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TABLE OF CONTENTS

Page

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 1990 and is the seventeenth in the series, the previous report being Circular 224 for September 1989.

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 174 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 1990. These relationships are compared amongst route groups and with world averages. A comparison is also made with September 1989 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 1989.

Data sources

5. 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 1990 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).

Analysis and statistical methodology

6. 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.

7. 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

8. Economy class normal fares were analysed for a total of 10 281 city-pairs for which adequate data were available. General cargo rates for 8 025 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.

9. 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 1990. City-pairs for which only cabotage fares 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 1990.

10. 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

11. 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

12. 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.

13. 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).

14. 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.

15. 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 1990. 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.

16. 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.

17. 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.

18. 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 1990 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.

19. 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.

20. 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 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.

21. 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.

22. 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 excluded those city-pairs served only by narrow-body combination aircraft (see paragraph 9 above). 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.

23. 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, 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

24. 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

25. 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

26. Chapters 2 and 3 present a comparative summary of the main results for the 17 major international route groups, together with certain estimated averages, for international passenger fares and international cargo rates respectively. Chapter 4 presents a more detailed analysis 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 1990.

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 1990 with that in September 1989. 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 10 281. 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 3 098 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 53 per cent of the total. In addition to "local Europe", these were "between Europe/Middle East/Africa and Asia/Pacific", "local Asia/Pacific" and "between Europe/Middle East and Africa". 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 10 281 international city-pairs for which economy class normal fares were obtained was 3 242 km. This distance may be compared with an estimated average international passenger trip length in 1990 of 3 250 km. In comparing these two figures, it is important to bear in mind that the

Table 2-1. Distribution by route group of international city-pairs for which economy class normal fares were obtained (September 1990)

Route groups	Number of city-pairs	Per cent	Cumulative per cent
International total - WORLD	10 281	100.0	-
Local Europe	3 098	30.1	30.1
Local Asia/Pacific	828	8.1	38.2
Between Europe/Middle East/Africa and Asia/Pacific	820	8.0	46.2
Between Europe/Middle East and Africa	754	7.3	53.5
Between Europe and Middle East	662	6.4	59.9
Between Canada, Mexico and the United States	645	6.3	66.2
Local Africa	584	5.7	71.9
North Atlantic	566	5.5	77.4
Between North America and Central America/Caribbean	456	4.4	81.8
Between and within Central America and the Caribbean	405	3.9	85.7
Local Middle East	386	3.8	89.5
Between North America/CentralAmerica/ Caribbean and South America	318	3.1	92.6
Local South America	207	2.0	94.6
Mid Atlantic	188	1.8	96.5
North and Mid Pacific	186	1.8	98.3
South Atlantic	117	1.1	99.4
South Pacific	61	0.6	100.0

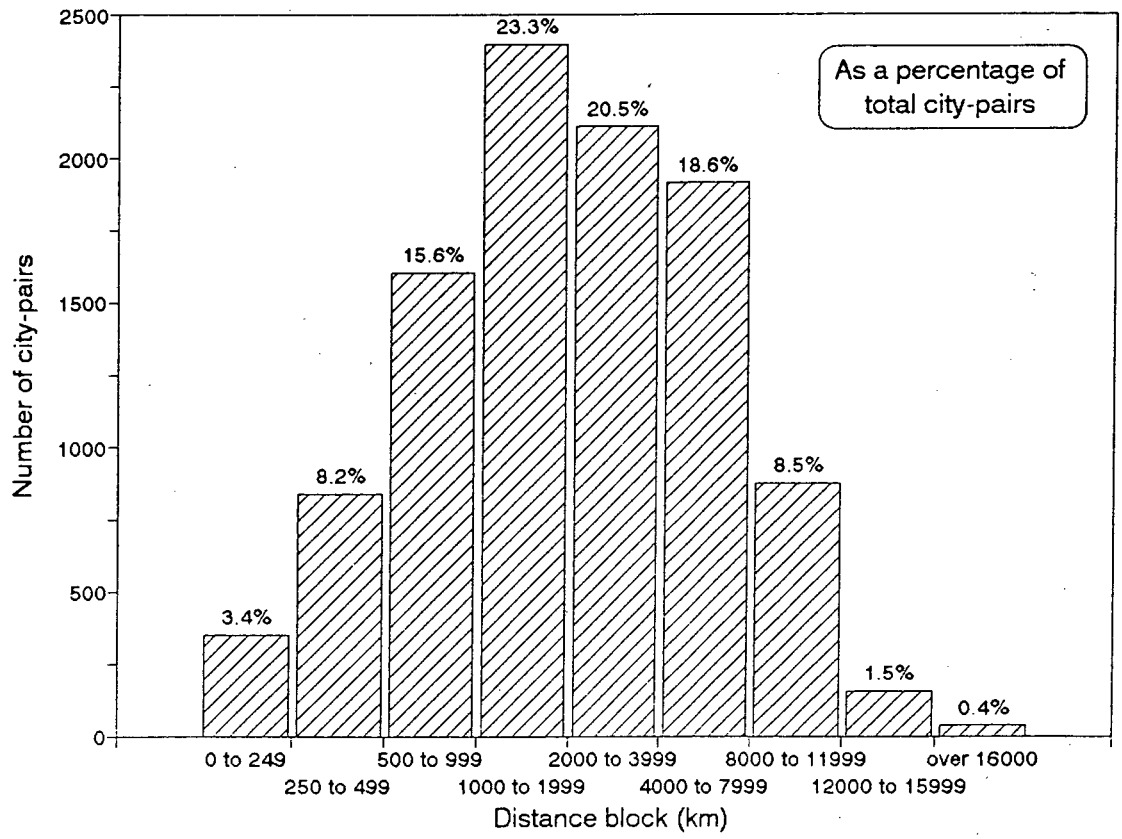
latter one is not only dependent on the volume of traffic travelling on different routes but also on the statistical base for counting airline passenger traffic. Thus a passenger who purchases a ticket between London and Tokyo, for example, may also decide to interrupt his journey at one or more cities 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 and 3 364 km in 1985), 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 and 3 040 km in 1985).

5. Graph 2-1 portrays the number and percentage distribution of city-pairs by distance block for the world sample of 10 281 city-pairs for which economy class normal fares were obtained in September 1990. 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 678 km and in "local Europe" at 1 161 km, while the route groups with the longest average city-pair distance are the "North and Mid Pacific" at 10 833 km and the "South Atlantic" at 9 840 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.



Graph 2-1. Distribution by distance block of city-pairs for which economy class normal fares were obtained (September 1990)

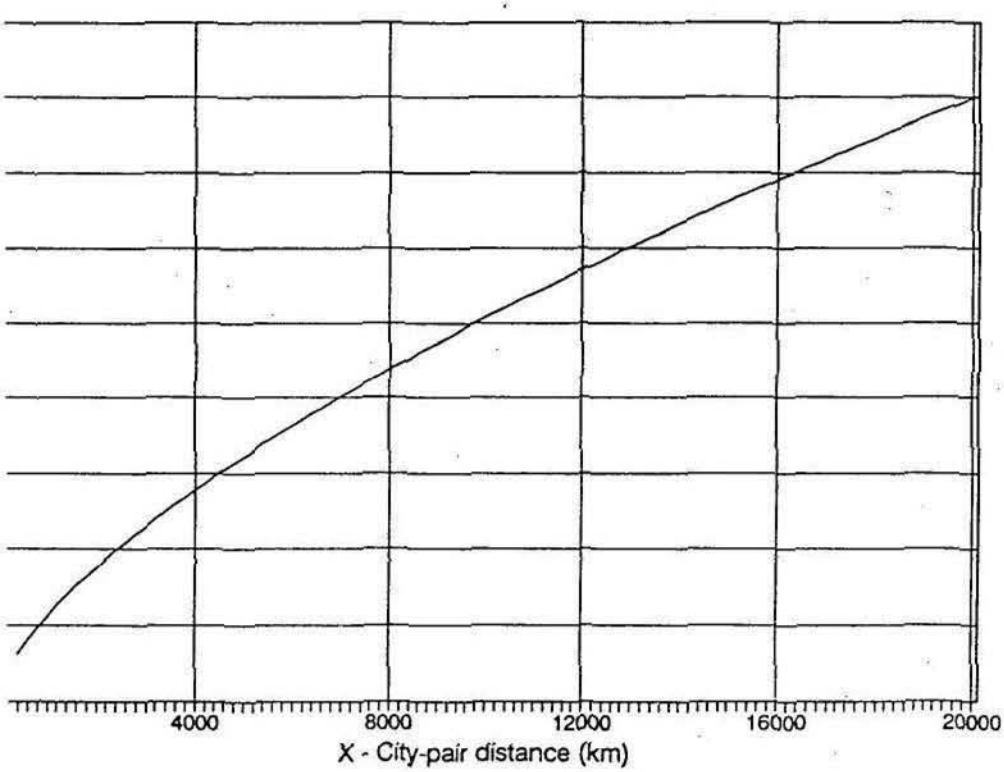
Table 2-2. Distribution by distance block of city-pairs for which economy class normal fares were obtained (September 1990)

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 – WORLD	353	838	1 602	2 395	2 111	1 916	874	156	36	10 281	3 242
Between North America and Central America/Caribbean	18	44	33	127	199	35	–	–	–	456	2 149
Between and within Central America and the Caribbean	117	85	111	75	17	–	–	–	–	405	678
Between Canada, Mexico and the United States	24	64	105	181	251	20	–	–	–	645	1 821
Between North America/Central America/Caribbean and South America	4	17	37	43	83	96	38	–	–	318	3 890
Local South America	6	17	25	76	53	30	–	–	–	207	2 083
Local Europe	104	461	939	1 214	376	4	–	–	–	3 098	1 161
Local Middle East	18	51	58	160	99	–	–	–	–	386	1 399
Local Africa	38	50	136	178	139	43	–	–	–	584	1 689
Between Europe and Middle East	–	–	19	63	384	196	–	–	–	662	3 295
Between Europe/Middle East and Africa	2	8	19	71	142	426	86	–	–	754	4 919
North Atlantic	–	–	–	–	4	410	141	11	–	566	7 322
Mid Atlantic	–	–	–	–	–	90	96	2	–	188	8 325
South Atlantic	–	–	–	–	–	21	82	12	2	117	9 840
Local Asia/Pacific	22	40	118	169	242	204	33	2	–	828	3 036
Between Europe/Middle East/ Africa and Asia/Pacific	–	1	2	38	122	293	278	56	30	820	7 606
North and Mid Pacific	–	–	–	–	–	29	99	54	4	186	10 833
South Pacific	–	–	–	–	–	19	21	21	–	61	9 722

Relationship between estimated economy class normal fares and distance

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

The relationship between estimated average economy class normal fares e in September 1990 may be observed in Graph 2-2. The estimated averages is graph are for the world as a whole and may be used as a basis for ares shown in Chapter 4 by route group. The curve of this graph has been ly computed so as to reflect best the relationship between the fares and e (see Appendix 3 for further details).



