

Cir 339
AT/197



Regional Differences in International Airline Operating Economics: 2010 and 2011

Approved by the Secretary General
and published under his authority

International Civil Aviation Organization

Cir 339
AT/197



Regional Differences in International Airline Operating Economics: 2010 and 2011

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

International Civil Aviation Organization

Published in separate English, Arabic, Chinese, French, Russian
and Spanish editions by the
INTERNATIONAL CIVIL AVIATION ORGANIZATION
999 University Street, Montréal, Quebec, Canada H3C 5H7

For ordering information and for a complete listing of sales agents
and booksellers, please go to the ICAO website at www.icao.int

**Cir 339, *Regional Differences in International Airline
Operating Economics: 2010 and 2011***
Order Number: CIR 339-CD
ISBN 978-92-9249-585-5

© ICAO 2014

All rights reserved. No part of this publication may be reproduced, stored in a
retrieval system or transmitted in any form or by any means, without prior
permission in writing from the International Civil Aviation Organization.

TABLE OF CONTENTS

	<i>Page</i>
Chapter 1. Introduction	1
Chapter 2. Levels of unit revenues	2
Passenger traffic	2
Freight and mail traffic.....	2
Chapter 3. Regional differences in scheduled passenger unit revenues and related costs	11
Overall financial results by international route group.....	11
Comparison of results for 2011 with those for 2009	12
Variations in revenue/cost ratios among airlines	18
Chapter 4. Factors causing regional differences in costs	19
Aircraft mix and stage length.....	19
Prices for aircraft fuel and oil.....	20
Airport and associated charges	23
Load factor	25
Other causes of regional differences in costs.....	25
Summary of the causes of regional differences in costs	26
Appendix 1. Data sources and coverage.....	28
Sources	28
Coverage.....	28
Appendix 2. Method of analysis	34
Appendix 3. Questionnaires relating to revenues and costs.....	37
I. Facsimiles of questionnaires and attachments.....	39
II. Respondents to questionnaires	45

Chapter 1

INTRODUCTION

1.1 This circular has been prepared pursuant to ICAO Assembly Resolution A38-14, Appendix F, which requests the Council to instruct the Secretary General to issue periodically “a study on regional differences in the level of international air transport operating costs, analysing how differences in operations and input prices may affect their levels and the impact that changes in costs may have on air transport tariffs”. This study on *Regional Differences in International Airline Operating Economics: 2010 and 2011* succeeds the study which covered the years 2008 and 2009 and was published in 2012 (Circular 332-AT/191) and six previous studies covering the years 1992 to 2007. Prior to that, similar studies were published annually under the title *Regional Differences in Fares, Rates and Costs for International Air Transport*, which covered the years 1976 to 1992. The studies are now published biennially, although data have continued to be collected and analysed on an annual basis. This circular focuses on the years 2010 and 2011 and makes some comparisons with 2009, the last year for which data are available in the previous Circular (Circular 332-AT/191).

1.2 For 17 international route groups, comprising all international routes, passenger, freight and mail revenue yield data are presented in Chapter 2 for scheduled services. With reference to the same route groups, regional differences in the costs related to the scheduled service passenger yields are presented in Chapter 3. The major causes of regional differences in costs are identified in Chapter 4. In Chapters 2 and 3, the 2011 results are compared with those for 2009.

1.3 The sources of data used in the study are given in Appendix 1, together with information on the sample sizes on which revenue and cost data are based. The method of analysis used in the study is presented in Appendix 2. The questionnaire and information on responses appear in Appendix 3.

1.4 Unless indicated otherwise, all references to “cents” in this circular mean “U.S. cents” and all references to “dollars” mean “U.S. dollars”.

Chapter 2

LEVELS OF UNIT REVENUES

Passenger traffic

2.1 Estimates of average unit passenger revenues for scheduled services in 2010 and 2011 by route group are presented in Table 2-1.

2.2 Column 1 of Table 2-1 shows the average (weighted) revenue per passenger-kilometre (yield) for scheduled passenger traffic on each route group for 2010 and 2011. These data are considered representative of all airlines operating on the particular route group and also include estimates for non-reporting airlines. The data are presented without distinction to class of travel or fare type. Thus, they represent the overall weighted average for all individual routes on all route groups and for all fare types. The overall average yield (excluding incidental revenues) was estimated at 9.59 cents for 2010 and 10.23 cents for 2011. However, the route group averages vary from a high of 12.6 cents in local Europe to a low of 7.6 cents on routes across the Mid-Atlantic in 2010 and from a high of 15.9 cents in local Africa to a low of 8.1 cents on the routes across the Mid-Atlantic in 2011. Due to inadequate representation in reporting, three route groups for 2010: between and within Central America and the Caribbean, local Middle East and local Africa, and two for 2011: between and within Central America and the Caribbean, and local Middle East are not included in this analysis, although their estimates are included in the worldwide totals for both years.

2.3 On a worldwide basis, the estimated average yield for scheduled services at 10.23 cents in 2011 showed an increase of some 16 per cent from the level in 2009. Comparable data by route group between 2011 and 2009 are available for 14 individual route groups. All of them showed increases, ranging from a growth of some 3 per cent for routes within Europe to some 24 per cent for routes across the North and Mid-Pacific (Figure 2-1).

2.4 The changes in yields experienced between 2009 and 2011 reflect the weakening of the U.S. dollar (both in 2010 and 2011) against most other world currencies, especially the currencies of countries in Europe and Asia/Pacific. The relative change between 2009 and 2011 would, in many cases, be significantly lower if expressed in the national currencies of the airlines concerned. A brief evaluation of this effect is given in Chapter 3 (paragraphs 3.11 and 3.12).

2.5 The analyses in paragraphs 2.2 to 2.4 relate only to the average unit revenues for all airlines combined on each route group. There can be wide variations around these averages shown among individual airlines. In the case of passenger services, the variation in yields for each route group for 2010 and 2011 is shown in Tables 2-2 and 2-3, respectively. For a few route groups, the unit revenues for individual airlines do not vary much from the route group average (for example, for routes between North America and Central America/Caribbean, within North America, local South America and across the South Pacific). However, on most route groups, the unit revenues differ significantly among airlines, reflecting differing route structures and traffic mix, among other factors.

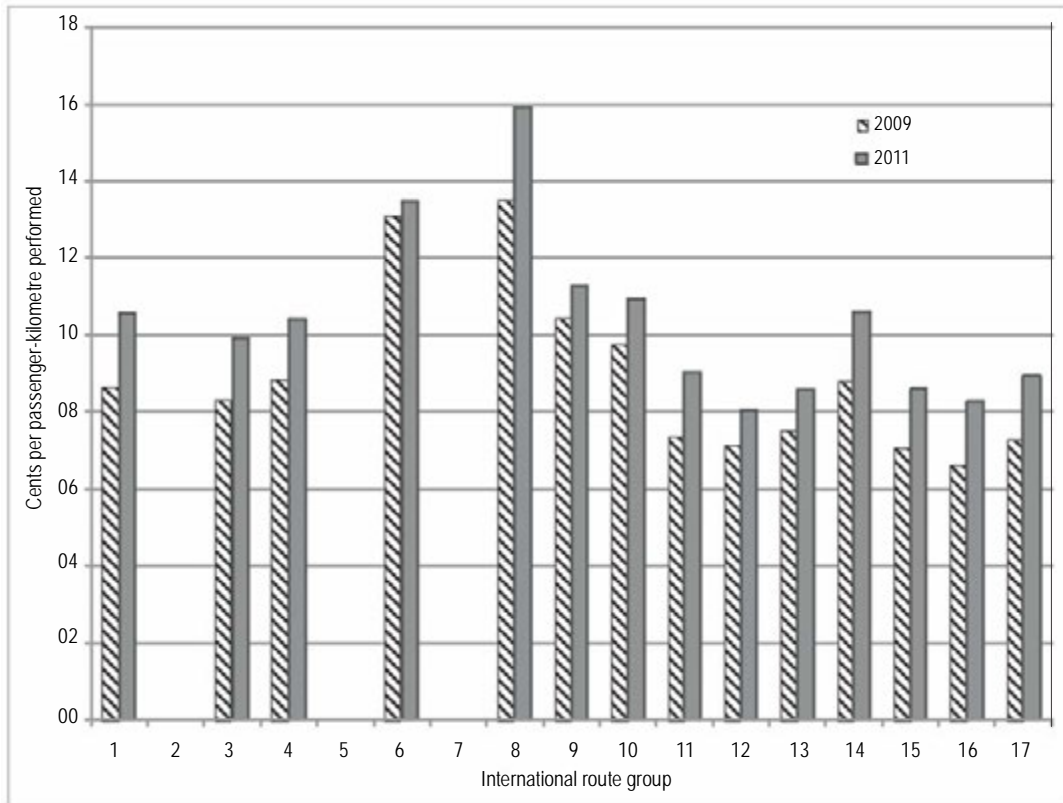
Freight and mail traffic

2.6 Average reported unit freight and mail revenues for the years 2010 and 2011 by international route group are presented in Table 2-4. It has to be borne in mind that the average unit revenues may not be for the same set of airlines for both years for each of the route groups. The reason is that the availability of data is limited and dependent upon the reporting of air carriers whose composition may differ from year to year.

Table 2-1 Estimated average unit passenger revenues for scheduled services by international route group¹: 2010 and 2011

Route group ²	Revenue (cents) per passenger-kilometre ³		Load factors (percentage points)	
	(1)		(2)	
	2010	2011	2010	2011
1. Between North America and Central America/Caribbean	9.3	10.5	78	79
2. Between and within Central America and the Caribbean	—	—	—	—
3. Between Canada, Mexico and the United States	9.0	9.9	78	78
4. Between North America/Central America/Caribbean and South America	9.3	10.4	78	80
5. Local South America	10.2	11.1	72	74
6. Local Europe	12.6	13.5	75	76
7. Local Middle East	—	—	—	—
8. Local Africa	—	15.9	—	62
9. Between Europe and Middle East	10.9	11.3	73	72
10. Between Europe/Middle East and Africa	10.4	10.9	74	74
11. North Atlantic	8.5	9.0	82	81
12. Mid-Atlantic	7.6	8.1	82	82
13. South Atlantic	8.2	8.6	83	82
14. Local Asia/Pacific	10.1	10.6	75	73
15. Between Europe/Middle East/Africa and Asia/Pacific	8.1	8.6	80	78
16. North and Mid-Pacific	7.8	8.3	84	81
17. South Pacific	8.2	8.9	82	79

1. Data, where presented, are considered representative for all airlines operating in the route group concerned. The representative nature of the data is described in Appendix 1. For routes between and within Central America and the Caribbean, in local Middle East and in local Africa (for 2010 only) the representation was inadequate to justify separate presentation, but the data have been included in the world averages.
2. More detailed definition of the route groups may be found in Appendix 3 on the reverse of the questionnaire.
3. These figures do not generally include such incidental operating revenues as may be attributed to international passenger traffic. On individual route groups incidental operating revenues not included may represent up to an additional 6 and 7 per cent for 2010 and 2011, respectively, over the average revenue quoted.



- | | | |
|--------------------------|-----------------------|-------------------------|
| 1. North-Central America | 7. Middle East | 13. South Atlantic |
| 2. Central America | 8. Africa | 14. Asia/Pacific |
| 3. North America | 9. Europe-Middle East | 15. Europe-Asia/Pacific |
| 4. North-South America | 10. Europe-Africa | 16. North/Mid-Pacific |
| 5. South America | 11. North Atlantic | 17. South Pacific |
| 6. Europe | 12. Mid-Atlantic | |

Figure 2-1. Comparison of unit passenger revenues: 2009 and 2011

Table 2-3. Variation in scheduled passenger yield among airlines: 2011

Route group (short title)	Average revenue (cents) per passenger-kilometre (all airlines from Table 2-1)	Number of airlines in this analysis	Revenue (cents) per passenger-kilometre for individual airlines																										
			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
1. North-Central America	10.5	11	1	1	2	1	1	1	5																				
2. Central America/Caribbean	—	—																											
3. North America	9.9	14	2	1	2	1	6	2																					
4. North-South America	10.4	13	1	1	2	3	3	3																					
5. South America	11.1	5	2	1	1																								
6. Europe	13.5	34	1	1	1	2	1	4	4	6	1	1	1	2	2	3	2	1	1	1									
7. Middle East	—	—																											
8. Africa	15.9	3	1	1																									
9. Europe-Middle East	11.3	22	1	3	1	2	4	2	3	2	2																		
10. Europe-Africa	10.9	28	2	1	1	1	3	2	5	5	4	2	1																
11. North Atlantic	9.0	26	1	2	3	6	7	5	1	1																			
12. Mid-Atlantic	8.1	11	1	2	2	3	1	1	1																				
13. South Atlantic	8.6	13	1	6	2	2	1	1																					
14. Asia/Pacific	10.6	18	2	3	2	2	2	2	2	2	2	1																	
15. Europe-Asia/Pacific	8.6	31	3	7	2	5	4	4	4	1																			
16. North/Mid-Pacific	8.3	15	1	2	1	5	3	2	1																				
17. South Pacific	8.9	6	1	3	1	1																							

1. In the range of 43 to 44.

2.7 Column 1 of Table 2-4 shows the overall average revenue per tonne-kilometre performed for all (whether carried on passenger, combination or all-freight aircraft) scheduled freight traffic on each route group. The variation among route group averages ranges from a high of 67.9 cents on routes within Africa to a low of 20.6 cents on routes across the North Atlantic in 2010 and from a high of 74.1 cents on routes within Europe to a low of 19.6 cents on routes across the South Pacific in 2011. Comparing the figures of 2009 and 2011, 13 of the route groups experienced increases and 2 showed decreases (no data available for two route groups).

