problems in manually handling airline baggage.

Reducing the weight of individual pieces of baggage handled by baggage handlers may be the only effective method to reduce exposure to the back-injury risk associated with heavy baggage. A related solution is for all airlines to label baggage and cargo with accurate weights and alert labels. This would permit baggage handlers to prepare for each lift and to assess the injury risk of handling each item.

Past reliance on designing airport systems for the dimensions of the physically "average" baggage handler should be replaced by solutions that provide ergonomic advantages for all system users. Baggage-handling system design has focused on solutions to the volumetric problems of baggage transfer and sorting. Relatively few ergonomic principles – with the exception of integration of average height and reach distances – have been applied.

Ground equipment and aircraft-loading systems should not only be provided, but should also be maintained to a high standard. When equipment is out of service, the risk of injury to baggage handlers increases significantly because people manually handle loads that should be moved by machines. For injury prevention within the current work environment, there is also a need to provide better lifting-technique training for baggage handlers, and to improve serviceability (time in service) of baggage-handling systems and related equipment.

Development and enforcement of occupational health and safety regulations, using the latest data, should also be improved. If engineering solutions cannot be found for the manual-handling tasks associated with passenger baggage and cargo, occupational health and safety regulations should require airlines to find other methods.

Source: Dell, *Survey of airline baggage handlers ...*, op. cit.

Guidance can be found in the ILO's Maximum Weight Convention, 1967 (No. 127), and its accompanying Recommendation, No. 128. The general principle of these two instruments, which apply to all branches of economic activity in respect of which the Member concerned maintains a system of labour inspection, is that workers shall not be required or permitted to engage in the manual transport of a load which, by reason of its weight, is likely to jeopardize their health or safety. The Recommendation also provides that "any worker assigned to regular manual transport of loads should, prior to such assignment, receive adequate training or instruction in working techniques, with a view to safeguarding health and preventing accidents. Such training or instruction should include methods of lifting, carrying, putting down, unloading and stacking of different types of loads, and should be given by suitably qualified persons or institutions". Useful guidance is also provided at the European Union level by Council Directive 90/269/EEC on the minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers.

Expert opinion is that although the focus should be strongly on primary prevention, all these factors need to be looked at together. For example, studies show that training alone is unlikely to be effective if the ergonomic factors in the workplace remain poor and

basic training, for example, needs to include how to spot potential risks and what to do if risks are found, as well as safe physical handling techniques. [20]

6.1.3(b) Airport check-in staff

Similar problems were encountered by airport check-in staff. The first comparative study of the health effects on check-in staff working with different levels of airport mechanization was sponsored and coordinated by the International Labour Office in conjunction with Canadian and Swiss trade unions, and the Canadian Centre for Occupational Health and Safety – with the practical assistance of the International Transport Workers' Federation (ITF). It concluded that check-in staff may be as vulnerable to occupational injury as heavy manual labourers. Yet staff tend to remain unaware of the risks until they develop temporary or permanent disorders. Staff risk musculoskeletal injury from frequent lifting and handling of baggage and prolonged standing while operating a computer. Other hazards include poorly designed workstations and uneven workload distribution.

Semi-mechanized baggage systems appear to place check-in workers – the great majority of whom are women – at particular risk of musculoskeletal injury. Fully mechanized baggage handling systems tend to be more comfortable and free workers from excessive manual lifting. But they can still cause discomfort and subsequent injury due to frequent bending and other movements while staff are tagging baggage. Adjustable sit/stand workstations appear to increase comfort levels and to reduce the risk of injuries. [21]

6.2. Violence and stress

Violence

Air rage is the most well-known form of violence against air transport workers, and the one which gets most attention. The abovementioned study revealed that check-in staff showed widespread awareness and fear of the risks of violence from agitated customers. Many incidents illustrate a trend in civil aviation which has been reaching alarming proportions in recent years – rude, abrasive, violent and aggressive conduct of passengers (and, in some cases, of flight personnel) during flights.

In general, unrealistic expectations, fostered by airline marketing efforts, underlie a lot of air rage. Airline advertisements usually feature a smiling, satisfied customer, normally in a semi-reclining position, enjoying a glass of French champagne. The reality of an average airline passenger's personal experience is a lot less tasteful. Today's traveller is frequently crammed into a narrow seat in a high-density cabin, surrounded by carry-on luggage, grasping a tiny bag of pretzels while trying to quench a powerful thirst from a three-ounce glass that also contains two ice cubes. Add to this the lack of mobility, poor air quality and growing physical fatigue made more difficult by the disruption of the usual sleep cycle and changing time zones. [22]

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[20] R. Op De Beeck; V. Hermans: *Work-related low back disorders* (European Agency for Safety and Health at Work 2000), http://agency.osha.eu.int/publications/reports/lowback.

[21] E. Rosskam: "Perils of the check-in desk", in *Transport International* (London), No. 2/2001, pp. 19-20.

[22] S. Luckey: "Air rage", in *Air Line Pilot*, Sep. 2000, p. 18.

But even before the passenger is in the seat, he or she has already been exposed to unusual stress – disrupted daily routine, trying to reach the airport in time, coping with traffic congestion on the road, facing long lines at check-in counters, aggravating procedures at immigration and customs controls, intrusive security checks – all adding up to more than the usual level of daily stress. That may be further aggravated by the frustration caused by any delay of the flight while waiting in overcrowded departure lounges, undignified hassle during boarding, finding the assigned seat and competing for adequate storage space for the hand luggage. All too often passengers experience endless waiting on board aircraft before it is given its turn for take-off. [23]

It is not known how serious air rage is because no empirical databases maintain accurate statistics on a regular, industry-wide basis. Anecdotal evidence supports a dramatic increase in air rage worldwide. A recent IATA survey shows a fivefold increase in incidents, from 1,132 in 1994 to 5,416 in 1997. [24]

Probably the most credible current data available in the United States on violent passenger behaviour are contained in a study released in August 1999 by the National Aeronautics and Space Administration (NASA). The Aviation Safety Reporting System (ASRS) database lists 2,603 incidents related to air rage and sheds some interesting light on the subject.

Approximately 43 per cent of the reported incidents involved alcohol. Previously, the number of alcohol-related incidents was thought to be much higher. Fifty-one per cent of the incidents in the ASRS database involved unlawful interference with the duties of the flight-crew members, 24 per cent resulted in physical assaults on flight-crew members, and in 22 per cent of the cases, a flight-crew member had to leave the cockpit to address the situation. Even when the pilots remained in the cockpit, in 41 per cent of the cases, the pilots reported serious distractions from their appointed duties. Most modern aircraft have only two pilots, and they certainly cannot afford to risk injury by being involved in a physical confrontation, especially when 10 per cent of the reported incidents involved more than one enraged passenger.

In 2000 ICAO performed a survey of Contracting States which received 60 replies. These revealed that while many States have yet to establish a reporting system, approximately 60 per cent indicated a recent increase in the number of reported incidents involving unruly passengers. [25] Also in 2000, a university survey of some 200 airlines worldwide suggested that the problem of air rage is growing. [26]

Most statistics, however, are likely to be an underestimate as they rarely include incidents of threatening behaviour that do not include physical violence. Australian airlines began reporting incidents in 1998 for the first time. In 1999 nearly 660 occurrences were recorded. In the previous year when only actual violence was recorded the figure had been

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[23] M. Milde: "Unruly passengers and the law", in *SAA Review* (Singapore), Dec. 2000, pp. 3-4.

[24] ITF: "Zeroing in on air rage", in *Transport International*, No. 1/2000, pp. 6-9.

[25] J. Huang: "ICAO study group examines the legal issues related to unruly airline passengers", in *ICAO Journal*, Vol. 56, No. 2, Mar. 2001, pp. 18-20 and 29.

[26] London Guildhall University: "Survey of world's airlines highlights various approaches to handling disruptive passengers", ibid., pp. 21-23 and 29.

30. [27] In Japan, airlines reported that incidents of rowdy behaviour by airline passengers more than doubled in 1999 to 330 cases, including sexual harassment and drunkenness. [28]

The 1963 Tokyo Convention on Offences and Certain Other Acts Committed on Board Aircraft unified, on the international level, many legal issues relevant for the suppression of acts of air rage. It applies not only to "offences against penal law" but also to "acts which, whether or not they are offences, may or do jeopardize the safety of the aircraft or persons or property therein or which jeopardize good order and discipline on board" – thus covering the acts classified as air rage. It may appear that the existing legal framework for dealing with air rage is sufficient but it is not so in practice. [29]

Therefore, an ICAO study group has drafted model legislation on offences committed on board civil aircraft by unruly passengers. Section 1 of this draft defines what constitutes assault and other acts of interference against a crew member, section 2 covers assault and other acts endangering safety or jeopardizing good order and discipline, while section 3 deals with other offences. National jurisdiction applies if the act constituting an offence took place on board any civil aircraft registered in the country concerned, or any civil aircraft on or over its territory, or if the next landing of the aircraft is in that State.