Graph 2-2. Relationship between estimated average economy class normal fares and distance (September 1990)

Comparative level of economy class normal fares by route group

9. In September 1990, 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 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 9.9 cents per passenger-kilometre (at 10 800 km) on North-Mid Pacific routes.

10. In September 1990, 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 the South Pacific. The highest average fare at the average distance in any route group was 35.4 cents per passenger-kilometre (at 1 200 km) on routes in "Europe".

11. No estimated average fare levels against distance are shown in Table 2-3 for routes across the North Atlantic for September 1990 as these fares were found to be more dependent on other factors than distance (see Chapter 4 for a fuller discussion).

Changes in level of economy class normal fares between 1989 and 1990

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 1989 and September 1990, the U.S. dollar weakened 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 1989 and September 1990 the estimated world average economy class normal fares expressed in U.S. dollars show increases ranging from 19 per cent at 250 km to just under 8 per cent at 16 000 km, whereas the same fares expressed in local selling currencies show increases ranging from just under 9 per cent at the shorter distances to about 4 per cent at the longer distances. The percentage changes between 1989 and 1990 shown for some individual route groups also vary considerably when fares are expressed in U.S. dollars or in

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
International total - WORLD	1990	45.1	35.5	28.0	22.1	17.4	13.7	11.9	10.8
	(1989)	(37.9)	(30.3)	(24.3)	(19.5)	(15.6)	(12.5)	(11.0)	(10.0)
1. North-Central America	1990	46.3	32.2	22.5	15.6	10.9	-	-	-
	(1989)	(37.9)	(27.6)	(20.1)	(14.7)	(10.7)	-	-	-
2. Central America	1990	34.5	25.3	18.6	13.6	-	-	-	-
	(1989)	(34.2)	(25.0)	(18.3)	(13.3)	-	-	-	-
3. North America	1990	39.7	27.9	19.6	13.8	9.7	-	-	-
	(1989)	(36.5)	(26.1)	(18.6)	(13.3)	(9.5)	-	-	-
4. North-South America	1990	-	21.2	18.4	16.0	13.9	12.1	-	-
	(1989)	-	(21.4)	(18.4)	(15.9)	(13.7)	(11.8)	(10.8)	-
5. South America	1990	22.9	19.6	16.8	14.4	12.3	-	-	-
	(1989)	(22.0)	(18.8)	(16.2)	(13.9)	(11.9)	-	-	-
6. Europe	1990	70.0	51.8	38.4	28.4	21.0	-	-	-
	(1989)	(54.0)	(40.7)	(30.7)	(23.2)	(17.5)	-	-	-
7. Middle East	1990	33.2	26.4	21.9	16.7	15.4	-	-	-
	(1989)	(32.3)	(25.5)	(20.1)	(15.9)	-	-	-	-
8. Africa	1990	31.1	26.1	21.9	18.4	15.4	-	-	-
	(1989)	(25.7)	(21.9)	(18.7)	(15.9)	(13.6)	-	-	-
9. Europe-Middle East	1990	-	27.3	25.0	22.8	20.9	-	-	-
	(1989)	-	(23.2)	(21.4)	(19.8)	(18.3)	-	-	-
10. Europe-Africa	1990	-	26.2	23.6	21.3	19.2	17.3	-	-
	(1989)	-	(24.7)	(21.7)	(19.0)	(16.7)	(14.6)	(13.5)	-
11. North Atlantic[1]	1990	-	-	-	-	-	-	-	-
	(1989)	-	-	-	-	(18.1)	(13.9)	(11.9)	-
12. Mid Atlantic	1990	-	-	-	-	20.7	15.4	13.0	-
	(1989)	-	-	-	-	(13.3)	(13.4)	(11.8)	-
13. South Atlantic	1990	-	-	-	-	14.5	15.4	15.9	-
	(1989)	-	-	-	-	(12.5)	(13.4)	(14.2)	-
14. Asia/Pacific	1990	20.8	19.1	17.5	16.1	14.7	13.5	12.9	-
	(1989)	(20.3)	(18.5)	(17.0)	(15.5)	(14.2)	(13.0)	(12.3)	-
15. Europe-Asia/Pacific	1990	-	-	13.7	13.9	14.0	14.2	14.3	14.4
	(1989)	-	-	(13.8)	(13.4)	(13.1)	(12.8)	(12.6)	(12.5)
16. North-Mid Pacific[2]	1990	-	-	-	-	-	11.2	9.3	8.2
	(1989)	-	-	-	-	-	-	-	-
17. South Pacific	1990	-	-	-	-	15.7	15.5	15.3	15.2
	(1989)	-	-	-	-	(13.6)	(14.2)	(14.6)	(14.9)

1. In September 1990, fare levels across the North Atlantic were found to be more dependent on factors other than distance; hence no figures are shown for this route group.

2. In September 1989, fare levels across the North-Mid Pacific were found to be more dependent on factors other than distance; hence no figures are shown for this route group for that year.

Table 2-4. Percentage change in average economy class normal fares by route group and by distance, between September 1989 and September 1990

Route group (short title)	Percentage change by distance (km)							
	250	500	1 000	2 000	4 000	8 000	12 000	16 000
International total - WORLD								
in U.S.$	19.1	17.1	15.1	13.1	11.2	9.3	8.3	7.5
(in selling currencies)	(8.9)	(8.1)	(7.2)	(6.4)	(5.5)	(4.7)	(4.2)	(3.9)
1. North-Central-America								
in U.S.$	22.2	16.7	11.5	6.5	1.7	-	-	-
(in selling currencies)	(22.4)	(16.7)	(11.3)	(6.1)	(1.2)	-	-	-
2. Central America								
in U.S.$	0.8	1.3	1.7	2.2	-	-	-	-
(in selling currencies)	(-0.7)	(0.2)	(1.0)	(1.9)	-	-	-	-
3. North America								
in U.S.$	8.8	7.1	5.4	3.8	2.2	-	-	-
(in selling currencies)	(8.7)	(7.0)	(5.4)	(3.8)	(2.2)	-	-	-
4. North-South America								
in U.S.$	-	-1.1	-0.1	0.9	2.0	3.0	-	-
(in selling currencies)	-	(-1.6)	(-0.6)	(0.5)	(1.6)	(2.7)	-	-
5. South America								
in U.S.$	4.2	4.1	4.0	3.9	3.8	-	-	-
(in selling currencies)	(3.2)	(3.2)	(3.2)	(3.2)	(3.3)	-	-	-
6. Europe								
in U.S.$	29.7	27.2	24.8	22.5	20.2	-	-	-
(in selling currencies)	(6.7)	(8.1)	(9.4)	(10.7)	(12.1)	-	-	-
7. Middle East								
in U.S.$	2.8	3.6	4.4	5.2	-	-	-	-
(in selling currencies)	(2.1)	(4.3)	(6.5)	(8.8)	-	-	-	-
8. Africa								
in U.S.$	21.1	19.2	17.3	15.5	13.7	-	-	-
(in selling currencies)	(13.5)	(11.4)	(9.3)	(7.3)	(5.4)	-	-	-
9. Europe-Middle East								
in U.S.$	-	18.0	16.6	15.2	13.9	-	-	-
(in selling currencies)	-	(43.7)	(30.3)	(18.1)	(7.1)	-	-	-
10. Europe-Africa								
in U.S.$	-	6.0	8.9	12.0	15.1	18.3	-	-
(in selling currencies)	-	(6.8)	(6.5)	(6.2)	(5.9)	(5.5)	-	-
11. North Atlantic[1]								
in U.S.$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
12. Mid Atlantic								
in U.S.$	-	-	-	-	24.6	15.1	9.9	-
(in selling currencies)	-	-	-	-	(8.9)	(3.9)	(1.1)	-
13. South Atlantic								
in U.S.$	-	-	-	-	19.9	15.0	12.2	-
(in selling currencies)	-	-	-	-	(18.5)	(6.5)	(0.0)	-
14. Asia/Pacific								
in U.S.$	2.6	3.0	3.3	3.6	3.9	4.3	4.5	-
(in selling currencies)	(4.1)	(3.9)	(3.6)	(3.4)	(3.2)	(2.9)	(2.8)	-
15. Europe-Asia/Pacific								
in U.S.$	-	-	-0.4	3.2	6.9	10.8	13.1	14.8
(in selling currencies)	-	-	(10.4)	(9.3)	(8.2)	(7.1)	(6.5)	(6.1)
16. North-Mid Pacific[2]								
in U.S.$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
17. South Pacific								
in U.S.$	-	-	-	-	15.4	8.7	4.9	2.3
(in selling currencies)	-	-	-	-	(7.7)	(3.7)	(1.4)	(-0.1)

1. In September 1990, fare levels across the North Atlantic were found to be more dependent on factors other than distance; hence no figures are shown for this route group.
2. In September 1989, fare levels across the North-Mid Pacific were found to be more dependent on factors other than distance; hence no figures are shown for this route group.

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. 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 1989 and September 1990.

14. Within Europe (route group 6) and within Africa (route group 8) the differences in the changes in fare levels when expressed in local selling currencies compared with those expressed in U.S. dollars reflect the relative depreciation of the latter against most European and African currencies (with notable exceptions in Eastern Europe) between September 1989 and September 1990.

15. Between September 1989 and September 1990 changes in fares on routes to, from and within the Middle East were affected by the increase in the value of the U.S. dollar against the national currencies of a few countries. In particular, on routes between Europe and the Middle East (route group 9), the relatively large increases in fares expressed in local selling currencies compared with those shown for fares expressed in U.S. dollars reflect the relatively large appreciation of the U.S. dollar against a few national currencies of countries in Eastern Europe between September 1989 and September 1990.

16. 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, though less so than in previous years. Excluding fares from Japan, between September 1989 and September 1990 the estimated average fare levels expressed in U.S. dollars across the North-Mid Pacific show increases of about 1 per cent at the shorter distances and some 3 per cent at the longer ones, whereas in terms of local selling currencies the corresponding changes for these fares were increases of some 2 and 4 per cent respectively. On the other hand, fares from Japan expressed in U.S. dollars showed an average decrease of some 6 to 7 per cent which, in terms of Japanese Yen, translates into an average decrease of 3 to 4 per cent between September 1989 and September 1990.

17. 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 general depreciation of the U.S. dollar against the currencies of countries in the South Pacific between September 1989 and September 1990.

18. 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).

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) Local Europe	North America	Ratio local Europe/ North America	U.S. dollar relative to European currencies
1980	38.1	15.7	2.4	
				Strengthened
1985	36.3	25.3	1.4	
				Weakened
1987	54.0	26.4	2.1	
				Strengthened
1989	54.0	36.5	1.5	
				Weakened
1990	70.0	39.7	1.8	

Other normal fares

19. 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 1990, remained available for about 97 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 85 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 and intermediate class restricted fares were also widely available in September 1990 but these fare types were fairly rare on routes across the North Atlantic.

