



ICAO

Circular 348-AT/193

Regional Differences in International Airline Operating Economics: 2012 and 2013



Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION



| ICAO

Circular 348-AT/193

Regional Differences in International Airline Operating Economics: 2012 and 2013

Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Published in separate English, Arabic, Chinese, French, Russian
and Spanish editions by the
INTERNATIONAL CIVIL AVIATION ORGANIZATION
999 Robert-Bourassa Boulevard, 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 348-AT/193, *Regional Differences in International Airline
Operating Economics: 2012 and 2013***

Order Number: CIR 348-CD

ISBN 978-92-9249-926-6

© ICAO 2016

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 2013 with those for 2011	12
Variations in revenue/cost ratios among airlines	18
Chapter 4. Factors causing regional differences in costs	20
Aircraft mix and stage length.....	20
Prices for aircraft fuel and oil.....	21
Airport and associated charges	24
Load factor	26
Other causes of regional differences in costs.....	26
Summary of the causes of regional differences in costs	27
Appendix 1. Data sources and coverage.....	29
Appendix 2. Method of analysis	35
Appendix 3. Questionnaires relating to revenues and costs.....	38
Attachment A. Questionnaire on costs incurred by international scheduled air passenger carriers	39
Attachment B. Questionnaire on revenues of international scheduled and non-scheduled air carriers ...	41
Attachment C. 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: 2012 and 2013* succeeds the study which covered the years 2010 and 2011 and was published in 2014 (Circular 339-AT/197) and seven previous studies covering the years 1992 to 2009. 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 2012 and 2013 and makes some comparisons with 2011, the last year for which data are available in the previous Circular (Circular 339-AT/197).

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 2013 results are compared with those for 2011.

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 2012 and 2013 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 2012 and 2013. 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 10.29 cents for 2012 and 10.33 cents for 2013. However, the route group averages vary from a high of 16.6 cents in local Africa to a low of 7.9 cents on routes across the Mid-Atlantic in 2012 and from a high of 16.5 cents to a low of 8.3 cents on the same route groups in 2013. Due to inadequate representation in reporting, three route groups for 2012: between and within Central America and the Caribbean, local South America and local Middle East, and two for 2013: 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 10.33 cents in 2013 showed an increase of some 1 per cent from the level in 2011. Comparable data by route group between 2013 and 2011 are available for 15 individual route groups. 11 of them showed increases, ranging from a growth of some 1 per cent for routes between Europe/Middle East/Africa and Asia/Pacific to some 8 per cent for routes between Canada, Mexico and the United States. On the remaining 4 route groups decreases occurred ranging from drops of some 1 per cent in local Asia/Pacific to 4 per cent in local Europe and across the South Pacific (Figure 2-1).

2.4 The changes in yields experienced between 2011 and 2013 reflect the strengthening of the U.S. dollar (both in 2012 and 2013) against most other world currencies, especially the currencies of countries in Europe and Asia/Pacific. The relative change between 2011 and 2013 would, in many cases, be higher 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 2012 and 2013 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 within North America, local South America, across the Mid-Atlantic 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.

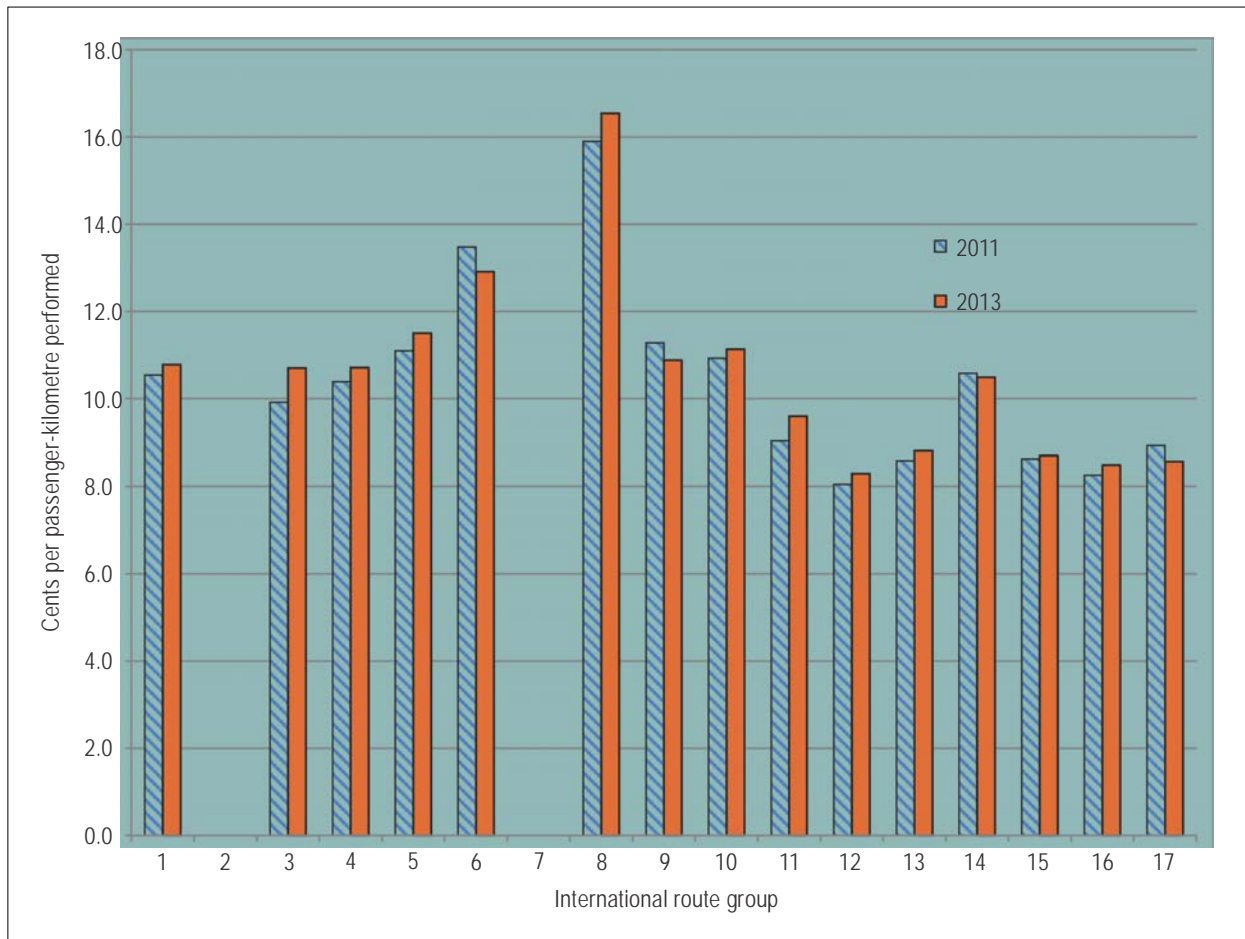
Freight and mail traffic

2.6 Average reported unit freight and mail revenues for the years 2012 and 2013 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 group^{1/}: 2012 and 2013

Route group ^{2/}	Revenue (cents) per passenger-kilometre ^{3/} (1)		Load factors (percentage points) (2)	
	2012	2013	2012	2013
1. Between North America and Central America/Caribbean	10.6	10.8	80	81
2. Between and within Central America and the Caribbean	–	–	–	–
3. Between Canada, Mexico and the United States	10.2	10.7	79	80
4. Between North America/Central America/Caribbean and South America	10.7	10.7	80	80
5. Local South America	–	11.5	–	78
6. Local Europe	13.0	12.9	78	79
7. Local Middle East	–	–	–	–
8. Local Africa	16.6	16.5	64	64
9. Between Europe and Middle East	11.0	10.9	74	75
10. Between Europe/Middle East and Africa	11.1	11.1	75	76
11. North Atlantic	9.3	9.6	82	83
12. Mid-Atlantic	7.9	8.3	83	85
13. South Atlantic	8.5	8.8	84	83
14. Local Asia/Pacific	10.7	10.5	75	76
15. Between Europe/Middle East/Africa and Asia/Pacific	8.7	8.7	80	80
16. North and Mid-Pacific	8.7	8.5	83	82
17. South Pacific	8.8	8.6	76	81