2.8 Columns 2 and 3 of Table 2-4 show the average revenue per tonne-kilometre performed for scheduled freight traffic carried on passenger and combination aircraft and on all-freight aircraft, respectively. For the majority of route groups for which data are available, due to the large cargo capacity offered at competitive rates on wide-body passenger and combination aircraft (for example, on routes across the North/Mid-Pacific), the freight yields of passenger and combination aircraft are lower than those of all-freight aircraft. This reflects the fact that, depending on the mix of traffic, the freight cost basis on combination aircraft may allow much lower rates to be offered than those on pure freight services.

2.9 Column 4 of Table 2-4 shows the average revenue per tonne-kilometre performed for airmail traffic on each route group. The route group averages range from a high of 89.7 cents on routes within Africa to a low of 20.7 cents on those across the South Atlantic in 2010 and from a high of 67.4 cents for routes within North America to a low of 28.5 cents for routes across the South Atlantic in 2011. Between 2009 and 2011, unit mail revenues increased on 9 out of 13 route groups for which there are data available and decreased on the remaining 4 route groups. Unit mail revenues in general still remain somewhat higher than unit freight revenues except for routes between North and South America, local South America and across the South Atlantic (in 2010 only) and within Europe (both in 2010 and 2011).

2.10 The variation among individual airlines in freight revenue per tonne-kilometre for scheduled services for each route group for 2010 and 2011 is shown in Tables 2-5 and 2-6, respectively. For a few route groups, the unit revenues for individual airlines do not vary much from the route group average (for example, on routes across the Atlantic and Pacific). However, as with passenger traffic, the unit revenues on most route groups differ significantly among airlines.

Table 2-4. Reported average unit freight and mail revenues by international route group, scheduled services: 2010 and 2011¹

Route group (short title)	Freight revenue (cents) per tonne-kilometre performed						Mail revenue (cents) per tonne-kilometre performed	
	Overall		Passenger and combination aircraft		All-freight aircraft		Overall	
	(1)		(2)		(3)		(4)	
	2010	2011	2010	2011	2010	2011	2010	2011
1. North-Central America	24.0	29.6	24.0	29.6	—	—	26.9	30.5
2. Central America/Caribbean	—	73.3	—	73.3	—	—	—	—
3. North America	31.9	40.4	31.9	40.4	—	—	58.4	67.4
4. North-South America	37.7	32.4	37.7	32.4	—	—	27.2	32.7
5. South America	29.9	50.5	29.9	50.5	—	—	23.4	—
6. Europe	64.4	74.1	58.5	72.3	78.2	77.3	40.6	64.7
7. Middle East	42.9	43.5	42.9	43.5	—	—	—	—
8. Africa	67.9	45.3	67.9	59.4	—	32.6	89.7	56.2
9. Europe-Middle East	30.7	32.5	27.2	28.6	43.7	54.3	46.0	47.8
10. Europe-Africa	27.0	29.8	25.4	27.9	32.6	48.3	28.5	39.6
11. North Atlantic	20.6	22.7	19.5	22.2	31.2	38.4	33.3	34.6
12. Mid-Atlantic	26.3	29.8	26.3	27.4	—	38.9	—	37.3
13. South Atlantic	26.2	27.8	26.2	27.8	—	—	20.7	28.5
14. Asia/Pacific	39.9	42.4	35.7	36.1	47.3	53.4	45.0	60.5
15. Europe-Asia/Pacific	27.0	28.0	23.8	27.1	30.6	29.3	31.7	35.7
16. North/Mid-Pacific	26.8	26.1	25.6	27.6	27.4	25.1	32.5	32.0
17. South Pacific	22.1	19.6	22.1	19.6	—	—	37.6	29.5

1. Data represent only carriers for which substantive information was available and are only presented where they include two or more carriers. The representative nature of the data is described in Appendix 1.

Table 2-5. Variation in scheduled freight yield among airlines: 2010

Route group (short title)	Average revenue (cents) per tonne- kilometre (all airlines from Table 2-4)	Number of airlines in this analysis	Revenue (cents) per tonne-kilometre for individual airlines																		
			Number of airlines																		
			0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	and over	
1. North-Central America	24.0	5	1	4																	
2. Central America/Caribbean	—	—																			
3. North America	31.9	6		2	3	1															
4. North-South America	37.7	10	1	1	7	1															
5. South America	29.9	6	1		1	1	1						1								1 ¹
6. Europe	64.4	24		1		2	2	3	2	1	2	4		2				1			2 ²
7. Middle East	42.9	3			1				1												
8. Africa	67.9	2				1				1											
9. Europe-Middle East	30.7	21	2	7	3	6	1	1			1										
10. Europe-Africa	27.0	18	4	6	3	3	2														
11. North Atlantic	20.6	24	8	11	4																1
12. Mid-Atlantic	26.3	8	3	3	2																
13. South Atlantic	26.2	13	5	6	2																
14. Asia/Pacific	39.9	35	7	13	10	3	2														
15. Europe-Asia/Pacific	27.0	35	4	21	4	4		2													
16. North/Mid-Pacific	26.8	17	3	11	3																
17. South Pacific	22.1	7	1	4	1	1															

1. In the range of 180-190.
 2. In the range of 200-210 (1) and 320-330 (1).

Table 2-6. Variation in scheduled freight yield among airlines: 2011

Route group (short title)	Average revenue (cents) per tonne-kilometre (all airlines from Table 2-4)	Number of airlines in this analysis	Revenue (cents) per tonne-kilometre for individual airlines																		
			Number of airlines																		
			0 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	110 to 120	120 to 130	130 to 140	140 to 150	150 to 160	160 and over		
1. North-Central America	29.6	6		4	1					1											
2. Central America/Caribbean	73.3	2								1											
3. North America	40.4	7		1	3	3															
4. North-South America	32.4	9		4	5																
5. South America	50.5	2							1												
6. Europe	74.1	20		1	2	4	2	1			1	2	1	1	1	1	1	1	4 ¹		
7. Middle East	43.5	2		1						1											
8. Africa	45.3	3		1					1												
9. Europe-Middle East	32.5	17		4	5	2	3	2			1										
10. Europe-Africa	29.8	19		2	8	4	1	1	2			1									
11. North Atlantic	22.7	25		7	14	3													1 ²		
12. Mid-Atlantic	29.8	10		2	3	4	1														
13. South Atlantic	27.8	13		4	7	2															
14. Asia/Pacific	42.4	22	2	1	2	6	2	2	4	1	1										
15. Europe-Asia/Pacific	28.0	31		4	14	7	2	1	2												
16. North/Mid-Pacific	26.1	16		3	9	3				1											
17. South Pacific	19.6	6		1	1	4															

1. In the range of 160-170 (1), 170-180 (1), 180-190(1) and 310-320 (1).

2. In the range of 170-180 (1).

Chapter 3

REGIONAL DIFFERENCES IN SCHEDULED PASSENGER UNIT REVENUES AND RELATED COSTS

Overall financial results by international route group

3.1 Selected operational data and estimated financial results for the years 2010 and 2011, overall and by route group, are presented in Table 3-1.

3.2 Column 1 of Table 3-1 shows that the number of scheduled airlines operating jet services in each route group ranged from a low of 15 on the South Pacific route group to a high of 180 serving routes within Europe in 2010 and from a low of 17 to a high of 193 on the same route groups in 2011. It should be noted that the propeller aircraft operations of these airlines are excluded from the study, as are the operations of some 103 and 108 small international airlines which operated exclusively propeller-driven aircraft in 2010 and 2011, respectively. Together these operations with propeller aircraft represented about 0.4 per cent of world international seat-kilometres both in 2010 and 2011, with their highest representations in any single route group being some 16 and 13 per cent within Central America/Caribbean in 2010 and 2011, respectively, and around 3 per cent both in 2010 and 2011 within Africa.

3.3 All operational data included in columns 3 to 5 of Table 3-1 have a significant effect on unit operating costs (see Chapter 4), and the world unit cost is also affected by the geographical traffic composition presented in column 2. There are considerable differences among route groups in the volume of traffic, the average length of flight stages, the average number of seats per aircraft and the average passenger load factor.

3.4 Financial results are presented in columns 6 to 8. It should be borne in mind that the revenue figures do not generally take into account incidental operating revenues. Incidental revenues (which may be directly attributed to passenger traffic) include revenues from passengers paying less than 25 per cent of the normal applicable fare, commissions received on sales of transportation on other carriers, "no-show" and cancellation fees (expenses incurred against these revenue items are however included in the cost figures shown in column 7). Incidental revenues also include, on a net basis, capacity equalization payments arising from pooled and/or joint services as well as from the sale of own capacity to other carriers. Revenues accruing from the provision of services other than for air transportation (such as service and maintenance sales or handling services for third parties) and the corresponding costs are excluded from all figures presented in this study. An analysis of reported incidental revenue data on this basis for 2010 and 2011 indicates that for international routes as a whole, relevant incidental revenues not included in Table 3-1 might have been about 0.36 cents per passenger-kilometre both in 2010 and 2011. If these relevant incidental revenues had been added to the estimated worldwide unit revenue, they would have increased the estimated worldwide unit revenue from 9.59 to 9.95 cents per passenger-kilometre in 2010 and from 10.23 to 10.59 cents per passenger-kilometre in 2011, this being about 4 and 3 per cent for 2010 and 2011, respectively. For individual route groups, the passenger-related incidental operating revenues may represent as much as almost an additional 6 and 7 per cent over the average revenue in 2010 and 2011, respectively. In further analysis, however, they have not been included since no attempt has been made to estimate them for all airlines (reporting and non-reporting) due to the uncertainty of the extent to which they can be attributed to the carriage of passengers on passenger and combination aircraft.

3.5 The average (weighted) operating cost — attributable to the carriage of passengers on passenger and combination aircraft — per passenger-kilometre for all international routes was 9.55 cents and 10.45 cents (column 7) in 2010 and 2011, respectively (for further details on the way passenger costs have been derived, see paragraphs 10 to 14 of Appendix 2). The figures for individual route groups range from a high of 13.5 cents on routes within Europe to a low of 7.4 cents on routes across the North/Mid-Pacific in 2010 and from a high of 15.0 cents within Africa to a low of 8.4 cents on routes across the North/Mid-Pacific in 2011. These estimated costs include such items as depreciation and sales commission paid (which are sometimes accounted for differently) but exclude costs attributable to the carriage of freight and mail.

3.6 The ratio of passenger revenues to passenger costs (column 8) for international routes as a whole is estimated at 1.00 for 2010 and 0.98 for 2011, with the ratios for individual route groups varying from 0.85 to 1.10 both in 2010 and 2011. Taking into account the relevant incidental revenues associated with international passenger traffic, the revenue/cost ratio for all international passenger traffic is estimated to be 1.04 in 2010 and 1.01 in 2011.

3.7 The components of the total passenger costs are presented in Table 3-2. The primary breakdown is between “aircraft operating costs” (i.e. those directly attributable to the operation of aircraft on each route group) and “other operating costs”. All the itemized data carry relatively wide margins of uncertainty and should be regarded as indicative only. Nevertheless, it appears that most of the individual items vary significantly among route groups.

3.8 The variations in revenue/cost ratios among airlines in 2010 and 2011 are shown in Table 3-3. On most route groups, the ratios vary significantly among the airlines, and the average revenue/cost ratios do not therefore adequately portray the economics of the operations. The revenue/cost ratios of individual carriers ranged from less than 0.7 to greater than 1.3 on 5 out of 14 route groups in the analysis in 2010 and 4 out of 15 route groups in the analysis in 2011, while ratios ranging from 0.7 to 1.3 were observed on 5 and 9 route groups in 2010 and 2011, respectively.

Comparison of results for 2011 with those for 2009

3.9 An overall comparison between data for 2011 and corresponding data for 2009 shows an increase of about 14 per cent in the estimated passenger cost per available seat-kilometre, from 7.07 cents to 8.05 cents. Since the worldwide average load factor at 77.0 per cent in 2011 showed an improvement of 1.6 percentage points as compared to 2009, the cost per passenger-kilometre shows an increase of about 11.5 per cent, from 9.37 cents to 10.45 cents (see column 7 of Table 3-1). Unit revenues (excluding incidental operating revenues) showed an increase of 16.4 per cent, from 8.79 cents per passenger-kilometre to 10.23 cents in 2011 (see column 6 of Table 3-1). As a result, the overall revenue/cost ratio increased from 0.94 in 2009 to 0.98 in 2011.

3.10 Between 2009 and 2011, 13 out of 14 route groups for which comparable data were available showed increases in costs per passenger-kilometre ranging from about 20 per cent on routes across the South Pacific to some 9 per cent for those within North America. One route group, i.e. within Europe, showed no change in the costs per passenger-kilometre (Figure 3-1).

3.11 As with the revenue figures discussed in Chapter 2, the comparison of unit costs between 2009 and 2011 has been affected in some cases by a change in the value of the U.S. dollar against other world currencies. Within the Americas, where most fares and rates are transacted in U.S. dollars, the changes in yields generally reflect market changes. Similarly, changes in unit costs in the Americas to a large extent reflect the general change in costs, as well as some operational changes, since the greater part of costs are generally borne in U.S. dollars.