The ITF, representing a large number of airline cabin crew and ground service staff, has prepared an international trade union charter for action on disruptive passenger behaviour. This calls on ICAO to draw up an international convention – or amend an existing convention – which will ensure that all governments involved in civil aviation exercise jurisdiction over offences on board aircraft and follow uniform standards and procedures in enforcing the law. It further advocates that such an international convention should be ready for signature by the end of 2003. [30]

Canada, the United States, the United Kingdom and Australia have led the way in changing their national laws to give themselves the powers they need to deal with incidents on all aircraft which land in their territory, and to tighten up the laws which apply to such incidents. A number of other governments are currently reviewing their laws. For example, in March 2000 in the United States new legislation raised the maximum fine for disruptive behaviour offences to US$25,000. [31] In the United Kingdom, a new criminal offence covering drunkenness, refusal to stop smoking and verbally abusing airline staff or passengers was introduced in 1999. The catch-all offence covers those who prevent members of the cabin crew from carrying out their duties, with a possible two-year sentence or £5,000 fine, or both. [32]

It is a major and urgent task of the airlines to analyse the causes of air rage and to take the appropriate preventive steps. One of them, already used by several airlines, is the education of passengers by leaflets and other forms of publicity making it clear that

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[27] "Zeroing in on air rage", op. cit.

[28] "Japanese carriers restrain the unruly", in *International Herald Tribune* online, 19 May 2000.

[29] Milde, op. cit.

[30] Huang, op. cit.

[31] J. Safley et al.: "AIR-21: An APA victory", in *Flightline*, April/May/June 2000, pp. 16-18.

[32] R. Watson: "Air rage culprits face two years' jail", in *The Times*, 27 July 1999.

disruptive conduct is not tolerated and may lead to serious legal consequences for the perpetrators. [33]

By the late 1990s a number of major airlines began to publicly recognize the problem, to call for stiff penalties against offenders and to publicize their own moves to improve their company procedures, including staff training. KLM has been the industry leader in adopting this new approach, but there have been others. IATA recently produced a best-practice handbook for its member airlines. [34]

In the survey by the London Guildhall University, around two-thirds of the respondents stated that their airline companies provided formal training to prevent and manage incidents of passenger violence; 38 per cent said that no such training was offered. A higher proportion of cabin crew (60 per cent of respondents) than flight-deck crew (44 per cent of respondents) had received training in this area. [35]

A most valuable part of any disruptive passenger programme is the follow-up with the victim. Several IATA member airlines provide this through their employee assistance programmes. The emotional costs of assaults can often have far more impact than any physical injury. [36]

Any programme for handling the disruptive passenger must include the entire process: from the passenger's arrival at the departure airport to departure from the arrival airport. Obviously, this involves several jurisdictions and a coordinated, proactive approach is essential. It requires coordination between industry, the travelling public, international organizations, governments, and the media, and it needs an ongoing commitment on the part of all concerned. [37]

Stress

Like cabin crews who work in an intensive, stressful environment, air traffic controllers are generally considered as one of the working groups having to deal with a highly demanding job. In fact, it entails a complex set of tasks requiring very high levels of knowledge and expertise, as well as the practical application of specific skills pertaining to cognitive domains (e.g. spatial perception, information processing, logic reasoning, decision-making), communicative aspects and human relations.

The air traffic controller must constantly reorganize his or her system of processing flight information by changing operating methods (in particular, cognitive processes, conversation, coordinating with assistants, anticipation and solving problems) as they arise and interact with each other. This is carried out by means of the precise and effective application of rules and procedures that, however, need flexible adjustments according to differing circumstances, often under time pressure.

[33] Milde, op. cit.

[34] "Zeroing in on air rage", op. cit.

[35] London Guildhall University, op. cit., p. 22.

[36] P. Reiss: "Increasing incidence of 'air rage' is both an aviation security and safety issue", in *ICAO Journal*, Dec. 1998, pp. 13-16, 30.

[37] ibid., p. 30.

The main sources of stress reported by air traffic controllers are connected with both operative aspects and organizational structures. For the former, the most important are peaks of traffic load, time pressure, having to bend the rules, limitations and the reliability of equipment. The latter are mainly concerned with shift schedules (night work in particular), role conflicts, unfavourable working conditions and the lack of control over work.

These stress factors can affect not only job satisfaction, but the well-being and safety of air traffic controllers. In fact, as the workload increases the air traffic controller tends to employ more procedures which are less time-consuming, together with a progressive reduction to the minimum of flight information and the relaxation of certain self-imposed qualitative criteria. It is evident that the number of decisions to be made becomes a stressful condition when the controller's decision-making capacity is stretched to the maximum; this can lead, in case of overload, to a very risky situation defined as "loss of picture".

On the other hand, it is frequently reported that, paradoxically, many errors often occur during periods of light or non-complex traffic. This points to the great effort required to regulate the psycho-physical reactions, maintaining a high level of arousal and vigilance even in conditions of "underload".

It is evident that the job entails, on the whole, high psychological demands while being subjected to a considerable degree of external control. This feeling of lack of personal influence often complained about by air traffic controllers can be a powerful stressor, especially if one takes into account the fact that the job requires high levels of responsibility. [38]

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[38] For a detailed study, see G. Costa: *Occupational stress and stress prevention in air traffic control*, ILO Conditions of Work and Welfare Facilities Branch Working Paper, CONDI/T/WP.6/1995 (Geneva, ILO 1995).

7. Restructuring and social dialogue

The ILO Declaration on Fundamental Principles and Rights at Work declares that all Members, even if they have not ratified the Convention in question, have an obligation, arising from the very fact of membership in the Organization, to respect, to promote and to realize, in good faith and in accordance with the Constitution, the principles concerning the fundamental rights which are the subject of those Conventions, namely:

(a) freedom of association and the effective recognition of the right to collective bargaining;

(b) the elimination of all forms of forced or compulsory labour;

(c) the effective abolition of child labour; and

(d) the elimination of discrimination in respect of employment and occupation.

The airline industry is a highly organized industry, although the situation differs between various occupational groups and from country to country. In recent years several complaints have been submitted to the ILO Governing Body Committee on Freedom of Association alleging obstruction of collective bargaining and anti-union discrimination (Argentina,[1] Colombia[2]), dismissals due to a strike in air traffic control sector (Panama,[3] Zimbabwe[4]), and the use of subcontracting for anti-union purposes (Venezuela[5]).

As far as pilots' associations are concerned, no instances of union derecognition over the previous five years were recorded by respondents to the survey of European Cockpit Association members carried out in 1998. However, almost one-fifth of the unions participating in the global survey of affiliates of the International Transport Workers' Federation (ITF) reported instances of derecognition.[6]

At the end of December 1996, *Air Gabon* sacked the entire workforce of 94 cabin crew for their membership of the National Union of Commercial Flight Personnel (SNPNC). The sackings followed industrial action by the union in which the company used scabs to break the strike. After two years of legal battle the workers were reinstated.[7]

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[1] Case No. 1947, 313th Report, in *Official Bulletin* (Geneva, ILO), 1999, Series B, No. 1.

[2] Case No. 1925, 309th Report, in *Official Bulletin*, 1998, Series B, No. 1.

[3] Case No. 1913, 309th Report, ibid.

[4] Communication from the International Federation of Air Traffic Controllers' Associations (IFATCA), 1998.

[5] Case No. 1828, 309th Report, in *Official Bulletin*, 1998, op. cit.

[6] Blyton et al.: *Globalisation deregulation and flexibility on the flight deck* (Oct. 1998).

[7] ITF: Press release, undated, http://www.itf.org.uk/SECTIONS/Ca/gabon.htm, 7 June 2001.

More recently, the Government of Pakistan suspended all unions and working agreements with its collective bargaining agent unions in *Pakistan International Airlines (PIA)*. The Air League union of *PIA* employees has challenged President Pervez Musharraf's order suspending trade union activities in *PIA* in court. [8] The Managing Director of *PIA* stated that this step was unavoidable to save the national airline from collapse, but assured the unions that he would take them into confidence when changes would be made in the working agreements. [9]

## 7.1. Collective bargaining and labour-management relations in the United States

Collective bargaining in the airline industry in the United States is governed by the Railway Labor Act (RLA), to which a new Title II was added in 1936 to include airlines in its scope. The heart of the RLA is Section 2, which requires both labour and management "to exert every reasonable effort to make and maintain agreements and to settle all disputes".

