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Circular 348-AT/193

Regional Differences in International Airline Operating Economics: 2012 and 2013



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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.

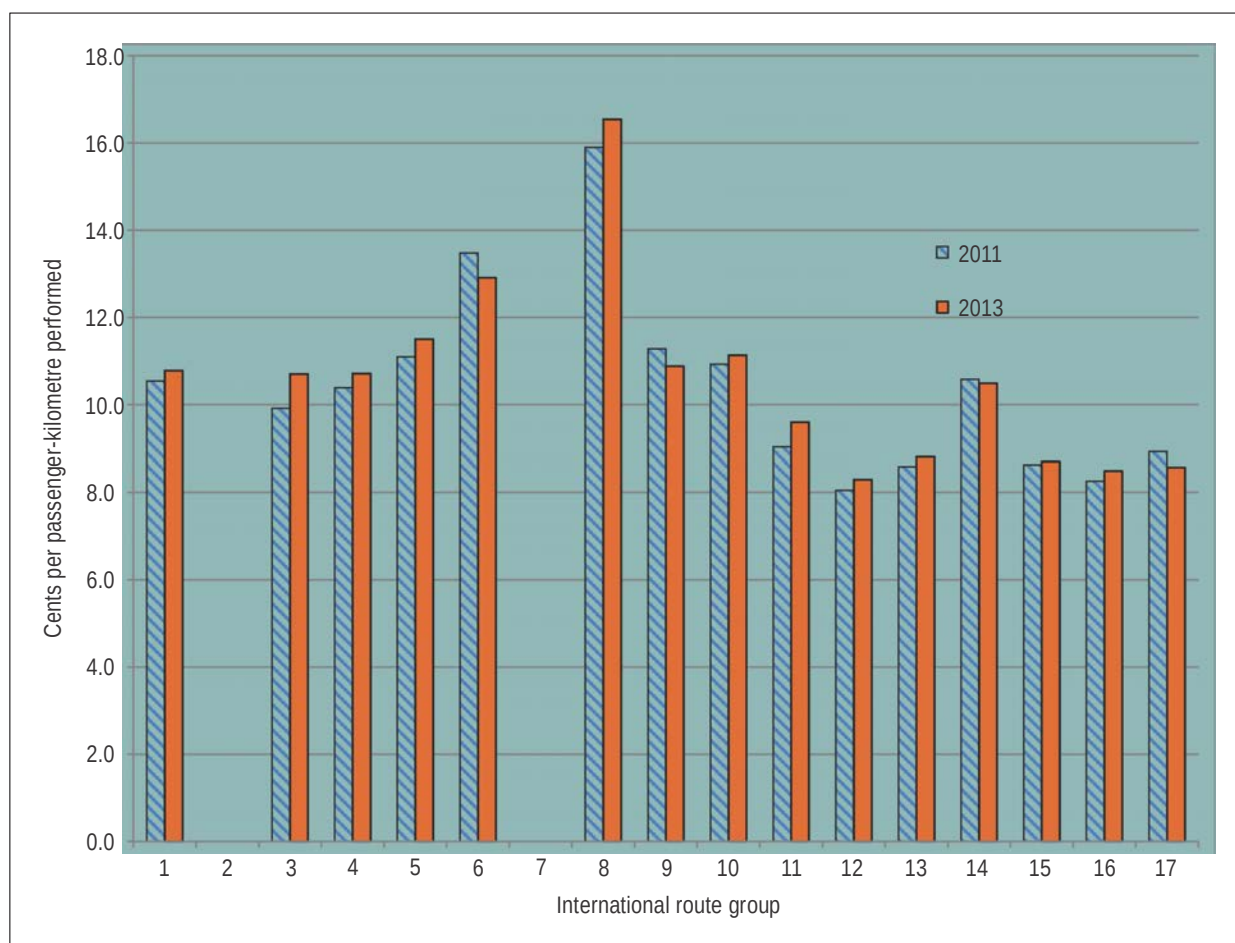
Freight and mail traffic

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 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	24 to 25
			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

Table 2-3. Variation in scheduled passenger yield among airlines: 2013

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 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	24 to 25
			Number of airlines																						
1. North-Central America	10.8	9				1	1		2	3	1	1													
2. Central America/Caribbean	—	—																							
3. North America	10.7	11					1	3	1	4	1									1					
4. North-South America	10.7	15				1	1	2	3	1	6		1												
5. South America	11.5	9							2	2	2	2		1											
6. Europe	12.9	39			1			2	1	2	3	4	8	1	4	3	5	3	1				1		
7. Middle East	—	—																							
8. Africa	16.5	5								1	3					1									
9. Europe-Middle East	10.9	24					1	1	4	2	6	4	1	1	2	1	1								
10. Europe-Africa	11.1	26			2	3		2	2	3	5	3	2	2	1			1							
11. North Atlantic	9.6	28				2	6	3	7	6	3	1													
12. Mid-Atlantic	8.3	12					4	3	2	1	1						1								
13. South Atlantic	8.8	14				2	2	3	4	1	1	1													
14. Asia/Pacific	10.5	25				4	1	2	3	2	4	1	5	2	1										
15. Europe-Asia/Pacific	8.7	39		1	2	5	5	7	5	10	1	1	1	1											
16. North/Mid-Pacific	8.5	16			1		2	6	5		1	1													
17. South Pacific	8.6	4						1	2	1															

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 2013¹

Route group (short title)	Freight revenue (cents) per tonne-kilometre performed						Mail revenues (cents) per tonne-kilometre performed	
	Overall		Passenger and combination aircraft		All-freight aircraft		Overall	
	(1)		(2)		(3)		(4)	
	2012	2013	2012	2013	2012	2013	2012	2013
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
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	over
			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	over
			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	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	2/
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	3/
10. Europe-Africa	38.1	18		3	6	2	2	1		2						1		1	4/
11. North Atlantic	22.6	27		9	12	3	1			1								1	5/
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