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 South America (for 2012 only) and in local Middle East 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 5 per cent for both 2012 and 2013 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: 2011 and 2013

Table 2-2. Variation in scheduled passenger yield among airlines: 2012

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		
			to 3	to 4	to 5	to 6	to 7	to 8	to 9	to 10	to 11	to 12	to 13	to 14	to 15	to 16	to 17	to 18	to 19	to 20	to 21	to 22	to 23	to 24	to 25	over		
Number of airlines																												
1. North-Central America	10.6	11		1		1	1	2	1	4	1																	
2. Central America/Caribbean	–	–																										
3. North America	10.2	11				2	1	1	1	6																		
4. North-South America	10.7	13					1	1	1	2	4	1	2								1							
5. South America	–	–																										
6. Europe	13.0	42				1	3		2	4	6	5	3	2	2	3	3	4	2	1						1		1/
7. Middle East	–	–																										
8. Africa	16.6	6							1		1	2		1	1													
9. Europe-Middle East	11.0	28				1	3	2	3	1	6	4	2	3	1		1	1										
10. Europe-Africa	11.1	29		1	2	4	2	3	4	4	5	1		2	1													
11. North Atlantic	9.3	27				2	5	6	7	4	3																	
12. Mid-Atlantic	7.9	13		1	1	5	2	1	2					1														
13. South Atlantic	8.5	13				1	1	3	4	2	1	1																
14. Asia/Pacific	10.7	23				2	3	1		4	4	3	2	2	1		1											
15. Europe-Asia/Pacific	8.7	41		1	3	11	4	6	10	4					2													
16. North/Mid-Pacific	8.7	16		1	1	3	3	3	3						2													
17. South Pacific	8.8	5					1	3		1																		

1/ In the range of 29 to 30

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 110.1 cents on routes within Central America/Caribbean to a low of 17.8 cents on routes within the Middle East in 2012 and from a high of 69.4 cents on routes within Europe to a low of 16.3 cents on routes across the South Pacific in 2013. Comparing the figures of 2013 and 2011, 6 of the route groups experienced increases, 9 showed decreases and 1 saw no change (no data available for one route group).

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 Atlantic), 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 81.3 cents on routes within North America to a low of 27.4 cents on those across the South Atlantic in 2012 and from a high of 74.7 cents to a low of 25.9 cents for the same route groups in 2013. Between 2011 and 2013, unit mail revenues increased on 8 out of 14 route groups for which there are data available and decreased on the remaining 6 route groups. Unit mail revenues in general were somewhat higher than unit freight revenues except for routes between North and Central America, between North and South America, across the Mid-Atlantic (for 2013 only) and across the South Atlantic.

2.10 The variation among individual airlines in freight revenue per tonne-kilometre for scheduled services for each route group for 2012 and 2013 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: 2012 and 2013^{1/}

<i>Route group (short title)</i>	<i>Freight revenue (cents) per tonne-kilometre performed</i>						<i>Mail revenues (cents) per tonne-kilometre performed</i>	
	<i>Overall</i>		<i>Passenger and combination aircraft</i>		<i>All-freight aircraft</i>		<i>Overall</i>	
	<i>(1)</i>		<i>(2)</i>		<i>(3)</i>		<i>(4)</i>	
	<i>2012</i>	<i>2013</i>	<i>2012</i>	<i>2013</i>	<i>2012</i>	<i>2013</i>	<i>2012</i>	<i>2013</i>
1. North-Central America	33.3	33.2	33.3	33.2	–	–	32.5	29.9
2. Central America/Caribbean	110.1	–	110.1	–	–	–	–	–
3. North America	35.9	36.5	35.9	36.5	–	–	81.3	74.7
4. North-South America	41.0	40.2	41.0	38.2	–	101.2	37.1	30.3
5. South America	77.7	45.6	77.7	22.5	–	110.0	–	–
6. Europe	68.7	69.4	73.2	76.1	61.6	57.5	51.7	67.0
7. Middle East	17.8	43.8	17.8	43.8	–	–	–	–
8. Africa	38.5	30.9	42.4	30.9	31.8	–	70.0	40.2
9. Europe-Middle East	29.7	33.9	27.0	31.6	54.0	49.7	53.1	48.8
10. Europe-Africa	34.5	38.1	33.2	41.3	42.5	28.5	36.9	39.8
11. North Atlantic	23.2	22.6	22.8	22.5	37.1	38.3	37.7	38.3
12. Mid-Atlantic	28.9	30.6	28.9	30.6	–	–	34.5	30.5
13. South Atlantic	31.4	27.8	31.4	27.8	–	–	27.4	25.9
14. Asia/Pacific	41.7	37.7	38.2	34.8	48.2	46.7	47.8	50.7
15. Europe-Asia/Pacific	23.9	24.7	22.3	24.9	27.6	24.2	34.8	37.5
16. North/Mid-Pacific	24.4	22.6	25.5	22.0	23.8	23.1	33.1	35.1
17. South Pacific	23.7	16.3	23.7	16.3	–	–	–	37.2

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: 2012

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																	
			0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	
			to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160		
			Number of airlines																	
1. North-Central America	33.3	7			3	1	1	1	1											
2. Central America/Caribbean	110.1	2										1			1					
3. North America	35.9	5			2	1	2													
4. North-South America	41.0	9			3	2	1	1		1	1									
5. South America	77.7	2						1		1										
6. Europe	68.7	26		1			2	6	2	5		1	1		1	1		1	5	^{1/}
7. Middle East	17.8	3		1	1					1										
8. Africa	38.5	4				2	1			1										
9. Europe-Middle East	29.7	24	3		4	6	2	5			2	1	1							
10. Europe-Africa	34.5	22	1	4	5	3	3	3	3											
11. North Atlantic	23.2	28		6	17	2	2		1											
12. Mid-Atlantic	28.9	12		3	5	3	1													
13. South Atlantic	31.4	12		5	3	2	2													
14. Asia/Pacific	41.7	24			5	3	5	2	6	2				1						
15. Europe-Asia/Pacific	23.9	39	1	9	19	6	1	1	2											
16. North/Mid-Pacific	24.4	16		2	12	2														
17. South Pacific	23.7	5		1	3			1												

1/ In the range of 160-170 (2), 170-180 (1), 190-200 (1) and 280-290 (1).

Table 2-6. Variation in scheduled freight yield among airlines: 2013

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																
			0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
			to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	
			Number of airlines																
1. North-Central America	33.2	6			4		1										1		
2. Central America/Caribbean	–	–																	
3. North America	36.5	5			2	1	1		1										
4. North-South America	40.2	13		1	3	6							2					1	
5. South America	45.6	6	1	1	1	1							2						
6. Europe	69.4	22					3	3	5	1	1	1		1		1		6	
7. Middle East	43.8	2				1		1											
8. Africa	30.9	4			1		1			1		1							
9. Europe-Middle East	33.9	18	1		4	5	3	2	2									1	
10. Europe-Africa	38.1	18		3	6	2	2	1		2						1		1	
11. North Atlantic	22.6	27		9	12	3	1			1								1	
12. Mid-Atlantic	30.6	11	1	4	2	2	1		1										
13. South Atlantic	27.8	11		4	3	3								1					
14. Asia/Pacific	37.7	23			8	3	5	1	5					1					
15. Europe-Asia/Pacific	24.7	35		8	19	7												1	
16. North/Mid-Pacific	22.6	15		4	11														
17. South Pacific	16.3	4		1	3														