Section 2, which is the source of the obligation to bargain in good faith and to maintain the status quo, establishes procedures for negotiating collective agreements (contracts) (figure 7.1). If a party to a collective agreement wishes to modify a contract it must give 30 days' notice and bargaining must begin within 30 days. Negotiations continue until a contract is signed or an impasse reached. If the parties cannot reach an agreement they may request assistance from the National Mediation Board (NMB). If mediation is invoked, the parties continue to bargain under NMB supervision until either they reach agreement or the NMB determines that an agreement is not available. If the NMB concludes that the parties cannot reach agreement, it offers binding arbitration. If arbitration is refused by one or both parties, the NMB notifies the parties that mediation has failed, and for a period of 30 days the parties must maintain the status quo – the so-called "cooling-off" period. If the NMB decides that an agreement cannot be reached, it may recommend to the President the establishment of a Presidential Emergency Board. If an Emergency Board is convened, it investigates and reports on the dispute. The Board makes a recommendation within 30 days, but does not have the authority to bind the parties to an agreement. The parties are then legally free to strike after waiting 30 days. In the last instance, Congress can impose a settlement.

[8] *Dawn*, the internet edition: "Suspension of unions in PIA challenged", 27 July 2001, http://www.dawn.com.

[9] idem: "Union activities in PIA suspended", 8 June 2001.

Figure 7.1.   Contract negotiation process in the United States airline industry
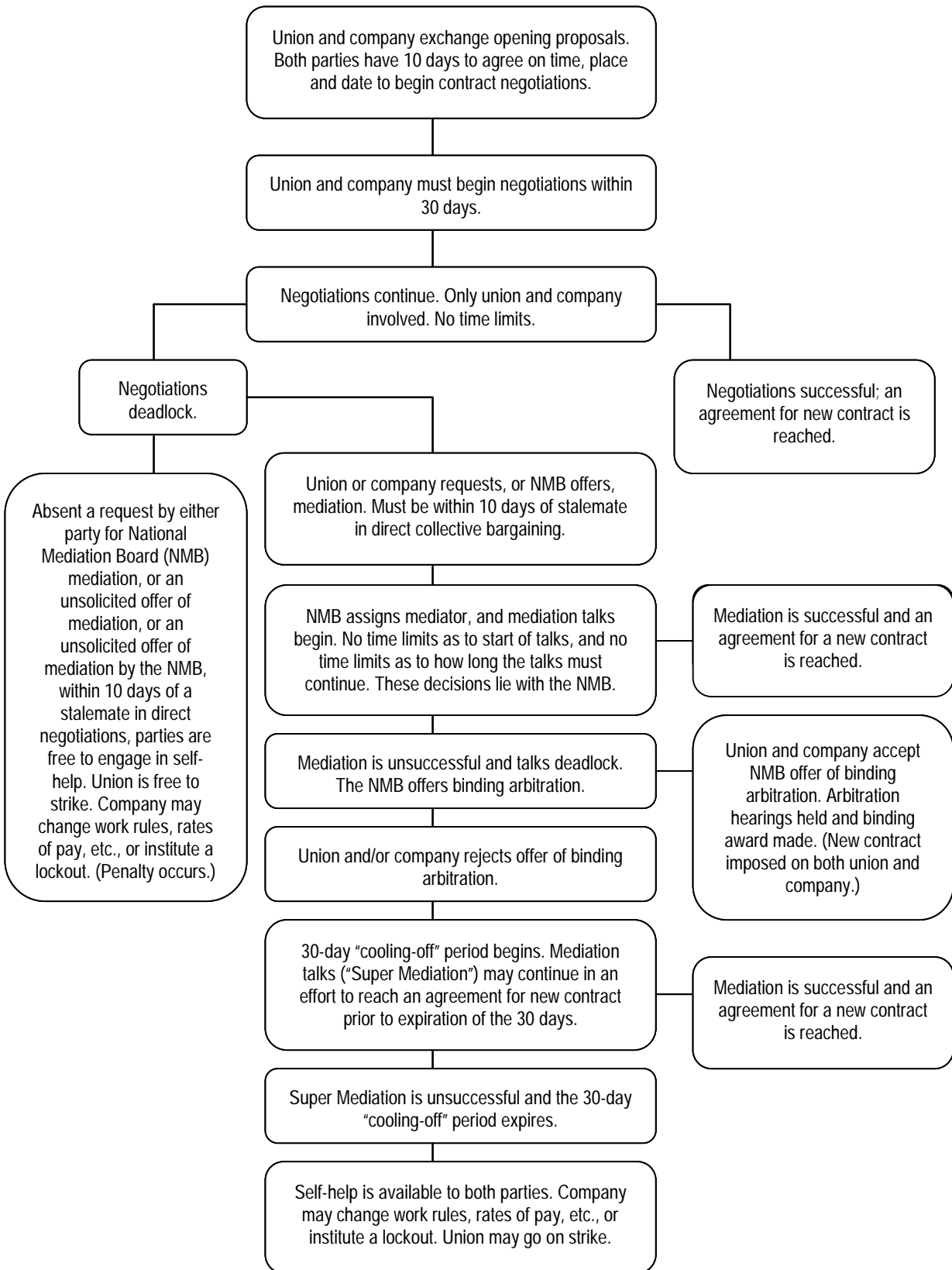
Source: *Flightline,* July/Aug./Sep. 2000.

<div style="border:1px solid">

Box 7.1.

Airlines held hostage by unions, according to TWA Chairman

The airline business has difficulty making a profit largely because the unions have a stranglehold over management, according to former TWA Chairman Carl Icahn. Speaking to the PhoCusWright conference in Phoenix, Icahn said many of the major United States airlines are "overleveraged and can't afford to take a strike". As a result, he believes the airlines often give in to union demands.

"Union guys, underneath the veneer, are brighter than airline management," he joked. While he understands the unions' strategy and does not "blame them" for their actions, he also sympathizes with airline executives who have a "gun to their head", he told the *Daily* in an interview. He noted concern for the long-term viability of some airlines because of the high labour costs and debt that many carriers now hold in addition to the fact that the country has too many hub airports. "It's a prescription for disaster", he said. "A recession would devastate the industry". The one exception to the group is Southwest ... because of its "good management team, good labor contracts and sound strategy".

Source: *Aviation Daily*, 17 Nov. 2000, cited in *Flightline*, Oct./Nov./Dec. 2000, p. 36.

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Developments in the airlines in the 1980s defined the labour climate in that decade. President Reagan's 1981 victory over the Professional Air Traffic Controllers Organization (PATCO) in the illegal air traffic controllers' strike emboldened management's opposition to unions. And the unions adopted many of the strategies that were developed in the battle with Frank Lorenzo over control of *Eastern Airlines*. Currently, employees who made wage concessions in the early 1990s, when airlines were in financial difficulty, want to recover their losses. Record industry profits in the past two years, full flights and pilot shortage give unions power to win sizeable increases in wages. [10]

An unusual combination of factors – sharp new tactics by labour and management, a recent unprecedented victory by one pilot group, rising fuel prices and uncertainty about the nation's economy – are making for especially turbulent times early in 2001 as airlines in the United States wrestle with dozens of contract negotiations. Labour relations in the industry are often acrimonious, but now mistrust seems to be escalating. Management is often turning to court action as a first recourse, instead of a last resort. Many unions may want to use the opportunity in 2001 to negotiate improved contracts for their members. [11]

The present labour unrest is a demonstration of the complicated and elongated mediation process under the Railway Labor Act. Contracts in the industry never expire; instead, they become amendable, and unions cannot strike until they are released by the Government. The goal of the 1926 law is to avoid transportation disruptions by allowing an extended mediation process.

President Clinton appointed the last airline emergency board in 1997 to end a strike by *American Airlines* pilots just minutes after it began on the brink of the Christmas travel season. He declined to appoint one a year later to block a *Northwest Airlines* pilots' strike. Presidential intervention in airline labour disputes was common until the Nixon administration, which decided that negotiations were hurt by the airline's expectation that the White House would step in. The Nixon administration also did not consider an airline strike of national significance. The current Bush administration, on the contrary, is of the opinion that the disputes at the four major airlines may shut down America's travel

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[10] R. Freeman: "The trouble with airlines", in *New York Times*, 16 Apr. 2001.

[11] R. Mooman: "'Perfect storm' looms for carriers, labor", in *Aviation Week & Space Technology*, 8 Jan. 2001.

industry harming tens of millions of Americans, and that this poses a threat to the weak economy. [12]

The industry's very structure and the disagreement between labour and management about who runs the enterprise create persistent tensions – even when the employees own the airline, as is the case with *United Airlines*.