Table 3-1. Basic operational data and financial results for scheduled passenger services by international route groups: 2010 and 2011¹

Route group (short title)	Operational data						Financial results ²										
	Number of airlines		Percentage of world's international traffic (available seat-km)		Average length of flight stages (km)		Average number of seats per aircraft ³		Average passenger load factor (percentage points)		Average revenue (cents) per passenger-kilometre ⁴		Average passenger costs (cents) per passenger-kilometre		Ratio revenue/costs ^{4,5}		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	
I. All world international routes	528	524	100	100	2 166	2 203	215	217	78	77	9.59	10.23	9.55	10.45	1.00	0.98	
II. International route groups																	
1. North-Central America	35	34	2	2	1 974	2 018	155	155	78	79	9.3	10.5	10.0	10.6	0.95	1.00	
2. Central America/Caribbean	22	24	0	0	1 074	1 106	124	127	—	—	—	—	—	—	—	—	
3. North America	54	52	3	3	1 500	1 532	114	115	78	78	9.0	9.9	10.8	11.7	0.85	0.85	
4. North-South America	41	40	3	3	3 274	3 374	190	192	80	80	9.3	10.4	8.9	9.6	1.05	1.10	
5. South America	30	23	1	1	1 410	1 494	161	155	72	74	10.2	11.1	11.3	11.9	0.90	0.95	
6. Europe	180	193	16	16	1 151	1 170	146	149	75	76	12.6	13.5	13.5	14.2	0.95	0.95	
7. Middle East	36	38	1	1	946	950	174	175	—	—	—	—	—	—	—	—	
8. Africa	73	71	1	1	1 455	1 416	147	145	—	62	—	15.9	—	15.0	—	1.05	
9. Europe-Middle East	110	110	4	4	3 227	3 244	234	238	73	72	10.9	11.3	10.1	10.9	1.05	1.05	
10. Europe-Africa	159	151	7	6	2 626	2 680	219	222	74	74	10.4	10.9	10.2	11.0	1.00	1.00	
11. North Atlantic	71	71	15	15	6 018	6 066	254	258	82	81	8.5	9.0	8.2	9.2	1.05	1.00	
12. Mid-Atlantic	43	42	3	3	6 775	6 833	282	288	82	82	7.6	8.1	8.2	9.0	1.05	0.90	
13. South Atlantic	28	32	2	2	8 281	8 389	283	285	83	82	8.2	8.6	8.2	8.9	1.00	0.95	
14. Asia/Pacific	133	137	14	14	2 028	2 044	229	227	75	73	10.1	10.6	9.2	10.2	1.10	1.05	
15. Europe-Asia/Pacific	162	156	19	19	4 864	4 866	280	280	80	78	8.1	8.6	8.2	9.2	1.00	0.95	
16. North/Mid-Pacific	26	26	8	8	7 667	7 833	297	295	84	81	7.8	8.3	7.4	8.4	1.05	1.00	
17. South Pacific	15	17	2	1	7 551	7 624	323	316	82	79	8.2	8.9	7.7	8.9	1.05	1.00	

1. Excluding operational and financial data attributed to propeller-driven aircraft.

2. For routes between and within Central America and Caribbean, within Middle East and within Africa (for 2010 only) the representation was inadequate to justify separate presentation, but the data have been included in world averages.

3. As defined by available seat-kilometres divided by aircraft-kilometres flown.

4. These figures do not generally include incidental operating revenues. For all international routes, that part of this additional revenue which may be directly attributed to international passenger traffic is estimated at about 0.36 cents per passenger-kilometre for both 2010 and 2011. On individual route groups it may represent up to an additional 6 and 7 per cent over the average passenger revenue quoted for 2010 and 2011, respectively.

5. Rounded to the nearest twentieth for individual route groups.

Table 3-2. Estimated passenger costs¹ per passenger-kilometre by cost item: 2010 and 2011

Route group (short title)	Total operating costs (cf. Table 3-1) (sum of columns 1-9)		Aircraft operating costs									Other operating costs																			
	2010	2011	Aircraft operating costs excluding fuel and oil			Aircraft fuel and oil			Landing and associated airport charges			Air navigation charges			Station expenses			Passenger services			Commission			Ticketing, sales and promotion			General, administrative and miscellaneous				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	
I. All international routes	9.55	10.45	2.65	2.73	2.75	3.46	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	0.36	0.38	
Percentage of total costs	100.0	100.0	27.7	26.1	28.8	33.1	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8	3.6	3.8
II. International route groups																															
1. North-Central America	10.0	10.6	2.9	2.8	2.7	3.4	0.3	0.3	0.1	0.1	1.5	1.4	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8
2. Central America/Caribbean	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. North America	10.8	11.7	3.5	3.6	2.7	3.4	0.3	0.3	0.1	0.1	1.8	1.8	1.1	1.1	1.1	1.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7
4. North-South America	8.9	9.6	2.5	2.3	2.7	3.4	0.2	0.2	0.2	0.2	0.7	0.7	0.9	0.9	0.9	0.9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9
5. South America	11.3	11.9	3.3	3.2	3.3	4.1	0.4	0.3	0.4	0.4	0.8	0.8	1.1	1.0	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.5	0.6
6. Europe	13.5	14.2	4.0	4.0	3.0	3.6	0.9	1.0	0.9	0.9	1.6	1.6	1.6	1.6	1.6	1.6	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.5
7. Middle East	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Africa	—	15.0	—	4.0	—	5.2	—	0.6	—	0.7	—	0.9	—	1.8	—	0.7	—	0.7	—	0.7	—	0.7	—	0.7	—	0.7	—	0.7	—	0.5	—
9. Europe-Middle East	10.1	10.9	2.7	2.8	2.8	3.4	0.4	0.4	0.5	0.5	0.9	0.8	1.2	1.3	1.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.8
10. Europe-Africa	10.2	11.0	2.8	2.8	2.9	3.6	0.3	0.3	0.5	0.5	0.7	0.7	1.5	1.4	1.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8
11. North Atlantic	8.2	9.2	2.1	2.2	2.6	3.3	0.2	0.3	0.2	0.2	0.7	0.7	1.1	1.1	1.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8
12. Mid-Atlantic	8.2	9.0	2.1	2.2	2.7	3.3	0.2	0.2	0.3	0.3	0.4	0.4	1.3	1.3	1.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7
13. South Atlantic	8.2	8.9	2.1	2.1	3.0	3.7	0.1	0.1	0.4	0.4	0.4	0.4	1.1	1.1	1.1	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.5	0.5
14. Asia/Pacific	9.2	10.2	2.8	2.9	2.6	3.4	0.4	0.4	0.2	0.2	0.9	1.0	1.2	1.2	1.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.2
15. Europe-Asia/Pacific	8.2	9.2	2.2	2.3	2.7	3.4	0.2	0.2	0.3	0.4	0.4	0.5	1.1	1.2	1.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7
16. NorthMid-Pacific	7.4	8.4	1.9	2.1	2.7	3.4	0.2	0.2	0.1	0.1	0.5	0.5	0.9	0.9	0.9	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.6	0.6
17. South Pacific	7.7	8.9	2.1	2.4	2.8	3.5	0.2	0.2	0.1	0.1	0.4	0.5	0.8	0.9	0.9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6

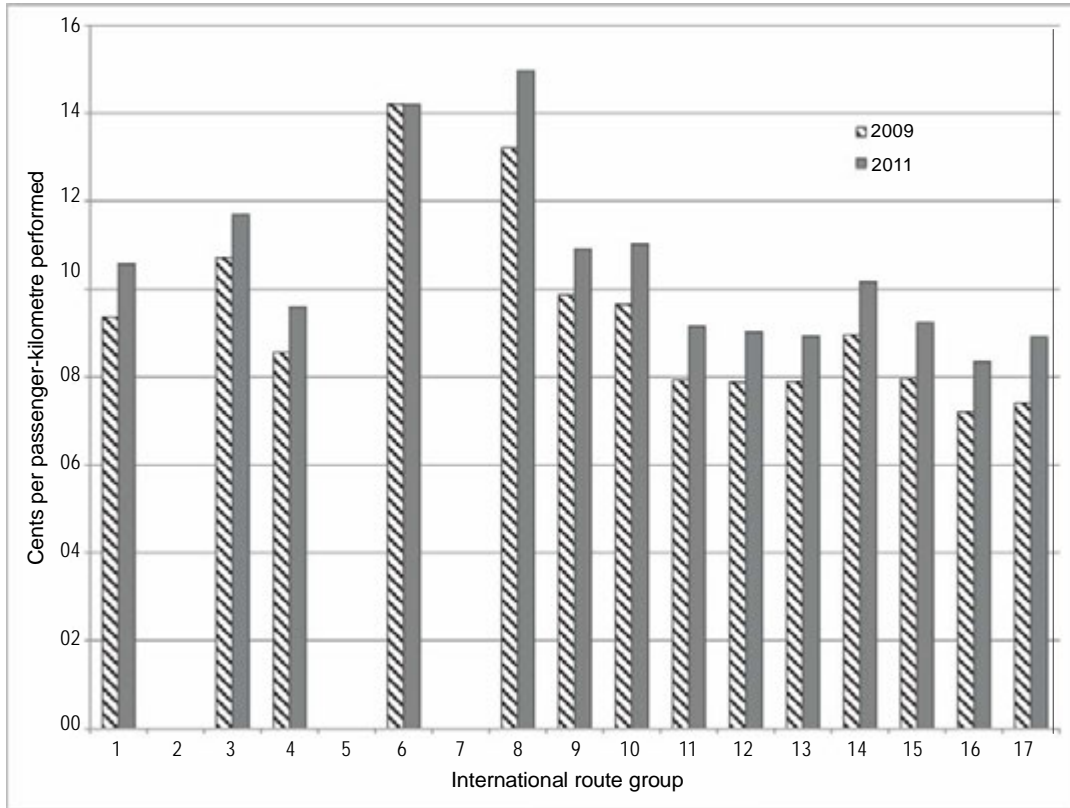
1. "Passenger costs" have been derived for each route group by taking into account the contribution made by the revenue earned for the carriage of freight and mail on passenger flights towards covering total costs for these flights. Due to the margins of uncertainty in the estimates of individual cost items, the figures should be regarded as indicative only.

2. This item includes flight operations expenses (cockpit crew salaries and expenses, rentals and insurance of flight equipment), aircraft maintenance and overhaul, and aircraft standing charges such as depreciation.

Table 3-3. Variation of revenue/cost ratios amongst airlines: 2010 and 2011

Route group (short title)	Average revenue/cost ratio (all airlines from Table 3-1)		Number of airlines in this analysis		Number of airlines									
	2010	2011	2010	2011	Less than 0.7		0.7 to 0.9		0.9 to 1.1		1.1 to 1.3		Greater than 1.3	
					2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
I. All world international routes	1.00	0.98	64	61	6	8	22	21	31	31	4	1	1	1
II. International route groups														
1. North-Central America	0.95	1.00	7	6	1	3	3	2	2	3	1	1	1	1
2. Central America/Caribbean	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. North America	0.85	0.85	9	8	1	1	5	3	3	3	—	—	—	—
4. North-South America	1.05	1.10	12	10	2	2	—	—	8	2	2	5	1	1
5. South America	0.90	0.95	5	4	1	—	2	2	2	—	—	—	—	—
6. Europe	0.95	0.95	24	27	1	2	17	17	4	7	2	2	1	1
7. Middle East	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Africa	—	1.05	—	3	—	—	—	2	—	1	—	—	—	—
9. Europe-Middle East	1.05	1.05	18	17	3	3	8	5	6	6	1	2	1	1
10. Europe-Africa	1.00	1.00	18	25	2	6	6	5	6	11	3	1	1	2
11. North Atlantic	1.05	1.00	22	24	2	2	3	9	14	11	3	2	—	—
12. Mid-Atlantic	1.05	0.90	8	10	—	1	5	5	2	3	1	1	—	—
13. South Atlantic	1.00	0.95	11	12	2	2	3	3	3	5	2	2	1	1
14. Asia/Pacific	1.10	1.05	17	16	1	3	2	2	11	10	2	—	—	—
15. Europe-Asia/Pacific	1.00	0.95	31	28	7	8	8	9	11	11	4	—	—	—
16. North/Mid-Pacific	1.05	1.00	15	15	1	6	5	2	5	5	3	2	1	1
17. South Pacific	1.05	1.00	6	5	1	1	2	1	3	2	—	—	—	—

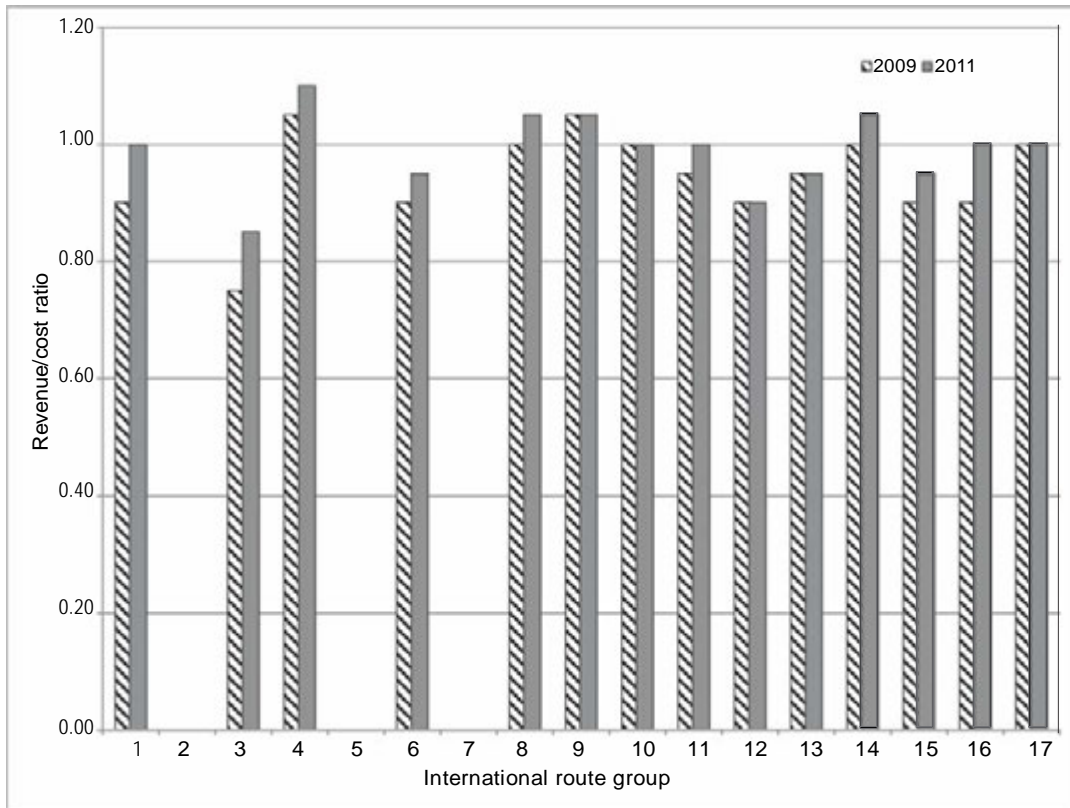
3.12 Outside the Americas, for those route groups where, between 2009 and 2011, the mix of national currencies generally strengthened against the U.S. dollar (such as route groups involving Europe and Asia/Pacific), with some exceptions which caused local distortions, the changes shown in revenues and costs when expressed in U.S. dollars are effectively overstated. Hence, between 2009 and 2011, the yields and costs expressed in local currencies for some of the route groups involving airlines from these regions would have shown smaller increases or even decreases.