20. In September 1990 intermediate class normal fares were available for about 65 per cent of international city-pairs, some 5 per cent less than in September 1989, mainly due to a decrease in the availability of this type of fare on routes within Europe. In September 1990, intermediate class fares remained generally scarce on routes between North America and Central America/Caribbean, between and within the Caribbean and Central America, between Canada, Mexico and the United States and in local Europe. Where available, in September 1990 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 35 per cent higher across the North Atlantic and the South Pacific.

Economy class special fares

21. "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. As in the previous year, in September 1990 they were available for about 15 per cent of the international city-pairs analysed. However, their availability varied widely from route group to route group. These fares were commonly available on routes to/from

North America, and a few were available on routes between Europe/Middle East and Africa, on routes across the Mid Atlantic and between Europe/Middle East/Africa and Asia/Pacific. However, in September 1990, 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.

22. 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 1990 excursion fares were available for just over 80 per cent of international city-pairs. Where available, these excursion fares were, as in previous years, on average some 30 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 65 per cent lower).

23. 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.

24. 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: the advance purchase excursion fares ("Apex"), the special excursion fares ("Pex") and the "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.

25. A study of city-pair samples selected from each route group suggests that in September 1990 Apexand Pex-type fares, including Budget-type fares, existed in about 55 per cent of the cases; they predominate on routes in North America, across the North and South Atlantic and across the Pacific, and they have also existed for some years on several other route groups. On average these fares were

about 45 per cent lower than economy class normal fares. In September 1990, group fares existed in some 15 per cent of the cases at an average level some 50 per cent lower than the economy class normal fares.

26. From the study of city-pair samples, it can be concluded that relative to September 1989 the only significant development in September 1990 was the apparent decrease in availability of group fares (15 per cent of the cases against about 30 per cent in September 1989).

27. On some route groups the levels of some special fares moved either up or down relative to those of economy class normal fares, but no route groups exhibited a consistent trend between September 1989 and September 1990.

Preferential fares

28. 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 1990. 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 4.

29. 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 at a level 25 per cent below that of the applicable economy class normal fare. In September 1990 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.

30. 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, Federal Republic of Germany, Greece, Ireland, Israel, Italy, Liberia, Malaysia, Morocco, Kingdom of the Netherlands, Norway, Panama, Singapore, Sweden, Switzerland, United Kingdom and the United States. These fares generally have world-wide application, although 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.

31. In September 1990, 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 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 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.

32. 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 and certain countries in Europe these fares were at a level some 70 per cent below the applicable economy class normal fare, but they had a specific restriction on availability in that reservations could only be made less than 72 hours before departure in either direction. In September 1990, 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 Northern Europe and 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.

33. Preferential fare types with a more limited area of application are those for spouses and families. In September 1990, 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, from the Middle East to Eastern Africa, 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 allowed to travel at a fare level 50 per cent below the applicable normal fare.

34. In September 1990, 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 Latin America and 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 from the United States to points in Europe and in Central America and the Caribbean, at levels some 10 to 50 per cent lower than the applicable normal fare.

35. 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 and Europe to Jeddah) and clergymen (mainly from the United States to the Caribbean). 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, in Central America and the Caribbean, 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 1990.

Chapter 3
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 1990 with that in September 1989. 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 8 025 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 3-1 that 2 077 city-pairs, just over one-quarter of the total analysed, were located in the route group "local Europe". Four route groups out of the seventeen accounted for about 54 per cent of the total. In addition to "local Europe", these were "between Europe/Middle East/Africa and Asia/Pacific", "between Europe/Middle East and Africa" and "local Asia/Pacific". The three transatlantic route groups, "North Atlantic", "Mid Atlantic" and "South Atlantic" together accounted for some 11 per cent of the total number of international city-pairs, while the two transpacific route groups accounted for almost 4 per cent of the total number of international city-pairs.

Distribution of international city-pairs by distance

4. The average distance separating the 8 025 international city-pairs for which general cargo rates for shipments of less than 45 kg were obtained was 3 908 km. This distance may be compared with an estimated average international freight trip length in 1990 of 5 250 km. The difference between the two figures reflects the relatively higher volume of traffic travelling on long-haul routes as

Table 3-1. Distribution by route group of international city-pairs for which general cargo rates (under 45 kg) were obtained (September 1990)

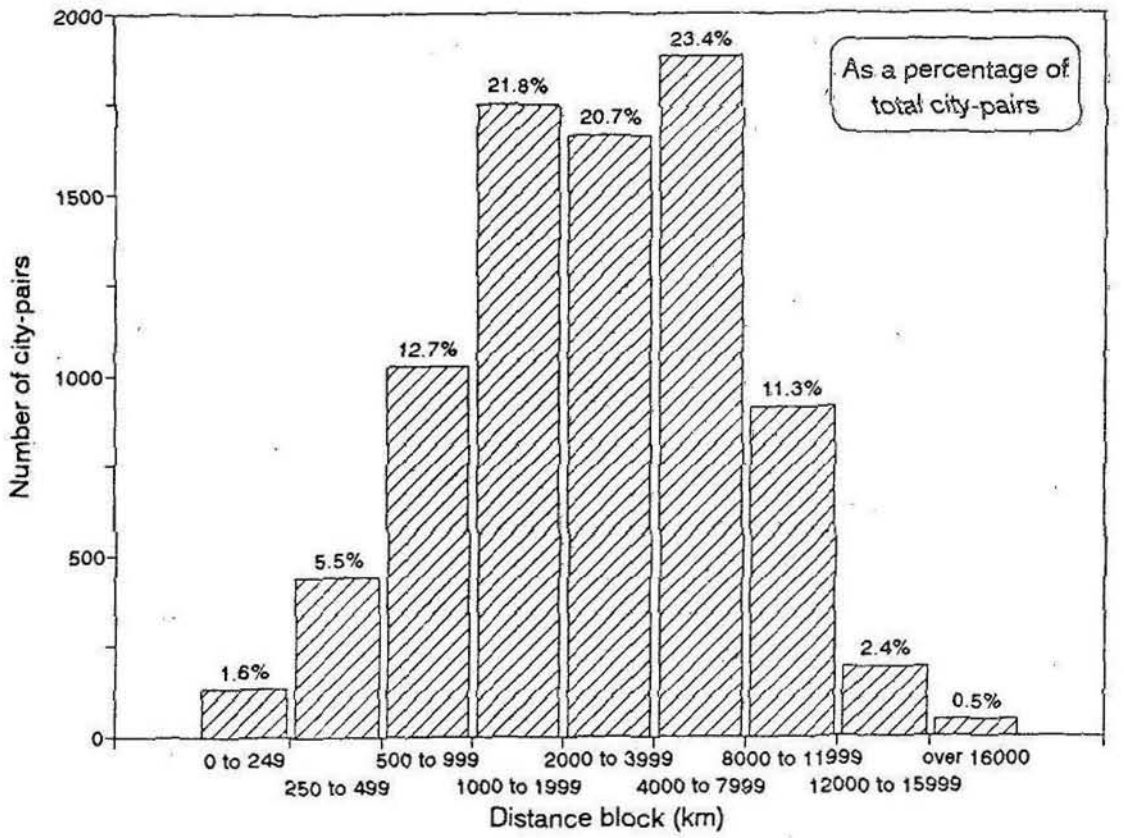
Route groups	Number of city-pairs	Per cent	Cumulative per cent
International total WORLD	*8 025*	*100.0*	-
Local Europe	2 077	25.9	25.9
Between Europe/Middle East/Africa and Asia/Pacific	821	10.2	36.1
Between Europe/Middle East and Africa	747	9.3	45.4
Local Asia/Pacific	704	8.8	54.2
Between Europe and Middle East	636	7.9	62.1
North Atlantic	572	7.1	69.2
Local Africa	502	6.3	75.5
Local Middle East	341	4.2	79.8
Between North America/Central America/ Caribbean and South America	285	3.6	83.3
North and Mid Pacific	233	2.9	86.2
Between and within Central America *and the Caribbean*	*220*	*2.7*	*88.9*
Between North America and Central America/Caribbean	190	2.4	91.3
Mid Atlantic	187	2.3	93.6
Between Canada, Mexico and the United States	172	2.1	95.8
Local South America	159	2.0	97.8
South Atlantic	117	1.5	99.2
South Pacific	62	0.8	100.0

opposed to short-haul routes. When comparing rate and cargo revenue yield data over time, it should also be noted that the average city-pair distance had been falling steadily until recently with the increasing introduction of non-stop and limited-stop services (it was 4 048 km in 1975, 3 909 km in 1980 and 3 826 km in 1985), while the average freight trip length had been rising steadily at a rate of about 400 km every 5 years (it was 4 200 km in 1975, 4 600 km in 1980 and 5 000 km in 1985). The last five years however saw an increase in the average city-pair distance (from 3 826 km in 1985 to 3 908 in 1990) in part 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 1990 there were 233 city-pairs between which freight could be shipped directly (on combination or all-cargo scheduled flights) compared with 186 city-pairs for which passengers were offered direct services.

5. Graph 3-1 portrays the number and percentage distribution of city-pairs by distance block for the world sample of 8 025 city-pairs for which cargo rates were obtained in September 1990. 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 58 per cent of the city-pairs surveyed are in distance ranges over 2 000 km compared with about 50 per cent for passenger fares.

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 834 km and in "local Europe" at 1 253 km, while the route groups with the longest average city-pair distance are the "North and Mid Pacific" at 11 235 km and the "South Pacific" at 10 625 km. Table 3-2 compares the number of city-pairs in each route group that fall in the nine distance blocks selected for the purpose of this chapter.