Airline labour strife has spread to Congress, where industry is urging legal curbs on long work stoppages, unions are demanding that Government keep its hands off collective bargaining and lawmakers are denouncing "pilot greed". Though no legislative course of action has been mapped out, management and labour are already at daggers drawn about the prospect of federal intervention. Carriers see a pressing need for a new statutory mechanism to govern pilot and other airline contract negotiations, so they do not drag on indefinitely, as they have with increasing frequency under the Railway Labor Act. It is supposed to prevent disruption of commerce or carrier operations, but industry executives claim it is not working. They also complain about the Act's failure to empower the courts to impose monetary damages against unions when their members engage in "sickouts" and "slowdowns".

Frederick W. Smith, chairman and CEO of FedEx Corporation, testified in a Congressional hearing that "today you have a labour system which was designed for a world that no longer exists. It's extremely frustrating for the labour side, it is extremely frustrating for the management side [that] the negotiations often take place long after the contract is due for amendment, because there is no incentive on either side to settle". [13]

Sonny Hall, chief of the AFL-CIO's transport workers' union that represents 57,000 airline workers, was emphatic about the necessity of reaching agreements voluntarily, declaring that "only three times in 33 years has our Government intervened and appointed a Presidential Emergency Board, and 97 per cent of airline management disputes are resolved without interference by the federal Government". Shared risk must prevail at the bargaining table "if there is to be any hope that the parties will negotiate in good faith give-and-take," he insisted. [14]

Labour and management officials contacted by *Aviation Week & Space Technology* said they would like to see the statute rewritten to include deadlines to contract negotiations. Such a solution expediting the negotiating process could alleviate the frustration of both the rank and file and management. The sides also would like to see self-help provisions added to the RLA. Self-help for an airline could mean a lockout of that particular employee group in negotiations, or the ability for management to implement a final contract offer. For the unions, a self-help provision could mean being able to strike without the required proffer of arbitration, the precursor to a 30-day cooling-off period, after which a labour group is allowed to strike. It could also mean amending the RLA to allow unions to conduct intermittent strikes, or so-called chaos campaigns, a strategy for self-help developed by the Association of Flight Attendants. [15]

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[12] *AeroWorldNet*: "Bush intervenes in airline strike", 13 Mar. 2001.

[13] P. Mann: "Airline labor tensions spill over in Congress", in *Aviation Week & Space Technology*, 30 Apr. 2001.

[14] ibid.

[15] Moorman, op. cit.

One author [16] argues that the airline industry should be covered by the National Labor Relations Act (NLRA) rather than the Railway Labor Act (RLA) in order to speed up the collective bargaining process. Except for the railroad and the airline industries, labour relations in every other industry are governed by the NLRA. In his opinion, "one fundamental difference between the acts is that labour contracts expire under the NLRA, while under the RLA they live in perpetuity until amended. Because employees and management under the NLRA are legally free to invoke 'self-help' when a contract expires – in other words, a strike or a lockout – a sense of urgency is added to the negotiation process. Surely at some point the negative impact of endless negotiation outweighs the benefit of forestalling a job action. The goal of public policy should not be merely to avoid strikes at all costs. Rather, that objective should be balanced with a goal of promptly resolving labour negotiations. On this aspect, the NLRA delivers, and the RLA does not. Under NLRA, acrimonious labour disputes heat up and some get nasty, but even those seem to be resolved within about three weeks".

7.2. Collective bargaining and labour-management relations in Europe and elsewhere

Labour-management relations in the air transport industry have often been fraught with conflict. According to ICAO, many new labour contracts are reached only after long disputes, which in a number of cases involve industrial action. In 1997, nearly three dozen airlines were reportedly affected by the industrial action of their staff, with Europe being the scene of more than half of these activities. On a global basis pilot and flight attendant unions were the most active in staging industrial action.

In order to protect airline workers' terms and conditions of employment, civil aviation unions have traditionally relied primarily on national collective bargaining arrangements. Today, however 80 per cent of trade unions negotiate principally with individual carriers on a company basis, and a further 10 per cent negotiate primarily at the local level (the airport or location in which members are employed). Just 10 per cent of trade unions are involved in national-level, multi-company bargaining, and the trend is towards further decentralization. Thus, as airlines build global alliances, collective bargaining is becoming more fragmented and localized. Of greater immediate concern for the trade unions, however, is the extent to which some airlines are no longer prepared to negotiate over key dimensions of change such as working time, performance-related pay and flexibility issues. [17]

The phenomenon of employees trying to recoup wage and other concessions made in the early 1990s when their carriers were in financial difficulties is not limited to the United States. It has also spread to Europe and Asia. Recent strikes in Germany, Ireland, Spain, Sweden and Hong Kong (China), showed that staff are no longer willing to compromise. Pilots in many companies claim considerable increases as they want parity with their counterparts in airlines belonging to the same alliance.

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[16] B.C. Bartholomew: "Remove U.S. airlines from Railway Labor Act", in *Aviation Week & Space Technology*, 11 Sept. 2000.

[17] Blyton et al.: *Contesting globalisation: Airline restructuring, labour flexibility and trade union strategies* (London, ITF, 1998), p. 19.

A study on employment relations under deregulation in four European airlines [18] revealed that national contexts continue to play a key role, both in shaping the nature of management strategy towards labour, and in labour's response. Deregulation has exposed airline management to increased competition in both their domestic and international markets. The surveys of airline unions and pilots' associations attest to the extent of restructuring taking place and the degree to which deregulation has compelled European airlines to cut costs, and in particular labour costs.

However, despite arguments that these industry pressures were leading to "convergent" labour strategies around the notion of human resource management, the study in practice highlighted the ways in which management action and labour response are differentiated, constrained and shaped by national contexts, in particular national systems of labour regulation. For while it is true that certain management techniques were widely evident in their management of labour – such as the growing use of "benchmarking" of one form or another to determine "market rates", and the attempt to increase labour intensity through changes in flight and duty times – at the same time, national airlines exhibited distinct variation in their approach to labour and employment relations.

United Kingdom. Since its privatization in 1987, *British Airways (BA)* has pursued several labour-related strategies, ranging from a customer service orientation prioritizing staff quality to a more clearly defined cost-reduction strategy. It is the latter that has become more evident as the 1990s progressed and has taken various forms, including regionalization, franchising and the creation of a low-cost subsidiary. This cost-reduction strategy received a particular focus in 1996 with the introduction of the Business Efficiency Programme (BEP), designed to deliver £1 billion in savings partly through sell-offs, subcontracting and an intensified search for savings in labour costs. This programme has caused a number of disputes at *BA*. In relation to cabin crew, *BA* has pursued a cost-control programme based on eliminating extra time payments, introducing a two-tier wage system, and an increase in both functional flexibility and changes in working time patterns. The failure to agree on some of these changes with the main cabin crew union, the British Airline Stewards and Stewardesses Association, a section of the Transport and General Workers' Union (TGWU), led to a damaging strike by cabin crew in July 1997. While subsequently the main changes have been implemented, the strike and the cost-reduction programme more generally were widely reported in interviews to have caused a marked lowering of employee morale, forcing management to reaffirm its commitment to "partnership" despite the relatively adversarial style with which it had conducted much of its industrial relations up to that point.

Germany. *Lufthansa* entered the 1990s as a loss-making organization, and during the decade has also pursued a number of initiatives to reduce costs and increase productivity, stimulated further by the increased emphasis on profitability as it became increasingly owned by private shareholders. However, organized labour has been well placed to influence the process of restructuring in the company. *Lufthansa* is unusual in Germany in concluding company agreements with its trade unions, rather than being part of broader sector agreements. As required by German law, the company's supervisory board draws half of its 20 members from different employee groups. Their presence, the importance of the supervisory board for appointing the management board, and the comprehensiveness of *Lufthansa's* works council system have ensured that labour's voice has remained prominent during the restructuring exercises. In particular, labour has avoided a major assault on terms and conditions or overall job numbers.

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[18] idem: *Employment relations under deregulation: A study of European airlines* (Leverhulme Trust, Nov. 1999), pp. 12 ff.

Crucially in the restructuring period, the trade unions have been able to retain under the main *Lufthansa* collective agreement the subsidiary companies that have been created. The inclusion of these subsidiaries within the main collective agreement has restricted management's ability to establish markedly different terms and conditions. Faced with these constraints, and in particular the unions' ability to utilize existing industrial relations institutions and procedures to defend members' terms and conditions of employment, Lufthansa has developed alternative strategies to cut costs.

With the avenue of short-term cost cutting effectively blocked off, management has pursued longer term strategies of cost reduction, including the creation of separately managed subsidiary companies. In addition, it has been at the forefront of the development of worldwide strategic alliances. In the longer term, cost reductions arising from common handling with alliance partners (which potentially allows each carrier to reduce its number of staff employed abroad and to rationalize its use of ground handling at home), together with the use of crew sharing and the operation of routes by partner airlines, may well prove more effective labour cost-reduction strategies than the shorter term strategies that have been pursued elsewhere.

