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## **SURVEY OF INTERNATIONAL AIR TRANSPORT FARES AND RATES**

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# Chapter 1

## INTRODUCTION

### TERMS OF REFERENCE, OBJECTIVES AND SCOPE OF THE SURVEY

1. This survey has been prepared pursuant to ICAO Assembly Resolution A21-26 Clause 1 a) by which the Assembly directed the Council to issue annually a survey of international air transport fares and rates. This report concerns data for September 1992 and is the eighteenth in the series, the previous report being Circular 239 for September 1991.
2. In addition to these surveys of published fares and rates for scheduled transport of passengers and freight, the Organization publishes analytical studies of regional differences in the level of scheduled passenger fares and corresponding airline costs. The latter studies are carried out pursuant to Assembly Resolution A21-26 Clauses 1 b) and 1 d).
3. The purpose of the present report is to provide an overview of international fares and rates which are published in the multilateral airline tariff guides and are available to the general public, so as to permit comparisons of the levels of these fares and rates in different geographical areas.
4. As a basis the survey shows, for 17 different groups of international air routes, representative relationships between economy class normal passenger fares and general cargo rates for small shipments on the one hand and transport distances on the other hand for the sample month of September 1992. These relationships are compared amongst route groups and with world averages. A comparison is also made with September 1991 fares and rates levels. A sample survey is also presented, for each route group, of the relative availability and level of other types of fares and rates in September 1992.
5. In view of the increasing number of taxes and/or charges which are being levied on air passengers on top of the published air fare, the present survey also incorporates (in Chapter 3) an analysis of the over-all price of air travel including all the additional taxes and/or charges for the 17 international route groups.

### DATA SOURCES

6. The main sources of data for this survey were the *ABC World Airways Guide* and the *ABC Air Cargo Guide*. The following basic data were obtained from magnetic tape provided by the publishers from the September 1992 issue of these guides for all international city-pairs with direct through-plane service:
  - a) country and route group for each city-pair;
  - b) economy class normal passenger fares available; and
  - c) general cargo rates available for shipments up to 45 kg.

Additional data sources included *Airline Passenger Tariffs*, *Air Tariffs*, and *The Air Cargo Tariffs* publications and the *Resolution Manuals* of the Association Internationale de Transporteurs Aériens (ATAF). Information on supplementary taxes and/or charges levied on air passengers was also obtained from industry sources such as the *Airline Passenger Tariffs*, the *Travel Information Manual* and the *Official Airline Guide*.

### ANALYSIS AND STATISTICAL METHODOLOGY

7. The basic data concerning the economy class normal passenger fares and general cargo rates were prepared and analysed with a view to providing information on three specific points:
- a) how fares and rates vary according to distance from one route group to another;
  - b) how fares and rates changed compared with the previous year;
  - c) how city-pairs are distributed by distance within each route group to show the relative importance of short-, medium- and long-haul routes.
8. These analyses involved the use of standard statistical techniques to establish the relationship between fares and rates on the one hand and distances on the other. This relationship was computed by means of least squares regression analysis. Fares and rates selected for each year were analysed as a function of distance for each of the 17 route groups and for the world. Basic statistical details concerning these equations for each route group are shown in Appendix 3.

### SELECTION OF CITY-PAIRS AND ROUTE GROUPS

9. Economy class normal fares were analysed for a total of 10 475 city-pairs for which adequate data were available. General cargo rates for 5 368 city-pairs were also analysed. A city-pair was defined, for the purposes of this survey, on a directional basis. For example, Paris-Frankfurt was counted as one city-pair, while Frankfurt-Paris was counted as another.
10. Fares and rates were obtained for all those city-pairs listed in the *ABC World Airways Guide* and *ABC Air Cargo Guide* that met two criteria: firstly that each city be located in a different country; and secondly, that through-plane service, necessitating no connexion, be scheduled for September 1992. City-pairs for which only cabotage fares (domestic or between territories of the same State) were quoted were not listed. As far as cargo rates are concerned, the survey reflects the *ABC Air Cargo Guide* listings which include only those city-pairs between which there were all-cargo aircraft services or combination aircraft services operating with wide-body aircraft in September 1992.
11. Fares and rates between international city-pairs which met the above criteria were grouped on the basis of major route groups to permit regional analysis. These route groups, covering geographic areas described precisely in Appendix 1, are as follows:
- Route group 1: between North America and Central America/Caribbean
  - Route group 2: between and within Central America and the Caribbean
  - Route group 3: between Canada, Mexico and the United States
  - Route group 4: between North America/Central America/Caribbean and South America
  - Route group 5: local South America
  - Route group 6: local Europe
  - Route group 7: local Middle East

- Route group 8: local Africa
- Route group 9: between Europe and Middle East
- Route group 10: between Europe/Middle East and Africa
- Route group 11: North Atlantic
- Route group 12: Mid Atlantic
- Route group 13: South Atlantic
- Route group 14: local Asia/Pacific
- Route group 15: between Europe/Middle East/Africa and Asia/Pacific
- Route group 16: North and Mid Pacific
- Route group 17: South Pacific.

### CITY-PAIR DISTANCES USED FOR ANALYSIS

12. The distances between pairs of cities selected for this survey are those defined by the shortest airline-operated routing. Where two points are linked by a non-stop airline service, the distance is termed the non-stop stage distance. This is in many cases synonymous with the "great circle" distance. However, this is not the case where the route flown departs from the most direct route due to the existence of restricted or prohibited areas, to navigational considerations or to other practical factors. Where two points are not linked by a non-stop airline service, the distance is determined by the non-stop stage distances of the sectors comprising the shortest airline operated route. These distances were computed within ICAO from the flight stage distances and flight itineraries provided by the publishers of the *ABC World Airways Guide*. All distances referred to in this survey are in kilometres.

### SELECTION OF FARES AND RATES

13. The criteria used in selecting the passenger fares and the cargo rates for this survey were that they should be representative, available to the general public, and allow comparison on a world-wide basis. Furthermore, the fares and rates selected should be generally indicative of the level of international fares and rates as officially applied by the international scheduled airlines of the world.

14. There are two main categories of passenger fares on scheduled services, referred to as "normal" (unrestricted) fares and "special" fares. "Normal" (unrestricted) fares are those (in first, intermediate, or other class) which are available to members of the general public without limitations as to their purchase or use. In the past, "special" fares encompassed mostly promotional fares, i.e. fares lower than normal fares which are generally designed to generate revenue by attracting passengers who would not travel at the higher fares. These fares have conditions attached to them which limit their use in some instances (for example, requirements for advance purchase/reservations and/or limits on the period of stay).

15. In recent years, however, a new type of "special" fare has been created through the development of so-called "restricted" normal fares. These fares retain most of the characteristics historically associated with the normal fares, but they have restrictions on the availability or number of stopovers and, in some cases, on the ability to interline. On some routes, notably on the North Atlantic, these may be the only "normal" fares available in the economy class. Thus passengers who wish to retain all of the facilities traditionally associated with normal fares have to travel using the intermediate or first class fares. In most cases special fares are available for economy class round-trips only. Normal fares can, and special fares generally do, vary on a given route according to season.

16. Despite the appearance of the economy class "restricted" fares, economy class normal fares are still of major importance, and they also have a degree of commonality of definition among different routes which makes them susceptible to a route by route comparative analysis. Such a statistical analysis provides the foundation for this survey. Since, in some cases, economy class normal fares vary by season, and even by day of week or time of day, and since, in a few cases, different airlines may offer different economy class normal fares between the same city-pairs, the economy class normal fare selected for a city-pair for the purpose of this report was the *highest* available in the week commencing 1 September 1992. Return fares rather than one-way fares have been selected in order that they may be compared with special fares, most of which are available only on a round-trip basis; where return fares are available at less than twice the single fare, the former have been selected.

17. Special fares, even of a particular type, do not have the commonality of definition concomitant with normal fares. In addition to the economy class "restricted" fares discussed above, there are many other types of special fares, for example excursion fares (including advance purchase excursion fares); standby fares; budget fares; incentive, affinity and non-affinity group fares; individual and group inclusive tour fares; youth, family, military, pilgrim, local resident, student and teacher fares; etc. The most widely available of the special fares are excursion fares, which are generally restricted with respect to their validity in time. However, there is considerable variation from region to region in the combination of minimum and maximum travel duration and, in some cases, in the right to make intermediate stops at no extra cost.

18. In order to give an overview of the availability of different fare types among route groups on a comparative basis, fares have been classified into seven major groupings including first class normal, intermediate class normal and economy class normal fares as well as special fares in the case of economy class. The fares concerned are shown for a sample of 10 city-pairs in each route group. These samples show the different availability of the various fare groups and their level relative to the highest economy class normal fares. The 10 city-pairs selected from those used in the analysis of fare levels against distance are representative of each route group in terms of distances, traffic volumes, countries of origin and destination, and directionality of traffic.

19. It should be noted that in a few cases the tables of special fares may be incomplete, since there were seen to be some instances in 1992 of individual airlines offering special fares which were not quoted in any of the major multilateral airline guides. Also there are a number of fares which are not listed in the multilateral tariff manuals under the city-pairs concerned but are listed under the general rules sections of the manuals. These fares are sometimes agreed within IATA in the form of a resolution, established through single carrier filings, agreed on a bilateral basis or instituted through government orders. They generally apply to specific categories of people such as seamen, emigrants, students, etc. The level of these fares is usually specified as a percentage of normal fares. The applicability can range from a world-wide basis down to a city-pair. These fares are not shown in the tables of the sample city-pairs but a summary of their availability is given in Chapter 2. It should also be noted that while, in many instances, either discounts or special fares are available for children, these fares have not been included in this survey.

20. A similar distinction between "normal" and "special" categories can be made with respect to cargo rates, the main categories being general cargo rates and specific commodity rates. The general cargo rates are set at different levels according to the weight of the shipment, but regardless of the nature or value of the commodity being shipped. These rates generally vary according to the direction of shipment. Specific commodity rates are promotional rates, lower than general cargo rates at comparable weights, but involving restrictions (in terms of the nature of the commodity and minimum shipment sizes) designed to minimize dilution of revenue from general cargo rates. They are often very limited in terms of geographical application since they are introduced on a market by market basis where potential traffic is seen to exist.



21. The basic general cargo rate is for shipments of up to 45 kg in weight (also called the N rate). At the 45 kg breakpoint there is generally a discount on the N rate in the order of 25 per cent. In route groups where air freight traffic is well developed, still lower rates may be available for shipments of 100, 500, or 1 000 kg, for example, and/or other large shipments. For the purpose of this survey, the basic rate selected was the under-45 kg general cargo rate, which is available in all regions of the world. It should be noted, however, that where the distance between the city-pairs is very short this "under-45 kg" rate may be overridden by the minimum charge which is established for the originating country (or, in some cases, city) concerned.

22. Since April 1988 a revised cargo tariff structure replacing the minimum charges, the general cargo rates and the specific commodity rates has been used between some European countries and from these countries to other European countries. This pricing system consists of a basic charge per consignment plus a rate per kg applicable to each kilogram in the consignment. For the purposes of this study, the cargo rate for the relevant city-pair was computed for a consignment of 45 kg.

23. The availability and level of certain other general cargo rates, and also specific commodity rates (as a group), are presented in comparative tables for a sample of 10 city-pairs in each route group. The criteria for selecting the 10 city-pairs were similar to those used in the case of passenger fares. The actual city-pairs selected may differ from those used for fares, however, as the basic selection of the city-pairs used in the analysis of rate levels against distance included only those city-pairs served by all-cargo aircraft or wide-body combination aircraft. Cargo rates such as bulk unitization (or freight-all-kinds) rates and discount rates for unit load devices are not presented separately since, where available, they bear a close relationship with one or other of the rate types presented. However, the text indicates route groups on which these rates are available.

24. It is important to note that the fares and rates used, while excluding any local taxes which are normally not included in the fares and rates as published in the multilateral tariff manuals (except as indicated in Chapter 3), represent an indication of the price paid by passengers and shippers and should not be confused with the actual revenue yield to the airline which is the weighted average of all the revenue received by the carrier (after any proration) from all normal and special fares and rates.

## CURRENCIES

25. Since 1 October 1984 for rates and 1 July 1989 for fares, the IATA member airlines have established a world-wide system to negotiate and specify fares and rates in the local currency of the country of origin or in U.S. dollars (the latter usually for those countries where exchange rates suffer large fluctuations). Bankers' rates of exchange are used whenever currency conversion is required, such as when payment for air travel or for the shipment of merchandise by air is made in a country other than the one from where the travel or shipment commences. The currency adopted for comparative purposes throughout the survey is the United States dollar. The exchange rates used are the "IATA Clearing House Five Day Monthly Rate" for the month of August shown in Appendix 2.

## SELECTION OF SURVEY PERIOD

26. The month of September was chosen as being one of the four sample months formerly covered by ICAO statistics on passenger traffic flow and is considered to be the most representative of year-round average fares and rates.

**STRUCTURE OF THE SURVEY**

27. Chapters 2, 3 and 4 present a comparative summary of the main results for the 17 major international route groups, together with certain estimated averages, for international passenger fares, international passenger air journey costs including all relevant supplementary taxes and/or charges and international cargo rates respectively. Chapter 5 presents a more detailed analysis of international passenger fares and cargo rates for each of the 17 international route groups separately including, in the case of route groups involving travel between two or more world regions, an analysis of fares and rates by direction. Appendix 1 gives a description of the specific geographic areas covered by each of the 17 international route groups used in this survey, and Appendices 2 and 3 cover the currency conversion rates and the regression equations, respectively, for September 1992.

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# Chapter 2

## COMPARATIVE SUMMARY OF INTERNATIONAL PASSENGER FARES

### INTRODUCTORY REMARKS

1. The objective of this chapter is to provide a world-wide perspective of international passenger fares, to compare them among route groups and the estimated world averages, and to compare the situation in September 1992 with that in September 1991. The findings are factual and descriptive in nature. By virtue of the scope of the survey the comparisons made are general, and relate only to the estimated values of fares as determined by the analyses. Within each route group, individual city-pairs will differ more or less from the general situation for the group as a whole, and no attempt has been made in this survey to weigh city-pairs according to the volume of traffic. In consequence, city-pairs which are relatively insignificant from the standpoint of traffic have been accorded as much importance as those between which large volumes of passenger traffic flow. This does not detract from the value of assessing the level of international airline fares from a regional and global point of view.

### DISTRIBUTION OF INTERNATIONAL CITY-PAIRS BY ROUTE GROUP

2. An indication of the complexity of the international scheduled fares system is provided by the number of city-pairs with through-plane service for which economy class normal fares were obtained — a total of 10 475. In addition there were a limited number of city-pairs with through-plane service for which pertinent information on fares was missing in the multilateral airline guides, so that the number of the city-pairs above is less than the actual numbers with through-plane service. When it is considered that there may be in excess of fifty different passenger fares between two cities, a measure is obtained of the magnitude of the work involved in establishing fares on a global basis.

3. It may be seen from Table 2-1 that 3 195 city-pairs, about 30 per cent of the total analysed, were located in the route group "local Europe". Four route groups out of the seventeen accounted for just over 55 per cent of the total. In addition to "local Europe", these were "local Asia/Pacific", "between Europe/Middle East/Africa and Asia/Pacific" and "between Canada, Mexico and the United States". The three transatlantic route groups, "North Atlantic", "Mid Atlantic" and "South Atlantic" together accounted for about 8 per cent of the total number of international city-pairs, while the two transpacific route groups accounted for some 2 per cent of the total number of international city-pairs.

### DISTRIBUTION OF INTERNATIONAL CITY-PAIRS BY DISTANCE

4. The average distance separating the 10 475 international city-pairs for which economy class normal fares were obtained was 3 236 km. This distance may be compared with an estimated average international passenger trip length in 1992 of 3 260 km. In comparing these two figures, it is important to bear in mind that the latter one is not only dependent on the volume of traffic travelling on different routes but also on the statistical base for counting airline passenger traffic. Thus a passenger who purchases a ticket between

**Table 2-1. Distribution by route group of international city-pairs for which economy class normal fares were obtained (September 1992)**

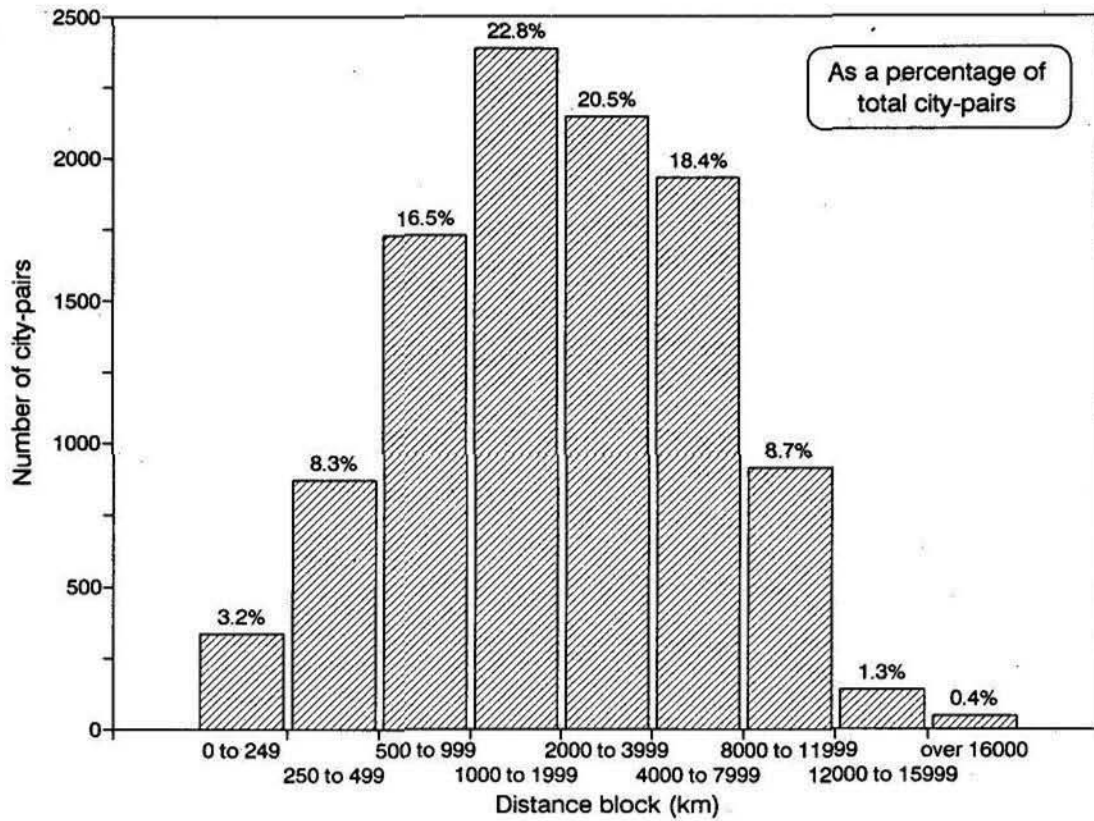
Route groups	Number of city-pairs	Per cent	Cumulative per cent
International total — <b>WORLD</b>	10 475	100.0	—
Local Europe	3 195	30.5	30.5
Local Asia/Pacific	1 025	9.8	40.3
Between Europe/Middle East/Africa and Asia/Pacific	932	8.9	49.2
Between Canada, Mexico and the United States	701	6.7	55.9
Between Europe and Middle East	616	5.9	61.8
Europe Europe/Middle East and Africa	595	5.7	67.4
Local Africa	553	5.3	72.7
North Atlantic	541	5.2	77.9
Between North America and Central America/Caribbean	437	4.2	82.1
Between and within Central America and the Caribbean	378	3.6	85.7
Local Middle East	345	3.3	89.0
Between North America/Central America/Caribbean and South America	344	3.3	92.2
Mid Atlantic	232	2.2	94.5
Local South America	211	2.0	96.5
North and Mid Pacific	200	1.9	98.4
South Atlantic	117	1.1	99.5
South Pacific	53	0.5	100.0

London and Tokyo, for example, may also decide to interrupt his journey at one or more cities en route. Although on a true ticket origin and destination basis this may be considered as one trip, in practice the passenger is considered as commencing a new journey after each stopover. The flight coupon surrendered to the airline at each new boarding therefore constitutes the statistical base for the airline passenger count rather than the ticket itself. When comparing fare and revenue yield data over time it should also be noted that the average city-pair distance has been falling steadily with the increasing introduction of non-stop and limited-stop services (it was 3 770 km in 1975, 3 446 km in 1980, 3 364 km in 1985 and 3 242 km in 1990), while the average passenger trip length has been on a generally rising trend (it was 2 510 km in 1975, 2 860 km in 1980, 3 040 km in 1985 and 3 250 km in 1990).

5. Graph 2-1 portrays the number and percentage distribution of city-pairs by distance block for the world sample of 10 475 city-pairs for which economy class normal fares were obtained in September 1992. Less than 4 per cent of the above city-pairs are separated by distances of less than 250 km, about 8 per cent fall in the distance block of 250-499 km, and almost 16 per cent in the block 500-999 km. Thus, over one-quarter of the sampled international city-pairs are located in the less than 1 000 km distance range, while only some 10 per cent are located in the more than 8 000 km distance range.

#### **DISTRIBUTION OF INTERNATIONAL CITY-PAIRS BY ROUTE GROUP AND BY DISTANCE**

6. The average regional inter-city distance is shortest in the route group "between and within Central America and the Caribbean" at 656 km and in "local Europe" at 1 141 km, while the route groups with



**Graph 2-1. Distribution by distance block of city-pairs for which economy class normal fares were obtained (September 1992)**

the longest average city-pair distance are the "North and Mid Pacific" at 10 797 km and the "South Atlantic" at 10 176 km. Table 2-2 compares the number of city-pairs in each route group that fall in the nine distance blocks selected for the purpose of this chapter.

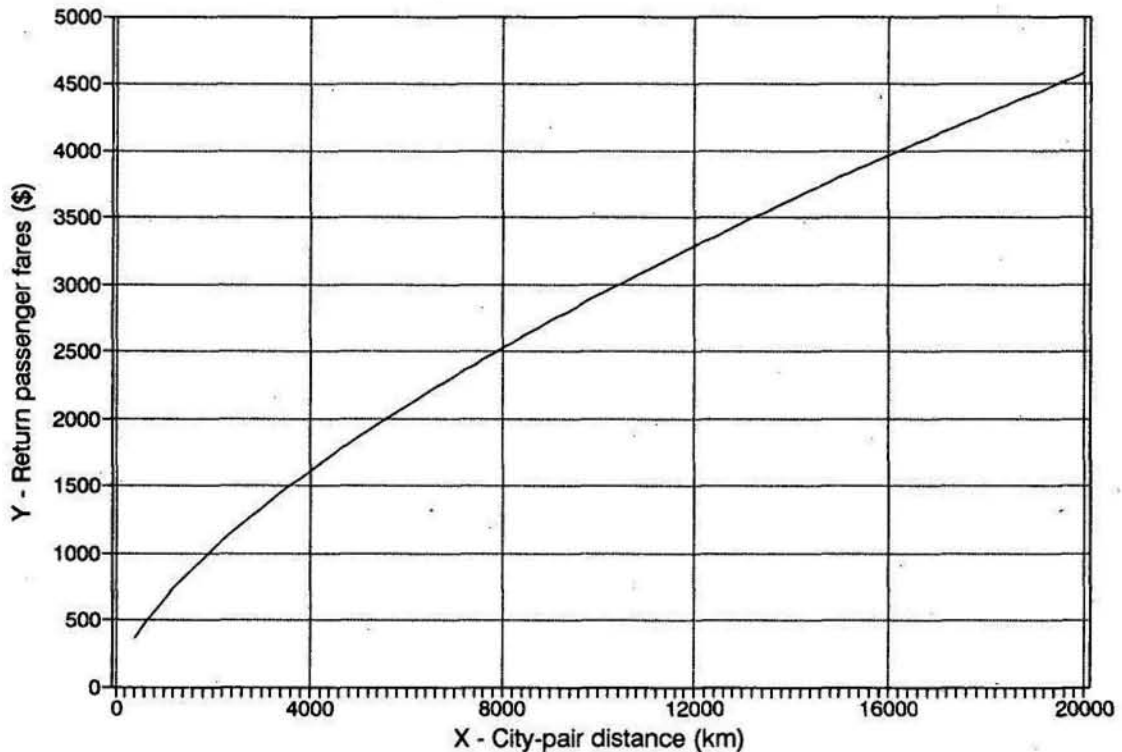
### **RELATIONSHIP BETWEEN ESTIMATED ECONOMY CLASS NORMAL FARES AND DISTANCE**

7. As indicated in Chapter 1, there are two basic categories of passenger fares on scheduled services: normal and special fares. For the purposes of this survey, economy class normal fares have been defined as economy class fares which are available to members of the general public without limitations as to their purchase and use. However, for those few city-pairs where there is no economy class normal fare available, the highest economy class restricted fare has been used. The fares presented are return fares in order that they may be compared with special fares, most of which are available only on a round-trip basis.

8. The relationship between estimated average economy class normal fares and distance in September 1992 may be observed in Graph 2-2. The estimated averages shown in this graph are for the world as a whole and may be used as a basis for comparing fares shown in Chapter 5 by route group. The curve of this graph has been statistically computed so as to reflect best the relationship between the fares and the distance (see Appendix 3 for further details).

**Table 2-2. Distribution by distance block of city-pairs for which economy class normal fares were obtained (September 1992)**

Route group	Number of city-pairs by distance (km)									Number of city-pairs	Average distance
	0 to 249	250 to 499	500 to 999	1 000 to 1 999	2 000 to 3 999	4 000 to 7 999	8 000 to 11 999	12 000 to 15 999	over 16 000		
International total — <b>WORLD</b>	332	867	1 727	2 386	2 144	1 927	912	136	45	10 475	3 236
Between North America and Central America/Caribbean	7	46	26	131	189	38	—	—	—	437	2 198
Between and within Central America and the Caribbean	118	80	95	67	18	—	—	—	—	378	656
Between Canada, Mexico and the United States	30	74	130	208	230	29	—	—	—	701	1 731
Between North America/Central America/Caribbean and South America	6	15	39	37	90	112	45	—	—	344	4 162
Local South America	4	16	31	74	57	29	—	—	—	211	2 096
Local Europe	94	469	1 031	1 244	355	2	—	—	—	3 195	1 141
Local Middle East	18	54	51	134	88	—	—	—	—	345	1 352
Local Africa	33	50	148	154	133	35	—	—	—	553	1 629
Between Europe and Middle East	—	2	20	55	364	175	—	—	—	616	3 275
Between Europe/Middle East and Africa	2	4	11	21	104	370	83	—	—	595	5 343
North Atlantic	—	—	—	—	6	408	119	8	—	541	7 171
Mid Atlantic	—	—	—	—	—	120	110	2	—	232	8 188
South Atlantic	—	—	—	—	—	16	81	20	—	117	10 176
Local Asia/Pacific	20	55	142	208	321	239	40	—	—	1 025	2 984
Between Europe/Middle East/Africa and Asia/Pacific	—	2	3	53	186	297	311	48	32	932	7 230
North and Mid Pacific	—	—	—	—	2	33	105	48	12	200	10 797
South Pacific	—	—	—	—	—	24	18	10	1	53	8 833



**Graph 2-2. Relationship between estimated average economy class normal fares and distance (September 1992)**

#### COMPARATIVE LEVEL OF ECONOMY CLASS NORMAL FARES BY ROUTE GROUP

9. In September 1992, the lowest estimated average economy class normal fares for short distances were found on scheduled international routes on the "local South America" and "local Asia/Pacific" route groups (see Table 2-3). Fares on the "local South America" routes were also among the lowest at the middle range of distances, along with fares for routes between North America and Central America/ Caribbean ("North-Central America" in short form), between and within Central America and the Caribbean ("Central America"), between Canada, Mexico and the United States ("North America"), and between Europe/Middle East/Africa and Asia/ Pacific ("Europe-Asia/Pacific"). At long distances, the lowest fares were found on routes across the "North-Mid Pacific". The lowest average fare at the average distance in any route group was 11.4 cents per passenger-kilometre (at 10 800 km) on North-Mid Pacific routes.

10. In September 1992, the highest estimated average fare levels at shorter distances were seen for routes in "Europe". Fares for "Europe", "Europe-Middle East" and "Europe-Africa" routes were relatively high in the middle range of distances. For longest distance routes estimated average fare levels were relatively high for routes across the South Atlantic and between Europe-Asia/Pacific. The highest average fare at the average distance in any route group was 42 cents per passenger-kilometre (at 1 100 km) on routes in "Europe".

11. No estimated average fare levels against distance are shown in Table 2-3 for routes across the Mid Atlantic for September 1992 as these fares were found to be more dependent on other factors than distance.

**Table 2-3. Comparison of average economy class normal fares per passenger-kilometre by route group and by distance**

Route group (short title)		Cents per passenger-kilometre by distance (km)							
		250	500	1 000	2 000	4 000	8 000	12 000	16 000
<b>International total — WORLD</b>	1992	53.3	41.8	32.8	25.7	20.1	15.8	13.7	12.4
	(1991)	(47.7)	(37.8)	(29.9)	(23.7)	(18.8)	(14.9)	(13.0)	(11.8)
1. North-Central America	1992	58.8	40.5	27.9	19.2	13.2	-	-	-
	(1991)	(54.5)	(37.5)	(25.8)	(17.8)	(12.2)	-	-	-
2. Central America	1992	41.7	30.5	22.4	16.4	-	-	-	-
	(1991)	(39.0)	(28.7)	(21.2)	(15.6)	-	-	-	-
3. North America	1992	51.6	35.9	25.0	17.4	12.1	-	-	-
	(1991)	(47.1)	(33.1)	(23.3)	(16.4)	(11.6)	-	-	-
4. North-South America	1992	-	25.5	21.9	18.8	16.1	13.8	-	-
	(1991)	-	(24.6)	(21.3)	(18.4)	(15.9)	(13.7)	-	-
5. South America	1992	27.4	23.4	19.9	16.9	14.4	-	-	-
	(1991)	(27.2)	(23.0)	(19.5)	(16.5)	(14.0)	-	-	-
6. Europe	1992	86.8	61.8	44.0	31.3	22.3	-	-	-
	(1991)	(71.7)	(53.2)	(39.5)	(29.3)	(21.7)	-	-	-
7. Middle East	1992	42.9	31.9	23.8	17.7	-	-	-	-
	(1991)	(37.8)	(29.6)	(23.2)	(18.2)	-	-	-	-
8. Africa	1992	36.9	31.1	26.3	22.2	18.8	-	-	-
	(1991)	(30.1)	(25.7)	(22.0)	(18.9)	(16.1)	-	-	-
9. Europe-Middle East	1992	-	36.4	32.0	28.2	24.8	-	-	-
	(1991)	-	(32.6)	(28.8)	(25.4)	(22.4)	-	-	-
10. Europe-Africa	1992	-	29.6	27.3	25.3	23.4	21.6	-	-
	(1991)	-	(27.7)	(24.8)	(22.3)	(20.0)	(17.9)	-	-
11. North Atlantic	1992	-	-	-	-	25.0	18.6	15.7	-
	(1991)	-	-	-	-	(22.4)	(17.0)	(14.4)	-
12. Mid Atlantic <sup>1</sup>	1992	-	-	-	-	-	-	-	-
	(1991)	-	-	-	-	-	-	-	-
13. South Atlantic	1992	-	-	-	-	18.8	18.9	18.9	-
	(1991)	-	-	-	-	(15.0)	(16.5)	(17.5)	-
14. Asia/Pacific	1992	24.7	22.4	20.2	18.3	16.6	15.0	14.2	-
	(1991)	(24.3)	(22.0)	(19.9)	(18.0)	(16.3)	(14.8)	(13.9)	-
15. Europe-Asia/Pacific	1992	-	-	9.9	11.7	13.8	16.3	17.9	19.2
	(1991)	-	-	(15.0)	(15.1)	(15.2)	(15.4)	(15.4)	(15.5)
16. North-Mid Pacific	1992	-	-	-	-	-	13.0	10.9	9.6
	(1991)	-	-	-	-	-	(12.4)	(10.4)	(9.2)
17. South Pacific	1992	-	-	-	-	19.3	17.3	16.2	15.5
	(1991)	-	-	-	-	(19.4)	(18.0)	(17.3)	(16.8)

1. In September 1991 and 1992, fare levels across the Mid Atlantic were found to be more dependent on factors other than distance; hence no figures are shown for this route group.