Graph 3-1. Distribution by distance block of city-pairs for which general cargo rates (under 45 kg) were obtained (September 1990)

Table 3-2. Distribution by distance block of city-pairs for which general cargo rates (under 45 kg) were obtained (September 1990)

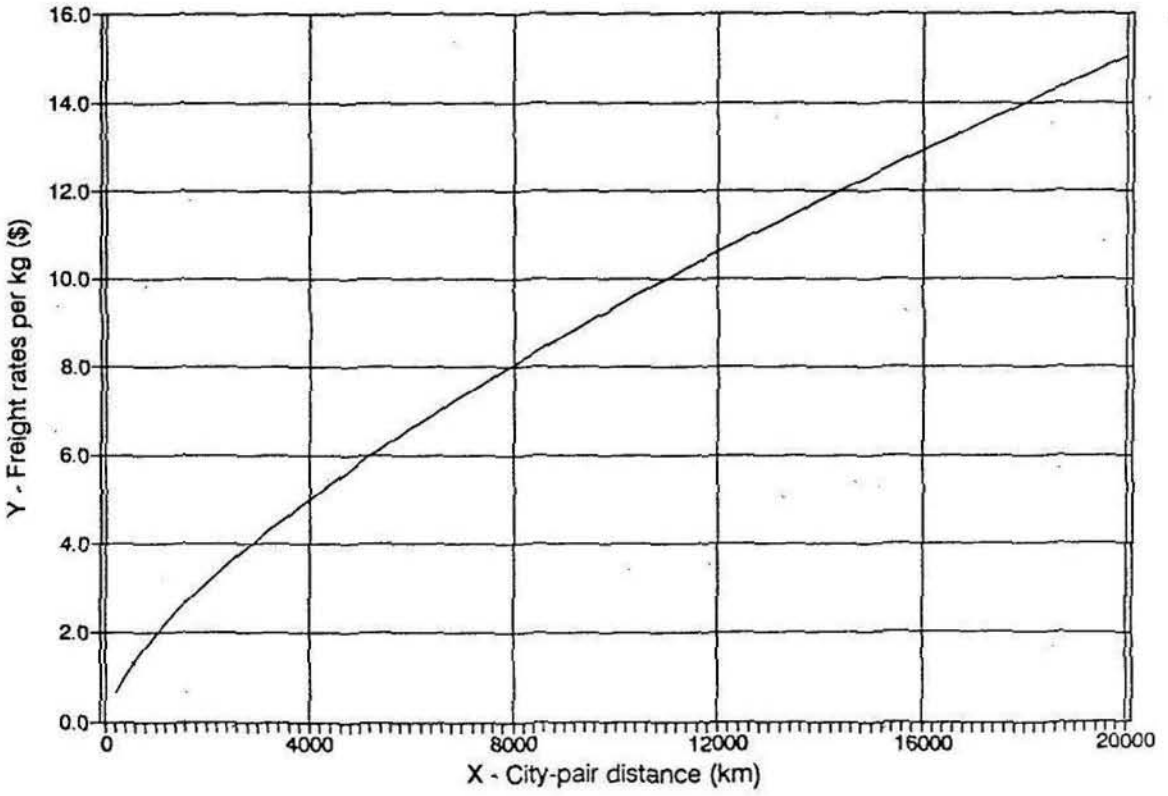
Route group	Number of city-pairs by distance (km)										
	0 to 249	250 to 499	500 to 999	1 000 to 1 999	2 000 to 3 999	4 000 to 7 999	8 000 to 11 999	12 000 to 15 999	over 16 000	Number of city-pairs	Average distance
International total = WORLD	132	440	1 022	1 748	1 662	1 877	909	192	43	8 025	3 908
Between North America and Central America/Caribbean	2	2	4	54	102	26	-	-	-	190	2 709
Between and within Central America and the Caribbean	40	45	60	63	12	-	-	-	-	220	834
Between Canada, Mexico and the United States	2	7	32	49	75	7	-	-	-	172	1 987
Between North America/Central America/Caribbean and South America	1	5	32	40	71	98	38	-	-	285	4 232
Local South America	3	11	12	61	42	30	-	-	-	159	2 326
Local Europe	30	260	597	888	298	4	-	-	-	2 077	1 253
Local Middle East	18	48	56	140	79	-	-	-	-	341	1 346
Local Africa	20	33	108	163	135	43	-	-	-	502	1 841
Between Europe and Middle East	-	-	11	53	369	203	-	-	-	636	3 389
Between Europe/Middle East and Africa	2	7	19	67	140	423	89	-	-	747	4 970
North Atlantic	-	-	-	-	3	412	146	11	-	572	7 374
Mid Atlantic	-	-	-	-	1	88	96	2	-	187	8 303
South Atlantic	-	-	-	-	-	22	81	12	2	117	9 790
Local Asia/Pacific	14	22	89	134	223	189	33	-	-	704	3 271
Between Europe/Middle East/ Africa and Asia/Pacific	-	-	2	36	112	287	292	62	30	821	7 792
North and Mid Pacific	-	-	-	-	-	30	114	80	9	233	11 235
South Pacific	-	-	-	-	-	15	20	25	2	62	10 625

Relationship between estimated general cargo rates for small shipments and distance

7. The relationship between the estimated average international general cargo rates for shipments of less than 45 kg and distance in September 1990 may be seen in Graph 3-2. 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 4 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).

Comparative level of general cargo rates for small shipments by route group

8. In September 1990 estimated average general cargo rates for shipments of less than 45 kg, as shown in Table 3-3, were lowest on the route groups "Africa", "Europe-Middle East" 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 76 cents per tonne-kilometre (at 1 800 km) on international routes in "North America".



Graph 3-2. Relationship between the estimated average international general cargo rates for shipments of less than 45 kg and distance (September 1990)

Table 3-3. 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 – WORLD	1990	303	243	195	156	125	101	88	81
	(1989)	(261)	(214)	(176)	(144)	(118)	(97)	(86)	(80)
1. North-Central America	1990	237	185	144	112	87	–	–	–
	(1989)	(233)	(181)	(140)	(109)	(84)	–	–	–
2. *Central America*	1990	331	239	173	125	–	–	–	–
	(1989)	(317)	(231)	(168)	(123)	–	–	–	–
3. North America	1990	297	191	122	78	50	–	–	–
	(1989)	*(268)*	*(176)*	*(115)*	*(75)*	*(49)*	–	–	–
4. North-South America	1990	–	199	158	125	99	78	–	–
	(1989)	–	(209)	(163)	(128)	(100)	(78)	(68)	–
5. South America	1990	219	181	149	123	102	–	–	–
	(1989)	(312)	(244)	(190)	(149)	(116)	–	–	–
6. Europe	1990	449	328	240	176	128	–	–	–
	(1989)	(364)	(271)	(201)	(149)	(111)	–	–	–
7. Middle East	1990	250	196	153	120	–	–	–	–
	(1989)	(251)	(195)	(152)	(119)	–	–	–	–
8. Africa	1990	189	167	147	130	115	–	–	–
	(1989)	(173)	(152)	(133)	(116)	(102)	–	–	–
9. Europe-Middle East	1990	–	139	142	144	147	–	–	–
	(1989)	–	(122)	(127)	(131)	(136)	–	–	–
10. Europe-Africa	1990	–	221	190	163	140	120	–	–
	(1989)	–	(219)	(181)	(150)	(124)	(103)	(92)	–
11. North Atlantic[1]	1990	–	–	–	–	–	–	–	–
	(1989)	–	–	–	–	(119)	(98)	(87)	–
12. Mid Atlantic[1]	1990	–	–	–	–	–	–	–	–
	(1989)	–	–	–	–	–	–	–	–
13. South Atlantic	1990	–	–	–	–	135	135	135	–
	(1989)	–	–	–	–	(133)	(125)	(120)	–
14. Asia/Pacific	1990	205	174	148	126	107	90	82	–
	(1989)	(195)	(167)	(142)	(122)	(104)	(89)	(81)	–
15. Europe-Asia/Pacific	1990	–	–	140	128	117	107	101	98
	(1989)	–	–	(128)	(120)	(113)	(106)	(102)	(99)
16. North-Mid Pacific[1]	1990	–	–	–	–	–	–	–	–
	(1989)	–	–	–	–	–	–	–	–
17. South Pacific	1990	–	–	–	–	150	106	86	75
	(1989)	–	–	–	–	(139)	(101)	(83)	(73)

1. In September 1990, rate levels across the North Atlantic, the Mid Atlantic 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.

9. The highest estimated rate levels at the short distances were seen for routes in "Europe". Rate levels in "Europe" 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 221 cents per tonne-kilometre (at 1 200 km) on routes in "Europe".

10. No cargo rate levels against distance are shown in Table 3-3 for routes across the North Atlantic, the Mid Atlantic and the North-Mid Pacific for September 1990 as these rates were found to be more dependent on other factors than distance (see Chapter 4 for a fuller discussion).

Changes in level of general cargo rates for small shipments between 1989 and 1990

11. 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 1989 and September 1990, 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.

12. As shown by Table 3-4, between September 1989 and September 1990 the estimated world average general cargo rates expressed in U.S. dollars for shipments of less than 45 kg showed increases by some 16 per cent at 250 km and by about 1 per cent at 16 000 km. In terms of local selling currencies, cargo rates showed increases of about 6 per cent at the shorter distances and decreases of almost 3 per cent at the longer distances.

13. For the individual route groups the degree of change shown in the general cargo rates expressed in U.S. dollars between 1989 and 1990 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).

14. Between September 1989 and September 1990, most of the currencies of the countries in Europe, Africa and in the South Pacific appreciated against the U.S. dollar. Hence, the change in rates for routes within Europe (route group 6), within Africa (route group 8) and across the South Pacific (route group 17) are lower when rates are expressed in local selling currencies than when expressed in U.S. dollars. For routes between Europe and the Middle East (route group 9) the relatively high increase at the shorter distances for rates expressed in local selling currencies is due to the depreciation of the national currencies of a few countries in Eastern Europe in relation to the U.S. dollar. (For a more detailed analysis on exchange rates see paragraphs 13 through 17 in Chapter 2.)

Table 3-4. Percentage change in average general cargo rates for small shipments by route group and by distance, between September 1989 and September 1990

Route group (short title)	Percentage change by distance (km)							
	250	500	1 000	2 000	4 000	8 000	12 000	16 000
International total - WORLD								
in U.S.$	16.2	13.6	11.0	8.5	6.1	3.7	2.3	1.4
(in selling currencies)	(6.0)	(4.5)	(3.0)	(1.6)	(0.2)	(-1.2)	(-2.1)	(-2.6)
1. North-Central America								
in U.S.$	1.8	2.0	2.3	2.6	2.9	-	-	-
(in selling currencies)	(2.3)	(2.2)	(2.1)	(2.0)	(1.9)	-	-	-
2. Central America								
in U.S.$	4.2	3.3	2.5	1.6	-	-	-	-
(in selling currencies)	(1.1)	(1.3)	(1.5)	(1.6)	-	-	-	-
3. North America								
in U.S.$	10.9	8.5	6.2	4.0	1.8	-	-	-
(in selling currencies)	(9.2)	(7.1)	(5.0)	(2.9)	(0.9)	-	-	-
4. North-South America								
in U.S.$	-	-4.6	-3.4	-2.2	-1.0	0.3	-	-
(in selling currencies)	-	(-5.6)	(-4.2)	(-2.8)	(-1.3)	(0.1)	-	-
5. South America								
in U.S.$	-29.8	-25.8	-21.5	-17.1	-12.3	-	-	-
(in selling currencies)	(-29.6)	(-25.7)	(-21.7)	(-17.4)	(-12.9)	-	-	-
6. Europe								
in U.S.$	23.3	21.3	19.4	17.5	15.6	-	-	-
(in selling currencies)	(2.1)	(3.0)	(3.8)	(4.7)	(5.6)	-	-	-
7. Middle East								
in U.S.$	-0.2	0.2	0.7	1.1	-	-	-	-
(in selling currencies)	(0.3)	(2.2)	(4.2)	(6.1)	-	-	-	-
8. Africa								
in U.S.$	8.9	9.9	11.0	12.0	13.0	-	-	-
(in selling currencies)	(2.1)	(2.7)	(3.3)	(3.9)	(4.6)	-	-	-
9. Europe-Middle East								
in U.S.$	-	13.8	11.7	9.7	7.7	-	-	-
(in selling currencies)	-	(38.2)	(24.4)	(12.1)	(0.9)	-	-	-
10. Europe-Africa								
in U.S.$	-	1.3	5.0	8.8	12.7	16.7	-	-
(in selling currencies)	-	(1.2)	(2.0)	(2.8)	(3.5)	(4.3)	-	-
11. North Atlantic[1]								
in U.S.$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
12. Mid Atlantic[1]								
in U.S.$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
13. South Atlantic								
in U.S.$	-	-	-	-	1.6	7.9	11.8	-
(in selling currencies)	-	-	-	-	(-3.3)	(-1.3)	(-0.1)	-
14. Asia/Pacific								
in U.S.$	5.4	4.6	3.8	3.0	2.3	1.5	1.0	-
(in selling currencies)	(7.3)	(5.9)	(4.5)	(3.1)	(1.7)	(0.4)	(-0.4)	-
15. Europe-Asia/Pacific								
in U.S.$	-	-	8.9	6.2	3.6	1.1	-0.4	-1.4
(in selling currencies)	-	-	(21.3)	(12.8)	(4.8)	(-2.6)	(-6.6)	(-9.4)
16. North-Mid Pacific[1]								
in U.S.$	-	-	-	-	-	-	-	-
(in selling currencies)	-	-	-	-	-	-	-	-
17. South Pacific								
in U.S.$	-	-	-	-	7.7	5.1	3.6	2.6
(in selling currencies)	-	-	-	-	(-0.3)	(0.3)	(0.6)	(0.8)