1/ In the range of 220-230.
2/ In the range of 160-170 (3), 190-200 (1), 210-220(1) and 400-410(1).
3/ In the range of 390-400 (1).
4/ In the range of 240-250 (1).
5/ 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 2012 and 2013, 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 16 on the South Pacific route group to a high of 188 serving routes within Europe in 2012 and from a low of 14 to a high of 171 on the same route groups in 2013. It should be noted that the propeller aircraft operations of these airlines are excluded from the study, as are the operations of some 106 and 116 small international airlines which operated exclusively propeller-driven aircraft in 2012 and 2013, respectively. Together these operations with propeller aircraft represented about 0.4 per cent of world international seat-kilometres both in 2012 and 2013, with their highest representations in any single route group being some 10 and 9 per cent within Central America/Caribbean in 2012 and 2013, respectively, and around 3 per cent both in 2012 and 2013 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 2012 and 2013 indicates that for international routes as a whole, relevant incidental revenues not included in Table 3-1 might have been about 0.35 cents and 0.36 cents per passenger-kilometre in 2012 and 2013, respectively. If these relevant incidental revenues had been added to the estimated worldwide unit revenue, they would have increased the estimated worldwide unit revenue from 10.29 to 10.64 cents per passenger-kilometre in 2012 and from 10.33 to 10.69 cents per passenger-kilometre in 2013, this being about 3 per cent for both 2012 and 2013. For individual route groups, the passenger-related incidental operating revenues may represent as much as an additional 5 per cent over the average revenue both in 2012 and 2013. 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 10.26 cents and 10.14 cents (column 7) in 2012 and 2013, respectively (for further details on the way passenger costs have been derived, see paragraphs 4 to 14 of Appendix 2). The figures for individual route groups range from a high of 15.2 cents on routes within Africa to a low of 8.5 cents on routes across the North/Mid-Pacific in 2012 and from a high of 15.0 cents within Africa to a low of

8.4 cents on routes across the Mid-Atlantic in 2013. 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 2012 and 1.02 for 2013, with the ratios for individual route groups varying from 0.90 to 1.15 in 2012 and from 0.95 to 1.15 in 2013. 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 2012 and 1.05 in 2013.

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 2012 and 2013 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 2012 and 3 out of 15 route groups in the analysis in 2013, while ratios ranging from 0.7 to 1.3 were observed on 7 and 8 route groups in 2012 and 2013, respectively.

Comparison of results for 2013 with those for 2011

3.9 An overall comparison between data for 2013 and corresponding data for 2011 shows a marginal decline of about 0.3 per cent in the estimated passenger cost per available seat-kilometre, from 8.05 cents to 8.03 cents. Since the worldwide average load factor at 79.2 per cent in 2013 showed an improvement of 2.2 percentage points as compared to 2011, the cost per passenger-kilometre shows a decrease of about 3 per cent, from 10.45 cents to 10.14 cents (see column 7 of Table 3-1). Unit revenues (excluding incidental operating revenues) showed an increase of 1 per cent, from 10.23 cents per passenger-kilometre in 2011 to 10.33 cents in 2013 (see column 6 of Table 3-1). As a result, the overall revenue/cost ratio increased from 0.98 in 2011 to 1.02 in 2013.

3.10 Between 2011 and 2013, 12 out of 15 route groups for which comparable data were available showed decreases in costs per passenger-kilometre ranging from about 7 per cent on routes across the Mid-Atlantic to some 1 per cent for those between North and Central America and within South America. Two route groups, i.e. over the South Atlantic and across the North/Mid-Pacific showed increases of about 2 and 4 per cent, respectively, while one route group, i.e. within Africa 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 2011 and 2013 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: 2012 and 2013^{1/}**

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)						
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
I. All world international routes	528	516	100	100	2 200	2 221	218	220	78.6	79.2	10.29	10.33	10.26	10.14	1.00	1.02
II. International route groups																
1. North-Central America	34	35	2	2	2 038	2 056	154	153	80	81	10.6	10.8	10.2	10.4	1.05	1.05
2. Central America/Caribbean	21	18	0	0	1 139	1 118	128	129	–	–	–	–	–	–	–	–
3. North America	45	41	3	3	1 523	1 551	116	118	79	80	10.2	10.7	11.5	11.3	0.90	0.95
4. North-South America	44	41	3	3	3 411	3 446	193	198	80	80	10.7	10.7	9.5	9.4	1.15	1.15
5. South America	28	28	1	1	1 556	1 658	157	165	–	78	–	11.5	–	11.8	–	1.00
6. Europe	188	171	16	16	1 168	1 188	151	154	78	79	13.0	12.9	13.5	13.3	0.95	0.95
7. Middle East	36	31	1	1	919	920	176	179	–	–	–	–	–	–	–	–
8. Africa	78	78	1	1	1 400	1 417	145	145	64	64	16.6	16.5	15.2	15.0	1.10	1.10
9. Europe-Middle East	112	114	5	5	3 307	3 305	245	250	74	75	11.0	10.9	10.6	10.3	1.05	1.05
10. Europe-Africa	145	139	6	6	2 663	2 595	224	222	75	76	11.1	11.1	10.6	10.5	1.05	1.05
11. North Atlantic	69	64	14	14	6 226	6 430	263	269	82	83	9.3	9.6	8.8	8.9	1.05	1.10
12. Mid-Atlantic	44	44	3	3	6 969	7 050	302	302	83	85	7.9	8.3	8.8	8.4	0.90	1.00
13. South Atlantic	26	26	2	2	8 572	8 690	287	287	84	83	8.5	8.8	8.8	9.1	0.95	0.95
14. Asia/Pacific	145	145	15	15	2 035	2 036	224	224	75	76	10.7	10.5	10.2	10.0	1.05	1.05
15. Europe-Asia/Pacific	155	155	19	19	4 812	4 835	278	282	80	80	8.7	8.7	9.2	8.9	0.95	1.00
16. North/Mid-Pacific	27	24	8	8	8 233	8 248	293	293	83	82	8.7	8.5	8.5	8.7	1.00	0.95
17. South Pacific	16	14	1	1	7 933	8 225	334	334	76	81	8.8	8.6	9.0	8.8	0.95	1.00

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

2. For routes between and within Central America and Caribbean, within South America (for 2012 only) and within Middle East 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 0.35 cents and 0.36 cents per passenger kilometre for 2012 and 2013, respectively. On individual route groups it may represent up to an additional 5 per cent over the average passenger revenue quoted for both 2012 and 2013.

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

Table 3-2. Estimated passenger costs^{1/} per passenger-kilometre by cost item: 2012 and 2013