## CHANGES IN LEVEL OF ECONOMY CLASS NORMAL FARES BETWEEN 1991 AND 1992

12. Fares in this survey are generally expressed as the United States dollar equivalents, at the applicable exchange rates, of local selling fares (see Chapter 1). Hence the year-to-year changes in estimated fares include the effects of changes in the strength of the U.S. dollar relative to other currencies. Between September 1991 and September 1992, the U.S. dollar strengthened against many other world currencies. The local selling currency used in each country as well as the exchange rates to the U.S. dollar for each of the national currencies involved may be seen in Appendix 2. Where estimated fares are expressed in a currency against which the U.S. dollar had strengthened, the year-to-year increases in that currency are larger than those recorded when expressed in U.S. dollars. On the other hand, if estimated fares are expressed in a currency against which the U.S. dollar had weakened, the year-to-year increases in that currency are smaller than those recorded when expressed in U.S. dollars. The year-to-year changes in the survey therefore show a significant variation depending on the currency mix present in the individual route groups and the amount each currency has changed against the U.S. dollar during that same period.

13. As shown in Table 2-4, between September 1991 and September 1992 the estimated world average economy class normal fares expressed in U.S. dollars show increases ranging from almost 12 per cent at 250 km to about 5 per cent at 16 000 km, whereas the same fares expressed in local selling currencies show increases between 2 per cent at the shorter distances and 1 per cent at the longer distances. The percentage changes between 1991 and 1992 shown for some individual route groups also vary considerably when fares are expressed in U.S. dollars or in the local selling currencies. It should be noted that in countries where the exchange rate of the national currency is volatile, air fares for international journeys are generally quoted in U.S. dollars. Hence, in those areas where the local currencies are linked to the U.S. dollar, or where the fares themselves are expressed in U.S. dollars, such as in most of the Americas (route groups 1 to 5), the U.S. dollar changes shown in the table tend to reflect the changes as expressed in selling currencies. However, for routes involving the Caribbean and/or South America, the small difference shown between increases in fares expressed in U.S. dollars and those expressed in local selling currencies is due to the appreciation of the French Franc (used in the French Overseas Departments and Territories) against the U.S. dollar between September 1991 and September 1992. On the other hand, the difference in change shown for routes involving North America tends to reflect the small depreciation of the Canadian dollar against the U.S. dollar over the same period.

14. The differences in the changes in fare levels on routes to, from and within Europe and Africa when expressed in local selling currencies compared with those expressed in U.S. dollars reflect the relative depreciation of the latter against most of the European and African currencies between September 1991 and September 1992. Over the same period, changes in fares on routes to, from and within the Middle East (in particular route groups 7, 9 and 10) were affected and somewhat distorted by the significant depreciation of the Sudanese and Syrian pounds against the U.S. dollar. In the case of the former, this was accompanied by a change in currency with the introduction of the Sudanese dinar in June 1992 (see Appendix 2).

15. On the North-Mid Pacific (route group 16), the relative strength of the Japanese yen continued to cause variations in the fare levels on this route group as a whole. Excluding fares from Japan, between September 1991 and September 1992 the estimated average fare levels expressed in U.S. dollars across the North-Mid Pacific show decreases of about 5 per cent at the shorter distances and increases of just over 1 per cent at the longer ones. Similar changes in fares are shown when these are expressed in terms of local selling currencies. On the other hand, fares from Japan expressed in U.S. dollars showed increases of about 14 per cent at the shorter distances and some 11 per cent at the longer ones. However, in terms of Japanese yen, the average increase between September 1991 and September 1992 was about 5 per cent at the shorter distances and some 2 per cent at the longer ones.

**Table 2-4. Percentage change in average economy class normal fares  
by route group and by distance, between September 1991 and September 1992**

Route group (short title)	Percentage change by distance (km)							
	250	500	1 000	2 000	4 000	8 000	12 000	16 000
<b>International total — WORLD</b>								
in U.S.\$	11.7	10.6	9.5	8.4	7.3	6.2	5.6	5.1
(in selling currencies)	(2.3)	(2.1)	(1.9)	(1.7)	(1.4)	(1.2)	(1.1)	(1.0)
1. North-Central America								
in U.S.\$	9.0	8.7	8.4	8.2	7.9	-	-	-
(in selling currencies)	(9.0)	(8.8)	(8.5)	(8.3)	(8.1)	-	-	-
2. Central America								
in U.S.\$	7.0	6.3	5.6	4.9	-	-	-	-
(in selling currencies)	(5.5)	(5.0)	(4.5)	(4.0)	-	-	-	-
3. North America								
in U.S.\$	9.6	8.4	7.2	6.1	4.9	-	-	-
(in selling currencies)	(11.8)	(10.3)	(8.8)	(7.3)	(5.8)	-	-	-
4. North-South America								
in U.S.\$	-	3.5	2.8	2.0	1.3	0.6	-	-
(in selling currencies)	(2.0)	(1.3)	(0.7)	(0.1)	(-0.6)	(-1.2)	-	-
5. South America								
in U.S.\$	1.0	1.5	2.1	2.7	3.3	-	-	-
(in selling currencies)	(-0.0)	(0.7)	(1.5)	(2.3)	(3.0)	-	-	-
6. Europe								
in U.S.\$	21.0	16.1	11.3	6.8	2.4	-	-	-
(in selling currencies)	(2.1)	(-0.5)	(-3.2)	(-5.7)	(-8.2)	-	-	-
7. Middle East								
in U.S.\$	13.2	7.8	2.5	-2.4	-	-	-	-
(in selling currencies)	(13.4)	(13.0)	(12.6)	(12.2)	-	-	-	-
8. Africa								
in U.S.\$	22.6	21.0	19.3	17.7	16.2	-	-	-
(in selling currencies)	(18.3)	(15.6)	(13.0)	(10.4)	(7.8)	-	-	-
9. Europe-Middle East								
in U.S.\$	-	11.7	11.3	11.0	10.7	-	-	-
(in selling currencies)	-	(11.4)	(9.6)	(8.2)	(6.6)	-	-	-
10. Europe-Africa								
in U.S.\$	-	6.8	10.1	13.5	19.0	20.6	-	-
(in selling currencies)	-	(18.7)	(15.6)	(12.6)	(9.8)	(8.1)	-	-
11. North Atlantic								
in U.S.\$	-	-	-	-	11.5	9.8	8.8	-
(in selling currencies)	-	-	-	-	(0.7)	(3.0)	(4.4)	-
12. Mid Atlantic <sup>1</sup>								
in U.S.\$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
13. South Atlantic								
in U.S.\$	-	-	-	-	25.0	14.0	7.9	-
(in selling currencies)	-	-	-	-	(18.8)	(5.9)	(-1.0)	-
14. Asia/Pacific								
in U.S.\$	1.5	1.6	1.6	1.7	1.7	1.7	1.8	-
(in selling currencies)	(-0.6)	(-0.1)	(0.3)	(0.8)	(1.2)	(1.6)	(1.9)	-
15. Europe-Asia/Pacific								
in U.S.\$	-	-	-33.6	-22.4	-9.3	6.0	16.1	23.8
(in selling currencies)	-	-	(-28.0)	(-19.4)	(-9.7)	(1.1)	(8.0)	(13.2)
16. North-Mid Pacific								
in U.S.\$	-	-	-	-	-	4.6	4.4	4.3
(in selling currencies)	-	-	-	-	-	(2.7)	(2.8)	(2.8)
17. South Pacific								
in U.S.\$	-	-	-	-	-0.3	-4.1	-6.2	-7.7
(in selling currencies)	-	-	-	-	(-4.3)	(-3.2)	(-2.5)	(-2.1)

1. In September 1991 and 1992, fare levels across the Mid Atlantic were found to be more dependent on factors other than distance; hence no figures are shown for this route group.

16. On routes involving the South Pacific (route group 17) the differences in the changes in fares when these are expressed in U.S. dollars compared with the same fares expressed in local selling currencies reflect the continued general appreciation of the U.S. dollar against the currencies of most countries in the South Pacific between September 1991 and September 1992.

17. Changes in the value of the U.S. dollar against the other world currencies are in part responsible for altering the relationship between fare levels for routes where fares are predominantly in U.S. dollars and those which are usually quoted in other local selling currencies. Table 2-5 demonstrates this effect by comparing at different periods in time the estimated average fare at 250 km of a route group with one of the highest fare levels (Europe) with that of a route group showing some of the lowest average fares (North America).

### OTHER NORMAL FARES

18. Apart from the economy class normal fare, the other type of fare most widely available on a world-wide basis is the first class normal fare which, in September 1992, remained available for about 98 per cent of the international city-pairs analysed. As in the previous year, these fares were on average some 55 per cent higher than the applicable economy class normal fares. However, they were substantially higher (on average between some 95 and 120 per cent higher) on routes across the North Atlantic and the Pacific. In general on these routes intermediate class normal fares are widely available. Across the Pacific first class or intermediate class restricted fares were also generally available in September 1992 but these fare types were fairly rare on routes across the North Atlantic.

19. In September 1992 intermediate class normal fares were available for about 75 per cent of international city-pairs, some 10 per cent less than in September 1991. This apparent decrease occurred because in September 1991 many airlines on routes within Europe were offering seats in the intermediate class cabin at the economy class normal fare level, a practice less common in September 1992. Excluding routes within Europe, intermediate class fares were available on about 90 per cent of the remaining city-pairs (compared with 80 per cent in September 1991). In September 1992, intermediate class fares were generally scarce on routes between North America and Central America/Caribbean, between and within the Caribbean and Central America and within Europe. Where available, on routes other than within Europe, in September 1992 intermediate class normal fares were on average some 15 per cent higher than the applicable economy class normal fare, though they were on average some 30 per cent higher across the North Atlantic and the South Pacific.

**Table 2-5. Effect of changes in the value of the U.S. dollar on the relative level of fares**

Year	Estimated average fare at 250 km (U.S. cents per km)		Ratio local Europe/ North America	U.S. dollar relative to European currencies
	Local Europe	North America		
1985	36.3	25.3	1.4	
1987	54.0	26.4	2.1	Weakened
1991	71.7	47.1	1.5	Strengthened
1992	86.8	51.6	1.7	Weakened

## ECONOMY CLASS SPECIAL FARES

20. "Restricted" normal fares, that is fares which would otherwise be classified as normal fares but which have restrictions on the availability or number of stopovers and, in some cases, on the ability to interline, have made inroads in certain route groups. Although restricted fares exist for all three classes of travel, the economy class restricted fares are those most widely available. In September 1992 they were available for about 20 per cent of the international city-pairs analysed compared with 15 per cent in September 1991. The increase in September 1992 is due to the wider availability of these fares on routes within North America. Elsewhere their availability varied widely from route group to route group. In addition to routes within North America, these fares remained commonly available on routes to/from North America and a few were available on routes between and within Central America and the Caribbean, between Europe and the Middle East, between Europe/Middle East and Africa, on routes across the Mid Atlantic and between Europe/Middle East/Africa and Asia/Pacific. However, in September 1992, economy class restricted fares were generally absent on the other route groups. Where available these fares were on average at a level some 20 per cent below that of the applicable normal fare.

21. The most widely offered type of special fare on scheduled international air services was, as in previous years, the excursion fare. The conditions attached to this fare type are generally minimal and characteristically pertain to the minimum/maximum stay requirements. Some stopovers are generally allowed at no extra cost and in some specific areas there are provisions for additional stopovers at a specified charge. The relative availability of excursion fares varies widely from route group to route group. This is due to a number of factors, such as the level of economy class normal fares, the relative importance of personal and tourist travel, the volume of traffic, and competitive considerations. In September 1992 excursion fares were available for about 85 per cent of international city-pairs. Where available, these excursion fares were on average some 35 per cent lower than the economy class normal fares although they were substantially lower than the normal fares on routes across the South Pacific (some 50 per cent lower).

22. The existence of a wide range of other economy class special fares, in addition to those discussed above, was noted in Chapter 1. Such fares were, and in most instances still are, intended by the airlines to develop or promote travel by specific segments of the travel market. On some routes, however, the number of passengers travelling on such promotional fares currently represents a relatively high proportion of the traffic. Since promotional fares are lower than the normal fares, it follows that the lower unit revenues generated by promotional fare traffic must, in the long run, be either compensated for by higher average annual load factors or alternatively by revenues derived from normal fare-paying passengers, or some combination of both, to adequately cover the fully allocated costs involved.

23. The range of deep discount special fare types available and conditions applicable is wide and varies among geographical regions, nevertheless these may be broadly grouped into three major categories: advance purchase excursion fares ("Apex"), special excursion fares ("Pex") and "Budget" fares. The main condition attached to the Apex-type fares, as their name suggests, is that reservation and payment must be made some period of time prior to travel. In addition they generally have minimum/maximum stay requirements, stopovers are usually not allowed (except on routes across the Pacific), combinations and transfers are often limited, voluntary re-routings are not allowed, and there is almost always a cancellation fee associated with them. Pex-type fares have similar conditions to the Apex-type fare except that they do not have an advance purchase requirement, although reservation and payment are still required to be made at the same time. Budget-type fares are generally only available on routes within Europe and across the North-Mid Pacific. They share most of the characteristics associated with the two other types of special fares discussed above. The major difference is that in general Budget-type fares do not have a minimum/maximum stay requirement and only the outbound journey needs to be booked at the time of payment.

24. A study of city-pair samples selected from each route group suggests that in September 1992 Apex and Pex-type fares, including Budget-type fares, existed in about 60 per cent of the cases; they predominate on routes in North America, Europe, across the North and South Atlantic and across the Pacific, and they have also existed for some years on several other route groups. In September 1992, for the first time, Apex-type fares were available on many routes within Africa. On average these fares were about 50 per cent lower than economy class normal fares. In September 1992, group fares existed in some 20 per cent of the cases at an average level some 45 per cent lower than the economy class normal fares.

25. From the study of city-pair samples, it can be concluded that relative to September 1991, the most significant developments in September 1992 with regard to the availability or level of special fares were the introduction of restricted fares on most city-pairs for routes between Canada, Mexico and the United States and of Apex-type fares on routes within Africa with the consequent reduction in availability of preferential fares on city-pairs within that region. On some other route groups the levels of some special fares moved either up or down relative to those of economy class normal fares, but no route group exhibited a consistent trend between September 1991 and September 1992.

### PREFERENTIAL FARES

26. Preferential fares are those which are available only to passengers who meet certain requirements in terms of age, occupation, family relationship or affiliation to certain enterprises or associations. Listed below are some of the major types of preferential fares together with their area of application and level of discount offered. Other preferential fares not listed below may also have been available in September 1992. Because of their nature and the way in which they are established, preferential fares are discussed here in some detail and not generally covered in the individual route group analyses of Chapter 5.

27. Apart from the discounts for children which have a world-wide application, the fares with the widest area of application are those for seamen. IATA resolutions establish *individual fares for ships' crews* generally at a level 25 per cent below that of the applicable economy class normal fare. In September 1992 these fares were available on all international routes. *Group fares for ships' crews* also adopted through IATA have a smaller coverage. They were only applicable in the Europe/Middle East/Africa area (except within Middle East), between Europe/Middle East/Africa and Asia, and within Asia. Where available, these fares were some 25 to 50 per cent lower than the applicable economy class normal fare.

28. Other fares have been established through government orders to accommodate *seamen* (and in some cases their spouses and/or children) working on board vessels registered in Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Liberia, Malaysia, Morocco, Kingdom of the Netherlands, Norway, Panama, Singapore, Spain, Sweden, Switzerland, United Kingdom and the United States. With a few exceptions, these fares have world-wide application, however the actual area covered in practice is limited to the route network of the participating carriers. Where available, these fares were also some 25 to 45 per cent below the applicable economy class normal fare.

29. In September 1992, another fare type with a wide area of application was one for *students*. IATA resolutions covered this fare type for almost all areas except for most routes across the North Atlantic, the Pacific, within the Americas and between certain points within the Middle East. These fares were generally available at a level 25 per cent below the applicable economy class normal fare, although on routes within Africa and for specified points between the Middle East and Europe/Africa, they were available at a level 40 per cent lower than the applicable economy class normal fare, and for routes between Europe/Africa/Middle East and the South Asian Subcontinent/the People's Republic of China, they were available at levels 30 per

cent lower than the applicable economy class normal fare. There were also a few student fares not covered by IATA agreements which were available for travel between certain countries in the Americas as well as for some routes across the Pacific.

30. The lack of student fares across the North Atlantic is in part offset by the availability of *youth fares* for travel between the United States/Canada and certain countries in Europe. In September 1992, other youth fares were also available, with some exceptions, for travel between the United States/Canada and Africa/Middle East, Mexico and the Middle East, within Europe, within the Middle East, between Europe and the Middle East, between points in Europe and Ethiopia/South Africa, as well as from Japan to points in Europe, Asia and the South Pacific, and from the Philippines to points in South East Asia. Where available, these fares were at levels between 25 and 55 per cent lower than the applicable economy class fare. Depending on the area of application, youth fares also had some reservation restrictions (for example, in some cases reservations could only be made less than 72 hours before departure in either direction) and minimum and maximum stay requirements.

31. Preferential fare types with a more limited area of application are those for spouses and families. In September 1992, *spouse fares* were commonly available within Europe, on routes between Europe and Western Africa and on routes from Japan to Europe, Asia/Pacific and the Americas. *Family fares* were applicable, with a few exceptions, between Europe and the Middle East, within Africa, within the Middle East, between the Middle East and Eastern Africa/Zambia, from Japan to Canada, the United States and the South Pacific, and from Scandinavian countries and Finland to a number of countries in Europe. The general principle applying to these fares is that provided the head of the family pays the full amount of the first, intermediate or economy class normal fare, the spouse and/or other members of the family are generally allowed to travel at a fare level 50 per cent below the applicable normal fare.

32. In September 1992, *emigrant fares*, generally at levels between 20 to 50 per cent lower than the applicable economy class normal fares, were mainly found for travel from countries in the Asia/Pacific region to Canada and the United States, from a few European countries to Canada and countries in South America, and from countries in South America to those in the South Pacific. *Senior citizen fares* were mainly to be found on routes within the Middle East, between a few specified countries within Europe and between the United States/Canada and Europe, and between and within Scandinavia and Finland, at levels some 10 to 40 per cent lower than the applicable fare.

33. Other preferential fares exist for *migrant workers* wishing to visit their home countries (mainly within Europe and between the Middle East and Asia), *teachers* (within the Middle East), *pilgrims* (from points in the Middle East, from Europe to Jeddah, and from Africa and the South Asian Subcontinent to Jeddah/Medina) and *missionaries* (mainly from the United States to points in Europe). Preferential fares have also been established for United States citizens who are members of the military or who are government officials, and their families, for travel between the United States and points in Europe, and in Asia/Pacific. Most of these fares were at levels some 20 to 50 per cent below the applicable economy class normal fare in September 1992.

# Chapter 3

## THE IMPACT OF SUPPLEMENTARY TAXES OR CHARGES ON INTERNATIONAL AIR FARES

### INTRODUCTORY REMARKS

1. As already indicated, the fares used in this survey are those available to the general public and published in the multilateral tariff manuals. These published fares generally encompass some local taxes and service or airport charges applied on the passenger. However, in many States supplementary taxes and/or charges are levied on top of the published fare. In view of the increasing proliferation of taxes and charges and the need to maintain consistency in comparisons of the price of international air travel among different route groups, this chapter contains an analysis comparing the price of air travel taking into account all those taxes and charges which a passenger has to pay in order to complete his/her journey.

2. The findings of this chapter are factual and descriptive in nature. No attempt was made to discuss the merits of the supplementary charges or taxes nor whether they should or should not be included in the published air fare (for more information on this subject, see Doc 8632 — *ICAO's Policies on Taxation in the Field of International Air Transport* and Doc 9082 — *Statements by the Council to Contracting States on Charges for Airports and Air Navigation Services*).

3. In keeping with the previous chapter, the comparisons made are general and relate only to the estimated values of fares and supplementary taxes and charges as determined by the analysis. Within each route group individual city-pairs will differ more or less from the general situation for the group as a whole. In particular there are differences between and within route groups on the number of city-pairs where supplementary taxes and charges apply and where these are included in the published air fare. Nevertheless the analysis does provide an over-all regional and global assessment of the impact of these supplementary taxes and charges on the over-all price level of an air journey.

### TAXES AND CHARGES APPLICABLE TO INTERNATIONAL PASSENGER AIR TRANSPORT

4. The taxes or charges which passengers are required to pay in addition to the published air fare are generally established either as fixed amounts or as a percentage of the published fare. However some States use a variation of both these basic systems by establishing minimum and/or maximum limits to the tax expressed in percentage terms beyond which it becomes a fixed amount.

5. In September 1992, 151 States (or their overseas territories and dependencies) required passengers travelling on international scheduled air transport services to pay some form of additional tax or charge. In 148 of these States, passengers were required to pay some form of sales tax, airport service charge, embarkation tax and/or user fee (e.g. for security services, and customs and immigration services)

based on fixed amounts. In 113 of the 151 States, these additional taxes or charges were collected at the point of embarkation. In the remaining 38 States, however, they could be collected at the point of sale on behalf of the State or the relevant airport authority by the air carrier issuing the ticket.

6. In 42 of the 151 States, passengers were required to pay some form of local tax based on the percentage of the published fare and, with the exception of three States, these taxes were in addition to the ones discussed above. Taxes based on the percentage of the air fare are generally collected at the point of sale by the air carrier issuing the ticket and accrue to the State where the ticket is issued and/or the air journey is commenced.

7. Although in most States taxes or charges applied equally to all air passengers, in others the amounts to be paid differed between residents and non-residents or between citizens and aliens (for the purpose of this survey, if the State making this distinction was the originating State, then the taxes or charges applicable to residents or citizens were used; if on the other hand it was the State of turnaround, then the non-resident or alien taxes or charges were applied). Taxes or charges also varied on the basis of the route(s) flown, for example in a few States different levels of taxation or charges were applied for regional and for intercontinental routes.

8. A special situation prevails for fares for flights within and from Europe. As is still the case for most States in other regions of the world, airport authorities or national civil aviation administrations in Europe used to collect a passenger service charge at the point of embarkation. However, following recommendations by the Council of Europe in 1967 and the ICAO Facilitation Division in 1968, in 1970 the European Civil Aviation Conference (ECAC) adopted Recommendation ECAC/7-1 which recommended that, in order to reduce inconvenience to passengers and airport congestion, passenger service charges should be collected directly from the air carrier performing the air service. As shown in the ICAO *Manual of Airport and Air Navigation Facility Tariffs* (Doc 7100) passenger service charges do exist in Europe but are considered part of the normal cost of operation of an air carrier (such as landing and other airport charges) and are therefore taken into consideration by airlines and local civil aviation authorities when establishing the fare levels for flights originating in Europe.

9. Although for most States in Europe passenger service charges are included in the air fare, other supplementary taxes and charges may apply such as, for example, a security charge which in some European countries is collected at the point of sale. However, in general, for a large number of international flights within and from Europe, the passenger would have to pay little more than the published fare. A similar principle operates in some of the Francophone States in Western Africa.

#### **DISTRIBUTION OF CITY-PAIRS WHERE SUPPLEMENTARY TAXES AND CHARGES ARE LEVIED**

10. The data cover the same 10 745 city-pairs used in the analysis of the level of the economy class normal fare shown in Chapter 2. In September 1992 supplementary taxes and/or charges were applicable to either the outbound or inbound portion of the journey, or on both, for 9 774 city-pairs (93 per cent of the total world-wide). On a route group basis, supplementary taxes and/or charges were applicable on all routes within the Americas (route groups 1 to 5), across the North and South Atlantic (route groups 11 and 13) and those involving the Asia/Pacific region (route groups 14 to 17). Routes within the Middle East were the ones with the least number of city-pairs where supplementary taxes and/or charges apply (81 per cent of the total in that route group), followed by routes within Europe (84 per cent), within Africa (93 per cent), between Europe and the Middle East (94 per cent), across the Mid Atlantic (94 per cent) and between Europe/Middle East and Africa (95 per cent).



**COMPARISON OF INTERNATIONAL AIR FARES AND  
SUPPLEMENTARY TAXES AND CHARGES**

11. Table 3-1 shows the estimated average return economy class normal fare, first as published and second including supplementary taxes or charges, by route group at the average city-pair distance in the route group. Because these fares are based on a return journey, they also include any taxes or charges which would have applied for the inbound portion of the trip at the point of turnaround.

**Table 3-1. Comparison of average return economy class normal fares, as published and with supplementary taxes and/or charges, by route group at average city-pair distances**

Route group	Average city-pair distance (km)	Average return economy class normal fare — September 1992		Taxes and charges additional to the published fare <sup>1</sup>	
		As published (U.S.\$)	Plus taxes and or charges (U.S.\$)	(U.S.\$)	(% of published fare)
I. International average — <b>WORLD</b>	3 200	1 394	1 437	42	3
II. International route groups:					
1. Between North America and Central America/Caribbean	2 200	803	846	42	5
2. Between and within Central America and the Caribbean	700	367	406	38	10
3. Between Canada, Mexico and the United States	1 700	645	709	64	10
4. Between North America/Central America/Caribbean and South America	4 200	1 338	1 420	83	6
5. Local South America	2 100	703	781	78	11
6. Local Europe	1 100	923	932	9	1
7. Local Middle East	1 400	578	602	24	4
8. Local Africa	1 600	750	797	47	6
9. Between Europe and Middle East	3 300	1 695	1 727	32	2
10. Between Europe/Middle East and Africa	5 300	2 402	2 449	47	2
11. North Atlantic	7 200	2 803	2 835	31	1
12. Mid Atlantic	8 200	3 134	3 243	109	3
13. South Atlantic	10 200	3 852	3 900	48	1
14. Local Asia/Pacific	3 000	1 038	1 083	45	4
15. Between Europe/Middle East/Africa and Asia/Pacific	7 200	2 286	2 317	31	1
16. North and Mid Pacific	10 800	2 461	2 511	50	2
17. South Pacific	8 800	3 001	3 037	36	1

1. There are also taxes or charges included in the published fare which will vary according to route group (for example, taxes and charges are generally included in the published fare for most routes from Europe by inter-governmental agreement but such provisions are by no means universal).

12. The table shows that in September 1992 at the world average city-pair distance of some 3 200 kilometres the estimated average published fare for that distance was some U.S.\$1 394 and the applicable additional taxes or charges amounted to some U.S.\$42, i.e. an additional 3 per cent on the published fare. With regard to the individual route groups, the table shows that in September 1992 the average fare varied from U.S.\$406 for the short-distance routes between and within Central America and the Caribbean to U.S.\$3 900 for South Atlantic routes. The additional taxes and/or charges in absolute amounts varied from a low of U.S.\$9 for routes within Europe (reflecting the intergovernmental agreement referred to above) to a high of U.S.\$109 for routes across the Mid Atlantic. In percentage terms the highest additional taxes and/or charges were found on routes within South America (11 per cent on the published fare), between and within Central America and the Caribbean (10 per cent on the published fare) and between Canada, Mexico and the United States (10 per cent on the published fare).

13. Table 3-2 shows the variation with distance for the estimated average air fare, as published and plus taxes and/or charges expressed in terms of US cents per passenger-kilometre, by route group and Table 3-3 shows the increase in the price of an air journey which these additional taxes and/or charges represent. The supplementary taxes and/or charges are seen to have a significant impact on the relative differences in fare levels amongst the various route groups, although fares in Europe remain the highest at the short and medium range with or without the additions.

14. On a world-wide basis the increase in price ranges from some 7 per cent at 250 kilometres to less than 1 per cent for distances over 12 000 kilometres. On a route group basis there are not only significant differences on the average level of supplementary taxes and/or charges but also a significant variation according to distance within individual route groups. Table 3-3 shows that in September 1992 supplementary taxes and/or charges added a substantial amount to the average published air fare for short/medium haul flights in the Americas (mainly on route groups 2 to 5), in Africa (route group 8) and in Asia/Pacific (route group 14).

15. In September 1992 the majority of the additional taxes and/or charges were established as fixed amounts rather than as a percentage of the published fare and hence they had a higher impact on those city-pairs with shorter distances. However the distribution and mixture of city-pairs by distance were also factors.

#### **EFFECT OF SUPPLEMENTARY TAXES AND CHARGES ON SPECIAL FARES**

16. Because of comparability on a world-wide basis and amongst route groups, the basic air fare used in this analysis was the economy class normal fare. As described in Chapter 2, other fare types were available on most route groups in September 1992. For example, excursion fares were generally widely available on all route groups, on average, at a level some 35 per cent below that of the applicable economy class normal fare. The impact of the additional taxes and/or charges where these are expressed as discrete amounts would therefore have represented a somewhat higher amount, in percentage terms, than the average figure suggested by the tables.

17. In September 1992, deep discount Advanced purchase excursion (Apex) and similar types of fares were predominant on routes within North America, within Europe and across the North and South Atlantic and the Pacific. The impact of additional taxes and/or charges and fees expressed as discrete amounts would have been particularly significant on these fares on routes within North America where a mixture of taxes based on percentages of revenue and fixed amounts were used and where the distances between city-pairs are much shorter than for the trans-Atlantic and trans-Pacific routes.

**Table 3-2. Comparison of average economy class normal fares, as published<sup>1</sup> and plus taxes/charges per passenger-kilometre by route group and by distance**

Route group		Distance (km) <sup>1</sup>							
		250	500	1 000	2 000	4 000	8 000	12 000	16 000
		U.S. cents per passenger-kilometre							
I. International average — <b>WORLD</b>	as published	53.3	41.8	32.8	25.7	20.1	15.8	13.7	12.4
	plus taxes	57.2	44.4	34.4	26.7	20.7	16.0	13.8	12.4
II. International route groups:									
1. <i>Between North America and Central America/Caribbean</i>	as published	58.8	40.5	27.9	19.2	13.2	—	—	—
	plus taxes	63.3	43.4	29.6	20.3	13.8	—	—	—
2. <i>Between and within Central America and the Caribbean</i>	as published	41.7	30.5	22.4	16.4	—	—	—	—
	plus taxes	46.9	33.9	24.5	17.7	—	—	—	—
3. <i>Between Canada, Mexico and the United States</i>	as published	51.6	35.9	25.0	17.4	12.1	—	—	—
	plus taxes	60.9	41.3	28.1	19.0	12.9	—	—	—
4. <i>Between North America/ Central America/Caribbean and South America</i>	as published	—	25.5	21.9	18.8	16.1	13.8	—	—
	plus taxes	—	29.3	24.5	20.5	17.1	14.3	—	—
5. Local South America	as published	27.4	23.4	19.9	16.9	14.4	—	—	—
	plus taxes	32.9	27.3	22.7	18.8	15.7	—	—	—
6. Local Europe	as published	86.8	61.8	44.0	31.3	22.3	—	—	—
	plus taxes	88.1	62.5	44.4	31.5	22.4	—	—	—
7. Local Middle East	as published	42.9	31.9	23.8	17.7	—	—	—	—
	plus taxes	46.0	33.9	24.9	18.4	—	—	—	—
8. Local Africa	as published	36.9	31.1	26.3	22.2	18.8	—	—	—
	plus taxes	42.4	34.8	28.5	23.4	19.1	—	—	—
9. <i>Between Europe and Middle East</i>	as published	—	36.4	32.0	28.2	24.8	—	—	—
	plus taxes	—	38.9	33.6	29.1	25.1	—	—	—
10. <i>Between Europe/Middle East and Africa</i>	as published	—	29.6	27.3	25.3	23.4	21.6	—	—
	plus taxes	—	30.9	28.4	26.0	23.9	22.0	—	—
11. North Atlantic	as published	—	—	—	—	25.0	18.6	15.7	—
	plus taxes	—	—	—	—	25.2	18.8	15.9	—
12. Mid Atlantic <sup>2</sup>	as published	—	—	—	—	—	—	—	—
	plus taxes	—	—	—	—	—	—	—	—
13. South Atlantic	as published	—	—	—	—	18.8	18.9	18.9	—
	plus taxes	—	—	—	—	19.0	19.1	19.1	—
14. Local Asia/Pacific	as published	24.7	22.4	20.2	18.3	16.6	15.0	13.8	—
	plus taxes	29.0	25.4	22.3	19.5	17.1	15.0	13.8	—
15. <i>Between Europe/Middle East/ Africa and Asia/Pacific</i>	as published	—	—	9.9	11.7	13.8	16.3	17.9	19.2
	plus taxes	—	—	10.2	12.0	14.0	16.5	18.1	19.4
16. North and Mid Pacific	as published	—	—	—	—	—	13.0	10.9	9.6
	plus taxes	—	—	—	—	—	13.3	11.1	9.8
17. South Pacific	as published	—	—	—	—	19.3	17.3	16.2	15.5
	plus taxes	—	—	—	—	19.6	17.5	16.4	15.7

1. As Table 3-1.

2. In September 1992, fare levels across the Mid Atlantic were found to be more dependent on other factors than distance; hence no figures are shown for this route.