Lufthansa's pilots' union, Vereinigung Cockpit (VC), in 2001 demanded considerable wage increases, on the one hand because their members' wages are below the average for European airlines while their productivity is higher than average, and on the other because the cockpit crews had only had moderate wage increases since the restructuring of *Lufthansa* in the early 1990s. According to a recent survey carried out by VC, pilots in other international airlines enjoy rates of pay which are around 27 per cent higher than *Lufthansa* rates. The pilots also claim that structural changes to pilots' pay at *Lufthansa* over recent years mean that pilots receive around 94.8 per cent of earnings levels which were current in 1991. [19]

After several rounds of negotiations and limited strike action – the first full-scale strike in the carrier's 75-year history – the parties agreed to arbitration. A tentative agreement was reached in early June 2001 with a 39-month accord that spreads out a series of incremental raises. The pilots' union has been sharply criticized by the German Confederation of Trade Unions (DGB) for breaking the solidarity among *Lufthansa* employees. According to the deputy President of the Confederation, pilots were not the only group which had made sacrifices in the early 1990s: other groups, including mechanics, ground and cabin crew staff, had also made their contribution. [20]

Early in April 2001, after a short warning strike, *Lufthansa* had reached an agreement with the union representing ground staff and flight attendants. The agreement includes a 3.5 per cent wage increase over a 14-month period. Following the pilots' union success, a spokesperson for Ver.di, Germany's largest trade union, indicated that it was considering future demands. [21]

Ireland. Following protracted industrial relations conflict at its engineering subsidiary *Team Aer Lingus*, and faced with growing competition as a result of deregulation and the entry of *Ryanair*, the state-owned *Aer Lingus* has been pursuing a restructuring strategy consistent with wider developments in Irish industrial relations. The

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[19] "Bargaining at Lufthansa", in *European Industrial Relations Review* (London), No. 326, Mar. 2001, p. 7.

[20] *Die Welt* online: "DGB kritisiert Lufthansa-Piloten", 29 May 2001.

[21] ATWOnline: "Lufthansa, pilot union reach accord", 11 June 2001.

cornerstone of recent industrial relations policy in Ireland has been the pursuit of "partnership agreements". The latest cost-reduction strategy in *Aer Lingus*, known as the Partnership Plan, is consistent with this and involves unions accepting radical change in return for assurances on job security. Partnership in the case of *Aer Lingus* has thus translated into a process of negotiated cost reduction. There is evidence of genuine participation in the process: the main unions are involved as worker directors on the company's full board. In particular, greater numerical and temporal flexibility has allowed the airline to service seasonal routes more efficiently, and make efficiency savings on domestic and low-yield European routes. Restructuring has therefore taken place within a framework of tripartism; this form of labour regulation has pushed management and unions to concentrate on restructuring through means other than major job loss and substantial cuts in terms and conditions. [22]

Ironically, the resurgence of industrial relations problems in Ireland is a product of the current boom. In *Aer Lingus*, in particular, employees believe the time has come for payback for the sacrifices of the past. Industrial relations at *Aer Lingus* have been difficult for some time, with disputes affecting a variety of employee groups in the latter part of 2000. This includes an inter-union dispute between IMPACT and the Services, Industrial, Professional and Technical Union (SIPTU) over the organization of the cabin crew, which has not yet been resolved. [23] SIPTU is no longer the union representing the vast majority of *Aer Lingus* employees. It must now compete with IMPACT to show it can deliver settlements that are just as good. The days when SIPTU could afford to balance the commercial needs of the company and the long-term needs for job security of its own members against short-term wage gains appear to be gone. [24]

Spain. The national airline *Iberia* has pursued a series of restructuring programmes throughout the 1990s, such as the viability plan introduced in 1994. The main trade union confederations, along with "independent" unions such as the Independent Trade Union of Airline Cabin Crew (SITCPLA), had previously resisted the cost-reduction plans. However, this initial strategy of confrontation was replaced by a pragmatic accommodation between management and labour and brokered by the State, based on improving performance via increases in quality and productivity, rather than through job loss. Thus, the principal method of cost reduction has been through increased productivity and the involvement of unions in a partnership plan consistent with the corporatist environment of the Spanish economy. This has involved union delegates joining the Board of Directors, and unions becoming lead advocates of a quality-based strategy to improve service delivery.

Other countries. A new two-year agreement for flight attendants at *Scandinavian Airline Systems (SAS)* was concluded at the end of November 2000 with the help of mediation. The conclusion of the deal follows a one-day strike on 27 November and threats of further action. The first stoppage, which lasted for 24 hours, was supported by over 1,200 workers and affected domestic traffic in Norway only. The Norwegian Union of Cabin Personnel subsequently announced further stoppages and an all-out strike from 4 December. *SAS* replied that it would lock out all flight attendants from 4 December. The assistant national mediator sketched out a deal that was originally rejected by the union,

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[22] Blyton et al., *Employment relations ...*, op. cit.

[23] "Dispute at Aer Lingus", in *European Industrial Relations Review*, op. cit., p. 9.

[24] "Aer Lingus grounded", in *Irish Times* (Dublin), 7 Apr. 2001.

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but an agreement was reached between the union and *SAS* just before the 29 November action was to be staged. [25]

The European Union (EU) in general, and the Directorate-General for Employment and Social Affairs of the European Commission in particular, have been seen as an important mechanism for the promotion of certain employment issues. For example, in the abovementioned survey of member associations of the European Cockpit Association (ECA), nine associations thought that it was important for the EU to take action in the area of social dialogue and collective bargaining, while six thought EU action should be taken in the areas of living and working conditions and the protection and promotion of employment. At the same time, the overwhelming view was that to date, EU action had brought no change either in these or in related areas, such as training. [26] However, in March 2000, a European Agreement on the Organization of Working Time of Mobile Workers in Civil Aviation was concluded between the Association of European Airlines (AEA), the European Transport Workers' Federation (ETF), the European Cockpit Association (ECA), the European Regions Airline Association (ERA) and the International Air Carrier Association (IACA). This agreement adapts some of the provisions of the working time Directive to this particular sector. It was negotiated within the framework of social dialogue in the civil aviation sector and covers "mobile staff in civil aviation", defined as crew members on board civil aircraft, employed by an undertaking established in a member State. The agreement deals with paid annual leave, free health assessments, safety and health protection, maximum annual working time and rest days. [27]

Employment relations at the enterprise level in the Australian domestic airline industry have undoubtedly changed considerably since 1980. Broader job definitions, more functionally flexible work arrangements, greater technical training, skills-based wage classifications and stronger career paths increased the efficiency of workplace operations. Organizational rationalization, workforce reductions, part-time and temporary employment and other forms of numerical flexibility produced leaner enterprises with lower labour costs. Cultural change programmes, improved management-employee communication channels and new training programmes, which focused on customer service, were reinforced by new supervision practices, greater teamwork and a wider use of performance appraisals.

Structures of collective bargaining became more decentralized, union-management relations more peaceful and bargaining outcomes focused more on productivity. Yet these changes were unevenly spread through the industry and there remained strong continuities with the past. Most airline jobs and occupational structures did not change radically, employment continued to be dominated by full-time permanent status, union membership remained high and the force of industry-wide standards limited the enterprise-specific impact of the new bargaining structures. The overall picture, then, is one of significant but incremental change achieved through evolutionary rather than revolutionary processes. [28] Similar developments took place in New Zealand.

[25] "Agreement at SAS", in *European Industrial Relations Review*, No. 324, Jan. 2001, p. 10.

[26] Blyton et al., *Globalisation ...*, op. cit., p. 21.

[27] For the text of the agreement, see *European Industrial Relations Review*, No. 316 (May 2000), p. 31.

[28] Bray: "The domestic airline industry", in J. Kitay and R.D. Lansbury (eds.): *Changing employment relations in Australia* (Melbourne, Oxford University Press, 1997), pp. 74-75.

7.3. Industrial conflicts

"Come summer, come strikes" seems to be the adage in the airline industry. The threat of airline strikes seems to loom every year for anxious travellers, and from January to June 2001, there were strikes in the airline industry in Argentina, Belgium, France, Germany, Hungary, Ireland, Japan, Republic of Korea, Mali, Mexico, Spain, United Kingdom and United States, for example.

However, in the 1990s there were only six strikes in the United States, after a decline decade by decade: 47 in the 1950s, 36 in the 1960s, 43 in the 1970s, 17 in the 1980s. In fact, 97 per cent of labour disputes are resolved without strike action.