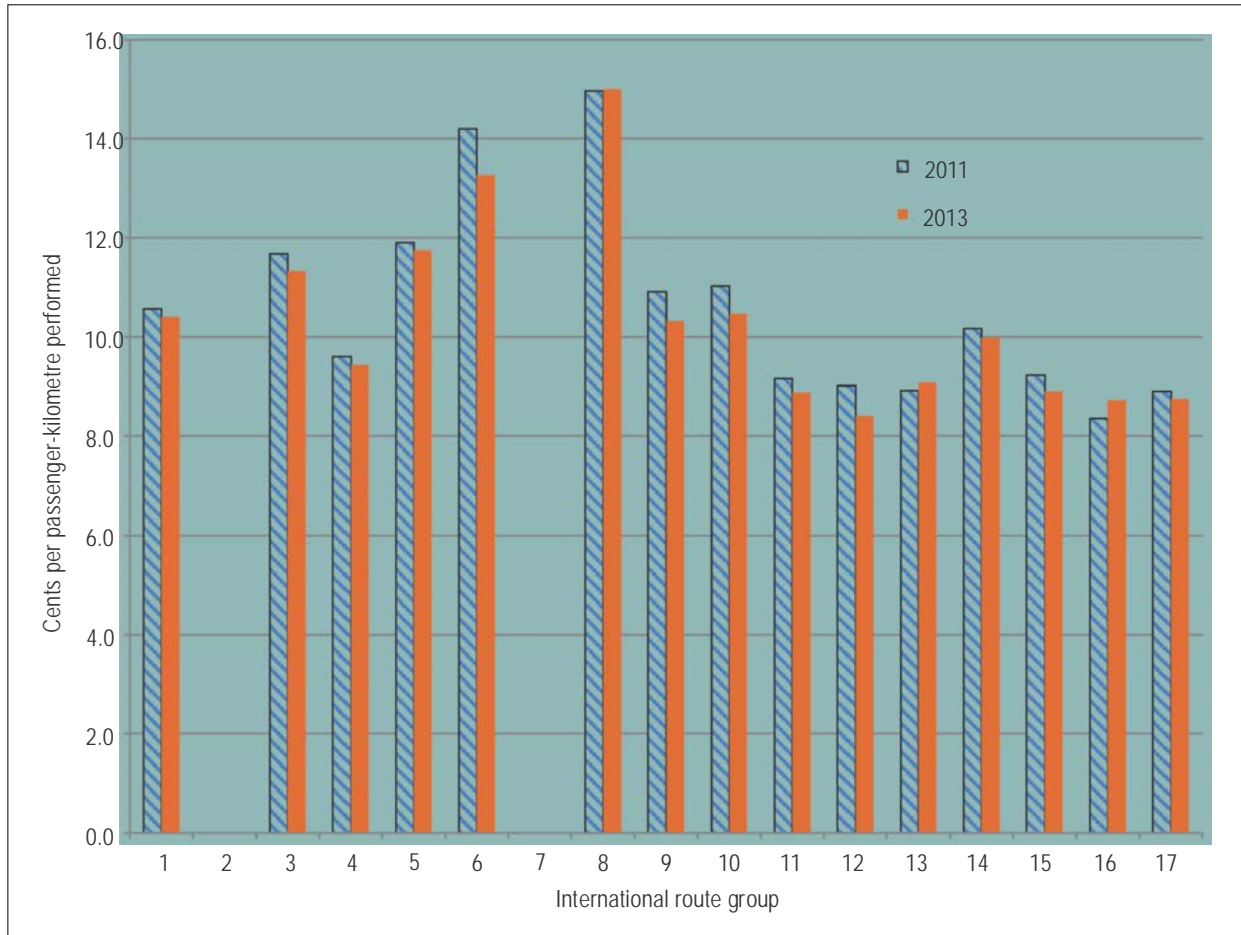
Route group (short title)	Total Operating costs (cf. Table 3-1) (sum of columns 1-9)		Aircraft operating costs								Other operating costs									
			Aircraft operating costs excluding fuel and oil ^{2/}		Aircraft fuel and oil		Landing and associated airport charges		Air navigation charges		Station expenses		Passenger services		Commission		Ticketing, sales and promotion		General, Administrative and miscellaneous	
			(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
			2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
I. All world international routes																				
Cents	10.26	10.14	2.62	2.62	3.59	3.48	0.37	0.37	0.36	0.37	0.80	0.81	1.14	1.09	0.31	0.31	0.46	0.44	0.61	0.65
Percentage of total costs	100.0	100.0	25.5	25.8	35.0	34.4	3.6	3.7	3.5	3.7	7.8	7.9	11.1	10.8	3.0	3.0	4.5	4.3	5.9	6.5
II. International route groups																				
1. North-Central America	10.2	10.4	2.8	2.9	3.5	3.4	0.3	0.3	0.1	0.1	1.3	1.3	0.9	0.9	0.3	0.3	0.5	0.5	0.6	0.8
2. Central America/Caribbean	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3. North America	11.5	11.3	3.6	3.5	3.6	3.4	0.2	0.2	0.1	0.1	1.7	1.6	1.0	1.0	0.3	0.3	0.4	0.4	0.6	0.7
4. North-South America	9.5	9.4	2.4	2.4	3.6	3.5	0.2	0.2	0.2	0.2	0.6	0.6	0.9	0.8	0.4	0.4	0.6	0.6	0.8	0.8
5. South America	–	11.8	–	3.1	–	4.3	–	0.3	–	0.5	–	0.7	–	0.8	–	0.9	–	0.7	–	0.6
6. Europe	13.5	13.3	3.6	3.5	3.8	3.7	0.9	0.9	0.9	0.9	1.4	1.4	1.4	1.3	0.3	0.3	0.7	0.6	0.5	0.6
7. Middle East	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8. Africa	15.2	15.0	4.1	4.1	5.4	5.2	0.6	0.6	0.7	0.7	0.9	1.0	1.7	1.8	0.7	0.7	0.7	0.7	0.6	0.6
9. Europe-Middle East	10.6	10.3	2.6	2.5	3.5	3.4	0.4	0.4	0.5	0.5	0.8	0.7	1.1	1.1	0.5	0.4	0.4	0.4	0.8	0.9
10. Europe-Africa	10.6	10.5	2.7	2.7	3.6	3.5	0.3	0.3	0.5	0.5	0.7	0.7	1.3	1.2	0.3	0.3	0.5	0.5	0.9	0.9
11. North Atlantic	8.8	8.9	2.0	2.1	3.5	3.3	0.3	0.3	0.2	0.2	0.6	0.6	1.0	1.0	0.2	0.2	0.4	0.4	0.6	0.8
12. Mid-Atlantic	8.8	8.4	2.0	1.9	3.4	3.2	0.2	0.2	0.3	0.3	0.3	0.3	1.2	1.1	0.2	0.2	0.4	0.4	0.8	0.8
13. South Atlantic	8.8	9.1	2.0	2.1	3.8	3.9	0.1	0.2	0.4	0.4	0.3	0.3	1.0	1.0	0.3	0.3	0.3	0.3	0.6	0.6
14. Asia/Pacific	10.2	10.0	2.9	2.9	3.5	3.4	0.4	0.4	0.2	0.2	1.0	1.0	1.3	1.2	0.3	0.3	0.5	0.4	0.2	0.2
15. Europe-Asia/Pacific	9.2	8.9	2.2	2.2	3.4	3.3	0.2	0.2	0.	0.4	0.5	0.4	1.1	1.0	0.3	0.3	0.4	0.3	0.8	0.8
16. North/Mid-Pacific	85.5	8.7	2.0	2.2	3.6	3.6	0.2	0.2	0.1	0.1	0.5	0.6	0.9	0.9	0.2	0.2	0.4	0.4	0.6	0.7
17. South Pacific	9.0	8.8	2.4	2.4	3.8	3.4	0.2	0.2	0.1	0.1	0.5	0.5	0.9	0.9	0.4	0.4	0.4	0.4	0.4	0.5

- "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.
- 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: 2012 and 2013

Route group (short title)	Average revenue/cost ratio (all airlines from Table 3-1)		Number of airlines in this analysis		number of airlines									
	2012	2013	2012	2013	Less than 0.7		0.7 to 0.9		0.9 to 1.1		1.1 to 1.3		Greater than 1.3	
					2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
I. All world international routes	1.00	1.02	79	68	9	8	34	15	30	41	6	4		
II. International route groups														
1. North-Central America	1.05	1.05	7	7	1		2	4	3	3	1			
2. Central America/Caribbean	–	–	–	–										
3. North America	0.90	0.95	8	10			3	5	4	5	1			
4. North-South America	1.15	1.15	8	10	1	1			1	3	5	3	3	1
5. South America	–	1.00	–	5					3				2	
6. Europe	0.95	0.95	36	27	1	1	26	14	9	11		1		
7. Middle East	–	–	–	–										
8. Africa	1.10	1.10	5	4	1	2	4	1		1				
9. Europe-Middle East	1.05	1.05	23	19	5	1	8	6	7	9	2	1	1	2
10. Europe-Africa	1.05	1.05	27	22	6	4	8	7	10	8	2	2	1	1
11. North Atlantic	1.05	1.10	22	25	1	2	8	4	11	16	2	3		
12. Mid-Atlantic	0.90	1.00	9	10	1		4	5	3	3		1	1	1
13. South Atlantic	0.95	0.95	10	10	1	1	4	2	4	6	1			1
14. Asia/Pacific	1.05	1.05	19	19	2	4	3	4	10	9	4	2		
15. Europe-Asia/Pacific	0.95	1.00	35	33	10	7	13	11	8	11	4	4		
16. North/Mid-Pacific	1.00	0.95	14	14	3	2	4	6	4	5	3	1		
17. South Pacific	0.95	1.00	3	3	1			2		1	1		1	