**Table 3-3. Comparison of taxes and/or charges as a percentage of the published<sup>1</sup> average return economy class normal fare by route group and by distance**

Route group	Distance (km)							
	250	500	1 000	2 000	4 000	8 000	12 000	16 000
	Percentage							
I. International average — <b>WORLD</b>	7.3	6.1	5.0	3.8	2.7	1.6	0.9	0.5
II. International route groups:								
1. Between North America and Central America/Caribbean	7.7	6.9	6.1	5.4	4.6	—	—	—
2. Between and within Central America and the Caribbean	12.5	11.1	9.7	8.4	—	—	—	—
3. Between Canada, Mexico and the United States	18.0	15.1	12.2	9.3	6.6	—	—	—
4. Between North America/ Central America/Caribbean and South America	—	15.2	12.2	9.3	6.4	3.6	—	—
5. Local South America	20.0	17.0	14.1	11.3	8.5	—	—	—
6. Local Europe	1.4	1.2	1.0	0.8	0.6	—	—	—
7. Local Middle East	7.4	6.1	4.8	3.5	—	—	—	—
8. Local Africa	15.1	11.7	8.4	5.2	2.1	—	—	—
9. Between Europe and Middle East	—	6.8	5.0	3.2	1.4	—	—	—
10. Between Europe/Middle East and Africa	—	4.5	3.8	3.0	2.3	1.5	—	—
11. North Atlantic	—	—	—	—	0.9	1.2	1.3	—
12. Mid Atlantic <sup>2</sup>	—	—	—	—	—	—	—	—
13. South Atlantic	—	—	—	—	1.2	1.2	1.2	—
14. Local Asia/Pacific	17.6	13.7	10.0	6.4	2.9	0.0	0.0	—
15. Between Europe/Middle East/ Africa and Asia/Pacific	—	—	2.6	2.1	1.7	1.3	1.0	0.9
16. North and Mid Pacific	—	—	—	—	—	2.0	2.0	2.1
17. South Pacific	—	—	—	—	1.3	1.2	1.1	1.1

1. As Table 3-1.

2. As Table 3-2.

# Chapter 4

## COMPARATIVE SUMMARY OF INTERNATIONAL CARGO RATES

### INTRODUCTORY REMARKS

1. The objective of this chapter is to provide a world-wide perspective of international cargo rates, to compare rates among route groups and the estimated world averages, and to compare the situation in September 1992 with that in September 1991. The findings are factual and descriptive in nature. By virtue of the scope of the survey, the comparisons made are general and relate only to the estimated values of rates as determined by the analyses. Within each route group, individual city-pairs will differ more or less from the general situation for the group as a whole, and no attempt has been made in this survey to weigh city-pairs according to the volume of traffic. In consequence, city-pairs which are relatively insignificant from the standpoint of traffic have been accorded as much importance as those between which large volumes of freight traffic flow. This does not detract from the value of assessing the level of international airline rates from a regional and global point of view.

### DISTRIBUTION OF INTERNATIONAL CITY-PAIRS BY ROUTE GROUP

2. Under-45 kg general cargo rates were obtained for 5 368 city-pairs with international through-plane scheduled services operated with all-cargo aircraft or wide-body combination aircraft. In addition there were a limited number of city-pairs with through-plane service for which pertinent information on rates was missing in the multilateral airline guides, so that the number of the city-pairs above is less than the actual numbers which would meet the required selection criteria.

3. It may be seen from Table 4-1 that 825 city-pairs, just over 15 per cent of the total analysed, were located in the route group "between Europe/Middle East/Africa and Asia/Pacific". Four route groups out of the seventeen accounted for almost 50 per cent of the total. In addition to routes "between Europe/Middle East/Africa and Asia/Pacific", these were "local Asia/Pacific", the "North Atlantic" and "local Europe". The remaining two transatlantic route groups, "Mid Atlantic" and "South Atlantic", together accounted for some 6 per cent of the total number of international city-pairs, while the two transpacific route groups accounted for about 5 per cent of the total number of international city-pairs.

4. Compared with previous years, tighter controls introduced in 1992 in the selection procedures used to identify the city-pairs to be included in the sample for the analysis of cargo rates are the main cause for the significant reduction in the number of city-pairs used (from 7 645 in September 1991 to 5 368 in September 1992). As noted in Chapter 1, the city-pairs selected should be those between which there were either all-cargo services or combination aircraft services operated with wide-body aircraft. The new controls, in addition to ensuring that this criterion is fully met, also eliminate all those city-pairs between which all-cargo services are operated by the airlines concerned with surface transport (mainly trucks). This practice is widely used for transborder operations between Canada, Mexico and the United States, and on routes within Europe: two of the route groups most affected by the reduction in the sample size.

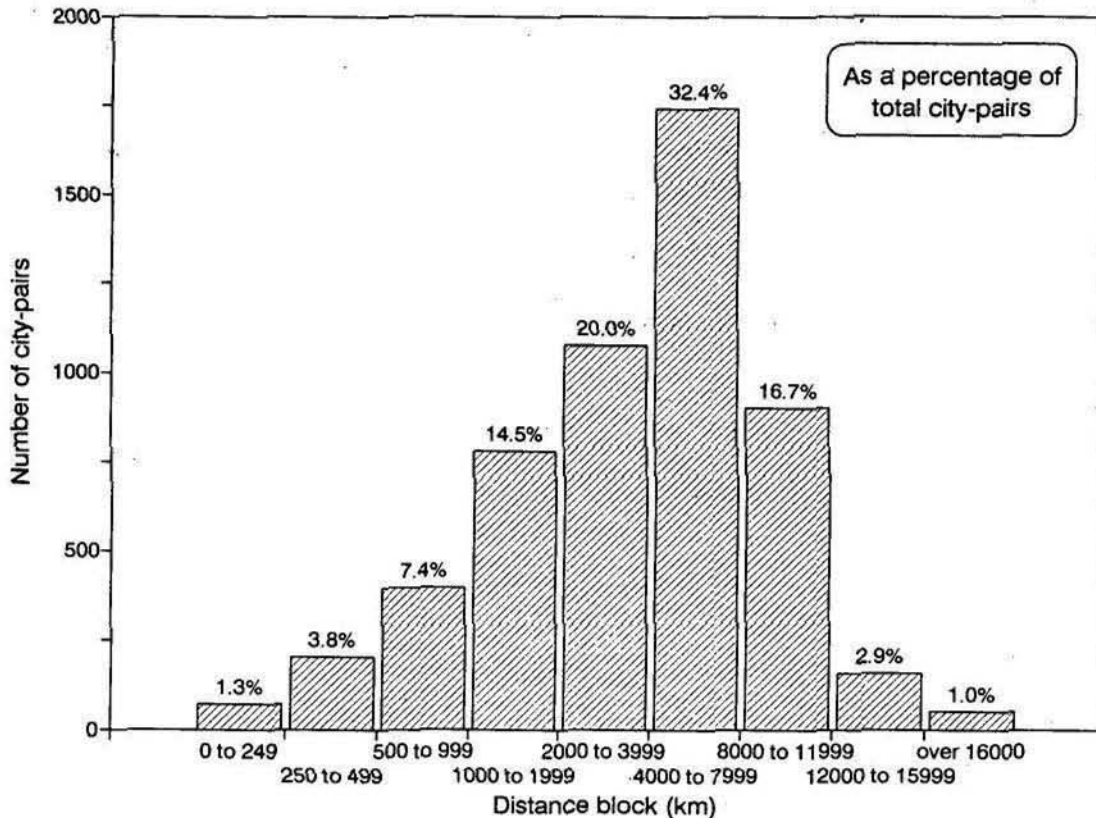
**Table 4-1. Distribution by route group of international city-pairs for which general cargo rates (under 45 kg) were obtained (September 1992)**

Route groups	Number of city-pairs	Per cent	Cumulative per cent
International total — <b>WORLD</b>	5 368	100.0	—
Between Europe/Middle East/Africa and Asia/Pacific	825	15.4	15.4
Local Asia/Pacific	699	13.0	28.4
North Atlantic	535	10.0	38.4
Local Europe	502	9.4	47.7
Europe Europe/Middle East and Africa	488	9.1	56.8
Between Europe and Middle East	402	7.5	64.3
Local Africa	349	6.5	70.8
Between North America/Central America/Caribbean and South America	251	4.7	75.5
North and Mid Pacific	234	4.4	79.8
Local Middle East	203	3.8	83.6
Mid Atlantic	202	3.8	87.4
Between North America and Central America/Caribbean	161	3.0	90.4
Local South America	137	2.6	92.9
South Atlantic	115	2.1	95.1
Between and within Central America and the Caribbean	109	2.0	97.1
Between Canada, Mexico and the United States	102	1.9	99.0
South Pacific	54	1.0	100.0

#### DISTRIBUTION OF INTERNATIONAL CITY-PAIRS BY DISTANCE

5. The average distance separating the 5 368 international city-pairs for which general cargo rates for shipments of less than 45 kg were obtained was 4 986 km. This distance may be compared with an estimated average international freight trip length in 1992 of 5 500 km. The difference between the two figures reflects the relatively higher volume of traffic travelling on long-haul routes as opposed to short-haul routes. With regard to the average city-pair distance, in recent years this has been steadily increasing due to the increase in long-haul all-cargo services such as on routes across the North Atlantic and across the Pacific. For example, for routes across the North-Mid Pacific, in September 1992 there were 234 city-pairs between which freight could be shipped directly (on combination or all-cargo scheduled flights) compared with 200 city-pairs for which passengers were offered direct services.

6. Graph 4-1 portrays the number and percentage distribution of city-pairs by distance block for the world sample of 5 368 city-pairs for which cargo rates were obtained in September 1992. Because one of the selection criteria for the city-pairs included in the analysis of cargo rates was that there should be a through-plane service operated with all-cargo aircraft or wide-body combination aircraft only, the distribution of city-pairs by distance tends to include a higher proportion of city-pairs at the longer distances. Hence in the case of cargo rates, some 73 per cent of the city-pairs surveyed are in distance ranges over 2 000 km compared with about 49 per cent for passenger fares.



**Graph 4-1. Distribution by distance block of city-pairs for which general cargo rates (under 45 kg) were obtained (September 1992)**

#### **DISTRIBUTION OF INTERNATIONAL CITY-PAIRS BY ROUTE GROUP AND BY DISTANCE**

7. The average regional inter-city distance is shortest in the route group "between and within Central America and the Caribbean" at 807 km and in "local Europe" at 1 239 km, while the route groups with the longest average city-pair distance are the "North and Mid Pacific" at 11 198 km and the "South Atlantic" at 9 689 km. Table 4-2 compares the number of city-pairs in each route group that fall in the nine distance blocks selected for the purpose of this chapter.

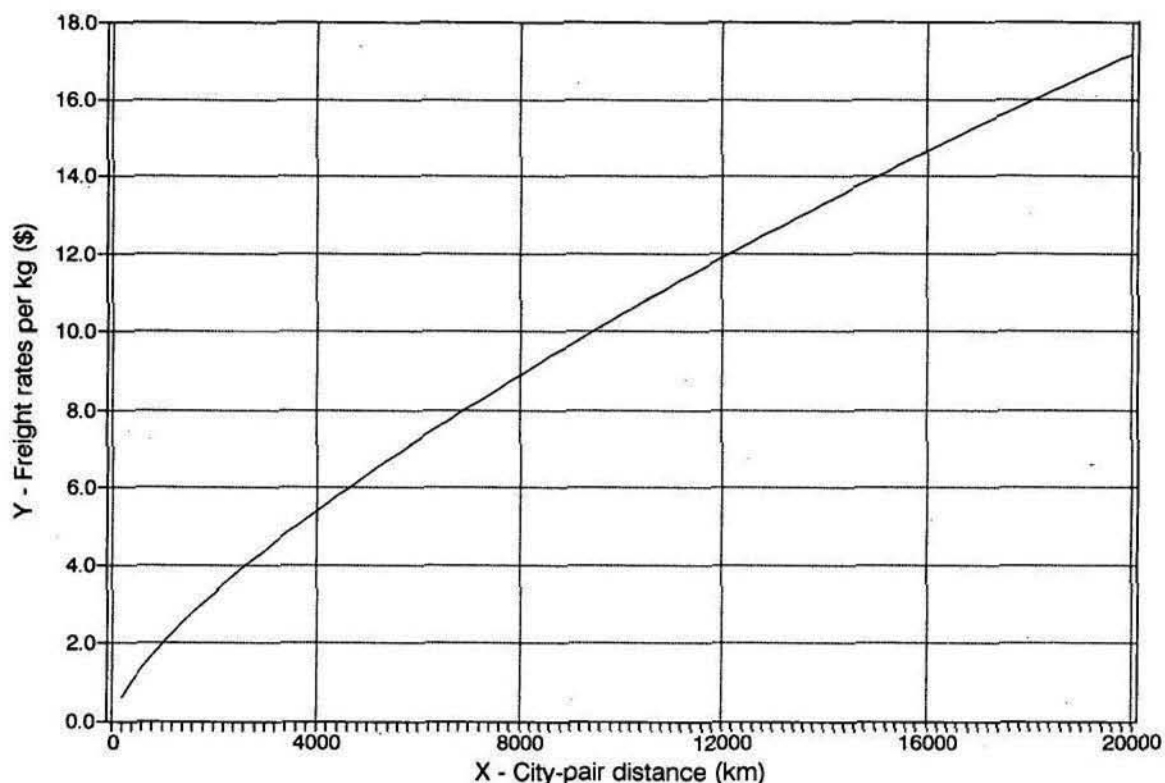
#### **RELATIONSHIP BETWEEN ESTIMATED GENERAL CARGO RATES FOR SMALL SHIPMENTS AND DISTANCE**

8. The relationship between the estimated average international general cargo rates for shipments of less than 45 kg and distance in September 1992 may be seen in Graph 4-2. These are the rates paid per kilogram at various distances. The estimated averages shown in this graph are for the world as a whole and may be used as a basis for comparison with the rates shown in Chapter 5 by route group. The curves of this graph have been statistically computed so as to reflect best the relationship between the rates and the distance (see Appendix 3 for further details).

**Table 4-2. Distribution by distance block of city-pairs for which general cargo rates (under 45 kg) were obtained (September 1992)**

Route group	Number of city-pairs by distance (km)									Number of city-pairs	Average distance
	0 to 249	250 to 499	500 to 999	1 000 to 1 999	2 000 to 3 999	4 000 to 7 999	8 000 to 11 999	12 000 to 15 999	over 16 000		
International total — <b>WORLD</b>	69	203	395	778	1 075	1 745	899	157	51	5 368	4 986
Between North America and Central America/Caribbean	2	2	5	57	82	13	—	—	—	161	2 477
Between and within Central America and the Caribbean	19	24	31	29	6	—	—	—	—	109	807
Between Canada, Mexico and the United States	2	3	11	30	50	6	—	—	—	102	2 182
Between North America/Central America/Caribbean and South America	—	5	22	28	62	94	40	—	—	251	4 703
Local South America	3	8	9	54	33	30	—	—	—	137	2 409
Local Europe	11	62	125	206	78	—	—	—	—	502	1 239
Local Middle East	9	35	30	84	45	—	—	—	—	203	1 314
Local Africa	19	24	78	104	98	26	—	—	—	349	1 793
Between Europe and Middle East	—	—	2	17	220	163	—	—	—	402	3 684
Between Europe/Middle East and Africa	—	3	7	15	70	312	81	—	—	488	5 559
North Atlantic	—	—	—	—	4	409	113	9	—	535	7 215
Mid Atlantic	—	—	—	—	1	110	89	2	—	202	8 152
South Atlantic	—	—	—	—	—	22	81	12	—	115	9 689
Local Asia/Pacific	4	17	73	117	229	220	39	—	—	669	3 604
Between Europe/Middle East/Africa and Asia/Pacific	—	—	2	37	97	281	323	53	32	825	7 960
North and Mid Pacific	—	—	—	—	—	34	115	67	18	234	11 198
South Pacific	—	—	—	—	—	21	18	14	1	54	9 442





**Graph 4-2. Relationship between the estimated average international general cargo rates for shipments of less than 45 kg and distance (September 1992)**

#### **COMPARATIVE LEVEL OF GENERAL CARGO RATES FOR SMALL SHIPMENTS BY ROUTE GROUP**

9. In September 1992 estimated average general cargo rates for shipments of less than 45 kg, as shown in Table 4-3, were lowest on the route groups "South America", "Africa" and "Asia/Pacific" at short distances, on the route groups "North-Central America" and "North America" at medium distances, and on the route groups "North-South America" and "Asia/Pacific" at the longest distances. The lowest average rate at the average distance in any route group was 78 cents per tonne-kilometre (at 2 200 km) on international routes in "North America".

10. The highest estimated rate levels at the short distances were seen for routes in "Europe". Rate levels in "Europe", "Europe-Middle East" and "Europe-Africa" were among the highest at medium distances, and at the longest distances surveyed, rates on routes across the South Atlantic and in the route group "Europe-Asia/ Pacific" were among the highest. The highest average rate at the average distance in any route group was 271 cents per tonne-kilometre (at 1 200 km) on routes in "Europe".

11. No cargo rate levels against distance are shown in Table 4-3 for routes across the North, Mid and South Atlantic, and the North-Mid Pacific for September 1992 as these rates were found to be more dependent on other factors than distance (see Chapter 5 for a fuller discussion).

**Table 4-3. Comparison of average general cargo rates per tonne-kilometre for shipments of less than 45 kg, by route group and by distance**

Route group (short title)		Cents per tonne-kilometre by distance (km)							
		250	500	1 000	2 000	4 000	8 000	12 000	16 000
International total — <b>WORLD</b>	1992 (1991)	295 (324)	243 (259)	200 (207)	164 (165)	135 (132)	111 (105)	99 (92)	91 (84)
1. North-Central America	1992 (1991)	306 (306)	231 (230)	174 (174)	131 (131)	99 (99)	— —	— —	— —
2. Central America	1992 (1991)	327 (368)	240 (269)	176 (196)	129 (143)	— —	— —	— —	— —
3. North America	1992 (1991)	301 (310)	196 (201)	127 (131)	83 (85)	54 (55)	— —	— —	— —
4. North-South America	1992 (1991)	— —	220 (229)	176 (182)	142 (145)	114 (115)	91 (91)	— —	— —
5. South America	1992 (1991)	242 (240)	201 (200)	167 (166)	139 (139)	115 (115)	— —	— —	— —
6. Europe	1992 (1991)	496 (438)	380 (330)	290 (248)	222 (186)	170 (140)	— —	— —	— —
7. Middle East	1992 (1991)	306 (276)	220 (215)	158 (168)	114 (131)	— —	— —	— —	— —
8. Africa	1992 (1991)	253 (216)	213 (185)	180 (158)	152 (135)	128 (115)	— —	— —	— —
9. Europe-Middle East	1992 (1991)	— —	196 (166)	185 (162)	174 (159)	164 (155)	— —	— —	— —
10. Europe-Africa	1992 (1991)	— —	278 (243)	232 (204)	194 (171)	162 (143)	135 (120)	— —	— —
11. North Atlantic <sup>1</sup>	1992 (1991)	— —	— —	— —	— —	— —	— —	— —	— —
12. Mid Atlantic <sup>1</sup>	1992 (1991)	— —	— —	— —	— —	— —	— —	— —	— —
13. South Atlantic <sup>1</sup>	1992 (1991)	— —	— —	— —	— —	— —	— —	— —	— —
14. Asia/Pacific	1992 (1991)	254 (238)	207 (198)	170 (165)	139 (137)	113 (114)	93 (95)	82 (85)	— —
15. Europe-Asia/Pacific	1992 (1991)	— —	— —	134 (145)	127 (132)	120 (121)	114 (110)	110 (104)	108 (100)
16. North-Mid Pacific <sup>1</sup>	1992 (1991)	— —	— —	— —	— —	— —	— —	— —	— —
17. South Pacific	1992 (1991)	— —	— —	— —	— —	141 (142)	105 (112)	89 (98)	79 (88)

1. In September 1991 and 1992, rate levels across the three Atlantic routes (North, Mid and South) and the North-Mid Pacific were found to be more dependent on other factors than distance; hence no figures are shown for these route groups.

## CHANGES IN LEVEL OF GENERAL CARGO RATES FOR SMALL SHIPMENTS BETWEEN 1991 AND 1992

12. As for passenger fares, cargo rates in this survey are generally expressed as the United States dollar equivalents, at the applicable exchange rates, of local selling rates (see Chapter 1). Hence, the year-to-year changes in estimated rates include the effects of changes in the strength of the U.S. dollar relative to other currencies. Between September 1991 and September 1992, the U.S. dollar strengthened against many other world currencies. The local selling currency used in each country as well as the exchange rates to the U.S. dollar for each of the national currencies involved may be seen in Appendix 2.

13. As shown by Table 4-4, between September 1991 and September 1992 the estimated world average general cargo rates expressed in U.S. dollars for shipments of less than 45 kg showed a decrease of some 9 per cent at 250 km and an increase of about 9 per cent at 16 000 km. In terms of local selling currencies, cargo rates showed a decrease of about 10 per cent at the shorter distances and an increase of some 4 per cent at the longer distances.

14. For the individual route groups the degree of change shown in the general cargo rates expressed in U.S. dollars between 1991 and 1992 depends to a large extent on the change in the relationship of the selling currencies in the countries concerned and the U.S. dollar. Hence in those areas such as the Americas (route groups 1 to 5) where rates are generally expressed in U.S. dollars, the changes shown in the table tend to reflect the changes in selling rates. The effect of changes in exchange rates on individual routes for cargo rates is not necessarily the same as for passenger fares because of the different city-pair mix in each route group and because in a number of countries either the fares or the rates but not both are established in U.S. dollars (see Appendix 2).

15. Between September 1991 and September 1992, the U.S. dollar depreciated against most of the currencies of the other countries in the rest of the world. Hence, the changes in rates are higher when rates are expressed in U.S. dollars than when expressed in local selling currencies. (For a more detailed analysis on exchange rates, see paragraphs 12 through 16 in Chapter 2.)

## OTHER CARGO RATES

16. A study of city-pair samples selected from each route group suggests the following conclusions: for about 80 per cent of all international city-pairs, general cargo rates for shipments "over 45 kg" were available at some 25 per cent lower than the rates for smaller shipments. For about 50 per cent of the city-pairs there was at least one additional general cargo rate which could be used for very large shipments and which was on average almost 50 per cent lower than the "under-45 kg" rate. However, these rates for large shipments were predominant in particular route groups, and were uncommon in the route groups "South America", "Europe", "Middle East", "Africa", "Europe-Africa" and "Asia/Pacific". Specific commodity rates existed for about 65 per cent of city-pairs in the world-wide sample. Where available, in September 1992 there were on average about 5 different types of specific commodity rates for a city-pair, in most of the cases with more than one rate per commodity depending on the minimum weight, and these rates were on average about 60 per cent lower than the comparable "under-45 kg" general cargo rate. Bulk unitization rates for the carriage of freight in unit load devices (ULDs) remained in general only widely available for routes originating or terminating in North America and on routes across the Mid Atlantic.

**Table 4-4. Percentage change in average general cargo rates for small shipments by route group and by distance, between September 1991 and September 1992**

Route group (short title)	Percentage change by distance (km)							
	250	500	1 000	2 000	4 000	8 000	12 000	16 000
<b>International total — WORLD</b>								
in U.S.\$	-8.8	-6.1	-3.3	-0.4	2.5	5.6	7.4	8.7
(in selling currencies)	(-10.0)	(-7.9)	(-5.7)	(-3.4)	(-1.1)	(1.3)	(2.7)	(3.7)
1. North-Central America								
in U.S.\$	0.0	0.1	0.2	0.3	0.4	-	-	-
(in selling currencies)	(-0.1)	(0.0)	(0.2)	(0.4)	(0.6)	-	-	-
2. Central America								
in U.S.\$	-10.9	-10.6	-10.3	-10.0	-	-	-	-
(in selling currencies)	(-12.0)	(-11.2)	(-10.5)	(-9.7)	-	-	-	-
3. North America								
in U.S.\$	-3.1	-2.7	-2.4	-2.0	-1.7	-	-	-
(in selling currencies)	(-1.5)	(-1.3)	(-1.2)	(-1.0)	(-0.8)	-	-	-
4. North-South America								
in U.S.\$	-	-4.2	-3.2	-2.3	-1.3	-0.3	-	-
(in selling currencies)	-	(-5.2)	(-4.0)	(-2.8)	(-1.5)	(-0.3)	-	-
5. South America								
in U.S.\$	0.9	0.6	0.3	-0.0	-0.3	-	-	-
(in selling currencies)	(1.2)	(0.7)	(0.2)	(-0.3)	(-0.8)	-	-	-
6. Europe								
in U.S.\$	13.2	15.2	17.2	19.3	21.4	-	-	-
(in selling currencies)	(-5.1)	(-1.6)	(2.0)	(5.7)	(9.5)	-	-	-
7. Middle East								
in U.S.\$	10.7	2.1	-5.7	-13.0	-	-	-	-
(in selling currencies)	(11.5)	(12.5)	(13.4)	(14.3)	-	-	-	-
8. Africa								
in U.S.\$	16.8	15.4	14.0	12.7	11.3	-	-	-
(in selling currencies)	(12.5)	(10.3)	(8.2)	(6.1)	(4.0)	-	-	-
9. Europe-Middle East								
in U.S.\$	-	17.7	13.6	9.6	5.8	-	-	-
(in selling currencies)	-	(26.7)	(18.5)	(10.9)	(3.8)	-	-	-
10. Europe-Africa								
in U.S.\$	-	14.5	14.0	13.5	13.0	12.5	-	-
(in selling currencies)	-	(45.0)	(32.0)	(20.1)	(9.3)	(-0.5)	-	-
11. North Atlantic <sup>1</sup>								
in U.S.\$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
12. Mid Atlantic <sup>1</sup>								
in U.S.\$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
13. South Atlantic <sup>1</sup>								
in U.S.\$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
14. Asia/Pacific								
in U.S.\$	6.5	4.7	2.9	1.2	-0.5	-2.2	-3.1	-
(in selling currencies)	(4.7)	(3.3)	(1.9)	(0.5)	(-0.9)	(-2.3)	(-3.1)	-
15. Europe-Asia/Pacific								
in U.S.\$	-	-	-7.5	-4.0	-0.4	3.4	-5.6	7.3
(in selling currencies)	-	-	(3.9)	(2.3)	(0.8)	(-0.7)	(-1.6)	(-2.2)
16. North-Mid Pacific <sup>1</sup>								
in U.S.\$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
17. South Pacific								
in U.S.\$	-	-	-	-	-0.9	-6.0	-8.9	-10.9
(in selling currencies)	-	-	-	-	(-3.0)	(-5.1)	(-6.4)	(-7.2)

1. In September 1991 and 1992, rate levels across the three Atlantic routes (North, Mid and South) and the North-Mid Pacific were found to be more dependent on other factors than distance; hence no figures are shown for these route groups.

## Chapter 5

# FARES AND RATES BY INTERNATIONAL ROUTE GROUP

This chapter presents the analyses for the 17 international route groups on a standardized basis to facilitate comparisons. Descriptions of the route groups are given in Appendix 1. Details of the statistical methods used for estimating average economy class normal passenger fares and general cargo rates for small shipments are given in Appendix 3.

### ROUTE GROUP 1: BETWEEN NORTH AMERICA AND CENTRAL AMERICA/CARIBBEAN

#### Economy class normal passenger fares

1. The curves on Graph 5-1 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	250	500	1 000	3 000	5 000
Fares in cents per pass-km, 1992					
Average	58.8	40.5	27.9	15.5	11.7
Northbound	60.3	41.2	28.2	15.4	11.6
Southbound	57.3	39.8	27.6	15.5	11.8
Percentage change (%), 1992/1991					
Average	9.0	8.7	8.4	8.0	7.8
Northbound	4.6	6.2	7.7	10.2	11.4
Southbound	14.7	12.1	9.6	5.7	3.9

3. Between September 1991 and September 1992, there was a significant decrease in the directional imbalance in the level of the estimated economy class normal fares per passenger-kilometre expressed in U.S. dollars at all distances.

#### Other passenger fares

4. Table 5-1 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first class normal fares were widely available in this route group. In September 1992 special fares for first class travel were available for 2 out of the 10 city-pairs. In September 1992 the economy class restricted fare became the special fare most widely available to the general public. These fares were available on 9 out of the 10 city-pairs in the sample. Their level was within a range of about 10 to 65 per cent lower than the related economy

**Route group 1 (cont.)**

class normal fare. Economy class excursion fares were available on 8 city-pairs, while Apex fares were available for 6 city-pairs in the sample. These and the other fares shown were those published in multilateral tariff manuals in September 1992; other fares may also exist as *individual airline tariffs*.

**General cargo rates for small shipments**

5. The curves on Graph 5-2 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.

6. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

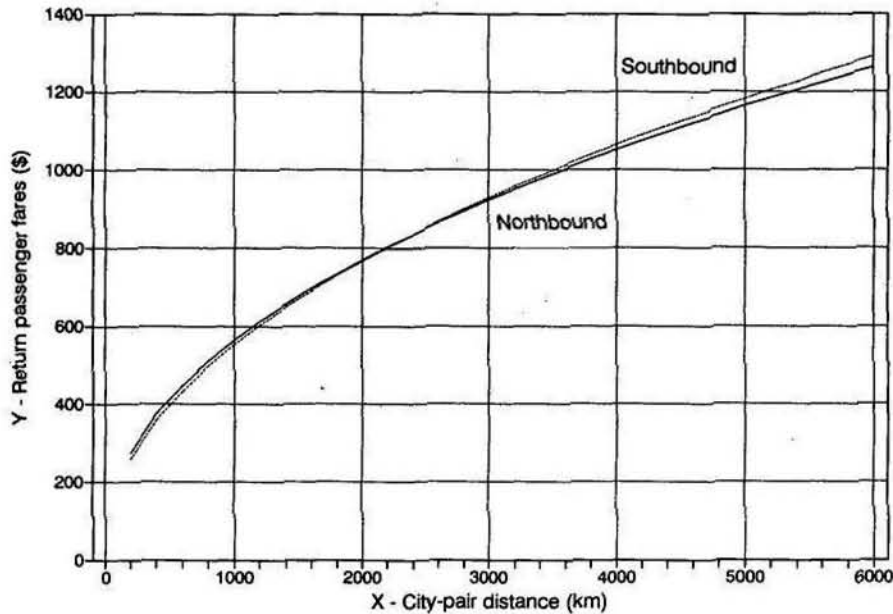
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	250	500	1 000	3 000	5 000
Rates in cents per tonne-km, 1992					
Average	306	231	174	111	90
Northbound	282	218	168	111	92
Southbound	326	242	179	111	89
Percentage change (%), 1992/1991					
Average	0.0	0.1	0.2	0.3	0.4
Northbound	-5.9	-4.0	-2.0	1.3	2.8
Southbound	4.8	3.3	1.8	-0.6	-1.7

7. Between September 1991 and September 1992, there was an increase in the directional imbalance in general cargo rate levels for shipments of less than 45 kg between the northbound and southbound directions at the shorter distances.

**Other cargo rates**

8. Table 5-2 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several general cargo rates for shipments of more than 45 kg exist (including breakpoints at 100 and 300 kg) giving discounts averaging about 45 per cent for large shipments (over 500 kg). Specific commodity rates were available for 8 out of 10 city-pairs in the sample. They were on average at a level of about 40 per cent of the general cargo rates for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for 3 out of 10 city-pairs in the sample.