Four of the major United States airlines *(Delta Air Lines, United Airlines, American Airlines* and *Northwest Airlines)* are at present caught in a wave of labour discontent that threatens to disrupt their operations as union members seek to catch up on contract concessions they gave the carriers in the early 1990s, when the industry was losing billions of dollars. [29]

Mechanics at *Northwest Airlines*, represented by the Aircraft Mechanics Fraternal Association (AMFA), voted to go on strike on 11 March 2001. The President prevented the strike by appointing a Presidential Emergency Board. The two sides reached agreement in April after the board heard the case, but before it issued its recommendations. The new contract gives the *Northwest* mechanics the highest wages in the industry, retroactive to 1996, when the last contract became amendable. [30]

Delta Air Lines and the Air Line Pilots Association (ALPA) reached an agreement in April after five days of talks with the National Mediation Board just a week before *Delta's* 9,800 pilots had threatened to go on strike. Under the new five-year contract, retroactive from May 2000, the pilots will be paid 1 per cent more than the pilots at *United*. Pay increases range from 24 to 34 per cent over the life of the contract.

A strike watched by many unions and airlines involved the pilots of *Comair*, a commuter carrier of *Delta Air Lines*. The outcome will determine how rapidly airlines can introduce regional jets and, if *Comair* pilots receive a huge raise in pay and benefits, other carriers will be forced to match the terms for their own pilots. The strike started on 26 March 2001 after talks broke down. Since then the airline has shed 37 of its 119 aircraft and announced a reduction of 400 pilot positions. It had 1,350 pilots when the strike began. A tentative agreement was reached on 15 June 2001, the 81st day of the longest strike in the United States airline industry since 1989, after three days of marathon bargaining aided by the National Mediation Board. [31]

The *Comair* strike demonstrates the possible consequences of long drawn-out conflicts. Even with fewer positions to fill, *Comair* may not have enough pilots to resume flying immediately. Under Federal Aviation Administration (FAA) rules, captains must have a "check-ride" with an examiner every six months, so nearly half missed that retest during the strike. All pilots, including first officers, must have annual retraining, and the

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[29] F. Swoboda: "Delta Pilots reject arbitration", in *Washington Post* online, 30 Mar. 2001.

[30] idem: "Northwest mechanics back a new contract", in *International Herald Tribune* online, 10 May 2001.

[31] M. Wald: "Pilots reach tentative deal with Comair", in *The New York Times on the web*, 15 June 2001.

airline staggers that over months. Nearly a quarter of the *Comair* pilots are now no longer allowed to pilot airliners before a session in a flight simulator. In addition, all pilots must maintain "currency", with three landings every 90 days; all the pilots risk losing their currency unless they have been flying for other carriers during the strike, as some did.

At the end of May, the union representing flight attendants at *American Airlines* rejected an offer of arbitration from federal mediators, assuring the start of a 30-day cooling-off period after which its members will be legally free to strike. A walkout, however, is unlikely as President Bush has pledged to intervene to delay a strike at a major airline in 2001.

The results of the survey of ITF affiliates mentioned above show that many trade unions regard industrial action as effective and have actually been involved in strike action and/or demonstrations and public protests. The two most common reasons for taking strike action were pay and conditions and the issue of contracting out. Other significant causes of industrial action were issues relating to working hours and schedules, the introduction of new working practices, and issues related to privatization. In addition to strike action, over half the trade unions surveyed had engaged in some form of "work-to-rule" and/or had operated a ban on overtime. This picture of a high incidence of industrial action in the industry in recent years confirms earlier research findings drawn from Europe that indicate an intensification of management-labour strife.

Strike action is often more effective when there is cooperation, either within nation States or internationally, either between unions recognized by global alliance partners or between unions outside the alliance groupings. Wider international solidarity was regarded as effective by many unions, but more permanent networks for information, cooperation and solidarity are needed if unions are to counter the globalization of airline capital. [32]

Four out of five pilots' associations taking part in the ECA survey saw industrial action as an effective strategy in relation to certain management policies. Replies to other questions on this subject reflect a comparatively high use of industrial action of one sort or another by pilot groups in recent years. Over 60 per cent of associations indicated that they had been involved in strike action or in other official or unofficial industrial action over the previous five years. Where strike action had taken place, the most common issues involved were the use of cross-border crewing, working hours and schedules, pay and conditions, and issues relating to contracting out. [33]

At the same time, employees have considerable power to exercise without striking. When employees refuse to work overtime, as mechanics did at *United* last fall, they can bring about crippling flight delays and cancellations. A pilot sickout in 1999 cost *American* an estimated US$250 million and produced a court judgement against the union of some US$45 million. Under an agreement between *American Airlines* and the Allied Pilots Association (APA), *American* will retain US$20 million that APA previously deposited in escrow, plus accrued interest. The remaining US$25.5 million will be paid "with interest" on a 15-year payment schedule. As part of the agreement, *American* dropped its claims against the former APA president, vice-president and 23 other union officials. [34]

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[32] Blyton et al., *Contesting globalisation ...*, op. cit., p. 20.

[33] Blyton et al., *Globalisation ...*, op. cit., p. 18.

[34] ATWOnline, 1 May 2001.

Cathay Pacific unilaterally implemented a new pay, benefits and rostering package in July 2001 in response to the work slowdown by the Hong Kong Aircrew Association that caused numerous flight cancellations. It also dismissed 49 pilots in whom it had "lost confidence" owing to their past work performance.[35] The company wet leased aircraft from China to maintain its flight schedule.

In the Republic of Korea, during a strike in June 2001 the airline pilots' union demanded a say in the hiring of foreign pilots. *Korean Air*, however, said that it could not allow the union's involvement in management and sued for criminal punishment of 30 strike leaders.

Box 7.2.

"Virtual strike" at Aeroflot

About 500 *Aeroflot* flight attendants simultaneously went on a week-long sick leave in May 2001, in protest against the proposed introduction of individual employment contracts with pay that would be partly performance-related.

Striking was never easy in communist times in the USSR in spite of its proletarian rhetoric, and tough labour laws in the civil aviation sector – judged to be of strategic importance – make it equally difficult today for *Aeroflot* employees to protest against management actions.

Circumventing even the airline's four unions, a group of flight attendants launched a "virtual strike" from the grass roots thanks to a populist internet site *(http://www.steward.narod.ru)* that called on colleagues to protest against planned pay changes.

Labour laws with tough procedures would have made a formal strike hard to implement, and risked exposing those who took part to being fired, but the residual Soviet social protection system made it easier for employees to go to doctors seeking medical leave for complaints, including backache.

Source: A. Jack: "Aeroflot flight attendants end 'virtual strike' ", in *Financial Times*, 16 May 2001.

In a number of countries employers have the right to resort to lockout in cases of industrial conflict. In Fiji, for example, at midnight on 12 April 1999, 358 members of the Civil Aviation Authority of Fiji (CAAF) were locked out as the Government went forward with its controversial and unpopular civil aviation reform programme. As civil aviation is one of Fiji's strategic industries, the union's options in resisting the reforms were limited. Although Fiji Public Service Association (FPSA) members threatened to strike if CAAF management did not negotiate with the union, union leaders knew legislation restricting industrial action in strategic industries would curtail these actions. As an alternative strategy, the union instructed its members not to accept jobs with Airport Fiji Limited (AFL) or the Civil Aviation Authority of the Fiji Islands (CAAFI) or to accept the severance packages being offered. FPSA hoped this strategy of non-cooperation would prevent CAAFI or AFL from recruiting enough workers to successfully operate the airports, thereby driving CAAF management to the bargaining table. AFL was not able to hire technical workers in the fire rescue services. Within 15 hours, 15 New Zealand non-union workers arrived in the country to carry out fire service operations at Fiji's two main airports, replacing locked out FPSA members.[36]

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[35] idem., 10 July 2001. R. Jacobs: "Cathay sacks pilots as part of crackdown", in *Financial Times*, 10 July 2001.

[36] D. Snell: "Fiji's civil aviation: New Zealand style restructuring using New Zealand replacement workers", in *New Zealand Journal of Industrial Relations* (Wellington), Vol. 25, No. 2, June 2000, pp. 109-118.

7.4. Possible future developments

The creation of airline and trade union alliances may have an impact on the labour-management relations in the partner companies as trade unions may call for solidarity action by trade unions in other airlines. For example, before the pilots at *Northwest Airlines* went on strike in August 1998, the Dutch Airline Pilots' Association (VNV) called upon *KLM* pilots to strike in solidarity on routes shared with *Northwest*. The argument was that a defeat of the *Northwest* pilots in the labour conflict would, in the longer term, have consequences for *KLM* pilots because work in the alliance would be subcontracted to the cheapest company. However, at the request of *KLM*, a court in Amsterdam issued an injunction preventing the pilots from striking on the grounds that there was no conflict between *KLM* management and pilots about working conditions. [37]

Until now airline alliances were considered as a magic bullet against rising costs and increasing competition. However, employees in the industry are very much aware of earnings and working conditions elsewhere in the alliance, and it is clear to them that sooner or later working conditions will have to be harmonized in the same way as ticket prices. There are still very wide discrepancies between the various companies: a *Thai Airways* captain earns about one-tenth of what a colleague working for Star Alliance partner *United Airlines* takes home. Although Christoph Müller, head of *Sabena*, does not foresee transnational negotiations involving all partners within an alliance in the near future, he conceded that workers' knowledge of the wages and working conditions at competitors has improved considerably, particularly because of the Internet. [38] The trend towards harmonization of wages and working conditions among alliance partners may gain strength in the future.