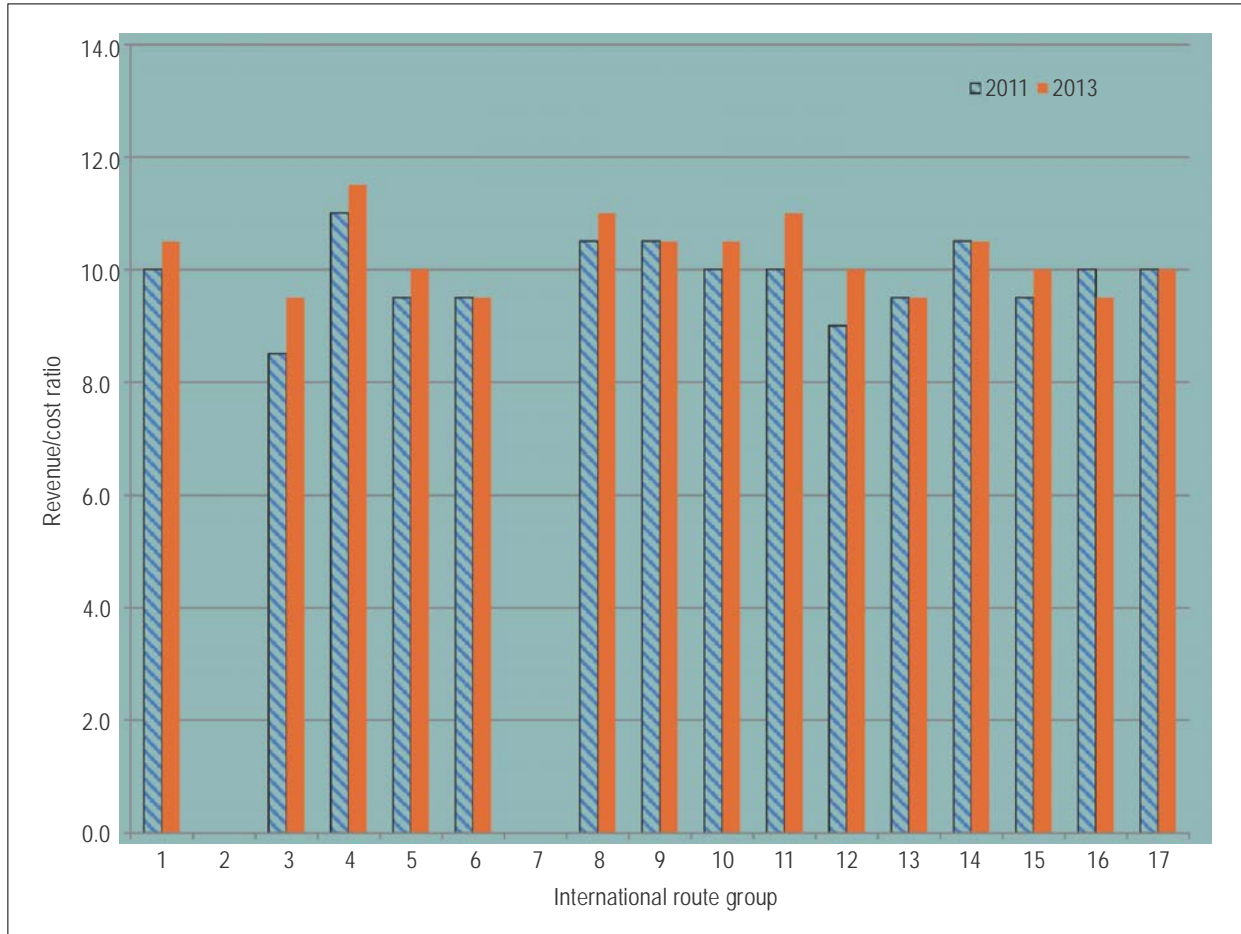
3.12 Outside the Americas, for those route groups where, between 2011 and 2013, the mix of national currencies generally weakened somewhat against the U.S. dollar (such as route groups involving Europe and Asia/Pacific), with some exceptions which caused local distortions, the changes shown in revenues and costs when expressed in U.S. dollars are effectively understated. Hence, between 2011 and 2013, the yields and costs expressed in local currencies for some of the route groups involving airlines from these regions would have shown bigger increases or smaller 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: 2013 and 2011

3.13 Of the 15 route groups analysed in this study for which comparable data were available, 9 showed an increase in their respective revenue/cost ratios between 2011 and 2013, while 5 showed no change and 1 saw a deterioration (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: 2013 and 2011

3.14 On 5 out of 9 route groups where there was an improvement in revenue/cost ratios in 2013 compared to 2011, unit costs expressed in cents per available seat-kilometres decreased. These decreases along with improvements in load factors and increases of yields resulted in the improvements in the ratios. On the remaining 4 route groups there were increases or no change in in the unit costs per available seat-kilometre; however, increases in both load factors and yields were sufficient enough to push the revenue/cost ratios on these route groups up compared to 2011. On 2 out

of 5 route groups where there was no change in the revenue/cost ratios in 2013 compared to 2011, unit costs per available seat-kilometre dropped down but the yields decreased even more. The improvements in load factors were not sufficient to increase the ratio. On the remaining 3 route groups unit costs per available seat-kilometre went up or did not change. These route groups saw their load factors improve, which pushed the unit cost per passenger-kilometre down. However, the yields did not increase enough to improve the ratio in 2013 compared to 2011. On the route group where the revenue/cost ratio deteriorated in 2013 compared to 2011, there was an increase in yield and load factor but it was not sufficient to compensate for the increase in the unit cost per available seat-kilometre.

Variations in revenue/cost ratios among groups of airlines

3.15 Comparing the years 2011 and 2013, the airlines of Africa, Asia/Pacific, Europe and North America, each as a group, showed improvements in their respective overall operating ratios (airlines from Central America/Caribbean, 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 2013, as compared with 2011, airlines registered in Africa saw their revenue/cost improved overall as well as on individual route groups on which they operated. On all of them except for one (within local Africa) unit costs per available seat-kilometres went down. Improvements in load factors (except for routes across the North Atlantic) and in yields (except for routes across the South Atlantic) further contributed to the improvement of the revenue-/cost ratios. On route in local Africa the increase of the unit cost per available seat-kilometre was outpaced by the improvements in load factors and yields which resulted in the higher revenue/cost ratio in 2013 compared to 2011 on that route group.

3.17 The airlines of the Asia/Pacific region managed to improve the overall revenue/cost ratio in 2013 compared to 2011, despite the increase of the unit cost per available seat-kilometre. The improvement in the overall load factor by over 2 percentage points resulted in the decline of the unit cost per passenger-kilometre. This, combined with the increase of the overall passenger yield, positively impacted the overall revenue/cost ratio which increased by some 3 per cent compared to 2011. On the individual route group basis, the ratios improved on 4 out of 6 major ones these airlines operated while slightly deteriorated on the remaining two. The improvements were witnessed on routes over the North Atlantic, South Atlantic, within Asia/Pacific and between Asia/Pacific and Europe/Middle East and Africa. On the first two there were some increases in unit costs per available seat-kilometre; however there were improvements both in load factors and yields which were significantly higher than the increases in costs. On the two latter route groups there were not many changes either in unit costs per available seat-kilometre or yield. However, improvements in load factors helped push the ratio up. On 2 route groups, i.e. across the North/Mid/Pacific and over the South Pacific, where marginal deterioration of the revenue/cost ratio was observed, an increase in the unit cost per available seat-kilometre on the former was not compensated by increases in load factors and yields. In case of the latter, there was a decrease in the unit costs per available seat-kilometre; the drop in yields was much higher, however, and it could not be compensated by the increase of the load factors.