**Route group 1 (cont.)**

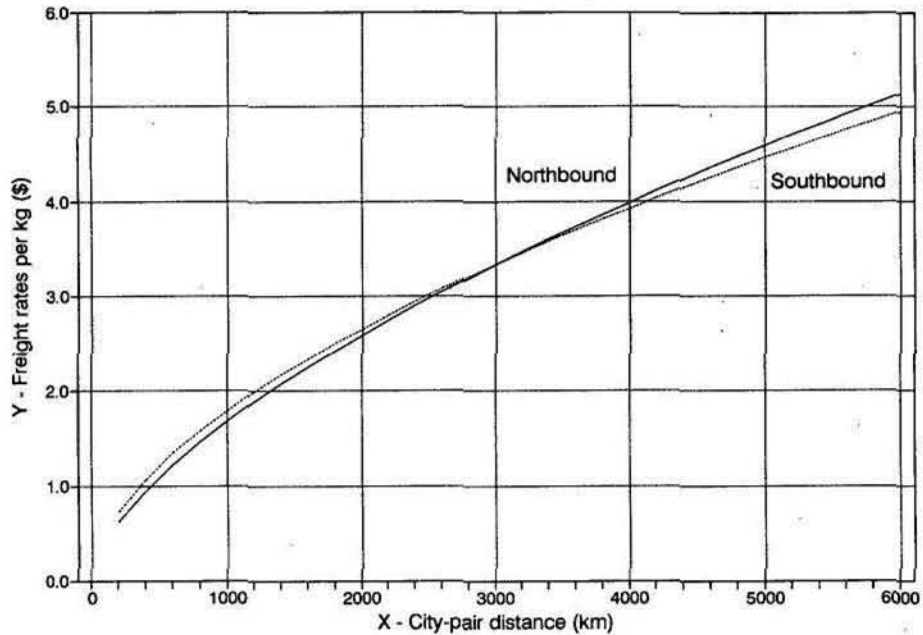


**Graph 5-1. Economy class normal passenger fares (route group 1)**

**Table 5-1. Range of passenger fares available (route group 1)**

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.\$)	INDIVIDUAL FARES <sup>1</sup>					GROUP FARES Economy class
			First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	
(as a percentage of the highest economy class normal fare)								
Panama City — Los Angeles	4 840	1 346	197	115	—	53-73	63	—
Los Angeles — San José	4 410	1 280	160	—	55-91	42-65	43-56	—
Toronto — Barbados	3 910	1 314	139	115 <sup>2</sup>	84-87	69	34-41	35-36
Aruba — New York	3 320	920	127	—	34-48	44-53	—	42
Kingston — Toronto	2 870	1 044	145	120	87	62-70	26-39	35
New York — Santo Domingo	2 500	634	143-146 <sup>3</sup>	—	39-88	44-69	68-74	58
San Salvador — Houston	1 990	916	122 <sup>3</sup>	—	60-81	56-74	—	—
New Orleans — Guatemala	1 710	904	—	—	87	66	45-53	—
Port-au-Prince — Miami	1 150	390	136-143	—	67	—	—	—
Fort Lauderdale — Nassau	290	258	116	—	52	—	—	—

1. Where applicable, only mid-week fare levels are shown; weekend fares are somewhat higher.  
 2. Intermediate class excursion fares also available.  
 3. First class restricted fares also available.

**Route group 1 (cont.)**

**Graph 5-2. General cargo rates for shipments of less than 45 kg (route group 1)**

**Table 5-2. Range of cargo rates available (route group 1)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Over 500 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Range (as a percentage of under-45 kg rate) <sup>1</sup>	Number of commodities
Panama City — Los Angeles	4 840	50	6.09	71	51	22-29	2
Los Angeles — San José	4 410	45-50	3.27-5.10	73-82	42-61	65	1
Toronto — Barbados	3 910	54	5.02	76	59	—	—
Barbados — New York	3 370	45	2.64	83	60	28-68	5
Kingston — Toronto	2 870	45	3.55	77	66	17-31	2
New York — Santo Domingo	2 500	45-50	2.12-2.27	80-84	70	50-71	4
San Salvador — Houston	1 990	45	3.47-3.71	69-74	51-54	15	2
New Orleans — Guatemala	1 710	45-50	1.74-3.55	49-72	25-54	22-28	3
Port-au-Prince — Miami	1 150	45-50	1.40-1.49	76-81	62-76	40-54	4
Miami — Nassau	300	35-45	0.74-1.02	63-77	48-70	—	—

1. Rates calculated as a percentage of the higher under-45 kg rate where applicable.



## ROUTE GROUP 2: BETWEEN AND WITHIN CENTRAL AMERICA AND THE CARIBBEAN

### Economy class normal passenger fares

1. The curve on Graph 5-3 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	250	500	1 000	2 000	3 000
Fares in cents per pass-km, 1992	41.7	30.5	22.4	16.4	13.6
Percentage change (%), 1992/1991	7.0	6.3	5.6	4.9	4.5

### Other passenger fares

3. Table 5-3 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first class fares remained available in more than half the city-pairs shown in September 1992, while intermediate class fares were available for 4 city-pairs in the sample, two more than in September 1991. The economy class excursion fare remained the special fare most widely available to the general public, with a level between 20 and 57 per cent lower than that of the related economy class normal fare. A few special fares of other types were also available.

### General cargo rates for small shipments

4. The curve on Graph 5-4 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.
5. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

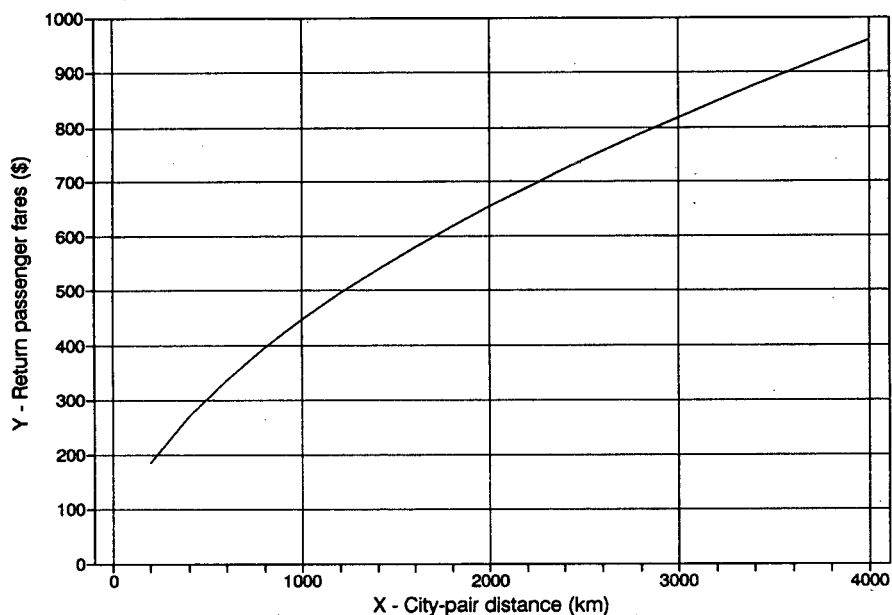
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	250	500	1 000	2 000	3 000
Rates in cents per tonne-km, 1992	327	240	176	129	107
Percentage change (%), 1992/1991	-10.9	-10.6	-10.3	-10.0	-9.9

### Other cargo rates

6. Table 5-4 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several cargo rates for shipments of more than 45 kg existed in each case (including breakpoints at 100 and 300 kg) giving a reduction of up

**Route group 2 (cont.)**

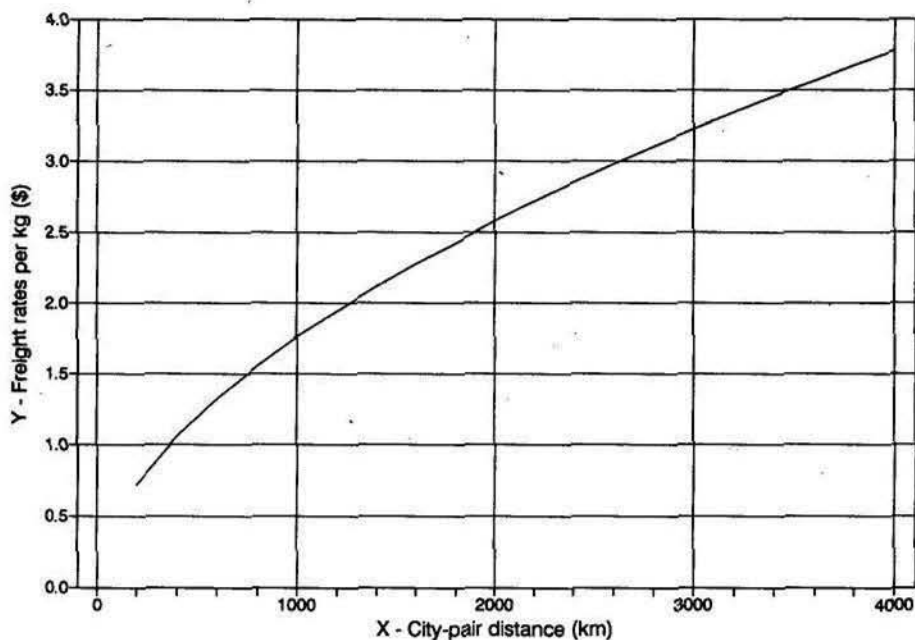
to about 40 per cent for large shipments (over 500 kg). This is somewhat less than the reduction of about 50 per cent available for large shipments during the previous years. On the other hand, few specific commodity rates were available on this route group.



**Graph 5-3. Economy class normal passenger fares (route group 2)**

**Table 5-3. Range of passenger fares available (route group 2)**

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	
		(as a percentage of the highest economy class normal fare)						
San Juan — San José	2 170	720	—	—	81	43-66	—	—
Mexico — Havana	1 770	520	—	—	—	79	—	—
Fort de France — Port au Prince	1 370	765	136	—	—	—	—	—
San Salvador — Panama City	1 190	572	154	110	87	—	—	—
Port of Spain — Curaçao	850	488	—	—	—	57-65	—	—
St. Kitts — Port of Spain	760	462	147	—	—	75	—	—
Panama — San José	540	254	139	106	91-92	—	—	—
Guatemala — Tegucigalpa	410	224	144	94?	91	61-68	—	—
Belize — San Pedro Sula	240	150	115	115	—	69	—	—
Antigua — Pointe-à-Pitre	100	124	—	—	—	80	—	—

**Route group 2 (cont.)**

**Graph 5-4. General cargo rates for shipments of less than 45 kg (route group 2)**

**Table 5-4. Range of cargo rates available (route group 2)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Curacao — Guatemala	2 350	50	3.78	77	59	67	1
Havana — Mexico	1 770	52	2.60	77	61	57	1
Santo Domingo — Havana	1 420	45	2.14	81	64	—	—
San Salvador — Panama City	1 190	50	1.69	78	55	—	—
Barbados — San Juan	860	45	2.61	74	49	18-51	2
St. Kitts — Port of Spain	760	50	2.26	77	58	—	—
Panama — San José	540	50	0.86	81	56	—	—
Guatemala — Tegucigalpa	410	45	0.49	82	67	—	—
San Pedro Sula — Guatemala	410	45	0.45	62	62	—	—
Antigua — Point-à-Pitre	100	50	0.73	85	81	—	—

### ROUTE GROUP 3: BETWEEN CANADA, MEXICO AND THE UNITED STATES

#### Economy class normal passenger fares

1. The curve on Graph 5-5 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.

2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km					
	250	500	1 000	2 000	4 000	6 000
Fares in cents per pass-km, 1992	51.6	35.9	25.0	17.4	12.1	9.8
Percentage change (%), 1992/1991	9.6	8.4	7.2	6.1	4.9	4.2

#### Other passenger fares

3. Table 5-5 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first class normal and restricted fares were widely available in September 1992. Intermediate class fares were available on 5 of the 10 city-pairs in the sample, two more than in 1991. Excursion and Apex fares were the special fares in economy class most widely available in this route group in 1992. The level of the excursion fares ranged between about 15 and 70 per cent below that of the related economy class normal fares whereas that of Apex fares ranged between 40 and 70 per cent below. Economy class restricted fares, which in September 1991 did not appear to have been available for any of the city-pairs in the sample, in September 1992 were available on 9 of the 10 city-pairs in the sample. Where available, these fares showed reductions from the related economy class normal fares generally ranging from 4 to 40 per cent.

#### General cargo rates for small shipments

4. The curve on Graph 5-6 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.

**Route group 3 (cont.)**

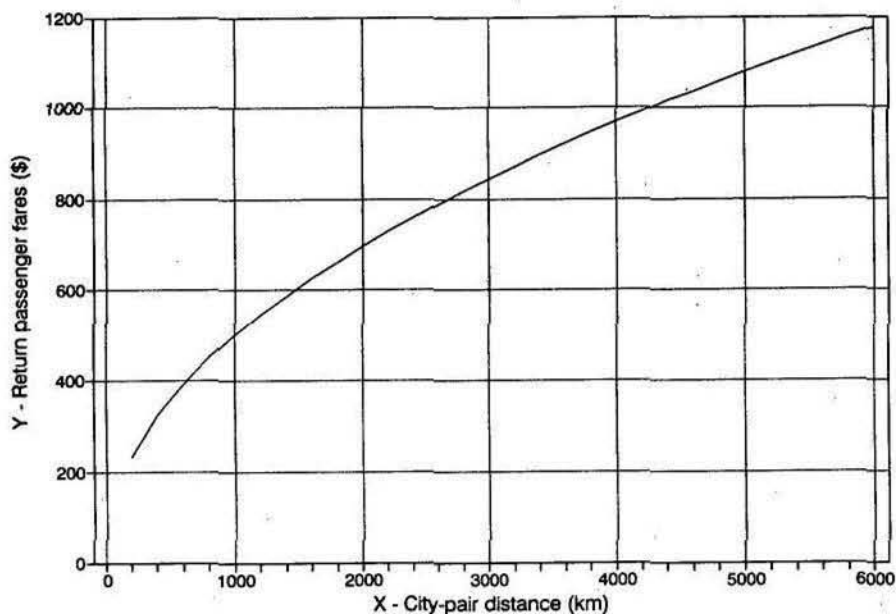
5. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

Estimated general cargo rates for shipments of less than 45 kg	Distance in km					
	250	500	1 000	2 000	4 000	6 000
Rates per tonne-km in cents, 1992	301	196	127	83	54	42
Percentage change (%), 1992/1991	-3.1	-2.7	-2.4	-2.0	-1.7	-1.4

**Other cargo rates**

6. Table 5-6 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several cargo rates for shipments of more than 45 kg were frequently available (including breakpoints below and above 500 kg). The average reduction for large shipments (over 500 kg) was about 40 per cent on the general cargo rate for small shipments. Specific commodity rates were available on a few city-pairs in the sample. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for 3 of the sampled city-pairs.

## Route group 3 (cont.)

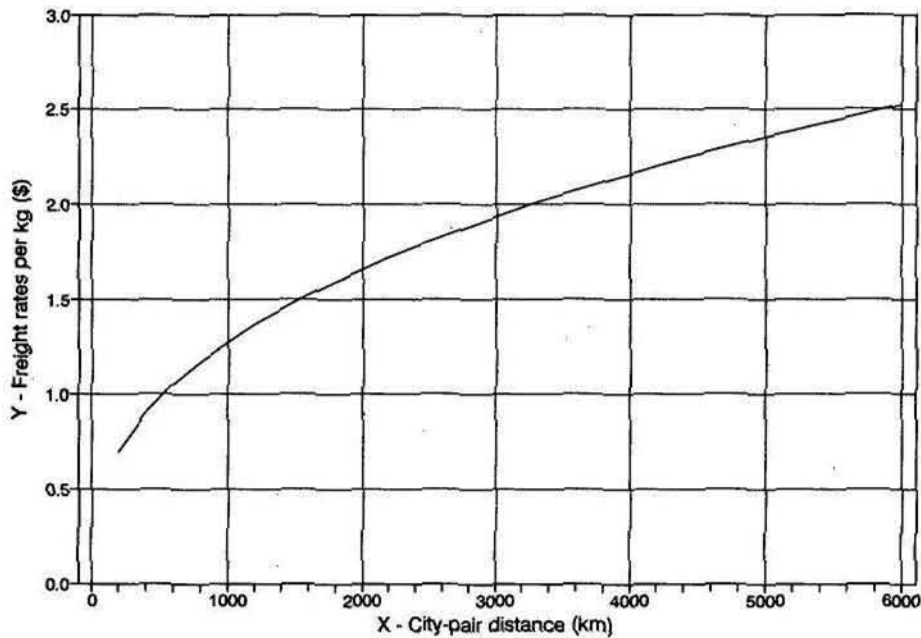


Graph 5-5. Economy class normal passenger fares (route group 3)

Table 5-5. Range of passenger fares available (route group 3)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES <sup>1</sup>						GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class APEX <sup>2</sup>	
		(as a percentage of the highest economy class normal fare)						
Montreal — Los Angeles	3 950	1 268	165-166 <sup>3</sup>	110 <sup>4</sup>	60	—	28-60	—
Mexico — Vancouver	3 940	762	154	100	—	74	54	—
New York — Calgary	3 280	1 054	150 <sup>3</sup>	—	74	—	43	—
Chicago — Mexico	2 718	802	159	—	79	50-57	50-56	—
Puerto Vallarta — San Francisco	2 500	950	97-131 <sup>3</sup>	—	72-74	38-53	44-53	—
Toronto — Tampa	1 770	582	160-165 <sup>3</sup>	110-121 <sup>4</sup>	68	33-65	34-45	—
Mexico — Dallas	1 510	480	161	—	100	48-72	61	—
Chicago — Montreal	1 180	478	188-189 <sup>3</sup>	95-115	75-96	64	42-59	—
Miami — Cozumel	900	402	116	—	81	43-61	—	—
Toronto — Washington	570	460	143-178 <sup>3</sup>	114	81-86	—	41-50	—

1. Where applicable, only mid-week fare levels are shown; weekend fares are somewhat higher.
2. "Budget" fares also included.
3. First class restricted fares also available.
4. Intermediate class restricted fares also available.

**Route group 3 (cont.)**

**Graph 5-6. General cargo rates for shipments of less than 45 kg (route group 3)**

**Table 5-6. Range of cargo rates available (route group 3)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Over 500 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Range (as a percentage of under-45 kg rate) <sup>1</sup>	Number of commodities
Honolulu — Vancouver	4 350	25-37	1.83-2.99	52-64	48	—	—
Montreal — Los Angeles	3 950	25	2.22	72	—	34-43	1
Mexico — Vancouver	3 940	50	3.61	86	72	25-54	5
Chicago — Mexico	2 720	50-70	1.71-2.13	64-100	60-69	—	—
Guadalajara — Los Angeles	2 110	45	1.49	81	58	38-48	8
Toronto — Tampa	1 765	24	1.26	77	—	43-50	2
Mexico — Dallas	1 510	45	1.31	73	64	34-51	7
Chicago — Montreal	1 180	27	1.40	71	—	—	—
Miami — Cancun	860	50	1.03	85	67	—	—
Toronto — New York	590	20	0.90	69	60	—	—

1. Rates calculated as a percentage of the higher under-45 kg rate.

**ROUTE GROUP 4: BETWEEN NORTH AMERICA/CENTRAL AMERICA/  
CARIBBEAN AND SOUTH AMERICA**

**Economy class normal passenger fares**

1. The curves on Graph 5-7 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.

2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km					
	500	1 000	2 000	4 000	7 000	10 000
Fares in cents per pass-km, 1992						
Average	25.5	21.9	18.8	16.1	14.2	13.1
Northbound	25.5	21.6	18.4	15.6	13.7	12.6
Southbound	25.5	22.1	19.2	16.6	14.8	13.8
Percentage change (%), 1992/1991						
Average	3.5	2.8	2.0	1.3	0.7	0.4
Northbound	5.9	4.1	2.4	0.6	-0.7	-1.6
Southbound	1.3	1.4	1.6	1.8	2.0	2.1

**Other passenger fares**

3. Table 5-7 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares remained widely available in September 1992 in this route group. The most widely available economy class special fare was, as in previous years, the excursion fare. Where available, these fares showed reductions from the related economy class normal fares generally ranging from about 15 to 60 per cent. Economy class restricted, Pex and Apex type fares remained available for about half the city-pairs in the sample. "Circle fares" from Panama to points in South America, which had existed for a number of years in the past, were no longer available in September 1992.

**General cargo rates for small shipments**

4. The curves on Graph 5-8 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.



**Route group 4 (cont.)**

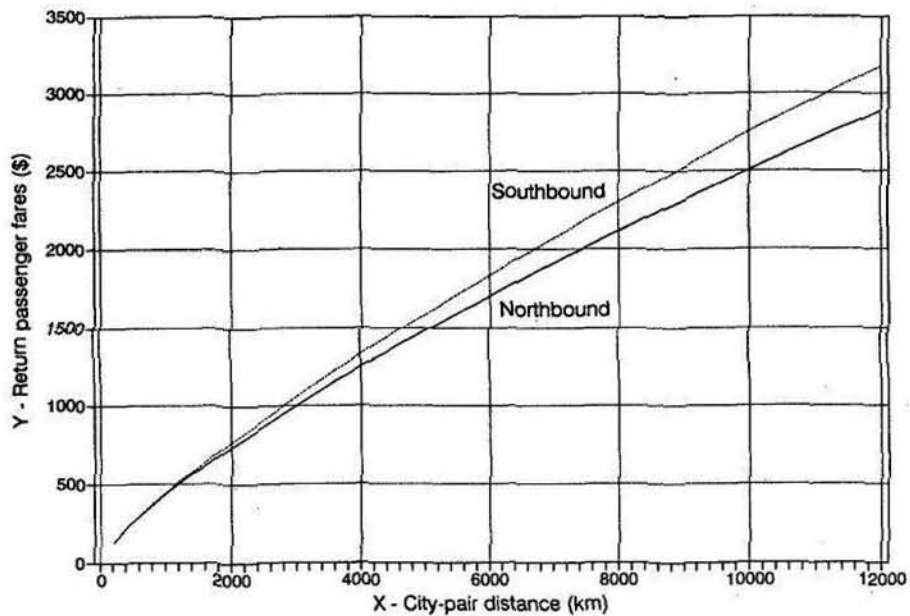
5. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

Estimated general cargo rates for shipments of less than 45 kg	Distance in km					
	500	1 000	2 000	4 000	7 000	10 000
<b>Rates in cents per tonne-km, 1992</b>						
Average	220	176	142	114	95	85
Northbound	224	173	133	103	83	73
Southbound	213	179	150	126	109	100
<b>Percentage change (%), 1992/1991</b>						
Average	-4.2	-3.2	-2.3	-1.3	-0.5	0.0
Northbound	-4.5	-3.4	-2.3	-1.2	-0.3	0.3
Southbound	-4.0	-3.1	-2.2	-1.3	-0.5	0.0

**Other cargo rates**

6. Table 5-8 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several cargo rates for shipments of more than 45 kg existed in each case (including breakpoints at 100 and 300 kg) giving, as in the previous years, a reduction of about 50 per cent on average for large shipments (over 500 kg). Specific commodity rates were also available for some city-pairs in the sample. These specific commodity rates were, on average, some 65 per cent lower than the general cargo rates for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for two city-pairs in the sample.

## Route group 4 (cont.)



Graph 5-7. Economy class normal passenger fares (route group 4)

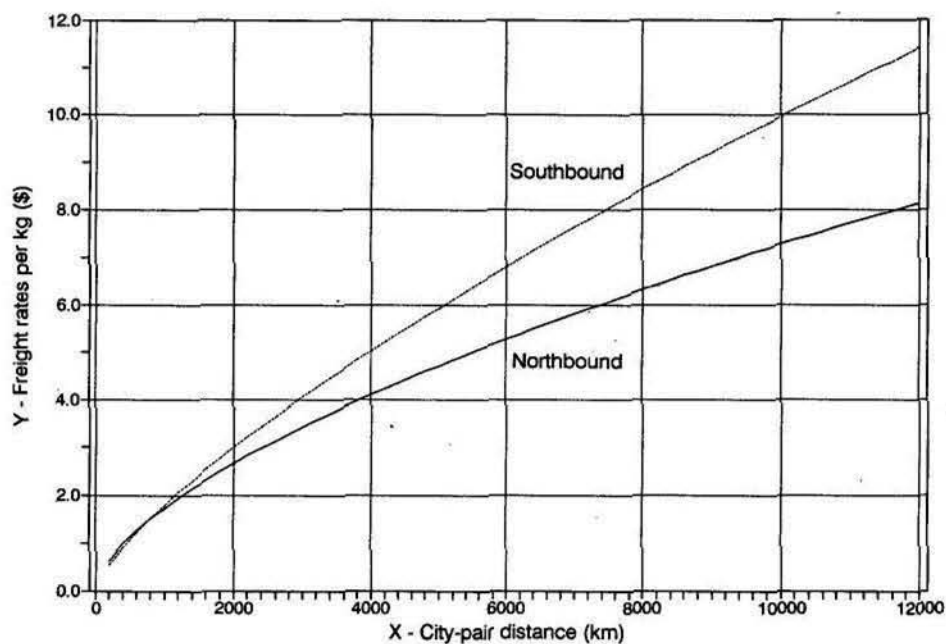
Table 5-7. Range of passenger fares available (route group 4)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX <sup>1</sup> , PEX	
		(as a percentage of the highest economy class normal fare)						
Montreal — Buenos Aires	10 110	3 113	177	116	74	—	31-54	—
Santiago de Chile — New York	8 410	2 590	195	125	74	42-72	42	53
Rio de Janeiro — San José	6 220	1 852	161	116	—	55	—	—
Los Angeles — Quito	4 820	1 458	170	115	95	59-80	64	53
Miami — La Paz	5 630	1 686	169	117	64	44-49	50-51	41
Miami — Manaus	3 880	1 830	185	118	67	—	44-46	—
Aruba — Lima	2 840	1 231	159	102	—	85	—	39
Caracas — Miami	2 190	790	145 <sup>2</sup>	123	76	43-65	43	—
Bogota — Santo Domingo	1 690	740	—	115	—	51-74	—	—
Port of Spain — Georgetown	570	294	117-147 <sup>2</sup>	—	—	47-49	—	41

1. "Budget" fares also included.

2. First class restricted or excursion fares also available.

## Route group 4 (cont.)



**Graph 5-8. General cargo rates for shipments of less than 45 kg (route group 4)**

**Table 5-8. Range of cargo rates available (route group 4)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES			SPECIFIC COMMODITY RATES		
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Montreal — Buenos Aires	10 110	54	10.49	76	50	38	1
Santiago de Chile — New York	8 410	50	5.55	77	48	41-44	5
Rio de Janeiro — San José	6 220	50	5.95	76	41	-	-
Los Angeles — Quito	5 620	50	6.89	73	54	-	-
Miami — La Paz	4 960	50	7.32	75	48	-	-
Miami — Manaus	3 880	50	6.20	77	58	44	1
Aruba — Lima	2 840	50	4.97	76	52	-	-
Caracas — Miami	2 190	50	2.49	73	47	14-29	5
Bogota — Santo Domingo	1 690	50	2.23	79	54	-	-
Port-of-Spain — Georgetown	570	50	1.85	74	52	45-49	2

## ROUTE GROUP 5: LOCAL SOUTH AMERICA

### Economy class normal passenger fares

1. The curve on Graph 5-9 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	250	500	1 000	3 000	5 000
Fares in cents per pass-km, 1992	27.4	23.4	19.9	15.4	13.7
Percentage change (%), 1992/1991	1.0	1.5	2.1	3.0	3.4

### Other passenger fares

3. Table 5-9 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares remained widely available in this route group in September 1992. Economy class excursion fares remained the only widely available special fares for individual travel in this route group. Their level was *between about 15 and 55 per cent lower than the related economy class normal fares*. "Circle fares", which had been available during previous years for travel within South America, were no longer available in September 1992. However, in September 1992, the Mercosur Airpass was available. This tariff, which allows travel between and within Argentina, Brazil, Paraguay and Uruguay, must include at least two of the aforementioned countries and not more than six flight segments.

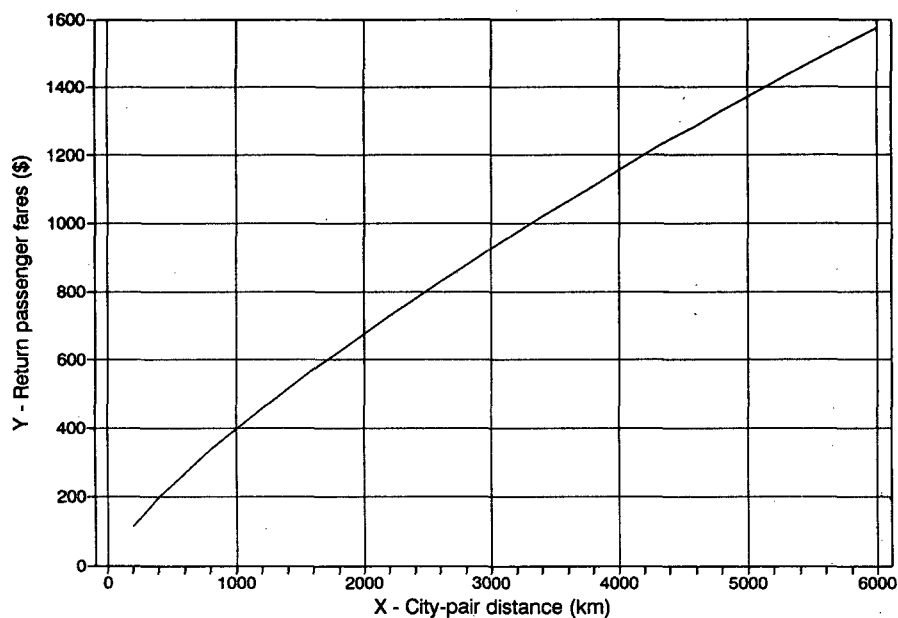
### General cargo rates for small shipments

4. The curve on Graph 5-10 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.
5. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

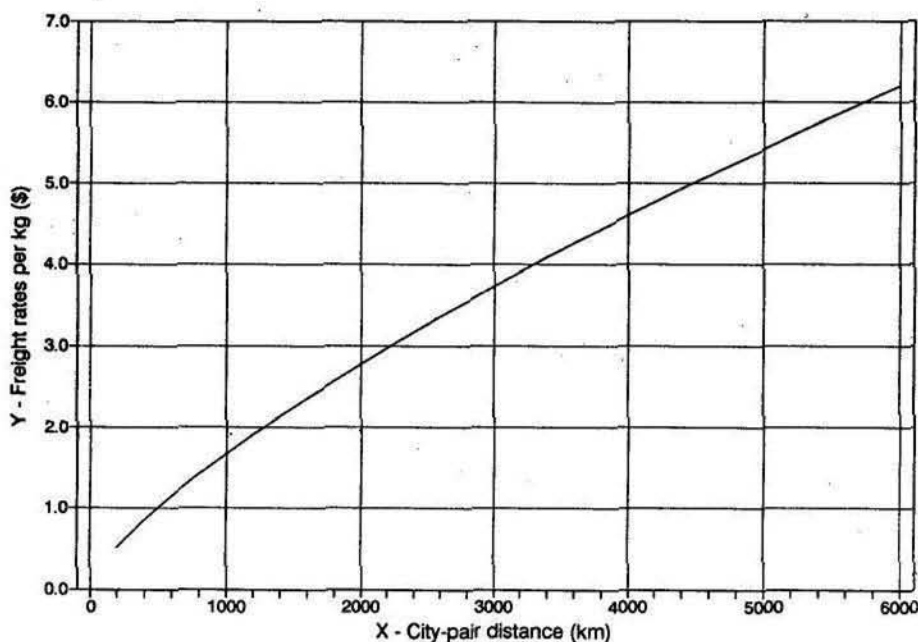
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	250	500	1 000	3 000	5 000
Rates in cents per tonne-km, 1992	242	201	167	124	108
Percentage change (%), 1992/1991	0.9	0.6	0.3	-0.2	-0.4

**Route group 5 (cont.)****Other cargo rates**

6. Table 5-10 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Eight of the city-pairs in the sample show the new general cargo rate tariff structure adopted in December 1989 by most South American countries (except Venezuela) so as to reflect more realistically the rate levels which were offered in the market-place in those countries. Under the new tariff structure general cargo rates for small shipments have the first breakpoint at 100 kg (not 45 kg). As in previous years, breakpoints at 300 kg remained available for all city-pairs in the sample. In September 1992 reductions for large shipments (over 500 kg) remained available for the two city-pairs in the sample that continued to use the old tariff structure. The lack of availability of general cargo rates for large shipments for the other city-pairs should be viewed in the context of the new tariff structure. As for previous years, several specific commodity rates also remained available in this route group. With a few exceptions, the level of specific commodity rates expressed in U.S. dollars per kg has remained virtually unchanged since September 1990.