1. In September 1990 rate levels across the North Atlantic, the Mid Atlantic 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.

Other cargo rates

15. 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 40 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 "Europe", "Middle East", "Africa", "Europe-Africa" and "Asia/Pacific". In September 1990 these rates were also uncommon on routes within South America due to the introduction of a new cargo tariff structure which significantly reduced the level of general cargo rates between September 1989 and September 1990. Some specific commodity rates existed for about 65 per cent of city-pairs in the world-wide sample, some 5 per cent less than in September 1989. Where available, in September 1990 there were on average about four 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.

Chapter 4

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 4-1 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	1000	3000	5000
Fares in cents per pass-km, 1990					
Average	46.3	32.2	22.5	12.7	9.7
Northbound	46.2	32.2	22.5	12.7	9.7
Southbound	46.4	32.3	22.4	12.6	9.7
Percentage change (%), 1990/1989					
Average	22.2	16.7	11.5	3.7	0.2
Northbound	21.6	16.6	11.8	4.6	1.5
Southbound	22.9	16.9	11.2	2.8	-1.0

Other passenger fares

3. Table 4-1 shows for September 1990 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. Special fares for first class travel were also available in September 1990 for 4 out of the 10 city-pairs, a significant decrease over the seven city-pairs for which these fares were available in September 1989. The economy class excursion fare remained the special fare most widely available to the general public in September 1990. These fares were within a range 17 to 50 per cent lower than the

Route group 1 (cont.)

related economy class normal fare. Economy class restricted fares were available on on 6 city-pairs, three less than for September 1989. While Apex fares were available for 6 city-pairs in the sample two city-pairs less than for the previous year. These and the other fares shown were those published in multilateral tariff manuals in September 1990; other fares may also exist as individual airline tariffs.

General cargo rates for small shipments

4. The curves on Graph 4-2 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.

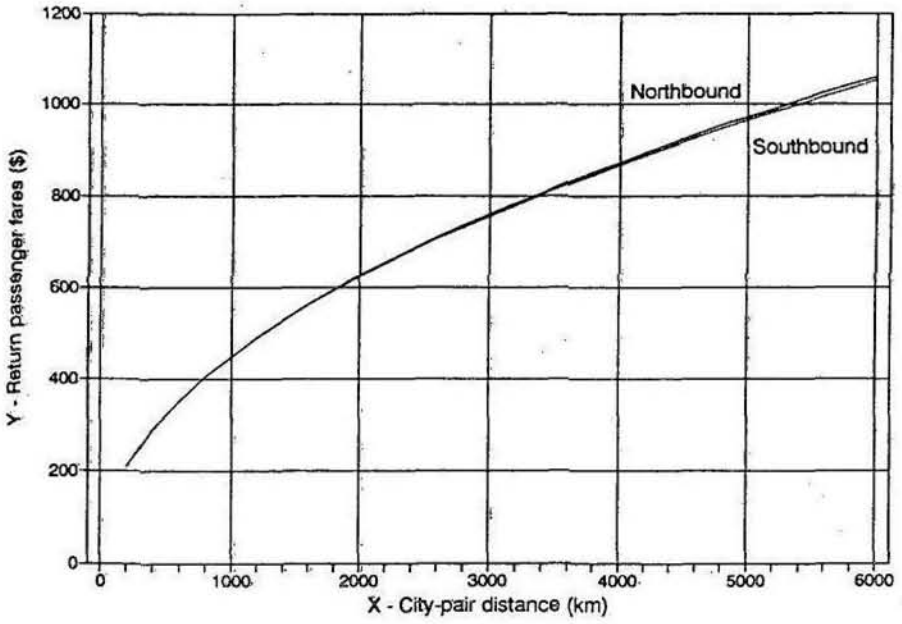
5. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

Estimated general cargo rates for shipments of less than 45 kg	Distance in km 250	500	1000	3000	5000
Rates in cents per tonne-km, 1990					
Average	237	185	144	96	80
Northbound	234	184	144	98	82
Southbound	240	185	143	95	79
Percentage change (%), 1990/1989					
Average	1.8	2.0	2.3	2.8	3.0
Northbound	2.1	2.5	2.9	3.6	3.9
Southbound	1.5	1.7	1.8	2.0	2.1

Other cargo rates

6. Table 4-2 shows for September 1990 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 remained available for 9 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) was available for 4 out of 10 city-pairs in the sample.

Route group 1 (cont.)



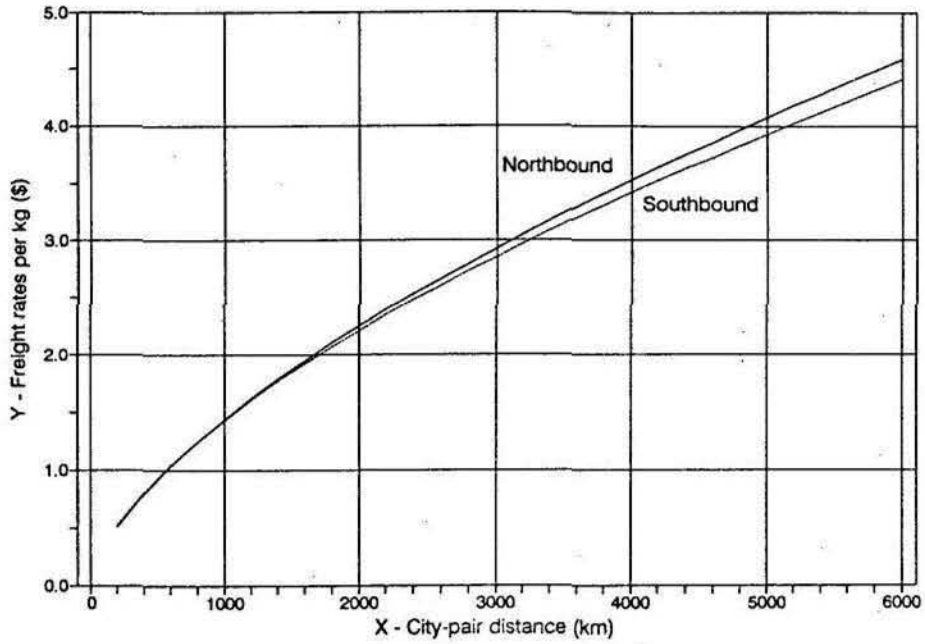
Graph 4-1. Economy class normal passenger fares (route group 1)

Table 4-1. Range of passenger fares available (route group 1)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES[1]						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)					
Panama City - Los Angeles	4 840	1 186	197	115	-	73	-	-
Los Angeles - San José	4 410	816	-	-	-	77	58	66
Montreal - Fort-de-France	3 670	977	145	-	-	-	37	42
Aruba - New York	3 320	784	127[2]	-	-	50-64	48-50	-
Kingston - Toronto	2 870	884	145	120	87	62	29-43	36
New York - Santo Domingo	2 500	510	142-191[2]	-	75-82	70-83	70	-
San Salvador - Houston	1 990	850	117[3]	-	76	52	-	-
New Orleans - Guatemala	1 710	636	-	-	69	57	-	-
Port-au-Prince - Miami	1 150	418	123-128[2]	-	54-64	53-75	59	43
Fort Lauderdale - Nassau	290	202	121	-	83	50-51	-	-

1. Where applicable, only midweek fare levels are shown; weekend fares are somewhat higher.
2. First class, restricted, excursion and/or Apex fares also available.
3. First class restricted fares also available.

Route group 1 (cont.)



Graph 4-2. General cargo rates for shipments of less than 45 kg (route group 1)

Table 4-2. 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[1])	Over 500 kg (as a percentage of under-45 kg rate[1])	Range (as a percentage of under-45 kg rate[1])	Number of commodities
Panama City - Los Angeles	4 840	50	4.88-5.12	68-71	48-51	19-30	3
Los Angeles - San Jose	4 410	45	3.06-4.44	69-71	48-55	-	-
Montreal - Fort-de-France	3 670	57	4.12	75	58	17-50	8
Aruba - New York	3 320	50	2.91	78	53	41-60	1
Kingston - Toronto	2 870	45	3.10	76	67	17-30	1
New York - Santo Domingo	2 500	45-50	1.85-1.98	80-83	70	50-71	4
San Salvador - Houston	1 990	45	3.24	74	54	15	2
New Orleans - Guatemala	1 710	45	1.63-3.10	53-72	27-54	25-35	3
Port-au-Prince - Miami	1 150	45-50	1.22-1.30	76-81	61-76	23-54	12
Miami - Nassau	300	45	0.88	77	70	48	1

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 4-3 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	1000	2000	3000
Fares in cents per pass-km, 1990	34.5	25.3	18.6	13.6	11.4
Percentage change (%), 1990/1989	0.8	1.3	1.7	2.2	2.5

Other passenger fares

3. Table 4-3 shows for September 1990 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 widely available in September 1990, while intermediate class fares were available for 4 city-pairs in the sample, three more than in September 1989. The economy class excursion fare remained the special fare most widely available to the general public, with a level between 21 and 66 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 4-4 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:

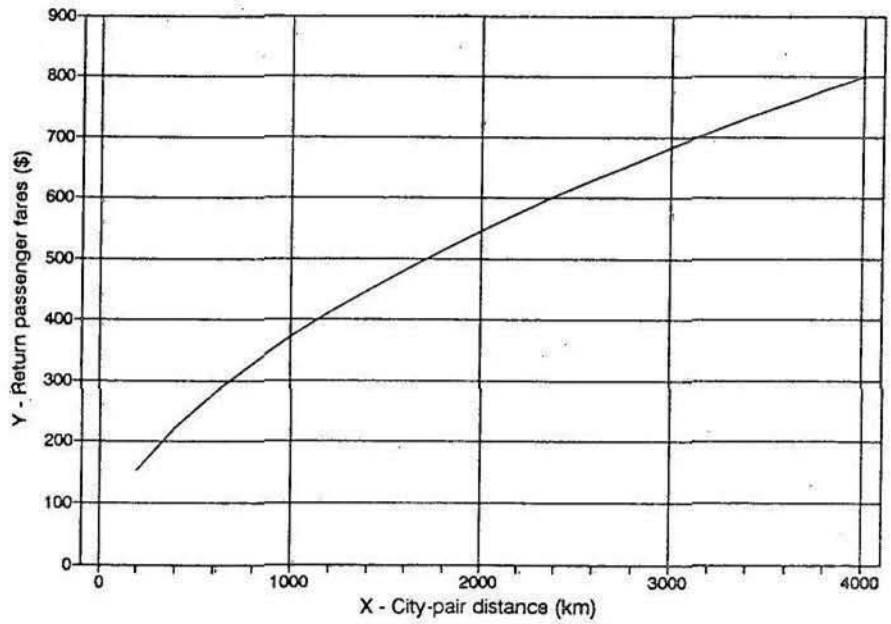
Route group 2 (cont.)