- | | | |
|--------------------------|-----------------------|-------------------------|
| 1. North-Central America | 7. Middle East | 13. South Atlantic |
| 2. Central America | 8. Africa | 14. Asia/Pacific |
| 3. North America | 9. Europe-Middle East | 15. Europe-Asia/Pacific |
| 4. North-South America | 10. Europe-Africa | 16. North/Mid-Pacific |
| 5. South America | 11. North Atlantic | 17. South Pacific |
| 6. Europe | 12. Mid-Atlantic | |

Figure 3-1. Comparison of total unit operating costs: 2011 and 2009

3.13 Of the 14 route groups analysed in this study for which comparable data were available, 9 showed an increase in their respective revenue/cost ratios between 2009 and 2011, while the remaining 5 showed no change or only marginal improvement (Figure 3-2). Contributions to these changes by different regional groups of airlines are discussed below.



- | | | |
|--------------------------|-----------------------|-------------------------|
| 1. North-Central America | 7. Middle East | 13. South Atlantic |
| 2. Central America | 8. Africa | 14. Asia/Pacific |
| 3. North America | 9. Europe-Middle East | 15. Europe-Asia/Pacific |
| 4. North-South America | 10. Europe-Africa | 16. North/Mid-Pacific |
| 5. South America | 11. North Atlantic | 17. South Pacific |
| 6. Europe | 12. Mid-Atlantic | |

Figure 3-2. Comparison of revenue/cost ratios: 2011 and 2009

3.14 For 7 of the 9 route groups where there was an improvement in revenue/cost ratios in 2011 compared to 2009, yields expressed in cents per passenger-kilometre showed increases as did unit costs expressed in terms of cents per seat-kilometre; however, the increases in costs were smaller than the increase in yields on all these 7 route groups. These smaller increases in costs combined with improvements of load factors resulted in the improvement of revenue/cost ratios. On 2 route groups, where the increase in unit costs (per available seat-kilometre) was marginally higher than the increase in yields, improvement in load factor was sufficient to compensate for that difference; this resulted in slight improvement of revenue/cost ratio in 2011 compared to 2009 on these 2 route groups. For 4 out of 5 route groups where there was no change or only marginal improvement in the revenue/cost ratio, the increases in unit costs per available seat-kilometre outpaced increases in yields; however, moderate improvements in load factors compensated for the difference in these increases. For the remaining one route group out of the 5, the increase in unit costs per available seat-kilometres was compensated by the increase in yields, and a small improvement in the load factor did not have much effect on the ratio.

Variations in revenue/cost ratios among groups of airlines

3.15 Comparing the years 2009 and 2011, the airlines of Asia/Pacific, Europe and North America, each as a group, showed improvements in their respective overall operating ratios (airlines from Central America/Caribbean, Africa, the Middle East and South America are excluded from this analysis because of their low representation in both or either of the years).

3.16 In 2011, as compared to 2009, airlines registered in the Asia/Pacific region saw their overall revenue/cost ratio increase as well as on individual route groups on which they operated, except for the South Pacific route group. Unit operating costs per seat-kilometre increased on all these route groups as did yields per passenger-kilometre, but the latter at a lower rate on some of them. However, improvements in load factors on each of the route groups (average load factor for all route groups combined increased by close to 2 percentage points) contributed to the improvement of the revenue/cost ratio on individual route groups and of the overall revenue/cost ratio of the airlines of the Asia/Pacific region. In case of the South Pacific route group, the increase of unit cost per the available seat-kilometre was some 7 per cent higher than the yield increase. With almost no improvement in the load factor, the revenue/cost ratio deteriorated compared to 2009.

3.17 In 2011, compared to 2009, airlines of the European region improved their overall average revenue/cost ratio, as well as on 4 route groups (i.e. within Europe, Europe-Middle East, North Atlantic and Europe/Africa/Middle East-Asia/Pacific) out of 7 route groups where they operated; no improvement was witnessed on one route group (South Atlantic) and a marginal deterioration was seen in the 2 remaining, i.e. between Europe/Middle East-Africa and across the Mid-Atlantic. On 3 out of 4 route groups where there were improvements in the revenue/cost ratios, improvements in yields outpaced the increases in unit costs per available seat-kilometres and despite very small improvements in the average load factors, these improvements were sufficient to increase the revenue/cost ratios in 2011 compared to 2009. On one route group, where the revenue/cost ratio improved, both unit costs per available seat-kilometre and yields increased although costs increased at a higher rate; however, the increase in the average load factor compensated for the difference between the growth rates in unit costs and yields. On 2 route groups where the revenue/cost ratios marginally deteriorated, the growth in unit costs per available seat-kilometre outpaced the increase in yields, while the average load factors did not improve sufficiently to compensate for the difference in growth rates between unit costs and yields.

3.18 In 2011 airlines of the North America region saw their average revenue/cost ratio improve significantly, compared to 2009, as well as on each route group on which they operated. Passenger yields increased on all these route groups as did the average unit costs per seat-kilometre, but the latter at a lower rate. That development, coupled with the improvements in average load factors on all route groups helped increase the overall average revenue/cost ratios by some 6 per cent for all route groups combined on which the North American airlines operated.

Chapter 4

FACTORS CAUSING REGIONAL DIFFERENCES IN COSTS

4.1 The financial analysis presented in Chapter 3 included estimates of the average cost per passenger-kilometre performed for each of the 14 and 15 international route groups for which adequate data were available for 2010 and 2011, respectively. This chapter is concerned with assessments of the factors which caused this average cost to vary among the route groups. Some main factors can be identified and their effects quantified, but a number of other factors do not lend themselves to individual assessment and are therefore dealt with in a summary manner, although their combined influence on cost differences is significant.

4.2 The factors which have been considered are:

- a) the effect of differences among route groups in the aircraft equipment being used, on aircraft operating costs;
- b) the effect of differences among route groups in the average length of flight stages;
- c) the effect of varying fuel and oil prices in different parts of the world;
- d) the effect of different levels of airport user charges in different parts of the world;
- e) the effect of differences in the average load factor achieved on each route group; and
- f) other factors.

An examination of the influence exercised by each of the above on the operating costs for traffic in the route groups is made below, and the resulting variations in the costs per passenger-kilometre from the world average are subsequently presented in Table 4-5 and discussed in 4.22 and 4.23 of this chapter.

Aircraft mix and stage length

[factors a) and b)]

4.3 The volume of traffic on a route and the geographical characteristics of the route (in particular, the length of flight stages) determine the sizes of aircraft that are utilized in the route group, the number of seat-kilometres per departure and per block hour that can be produced by these aircraft, and the possible utilization of the aircraft in terms of block hours per year. For these reasons, the geographical characteristics of a route group strongly influence the operating costs per seat-kilometre that will be incurred on that route group. The effects on these costs of differences among the route groups in aircraft mix and average stage length are discussed below.

4.4 In general, aircraft operating costs per aircraft-kilometre or per seat-kilometre on a long-haul flight are lower than on a short-haul flight, mainly because of the higher average block speed that may be achieved on a long-haul flight and the generally higher aircraft daily utilization recorded. Similarly, large aircraft, which may be used where traffic density is high, have lower aircraft operating costs per seat-kilometre than small aircraft mainly because of liquidation of indirect costs over larger capacity. The combined impact of these factors may be illustrated by looking at the average aircraft operating costs incurred in international passenger service in 2010 and 2011 for different categories of aircraft. Table 4-1 presents the average aircraft operating costs per block hour and per available seat-kilometre for

four categories of aircraft, grouped according to their size and by the length of haul for which they were generally used in 2010 and 2011. The average hourly cost varied from 4 102 USD for narrow-body short-haul aircraft to 10 123 USD for wide-body long-haul aircraft in 2010 and from 4 586 USD to 11 577 USD for the same categories in 2011. However, primarily because of their greater productivity, the average aircraft operating cost per available seat-kilometre (adjusted to exclude costs attributable to freight and mail traffic) of the wide-body long-haul aircraft was at 4.2 cents for 2010 and 4.8 cents for 2011, the lowest for any category, except for 2011, where narrow-body medium-haul aircraft averaged at 4.7 cent. At the other end of the spectrum, the narrow-body short-haul aircraft averaged 4.9 cents per seat-kilometre for 2010 and 5.4 cents for 2011, which is some 17 and 13 per cent higher than the figure for wide-body long-haul aircraft for 2010 and 2011, respectively (and 15 per cent higher than for narrow-body medium-haul aircraft in 2011).

4.5 Aircraft operational data for each route group (excluding utilization effects) are shown in Table 4-2. The average block speed achieved is shown to be significantly higher on route groups with a long average stage length, such as transatlantic and transpacific routes, than on route groups with a short average stage length such as within Europe, within Central America/Caribbean and within the Middle East.

4.6 This relative economic advantage for the operations of long-haul routes is amplified by the fact that large wide-body aircraft accounted for a high proportion of the total capacity on long-haul routes but were being used less on the route groups with a short average stage length. The variation in average aircraft productivity resulting from variations in average block speed and average size of aircraft is very wide. For example, the seat-kilometres per aircraft block hour for routes within Central America/Caribbean, within North America and within Europe are close to one-third of the seat-kilometres per block hour on the Mid-Atlantic, South Atlantic, between Europe/Middle East/Africa and Asia/Pacific, North/Mid-Pacific and South Pacific route groups.

4.7 Differences in aircraft fleet composition among route groups contribute to the differences in both aircraft and other operating costs, but mainly to the aircraft costs. The contribution to regional differences in aircraft operating costs arising from differences in aircraft mix (excluding the effects of differences in stage length, fuel prices and load factors) has been estimated and is presented in 4.23.

4.8 As with aircraft operating costs, other operating costs are, of course, also strongly influenced by the average length of flight stages operated in a route group. The reason is that certain important cost items, such as station expenses and landing charges, are primarily dependent upon the number of aircraft departures. Since the number of seat-kilometres (or passenger-kilometres) per departure increases proportionally with increasing stage length, the cost per seat-kilometre (or per passenger-kilometre) of station expenses and landing charges falls with increasing stage length. Estimated effects of differences in stage length on operating costs (both aircraft and other) are also presented in 4.23.

Prices for aircraft fuel and oil

[factor c)]

4.9 The estimated total consumption of aircraft fuel and oil on international subsonic jet passenger routes in 2010 was approximately 151 billion litres, and the total cost to the airlines was about 94.5 billion USD for an average price per litre of 62.6 cents; and in 2011, some 160 billion litres with a total cost to the airlines of some 124.8 billion USD for an average price per litre of 77.8 cents. Fuel represented about 28.8 and 33.1 per cent of the total passenger operating costs in 2010 and 2011, respectively, which was above the 2009 level (25.9 per cent) by some 3 and 7 percentage points, respectively.

4.10 Detailed estimates have been made of the average price of fuel purchased in the different regions of the world (Table 4-3) and of the average price of fuel consumed on the various route groups (Table 4-4). As shown in Table 4-3, on a regional basis, the price per litre of fuel in 2010 ranged from 58.5 cents in the Middle East to 70.7 cents in South America (some 21 per cent higher than the price paid in the Middle East) and in 2011, from 72.0 cents to 89.1 cents for the same regions; fuel prices in 2011 were above the levels of 2009 worldwide by around 43 per cent, and on a regional basis ranging from some 41 per cent for Asia/Pacific to about 50 per cent for Central America/Caribbean.