**Route group 5 (cont.)****Graph 5-9. Economy class normal passenger fares (route group 5)****Table 5-9. Range of passenger fares available (route group 5)**

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.\$)	INDIVIDUAL FARES					GROUP FARES	
			First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class PEX	Economy class	
			(as a percentage of the highest economy class normal fare)						
Bogota — Buenos Aires	5 250	1 528	147	104-127	—	57-67	—	—	
Rio de Janeiro — Caracas	4 530	1 594	160	111	—	49	—	—	
Santiago de Chile — Quito	3 870	1 042	157	115	—	73-84	—	66	
Caracas — Lima	2 750	1 014	145	107	—	77	50	—	
La Paz — Sao Paulo	2 380	890	158	115	—	61	—	—	
Montevideo — Rio de Janeiro	1 830	676	161	116	—	72	—	—	
Manaus — Iquitos	1 480	612	148	115	—	73	—	—	
Buenos Aires — Santiago de Chile	1 140	448	144	114-115	—	46-75	—	—	
Belem — Cayenne	810	372	166	116	—	68	—	—	
Quito — Bogota	720	306	154	115	—	80	—	67	

**Route group 5 (cont.)**

**Graph 5-10. General cargo rates for shipments of less than 45 kg (route group 5)**

**Table 5-10. Range of cargo rates available (route group 5)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 100 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-100 kg rate)	Number of commodities
Bogota — Buenos Aires	5 250	50	5.71	—	—	38-49	2
Rio de Janeiro — Caracas	4 526	50	4.80 <sup>1</sup>	77	40	31-35 <sup>2</sup>	2
Santiago de Chile — Quito	3 870	50	4.16	—	—	27	1
Caracas — Lima	2 750	50	4.01 <sup>1</sup>	75	52	22-23 <sup>2</sup>	2
La Paz — Sao Paulo	2 380	35	3.15	—	—	—	—
Montevideo — Rio de Janeiro	1 830	35	1.83	—	—	34-48	3
Manaus — Iquitos	1 480	50	2.09	—	—	—	—
Buenos Aires — Santiago de Chile	1 140	35	0.49	—	—	108-210	3
Asuncion — Sao Paulo	1 110	35	1.25	—	—	—	—
Porto Alegre — Montevideo	700	35	1.01	—	—	34-63	2

1. First breakpoint for general cargo rates remains at 45 kg (not 100 kg).

2. As a percentage of the under-45 kg rate.

## ROUTE GROUP 6: LOCAL EUROPE

### Economy class normal passenger fares

1. The curve on Graph 5-11 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km					
	250	500	1 000	2 000	3 000	4 000
Fares in cents per pass-km, 1992	86.8	61.8	44.0	31.3	25.6	22.3
Percentage change (%), 1992/1991	21.0	16.1	11.3	6.8	4.2	2.4

3. Between September 1991 and September 1992, there was a significant broadening in the spread of the economy class normal fare levels above and below the estimated average. This spread was to a large extent caused by the introduction of 193 city-pairs involving points in the ex-USSR which had hitherto been considered as domestic. Fare levels for these city-pairs are some 80 per cent below the average for the rest of the fares in local Europe.

### Other passenger fares

4. Table 5-11 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, in September 1992 first class fares remained widely available in this route group. As in previous years, in September 1992 there was still no multilateral agreement within IATA on the definition of an intermediate class for travel within Europe. As such a number of airlines were still publishing intermediate class normal fares at the same level as the economy class normal fare. However, compared with September 1991 when this practice was widespread and all 10 city-pairs in the sample shared an intermediate class normal fare, in September 1992 this type of fare was only available on 4 city-pairs in the sample. Economy class excursion fares remained widely available to the general public in this route group. Where available, they were on average some 30 per cent lower than the related economy class normal fares. Pex fare types were available for 8 city-pairs in the sample, while Apex and "Eurobudget" fare types were available for 5 city-pairs. "Eurobudget" fare levels ranged between 10 and 25 per cent below the applicable economy class normal fare, Pex-type fare levels were between 40 to 60 per cent below the applicable economy class normal fare, while Apex and Super Pex fare levels were some 60 to 65 per cent below the economy class normal fare.

### General cargo rates for small shipments

5. The curve on Graph 5-12 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.



**Route group 6 (cont.)**

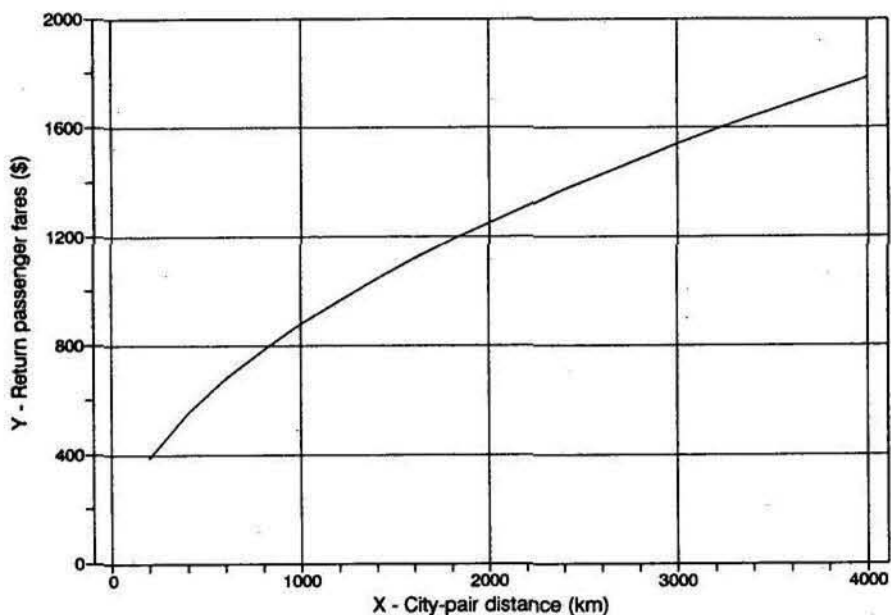
6. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

Estimated general cargo rates for shipments of less than 45 kg	Distance in km					
	250	500	1 000	2 000	3 000	4 000
Rates in cents per tonne-km, 1992	496	380	290	222	190	170
Percentage change (%), 1992/1991	13.2	15.2	17.2	19.3	20.5	21.4

7. Between September 1991 and September 1992, the spread in the level of cargo rates for small shipments (under 45 kg) for routes within Europe above and below the estimated average remained significant. For countries from where the alternative cargo tariff structure introduced in April 1988 is being used, in September 1992 the rates were significantly higher at the shorter distances (some 50 per cent higher at 250 km) than the over-all average estimated rate level shown in the table above. However, at the longer distances (beyond 950 km) they were lower than the over-all average general cargo rate reaching some 35 per cent below at 3 000 km. The estimated average rate level for shipments from the rest of Europe, where the traditional cargo tariff structure applied, were similar to the over-all average at all the reference distances.

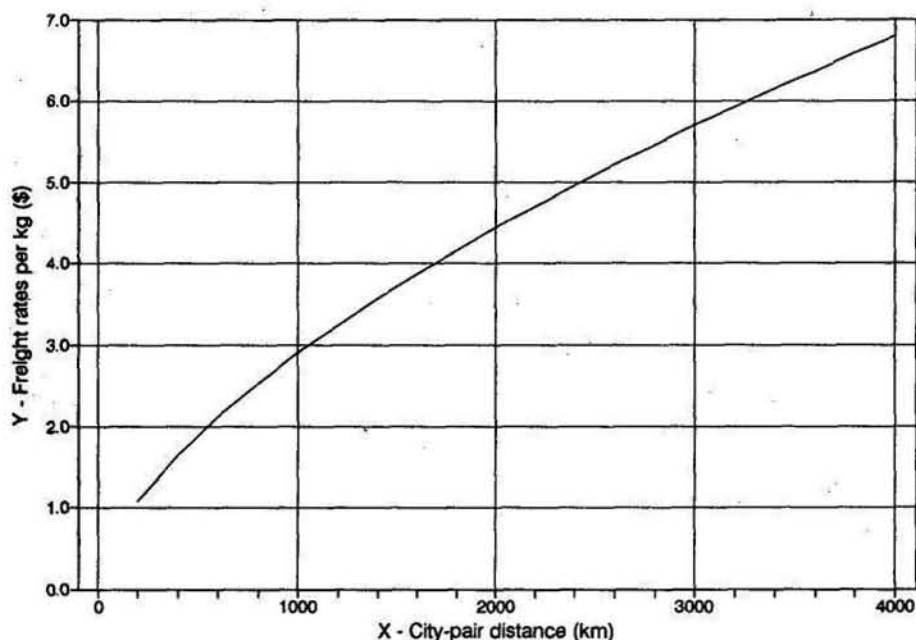
**Other cargo rates**

8. Table 5-12 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. There were generally few large shipment general cargo rates available for a given route with a breakpoint higher than 45 kg (except for routes from the United Kingdom and, in some cases, Ireland where the "small shipment" breakpoint was 100 kg). Few specific commodity rates appeared to be available in September 1992.

**Route group 6 (cont.)****Graph 5-11. Economy class normal passenger fares (route group 6)****Table 5-11. Range of passenger fares available (route group 6)**

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX, PEX	
		(as a percentage of the highest economy class normal fare)						
Paris — Gran Canaria	2 830	1 653	127	—	—	61	34-40	—
Oujda — Frankfurt	1 900	1 131	140	—	—	65	57	—
London — Seville	1 620	1 015	162	100	—	75	72-77	—
Zurich — Malta	1 380	1 215	139	100	—	71	54	—
Rome — Bucharest	1 160	1 212	149	100	—	68	37-50	—
Algiers — Tunis	620	158	152	—	—	73	—	—
Prague — Warsaw	520	325	128	100	—	60	40-50	—
Amsterdam — Birmingham	440	609	160	—	—	71	40-92	—
Brussels — Strasbourg	350	565	145	—	—	68	38-58	—
Copenhagen — Gothenburg	230	467	141	—	—	—	38-62	40

## Route group 6 (cont.)



**Graph 5-12. General cargo rates for shipments of less than 45 kg (route group 6)**

**Table 5-12. Range of cargo rates available (route group 6)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Zurich — Moscow	2 180	76	8.09	98	—	46-83	5
Lisbon — Amsterdam	1 850	44	2.58	77	45	—	—
Casablanca — Tunis	1 660	72	1.59	78	—	—	—
Rome — Istanbul <sup>1</sup>	1 380	63	2.95	—	—	—	—
Paris — Madrid	1 070	67	3.09	75	—	—	—
Algiers — Marseille	770	24	0.67	75	45	—	—
London — Frankfurt <sup>2</sup>	650	64	2.55	—	55	—	—
Prague — Warsaw	520	73	1.53	76	—	—	—
Dublin — East Midland <sup>2</sup>	340	56	0.93	—	—	—	—
Budapest — Vienna	210	38	0.84	75	—	—	—

1. Cargo structure based on a basic charge per consignment plus a rate per kilogram applicable to each kilogram in the consignment. For comparative purposes the charge per consignment is shown in the "Minimum charge" column and the "under-45 kg" rate was computed for a consignment of 45 kg.
2. The first breakpoint for general cargo rates out of the United Kingdom is 100 kg (not 45 kg). On the route shown, other breakpoints exist at 1 000 kg and 1 500 kg.

## ROUTE GROUP 7: LOCAL MIDDLE EAST

### Economy class normal passenger fares

1. The curve on Graph 5-13 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	250	500	1 000	2 000	3 000
Fares in cents per pass-km, 1992	42.9	31.9	23.8	17.7	14.9
Percentage change (%), 1992/1991	13.2	7.8	2.5	-2.4	-5.2

3. Between September 1991 and September 1992, there was a significant broadening of the spread in the level of the economy class normal fares above and below the estimated average fares. Hence in September 1992 fares on routes within the Middle East were less dependent on distance and more dependent on other factors than in September 1991.

### Other passenger fares

4. Table 5-13 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated in the sample, first and intermediate class fares remained widely available in September 1992. The only special fares frequently available to the general public remained the economy class excursion fares. Where available, these fares were on average about one-third lower than the economy class normal fare. While there is a general lack of other economy class special fares available to the general public for travel within the Middle East, there are several preferential fares available for certain categories of passengers (youths, teachers, students, senior citizens, families, seamen and pilgrims). Where available these fares were some 20 to 50 per cent below the applicable economy class normal fare.

### General cargo rates for small shipments

5. The curve on Graph 5-14 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.

**Route group 7 (cont.)**

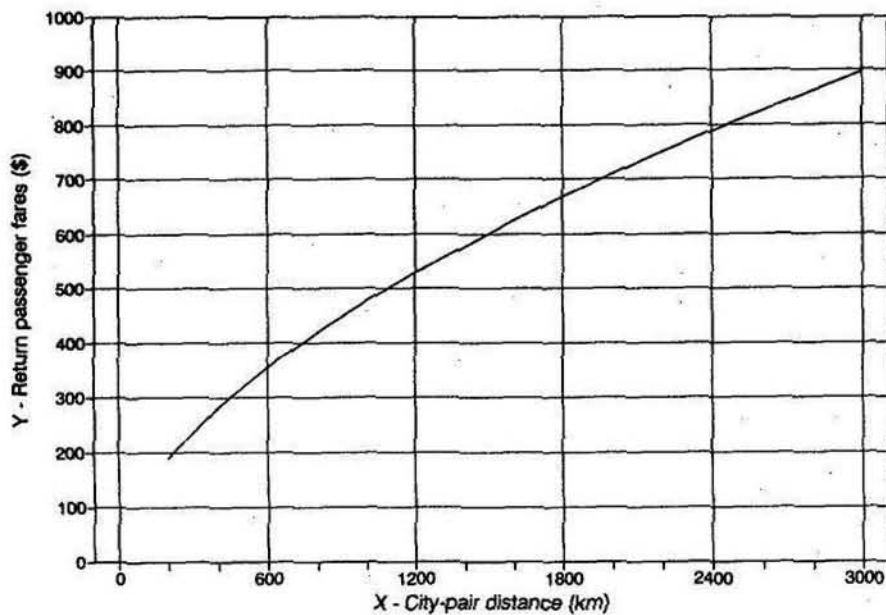
6. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	250	500	1 000	2 000	3 000
Rates in cents per tonne-km, 1992	306	220	158	114	94
Percentage change (%), 1992/1991	10.7	2.1	-5.7	-13.0	-17.0

7. Between September 1991 and September 1992, there was a significant broadening in the spread of general cargo rates for small shipments (under 45 kg) above and below the estimated average level for this route group.

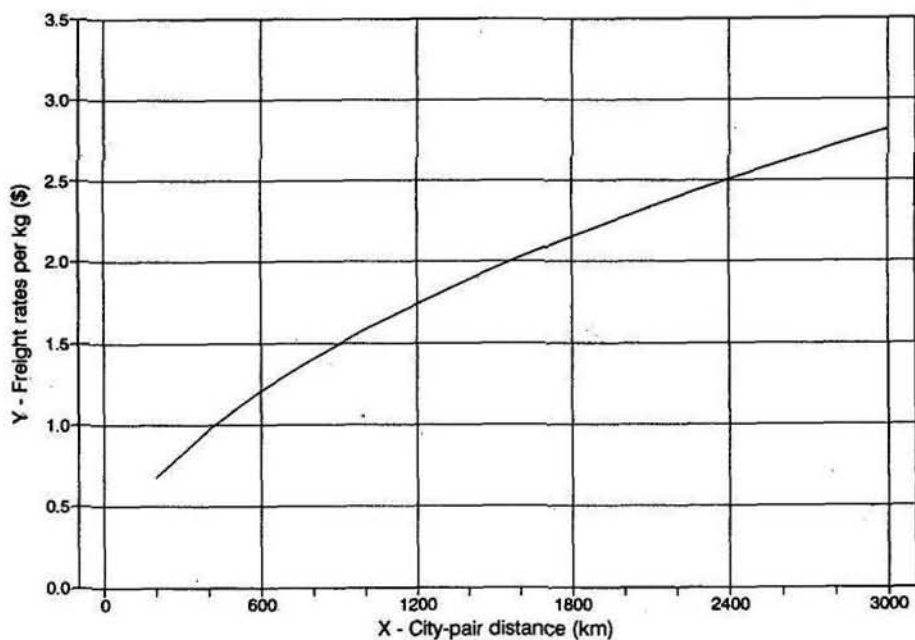
**Other cargo rates**

8. Table 5-14 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Generally, and as for previous years, only one general cargo rate for larger shipments was available for a given route, with a breakpoint of 45 kg. This general cargo rate for shipments of more than 45 kg was about 25 per cent lower than the rate for small shipments. A number of specific commodity rates continued to be available in this route group, giving an average reduction of around 60 per cent on the general cargo rates for small shipments.

**Route group 7 (cont.)****Graph 5-13. Economy class normal passenger fares (route group 7)****Table 5-13. Range of passenger fares available (route group 7)**

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES
		Highest economy class normal (U.S.\$)	First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	Economy class
		(as a percentage of the highest economy class normal fare)						
Dubai — Cairo	2 420	1 079	138	115	~	73	-	-
Sanaa — Damascus	2 140	890	140	110	~	70	-	-
Bahrain — Lamaca	1 880	957	138	115	~	57	-	-
Cairo — Riyadh	1 610	708	138	110	~	66	-	-
Tehran — Sharjah	1 220	477	150	110	~	-	-	-
Jeddah — Aden	1 170	699	140	110	~	66	-	-
Kuwait — Dubai	850	325	139	110	~	70	-	-
Muscat — Doha	700	447	129	100	80	42-46	-	-
Shiraz — Abu Dhabi	600	359	150	110	~	-	-	-
Amman — Beirut	240	160	136	110	~	-	-	-

## Route group 7 (cont.)



**Graph 5-14. General cargo rates for shipments of less than 45 kg (route group 7)**

**Table 5-14. Range of cargo rates available (route group 7)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Dubai — Cairo	2 420	22	4.29	75	—	25-70	3
Sanaa — Damascus	2 140	10	2.04	75	—	29-55	4
Abu Dhabi — Amman	2 000	22	3.60	75	—	—	—
Cairo — Riyadh	1 610	26	2.40	75	—	21-50	18
Tehran — Sharjah	1 220	21	2.09	75	—	20-56	13
Khartoum — Jeddah	970	21	0.56	75	—	24-50	7
Kuwait — Dubai	850	20	1.65	75	—	—	—
Muscat — Doha	700	15	1.57	75	—	—	—
Shiraz — Abu Dhabi	600	21	1.32	74	—	30-43	5
Bandas Abbas — Sharjah	230	21	0.67	76	—	—	—

## ROUTE GROUP 8: LOCAL AFRICA

### Economy class normal passenger fares

1. The curve on Graph 5-15 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km					
	250	500	1 000	2 000	4 000	6 000
Fares in cents per pass-km, 1992	36.9	31.1	26.3	22.2	18.8	17.0
Percentage change (%), 1992/1991	22.6	21.0	19.3	17.7	16.2	15.2

### Other passenger fares

3. Table 5-15 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares remained widely available in this route group in September 1992. Economy class excursion fares were also widely available at an average level some 30 per cent lower than the related economy class normal fares. In September 1992 Apex-type fares were available for 6 of the city-pairs in the sample, in general, at levels some 45 per cent lower than the applicable economy class normal fare. These special fares, which were not available during previous years, would appear to have replaced a large number of preferential fares which in September 1992 were no longer available to certain categories of passengers (youths, students, senior citizens, African diplomats). However, preferential fares for families, artists, sports people and seamen were still available in September 1992. A few group fares were also available.

### General cargo rates for small shipments

4. The curve on Graph 5-16 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.
5. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

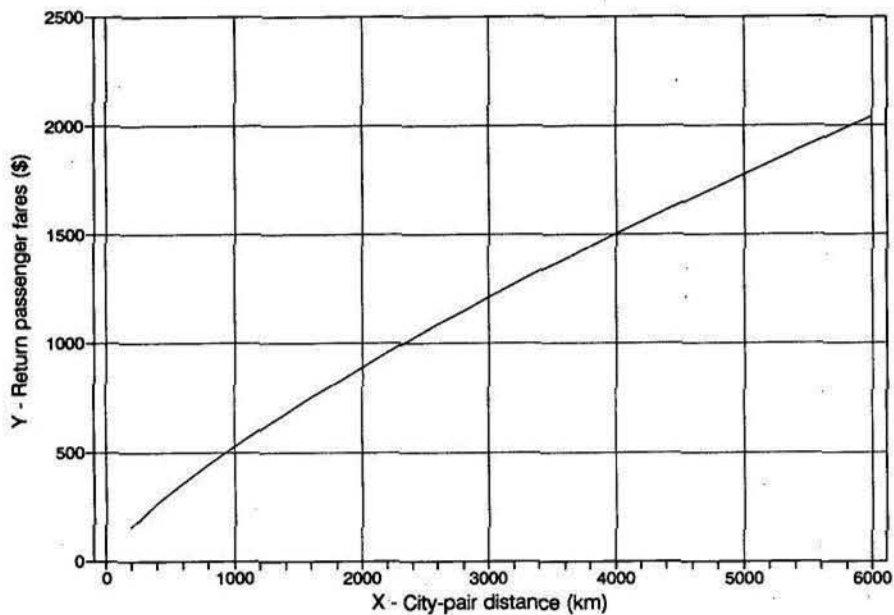


**Route group 8 (cont.)**

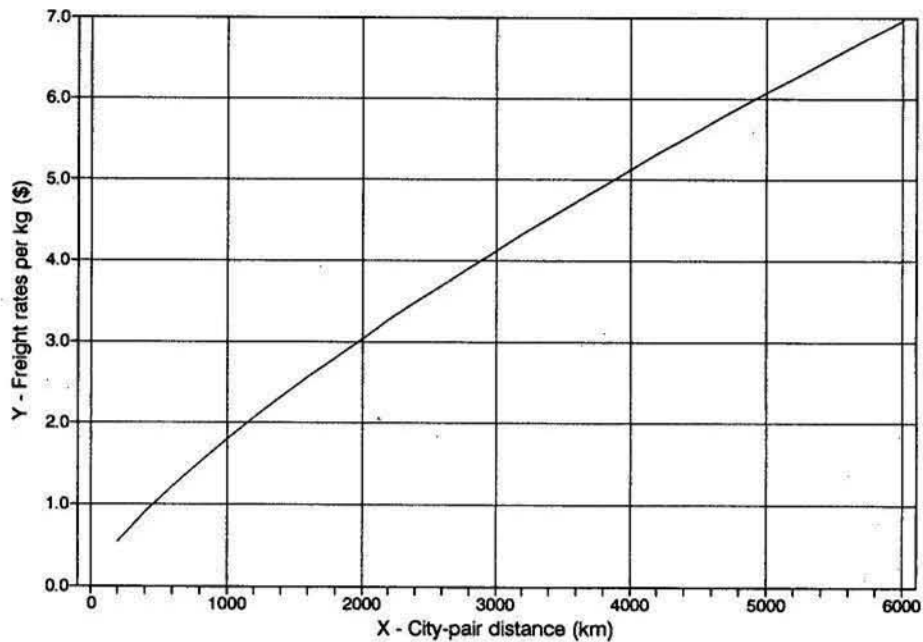
Estimated general cargo rates for shipments of less than 45 kg	Distance in km					
	250	500	1 000	2 000	4 000	6 000
Rates in cents per tonne-km, 1992	253	213	180	152	128	116
Percentage change (%), 1992/1991	16.8	15.4	14.0	12.7	11.3	10.5

**Other cargo rates**

6. Table 5-16 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. The only general cargo rates widely available for other than small shipments remained those with a breakpoint of 45 kg, which were around 25 per cent lower than the general cargo rates for small shipments. On the other hand, some specific commodity rates remained available in this route group, giving an average reduction of around 55 per cent in the general cargo rates for small shipments.

**Route group 8 (cont.)****Graph 5-15. Economy class normal passenger fares (route group 8)****Table 5-15. Range of passenger fares available (route group 8)**

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES
		Highest economy class normal (U.S.\$)	First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	Economy class
		(as a percentage of the highest economy class normal fare)						
Addis Ababa — Lagos	3 920	1 404	140	110	—	72	—	—
Nairobi — Johannesburg	2 910	744	145	115	—	82	74	—
Lomé — Kinshasa	1 970	1 200	133-140	109-115	—	68-70	52-55	—
Dar-es-Salaam — Lusaka	1 500	440	145	115	—	64-70	—	—
Dakar — Bamako	1 060	619	140	115	—	69	55	—
Johannesburg — Harare	960	504	145	115	—	70	—	—
Antananarivo — St. Denis	870	681	145	115	—	52-72	—	48
Abidjan — Cotonou	710	375	140	115	—	70	55	50
Niamey — Ouagadougou	420	270	140	115	—	70	55	50
Conakry — Freetown	120	126	141	114	—	71	55	—

**Route group 8 (cont.)**

**Graph 5-16. General cargo rates for shipments of less than 45 kg (route group 8)**

**Table 5-16. Range of cargo rates available (route group 8)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg	Range (as a percentage of under-45 kg rate)	Number of commodities
Harare — Accra	4 310	33	2.07	75	—	—	—
Addis Ababa — Lagos	3 920	39	4.78	75	—	23-58	6
Nairobi — Johannesburg <sup>1</sup>	2 910	25	2.74	—	—	19-58	6
Lomé — Kinshasa	1 970	48	3.43	75	—	65-74	3
Dakar — Bamako	1 060	48	2.52	74	—	—	—
Johannesburg — Harare <sup>1</sup>	960	22	1.56	—	50	31-67	4
Brazzaville — Libreville	830	48	1.66	76	—	—	—
Abidjan — Cotonou	710	48	1.66	76	—	—	—
Niamey — Ouagadougou	420	48	1.03	75	—	—	—
Bujumbura — Kigali	180	26	0.16	75	—	—	—

1. The first breakpoint for general cargo rates is 100 kg (not 45 kg).

## ROUTE GROUP 9: BETWEEN EUROPE AND MIDDLE EAST

### Economy class normal passenger fares

1. The curves on Graph 5-17 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	500	1 000	2 000	4 000	6 000
<b>Fares in cents per pass-km, 1992</b>					
Average	36.4	32.0	28.2	24.8	23.0
Eastbound	33.2	32.1	31.0	29.9	29.3
Westbound	39.8	31.9	25.6	20.5	18.1
<b>Percentage change (%), 1992/1991</b>					
Average	11.7	11.3	11.0	10.7	10.5
Eastbound	7.6	11.8	16.1	20.5	23.2
Westbound	15.2	10.5	6.1	1.8	-0.7

3. Between September 1991 and September 1992, there was a significant increase in the directional imbalance in the level of the estimated economy class normal fare per passenger-kilometre expressed in U.S. dollars at the shorter and longer distances.
4. Also between September 1991 and September 1992, there was a significant broadening in the spread of the economy class normal fare levels above and below the estimated averages in the westbound direction. Hence in September 1992 fares from the Middle East to Europe were less dependent on distance and more dependent on other factors than in September 1991.

### Other passenger fares

5. Table 5-17 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares remained widely available in this route group in September 1992. Economy class excursion fares remained widely available to the general public at levels about 30 per cent lower on average than the applicable economy class normal fares. In September 1992 Pex-type fares were available on 4 of the 10 city-pairs in the sample. Where available the level of these fares was some 40 to 45 per cent below that of the related economy class normal fare.

### General cargo rates for small shipments

6. The curves on Graph 5-18 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.

**Route group 9 (cont.)**

7. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

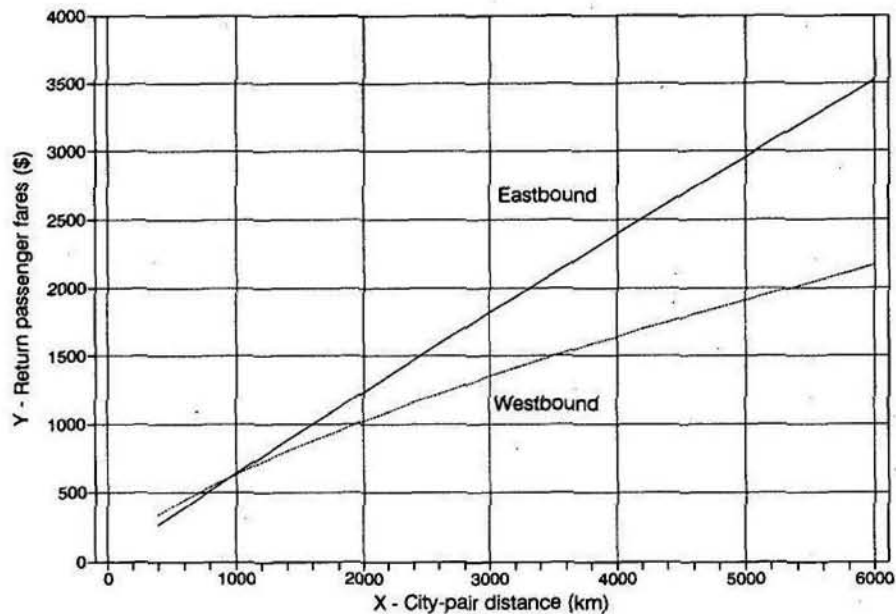
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	500	1 000	2 000	4 000	6 000
Rates in cents per tonne-km, 1992					
Average	196	185	174	164	158
Eastbound	185	193	202	211	217
Westbound	205	174	148	125	114
Percentage change (%), 1992/1991					
Average	17.7	13.6	9.6	5.8	3.6
Eastbound	22.7	21.2	19.7	18.2	17.4
Westbound	11.9	5.6	-0.4	-6.0	-9.2

8. Between September 1991 and September 1992, there was a small reduction in the directional imbalance in the rate levels between the eastbound and westbound direction of the estimated general cargo rates expressed in U.S. dollars for shipments of less than 45 kg at the shorter distances. However it increased significantly at the longer distances.

9. Between September 1991 and September 1992, there was a significant broadening in the spread of general cargo rates for small shipments (less than 45 kg) above and below the estimated average for rates in the westbound direction. Thus, in September 1992 rate levels in this direction were less dependent on distance and more dependent on other factors than those in the eastbound direction.

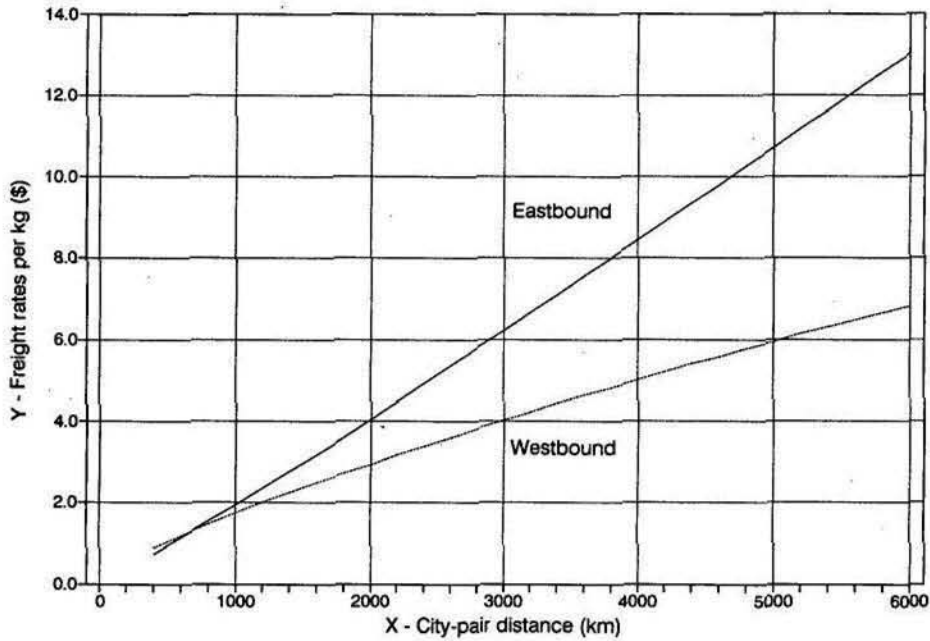
**Other cargo rates**

10. Table 5-18 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. General cargo rates with a breakpoint of 45 kg remained some 25 per cent lower than the general cargo rates for small shipments (for routes from the United Kingdom the first breakpoint was 100 kg). General cargo rates for large shipments (including breakpoints above and below 500 kg) were available for 6 of the 10 city-pairs in the sample. A large number of specific commodity rates remained available for 6 of the city-pairs in the sample. As for the previous year, where available they were at levels some 55 per cent lower on average than the general cargo rates for small shipments.