Estimated general cargo rates for shipments of less than 45 kg	Distance in km 250	500	1000	2000	3000
Rates in cents per tonne-km, 1990	331	239	173	125	103
Percentage change (%), 1990/1989	4.2	3.3	2.5	1.6	1.2

Other cargo rates

6. Table 4-4 shows for September 1990 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 for the previous years, a reduction of up to about 50 per cent for large shipments (over 500 kg). On the other hand, few specific commodity rates were available on this route group.

Route group 2 (cont.)



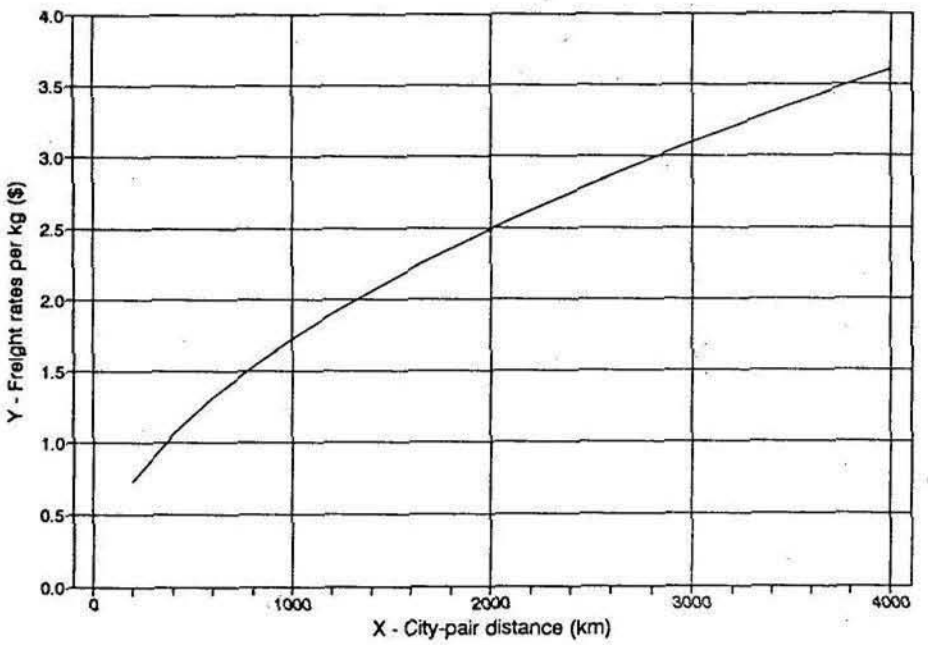
Graph 4-3. Economy class normal passenger fares (route group 2)

Table 4-3. Range of passenger fares available (route group 2)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES[1] First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	GROUP FARES economy class
			(as a percentage of the highest economy class normal fare)					
San Juan - San José	2 170	780	143	108	-	49-64	-	37
Mexico - Havana	1 770	468	-	-	-	79	-	51
Fort-de-France - Port-au-Prince	1 370	722	136	-	-	61	-	-
San Salvador - Panama City	1 190	450	-	119	-	-	-	-
Port-of-Spain - Curaçao	850	426	130[2]	-	-	34-65	-	-
St. Kitts - Port of Spain	760	428	147	-	-	75	-	-
Port-au-Prince - Kingston	480	272	140[2]	-	-	64-72	-	-
Guatemala - Tegucigalpa	410	160	175	115	-	75	-	64
Belize - San Pedro Sula	240	130	-	115	-	69	-	-
Antigua - Point-à-Pitre	100	112	-	-	-	65-79	-	-

1. Where applicable, only midweek fare levels are shown; weekend fares are somewhat higher.
2. First class excursion fares also available.

Route group 2 (cont.)



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

Table 4-4. 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
San Juan - San José	2 170	45	3.42	78	58	-	-
Mexico - Havana	1 770	45	2.18	77	62	-	-
Fort de France - Port-au-Prince	1 370	65	4.72	78	49	-	-
San Salvador - Panama City	1 190	50	1.48	77	55	-	-
Port of Spain - Curaçao	850	50	2.02	75	52	40-50	5
St. Kitts - Port-of-Spain	760	50	1.98	77	58	-	-
Port au Prince - Kingston	480	45	1.41	80	57	-	-
Guatemala - Tegucigalpa	410	45	0.43	81	67	-	-
San Pedro Sula - Guatemala	290	45	0.39	62	62	-	-
Antigua - Pointe-à-Pitre	100	50	0.63	85	81	-	-

Route Group 3: Between Canada, Mexico and the United States

Economy class normal passenger fares

1. The curve on Graph 4-5 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	1000	2000	4000	6000
Fares in cents per pass-km, 1990	39.7	27.9	19.6	13.8	9.7	7.9
Percentage change (%), 1990/1989	8.8	7.1	5.4	3.8	2.2	1.3

Other passenger fares

3. Table 4-5 shows for September 1990 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 were widely available in September 1990. Intermediate class fares were available on 4 of the 10 city-pairs in the sample, two less than for September 1989. Excursion and Apex fares were the special fares in economy class most widely available in this route group in 1990. The level of the excursion fares ranged between 17 and 52 per cent below that of the related economy class normal fares whereas that of Apex fares ranged between 19 and 70 per cent below. Economy class restricted fares were only available for 3 city-pairs in the sample.

General cargo rates for small shipments

4. The curve on Graph 4-6 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.

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

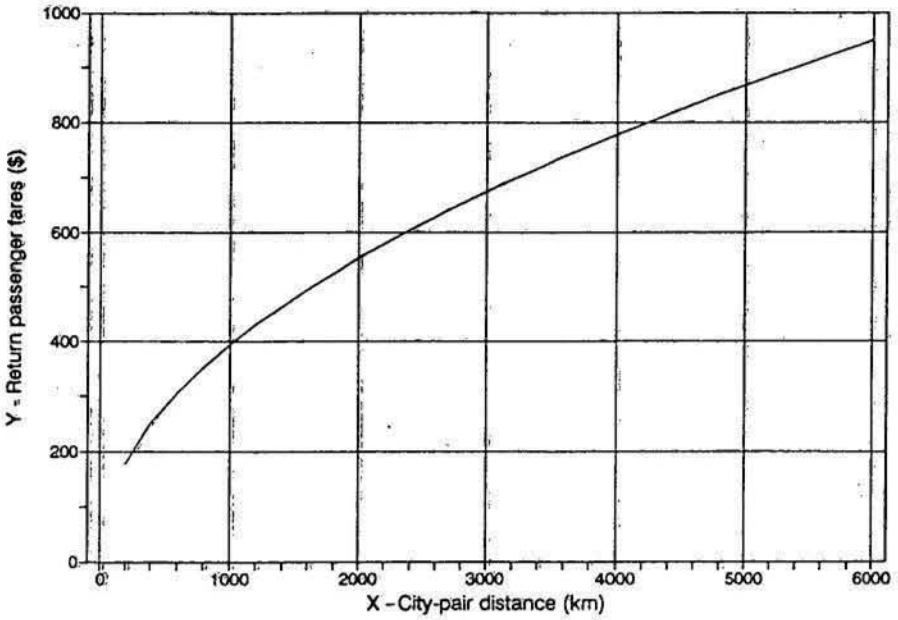
Estimated general cargo rates for shipments of less than 45 kg	Distance in km 250	500	1000	2000	4000	6000
Rates per tonne-km in cents, 1990	297	191	122	78	50	39
Percentage change (%), 1990/1989	10.9	8.5	6.2	4.0	1.8	0.5

Route group 3 (cont.)

Other cargo rates

6. Table 4-6 shows for September 1990 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). As in the previous year, the average reduction for large shipments (over 500 kg) was about 45 per cent on the general cargo rate for small shipments. Specific commodity rates remained available on a limited basis for only a few city-pairs in the sample. Bulk unitization rates for freight carried in unit load devices (ULDs) remained available for most of the sampled city-pairs between Canada and the United States.

Route group 3 (cont.)