**Table 4-1. Operational and cost data for aircraft categories: 2010 and 2011
(international scheduled passenger services)**

Grouping of aircraft	Primary jet types operated on international scheduled services ¹	Per cent of world's international traffic (available seat-km)		Average number of seats ²		Average length of flight stages operated (km)		Average utilization ³ (hours/day)		Aircraft operating costs ⁴			
		2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
		(1)	(1)	(2)	(2)	(3)	(3)	(4)	(4)	(5)	(5)	(6)	(6)
World		100.0	100.0	215	217	2 166	2 203	10.3	10.7	6 499	7 376	4.4	5.0
Narrow-body short-haul	A319 A320 B737 ERJ CRJ MD80	30.7	31.0	141	143	1 334	1 360	8.8	9.3	4 102	4 586	4.9	5.4
Narrow-body medium-haul	B757	3.6	3.5	184	186	2 739	2 840	9.2	9.8	5 321	6 022	4.2	4.7
Wide-body medium-haul	A310 B767	8.3	8.0	219	221	4 160	4 350	10.0	10.7	7 089	8 001	4.3	4.8
Wide-body long-haul	A330 A340 A380 B747 B764 B777	57.4	57.5	301	303	5 348	5 370	12.8	13.0	10 123	11 577	4.2	4.8

1. Only aircraft types providing more than 0.5 per cent of the world international scheduled available seat-kilometres in 2010 and 2011 are listed in this column. The categorization of aircraft types is based on the average number of seats and length of flight stages in 2010 and 2011.
2. Available seat-kilometres divided by aircraft-kilometres flown.
3. Including domestic and non-scheduled operations of the international airlines concerned.
4. Data in these columns include flight operations expenses, aircraft fuel and oil (at the world average cost of 62.6 and 77.8 cents per litre for 2010 and 2011, respectively), aircraft maintenance and overhaul, and aircraft standing charges such as depreciation. If prevailing regional prices rather than the world average price were to be used for aircraft fuel and oil, there would be no change in the seat-kilometres cost data presented but small changes in some of the per block hour data.
5. Aircraft operating costs have been adjusted in this case to exclude costs attributable to freight and mail traffic.

Table 4-2. Aircraft operational data by route group: 2010 and 2011

Route group (short title)	Average length of flight stage (km)		Average block speed (km/h)		Percentage distribution				Average aircraft productivity: available seat-kilometres per block hour (thousands)	
	(1)		(2)		Narrow-body (3)		Wide-body (4)		(5)	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
I. All world international routes	2 166	2 203	655	657	34	35	66	65	141	142
II. International route groups										
1. North-Central America	1 974	2 018	627	631	95	96	5	4	97	98
2. Central America/Caribbean	1 074	1 106	558	565	100	100	0	0	69	72
3. North America	1 500	1 532	576	582	98	97	2	3	65	67
4. North-South America	3 274	3 374	711	713	36	35	64	65	135	137
5. South America	1 410	1 494	595	601	72	76	28	24	96	93
6. Europe	1 151	1 170	550	552	98	98	2	2	80	82
7. Middle East	946	950	525	525	64	63	36	37	91	92
8. Africa	1 455	1 416	631	625	75	77	25	23	93	91
9. Europe-Middle East	3 227	3 244	694	694	27	26	73	74	162	165
10. Europe-Africa	2 626	2 680	682	685	35	34	65	66	149	152
11. North Atlantic	6 018	6 066	758	759	9	9	91	91	193	196
12. Mid-Atlantic	6 775	6 833	789	787	0	1	100	99	223	227
13. South Atlantic	8 281	8 389	803	802	0	0	100	100	227	228
14. Asia/Pacific	2 028	2 044	642	642	31	33	69	67	147	146
15. Europe-Asia/Pacific	4 864	4 866	748	745	9	10	91	90	209	209
16. North/Mid-Pacific	7 667	7 833	789	791	2	1	98	99	234	234
17. South Pacific	7 551	7 624	809	809	3	3	97	97	261	256

**Table 4-3. Estimated unit fuel prices and airport charges by region:
2010 and 2011 (international scheduled services)**

Area ¹	Aircraft fuel and oil prices (cents/litre)		Landing and associated airport charges (dollars/departed tonne) ²	
	2010	2011	2010	2011
World	62.6	77.8	13.2	14.2
North America	60.0	74.4	10.9	11.2
Central America/Caribbean	62.1	78.7	6.9	7.5
South America	70.7	89.1	7.7	7.8
Europe	62.8	78.5	18.2	20.0
Middle East	58.5	72.0	6.8	7.1
Africa	70.2	86.9	10.6	10.9
Asia/Pacific	62.7	77.5	11.1	11.6

1. More detailed descriptions of areas may be found in Appendix 3, on the reverse of the cost questionnaire.
2. Tonnes of aircraft maximum take-off mass.

4.11 On a route group basis (Table 4-4), the estimated fuel prices range from a low of 56.4 cents per litre for routes within North America to a high of 70.0 cents per litre for routes within South America in 2010 and from a low of 72.8 cents for routes within North America to a high of 97.5 cents per litre for routes within Africa in 2011.

Airport and associated charges

[factor d)]

4.12 As shown in Table 3-2, airport charges represented some 3.8 and 3.6 per cent of the total costs for international passenger operations in 2010 and 2011, respectively. The basis on which these charges are levied varies from airport to airport, but aircraft mass is the predominant element. A broad and simple comparison of the levels of airport charges in different parts of the world can be based on dollars paid per tonne of aircraft maximum take-off mass. Using this measure, estimated average airport charges in different regions of the world are presented in Table 4-3. The table shows that the world average was 13.2 USD and 14.2 USD per tonne in 2010 and 2011, respectively; the average charges in regions ranged from 6.8 USD in the Middle East to 18.2 USD in Europe in 2010 and from 7.1 to 20.0 USD for the same regions in 2011.

4.13 Estimates of landing and associated airport charges have also been made on a route group basis and are shown in Table 4-4. The range of these estimates for route groups is from 6.7 USD per tonne for traffic within North America to 18.2 USD for traffic within Europe in 2010 and from 6.8 to 19.9 USD for the same route groups in 2011. One of the reasons that airport charges in Europe appear high is because the airport passenger service charge is generally paid by the air carrier. This approach is also applied to a certain extent in Africa and Asia/Pacific. But in most States in other regions of the world, the airport passenger service charges are collected from the passenger.

**Table 4-4. Estimated unit fuel prices and airport charges by route group:
2010 and 2011 (international scheduled services)**

Route group (short title)	Aircraft fuel and oil prices (cents/litre)		Landing and associated airport charges (dollars/departed tonne) ¹	
	2010	2011	2010	2011
I. All world international routes	62.6	77.8	13.2	14.2
II. International route groups				
1. North-Central America	63.3	81.5	8.3	9.0
2. Central America/Caribbean	—	—	—	—
3. North America	56.4	72.8	6.7	6.8
4. North-South America	62.6	80.4	8.5	8.7
5. South America	70.0	89.5	7.6	7.7
6. Europe	63.8	79.7	18.2	19.9
7. Middle East	—	—	—	—
8. Africa	—	97.5	—	11.4
9. Europe-Middle East	61.9	75.2	13.7	14.5
10. Europe-Africa	64.4	80.4	12.3	12.6
11. North Atlantic	59.7	75.0	15.5	16.7
12. Mid-Atlantic	65.4	79.2	12.8	13.8
13. South Atlantic	69.9	86.4	10.8	11.7
14. Asia/Pacific	63.1	78.0	11.0	11.5
15. Europe-Asia/Pacific	62.5	76.5	11.2	12.0
16. North/Mid-Pacific	61.4	75.8	13.1	14.0
17. South Pacific	59.1	73.8	12.6	13.0

1. Tonnes of aircraft maximum take-off mass.

Load factor

[factor e)]

4.14 A large part of the total costs of operating a flight on a scheduled air service is independent of, or only moderately affected by, the number of passengers actually carried on the flight. Therefore, when statistics are reported as a rate per passenger-kilometre, load factor is a primary variable. Since, as shown in Table 3-1, the passenger load factors achieved in 2010 and 2011 varied significantly among route groups, from a low of 72 per cent on routes within South America to a high of 84 per cent on routes across the North/Mid-Pacific in 2010 and from a low of 62 per cent on routes within Africa to a high of 82 per cent on routes across the Mid- and South Atlantic in 2011, they had an influence on the differences in total operating costs per passenger-kilometre. Estimated effects of differences in load factor on operating costs for each route group are presented in 4.23 and Table 4-5.

Other causes of regional differences in costs

4.15 Among the factors that led to regional differences in the total cost of passenger operations in 2010 and 2011, the varying aircraft operating costs, including the effect of varying prices of fuel, have been discussed above. The effect of varying stage lengths and load factors has been assessed for both aircraft operating costs and other cost items, but with the exception of variations in airport charges, other effects of differences in non-aircraft cost items have not been analysed. The remaining cost items include *station expenses*; *passenger services*; *commission*; *ticketing, sales and promotion*; and *general, administrative and miscellaneous*. Table 3-2 shows that together they accounted for approximately 35.9 and 33.5 per cent of the total costs for international passenger operations in 2010 and 2011, respectively (compared with 37.5 per cent in 2009). Some of these cost items for passenger operations show significant differences among route groups even after extraction of any stage length and load factor effects. A general commentary concerning these items and their variation is given below.

4.16 **Station expenses** (column 5 of Table 3-2) relate mainly to the servicing of aircraft and passengers at airports. While they vary greatly among route groups, from 0.4 to 1.8 cents per passenger-kilometre both in 2010 and 2011, some of the variations are due to the effects of differences in stage length. These expenses accounted for about 8.8 and 8.1 per cent of total operating costs in 2010 and 2011, respectively.

4.17 **Passenger services** (column 6 of Table 3-2) relate primarily to cabin services provided in flight. Passenger service costs represented some 12.7 and 11.8 per cent of total passenger operating costs in 2010 and 2011, respectively. The differences in their level among the route groups, from 0.8 to 1.6 cents per passenger-kilometre in 2010 and from 0.9 to 1.8 cents in 2011, primarily reflect the differences in salary, service levels and utilization of cabin crew.

4.18 **Commission** (column 7 of Table 3-2) is paid by each airline to travel agents and other airlines for the sale of passenger tickets. Commission is dependent on the extent to which airline sales are handled by agents in different parts of the world and also reflects the intensity of competition and traditions in the product distribution methods on different regional markets. However, because the commission is usually a certain percentage of the price of the ticket, the variation in this cost item, from 0.2 to 0.8 cents per passenger-kilometre both in 2010 and 2011, is also related to the variation in average revenue per passenger-kilometre. In 2010 and 2011, commission expenses accounted for about 3.4 and 3.2 per cent of the world's scheduled international airline costs, respectively.

4.19 **Ticketing, sales and promotion** (column 8 of Table 3-2) is a cost item whose level is largely determined by decision-making within individual airlines. In 2010 and 2011, this item represented about 4.8 and 4.6 per cent of passenger costs, respectively. The variation among the route groups, from 0.3 to 0.8 cents per passenger-kilometre in 2010 and from 0.4 cents to 0.8 cents in 2011, reflects differing competitive situations and the extent to which airlines handle their own sales in the various route groups.

4.20 Commission, ticketing, sales and promotion together reflect the overall cost of selling passenger tickets. Depending on the route group, between 7 and 16 per cent and between 7 and 14 per cent of total passenger revenues were used in 2010 and 2011, respectively, to defray this overall cost, with the world average of about 8 per cent both in 2010 and 2011.

4.21 **General, administrative and miscellaneous expenses** (column 9 of Table 3-2) vary from 0.2 cents to 0.8 cents per passenger-kilometre in 2010 and from 0.2 cents to 0.9 cents in 2011. This partly reflects variations in the organizational structure and the accounting practices of airlines in different parts of the world, as well as variations in salary levels and the staff productivity among regions. Additionally, economies of scale may be an important factor affecting variations in this cost item since large airlines, which tend to have lower administrative overheads per passenger-kilometre performed than smaller airlines, play a greater role on some route groups than on others. Those expenses, which include gains or losses due to changes in exchange rates, have been heavily influenced by fluctuations in exchange rates.

Summary of the causes of regional differences in costs

4.22 The effects of the factors described in 4.3 to 4.21 on the cost levels for route groups are shown in Table 4-5. Column 1 of that table shows against each route group the world average cost per passenger-kilometre in 2010 and 2011, which was 9.6 cents and 10.5 cents, respectively. Columns 2 through 6 show the deviations from this world average that may be attributed to each of the individually assessed factors described in 4.3 to 4.14, and column 8 shows the aggregate effect of the other factors (some other factors were described in summary form in 4.15 to 4.21). Column 9 shows the resulting actual total costs per passenger-kilometre for each route group.

4.23 Table 4-5 enables comparison of the various factors which contributed to differences from the world average cost per passenger-kilometre for the 14 and 15 route groups included in the analysis for 2010 and 2011, respectively. Focussing on columns 2 to 6, *stage length and average block speed* were the most important factors for 12 route groups both in 2010 and 2011. Other factors making significant contributions included *load factor*, which was the most important factor for 1 and 2 route groups in 2010 and 2011, respectively, and *aircraft mix*, which was the most important single factor for 1 route group in 2010. Two factors, i.e. *aircraft mix* and *stage length and average block speed* were equally the most important factors for 1 route group in 2011. In addition, as may be seen by comparing column 7 (the sum of the effects in columns 2 to 6) with column 8, an important proportion of the differences in route group costs from the world average cost was due to the other factors which do not lend themselves to precise analysis.