**Route group 9 (cont.)****Graph 5-17. Economy class normal passenger fares (route group 9)****Table 5-17. Range of passenger fares available (route group 9)**

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class PEX	
London — Abu Dhabi	5 510	2 704	180	115	74	79	57	53
Dubai — Brussels	5 150	2 070	144	110	-	67	-	56
Zurich — Dubai	4 770	3 242	145	112	-	73	-	-
Tehran — Paris	4 190	1 730	147	115	-	78	-	-
Jeddah — Algiers	3 840	1 330	137	110	-	68	-	-
Amsterdam — Tel Aviv	3 310	2 305	146	100	-	52-62	-	-
Cairo — Frankfurt	2 920	1 210	146	112	-	55-68	55	52
Warsaw — Damascus	2 460	966	146	110	-	66	58	-
Budapest — Beirut	2 030	1 409	133	100	-	58	54	37
Amman — Istanbul	1 210	515	129	115	-	68	-	-

Route group 9 (cont.)



Graph 5-18. General cargo rates for shipments of less than 45 kg (route group 9)

Table 5-18. Range of cargo rates available (route group 9)

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
London — Abu Dhabi <sup>1</sup>	5 510	97	9.11	—	44	65-68	6
Dubai — Brussels	5 150	52	7.59	75	17	22-37	5
Zurich — Dubai	4 767	92	9.28	78	33	40	1
Tehran — Paris	4 188	47	6.47	75	27	—	—
Kuwait — Frankfurt	4 020	48	5.19	75	35	18-33	4
Jeddah — Algiers	3 840	47	3.90	75	35	—	—
Amsterdam — Tel Aviv	3 310	91	7.80	75	—	36-100	10
Cairo — Frankfurt	2 920	43	3.08	75	—	18-54	11
Moscow — Damascus	2 510	58	12.22	75	—	—	—
Athens — Larnaca	950	42	1.20	75	—	—	—

1. The first breakpoint for general cargo rates out of the United Kingdom is 100 kg (not 45 kg).

## ROUTE GROUP 10: BETWEEN EUROPE/MIDDLE EAST AND AFRICA

### Economy class normal passenger fares

1. The curves on Graph 5-19 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km					
	500	1 000	2 000	4 000	7 000	10 000
Fares in cents per pass-km, 1992						
Average	29.6	27.3	25.3	23.4	22.0	21.1
Northbound	38.7	31.7	25.9	21.2	18.0	16.2
Southbound	22.8	23.7	24.7	25.8	26.6	27.2
Percentage change (%), 1992/1991						
Average	6.8	10.1	13.5	17.0	19.9	21.7
Northbound	30.8	27.1	23.5	20.0	17.2	15.5
Southbound	-12.5	-4.4	4.4	14.1	22.6	28.3

3. Between September 1991 and September 1992, there was an increase in the directional imbalance of fare levels between the northbound and southbound directions at the shorter and longer distances.

### Other passenger fares

4. Table 5-19 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares were widely available in this route group in September 1992. Economy class excursion fares were also widely available, with levels averaging some 30 per cent lower than the applicable economy class normal fare. For 6 city-pairs, Apex and Pex-type fares remained available at levels some 45 per cent lower than the applicable economy class normal fare.

### General cargo rates for small shipments

5. The curves on Graph 5-20 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.



**Route group 10 (cont.)**

6. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

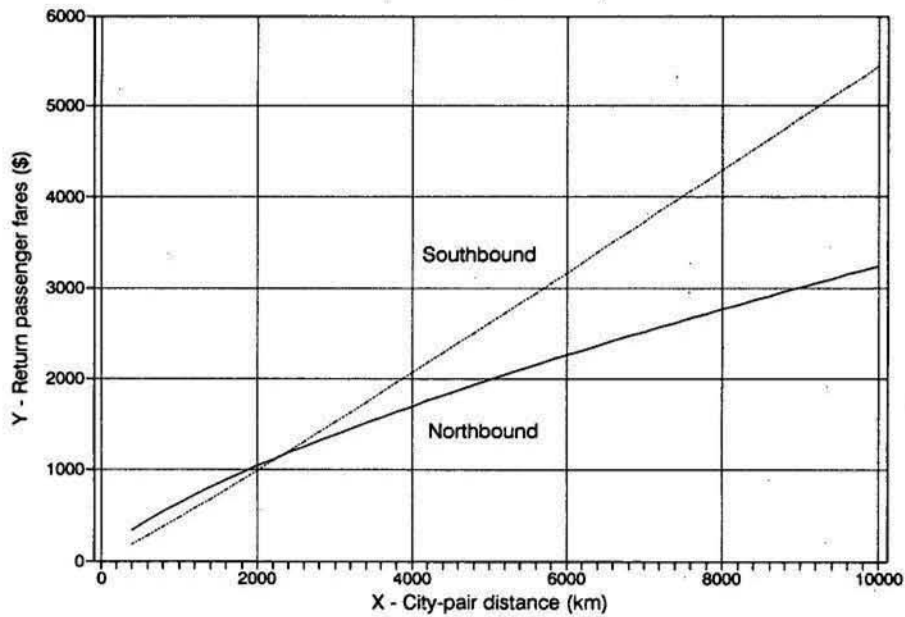
Estimated general cargo rates for shipments of less than 45 kg	Distance in km					
	500	1 000	2 000	4 000	7 000	10 000
Rates in cents per tonne-km, 1992						
Average	278	232	194	162	140	128
Northbound	403	270	181	121	88	71
Southbound	176	187	198	209	219	225
Percentage change (%), 1992/1991						
Average	14.5	14.0	13.5	13.0	12.6	12.3
Northbound	22.0	17.6	13.4	9.4	6.2	4.2
Southbound	-1.0	3.9	9.0	14.4	19.0	22.0

7. Between September 1991 and September 1992, there was a significant increase in the directional imbalance in the rate levels of the estimated general cargo rates expressed in U.S. dollars for shipments of less than 45 kg at the short and long distances.

8. Between September 1991 and September 1992, there was a significant broadening in the spread of general cargo rate levels for small shipments (less than 45 kg) above and below the estimated average for rates in both directions. Also in September 1992, rate levels in the northbound direction were significantly less dependent on distance and more dependent on other factors than rate levels in the southbound direction.

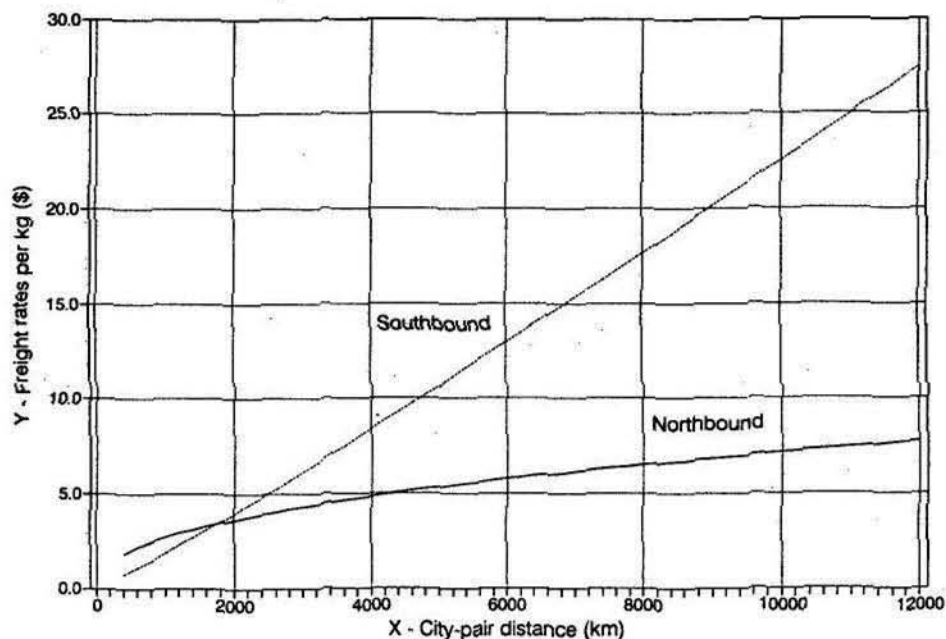
**Other cargo rates**

9. Table 5-20 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. As in previous years, the only general cargo rates for large shipments widely available were those with a breakpoint of 45 kg, at a level 25 per cent lower than the general cargo rates for small shipments (except on routes to/from points in Southern Africa where the first breakpoint is at 100 kg). A significant number of specific commodity rates remained available in this route group, giving an average reduction of around 60 per cent on the general cargo rate for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for one city-pair in the sample (London-Johannesburg).

**Route group 10 (cont.)****Graph 5-19. Economy class normal passenger fares (route group 10)****Table 5-19. Range of passenger fares available (route group 10)**

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.\$)	INDIVIDUAL FARES					Economy class APEX, PEX	GROUP FARES Economy class
			First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion			
			(as a percentage of the highest economy class normal fare)						
Moscow — Lusaka	9 600	5 750	157	115	—	68-79	—	—	
London — Johannesburg	9 070	3 782	227	131	57	67	49	—	
Harare — London	8 300	2 397	168	119	—	80-86	60	—	
Johannesburg — Tel Aviv	6 620	1 727	162	115	—	74	71	—	
Kinshasa — Brussels	6 240	2 676	145	115	—	66	55	—	
Lisbon — Luanda	5 780	2 863	145	115	—	73	—	—	
Rome — Nairobi	5 400	3 058	160	115	—	76	52	—	
Abidjan — Paris	4 900	2 655	151	115	—	75	55	—	
Cairo — Kano	3 100	964	126	116	—	65	—	53	
Addis Ababa — Jeddah	1 410	754	144	110	—	64-74	—	52	

## Route group 10 (cont.)



Graph 5-20. General cargo rates for shipments of less than 45 kg (route group 10)

Table 5-20. Range of cargo rates available (route group 10)

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
London — Johannesburg <sup>1</sup>	9 070	97	12.59	—	—	71-81	10
Harare — London <sup>1</sup>	8 300	51	4.84	—	60	32-39	2
Frankfurt — Dar-es-Salaam	6 980	103	11.91	78	42	—	—
Johannesburg — Tel Aviv <sup>1</sup>	6 620	32	3.99	—	—	—	—
Kinshasa — Brussels	6 240	60	6.76	75	—	20-57	12
Lisbon — Luanda	5 780	52	9.26	75	—	—	—
Rome — Nairobi	5 400	86	11.61	75	—	30-58	13
Abidjan — Paris	4 900	71	7.25	75	—	15-45	18
Cairo — Kano	3 100	36	3.82	—	—	13-52	6
Addis Ababa — Jeddah	1 410	39	2.97	75	—	13-47	8

1. The first breakpoint for general cargo rates is 100 kg (not 45 kg).

## ROUTE GROUP 11: NORTH ATLANTIC

### Economy class normal passenger fares

1. The curves on Graph 5-21 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	4 000	6 000	8 000	10 000	12 000
Fares in cents per pass-km, 1992					
Average	25.0	21.0	18.6	16.9	15.7
Eastbound	22.8	19.7	17.7	16.3	15.3
Westbound	27.2	22.4	19.6	17.6	16.2
Percentage change (%), 1992/1991					
Average	11.5	10.5	9.8	9.2	8.8
Eastbound	-1.0	0.3	1.3	2.1	2.8
Westbound	25.0	21.2	18.6	16.6	15.0

3. Between September 1991 and September 1992, there was a significant increase in the directional imbalance in economy class normal fares between the eastbound and westbound direction at the shorter distances.
4. When comparing fare levels by direction on the North Atlantic it should be noted that these refer to return fares. On many North Atlantic routes carriers are applying lower fares for return journeys in an attempt to discourage the practice of passengers obtaining reduced fares through the purchase of two one-way fares. In September 1992 return fares for 94 out of 273 city-pairs in the westbound direction were some 8 to 16 per cent lower than twice the corresponding one-way fare.

### Other passenger fares

5. Table 5-21 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares were widely available on the North Atlantic but were frequently very high relative to the economy class "normal" fares, in some cases reflecting the low level of the economy class restricted fare and non-availability of an economy class unrestricted fare. Economy class restricted fares remained a major feature of this route group (offered on 6 out of 10 city-pairs in the sample). Excursion fares were available on several of the sample city-pairs in this route group at levels some 40 per cent lower than the applicable highest economy class "normal" fare. Apex and/or Pex-type fares were seen to be available for almost all city-pairs at an average reduction of some 55 per cent on the applicable economy class normal fare. Group fares remained available on some routes.

### General cargo rates for small shipments

6. The curves on Graph 5-22 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances. The graph

**Route group 11 (cont.)**

shows only the variation of rates with distance in the eastbound direction as no significant relationship existed in September 1992 between rates and distances for the westbound direction or over-all (see paragraph 8 below).

7. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

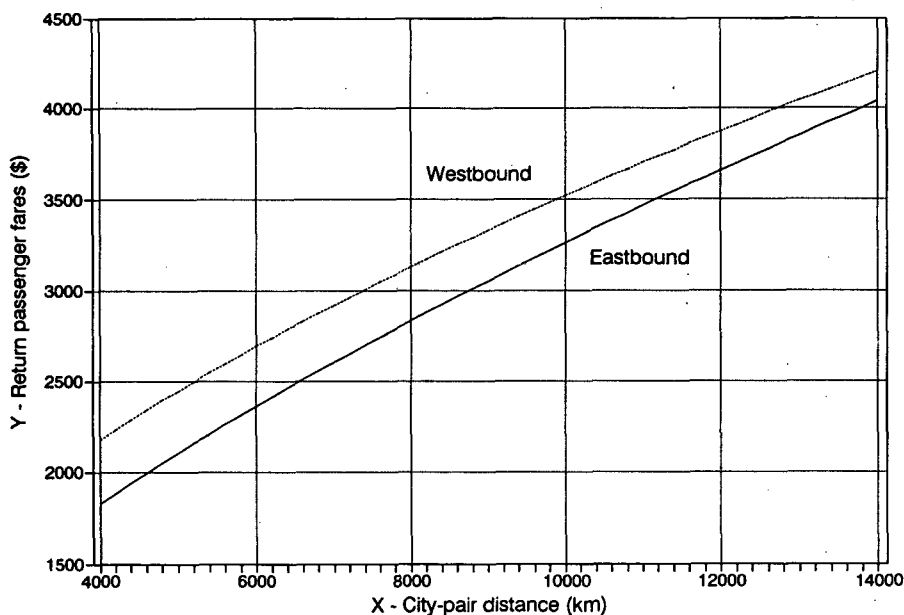
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	4 000	6 000	8 000	10 000	12 000
Rates in cents per tonne-km, 1992					
Average			[see paragraph 8]		
Eastbound	146	122	107	97	90
Westbound			[see paragraph 8]		
Percentage change (%), 1992/1991					
Average			[see paragraph 8]		
Eastbound	-5.4	-3.8	-2.6	-1.7	-1.0
Westbound			[see paragraph 8]		

8. In September 1992 there was a significant spread in the level of general cargo rates for small shipments (less than 45 kg) above and below the average rates in the westbound direction (to North America). Figures for September 1992 suggest that rates across the North Atlantic in the westbound direction are virtually independent of distance and therefore not included. This lack of relationship between rates and distance was in part influenced by the relatively lower general cargo rate levels for small shipments from Germany and Greece. In September 1992 these rates expressed in U.S. dollars were some 50 per cent lower than the estimated average rates from the other countries in Europe/Middle East/Africa for routes across the North Atlantic.

**Other cargo rates**

9. Table 5-22 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several general cargo rates for shipments of more than 45 kg exist in each case, including for most city-pairs discounts for shipments over 100 and 300 kg. Large shipments of over 500 kg benefited from reductions of between about 30 and 70 per cent, averaging some 60 per cent. Specific commodity rates were available for most of the selected city-pairs. Excluding specific commodity rates for shipments from Germany, these rates were on average some 65 per cent lower than the general cargo rates for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for 6 city-pairs in the sample.

## Route group 11 (cont.)



Graph 5-21. Economy class normal passenger fares (route group 11)

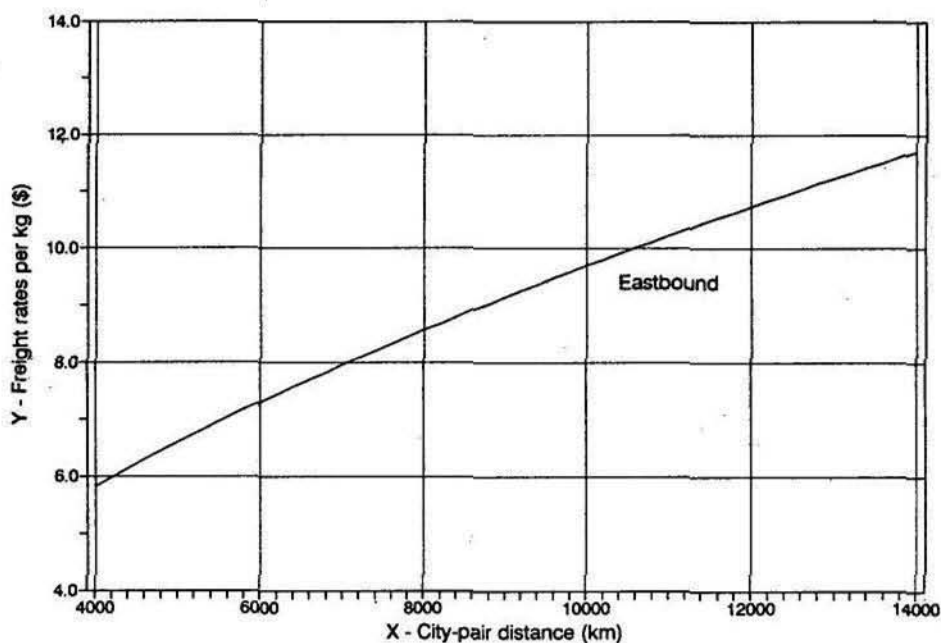
Table 5-21. Range of passenger fares available (route group 11)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES <sup>1</sup>					Economy class APEX, PEX	GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion		
Jeddah — New York	10 220	2 621	167	110	85	49-61	—	48-54
Amsterdam — Los Angeles	8 960	3 494	211	134	—	57	29-43	—
New York — Lagos	8 440	2 930	167	116	—	70	58	—
Houston — Paris	8 070	2 430	234	146	100	62	43-52	52
Frankfurt — Atlanta	7 410	3 325	191	109	100	—	33	—
Miami — Madrid	7 110	1 836	269	164	100	70	47-50	50
Chicago — Copenhagen	6 850	2 164	232	118	100	—	42-54	—
Milan — Toronto	6 610	2 941	192	114	—	55	49	—
London — New York <sup>2</sup>	6 510	2 278	328	180 <sup>3</sup>	68	43	32-47	53
Montreal — Warsaw	6 460	2 790	183	108	—	58	37-41	—

1. Where applicable, only mid-week fare levels are shown; weekend fares are somewhat higher.

2. Fares for supersonic aircraft also available.

3. Intermediate class restricted fares also available.

**Route group 11 (cont.)**

**Graph 5-22. General cargo rates for shipments of less than 45 kg (route group 11)**

**Table 5-22. Range of cargo rates available (route group 11)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Over 500 kg	Range (as a percentage of under-45 kg rate) <sup>1</sup>	Number of commodities
Jeddah — New York	10 220	61	12.70	76	46	31	1
Amsterdam — Los Angeles	8 960	91	12.35	79	37	32-40	10
New York — Lagos	8 440	65	13.80	76	53	33-56	7
Houston — Paris	8 070	70	8.87-9.89	72-79	29-35	22-32	1
Frankfurt — Atlanta	7 410	103	4.21	83	70	106	2
Miami — Madrid	7 110	60	8.76	80	32	20-34	1
Chicago — Copenhagen <sup>2</sup>	6 850	60-70	8.41	—	—	23-34	1
Milan — Toronto <sup>2</sup>	6 610	86	7.03	—	42	—	—
London — New York <sup>2</sup>	6 510	97	7.59	—	29	24-25	2
Montreal — Warsaw	6 460	63	7.11	81	35	25-79	4

1. Rates calculated as a percentage of the higher under-45 kg rate where applicable.

2. The first breakpoint for general cargo rates is 100 kg (not 45 kg).

## ROUTE GROUP 12: MID ATLANTIC

### Economy class normal passenger fares

1. The curves on Graph 5-23 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km			
	6 000	8 000	10 000	12 000
Fares in cents per pass-km, 1992				
Average		[see paragraph 3]		
Eastbound		[see paragraph 3]		
Westbound	25.5	22.6	20.5	19.0
Percentage change (%), 1992/1991				
Average		[see paragraph 3]		
Eastbound		[see paragraph 3]		
Westbound	21.2	18.6	16.6	15.0

3. Between September 1991 and September 1992, the spread in economy class normal fare levels above and below the estimated averages in the eastbound direction remained significant. Hence, in September 1992 fares in this direction were less dependent on distance and more dependent on other factors than those in the westbound direction.

### Other passenger fares

4. Table 5-23 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares were widely available in this route group. Economy class excursion fares continued to be widely available in September 1992 at an average level some 25 per cent lower than the applicable economy class normal fares. As for the previous year, Apex and Pex-type fares remained available for several city-pairs in the sample, at a level about 50 per cent lower than the applicable economy class normal fare on average.

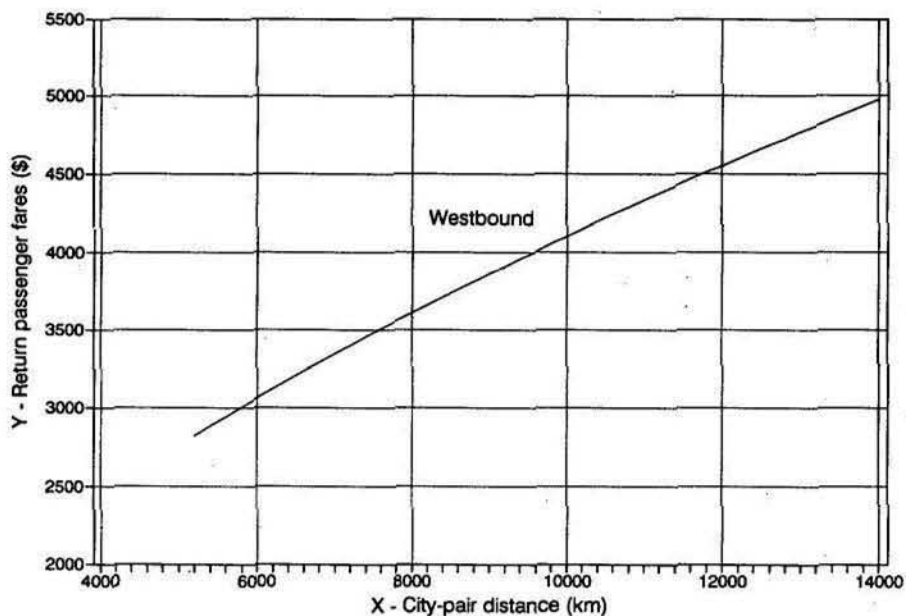
### General cargo rates for small shipments

5. In September 1992 there was a significant spread in the level of rates for small shipments (less than 45 kg) above and below the average in the eastbound and westbound directions. Rate levels in both directions were virtually independent of distance and are therefore not included. The scatter of actual rates above and below the average in the westbound direction (i.e. to the Caribbean and Latin America) was generalized and not mainly due to the relatively lower rates from Germany, although the latter remained a factor.



**Route group 12 (cont.)****Other cargo rates**

6. Table 5-24 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several general cargo rates for shipments of more than 45 kg existed in each case, including discounts for shipments over 100 and 300 kg. With the exception of shipments from Germany, shipments over 500 kg continued to benefit from reductions of some 55 to 75 per cent on the small shipment rate. Similarly, specific commodity rates were available for most city-pairs in the sample, giving as in previous years a reduction of some 70 per cent on average from the small shipment rate. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for 6 of the 10 city-pairs in the sample.

**Route group 12 (cont.)****Graph 5-23. Economy class normal passenger fares (route group 12)****Table 5-23. Range of passenger fares available (route group 12)**

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES					Economy class APEX, PEX	GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion		
			(as a percentage of the highest economy class normal fare)					
Lima — Madrid	10 030	3 086	172	109	—	66-85	61	—
Moscow — Havana	9 860	2 800	165	112	—	68	—	37-61
Amsterdam — Guayaquil	9 840	4 585	165	109	—	76	46	—
Mexico — Frankfurt	9 770	2 616	178	114	—	71	39	—
Bogota — Paris	8 660	2 394	174	112	—	65-77	—	—
Caracas — Milan	8 060	2 292	165	110	—	62-80	—	—
Frankfurt — San Juan	7 380	3 145	158	111	—	77	41	—
Port of Spain — London	7 090	2 224	188	122	72	—	41-52	—
Madrid — Santo Domingo	6 690	3 131	169	112	—	78	50-55	54
Lisbon — Recife	5 860	2 503	168	110	—	76	57	57

**Route group 12 (cont.)**

In September 1992 there was no significant relationship between rates and distance on routes across the Mid Atlantic in either direction.

**Graph 5-24. General cargo rates for shipments of less than 45 kg (route group 12)**

**Table 5-24. Range of cargo rates available (route group 12)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg	Range (as a percentage of under-45 kg rate)	Number of commodities
Lima — Madrid	10 030	51	14.66	77	36	12-33	12
Moscow — Havana	9 860	90	18.62	78	40	23-44	10
Amsterdam — Guayaquil <sup>1</sup>	9 840	91	21.26	77	24-42	28-36	9
Mexico — Frankfurt	9 770	60	9.84	84	41	13-65	15
Bogota — Paris	8 660	55	10.30	80	38	11-44	15
Caracas — Milan	8 060	60	10.30	80	27	9-27	11
Frankfurt — San Juan	7 375	103	4.72	84	74	97	2
Port of Spain — London	7 090	68	15.00	76	38	4-60	4
Madrid — Santo Domingo <sup>1</sup>	6 690	91	9.57	—	44	45-69	2
Lisbon — Recife	5 860	52	11.76	75	43	22-40	18

1. The first breakpoint for general cargo rates is 100 kg (not 45 kg).

### ROUTE GROUP 13: SOUTH ATLANTIC

#### Economy class normal passenger fares

- The curves on Graph 5-25 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
- Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	6 000	8 000	10 000	12 000	14 000
Fares in cents per pass-km, 1992					
Average	18.8	18.9	18.9	18.9	18.9
Eastbound	19.4	17.5	16.1	15.1	14.3
Westbound	18.1	20.2	22.0	23.7	25.1
Percentage change (%), 1992/1991					
Average	18.6	14.0	10.6	7.9	5.6
Eastbound	4.3	2.2	0.6	-0.7	-1.7
Westbound	34.5	26.8	21.2	16.7	13.1

- Between September 1991 and September 1992, there was a significant reduction in the directional imbalance in economy class normal fares between the eastbound and westbound directions at the shorter distances, however the directional imbalance in fare levels at the longer distances increased.

#### Other passenger fares

- Table 5-25 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, in September 1992 first and intermediate class fares were widely available in this route group. Economy class excursion fares continued to be widely available in September 1992 on average at levels some 25 per cent below the related economy class normal fare. Apex and Pex-type fares remained available for most city-pairs in the sample at levels ranging between about 35 and 60 per cent below the economy class normal fare.

#### General cargo rates for small shipments

- The curves on Graph 5-26 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.

**Route group 13 (cont.)**

6. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

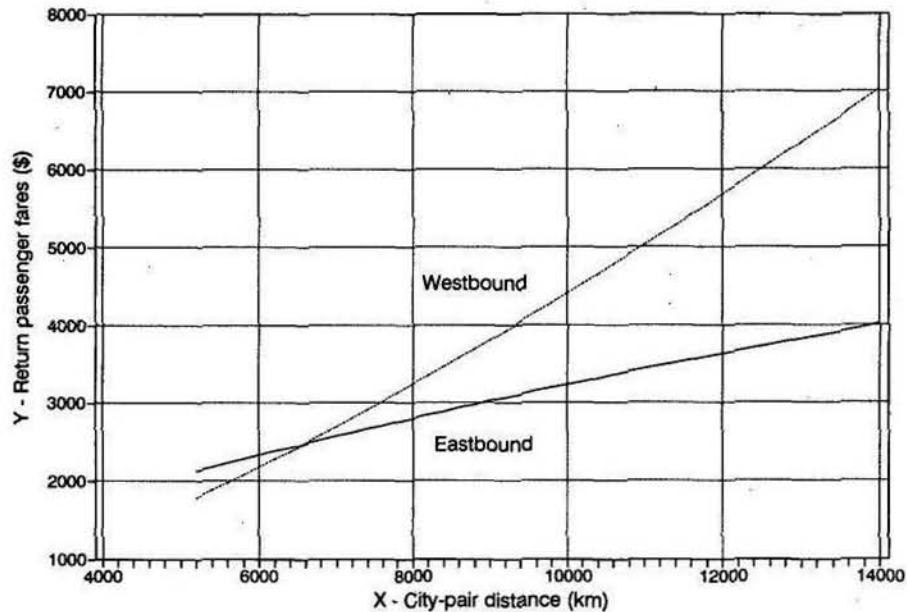
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	6 000	8 000	10 000	12 000	14 000
Rates in cents per tonne-km, 1992					
Average			[see paragraph 7]		
Eastbound	154	138	127	118	111
Westbound			[see paragraph 7]		
Percentage change (%), 1992/1991					
Average			[see paragraph 7]		
Eastbound	-1.5	-0.8	-0.2	0.3	0.7
Westbound			[see paragraph 7]		

7. Between September 1991 and September 1992, there was a significant broadening of the spread in the level of general cargo rates for small shipments (less than 45 kg) above and below the average rates in the westbound direction (to South America). Figures for September 1992 suggest that rates across the South Atlantic in the westbound direction are virtually independent of distance and therefore are not included. This apparent lack of relationship between rates and distance was notably influenced by the lower general cargo rate levels for small shipments from Italy to Chile, from South Africa and from Germany to destinations in South America, except to Brazil. In September 1992 these rates expressed in U.S. dollars were some 50 to 66 per cent lower than the estimated average rates from the other countries in Europe/Middle East/Africa for routes across the South Atlantic. Excluding the lower rates identified above, in September 1992, the level of general cargo rates for small shipments expressed in U.S. cents per tonne-kilometre in the westbound direction ranged from 198 at 6 000 km to 172 at 14 000 km.

**Other cargo rates**

8. Table 5-26 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several cargo rates for shipments of more than 45 kg exist in each case including discounts for shipments over 100 and 300 kg. With the exclusion of shipments from Germany, shipments over 500 kg continued to benefit from an average reduction of some 60 per cent on the small shipment rate. As in previous years a large number of specific commodity rates also remained available in this route group, with an average level some 70 per cent lower than the general cargo rates for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) remained available for one city-pair in the sample (London-Rio de Janeiro). The high level of the general cargo rates across the South Atlantic should thus be considered in the context of the particularly large number of lower rates available.

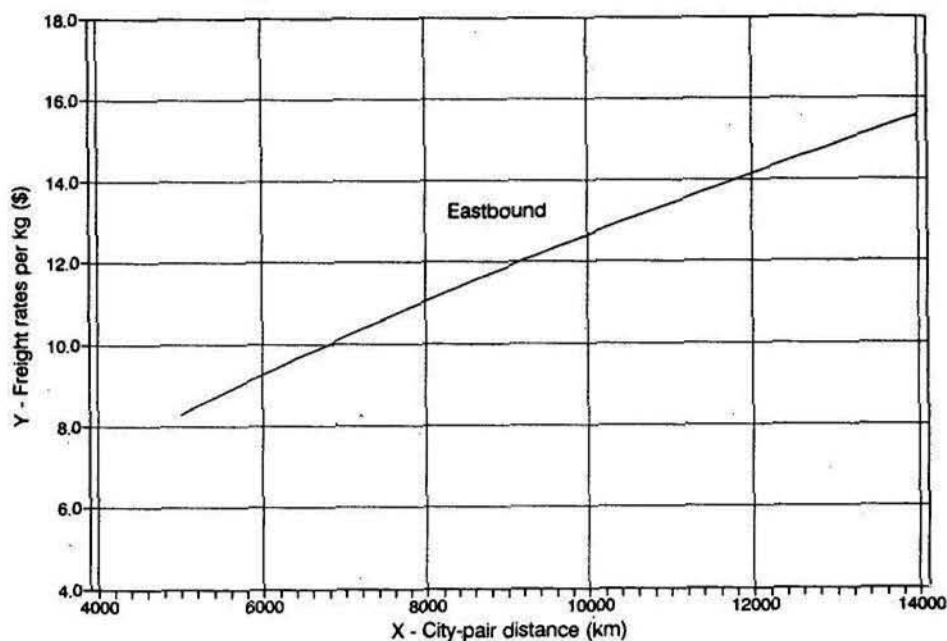
## Route group 13 (cont.)