3.18 In 2013, as compared to 2012, the airlines of the European region also saw the overall revenue/cost ratio improve. The unit cost per available seat-kilometre went down as did the yield. However, the improvement in the overall load factor helped lower the unit cost per passenger-kilometre below the decrease in the overall yield, resulting in the improvement in the ratio. On the individual route group basis, the European airlines saw the improvement in the ratios on all route groups they operated on, except for routes across the South Atlantic and between Europe/Middle East/Africa and Asia/Pacific. On route groups where improvements were observed, unit costs per available seat-kilometre went down. This was accompanied by improvements in load factors which pushed the unit costs per passenger-kilometre further down. The increase of yields on 2 of these route groups further positively impacted the revenue/cost ratio. Some decreases in yields on the remaining route groups were not significant enough to reduce the revenue/cost ratios in 2013 compared to 2011. On 2 route groups where the revenue/cost ratios deteriorated, unit costs per available seat-kilometre marginally rose or did not change. However, deterioration in load factors or only small increases did not help the improvement in the unit cost per passenger-kilometre. In addition, the yields dropped, which resulted in the deterioration of the revenue/cost ratios on these two route groups.

3.19 In 2013 airlines of the North America region saw their overall revenue/cost ratio improve significantly compared to 2011. The overall yield increased more than the unit cost per available seat-kilometre. That, coupled with some increases in the load factor that brought the unit cost per passenger-kilometre further down, resulted in that improvement. These airlines managed to improve the ratios on 4 out of 6 major route groups they operated on in 2013 and 2011. On the route groups where improvements occurred, yields increased as did load factors. That development caused the ratios to improve despite some increases in unit costs per available seat-kilometre. On the remaining 2 route groups, i.e. across the North/Mid-Pacific and across the South Pacific, some deterioration in the revenue/cost ratios was observed. On these route groups the unit cost per available seat-kilometre went up, which was not compensated by marginal improvements in either yields and load factors.

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 2012 and 2013, 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 2012 and 2013 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

2012 and 2013. The average hourly cost varied from 4 653 USD for narrow-body short-haul aircraft to 11 877 USD for wide-body long-haul aircraft in 2012 and from 4 587 USD to 11 650 USD for the same categories in 2013. 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 5.0 cents for 2012 and 4.9 cents for 2013, the lowest for any category, except for 2012, where narrow-body medium-haul aircraft averaged at 4.8 cent. At the other end of the spectrum, the narrow-body short-haul aircraft averaged 5.4 cents per seat-kilometre for both 2012 and 2013, which is some 8 and 10 per cent higher than the figure for wide-body long-haul aircraft for 2012 and 2013, respectively (and 12 per cent higher than for narrow-body medium-haul aircraft in 2012).

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 around 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 2012 was approximately 165 billion litres, and the total cost to the airlines was about 136 billion USD for an average price per litre of 82.3 cents; and in 2013, some 175 billion litres with a total cost to the airlines of some 139.8 billion USD for an average price per litre of 80.1 cents. Fuel represented about 35 and 34.4 per cent of the total passenger operating costs in 2012 and 2013, respectively, which was above the 2011 level (33.1 per cent) by some 2 and 1 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 2012 ranged from 76.8 cents in the Middle East to 94.2 cents in South America (some 23 per cent higher than the price paid in the Middle East) and in 2013, from 74.9 cents to 91.3 cents for the same regions; fuel prices in 2013 were above the levels of 2011 worldwide by around 3 per cent, and on a regional basis ranging from no change for Africa to about 6 per cent for Europe.

**Table 4-1. Operational and cost data for aircraft categories: 2012 and 2013
(intentional 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)		Available number of seats ^{2/}		Average length of flight stages operated (km)		Aircraft operating costs ^{3/}			
		(1)		(2)		(3)		(5)		(6)	
		2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
World		100.0	100.0	218	220	2 200	2 221	7 523	7 376	5.1	5.1
Narrow-body short-haul	A319 A320 B737 ERJ CRJ	32.0	32.7	145	148	1 377	1 405	4 653	4 587	5.4	5.4
Narrow-body medium-haul	B757	2.7	2.2	182	182	2 888	2 967	6 063	6 096	4.8	4.9
Wide-body medium-haul	A310 B767	7.5	6.9	221	222	4 261	4 226	8 153	8 144	5.0	5.0
Wide-body long-haul	A330 A340 A380 B747 B764 B777 B787	57.8	58.2	304	307	5 312	5 337	11 877	11 650	5.0	4.9

1. Only aircraft types providing more than 0.5 per cent of the world international scheduled available seat-kilometre in 2012 and 2013 are listed in this column. The categorization of aircraft types is based on the average number of seats and length of flight states in 2012 and 2013.
2. Available seat-kilometres divided by aircraft-kilometres flown.
3. Data in these columns include flight operations expenses, aircraft fuel and oil (at the world average cost of 82.3 and 80.1 cents per litre for 2012 and 2013 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.
4. 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: 2012 and 2013

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)		(6)	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
I. All world international routes	2 200	2 221	654	643	35	35	65	65	142	142
II. International route groups										
1. North-Central America	2 038	2 056	630	620	96	95	4	5	97	95
2. Central America/Caribbean	1 139	1 118	563	537	100	100	0	0	72	69
3. North America	1 523	1 551	578	568	97	97	3	3	67	67
4. North-South America	3 411	3 446	713	703	36	36	64	64	138	139
5. South America	1 556	1 658	602	562	73	69	27	31	95	93
6. Europe	1 168	1 188	550	541	96	96	4	4	83	84
7. Middle East	919	920	514	498	65	65	35	35	90	89
8. Africa	1 400	1 417	620	598	78	76	22	24	90	87
9. Europe-Middle East	3 307	3 305	693	688	25	26	75	74	170	172
10. Europe-Africa	2 663	2 595	684	669	34	36	66	64	153	149
11. North Atlantic	6 226	6 430	760	761	8	6	92	94	200	205
12. Mid-Atlantic	6 969	7 050	785	785	0	0	100	100	237	237
13. South Atlantic	8 572	8 690	803	786	0	0	100	100	230	225
14. Asia/Pacific	2 035	2 036	635	616	35	36	65	64	142	138
15. Europe-Asia/Pacific	4 812	4 835	744	735	11	11	89	89	207	207
16. North/Mid-Pacific	8 233	8 248	790	786	1	1	99	99	231	230
17. South Pacific	7 933	8 225	811	810	2	1	98	99	271	270

**Table 4-3. Estimated unit fuel prices and airport charges by region:
2012 and 2013 (international scheduled services)**

Area ^{1/}	Aircraft fuel and oil prices (cents/litre)		Landing and associated airport charges (dollars/departed tonne) ^{2/}	
	2012	2013	2012	2013
World	82.3	80.1	14.1	14.3
North America	79.0	75.3	11.4	11.9
Central America/Caribbean	83.4	79.9	7.1	7.3
South America	94.2	91.3	8.3	8.5
Europe	84.2	83.1	19.8	20.5
Middle East	76.8	74.9	7.5	7.2
Africa	89.1	86.2	10.5	10.7
Asia/Pacific	80.7	78.4	11.8	11.5

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 76.6 cents per litre for routes across the South Pacific to a high of 102.3 cents per litre for routes within Africa in 2012 and from a low of 73.6 cents to a high of 97.7 cents per litre for the same route groups in 2013.

Airport and associated charges

[factor d)]

4.12 As shown in Table 3-2, airport charges represented some 3.6 and 3.7 per cent of the total costs for international passenger operations in 2012 and 2013, 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 14.1 USD and 14.3 USD per tonne in 2012 and 2013, respectively; the average charges in regions ranged from 7.1 USD in Central America/Caribbean to 19.8 USD in Europe in 2012 and from 7.2 USD in the Middle East to 20.5 USD in Europe in 2013.