European airlines are subject to the EU Directive on European Works Councils (EWCs) [39] covering all the Member States of the European Economic Area. In the airline industry, the *Aer Lingus* EWC is considered a success story. It covers employees in Ireland, Switzerland, the United Kingdom and the United States. [40]

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[37] A. Burlage: "KLM-vliegers mogen niet meestaken met Northwest-piloten", in *De Telegraaf* online, 27 Aug. 1998.

[38] E. Ginten: "Gehaltsforderungen setzen Fluggesellschaften unter Druck", in *Die Welt* online, 17 May 2001.

[39] Council Directive 94/45/EC of 22 Sep. 1994 on the establishment of a European Works Council or a procedure in Community-scale undertakings and Community-scale groups of undertakings for the purposes of informing and consulting employers.

[40] *Eironline*: "The impact of European Works Councils", July 1998.

8. Summary

Air transport is one of the world's most important services. The industry is experiencing an unprecedented period of change. Three interlinked developments are combining to transform the structure of the industry: progressive liberalization of the product market, the drive to privatize publicly owned carriers, and management's accelerated pursuit of the benefits of globalization, in terms of both product market and labour market.

8.1. The economic motivation for restructuring

Air passenger transport demand is primarily determined by income levels and the cost of air travel. The industry is highly vulnerable to economic cycles and fluctuations in fuel prices. The number of passenger flights is expected to increase by more than a third in the next decade, while cargo traffic will be stimulated by the development of global e-commerce and manufacturing trends. Regional airlines are rapidly growing in importance, with passenger growth expected to average more than 9 per cent a year over the next decade.

In 2000, the world's scheduled airlines as a whole experienced an operating profit of 3.3 per cent of operating revenues. The net result for 2000 is expected to be lower than in 1999, when it was 2.8 per cent of operating revenues. The increasingly frail profitability of the airline industry is one of the main incentives for further consolidation, nationally and internationally.

Low-cost airlines are making increasing inroads into the market share of major carriers and in the process are rewriting the rules of commercial aviation. Some major European airlines have responded to the challenge by introducing their own low-cost subsidiaries – not always successfully.

8.2. Technological and other developments

In response to airspace and airport congestion as well as the quest for reduced operating costs, the largest passenger aircraft ever made is scheduled to be introduced by 2006. Another company is rather concentrating on the development of a "sonic cruiser" that will be capable of flying up to Mach 0.98 at an altitude of 41,000 feet. There is a booming market for smaller regional jets.

Over the next 20 years there will be a demand for some 48,100 new engines. The main engine builders are concerned that, while they may be able technically to meet the ever more stringent performance demands of the airlines, there is the problem of meeting increasingly severe environmental pressures.

Meanwhile, the world's air traffic control system is trying – not always successfully – to cope with the present traffic load. Led by the International Civil Aviation Organization, efforts are under way to switch from conventional ground-based radio navigation aids to satellite-based systems that will allow positive surveillance and high-quality communications.

One of the most serious problems civil aviation is facing today is protection of the environment. Concern has been expressed, however, that aviation's rapid expansion will outstrip improvements in environmental performance.

In Europe, airlines have an ambivalent attitude towards high-speed trains. On the one hand, they are seen as competitors, while on the other, the airlines are in favour of giving up expensive short flights, provided the passenger has an acceptable alternative. The high-speed train is such an alternative for distances up to 500 kilometres.

The Internet and aviation are made for each other: flights are a high-value, perishable commodity on which up-to-date information can be made available electronically. The Internet also allows the airlines to operate their yield-management systems on which they depend for their profits. Electronic ticketing offers the airlines huge savings on marketing and distribution costs – up to US$1 billion annually according to some estimates.

8.3.   The restructuring of the industry

Deregulation

The 1978 Airline Deregulation Act in the United States launched a new era in the industry. Canada and Australia have introduced deregulation along the same lines. Airline deregulation in Europe started later and at a slower pace. The experience of Asian nations has been mixed. However, United States airline pilots remain opposed to further deregulation and "open skies" agreements, including cabotage and foreign ownership rules.

Liberalization

The liberalization of air transport has been progressing in much of the world and many bi- and multilateral "open skies" agreements have been concluded during the last decade. A bottleneck to further liberalization remains the relative protection of the United States domestic market. Deregulation and liberalization processes are being applied to airports as well.

Privatization and/or commercialization

The trend towards partial or full privatization of publicly owned airlines is continuing, although more recently several privatization plans had to be postponed or abandoned. Not all privatizations have been successful, and some have had to be reversed.

Following the privatization of the British Airports Authority, many countries have followed suit in various parts of the world. In the United States airports have traditionally been in public ownership, with new developments financed through revenue bonds topped up with federal government funding. United States airlines remain strongly opposed to for-profit airports, insisting that all sites should remain in local or state government hands.

In recent years, there has been a trend towards separating air navigation services (ANS) from government through the creation of autonomous service providers. Canada was the first nation where the service provider passed out of government ownership as a fully private, non-share capital corporation. More recently, the United Kingdom Government accepted the not-for-commercial-return bid for a 46 per cent stake in the National Air Traffic Services (NATS) by the Airline Group, a consortium composed of a number of airlines.

Spinning off non-core activities: New global operators

With the airlines increasingly concentrating on strictly commercial operations, traditional services are being either outsourced or put into independent subsidiaries. The result has been a radical restructuring of the industry, with major changes in the catering, ground-handling and maintenance sectors, where new global operators – either independent or owned by airlines – have sprung up.

8.4. Implications for management

Mergers and acquisitions

Structural change poses several challenges to airline management. Airlines are artificially restricted in their ability to grow beyond their national markets and normal merger and acquisition activity in civil aviation is made virtually impossible by foreign ownership limits. Past experience has shown that mergers and acquisitions often create more problems than they solve, for example with regard to seniority issues.

The value of alliances

Global airline alliances allow alliance partners to secure access to a more comprehensive route network with far less risk, securing economies of scale and scope that would otherwise be beyond their reach. In 1999, there were about 579 bilateral partnerships involving the 220 main airlines, including five large groupings. Further deregulation may threaten to destabilize some of the existing alliances. The formation of alliances will have significant long-term effects for various groups of employees.

Reaching the customer

Reaching the customer should be the main objective of airline managers. Under pressure of ever-increasing numbers of customer complaints and the threat of legal action, airlines in the United States and Europe, have now adopted voluntary airline customer commitments which are sometimes incorporated into their contracts of carriage.

Timeshare ownership and use of business aircraft are rapidly growing. In an effort to counteract this threat, some conventional airlines are starting corporate jet services for premium passengers and single-class business – only airlines are segmenting the market for business air travel. The airline business seems to be on the threshold of several developments that will segment the system by aircraft rather than seat row.

Managing competition

The emergence of global alliances exposes carriers to the superior performance of their partners and facilitates the process of benchmarking related to the performance of low-cost carriers, the higher productivity of United States airlines and the lower labour costs of Asian carriers. Quality of customer service is perceived as one – if not *the* – key differentiation strategy by management in the competition for customers.

Leasing

In order to determine the correct balance of owned and leased aircraft, airlines need to take into account the structural factors in the industry as well as financial, operational and

strategic considerations. It is estimated that 85 per cent of the airlines lease some or all of their aircraft.

8.5. Implications for personnel

The drive of airlines is to cut costs, including labour costs, and to demand higher productivity and improved service quality from the industry's workforce. These strategies have important implications for trade unions and industrial relations.

Employment

Industry employment worldwide has tended to remain stable, with just a 1 per cent increase over the last ten years, despite an average annual growth in combined passenger-kilometres flown of 7 per cent over the same period. Over time, fewer employees are hired for a given amount of additional business because technological and operational progress allows for the more efficient use of both old and new employees. Whilst employment among certain occupational groups (pilots, cabin crew) has increased, it has declined or stagnated amongst other groups (cleaning, catering, baggage handling, ticketing and sales).

Skill shortages

Airlines in many parts of the world are finding it very difficult to recruit the necessary staff, including pilots, cabin crew staff and mechanics. There are several reasons for this, including the loss of "glamour". Air traffic controllers are in short supply too in Europe, North America and Africa. Faced with fierce competition for skilled employees, human resources departments have developed new approaches to recruitment, such as "employer branding".