Appendix 1

DATA SOURCES AND COVERAGE

Sources

1. The primary sources of information for this study were two sets of questionnaires which were dispatched (under cover of State letters EC 2/20.3.2-11/68 of 9 September 2011 and EC 2/20.3.2-12/58 of 5 October 2012) to all Contracting States, to be filled out with respect to their international carriers. One questionnaire sought information on scheduled and non-scheduled passenger, freight, mail and incidental revenues for each route group, together with corresponding volumes of traffic and capacity. The second questionnaire sought information on costs for international scheduled passenger airlines. Replies to the questionnaires were received with respect to 62 and 64 States for the years 2010 and 2011, respectively. Facsimiles of the two questionnaires and a list of States from which replies were received are given in Appendix 3.

2. As far as scheduled operations are concerned, another important source of information was a computer analysis carried out by the ICAO Secretariat of airline schedules obtained from *OAG Aviation Solutions*. The data obtained from this analysis were the number of departures, aircraft block hours and distance flown for each and every airline, and aircraft type operating in each of the route groups. In addition, research was carried out on the operating characteristics of aircraft types and sub-types, generating data on average number of seats (combination aircraft), fuel consumption per block hour (as a function of stage length), maximum take-off mass, payload, and volumetric capacity. This information was related to the basic data used to provide a bank of operating statistics for each route group and for each geographical area of operation within each route group, as well as aggregate statistics for each area and for the world as a whole.

3. A wide range of supplementary information sources was used. In particular, sources included data on airline traffic, traffic by flight stage, fleet and personnel, and airline financial data regularly filed by Contracting States on Air Transport Reporting Forms and available on a dedicated ICAO aviation statistics websites: ICAO DATA+ (www.icao.int/dataplus/Pages/default.aspx) and ICAOData (www.icaodata.com).

Coverage

4. For scheduled services, traffic, capacity and other operational data were derived both from the questionnaires and from the timetable material, supplemented by information from the regular statistical reports to ICAO, and may be considered as fully comprehensive of all international operations. Revenue and cost data originated essentially from the questionnaires, supplemented by national publications or other suitable sources of financial data, where available. In the case of passenger traffic, available revenue and cost data were adapted according to operational data to render them representative of all international operations (see Appendix 2).

5. The study was based on revenue data obtained with respect to 91 and 84 scheduled airlines (including 5 all-cargo airlines for both 2010 and 2011) for 2010 and 2011, respectively, and on cost data from 64 and 61 scheduled international passenger airlines for 2010 and 2011, respectively.

6. The number of airlines and the coverage of international scheduled passenger traffic represented by revenue and cost data by region of airline registration are shown in Table A1-1 for the year 2010 and in Table A1-2 for the year 2011. The overall representation in terms of available seat-kilometres is 56 and 53 per cent for revenue data for

2010 and 2011, respectively, and 52 per cent for cost data for both 2010 and 2011. In terms of cost data, in 2010, representation of the Middle East at 8 per cent was the lowest and that of North America at 81 per cent was the highest among the regions. In 2011, representation of the Middle East region at 9 per cent was the lowest and that of North America at 81 per cent was significantly higher than that for the other regions.

7. For each route group, the number of airlines and the percentage of traffic represented by these airlines are shown in Table A1-3 for the year 2010 and in Table A1-4 for the year 2011. The differences in the overall representation between Tables A1-1 and A1-3 as well as between Tables A1-2 and A1-4 occur partly because of some differences in the ICAO Statistical Programme definitions on what constitutes a domestic or international service. Another reason is the different databases used for these tables; Tables A1-1 and A1-2 contain reported traffic, whereas Tables A1-3 and A1-4 include traffic volume according to published timetables, and Tables A1-5 and A1-6 indicate the representative nature of revenue data for scheduled freight and mail services.

8. As shown in Tables A1-3 and A1-4, in terms of available seat-kilometres, representation of either revenue or cost data is 50 per cent or above for 9 route groups both in 2010 and 2011. Representation of some route groups on the cost side, however, is substantially lower than on the revenue side. In both 2010 and 2011, for routes within Central America/Caribbean, within North America (for 2010 only), within South America (for 2011 only), within the Middle East, within Africa, between Europe and the Middle East, between Europe/Middle East and Africa, across the Mid-Atlantic (for 2010 only), within Asia/Pacific (2011 only) and between Europe/Middle East/Africa and Asia/Pacific, representation is below 50 per cent; hence cost and revenue figures must be interpreted with a certain degree of caution. For routes within Central America/Caribbean, within the Middle East and within Africa (2010 only), the representation is so low (less than 20 per cent in the case of costs) as to cast significant doubt on the validity of the results for those route groups; hence figures for those route groups are not presented in this study, although their estimates are included in the worldwide totals.

Table A1-1. Representation by ICAO region of airline registration: 2010

Region	International scheduled available seat-kilometres (millions)	Revenue data represent			Cost data represent		
		Number of airlines	Available seat-kilometres		Number of airlines	Available seat-kilometres	
			Number (millions)	Per cent of total		Number (millions)	Per cent of total
All	3 814 487	86	2 120 400	56	64	1 989 692	52
Africa	149 750	3	34 190	23	1	25 627	17
Asia/Pacific	1 081 290	17	630 263	58	17	630 263	58
Europe	1 428 259	40	872 481	61	27	806 132	56
Middle East	440 843	4	43 363	10	3	34 157	8
North America	565 132	12	461 149	82	9	459 072	81
Central America/Caribbean	56 349	1	11 740	21	1	11 740	21
South America	92 864	9	67 214	72	6	22 701	24

Source: ICAO Air Transport Reporting Form A.

Table A1-2. Representation by ICAO region of airline registration: 2011

Region	International scheduled available seat-kilometres (millions)	Revenue data represent			Cost data represent		
		Number of airlines	Available seat-kilometres		Number of airlines	Available seat-kilometres	
			Number (millions)	Per cent of total		Number (millions)	Per cent of total
All	4 124 593	79	2 206 590	53	61	2 150 579	52
Africa	153 874	3	55 498	36	3	55 498	36
Asia/Pacific	1 151 981	15	585 177	51	13	582 200	51
Europe	1 579 623	36	977 139	62	28	952 015	60
Middle East	485 894	4	45 427	9	4	45 427	9
North America	593 532	14	492 004	83	8	483 101	81
Central America/Caribbean	56 779	2	18 442	32	1	15 902	28
South America	102 910	5	32 904	32	4	16 436	16

Source: ICAO Air Transport Reporting Form A.

Table A1-3. Representation by international route group: 2010

Route group (short title)	Revenue data represent		Cost data represent	
	Number of airlines	Per cent of total scheduled seat-kilometres	Number of airlines	Per cent of total scheduled seat-kilometres
I. All world international groups	86	53	64	50
II. International route groups				
1. North-Central America	9	70	7	69
2. Central America/Caribbean	1	2	1	2
3. North America	12	49	9	47
4. North-South America	15	71	12	56
5. South America	8	70	5	31
6. Europe	36	52	24	45
7. Middle East	4	17	3	13
8. Africa	3	15	1	12
9. Europe-Middle East	24	29	18	26
10. Europe-Africa	21	33	18	31
11. North Atlantic	25	74	22	73
12. Mid-Atlantic	8	33	8	33
13. South Atlantic	13	67	11	49
14. Asia/Pacific	16	51	16	51
15. Europe-Asia/Pacific	35	47	31	46
16. North/Mid-Pacific	15	71	15	71
17. South Pacific	7	61	6	57

Table A1-4. Representation by international route group: 2011

Route group (short title)	Revenue data represent		Cost data represent	
	Number of airlines	Per cent of total scheduled seat-kilometres	Number of airlines	Per cent of total scheduled seat-kilometres
I. All world international groups	79	52	61	51
II. International route groups				
1. North-Central America	11	72	6	67
2. Central America/Caribbean	2	8	1	6
3. North America	14	55	8	50
4. North-South America	13	64	10	56
5. South America	5	35	4	24
6. Europe	34	51	27	49
7. Middle East	3	12	3	12
8. Africa	3	30	3	30
9. Europe-Middle East	22	26	17	25
10. Europe-Africa	28	38	25	38
11. North Atlantic	26	75	24	74
12. Mid-Atlantic	11	51	10	50
13. South Atlantic	12	61	11	59
14. Asia/Pacific	18	47	16	46
15. Europe-Asia/Pacific	31	44	28	43
16. North/Mid-Pacific	15	65	15	65
17. South Pacific	6	56	5	52

Table A1-5. Representative nature of revenue data for scheduled freight and mail services by ICAO region of airline registration: 2010

Region	International scheduled freight tonne-km performed (millions)	Freight revenue data represent			International scheduled mail tonne-km performed (millions)	Mail revenue data represent		
		Number of airlines	Tonne-km performed			Number of airlines	Tonne-km performed	
			Number (millions)	Per cent of total			Number (millions)	Per cent of total
All	153 201	68	82 413	54	3 496	38	1 465	42
Africa	2 577	2	1 146	44	34	2	16	47
Asia/Pacific	66 538	19	43 256	65	1 524	13	775	51
Europe	38 191	29	27 238	71	1 006	13	183	18
Middle East	16 389	3	921	6	262	2	18	7
North America	24 916	8	8 712	35	643	6	470	73
Central America/Caribbean	395	1	203	51	11	—	—	—
South America	4 195	6	937	22	17	2	3	18

Source: ICAO Air Transport Reporting Form A.

Table A1-6. Representative nature of revenue data for scheduled freight and mail services by ICAO region of airline registration: 2011

Region	International scheduled freight tonne-km performed (millions)	Freight revenue data represent			International scheduled mail tonne-km performed (millions)	Mail revenue data represent		
		Number of airlines	Tonne-km performed			Number of airlines	Tonne-km performed	
			Number (millions)	Per cent of total			Number (millions)	Per cent of total
All	158 704	63	75 287	47	3 282	39	1 232	38
Africa	2 613	3	1 697	65	31	2	16	52
Asia/Pacific	66 864	19	38 822	58	1 425	12	478	34
Europe	41 745	24	24 420	58	963	15	229	24
Middle East	17 571	3	1 023	6	157	3	23	15
North America	25 655	8	8 418	33	694	6	486	70
Central America/Caribbean	338	2	234	69	1	1	0	—
South America	3 918	4	673	17	11	—	—	—

Source: ICAO Air Transport Reporting Form A.

Appendix 2

METHOD OF ANALYSIS

1. **General.** Data sources in general are discussed in Appendix 1. All airline financial data were initially adjusted where necessary to represent the calendar years 2010 and 2011 and converted where necessary from local currency to U.S. dollars.

2. Prior to detailed analysis, all financial and operational data were verified: (a) as to the mutual consistency and consistency with data from previous years; (b) with information provided on statistical reporting forms regularly submitted to ICAO; and (c) with data obtained from a computer analysis of published timetable material (see Appendix 1).

3. **Analysis of available revenue data.** Scheduled and/or non-scheduled passenger, freight and mail revenues for each international route group, together with corresponding volumes of traffic and capacity, as well as incidental revenues attributable directly to international scheduled services were obtained for individual carriers from the revenue questionnaires designed for this purpose (facsimiles of the revenue and the cost questionnaires are included in Appendix 3). This information for individual carriers was aggregated for each route group in order to obtain weighted average revenues per passenger-kilometre and per seat-kilometre (for passenger traffic) or per tonne-kilometre performed (for freight and mail traffic). In the case of scheduled operations, the data for individual airlines, and hence the average unit revenues, include allowance for discounts, pro-rates, etc., but generally exclude deductions for commission payments.

4. **Analysis of available cost data.** Cost data are obtained and analysed only for international scheduled passenger airlines. While most scheduled (and non-scheduled) carriers maintain revenue and traffic data on a route-by-route and/or route group basis, fewer maintain cost data in a correspondingly disaggregated form. Hence, in order to present data which are generally representative of scheduled passenger airline operations in each region of the world and, at the same time, minimize the reporting burden on States and their airlines, the questionnaire was designed so that the requirement for disaggregation of system-wide operating costs was both sparing and in line with practices followed by a majority of airlines. The cost data obtained for individual airlines through this questionnaire were subsequently allocated by the Secretariat among route groups as necessary (that is, where an airline operated on more than one route group), using the analysis of published timetable material.

5. The cost data obtained for an individual airline, and the procedures used for allocating these costs among the route groups on which the airline operated, may be divided into three broad categories as shown in Table A2-1:

Category (A) — operating costs which for a given airline and a given aircraft type may, for this purpose, be considered as independent of where the aircraft is flying;

Category (B) — operating costs which are significantly related both to aircraft type and to geographical area of operation; and

Category (C) — operating costs and pertinent non-operating items which may be related only in part to aircraft type or to the region in which they are incurred, but which are related significantly to the volume of traffic or the volume of capacity in each route group.