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 6.9 USD per tonne for traffic within North America to 19.4 USD for traffic within Europe in 2012 and from 7.0 USD to 20.1 USD for the same route groups in 2013. 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:
2012 and 2013 (international scheduled services)**

Route group (short title)	Aircraft fuel and oil prices (cents/litre)		Landing and associated airport charges (dollars/departed tonne) ^{1/}	
	2012	2013	2012	2013
I. All world international routes	82.3	80.1	14.1	14.3
II. International route groups				
1. North-Central America	86.4	82.8	8.5	9.0
2. Central America/Caribbean	–	–	–	–
3. North America	77.5	74.2	6.9	7.0
4. North-South America	86.2	82.7	8.9	9.0
5. South America	–	90.9	–	8.4
6. Europe	86.8	86.1	19.4	20.1
7. Middle East	–	–	–	–
8. Africa	102.3	97.7	11.0	11.1
9. Europe-Middle East	80.4	78.9	15.1	15.2
10. Europe-Africa	82.7	81.3	12.4	12.4
11. North Atlantic	79.9	77.1	17.1	17.9
12. Mid-Atlantic	83.8	81.3	14.2	14.8
13. South Atlantic	90.0	88.8	12.3	12.4
14. Asia/Pacific	80.6	78.0	11.6	11.2
15. Europe-Asia/Pacific	80.2	78.0	12.6	12.3
16. North/Mid-Pacific	80.0	77.7	14.5	14.7
17. South Pacific	76.6	73.6	13.4	13.5

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 2012 and 2013 varied significantly among route groups, from a low of 64 per cent on routes within Africa to a high of 84 per cent on routes across the South Atlantic in 2012 and from a low of 64 per cent on routes within Africa to a high of 85 per cent on routes across the Mid-Atlantic in 2013, 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 2012 and 2013, 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 32.4 and 32.5 per cent of the total costs for international passenger operations in 2012 and 2013, respectively (compared with 33.5 per cent in 2011). 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 0.3 to 1.7 cents per passenger-kilometre in 2012 and from 0.3 cents to 1.6 cents in 2013, some of the variations are due to the effects of differences in stage length. These expenses accounted for about 7.8 and 7.9 per cent of total operating costs in 2012 and 2013, respectively.

4.17 **Passenger services** (column 6 of Table 3-2) relate primarily to cabin services provided in flight. Passenger service costs represented some 11.1 and 10.8 per cent of total passenger operating costs in 2012 and 2013, respectively. The differences in their level among the route groups, from 0.9 to 1.7 cents per passenger-kilometre in 2012 and from 0.8 to 1.8 cents in 2013, 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 0.7 cents per passenger-kilometre in 2012 and from 0.2 cents to 0.9 cents in 2013, is also related to the variation in average revenue per passenger-kilometre. Both in 2012 and 2013, commission expenses accounted for about 3 per cent of the world's scheduled international airline costs.

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 2012 and 2013, this item represented about 4.5 and 4.3 per cent of passenger costs, respectively. The variation among the route groups, from 0.3 to 0.7 cents per passenger-kilometre both in 2012 and 2013, 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 13 per cent and between 6 and 13 per cent of total passenger revenues

were used in 2012 and 2013, respectively, to defray this overall cost, with the world average of about 8 and 7 per cent in 2012 and 2013, respectively.

4.21 **General, administrative and miscellaneous expenses** (column 9 of Table 3-2) vary from 0.2 cents to 0.9 cents per passenger-kilometre both in 2012 and 2013. 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 2012 and 2013, which was 10.3 cents and 10.1 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 2012 and 2013, respectively. Focusing on columns 2 to 6, *stage length and average block speed* were the most important factors for 11 route groups both in 2012 and 2013. Other factors making significant contributions included *load factor*, which was the most important factor for 2 and 1 route groups in 2012 and 2013, respectively, and *aircraft mix*, which was the most important single factor for 1 route group in 2013. Two factors, i.e. *stage length and average block speed* and *load factor* were equally the most important factors for 1 and 2 route groups in 2012 and 2013, respectively. 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.

Table 4-5. Contributions to differences in costs amongst route groups: 2012 and 2013

Route group (short title)	World average total passenger operating costs		Effect of aircraft mix		Effect of stage length and average block speed		Effect of aircraft fuel and oil prices		Effect of landing and associated airport charges		Effect of load factor		Sum of effects in columns 2-6		Effect of other factors		Actual total passenger operating costs: columns 1+7+8	
	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
I. All world international routes	10.3	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.3	10.1
II. International route groups																		
1. North-Central America	10.3	10.1	0.2	0.3	0.3	0.2	0.2	0.1	-0.1	-0.1	-0.1	-0.1	0.5	0.4	0.6	-0.1	10.2	10.4
2. Central America/Caribbean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. North America	10.3	10.1	0.3	0.4	1.1	1.0	-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	0.9	0.8	0.3	0.4	11.5	11.3
4. North-South America	10.3	10.1	0.0	0.0	-0.8	-0.8	0.2	0.1	-0.1	-0.1	-0.1	-0.1	-0.8	-0.9	0.0	0.2	9.5	9.4
5. South America	-	10.1	-	0.2	-	1.0	-	0.5	-	-0.2	-	0.1	-	1.6	-	0.0	-	11.8
6. Europe	10.3	10.1	0.3	0.4	1.8	1.8	0.2	0.3	0.1	0.2	0.0	0.0	2.4	2.7	0.8	0.5	13.5	13.3
7. Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8. Africa	10.3	10.1	0.2	0.3	0.9	1.0	0.9	0.8	-0.1	-0.1	2.2	2.1	4.1	4.1	0.8	0.8	15.2	15.0
9. Europe-Middle East	10.3	10.1	0.0	0.0	-0.6	-0.7	-0.1	0.0	0.0	0.0	0.4	0.4	-0.3	-0.3	0.6	0.5	10.6	10.3
10. Europe-Africa	10.3	10.1	0.0	0.0	-0.4	-0.3	0.0	0.1	0.0	0.0	0.4	0.3	0.0	0.1	0.3	0.3	10.6	10.5
11. North Atlantic	10.3	10.1	-0.2	-0.2	-1.3	-1.4	-0.1	-0.1	0.1	0.1	-0.3	-0.3	-1.8	-1.9	0.3	0.7	8.8	8.9
12. Mid-Atlantic	10.3	10.1	-0.2	-0.2	-1.5	-1.5	0.1	0.1	0.0	0.0	-0.3	-0.4	-1.9	-2.0	0.4	0.3	8.8	8.4
13. South Atlantic	10.3	10.1	-0.2	-0.2	-1.6	-1.6	0.3	0.4	0.0	0.0	-0.4	-0.3	-1.9	-1.7	0.4	0.7	8.8	9.1
14. Asia/Pacific	10.3	10.1	0.0	0.0	0.2	0.3	-0.1	-0.1	-0.1	-0.1	0.3	0.3	0.3	0.4	-0.4	-0.5	10.2	10.0
15. Europe-Asia/Pacific	10.3	10.1	-0.1	-0.1	-1.1	-1.1	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-1.4	-1.4	0.3	0.2	9.2	8.9
16. North/Mid-Pacific	10.3	10.1	-0.2	-0.2	-1.6	-1.6	-0.1	-0.1	0.0	0.0	-0.3	-0.2	-2.2	-2.1	0.4	0.7	8.5	8.7
17. South Pacific	10.3	10.1	-0.2	-0.2	-1.6	-1.7	-0.2	-0.3	0.0	0.0	0.2	-0.1	-1.8	-2.3	0.5	0.9	9.0	8.8

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 2/20.3.2-13/75 of 1 November 2013 and EC 2/20.3.2-14/87 of 21 November 2014) 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 60 and 68 States for the years 2012 and 2013, 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 website ICAO DATA+ (<https://www4.icao.int/newdataplus>).