Training and licensing

Tomorrow's employer will need to provide adequate opportunities for workers to acquire new skills if they are going to be in a position to keep up with the pace of change and to take full advantage of future employment opportunities. The airline industry has always devoted substantial resources to training, largely owing to the nature of the industry and as an essential means to meet the technical and safety standards dictated by external regulatory authorities. Licensing requirements are still very similar to what they were in the mid-1940s. Experiments are under way to develop new training curricula that meet ICAO standards. For certain occupations such as air traffic controllers, there is a shortage of training opportunities, particularly in Africa.

Several organizations (including the European Organisation for the Safety of Air Navigation (EUROCONTROL) and ICAO have developed programmes to heighten awareness of the importance of human factors, which will be extended from its present focus on the flight deck to other categories of employees, including maintenance and ramp operations.

Productivity

Labour productivity, which is highly relevant to the rate of job growth, has been increasing impressively for many years, and productivity per worker in the United States has shown almost continuous improvement since 1947. Productivity in European airlines has also been increasing, but is still lower than that of the major United States carriers.

New working methods introduced in corporatized air navigation service providers have led to efficiency gains through a combination of better working practices and voluntary staff reductions.

Wages and working conditions

There are considerable differences in wages and working conditions between employees working for major airlines and those employed by regional ones. This practice has resulted in inter-union conflicts as well as industrial action. In Europe "scope clauses" in pilot contracts restricting the use of regional jets are less prevalent than in the United States.

Airline wages in the United States changed little immediately following deregulation, but research indicates that prior to recent gains, the relative earnings of air transport workers decreased markedly during the latter half of the 1980s and the early 1990s. Mergers and acquisitions have a direct, negative and significant impact on earnings for flight attendants, and to a lesser extent mechanics, but no direct effect on pilots' earnings.

For many airline groups, a relative or absolute deterioration in pay in recent years has stemmed from nominal wage reductions or pay freezes, often as a "solidarity" contribution to the survival of the airline. Some airlines have introduced two-tier wage systems, with lower starting levels and slower wage progression for those entering the occupation.

Gender issues

One of the weak points of the airline industry is sex discrimination. In particular, female flight attendants are seen as inherently capable of presenting themselves as "feminine", as aesthetically pleasing, not only by their employers, but also by many customers. They are often subject to discriminatory weight limits or other requirements linked to appearance in recruitment, employment and retirement ages. There have been several class-action suits in the United States involving female airline employees. Trade unions are campaigning against sexual discrimination in the industry.

International trade union cooperation

In response to the establishment of airline alliances, employees and their representatives have established "union alliances" bringing together representatives of unions and associations involved with the airline companies belonging to a given alliance or their autonomous subsidiaries. Inter-union cooperation, at both national and international levels, is likely to assume greater importance in the future.

8.6. Decent work, occupational safety and health, violence and stress

Occupational safety and health

The airline industry is often seen as a "glamour" industry, but workers may be exposed to higher occupational risks than generally assumed. According to the United States Bureau of Labor Statistics, in 1998, the industry-wide rate of recordable injuries and illnesses for the "transportation by air" industry was higher (14.5 per cent) than in construction (8.8 per cent), agriculture (7.9 per cent), or mining (4.9 per cent). The United States industry average is 3.1 per cent. The air transport industry in the United Kingdom

saw around 270 accidents per 100,000 workers in 1998, slightly less than construction – which has one of the highest accident rates of any industry – at 400 major accidents per 100,000 workers. Taking into consideration all "three-day accidents", it became clear that the supporting services of the air transport sector, which include ground handling, was very high at 2,000 per 100,000 workers. In other words, every year one in 50 workers has an accident involving absence from work for three days or more.

In several countries, national aviation administrations have jurisdiction over safety and health issues for flight deck and cabin crews instead of the occupational safety and health authorities. In the United States, it was recently agreed that certain Occupational Safety and Health Administration (OSHA) standards should apply to cabin crew on board aircraft.

Exposure to radiation and the cabin environment, including air quality, are health issues which concern both airline crews and passengers. Action on in-flight radiation has been taken by the European Union (EU) requiring airlines to track radiation dosages received by crew members and ordering them to take remedial action. The question of air quality has been an issue of debate for many years. New independent studies of air quality in passenger cabins in aircraft are under way.

Flight attendants are exposed to a series of occupational safety and health risks, as are ramp workers and other groups of ground-handling staff, including check-in employees. Slips, trips and falls, back injuries and musculoskeletal injuries are very common among these groups of employees. Better prevention could help to reduce these occurrences.

Violence and stress

Air rage is the most well-known form of violence against air transport workers. All groups of airline employees are subject to verbal and physical aggression by passengers, which may be caused by the stressful conditions prior to boarding and on board the aircraft. Unrealistic expectations fostered by airline marketing efforts underlie a lot of air rage. Research indicates that the problem of air rage is growing rapidly. While several airlines have training programmes for their staff in place, more can be done to improve prevention programmes, which should include care for victimized employees. At the international level, action is being taken to improve the existing legal framework for dealing with air rage offences.

Air traffic controllers are generally considered as one of the working groups having to deal with a highly demanding job with a resulting high level of stress, affecting not only their job satisfaction, but also their well-being and safety. It is evident that their job entails high psychological demands while being subjected to a considerable degree of external control. This feeling of lack of personal influence can be a powerful stressor.

8.7. Restructuring and social dialogue

The airline industry is highly organized, although the situation differs between various occupational groups and from country to country. In the past few years, several complaints have been submitted to the ILO Governing Body's Committee on Freedom of Association alleging anti-union discrimination, obstruction of collective bargaining and the use of subcontracting for anti-union purposes. Air traffic controllers in various countries are included among essential services.

Collective bargaining and labour-management relations in the United States

Collective bargaining in the airline industry in the United States is governed by the Railway Labor Act (RLA), which establishes procedures for negotiating collective agreements. Labour relations in the industry are often acrimonious, but mistrust now seems to be escalating. The present labour unrest is a demonstration of the complicated and elongated mediation process under the Act. Contracts in the industry never expire; instead, they become amendable, and unions cannot strike until they are released by the Government. The goal of the RLA is to avoid transportation disruptions by allowing an extended mediation process.

But this does not mean that the airlines enjoy good labour relations. In fact, the industry's very structure and the disagreement between labour and management about who runs the enterprise create persistent tensions – even when the employees own the airline. Although no legislative course of action has been mapped out, management and labour are already at daggers drawn about the prospect of federal intervention. It is even argued that the airline industry should be covered by the National Labor Relations Act (NLRA), like most other industries, rather than the RLA in order to speed up the collective bargaining process.

Collective bargaining and labour-management relations in Europe and elsewhere

Labour-management relations in the air transport industry have often been fraught with conflicts. In order to protect airline workers' terms and conditions of employment, unions have traditionally relied primarily on national collective bargaining arrangements. The majority of unions now negotiate principally with individual carriers on a company basis. Only 10 per cent of unions are involved in national-level, multi-company bargaining, and the trend is towards further decentralization. One immediate concern for the trade unions is the extent to which some airlines are no longer prepared to negotiate over key dimensions of change such as working time, performance-related pay and flexibility issues. Management action and labour response are differentiated, constrained and shaped by national contexts, in particular national systems of labour regulation.

The EU in general, and the Directorate-General for Employment and Social Affairs of the European Commission in particular, are seen by unions as an important mechanism for the promotion of certain employment issues, for example the negotiation of the European Agreement on the Organization of Working Time of Mobile Staff in Civil Aviation.

Employment relations in the Australian airline industry have changed considerably since 1980. Broader job definitions, more functional flexible work arrangements, greater technical training, skill-based wage classifications and stronger career paths increased the efficiency of workplace operations. Organizational rationalization, workforce reductions, part-time and temporary employment and other forms of numerical flexibility produced leaner enterprises with lower labour costs. These changes were accompanied by improvements in management-employee communication and more decentralized collective bargaining structures. Similar developments took place in New Zealand.

Industrial conflicts

The threat of airline strikes seems to loom every year for anxious travellers, and in recent months there have been strikes in various parts of the world. Nevertheless, many conflicts are resolved without resorting to industrial action. Strike action is often more

effective when unions cooperate, either nationally or internationally, either with unions recognized by global alliance partners or with unions outside alliance groupings. More permanent networks for information, cooperation and solidarity are needed to coordinate union action. There are other, equally effective means of action, such as refusal to work overtime or "sick-outs".

Possible future developments

Until now airline alliances were considered as a magic bullet against rising costs and increasing competition. Corresponding trade union alliances may call for solidarity action in the event of a strike at one of the airlines. The trend towards the harmonization of wages and working conditions in airline alliance partners may gain strength. European airlines are subject to the EU Council Directive on European Works Councils.