Table A2-1. Procedures used to allocate individual airline costs among route groups

<i>Category of costs</i>	<i>Cost item (see note)</i>	<i>Airline data input to study</i>	<i>Cost allocation criteria</i>
A. Costs related primarily to aircraft type	I.1 Flight operation expenses, excluding fuel and oil costs	System-wide costs and system-wide block hours flown for each aircraft type operated	I.1 Number of block hours flown to
	I.2 Aircraft maintenance and overhaul expenses		I.3 by each aircraft type on each route group
	I.3 Aircraft depreciation and amortization costs		
B. Costs related significantly to both aircraft type and geographical area of operation	II.1 Aircraft fuel and oil costs	Either: a) costs by geographical area of operation, or b) costs by route group (no allocation to route group necessary)	II.1 Fuel consumption by each aircraft type in each area of operation
	II.2 Landing and associated airport charges		II.2 Maximum take-off mass times number of departures for each aircraft type in each area of operation
	II.3 Air navigation charges		II.3 Maximum take-off mass times number of block hours flown for each aircraft type in each area of operation
	II.4 Other station expenses		II.4 Maximum payload times number of departures for each aircraft type in each area of operation
C. Costs related significantly to volume of traffic or volume of capacity	III.1 Passenger service costs	System-wide costs	III.1 Number of seat-hours on each route group
	III.2 Commission payments		III.2 Passenger and freight revenue earned on scheduled services from each route group
	III.3 Other ticketing, sales and promotion costs		III.3 Total revenue earned from each route group
	III.4 General and administrative expenses		III.4 Number of tonne-kilometres to performed in each
	III.5 Miscellaneous operating costs		IV.1 route group
	IV.1 Balance of miscellaneous non-operating items (excluding payments from public funds and balance of income from affiliated companies)		

Note.— *Cost item references are those used in the cost questionnaire (see Appendix 3). The items themselves are described in the Reporting Guidelines on the reverse of the cost questionnaire.*

6. Costs in the *first category (A)* were extracted from the data of each airline as an average system-wide cost per aircraft block hour for each aircraft type used in international scheduled service. The costs for each route group were calculated according to the number of block hours flown by each aircraft type operated by the airline on that route group.

7. Costs in the *second category (B)* were recorded for each airline according to route group or to geographical area. Where recorded by area, data were adapted to obtain corresponding data according to route group by using appropriate operational criteria (such as consumption in the case of “aircraft fuel and oil”). The relationships between route groups and geographical areas in terms of operational data were available from the computer analysis of timetable material.

8. Costs in the *third category (C)* were recorded as system-wide totals for the operations of each airline. These costs were disaggregated into route group costs by using a suitable allocation parameter for each cost item. The allocation parameter devised for each item bears a direct or indirect relationship with the volume of traffic or capacity in each route group. In the case of “Commission payments” and “Other ticketing, sales and promotion costs”, the allocation parameter used is the total revenue earned from each route group, thereby including effects from both traffic and regional differences in revenue yields (and hence regional differences in ticketing, sales and promotion costs).

9. For some airlines, cost data reported in the three categories were related to domestic operations and/or international non-scheduled operations as well as to international scheduled operations. Such costs associated with domestic and non-scheduled operations were subtracted by using the same allocation procedures that were used to distribute costs among route groups.

10. As far as data for individual airlines are concerned, the total costs for the scheduled international passenger flights in each route group were estimated by adding all the itemized costs allocated to the route group. Finally, costs allocable to the carriage of freight and mail on passenger flights were deducted from these total costs in order to obtain the passenger costs. For this purpose, it was assumed that the cost of the carriage of freight and mail on passenger and combination aircraft on a route group was equal to the freight and mail revenue from operations of these aircraft.

11. ***Estimates of revenues and costs for airlines for which financial data were not available.*** For all those carriers whose basic financial data were available, the procedures described in paragraphs 1 to 10 produced the total revenues and (for international scheduled passenger traffic) total costs on each route group according to the airline’s region of registration. In most cases, this financial database did not include all carrier operations. However, for scheduled passenger traffic, estimated revenues and costs presented in this study were formulated to cover all airlines operating on each route group.

12. In the case of revenues, the reported average yield per passenger-kilometre for airlines registered in the same region within each route group has been applied to the total revenue passenger-kilometres for all airlines registered in that region operating on the route group.

13. In the case of costs, the estimates for non-reported airlines have been based on cost data for reported airlines from the same region of registration for the route group, and the estimates also take into account the differences in the operating characteristics of the two groups of airlines concerned (including differences in load factors). With respect to the costs in Category A (see Table A2-1), the average costs per block hour for the aircraft of airlines whose cost data were available were applied to the hours flown by the same aircraft types by non-reported airlines from the same region of registration, thus taking into account the differences in the aircraft fleet, in block speed and in seating configuration. Costs in Categories B and C were similarly estimated on the basis of criteria parallel to those used in allocating costs of individual airlines among route groups.

14. For some route groups where airlines of a particular region had a low representation, the grossing-up process for revenues and costs was adjusted to take into account the revenues and costs of major non-reported airlines based on data provided for previous studies, growth rates from the previous year calculated on the basis of identical samples of reporting airlines as well as on data regularly filed by Contracting States on Air Transport Reporting Forms.

Appendix 3

**QUESTIONNAIRES RELATING TO
REVENUES AND COSTS**

ATTACHMENT A

QUESTIONNAIRE ON COSTS INCURRED BY INTERNATIONAL SCHEDULED AIR PASSENGER CARRIERS (Reporting guidelines and geographical descriptions on page A-2)

Carrier name:		Calendar period: 12 months from to:									
Reporting currency (U.S.\$ or national)		TOTAL AMOUNTS FOR CALENDAR PERIOD									
Exchange rate between national currency and U.S. \$ during period: 1 U.S.\$ =											
SECTION I – Expenses by aircraft type and operating data by aircraft type and by route group¹		AIRCRAFT TYPE (please specify)									
Check boxes if cost data in this Section include: Domestic <input type="checkbox"/> Non-Scheduled <input type="checkbox"/>											
I.1	Flight operations expenses, <i>excluding fuel and oil costs</i>										
I.2	Maintenance and overhaul expenses										
I.3	Depreciation and amortization costs										
I.4	Block hours (use additional sheets as required)										
a)	operated on international services	Total									
	By route group	RG									
	(Please specify, e.g. 11 NA)	RG									
		RG									
		RG									
		RG									
b)	operated on international non-scheduled services	Total									
	By route group	RG									
	(Please specify, e.g. 11 NA)	RG									
		RG									
c)	operated on domestic services	Total									
d)	all services (a + b + c)	Total									
SECTION II – Operating expenses by geographical area or route group¹		AREA OR ROUTE GROUP		North America	Central America/ Caribbean	South America	Europe	Middle East	Africa	Asia/Pacific	Domestic Services
Check box if data in this Section include: Non-scheduled <input type="checkbox"/> (Please specify e.g. 11 NA)											
II.1	Aircraft fuel and oil										
II.2	Landing and associated airport charges										
II.3	Air navigation charges										
II.4	Station expenses										
SECTION III – Other operating expenses		All international route groups or areas		Domestic services		Name and title of person completing questionnaire:					Telephone no.:
Check box if data in this Section include: Non-scheduled <input type="checkbox"/>						Remarks: (include description of any deviations from the reporting guidelines and geographical descriptions on page A-2)					Fax no.:
III.1	Passenger services (including cabin crew salaries and expenses)										Email:
III.2	Commission payments										
III.3	Other ticketing, sales and promotion										
III.4	General and administrative										
III.5	Miscellaneous operating expenses										
SECTION IV – Balance of non-operating items											
IV.1	Total (international and domestic services) (Note: + = revenue, - = expenses)										
TOTAL – SECTIONS I to IV											
						Note 1. Route group descriptions are on page B-4 of questionnaire on revenues. Route groups specified should be the same as those for which data are entered in the revenue questionnaire.					

REPORTING GUIDELINES

General

- a) This questionnaire is to be returned completed by ICAO Contracting States for each of their airlines that provide international scheduled air passenger services. The material provided will not be made public in such a way as to permit identification of individual operators. Information provided should be the total amount for a 12-month period as close as possible to the calendar year specified in the covering State Letter, with the period being identified in the space provided. It is recognized that, in order for your reply to reach ICAO by the date indicated in the State Letter, final audited financial data may not be available, but preliminary data are acceptable. Similarly, if full information is not available for any Section of the questionnaire, partial and/or aggregated data would be appreciated.
- b) Data referring to domestic legs of international services should be included as international. Indicate any exceptions. It would be preferable if data on expenses for domestic services under Sections II, III and IV are filled in. Should it be troublesome, please provide the data for international services only.
- c) Financial data may be provided either in terms of national currency or in terms of U.S. dollars. In either case the weighted average annual exchange rate used or to be applied to convert national currency into U.S. dollars should be specified in the space provided.
- d) *All* expense and operating data relating to freight and mail, including those for all-cargo aircraft operations, should be *included* where relevant in the questionnaire. Expenses incurred for the provision of services to other airlines such as maintenance, handling and catering should be *excluded*.
- e) Expenses and operational data should be reported in the case of:
 - 1) pooled services – by each participating carrier for its own services,
 - 2) operations with leased aircraft (under operating lease arrangements) – by the operating carrier; the aircraft expenses should be reported under I.1 flight operating expenses,
 - 3) in the case of code-shared, blocked space, joint services and other commercial arrangements – by the operating carrier only.

The costs should be reported for all cost items as specified in the questionnaire except for aircraft expenses under (2) above.
- f) A brief description of each data item is given below. More detailed definitions of financial data items are given in the Instructions for completion of ICAO Air Transport Reporting Form EF (as revised recently), for airline Financial Data.

SECTION I – Expenses by aircraft type and operating data by aircraft type and route group

Report for all aircraft types used, whether combination or all-cargo, using model designation (e.g. A300-B4, DC10-30CF, Boeing 747-200F).

- I.1 Flight operation expenses, *excluding fuel and oil costs*. This item comprises flight crew salaries and expenses, flight equipment insurance, rental of flight equipment (excluding any payments made under aircraft capital or finance lease arrangements), flight crew training, and other flight expenses excluding those covered by Items I.2, I.3 and II.1.
- I.2 Maintenance and overhaul expenses. *Include* here all expenses incurred for the repair, overhaul and maintenance of flight equipment, including payments to outside contractors and manufacturers. *Exclude* expenses incurred for the provision of maintenance and overhaul services to other airlines.

REPORTING GUIDELINES AND GEOGRAPHICAL DESCRIPTIONS

- 1.3 Depreciation and amortization costs. Incorporate all such costs relating to flight equipment, including depreciation charges for aircraft acquired through capital or finance lease arrangements. Depreciation of ground property and equipment should be included if possible under the appropriate headings or in Item III.5.
- I.4 Block hours. Provide data by aircraft type **and route group** wherever possible, even where disaggregated cost data for this Section are not available.

SECTION II – Operating expenses by geographical area

Geographical Areas are described below. Data for this Section may alternatively be reported by route group in accordance with the descriptions appearing in the associated questionnaire on revenues (in which case please specify each route group).

- II.1 Aircraft fuel and oil. Include through-put charges, non-refundable duties and taxes.
- II.2 Landing and associated airport charges. Include all charges and fees related to air traffic operations which are levied against the airline for services provided at the airport for landing charges, passenger and cargo fees, security, parking and hangar charges.
- II.3 Air navigation charges. Include all fees levied against the airline for the provision of route facilities and services. Where a single charge is levied for both airport and route facilities, the amount should be reported under Item II.2.
- II.4 Station expenses. *Include* all expenses incurred (passenger and/or cargo) for traffic handling and aircraft loading and servicing, including payments to outside contractors. *Exclude* expenses incurred for sales staff at airports (to be included under Item III.3) and for the handling and servicing of traffic and aircraft of other airlines.

SECTION III – Other operating expenses

- III.1 Passenger services. *Include* all expenses incurred for the provision of passenger services (including pay, allowances and expenses of cabin attendants and other passenger service personnel); premiums for passenger liability and accident insurance paid by the airline; expenses of handling passengers incurred because of cancelled and delayed flights. *Exclude* expenses incurred for the provision of passenger services to other airlines.
- III.2 Commission payments. Include commissions payable to third parties for the sale of transportation on the airline's services, preferably on a *gross* basis (specify where different).
- III.3 Other ticketing, sales and promotion. Include all expenses related to these three functions, including staff, accommodation, reservations, and advertising/publicity.
- III.4 General and administrative. Include all expenses incurred in performing the general and administrative functions of the airline. Overhead costs directly related to specific functions should preferably be allocated elsewhere under the appropriate heading.
- III.5 Miscellaneous operating expenses. Include all operating expenses which could not be assigned elsewhere in Sections I to III.

SECTION IV – Balance of non-operating items

Include profits and losses from retirement of property and equipment, foreign exchange transactions, gross interest charges on loans for the purchase of flight equipment, including the interest element of aircraft financing leases, net interest charges on loans and overdrafts not related to the purchase of flight equipment, and miscellaneous non-operating items. *Exclude* payments from public funds and balance of income from affiliated companies.

DESCRIPTIONS OF GEOGRAPHICAL AREAS

North America

Bermuda, Canada, St. Pierre et Miquelon, United States including Alaska and Hawaii, but excluding Puerto Rico and the Virgin Islands.

Central America/Caribbean

Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guadeloupe, Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands and Virgin Islands of the United States.

South America

Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia (including San Andres Islands), Ecuador, Falkland Islands (Malvinas), French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of).

Middle East

Areas under the control of the Palestinian Authority, Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen.

Europe

Geographical Europe and Azores, Canary Islands, Cyprus, Greenland, Iceland, Madeira, Malta, Russian Federation (west of Urals) and Turkey.

Africa

The continent of Africa (including Algeria, Egypt, Morocco, Sudan and Tunisia) and offshore islands, but excluding Azores, Canary Islands, Madeira and Malta.

Asia/Pacific

Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong S.A.R., Macao S.A.R., Democratic People's Republic of Korea, India, Indonesia, Japan, Kazakhstan, Kyrgyzstan, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Papua New Guinea and all other islands of the Pacific (including American Samoa, Christmas Islands, Cocos (Keeling) Islands, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, Niue, Norfolk Island, Northern Mariana Islands, Palau, Pitcairn, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, United States Minor Outlying Islands, Vanuatu, Wallis and Futuna Islands), Philippines, Republic of Korea, Russian Federation (East of Urals), Singapore, Sri Lanka, Taiwan (Province of China), Tajikistan, Thailand, Timor-Leste, Turkmenistan, Uzbekistan and Viet Nam.