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 103 and 99 scheduled airlines (including 5 and 4 all-cargo airlines for 2012 and 2013, respectively) for 2012 and 2013, respectively, and on cost data from 79 and 68 scheduled international passenger airlines for 2012 and 2013, 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 2012 and in Table A1-2 for the year 2013. The overall representation in terms of available seat-kilometres is 56 and 53 per cent for revenue data for

2012 and 2013, respectively, and 48 per cent for cost data for both 2012 and 2013. In terms of cost data, in 2012, representation of the Central America/Caribbean region at 6 per cent was the lowest and that of Europe at 61 per cent was the highest among the regions. In 2013, representation of the Central America/Caribbean region at 6 per cent was the lowest and that of North America at 78 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 2012 and in Table A1-4 for the year 2013. 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 40 per cent or above for 13 and 11 route groups in 2012 and 2013, respectively. Representation of some route groups on the cost side, however, is substantially lower than on the revenue side. In both 2012 and 2013, for routes within Central America/Caribbean, within North America (for 2012 only), within South America (for 2012 only), within the Middle East, within Africa (for 2013 only), between Europe and the Middle East, between Europe/Middle East and Africa (for 2013 only), across the Mid-Atlantic (for 2013 only) and across the South Pacific, representation is below 40 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 South America (2012 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: 2012

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	4 351 150	98	2 446 916	56	79	2 099 382	48
Africa	161 146	6	72 171	45	5	71 749	45
Asia/Pacific	1 210 481	21	660 109	55	18	641 972	53
Europe	1 635 144	46	1 124 762	69	39	1 008 010	62
Middle East	547 516	5	57 431	10	4	47 476	9
North America	624 228	12	487 584	78	9	310 922	50
Central America/Caribbean	65 706	2	9 316	14	1	3 888	6
South America	106 929	6	35 543	33	3	15 365	14

Source: ICAO Air Transport Reporting Form A.

Table A1-2. Representation by ICAO region of airline registration: 2013

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	4 576 660	95	2 423 139	53	68	2 184 477	48
Africa							
Asia/Pacific	171 762	5	70 978	41	4	69 348	40
Europe	1 293 142	22	704 802	55	16	648 909	50
Middle East	1 684 821	41	1 007 325	60	28	885 215	53
North America	603 680	5	45 536	8	4	45 168	7
Central America/Caribbean	636 288	10	497 187	78	9	494 252	78
South America	74 648	3	6 852	9	2	4 273	6
	112 319	9	90 459	81	5	37 312	33

Source: ICAO Air Transport Reporting Form A.

Table A1-3. Representation by international route group: 2012

<i>Route group (short title)</i>	<i>Revenue data represent</i>		<i>Cost data represent</i>	
	<i>Number of airlines</i>	<i>Per cent of total scheduled seat-kilometres</i>	<i>Number of airlines</i>	<i>Per cent of total scheduled seat-kilometres</i>
I. All world international routes	98	58	79	50
II. International route groups				
1. North-Central America	11	70	7	53
2. Central America/Caribbean	2	10	1	6
3. North America	11	44	8	28
4. North-South America	13	59	8	41
5. South America	5	31	3	16
6. Europe	42	54	36	51
7. Middle East	4	15	3	12
8. Africa	6	46	5	46
9. Europe-Middle East	28	28	23	25
10. Europe-Africa	30	46	27	41
11. North Atlantic	28	76	22	61
12. Mid-Atlantic	13	60	9	50
13. South Atlantic	13	64	10	58
14. Asia/Pacific	23	59	19	58
15. Europe-Asia/Pacific	41	53	35	48
16. North/Mid-Pacific	16	77	14	61
17. South Pacific	5	54	3	39

Table A1-4. Representation by international route group: 2013

<i>Route group (short title)</i>	<i>Revenue data represent</i>		<i>Cost data represent</i>	
	<i>Number of airlines</i>	<i>Per cent of total scheduled seat-kilometres</i>	<i>Number of airlines</i>	<i>Per cent of total scheduled seat-kilometres</i>
I. All world international routes	95	52	68	47
II. International route groups				
1. North-Central America	9	63	7	62
2. Central America/Caribbean	1	3	0	0
3. North America	11	48	10	45
4. North-South America	15	74	10	56
5. South America	9	77	5	41
6. Europe	39	49	27	46
7. Middle East	3	10	3	10
8. Africa	5	35	4	35
9. Europe-Middle East	24	24	19	21
10. Europe-Africa	26	33	22	29
11. North Atlantic	28	72	25	69
12. Mid-Atlantic	12	45	10	35
13. South Atlantic	14	63	10	45
14. Asia/Pacific	25	53	19	49
15. Europe-Asia/Pacific	39	46	33	41
16. North/Mid-Pacific	16	76	14	72
17. South Pacific	4	24	3	20

Table A1-5. Representative nature of revenue data for scheduled freight and mail services by ICAO region of airline registration: 2012

Region	Freight revenue data represent				Mail revenue data represent			
	International scheduled freight tonne-km performed (millions)	Tonne-km performed			International scheduled mail tonne-km performed (millions)	Tonne-km performed		
		Number of airlines	Number (millions)	Per cent of total		Number of airlines	Number (millions)	Per cent of total
All	158 972	76	84 265	53	3 288	40	1 712	52
Africa	2 908	4	2 216	76	48	3	28	58
Asia/Pacific	65 929	23	42 076	64	1 276	11	849	67
Europe	40 527	33	29 922	74	1 039	17	311	30
Middle East	20 056	4	1 181	6	125	3	26	21
North America	25 167	7	8 037	32	785	5	498	63
Central America/Caribbean	809	2	33	4	2	1	0	–
South America	3 576	3	800	22	13	–	–	–

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: 2013

Region	Freight revenue data represent				Mail revenue data represent			
	International scheduled freight tonne-km performed (millions)	Tonne-km performed			International scheduled mail tonne-km performed (millions)	Tonne-km performed		
		Number of airlines	Number (millions)	Per cent of total		Number of airlines	Number (millions)	Per cent of total
All	159 017	70	74 508	47	3 830	43	1 911	50
Africa	2 960	4	2 058	70	48	3	25	52
Asia/Pacific	64 386	21	35 868	56	1 628	13	890	55
Europe	41 248	26	25 612	62	1 147	18	346	30
Middle East	22 558	3	893	4	153	3	25	16
North America	23 377	7	7 808	33	839	5	625	74
Central America/Caribbean	782	1	17	2	2	1	0	–
South America	3 706	8	2 252	61	13	–	–	–

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 2012 and 2013 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, if not disaggregated by route group, 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 by each aircraft type on each route group
	I.2 Aircraft maintenance and overhaul expenses		I.3
	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 route group
	III.5 Miscellaneous operating costs		IV.1
	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																			
Check box if data in this Section include: Non-scheduled <input type="checkbox"/>																			
III.1	Passenger services (including cabin crew salaries and expenses)	All international route groups or areas Domestic services		Name and title of person completing questionnaire:				Telephone no.:											
III.2	Commission payments											Fax no.:							
III.3	Other ticketing, sales and promotion															Email:			
III.4	General and administrative																		
III.5	Miscellaneous operating expenses																		
SECTION IV – Balance of non-operating items				Remarks: (include description of any deviations from the reporting guidelines and geographical descriptions on page A-2)															
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

- I.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 II.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-3 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-3 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).....										
Remarks:										

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)

ATTACHMENT C
RESPONDENTS TO QUESTIONNAIRES

Covering the year 2012

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 2/20.3.2-13/75 of 1 November 2013.

Australia, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Egypt, Ethiopia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Japan, Jordan, Kenya, Kuwait, Lithuania, Luxembourg, Malaysia, Mauritius, Mongolia, Montenegro, Netherlands, Oman, Pakistan, Peru, Poland, Portugal, Republic of Korea, Republic of Moldova, Romania, Russian Federation, Scandinavia¹, Serbia, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Suriname, Switzerland, Thailand, Trinidad and Tobago, Turkey, Ukraine, United Republic of Tanzania, United Kingdom, United States, Uzbekistan and Venezuela.

Covering the year 2013

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 2/20.3.2-14/87 of 21 November 2014.

Algeria, Australia, Bahrain, Belgium, Benin, Bolivia, Bosnia and Herzegovina, Brazil, Cape Verde, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Czech Republic, Ecuador, Egypt, Ethiopia, Finland, Georgia, Germany, Greece, Iceland, Ireland, Israel, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Lebanon, Lithuania, Luxembourg, Madagascar, Malaysia, Mauritius, Mexico, Mongolia, Montenegro, Myanmar, Netherlands, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Republic of Moldova, Romania, Russian Federation, Saudi Arabia, Scandinavia¹, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Switzerland, Thailand, Turkey, Ukraine, United Kingdom, United States, Uzbekistan and Venezuela.

— END —

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

ISBN 978-92-9249-926-6



9

789292

499266