Graph 5-25. Economy class normal passenger fares (route group 13)

Table 5-25. Range of passenger fares available (route group 13)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES					GROUP FARES	
		Highest economy class normal (U.S.\$)	First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class APEX, PEX	Economy class
		(as a percentage of the highest economy class normal fare)						
Frankfurt — Santiago de Chile	12 700	5 656	149	110	—	95	41	—
Santiago de Chile — Paris	12 320	3 675	150	112	—	76	56	—
Amsterdam — Montevideo	11 380	5 460	156	112	—	75	43	—
Buenos Aires — Rome	11 170	3 241	150	110	—	78	57	—
Copenhagen — Rio de Janeiro	10 180	5 012	166	112	—	76	35-53	—
Asuncion — Madrid	9 620	2 707	152	110	—	78	57	—
Rio de Janeiro — Casablanca	9 300	2 690	163	110	—	74	59	—
London — Rio de Janeiro	9 250	3 019	280	176	—	—	65	—
Lisbon — Sao Paulo	8 070	2 816	162	110	—	76	55	55
Rio de Janeiro — Johannesburg	7 150	2 620	143	115	—	68	—	—

**Route group 13 (cont.)**

**Graph 5-26. General cargo rates for shipments of less than 45 kg (route group 13)**

**Table 5-26. Range of cargo rates available (route group 13)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES			SPECIFIC COMMODITY RATES		
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Frankfurt — Santiago de Chile <sup>1</sup>	12 700	103	9.36	—	58	—	—
Santiago de Chile — Paris	12 320	50	14.56	75	36	14-17	8
Amsterdam — Montevideo <sup>1</sup>	11 380	91	18.53	—	27	—	—
Buenos Aires — Rome	11 170	50	13.69	75	38	13-66	21
Copenhagen — Rio de Janeiro	10 180	89	18.17	76	37	27-32	2
Montevideo — Madrid	9 970	50	12.33	76	40	17-36	10
Rio de Janeiro — Casablanca	9 300	50	10.37	75	43	22-43	15
London — Rio de Janeiro <sup>1</sup>	9 250	97	12.55	—	41	48-83	3
Lisbon — Sao Paulo	8 070	52	11.96	75	43	18-37	19
Sao Paulo — Dakar	5 310	50	8.46	78	34	19	1

1. The first breakpoint for general cargo rates is 100 kg (not 45 kg).

### ROUTE GROUP 14: LOCAL ASIA/PACIFIC

#### Economy class normal passenger fares

- The curve on Graph 5-27 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
- Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km						
	250	500	1 000	2 000	4 000	7 000	10 000
Fares in cents per pass-km, 1992	24.7	22.4	20.2	18.3	16.6	15.1	14.6
Percentage change (%), 1992/1991	1.5	1.6	1.6	1.7	1.7	1.7	1.8

#### Other passenger fares

- Table 5-27 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class fares remained widely available in September 1992. Some individual economy class special fares were also available for 8 out of 10 city-pairs in the sample. Where available, these fares ranged between about 10 and 65 per cent below the level of the applicable economy class normal fare. A few group fares were also available. Other fares, not appearing in multilateral tariff manuals, are known to be available for many city-pairs in this route group.

#### General cargo rates for small shipments

- The curve on Graph 5-28 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.
- Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

Estimated general cargo rates for shipments of less than 45 kg	Distance in km						
	250	500	1 000	2 000	4 000	7 000	10 000
Rates in cents per tonne-km, 1992	254	207	170	139	113	96	87
Percentage change (%), 1992/1991	6.5	4.7	2.9	1.2	-0.5	-1.9	-2.7

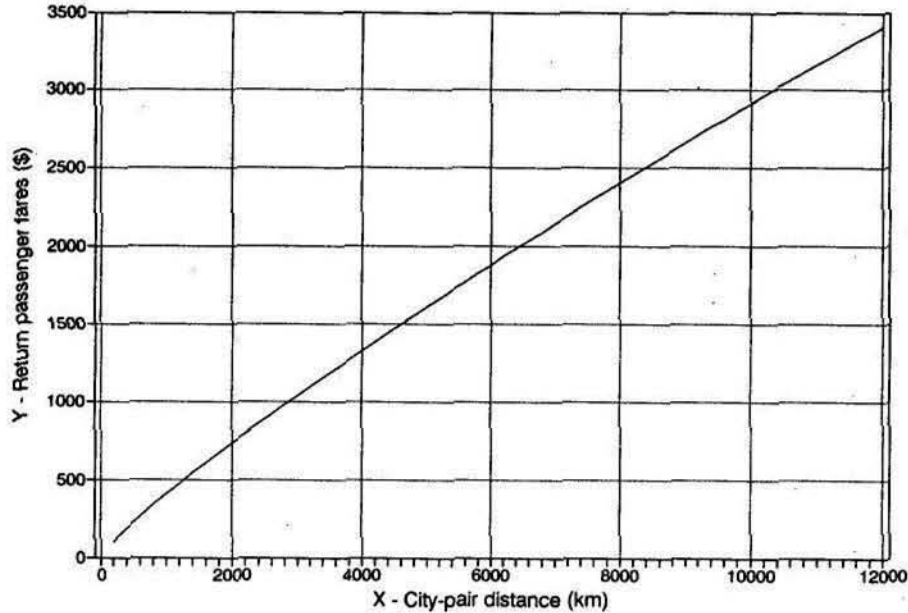


**Route group 14 (cont.)**

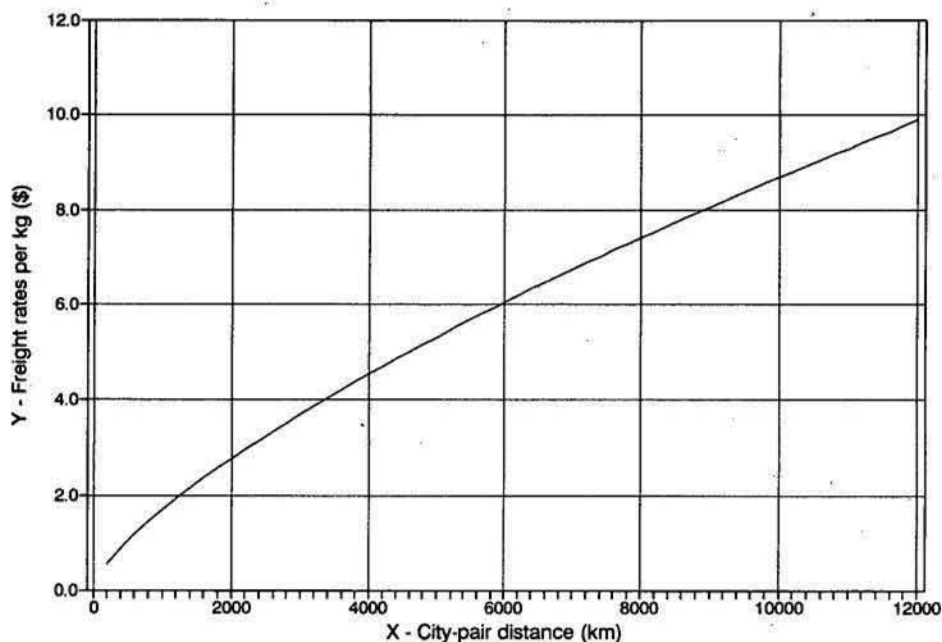
6. Between September 1991 and September 1992, there was a significant broadening in the spread of general cargo rate levels for small shipments (less than 45 kg) above and below the estimated average for rates in this route group. Hence in September 1992, rate levels for routes within Asia/Pacific were less dependent on distance and more dependent on other factors than in September 1991.

**Other cargo rates**

7. Table 5-28 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. The only general cargo rates widely available for other than small shipments remained those with a breakpoint of 45 kg. These general cargo rates for shipments of more than 45 kg were about 25 per cent lower than the rates for small shipments. Specific commodity rates were available for most city-pairs in the sample at a level some 60 per cent lower on average than the general cargo rates for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for a few city-pairs mainly within the South West Pacific area.

**Route group 14 (cont.)****Graph 5-27. Economy class normal passenger fares (route group 14)****Table 5-27. Range of passenger fares available (route group 14)**

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX, PEX	
		(as a percentage of the highest economy class normal fare)						
Auckland — Singapore	8 410	2 199	150	115	—	36-69	34-51	—
Karachi — Manila	5 720	1 204	144	115	—	55-58	—	—
Beijing — Karachi	4 860	1 683	140	110	—	—	—	—
Bangkok — Seoul	3 690	1 216	147	115	—	85	—	—
Hong Kong — Tokyo	2 940	830	136	110	—	89	—	—
Melbourne — Christchurch	2 410	871	174	136	—	60	47-81	68
Port Moresby — Brisbane	2 090	876	175	133	—	—	69	53
Sydney — Noumea	1 980	913	145	125	—	55	—	46
Kuala Lumpur — Jakarta	1 200	394	131	110	—	75	—	—
Madras — Colombo	650	105	145	130	—	—	—	—

**Route group 14 (cont.)**

**Graph 5-28. General cargo rates for shipments of less than 45 kg (route group 14)**

**Table 5-28. Range of cargo rates available (route group 14)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg	Range (as a percentage of under-45 kg rate)	Number of commodities
Auckland — Singapore	8 410	27	6.93	75	—	21-32	3
Karachi — Manila	5 720	18	3.64	75	—	17-57	4
Beijing — Karachi	4 863	16	3.97	75	—	—	—
Bangkok — Seoul	3 690	28	4.31	75	—	39-58	2
Hong Kong — Tokyo	2 940	25	2.88	75	—	55-57	4
Melbourne — Christchurch	2 410	25	3.91	75	44	23-42	3
Port Moresby — Brisbane	2 090	31	2.75	100	85	27-73	3
Sydney — Noumea	1 980	25	2.17	75	—	70	1
Kuala Lumpur — Jakarta	1 200	20	1.33	75	—	—	—
Colombo — Male	650	11	0.58	69	—	—	—

## ROUTE GROUP 15: BETWEEN EUROPE/MIDDLE EAST/AFRICA AND ASIA/PACIFIC

### Economy class normal passenger fares

1. The curves on Graph 5-29 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km					
	1 000	3 000	6 000	10 000	14 000	18 000
Fares in cents per pass-km, 1992						
Average	9.9	12.9	15.2	17.2	18.6	19.7
Eastbound	12.0	15.1	17.4	19.3	20.7	21.8
Westbound	8.2	11.0	13.3	15.2	16.7	17.9
Percentage change (%), 1992/1991						
Average	-33.6	-15.0	-0.7	11.4	20.2	27.2
Eastbound	-44.1	-19.9	0.4	18.7	32.5	43.8
Westbound	-20.1	-9.1	-1.4	4.7	8.9	12.2

3. Between September 1991 and September 1992, there was a significant decrease in the directional imbalance in the level of the estimated economy class normal fare per passenger-kilometre between the eastbound and westbound directions at the shorter distances and an increase at the longer ones.

### Other passenger fares

4. Also between September 1991 and September 1992, there was a significant reduction in the estimated average fare at the shorter distances and a significant increase at the longer ones. These changes in the average fare level were in part caused by the inclusion in the sample of 76 city-pairs including points in the ex-USSR which in previous years were considered as domestic. Fare levels for these city-pairs are some 30 to 60 per cent below the average for the rest of the fares in this route group.

5. Table 5-29 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first and intermediate class normal fares remained widely available for this route group in September 1992. Economy class excursion fares or Apex and Pex-type fares remained available for 9 city-pairs in the sample. The level of these fares ranged between 15 to 60 per cent below the related economy class normal fare. Other fares, not appearing in multilateral tariff manuals, are known to be available for some city-pairs in this route group.

### General cargo rates for small shipments

6. The curves on Graph 5-30 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.

**Route group 15 (cont.)**

7. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

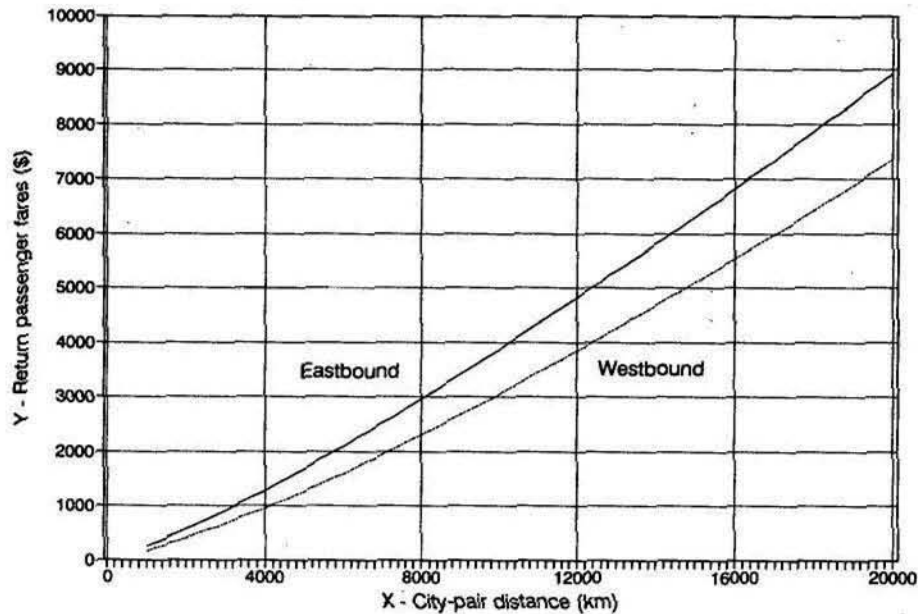
Estimated general cargo rates for shipments of less than 45 kg	Distance in km					
	1 000	3 000	6 000	10 000	14 000	18 000
<b>Rates in cents per tonne-km, 1992</b>						
Average	134	123	116	112	109	107
Eastbound	222	173	148	132	122	116
Westbound	82	88	92	95	97	99
<b>Percentage change (%), 1992/1991</b>						
Average	-7.5	-1.9	1.8	4.6	6.5	7.9
Eastbound	-8.5	-0.9	4.2	8.1	10.8	12.8
Westbound	-4.0	-1.2	0.6	1.9	2.8	3.5

8. Between September 1991 and September 1992, there was a small decrease in the directional imbalance in the level of the estimated general cargo rate for small shipments (less than 45 kg) between the eastbound and westbound direction at the shorter distances. However, at the longer distances the directional imbalance showed a small increase.

**Other cargo rates**

9. Table 5-30 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline As in previous years general cargo rates for shipments of more than 45 kg remained widely available. Discounts for large shipments (over 500 kg) were available for some city-pairs giving an average reduction of some 45 to 50 per cent with substantially lower levels in two instances. In September 1992, a number of specific commodity rates remained available in the route group at a level some 55 per cent lower on average than the general cargo rate for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for one city-pair in the sample (Sydney-Frankfurt).

## Route group 15 (cont.)



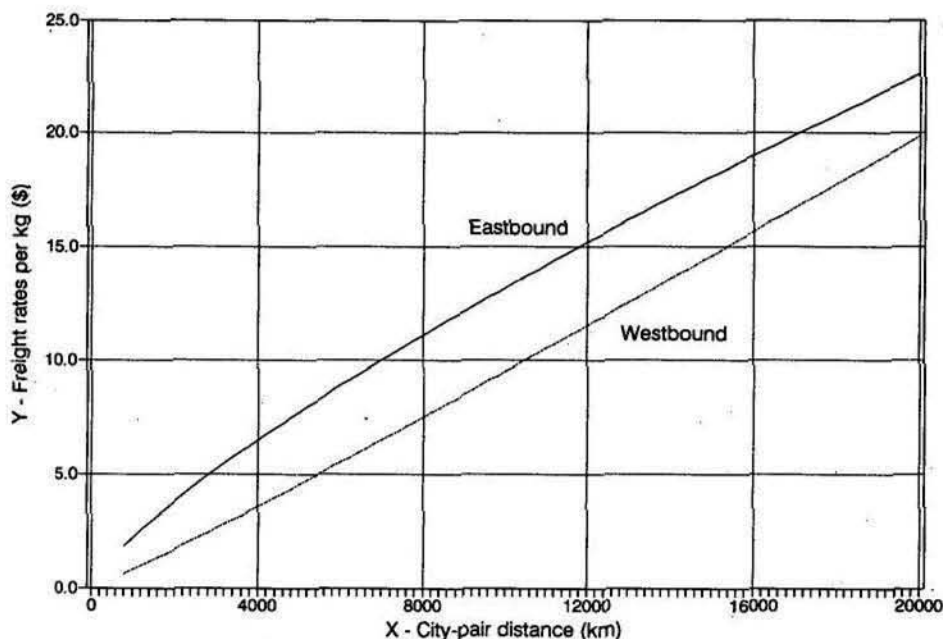
Graph 5-29. Economy class normal passenger fares (route group 15)

Table 5-29. Range of passenger fares available (route group 15)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES						GROUP FARES Economy class
		Highest economy class normal (U.S.\$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX, PEX	
		(as a percentage of the highest economy class normal fare)						
Sydney — Frankfurt	16 510	4 382	154	115	—	44-52	—	—
Zurich — Seoul	12 340	5 041	173	112	—	53	46	—
Jakarta — Rome	11 630	3 240	162	110	—	57	—	—
London — Tokyo	9 590	5 075	186	114	52	52	43	—
Perth — Harare	8 500	3 631	154 <sup>1</sup>	118 <sup>2</sup>	86	—	42-49	53
Bahrain — Manila	7 560	2 314	150	110-112	—	71	—	—
Bombay — Moscow	5 500	1 101	139	115	—	63	—	47-65
Nairobi — Bombay	4 530	624	151	110	—	78-83	—	63
Dhaka — Dubai	3 540	968	132	110	—	—	—	69
Dhahran — Karachi	1 710	707	142 <sup>1</sup>	110	—	71	—	62

1. First class excursion fares also available.

2. Intermediate class excursion fares also available.

**Route group 15 (cont.)**

**Graph 5-30. General cargo rates for shipments of less than 45 kg (route group 15)**

**Table 5-30. Range of cargo rates available (route group 15)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Sydney — Frankfurt	16 510	40	9.24	75	24	21-94	3
Zurich — Seoul	12 340	92	17.14	71	28	—	—
Jakarta — Rome	11 630	64	10.29	80	—	35-58	11
London — Tokyo <sup>1</sup>	9 590	97	15.64	—	54	30-57	9
Perth — Harare <sup>1</sup>	8 500	40	6.33	—	50	26-36	1
Bahrain — Manila	7 560	59	14.57	75	—	—	—
Nairobi — Bombay	5 500	27	3.42	75	—	50	1
Bombay — Moscow <sup>1</sup>	4 530	19	3.22	—	50	42-68	5
Dhaka — Abu Dhabi	3 540	18	3.53	75	50	—	—
Dhahran — Karachi	1 710	37	2.90	75	—	39-54	2

1. The first breakpoint for general cargo rates is 100 kg (not 45 kg).

## ROUTE GROUP 16: NORTH AND MID PACIFIC

### Economy class normal passenger fares

1. The curve on Graph 5-31 has been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre for which a relationship with distance exist are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	6 000	8 000	10 000	14 000	18 000
<b>Fares in cents per pass-km, 1992</b>					
Average	14.8	13.0	11.8	10.2	9.1
Eastbound	15.6	13.6	12.2	10.3	9.1
Westbound	13.9	12.4	11.4	10.0	9.1
<b>Percentage change (%), 1992/1991</b>					
Average	4.8	4.6	4.5	4.4	4.3
Eastbound	5.8	6.4	6.8	7.4	7.8
Westbound	3.8	3.0	2.3	1.4	0.6

3. The major cause for the spread in the level of fares expressed in U.S. dollars above and below the average in the eastbound direction (from Asia) was the high fare levels from Japan which continued to remain well above the estimated average. In September 1992, economy class normal fares from Japan across the North-Mid Pacific were represented by 35 of the 98 city-pairs in the eastbound direction. In U.S. dollar terms these fares were on average between 50 and 60 per cent higher than the estimated average fares from other Asian countries across the North-Mid Pacific.

### Other passenger fares

4. Table 5-31 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first class normal fares are relatively high in comparison with economy class normal fares on the North-Mid Pacific routes. On the other hand, intermediate class normal as well as some restricted fares were available for most city-pairs in the sample. Economy class restricted fares remained available for most city-pairs in the sample in September 1992. For some of these city-pairs, the economy class restricted fares were at the level of the highest economy class normal fare whereas for others they ranged on average some 2 to 17 per cent below the economy class normal fare. Economy class excursion fares were offered on 5 of the 10 city-pairs in the sample, at average levels some 30 per cent below the economy class normal fare. The relatively commonly available Apex and Pex-type fares on average offered reductions of around 35 per cent of the related economy class normal fare. Between September 1991 and September 1992 there was a significant increase in the number of city-pairs where group fares were available. In September 1992 group fares were available for only 6 of the 10 city-pairs in the sample compared with 2 city-pairs in September 1991. Where available, group fares were some 20 to 55 per cent below the applicable economy class normal fare. "Circle fares" were also available for a few city-pairs in the sample. These are published fares which allow for travel by a continuous circuitous air route which may include points in the South Pacific.



**Route group 16 (cont.)****General cargo rates for small shipments**

5. The curve on Graph 5-32 has been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances. The graph shows only the variation of rates with distance in the westbound direction as no significant relationship existed in September 1992 between rates and distance for the eastbound direction (see paragraph 7 below).

6. Estimated small shipment general cargo rate levels per tonne-kilometre for which a relationship with distance exists are shown in the following table:

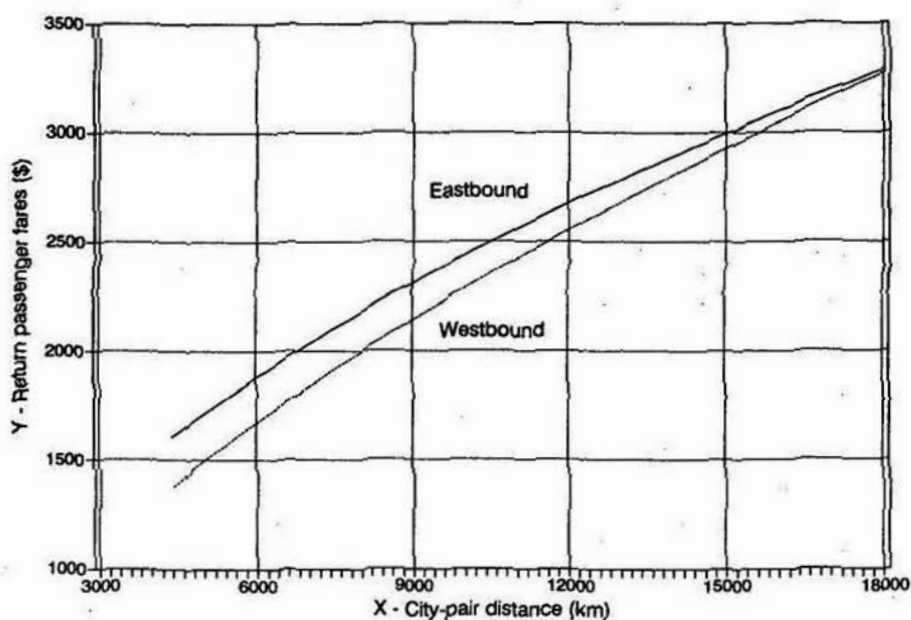
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	6 000	8 000	10 000	14 000	18 000
Rates in cents per tonne-km, 1992					
Average			[see paragraph 7]		
Eastbound			[see paragraph 7]		
Westbound	110	96	86	73	65
Percentage change (%), 1992/1991					
Average			[see paragraph 7]		
Eastbound			[see paragraph 7]		
Westbound	-5.5	-1.6	1.6	6.5	10.4

7. As in previous years in September 1992 cargo rates from Asia across the North-Mid Pacific remained virtually independent of distance. The scatter of actual rates above and below the average from Asia is generalized and not mainly due to relatively high rates from Japan, although the latter remained a factor.

**Other cargo rates**

8. Table 5-32 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several general cargo rates for shipments of more than 45 kg existed in each case (including breakpoints at 100 and 300 kg for all city-pairs in the sample) with an average reduction of some 50 per cent for large shipments (over 500 kg). In September 1992, specific commodity rates were available for almost all the city-pairs in the sample with an average reduction of some 60 per cent on the applicable general cargo rate for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for 6 out of 10 city-pairs in the sample.

## Route group 16 (cont.)



Graph 5-31. Economy class normal passenger fares (route group 16)

Table 5-31. Range of passenger fares available (route group 16)

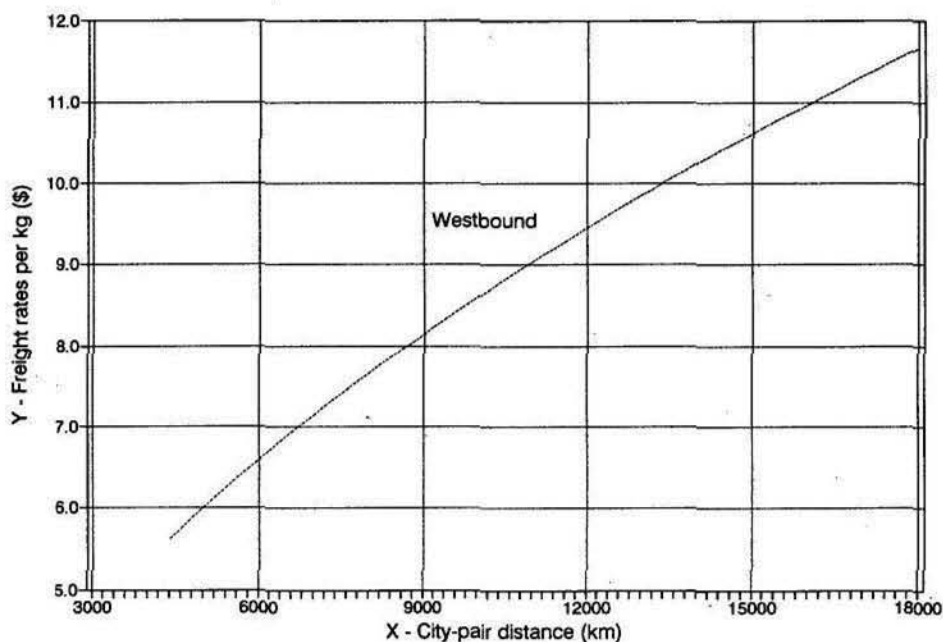
City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.\$)	INDIVIDUAL FARES <sup>1</sup>					Economy class APEX, PEX <sup>2</sup>	GROUP FARES Economy class
			First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	(as a percentage of the highest economy class normal fare)		
Lima — Tokyo	15 470	3 318	185	102	88-100	—	59	—	
Kuala Lumpur — Los Angeles	14 140	2 568	161	110 <sup>3</sup>	—	82	49	70-76	
Singapore — San Francisco	13 680	3 340	154	108 <sup>3</sup>	98-100	53-87	53-56	53-80	
Los Angeles — Manila	12 380	1 624	266	147 <sup>3</sup>	—	—	53-87	—	
Tokyo — Mexico	11 450	3 097	200	—	100	—	66	66	
San Francisco — Hong Kong	11 110	2 020	206	119 <sup>3</sup>	94-97	63-69	45-74	47-72	
Hong Kong — Vancouver	10 250	2 128	209	115	100	78	72-77	65-72	
Seattle — Beijing	9 790	2 380	186	118 <sup>3</sup>	91	—	68-77	—	
Seoul — Seattle	8 350	1 704	190	111 <sup>3</sup>	83-100	50-72	—	50	
Honolulu — Tokyo	6 130	1 400	259	137	100	—	59	—	

1. Where applicable, only mid-week fare levels are shown; weekend fares are somewhat higher.

2. "Budget" and "Super PEX" fares also included.

3. Intermediate class restricted fares also available.

## Route group 16 (cont.)



Graph 5-32. General cargo rates for shipments of less than 45 kg (route group 16)

Table 5-32. Range of cargo rates available (route group 16)

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Over 500 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Range (as a percentage of under-45 kg rate) <sup>1</sup>	Number of commodities
Lima — Tokyo	15 470	60	12.19	76	49	27-35	9
Kuala Lumpur — Los Angeles	14 140	44	7.22	76	55	34-72	6
Singapore — San Francisco	13 680	65-66	10.97-11.74	71-76	50-54	35-70	5
Los Angeles — Manila	12 627	55	7.82	77	—	37	1
Tokyo — Mexico	11 450	79	18.36	76	50	50	2
San Francisco — Hong Kong	11 110	55	8.27	77	—	29-35	2
Hong Kong — Vancouver	10 250	61	11.01	76	47	35-63	11
Los Angeles — Osaka	9 760	55	8.19	76	49	30-42	11
Seoul — Seattle	8 350	45	4.66	79	68	—	—
Honolulu — Tokyo	6 130	55	6.77	77	50	29-38	3

1. Rates calculated as a percentage of the under-45 kg rate where applicable.

## ROUTE GROUP 17: SOUTH PACIFIC

### Economy class normal passenger fares

1. The curves on Graph 5-33 have been statistically computed so as to reflect best the way in which the economy class normal passenger fares vary with distance for city-pairs within this route group.
2. Estimated economy class normal fare levels per passenger-kilometre are shown in the following table:

Estimated economy class normal fares per passenger-kilometre	Distance in km				
	4 000	6 000	8 000	12 000	16 000
<b>Fares in cents per pass-km, 1992</b>					
Average	19.3	18.1	17.3	16.2	15.5
Eastbound	19.6	18.1	17.0	15.7	14.8
Westbound	18.9	18.1	17.6	16.9	16.4
<b>Percentage change (%), 1992/1991</b>					
Average	-0.3	-2.5	-4.1	-6.2	-7.7
Eastbound	7.7	-0.3	-5.6	-12.5	-17.2
Westbound	-9.5	-5.5	-2.6	1.6	4.8

3. Between September 1991 and September 1992, there was a significant increase in the spread of economy class normal fares above and below the estimated average in the eastbound direction. Hence in September 1992 fare levels in this direction were less dependent on distance and more dependent on other factors than in September 1991.

### Other passenger fares

4. Table 5-33 shows for September 1992 for a sample of 10 city-pairs in the route group the range of fares available as appearing in multilateral airline guides. As illustrated by the sample, first class normal fares are relatively high in comparison with economy class normal fares on South Pacific routes. On the other hand, intermediate class normal fares were available for all the city-pairs in the sample whereas first and/or intermediate class restricted fares were available on 9 of the city-pairs in the sample. Economy class restricted fares were also widely available in this route group. In general they were at a level ranging some 10 to 30 per cent lower than the applicable economy class normal fare. Economy class excursion fares, in most cases at a level of more than 50 per cent below the economy class normal fare, were widely available. Apex-type fares were very common, ranging from 40 to 75 per cent below the applicable economy class normal fares. In September 1992, one-way Apex fares were available, generally at a higher level than the excursion fares (special fares are generally only available for round trips). Several "circle fares" were also available in September 1992. These are published fares which allow for travel by a continuous circuitous air route which may include points in the North-Mid Pacific.

### General cargo rates for small shipments

5. The curves on Graph 5-34 have been statistically computed so as to reflect best the average level of general cargo rates for shipments of less than 45 kg for this route group at different distances.