ATTACHMENT B
QUESTIONNAIRE ON REVENUES OF INTERNATIONAL SCHEDULED AND NON-SCHEDULED AIR CARRIERS
(Reporting guidelines on page B-2 and route group descriptions on page B-4)

Carrier name: Calendar period: 12 months from Reporting currency (U.S.\$ or national): Exchange rates between national currency and U.S. dollar during period: 1 U.S.\$ =	ALL Total Services (DOMESTIC plus INTERNATIONAL)	Total DOMESTIC Services	Total INTERNATIONAL Services (Total for route groups 1 to 17)	INTERNATIONAL SERVICES BY ROUTE GROUP						
				1	2	3	4	5	6	7
				Between North America and Central America/ Caribbean (NC)	Between and within Central America and the Caribbean (LC)	Between Bermuda, Canada, Mexico and the United States (LNM)	Between North America, Central America/Caribbean and South America (NCS)	Local South America (LS)	Local Europe (LE)	Local Middle East (LM)
SECTION I – Scheduled services										
I.1 Revenue										
a) Passenger traffic (including excess baggage)										
b) Freight traffic										
c) Mail traffic										
d) Other										
I.2 Corresponding volume of traffic and capacity										
a) Passenger-kilometres (millions)										
b) Seat-kilometres (millions)										
c) Freight tonne-kilometres performed (millions)										
d) Mail tonne-kilometres performed (thousands)										
e) Available tonne-kilometres (millions)										
I.3 All-cargo services only (included in I.1 and I.2 above)										
a) Revenue (total)										
b) Tonne-kilometres performed (millions)										
SECTION II – Non-scheduled operations										
II.1 Revenue										
a) Passenger traffic										
b) Freight traffic										
II.2 Corresponding volume of traffic and capacity										
a) Passenger-kilometres (millions)										
b) Seat-kilometres (millions)										
c) Freight tonne-kilometres performed (millions)										
d) Available tonne-kilometres (millions)										
Name and title of person completing questionnaire: Telephone no.: Fax no.: Email: Remarks:										

QUESTIONNAIRE ON REVENUES OF INTERNATIONAL SCHEDULED AND NON-SCHEDULED AIR CARRIERS (continued)
(Reporting guidelines on page B-2 and route group descriptions on page B-4)

Carrier name: Calendar period: 12 months from Reporting currency (U.S.\$ or national): Exchange rates between national currency and U.S. dollar during period: 1 U.S.\$ =	8	9	10	11	12	13	14	15	16	17
	Local Africa (LA)	Between Europe and Middle East (EM)	Between Europe/Middle East and Africa (EMA)	North Atlantic (NA)	Mid-Atlantic (MA)	South Atlantic (SA)	Local Asia/Pacific (LAP)	Between Europe/Middle East/Africa and Asia/Pacific (EMAAP)	North and Mid-Pacific (PN)	South Pacific (PS)
SECTION I – Scheduled services										
I.1 Revenue										
a) Passenger traffic (including excess baggage)										
b) Freight traffic.....										
c) Mail traffic.....										
d) Other.....										
I.2 Corresponding volume of traffic and capacity										
a) Passenger-kilometres (millions).....										
b) Seat-kilometres (millions).....										
c) Freight tonne-kilometres performed (millions).....										
d) Mail tonne-kilometres performed (thousands).....										
e) Available tonne-kilometres (millions).....										
I.3 All-cargo services only (included in I.1 and I.2 above)										
a) Revenue (total).....										
b) Tonne-kilometres performed (millions).....										
SECTION II – Non-scheduled operations										
II.1 Revenue										
a) Passenger traffic.....										
b) Freight traffic.....										
II.2 Corresponding volume of traffic and capacity										
a) Passenger-kilometres (millions).....										
b) Seat-kilometres (millions).....										
c) Freight tonne-kilometres performed (millions).....										
d) Available tonne-kilometres (millions).....										
<i>Remarks:</i>										

REPORTING GUIDELINES

General

- a) This questionnaire is to be returned completed by ICAO Contracting States for each of their major international scheduled and non-scheduled air carriers (including any all-cargo carriers). *The material provided will not be made public in such a way as to permit identification of individual operators.* Information provided should be the total amount for a 12-month period as close as possible to the calendar year specified in the covering State Letter, with the period being identified in the space provided. It is recognized that, in order for your reply to reach ICAO by the date indicated in the State Letter, final audited financial data may not be available, but preliminary data are acceptable.
- b) Data for all-cargo aircraft operations should be included in the relevant sections of the questionnaire. Data for scheduled services with such aircraft should be included in Items I.1 and I.2, and specified under I.3 if possible.
- c) Financial data may be provided either in terms of national currency or in terms of U.S. dollars. In either case the weighted average annual exchange rate used or to be applied to convert national currency into U.S. dollars should be specified in the space provided.
- d) A brief description of each financial data item is given below; for more detailed definitions see the Instructions for completion of ICAO Air Transport Reporting Form EF (as revised recently), for airline Financial Data. The traffic and capacity data should be reported by the operating carrier only. In this context the term "operating carrier" refers to that carrier whose flight number is being used for air traffic control purposes. For definitions of traffic and capacity data items see ICAO Air Transport Reporting Form A for airline Traffic data.
- e) Descriptions of the route groups are also given below, along with guidelines on allocating data amongst them.

SECTION I – Scheduled services

For Items I.1 a) to I.1 c) and I.3 a) report *gross* revenues related to scheduled flights before capacity equalization payments arising from pooled services, payments arising from the services operated under commercial arrangements (e.g. code-share, blocked space etc.) and from the operations with leased or interchanged aircraft. Those revenues should be reported by the operating carrier.

For Item I.1 d) *Other air transport related revenue* is intended to *include* on a *net* basis capacity equalization payments arising from pooled services, payments arising from the services operated under commercial arrangements (e.g. code-share, blocked space etc.) and from the operations with leased or interchanged aircraft; and on a *gross* basis (with related expenses reported under the relevant expense item, indicate where different) incidental revenues accruing from air transportation services such as revenues from passengers paying less than 25% of the normal applicable fare; commissions received on sales of transportation on other carriers; "no-show" and cancellation fees. *Exclude* revenue accruing from the provision of services other than for air transportation, such as for surface transportation; food services; service and maintenance sales; handling services for third parties; and property.

SECTION II – Non-scheduled operations

Include revenue derived from all non-scheduled flights performed for remuneration, including empty flights related thereto, when the responsibility for the performance of transportation is that of the carrier reported.

Allocation to route groups

All data referring to domestic legs of international operations should be included as international in data for the route group concerned. Any service with a single flight number should be allocated to the route group which covers travel from the point of origin to the point of destination. For example, a flight Zurich-Geneva-Abidjan-Dakar should be reported as a Europe/Middle East-Africa flight (in route group 10) and not split between domestic, Europe-Africa and Local Africa. Specify all reporting differences.

Also specify any services which fall into more than one route group, including the criterion used for allocating data amongst the route groups concerned.

DESCRIPTIONS OF ROUTE GROUPS

1. Between North America and Central America/Caribbean (NC)

Includes routes between on the one hand Canada and/or the United States (including Alaska and Hawaii) and/or Bermuda and/or St. Pierre et Miquelon and on the other hand Central America and the Caribbean. Routes between the United States and Puerto Rico/U.S. Virgin Islands are considered domestic and are excluded. Central America/Caribbean is defined as the geographical area covered by route group 2 below but *excluding* Mexico.

2. Between and within Central America and the Caribbean (LC)

Includes routes between or among: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guadeloupe, Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands and Virgin Islands of the United States.

3. Between Bermuda, Canada, Mexico and the United States (LNM)

Includes routes between or among the above States. The United States includes Alaska and Hawaii but excludes Puerto Rico and the Virgin Islands.

4. Between North America/Central America/Caribbean and South America (NCS)

Includes routes between the geographical areas defined on the one hand by route group 1 and/or Mexico and on the other hand by route group 5 (Local South America).

5. Local South America (LS)

Includes routes between or among: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia (including San Andres Islands), Ecuador, Falkland Islands (Malvinas), French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of).

6. Local Europe (LE)

Includes routes between or among the States of geographical Europe, Azores, Canary Islands, Cyprus, Greenland, Iceland, Madeira, Malta, Russian Federation (west of Urals) and Turkey.

7. Local Middle East (LM)

Includes routes between or among: Areas under the control of the Palestinian Authority, Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen.

8. Local Africa (LA)

Includes routes between or among the States of continental Africa (including Algeria, Egypt, Morocco, Sudan and Tunisia) and offshore islands but excluding Azores, Canary Islands, Madeira and Malta.

9. Between Europe and Middle East (EM)

Includes routes between the two geographical areas defined by route group 6 (Local Europe) and route group 7 (Local Middle East) respectively.

10. Between Europe/Middle East and Africa (EMA)

Includes routes between on the one hand the geographical areas defined by route group 6 (Local Europe), and/or route group 7 (Local Middle East) and on the other hand the geographical area defined by route group 8 (Local Africa).

11. North Atlantic (NA)

Includes routes between on the one hand Bermuda, Canada, St. Pierre et Miquelon and/or the United States (including Alaska and Hawaii but excluding Puerto Rico and Virgin Islands) and on the other hand the geographical areas defined by route groups 6, 7 and 8 (Europe/Middle East/Africa).

12. Mid-Atlantic (MA)

Includes routes between on the one hand gateway points in the geographical areas defined by route group 2 (Central America and the Caribbean) and/or in the following South American States: Bolivia (Plurinational State of), Colombia (including the San Andres Islands), Ecuador, French Guiana, Guyana, Peru, Suriname and Venezuela (Bolivarian Republic of), and on the other hand the geographical areas defined by route groups 6, 7 and 8 (Europe/Middle East/Africa).

13. South Atlantic (SA)

Includes routes between on the one hand gateway points in the following South American States: Argentina, Brazil, Chile, Falkland Islands (Malvinas), Paraguay and Uruguay and on the other hand the geographical areas defined by route groups 6, 7 and 8 (Europe/Middle East/Africa).

14. Local Asia/Pacific (LAP)

Includes routes between or among:
Asia: Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong S.A.R., Macao S.A.R, Democratic People's Republic of Korea, India, Indonesia, Japan, Kazakhstan, Kyrgyzstan, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Republic of Korea, Russian Federation (East of Urals), Singapore, Sri Lanka, Taiwan (Province of China), Tajikistan, Thailand, Timor-Leste, Turkmenistan, Uzbekistan and Viet Nam.
Southwest Pacific: Australia, New Zealand, Papua New Guinea and all other islands of the Pacific including American Samoa, Christmas Islands, Cocos (Keeling) Islands, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, Niue, Norfolk Island, Northern Mariana Islands, Palau, Pitcairn, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, United States Minor Outlying Islands, Vanuatu, Wallis and Futuna Islands.

15. Between Europe/Middle East/Africa and Asia/Pacific (EMAAP)

Includes routes between on the one hand geographical areas defined by route groups 6, 7 and 8 (Europe/Middle East/Africa) and on the other hand geographical areas defined by route group 14 (Local Asia/Pacific).

16. North and Mid-Pacific (PN)

Includes routes via the North and Central Pacific Ocean between on the one hand points in the Americas as defined in route group 2 (Central America and the Caribbean), 3 (Bermuda, Canada and the United States) and 5 (Local South America) and on the other hand the geographical area defined as Asia in route group 14 (Local Asia/Pacific).

17. South Pacific (PS)

Includes routes via the South Pacific Ocean between on the one hand points in the Americas as defined in route group 2 (Central America and the Caribbean), 3 (Bermuda, Canada and the United States) and 5 (Local South America) and on the other hand the geographical area defined as Southwest Pacific in route group 14 (Local Asia/Pacific).

II. Respondents to questionnaires

Covering the year 2010

Contracting States or groups of States that provided replies to the air carrier revenue and cost questionnaires issued under the cover of State Letter EC 2/20.3.2-11/68 of 9 September 2011.

Argentina, Armenia, Australia, Azerbaijan, Bahamas, Belgium, Brazil, Chile, China, Czech Republic, Ecuador, Egypt, Ethiopia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Japan, Jordan, Kazakhstan, Kuwait, Lithuania, Luxembourg, Madagascar, Malaysia, Mauritius, Mexico, Mongolia, Montenegro, Oman, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Republic of Moldova, Romania, Scandinavia¹, Serbia, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Switzerland, Thailand, the Former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom, United States, Uzbekistan and Venezuela.

Covering the year 2011

Contracting States or groups of States that provided replies to the air carrier revenue and cost questionnaires issued under the cover of State Letter EC 2/20.3.2-12/58 of 5 October 2012.

Armenia, Australia, Austria, Bahrain, Belgium, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Czech Republic, Egypt, El Salvador, Ethiopia, Finland, France, Georgia, Germany, Ghana, Greece, Hungary, Iceland, Ireland, Israel, Japan, Jordan, Kuwait, Lithuania, Luxembourg, Madagascar, Malaysia, Malta, Mauritius, Mexico, Mongolia, Montenegro, Netherlands, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Republic of Moldova, Romania, Scandinavia¹, Serbia, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Suriname, Switzerland, Thailand, Turkey, Ukraine, United Kingdom, United States and Uzbekistan.

— END —

1. Reply from SAS, which is the international airline of Denmark, Norway and Sweden.