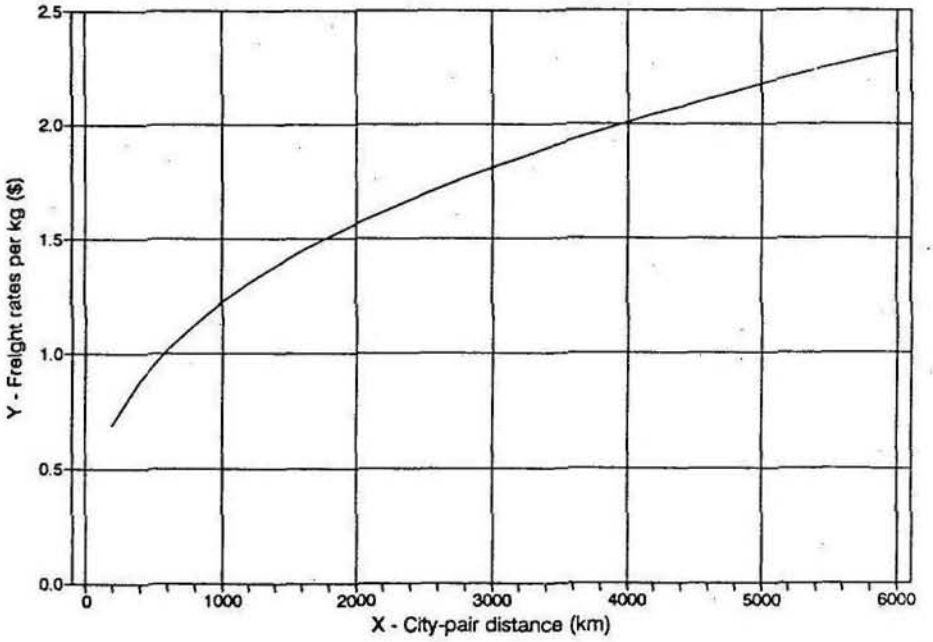
Graph 4-5. Economy class normal passenger fares (route group 3)

Table 4-5. Range of passenger fares available (route group 3)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES[1]						GROUP FARES
		Highest economy class normal (U.S.$)	First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	economy class
			(as a percentage of the highest economy class normal fare)					
Montreal - Los Angeles	3 950	1 235	165	110	-	-	44-63	-
Mexico - Vancouver	3 940	716	159	103	-	77	55	-
New York - Calgary	3 280	904	165	110	-	-	47-62	-
Philadelphia - Mexico	3 214	682	171	-	-	59	52-54	-
Puerto Vallarta - San Francisco	2 500	514	150	-	-	63-74	63-69	-
Toronto - Tampa	1 770	588	149-165[2]	109	91	81	30-81	-
Mexico - Dallas	1 510	390	141-147	-	89	48-65	48-55	53-55
Chicago - Montreal	1 180	454	172	-	-	-	33-81	-
Miami - Cozumel	900	246	-	-	-	55-83	73	-
Toronto - Washington	570	444	150-165[2]	-	66	-	55-63	-

1. Where applicable, only midweek fare levels are shown; weekend fares are somewhat higher.
2. First class restricted fares also available.

Route group 3 (cont.)



Graph 4-6. General cargo rates for shipments of less than 45 kg (route group 3)

Table 4-6. 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[1])	Over 500 kg (as a percentage of under-45 kg rate[1])	Range (as a percentage of under-45 kg rate[1])	Number of commodities
Montreal - Los Angeles	3 950	28	1.84	76	67	36-45	1
Mexico - Vancouver	3 940	50	3.00-3.15	83-87	68-72	24-54	5
New York - Calgary	3 280	30	2.33	82	75	-	-
Chicago - Mexico	2 720	45-50	1.74-1.96	71-94	66-74	-	-
Puerto Vallarta - San Francisco	2 500	45	2.17	79	71	-	-
Toronto - Tampa	1 765	24	1.30	69	60	38-45	2
Mexico - Dallas	1 510	37-50	1.33-1.43	67-72	60-64	27-43	7
Chicago - Montreal	1 180	23	1.27	72	69	-	-
Miami - Cancun	860	45-50	1.08-2.05	44-80	64	-	-
Toronto - Washington	570	24-34	0.91-1.90	26-86	29	-	-

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 4-7 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	1000	2000	4000	7000	10000
Fares in cents per pass-km, 1990						
Average	21.2	18.4	16.0	13.9	12.4	11.6
Northbound	21.1	18.3	15.8	13.7	12.2	11.4
Southbound	21.2	18.5	16.2	14.1	12.7	11.8
Percentage change (%), 1990/1989						
Average	-1.1	-0.1	0.9	2.0	2.8	3.3
Northbound	-3.1	-1.1	1.0	3.1	4.8	5.9
Southbound	1.1	1.1	1.1	1.1	1.0	1.0

Other passenger fares

3. Table 4-7 shows for September 1990 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 were widely available in September 1990 in this route group. Intermediate class fares were available on 7 out of 10 city-pairs in the sample. 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 16 to 57 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 were also available in September 1990. These are published fares which allow for travel by a continuous circuitous air route and include up to four or five free stopovers.

General cargo rates for small shipments

4. The curves on Graph 4-8 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.)

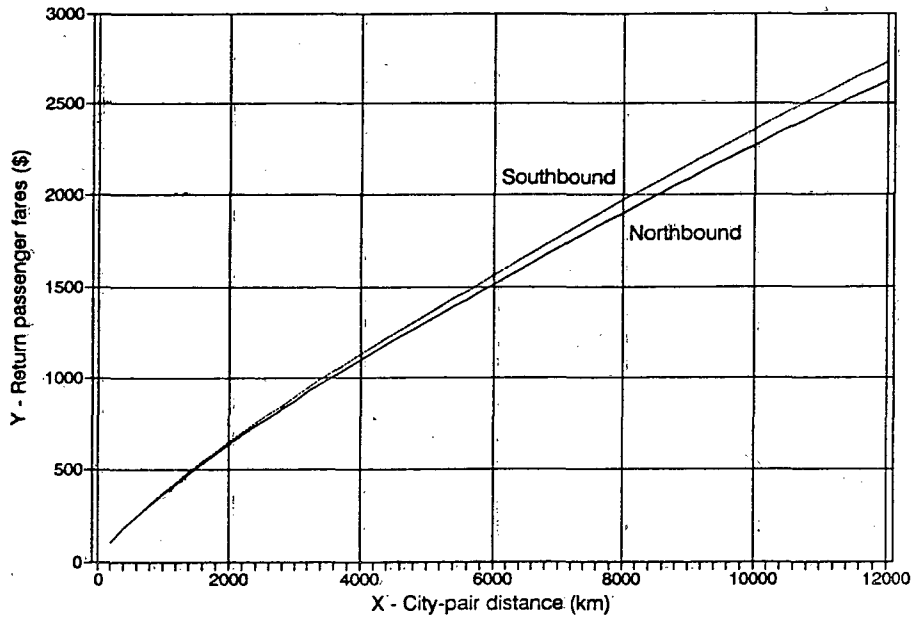
5. Estimated small shipment general cargo rate levels per tonne-kilometre are shown in the following table:

Estimated general cargo rates for shipments of less than 45 kg	Distance in km 500	1000	2000	4000	7000	10000
Rates in cents per tonne-km, 1990						
Average	199	158	125	99	82	73
Northbound	202	154	118	90	72	63
Southbound	195	161	133	109	94	85
Percentage change (%), 1990/1989						
Average	-4.6	-3.4	-2.2	-1.0	0.0	0.7
Northbound	-2.2	-1.0	0.3	1.5	2.6	3.2
Southbound	-7.9	-6.0	-4.2	-2.2	-0.6	0.4

Other cargo rates

6. Table 4-8 shows for September 1990 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 a number of city-pairs. These specific commodity rates were, on average, some 55 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 one city-pair in the sample (Santiago de Chile New York).

Route group 4 (cont.)



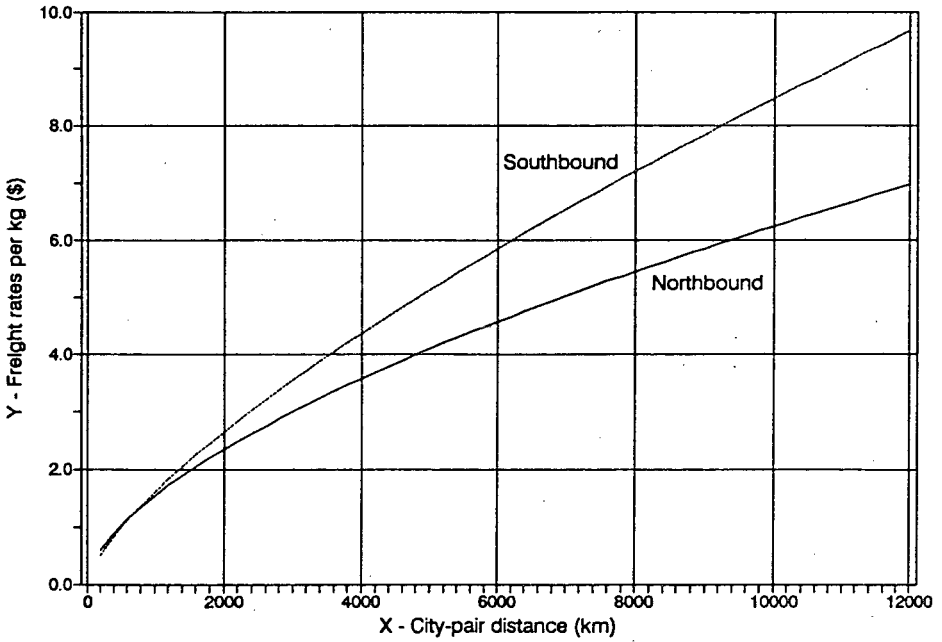
Graph 4-7. Economy class normal passenger fares (route group 4)

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

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES[1] Highest economy class normal (U.S.$)	First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class PEX, APEX	GROUP FARES economy class
			(as a percentage of the highest economy class normal fare)					
Montreal - Buenos Aires	10 110	2 730	177	113	76	-	45-54	-
Santiago de Chile - New York	8 410	2 174	183	120	77	57-72	60	56
Rio de Janeiro - San Jose	6 220	1 556	157	115	-	55	-	-
Los Angeles - Quito	5 620	1 178	167	-	-	64	61	57
Panama City - Asuncion	4 890	1 484	147	107	77	61-65	-	-
Miami - Manaus	3 880	1 522	185	116	66-70	56	38-45	-
Aruba - Lima	2 840	1 032	154	115	-	84	-	41
Caracas - Miami	2 190	656	149[2]	125	78	67	-	-
Bogota - Santo Domingo	1 690	678	140	-	-	43-67	-	-
Port-of-Spain - Georgetown	570	258	147[2]	-	-	49-59	-	-

1. Where applicable, only midweek fare levels are shown; weekend fares are somewhat higher.
2. First class restricted and/or excursion fares also available.

Route group 4 (cont.)



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

Table 4-8. 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[1])	Over 500 kg (as a percentage of under-45 kg rate[1])	Range (as a percentage of under-45 kg rate[1])	Number of commodities
Montreal - Buenos Aires	10 110	57	9.56	76	50	38	1
Santiago de Chile - New York	8 410	33-50	4.17-4.85	65-77	45-48	22-62	26
Rio de Janeiro - San José	6 220	50	5.20	76	41	-	-
Los Angeles - Quito	5 620	40-50	6.01	73	54	-	-
Panama City - Asuncion[2]	4 890	50	4.38	-	-	61-101	5
Miami - Manaus	3 880	50	5.39	77	58	45	1
Aruba - Lima	2 840	50	4.35	76	52	-	-
Caracas - Miami	2 190	50	2.18	72	47	14-56	9
Bogota - Santo Domingo	1 690	50	1.94	79	55	-	-
Port-of-Spain - Georgetown	570	50	1.62	73	52	44-47	2

1. Rates calculated as a percentage of the higher under 45-kg rate.
2. First breakpoint for general cargo rates is 100 kg (not 45 kg).