**Route group 17 (cont.)**

6. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

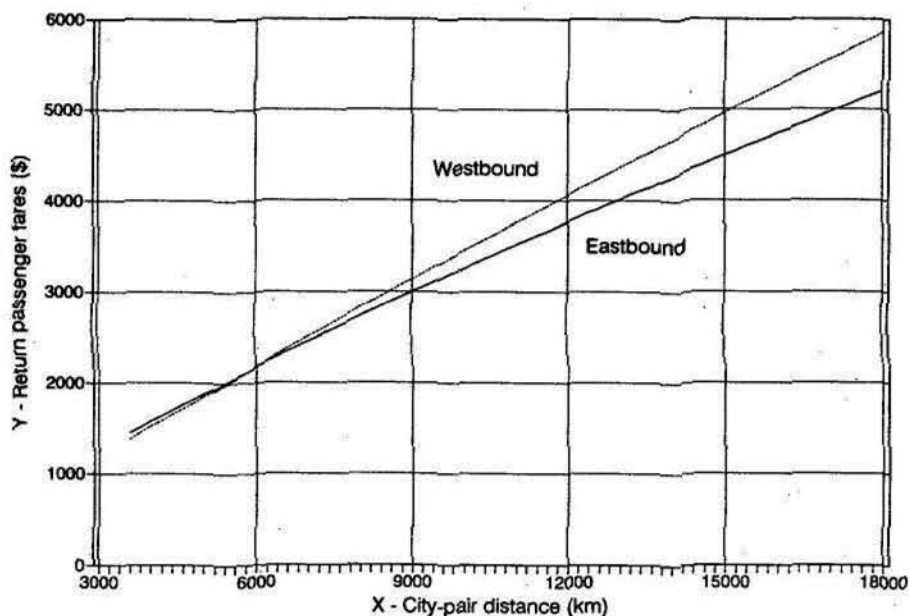
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	4 000	6 000	8 000	12 000	16 000
<b>Rates in cents per tonne-km, 1992</b>					
Average	141	119	105	89	79
Eastbound	128	108	96	81	72
Westbound	163	133	116	95	82
<b>Percentage change (%), 1992/1991</b>					
Average	-0.9	-3.9	-6.0	-8.9	-10.9
Eastbound	-7.0	-10.3	-12.7	-15.8	-18.0
Westbound	9.6	4.3	0.7	-4.1	-7.4

7. Between September 1991 and September 1992, there was a significant increase in the spread of rates for small shipments above and below the average in both directions. Thus in September 1992 these rates were more dependent on distance and less dependent on other factors than in September 1991. In September 1992 rates in the eastbound direction were significantly less dependent on distance and more dependent on other factors than those in the westbound direction.

**Other cargo rates**

8. Table 5-34 shows for September 1992 for a sample of 10 city-pairs in the route group the range of cargo rates available as appearing in multilateral airline guides. Several general cargo rates for shipments of more than 45 kg were often available (including breakpoints at 100 and 300 kg for most city-pairs in the sample). As for previous years, reductions of about 35 per cent on average were available for large shipments (over 500 kg) with a substantially lower level in one instance in the sample. Specific commodity rates were also fairly common in this route group, with an average reduction of some 65 per cent on the applicable general cargo rates for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) were available for 6 out of 10 city-pairs in the sample.

## Route group 17 (cont.)



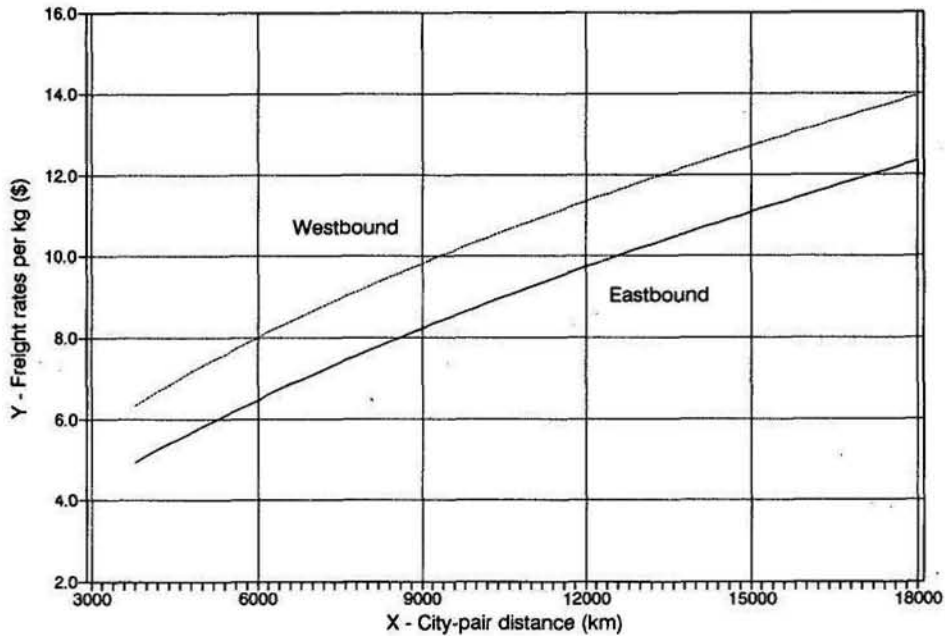
Graph 5-33. Economy class normal passenger fares (route group 17)

Table 5-33. Range of passenger fares available (route group 17)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.\$)	INDIVIDUAL FARES					GROUP FARES Economy class
			First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	
			(as a percentage of the highest economy class normal fare)					
Sydney — New York	18 930	4 542	179	125	86	40	50	—
Los Angeles — Melbourne	12 770	4 154	209	135	72	48	34-59	—
Buenos Aires — Sydney	12 580	3 212	168	120	—	61	—	—
Auckland — Los Angeles <sup>1</sup>	10 490	3 428	191	124	83	—	28-42	—
Los Angeles — Nadi	9 200	3 194	205	130	76	42	28-59	—
Rarotonga — Los Angeles	8 840	2 769	194	126	84	—	37-51	—
Melbourne — Honolulu	8 870	3 405	188	126	—	36	24-56	—
Honolulu — Auckland	7 090	2 760	219	136	90	52-62	27-67	—
Los Angeles — Papeete	6 610	2 376	213	127	100	48	29-39	—
Nadi — Honolulu	5 110	1 936	172	137	72	37	52	—

1. First and intermediate class restricted fares not available in September 1991.

**Route group 17 (cont.)**



**Graph 5-34. General cargo rates for shipments of less than 45 kg (route group 17)**

**Table 5-34. Range of cargo rates available (route group 17)**

City-pair (originating city first)	Flight distance (km)	GENERAL CARGO RATES				SPECIFIC COMMODITY RATES	
		Minimum charge (U.S.\$)	Under 45 kg (U.S.\$/kg)	Over 45 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Over 500 kg (as a percentage of under-45 kg rate) <sup>1</sup>	Range (as a percentage of under-45 kg rate) <sup>1</sup>	Number of commodities
Chicago — Sydney	14 860	83	14.09	79	62	—	—
Los Angeles — Melbourne	12 770	66	3.10	80	63	—	—
Buenos Aires — Sydney	12 580	80	13.28-18.56	59-79	42-59	22-67	2
Auckland — Los Angeles	10 490	43	9.40	40	20	21-41	3
Los Angeles — Nadi	9 200	66	9.11	76	67	36	1
Melbourne — Honolulu	8 870	36	7.81	64	—	31	1
Rarotonga — Los Angeles	8 840	43	5.16	75	67	29-39	3
Honolulu — Auckland	7 090	66	6.98	78	75	46	1
Los Angeles — Papeete	6 610	66	9.95	76	68	19-72	10
Papeete — Honolulu	4 420	67	10.75	77	73	29	3

1. Rates calculated as a percentage of the higher under-45 kg rate where applicable.

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# Appendix 1

## DESCRIPTION OF ROUTE GROUPS

Route group	Description
1	<i>Between North America and Central America/Caribbean.</i> Includes routes between on the one hand Canada and/or the United States (including Alaska and Hawaii) and on the other hand Central America and the Caribbean. Routes between the United States and Puerto Rico/Virgin Islands are considered domestic and are excluded. Central America/ Caribbean is defined as the geographical area covered by route group 2 but excluding Mexico.
2	<i>Between and within Central America and the Caribbean.</i> Includes routes between or among the Bahamas, Belize, Bermuda, Costa Rica, El Salvador, Guatemala, Honduras, the islands of the Caribbean Sea (including Puerto Rico and the Virgin Islands), Mexico, Nicaragua and Panama.
3	<i>Between Canada, Mexico and the United States.</i> Includes routes between or among the above States. The United States includes Alaska and Hawaii but excludes Puerto Rico and the Virgin Islands.
4	<i>Between North America/Central America/Caribbean and South America.</i> 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	<i>Local South America.</i> Includes routes between or among the following States: Argentina, Bolivia, Brazil, Chile, Colombia (including San Andres Island), Ecuador, Falkland Islands (Malvinas), French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela.
6	<i>Local Europe.</i> Includes routes between or among the States of geographical Europe, Algeria, Azores, Canary Islands, Greenland, Iceland, Madeira, Malta, Morocco, Tunisia and Turkey.
7	<i>Local Middle East.</i> Includes routes between or among the following States: Bahrain, Cyprus, Egypt, Islamic Republic of Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates and Yemen.
8	<i>Local Africa.</i> Includes routes between or among the States of continental Africa and offshore islands, but excluding Algeria, Azores, Canary Islands, Egypt, Madeira, Malta, Morocco, Sudan and Tunisia.
9	<i>Between Europe and Middle East.</i> Includes routes between the two geographical areas defined by route group 6 ("local Europe") and route group 7 ("local Middle East") respectively.
10	<i>Between Europe/Middle East and Africa.</i> 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").

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Route group	Description
11	<i>North Atlantic.</i> Includes routes between on the one hand Canada and/or the United States (including Alaska and Hawaii) and on the other hand the geographical areas defined by IATA Tariff Conference 2 ("local Europe" and/or "local Middle East" and/or "local Africa").
12	<i>Mid Atlantic.</i> Includes routes between on the one hand gateway points in the geographical areas defined by route group 2 and/or route group 5 ("local South America") but north of Rio de Janeiro and on the other hand the geographical areas defined by IATA Tariff Conference 2 ("local Europe" and/or "local Middle East" and/or "local Africa").
13	<i>South Atlantic.</i> Includes routes between on the one hand Rio de Janeiro or any other gateway south thereof in route group 5 ("local South America") and on the other hand the geographical areas defined by IATA Tariff Conference 2 ("local Europe" and/or "local Middle East" and/or "local Africa").
14	<i>Local Asia/Pacific.</i> Includes IATA Tariff Conference 3, that is international routes within Asia to the east of the Islamic Republic of Iran and of the Ural Mountains, Australia, New Zealand, Papua New Guinea, the islands of the Pacific Ocean excluding the Hawaiian Islands, Midway and Palmyra.
15	<i>Between Europe/Middle East/Africa and Asia/Pacific.</i> Includes routes between the geographical areas defined by IATA Tariff Conference 2 on the one hand and that defined by IATA Tariff Conference 3 on the other hand.
16	<i>North and Mid Pacific.</i> Includes routes via the North and Mid Pacific Ocean between on the one hand points in the Americas (i.e. IATA Tariff Conference 1) and on the other hand Asia and/or the islands adjacent thereto (i.e. IATA Tariff Conference 3 except Australia, New Zealand, Papua New Guinea and the islands of the South Pacific).
17	<i>South Pacific.</i> Includes routes via the South Pacific Ocean between on the one hand points in the Americas (i.e. IATA Tariff Conference 1) and on the other hand Australia, New Zealand, Papua New Guinea and the islands of the South Pacific.

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## Appendix 2

### CURRENCY CONVERSION RATES

Country or area	Local selling currency in September 1992	ISO code	Currency units per U.S. dollar <sup>1</sup>	
			1992	1991
Afghanistan <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Albania <sup>2</sup>	U.S. Dollar	USD	1.00	5.99 <sup>3</sup>
Algeria	Algerian Dinar	DZD	20.93	18.11
Angola <sup>4</sup>	New Kwanza	AON	546.53	62.21
Anguilla <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Antigua and Barbuda <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Argentina <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Armenia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Aruba	Aruban Guilder	AWG	1.79	1.79
Australia	Australian Dollar	AUD	1.38	1.28
Austria	Schilling	ATS	10.27	12.51
Azerbaijan <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Bahamas <sup>4</sup>	Bahamian Dollar	BSD	1.00	1.00
Bahrain	Bahraini Dinar	BHD	0.38	0.38
Bangladesh <sup>4</sup>	Taka	BDT	39.00	36.57
Barbados <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Belarus <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Belgium	Belgian Franc	BEF	30.05	36.61
Belize <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Benin	CFA Franc	XOF	247.69	303.06
Bermuda <sup>4</sup>	Bermudian Dollar	BMD	1.00	1.00
Bhutan	Ngutrum	BTN	30.21	25.92
Bolivia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Botswana	Pula	BWP	2.07	2.08
Brazil <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
British Virgin Islands <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Brunei Darussalam	Brunei Dollar	BND	1.61	1.73
Bulgaria <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Burkina Faso	CFA Franc	XOF	247.69	303.06
Burundi	Burundi Franc	BIF	187.95	195.37
Cambodia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Cameroon	CFA Franc	XAF	247.69	303.06
Canada	Canadian Dollar	CAD	1.20	1.14
Cape Verde <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Cayman Islands <sup>4</sup>	Cayman Islands Dollar	KYD	0.85	0.83
Central African Republic	CFA Franc	XAF	247.69	303.06
Chad	CFA Franc	XAF	247.69	303.06
Chile <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
China	Renminbi	CNY	5.46	5.46
Colombia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Comoros	Comoro Franc	KMF	247.69	303.06
Congo	CFA Franc	XAF	247.69	303.06
Cook Islands	New Zealand Dollar	NZD	1.86	1.75

Country or area	Local selling currency in September 1992	ISO code	Currency units per U.S. dollar <sup>1</sup>	
			1992	1991
Costa Rica <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Côte d'Ivoire	CFA Franc	XOF	247.69	303.06
Croatia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Cuba	Cuban Peso	CUP	0.76	0.83
Cyprus	Cypriot Pound	CYP	0.42	0.48
Czechoslovakia	Koruna	CSK	27.30	30.42
Democratic People's Republic of Korea	North Korean Won	KPW	2.22	2.20
Denmark	Danish Krone	DKK	5.64	6.85
Djibouti	Djibouti Franc	DJF	176.53	173.97
Dominica <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Dominican Republic <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Ecuador <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Egypt	Egyptian Pound	EGP	3.29	3.31
El Salvador <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Equatorial Guinea	CFA Franc	XAF	247.69	303.06
Estonia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Ethiopia	Ethiopian Birr	ETB	2.07	2.07
Federated States of Micronesia	U.S. Dollar	USD	1.00	1.00
Fiji	Fijian Dollar	FJD	1.49	1.49
Finland	Markka	FIM	4.00	4.31
France	French Franc	FRF	4.95	6.06
French Polynesia	CFP Franc	XPF	90.07	110.20
French Antilles	French Franc	FRF	4.95	6.06
Gabon	CFA Franc	XAF	247.69	303.06
Gambia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Georgia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Germany	Deutsche Mark	DEM	1.46	1.77
Ghana <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Greece	Drachma	GRD	180.58	195.00
Grenada <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Guatemala <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Guinea <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Guinea-Bissau <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Guyana <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Haiti <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Honduras <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Hong Kong	Hong Kong Dollar	HKD	7.73	7.76
Hungary	Forint	HUF	79.39	78.43
Iceland <sup>5</sup>	Icelandic Krona	ISK	54.12	62.08
India	Indian Rupee	INR	30.21	25.92
Indonesia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Iran, Islamic Republic of	Iranian Rial	IRR	600.00	600.00
Iraq	Iraqi Dinar	IQD	0.32	0.32
Ireland	Irish Pound	IEP	0.55	0.66
Israel <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Italy	Italian Lira	ITL	1 108.99	1 326.01

Country or area	Local selling currency in September 1992	ISO code	Currency units per U.S. dollar <sup>1</sup>	
			1992	1991
Jamaica <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Japan	Yen	JPY	126.36	137.44
Jordan	Jordanian Dinar	JOD	0.67	0.69
Kazakhstan <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Kenya <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Kiribati	Australian Dollar	AUD	1.38	1.28
Kuwait	Kuwaiti Dinar	KWD	0.29	0.29
Kyrgyzstan <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Lao People's Democratic Republic <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Latvia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Lebanon <sup>4</sup>	Lebanese Pound	LBP	2 399.85	892.50
Lesotho	Loti	LSL	2.77	2.89
Liberia <sup>4</sup>	Liberian Dollar	LRD	1.00	1.00
Libyan Arab Jamahiriya	Libyan Dinar	LYD	0.26	0.29
Lithuania <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Luxembourg	Luxembourg Franc	LUF	30.05	36.61
Madagascar	Malagasy Franc	MGF	1788.31	1965.24
Malawi	Kwacha	MWK	3.92	2.88
Malaysia	Malaysian Ringgit	MYR	2.50	2.78
Maldives <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Mali	CFA Franc	XOF	247.69	303.06
Malta	Maltese Lira	MTL	0.30	0.34
Mauritania	Ouguiya	MRO	78.28	85.59
Mauritius	Mauritius Rupee	MUR	14.74	16.36
Mexico <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Moldova, Republic of <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Monaco	French Franc	FRF	4.95	6.06
Mongolia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Montserrat <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Morocco	Moroccan Dirham	MAD	8.07	9.13
Mozambique	Metical	MZM	2 796.39	1 480.58
Myanmar	Kyat	MMK	5.86	6.41
Namibia, Rep. of	Rand	ZAR	2.77	2.89
Nauru	Australian Dollar	AUD	1.38	1.28
Nepal <sup>4</sup>	Nepalese Rupee	NPR	42.70	42.78
Netherlands Antilles	Netherlands Antillean Guilder	ANG	1.79	1.79
Netherlands, Kingdom of the	Guilder	NLG	1.65	1.99
New Zealand	New Zealand Dollar	NZD	1.86	1.75
Nicaragua <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Niger	CFA Franc	XOF	247.69	303.06
Nigeria	Naira	NGN	18.62	11.41
Norway	Norwegian Krone	NOK	5.76	6.91
Oman	Rial Omani	OMR	0.38	0.38
Pakistan	Pakistan Rupee	PKR	25.19	24.17
Panama <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Papua New Guinea	Kina	PGK	0.97	0.95
Paraguay <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Peru <sup>2</sup>	U.S. Dollar	USD	1.00	1.00

Country or area	Local selling currency in September 1992	ISO code	Currency units per U.S. dollar <sup>1</sup>	
			1992	1991
Philippines <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Poland <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Portugal	Portugese Escudo	PTE	125.87	152.11
Qatar	Qatari Riyal	QAR	3.64	3.64
Republic of Korea <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Reunion	French Franc	FRF	4.95	6.06
Romania <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Russian Federation	U.S. Dollar	USD	1.00	1.00
Rwanda	Rwanda Franc	RWF	138.21	128.90
Saint Kitts & Nevis <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Saint Lucia <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Saint Vincent and the Grenadines <sup>4</sup>	East Caribbean Dollar	XCD	2.70	2.70
Samoa	Tala	WST	2.43	2.36
Sao Tome and Principe <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Saudi Arabia	Saudi Riyal	SAR	3.74	3.74
Senegal	CFA Franc	XOF	247.69	303.06
Seychelles	Seychelles Rupee	SCR	4.98	5.45
Sierra Leone <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Singapore	Singapore Dollar	SGD	1.61	1.73
Slovenia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Solomon Islands	Solomon Island Dollar	SBD	2.94	2.75
Somalia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
South Africa	Rand	ZAR	2.77	2.89
Spain	Spanish Peseta	ESP	93.70	110.81
Sri Lanka	Sri Lanka Rupee	LKR	44.17	41.92
Sudan	Sudanese Dinar <sup>6</sup>	SDD	10.00	12.30
Suriname <sup>4</sup>	Suriname Guilder	SRG	1.79	1.79
Swaziland	Lilangeni	SZL	2.77	2.89
Sweden	Swedish Krona	SEK	5.33	6.43
Switzerland	Swiss Franc	CHF	1.31	1.54
Syrian Arab Republic	Syrian Pound	SYP	33.00	22.00
Tajikistan <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Thailand	Baht	THB	25.27	25.57
Togo	CFA Franc	XOF	247.69	303.06
Tonga	Pa'anga	TOP	1.38	1.23
Trinidad and Tobago <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Tunisia	Tunisian Dinar	TND	0.83	0.99
Turkey <sup>2</sup>	U.S. Dollar	USD	1.00	4535.40 <sup>3</sup>
Turkmenistan	U.S. Dollar	USD	1.00	1.00
Turks and Caicos Islands <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Tuvalu	Australian Dollar	AUD	1.38	1.28
Uganda <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Ukraine <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
United Arab Emirates	UAE Dirham	AED	3.67	3.67
United Kingdom	Pound Sterling	GBP	0.52	0.60
United Republic of Tanzania <sup>4</sup>	Tanzanian Shilling	TZS	318.69	227.96
United States	U.S. Dollar	USD	1.00	1.00
Uruguay <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Uzbekistan <sup>2</sup>	U.S. Dollar	USD	1.00	1.00

Country or area	Local selling currency in September 1992	ISO code	Currency units per U.S. dollar <sup>1</sup>	
			1992	1991
Vanuatu	Vatu	VUV	111.81	112.81
Venezuela <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Viet Nam <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Yemen	Yemeni Rial	YER	12.01	12.10
Zaire <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Zambia <sup>2</sup>	U.S. Dollar	USD	1.00	1.00
Zimbabwe	Zimbabwe Dollar	ZWD	4.86	3.71

1. "IATA Clearing House 5-day Monthly Rate" for the month of August.
2. International fares and rates from these countries are usually quoted in U.S. dollars.
3. In September 1991, international fares and/or rates from these countries were quoted in local currencies.
4. International fares from these countries are usually quoted in U.S. dollars, whereas cargo rates are usually quoted in local currency.
5. International cargo rates from these countries are usually quoted in U.S. dollars, whereas fares are usually quoted in local currency.
6. New currency introduced in June 1992 to replace the Sudanese pound (SDP) where SDD1 = SDP9.

## Appendix 3

# STATISTICAL METHODOLOGY AND CONVERSIONS

1. In linear regression involving two variables there is an independent variable (the  $X$  value) and a dependent variable (the  $Y$  value). The linear function or relationship between these variables is estimated by determining two constants,  $a$  and  $b$ . In this survey fares and rates were considered as the dependent variable in separate analyses, while the distance between the city-pairs over which the fare or rate applied was taken as the independent variable. Here, the terms "dependent" and "independent" connote that the variable  $Y$  (in this case the fare or rate) is assumed to depend on, and is estimated from, the value of the variable  $X$  (in this case distance).

2. The straight line which estimates best the assumed relationship between two sets of statistical data (fares and distances) is computed in linear regression by the method of "least squares". The principle of least squares states that the [equation of the] line of best fit to a set of values is the line about which the sum of the squares of the errors of estimation (i.e. the differences between the values estimated by the equation and the actual values) will be minimized.

3. There are several types of assumed relationships or "models", to which linear least squares regression techniques may be applied. One is the simple relationship  $Y = a + b(X)$ , in which  $Y$  is assumed to be a linear function of  $X$ ; another is the relationship  $Y = a(X^b)$ , in which  $Y$  is assumed to be a function of  $X$  to some "power", i.e.  $b$ . Using logarithms, the latter relationship can be transformed into the equivalent relationship  $\log Y = \log a + b(\log X)$ , which is also a linear relationship (if the logarithms of the data are used). Least squares regression techniques may also be applied to this logarithmic relationship; the least squares technique then produces the "best" estimating relationship (minimizing the errors of estimation) in terms of the logarithms of the data.

4. In this survey, economy class normal fares/"under 45 kg" general cargo rates ( $Y$  values) were analysed as a function of distance ( $X$  values) for each of the 17 route groups and for the world. Only log linear estimates of average fares and rates were computed since these have been found to provide a better relationship statistically than the linear arithmetic form. It was further decided to show the log linear estimates plotted on arithmetic graph paper, rather than on log/log paper, to assist readers of this survey.

5. The regression equations for September 1992 by route and by fare/rate type are shown in the following two tables. While in general the levels of fares and rates for most route groups are, to a greater and lesser degree, clearly dependent on distance, for a few route groups the coefficient of the correlation is relatively low. In such cases, only data for those route groups for which a statistical test (t-test) has shown the relationship between the level of fares or rates with distance to be significant are presented in this study.



## Regression equations

Economy class normal passenger fares: September 1997

(X = city-pair distances in km; Y = return fare in U.S.\$)

Route group		Number of city-pairs	X mean	Y mean	Equation $y = ax^b$		Correlation coefficient R
					a	b	
International total	WORLD	10 475	3 236	1 397	7.420	0.649	0.825
1. Between North America and Central America/Caribbean	ALL	437	2 198	789	22.916	0.462	0.820
	Northbound	214	2 151	784	25.058	0.451	0.803
	Southbound	223	2 243	793	20.995	0.473	0.836
2. Between and within Central America and the Caribbean	ALL	378	656	333	10.021	0.550	0.890
3. Between Canada, Mexico and the United States	ALL	701	1 731	630	18.455	0.478	0.833
4. Between North America/ Central America/Caribbean and South America	ALL	344	4 162	1 301	2.007	0.779	0.971
	Northbound	171	4 118	1 239	2.212	0.764	0.972
	Southbound	173	4 206	1 362	1.832	0.794	0.971
5. Local South America	ALL	211	2 096	694	1.969	0.768	0.944
6. Local Europe	ALL	3 195	1 141	984	26.101	0.509	0.575
7. Local Middle East	ALL	345	1 352	579	8.912	0.576	0.728
8. Local Africa	ALL	553	1 629	754	2.832	0.756	0.901
9. Between Europe and Middle East	ALL	616	3 275	1 730	2.293	0.815	0.789
	Eastbound	307	3 282	2 023	0.907	0.950	0.870
	Westbound	309	3 269	1 439	5.750	0.682	0.798
10. Between Europe/Middle East and Africa	ALL	595	5 343	2 524	1.192	0.887	0.811
	Northbound	294	5 330	2 127	4.721	0.709	0.783
	Southbound	301	5 356	2 912	0.314	1.060	0.878
11. North Atlantic	ALL	541	7 171	2 818	16.650	0.577	0.593
	Eastbound	268	7 195	2 660	9.535	0.634	0.694
	Westbound	273	7 146	2 974	27.605	0.526	0.548
12. Mid Atlantic	ALL	232	8 188	3 188	47.625	0.465	0.359
	Eastbound	115	8 203	2 697	93.130	0.373	0.401
	Westbound	117	8 173	3 671	20.837	0.574	0.607
13. South Atlantic	ALL	117	10 176	3 923	0.355	1.007	0.705
	Eastbound	58	10 191	3 262	8.763	0.642	0.881
	Westbound	59	10 161	4 572	0.013	1.387	0.903
14. Local Asia/Pacific	ALL	1 025	2 984	1 065	1.087	0.857	0.905
15. Between Europe/Middle East/Africa and Asia/Pacific	ALL	932	7 230	2 498	0.039	1.237	0.887
	Eastbound	464	7 224	2 815	0.058	1.206	0.876
	Westbound	468	7 236	2 184	0.025	1.270	0.920
16. North and Mid Pacific	ALL	200	10 797	2 490	13.670	0.559	0.647
	Eastbound	100	10 767	2 582	22.237	0.510	0.544
	Westbound	100	10 826	2 398	8.084	0.613	0.795
17. South Pacific	ALL	53	8 833	3 037	1.451	0.841	0.796
	Eastbound	27	9 037	3 047	2.129	0.796	0.739
	Westbound	26	8 621	3 027	0.872	0.899	0.872

## Regression equations

General cargo rates for shipments of less than 45 kg: September 1992  
(X = city-pair distances in km; Y = rates per kg in U.S.\$)

Route group		Number of city-pairs	X mean	Y mean	Equation $y = ax^b$		Correlation coefficient R
					a	b	
International total	WORLD	5 368	4 986	6.662	0.014	0.718	0.822
1. Between North America and Central America/Caribbean	ALL	161	2 477	3.039	0.029	0.593	0.762
	Northbound	72	2 518	3.059	0.022	0.625	0.782
	Southbound	89	2 444	3.022	0.035	0.568	0.746
2. Between and within Central America and the Caribbean	ALL	109	807	1.555	0.039	0.551	0.770
3. Between Canada, Mexico and the United States	ALL	102	2 182	1.690	0.092	0.381	0.763
4. Between North America/ Central America/ Caribbean and South America	ALL	251	4 703	4.966	0.016	0.683	0.911
	Northbound	126	4 717	4.371	0.023	0.625	0.926
	Southbound	125	4 688	5.566	0.010	0.746	0.924
5. Local South America	ALL	137	2 409	3.209	0.011	0.732	0.843
6. Local Europe	ALL	502	1 239	3.401	0.042	0.613	0.739
7. Local Middle East	ALL	203	1 314	1.912	0.042	0.525	0.654
8. Local Africa	ALL	349	1 793	2.965	0.010	0.755	0.772
9. Between Europe and Middle East	ALL	402	3 684	6.632	0.003	0.913	0.566
	Eastbound	206	3 676	8.103	0.001	1.064	0.733
	Westbound	196	3 693	5.086	0.009	0.764	0.519
10. Between Europe/Middle East and Africa	ALL	488	5 559	9.419	0.014	0.740	0.536
	Northbound	236	5 548	6.075	0.146	0.422	0.431
	Southbound	252	5 569	12.551	0.001	1.082	0.786
11. North Atlantic	ALL	535	7 215	8.224	0.172	0.431	0.297
	Eastbound	273	7 255	8.157	0.057	0.557	0.620
	Westbound	262	7 173	8.294	0.580	0.293	0.157
12. Mid Atlantic	ALL	202	8 152	12.167	0.213	0.444	0.246
	Eastbound	95	8 105	11.749	0.527	0.344	0.350
	Westbound	107	8 194	12.537	0.077	0.557	0.231
13. South Atlantic	ALL	115	9 689	14.628	0.030	0.669	0.276
	Eastbound	56	9 718	12.398	0.045	0.612	0.929
	Westbound	59	9 661	16.745	0.017	0.740	0.224
14. Local Asia/Pacific	ALL	699	3 604	4.516	0.013	0.710	0.734
15. Between Europe/Middle East/Africa and Asia/Pacific	ALL	825	7 960	9.985	0.002	0.921	0.731
	Eastbound	409	7 969	11.786	0.011	0.775	0.721
	Westbound	416	7 950	8.214	0.001	1.064	0.813
16. North and Mid Pacific	ALL	234	11 198	10.271	0.397	0.344	0.284
	Eastbound	116	11 179	11.445	1.736	0.193	0.129
	Westbound	118	11 217	9.116	0.072	0.519	0.782
17. South Pacific	ALL	54	9 442	9.540	0.046	0.580	0.563
	Eastbound	25	8 833	8.721	0.039	0.587	0.444
	Westbound	29	9 967	10.246	0.098	0.506	0.838

## ICAO PUBLICATIONS IN THE AIR TRANSPORT FIELD

The following summary gives the status and also describes in general terms the contents of the various series of publications in the air transport field issued by the International Civil Aviation Organization:

**International Standards and Recommended Practices on Facilitation** (*designated as Annex 9 to the Convention*) which are adopted by the Council in accordance with Articles 37, 54 and 90 of the Convention on International Civil Aviation. The uniform observance of the specifications contained in the International Standards on Facilitation is recognized as practicable and as necessary to facilitate and improve some aspect of international air navigation, while the observance of any specification contained in the Recommended Practices is recognized as generally practicable and as highly desirable to facilitate and improve some aspect of international air navigation. Any differences between the national regulations and practices of a State and those established by an International Standard must be notified to the Council in accordance with Article 38 of the Convention. The Council has also invited Contracting States to notify differences from the provisions of the Recommended Practices;

**Council Statements** on policy relating to air transport questions, such as the economics of airports and en-route air navigation facilities, taxation and aims in the field of facilitation;

**Digests of Statistics** which are issued on a regular basis, presenting the statistical information received from Contracting States on their civil aviation activities;

**Circulars** providing specialized information of interest to Contracting States. They include regional studies on the development of international air passenger, freight and mail traffic and specialized studies of a world-wide nature;

**Manuals** providing information or guidance to Contracting States on such questions as airport and air navigation facility tariffs, air traffic forecasting techniques and air transport statistics.

Also of interest to Contracting States are reports of meetings in the air transport field, such as sessions of the Facilitation Division and the Statistics Division and conferences on the economics of airports and air navigation facilities. Supplements to these reports are issued, indicating the action taken by the Council on the meeting recommendations, many of which are addressed to Contracting States.

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