Route Group 5: Local South America

Economy class normal passenger fares

1. The curve on Graph 4-9 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	1000	3000	5000
Fares in cents per pass-km, 1990	22.9	19.6	16.8	13.2	11.7
Percentage change (%), 1990/1989	4.2	4.1	4.0	3.8	3.7

Other passenger fares

3. Table 4-9 shows for September 1990 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 1990. Economy class excursion fares remained the only widely available special fares for individual travel in this route group. Their level was between 11 and 59 per cent lower than the related economy class normal fares. Also available in September 1990 were "circle fares" for travel within South America. These are published fares which allow for travel by a continuous circuitous air route and include up to four or five free stopovers.

General cargo rates for small shipments

4. The curve on Graph 4-10 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	1000	3000	5000
Rates in cents per tonne-km, 1990	219	181	149	110	96
Percentage change (%), 1990/1989	-29.8	-25.8	-21.5	-14.3	-10.7

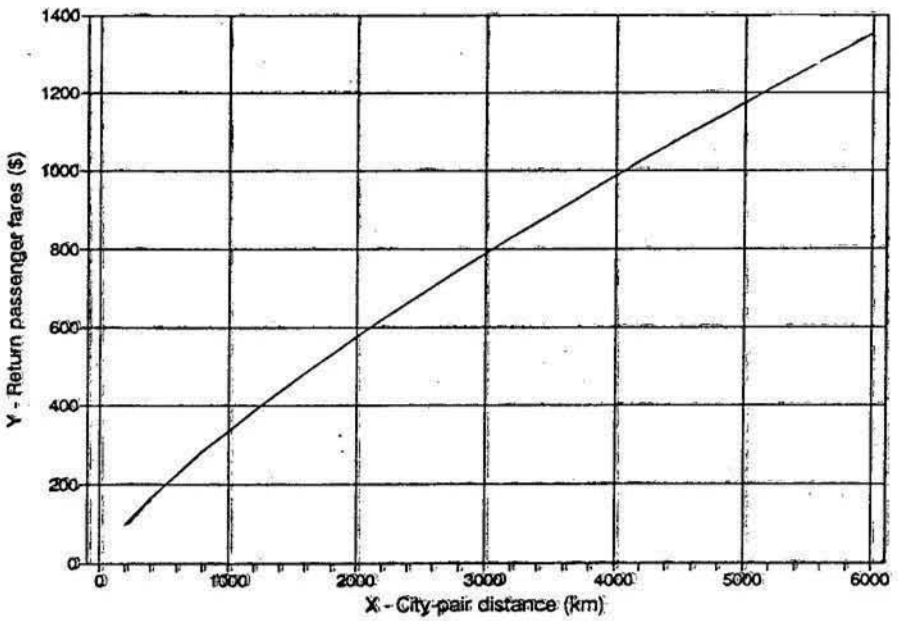
Route group 5 (cont.)

6. The relatively large decrease in general cargo rates for shipments within South America reflects a new cargo rate 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).

Other cargo rates

7. Table 4-10 shows for September 1990 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. As in previous years, breakpoints at 300 kg remained available for all city-pairs in the sample. In September 1990 reductions for large shipments (over 500 kg) were only available for two of the city-pairs in the sample compared with all the city-pairs in the same sample in September 1989. This reduction in the availability of general cargo rates for large shipments should be viewed in the context of the new tariff structure. Where applied in September 1990, general cargo rates for shipments over 300 kg were either lower or at the same level than the rates available for shipments of over 500 kg in September 1990. 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 remained virtually unchanged between September 1989 and September 1990.

Route group 5 (cont.)

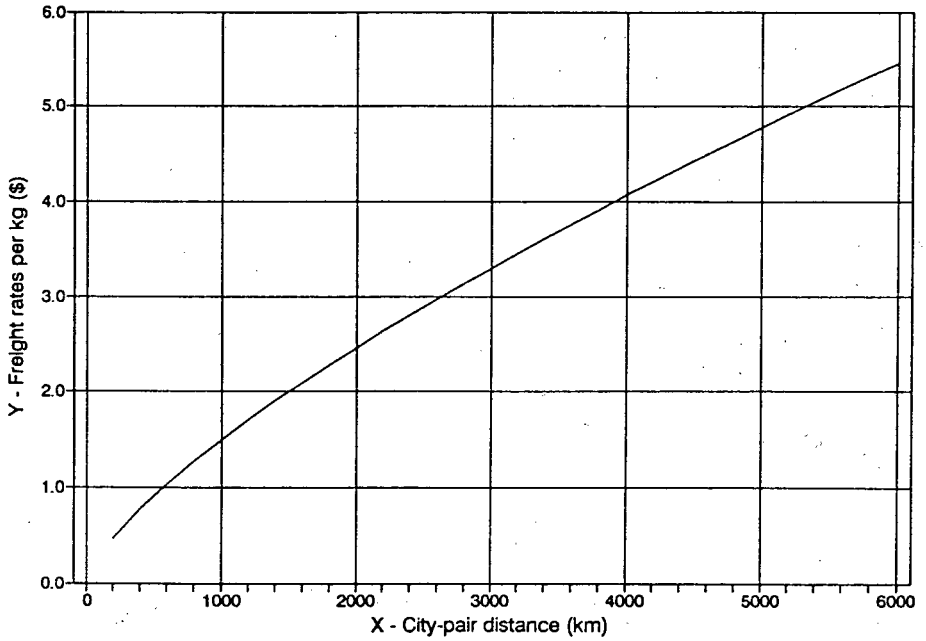


Graph 4-9. Economy class normal passenger fares (route group 5)

Table 4-9. Range of passenger fares available (route group 5)

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 PEX	Economy class
			(as a percentage of the highest economy class normal fare)					
Bogota - Buenos Aires	5 250	1 284	147	115	-	59-69	-	-
Rio de Janeiro - Caracas	4 526	1 326	143-157	111	-	49	-	-
Santiago de Chile - Quito	3 870	824	154-161	119	-	87	-	78
Caracas - Lima	2 750	860	145	110	-	80	51	-
La Paz - Sao Paulo	2 380	554	160-230	168	-	76-89	-	-
Montevideo - Rio de Janeiro	1 830	568	158	116	-	72	-	-
Manaus - Iquitos	1 480	508	145	115	-	73	-	-
Buenos Aires - Santiago de Chile	1 140	394	143	115	-	46-79	-	50
Belem - Cayenne	810	308	163	116	-	68	-	-
Quito - Cali	470	220	146	115	-	41-55	-	66

Route group 5 (cont.)



Graph 4-10. General cargo rates for shipments of less than 45 kg (route group 5)

Table 4-10. 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	4.99	-	-	37-49	2
Rio de Janeiro - Caracas	4 526	50	4.20[1]	77	40	31-35[2]	2
Santiago de Chile - Quito	3 870	50	3.64	-	-	27	1
Caracas - Lima	2 750	50	3.50[1]	75	52	22-23[2]	2
La Paz - Sao Paulo	2 380	35	2.75	-	-	-	-
Montevideo - Rio de Janeiro	1 830	35	1.60	-	-	34-48	3
Manaus - Iquitos	1 480	50	1.82	-	-	-	-
Buenos Aires - Santiago de Chile	1 140	35	0.44	-	-	107-209	3
Porto Alegre - Montevideo	700	35	0.88	-	-	34-64	2
Quito - Cali	470	50	1.06	-	-	-	-

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 4-11 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	1000	2000	3000	4000
Fares in cents per pass-km, 1990	70.0	51.8	38.4	28.4	23.8	21.0
Percentage change (%), 1990/1989	29.7	27.2	24.8	22.5	21.1	20.2

Other passenger fares

3. Table 4-11 shows for September 1990 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 1990 first class fares remained widely available in this route group whereas intermediate class fares were only available for one city-pair in the sample (compared with four city-pairs in September 1989). 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 seven city-pairs in the sample, while Apex and "Eurobudget" fare types were available for four city-pairs. "Eurobudget" fare levels ranged between 10 and 15 per cent below the applicable economy class normal fare, Pex-type fare levels were between 35 to 60 per cent below the applicable economy class normal fare, while Apex and Super Pex fare levels were some 60 to 70 per cent below the economy class normal fare.

General cargo rates for small shipments

4. The curve on Graph 4-12 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.

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

Route group 6 (cont.)

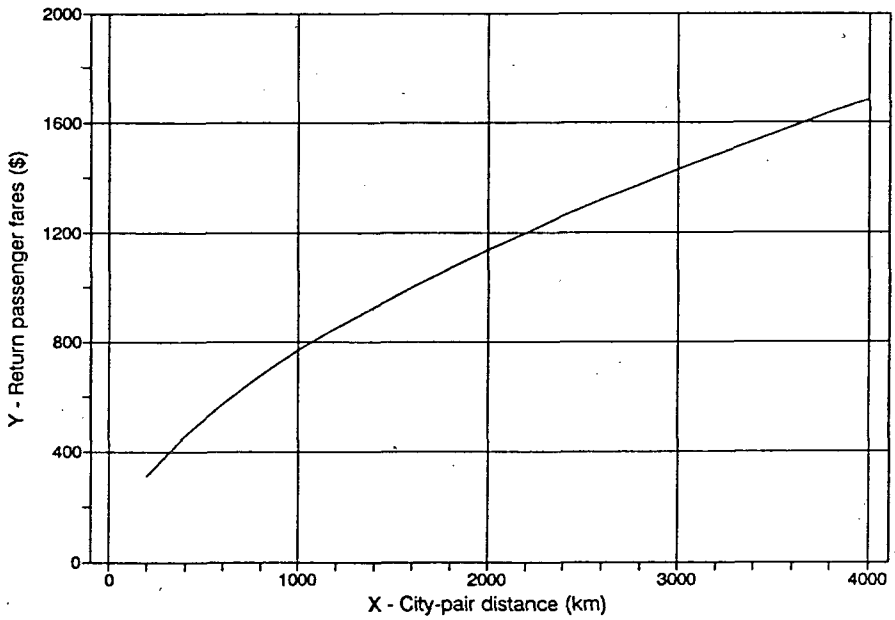
Estimated general cargo rates for shipments of less than 45 kg	Distance in km 250	500	1000	2000	3000	4000
Rates in cents per tonne-km, 1990	449	328	240	176	146	128
Percentage change (%), 1990/1989	23.3	21.3	19.4	17.5	16.4	15.6

6. Between September 1989 and September 1990 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. In September 1990, the estimated average general cargo rate level for small shipments from three North African countries located, for tariff consideration purposes, in "Europe" and from some Eastern Mediterranean countries was some 40 to 50 per cent below the over-all average shown in the table above. For countries from where the alternative cargo tariff structure introduced in April 1988 is being used, the rates were significantly higher at the shorter distances (almost 60 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 1 200 km) they were lower than the over-all average general cargo rate reaching some 20 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 the shorter distances but some 20 per cent higher at the longer ones.

Other cargo rates

7. Table 4-12 shows for September 1990 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 where the "small shipment" breakpoint was 100 kg). Specific commodity rates were available on many city-pairs at an average reduction, as in previous years, of around 45 per cent on the general cargo rates for small shipments.

Route group 6 (cont.)



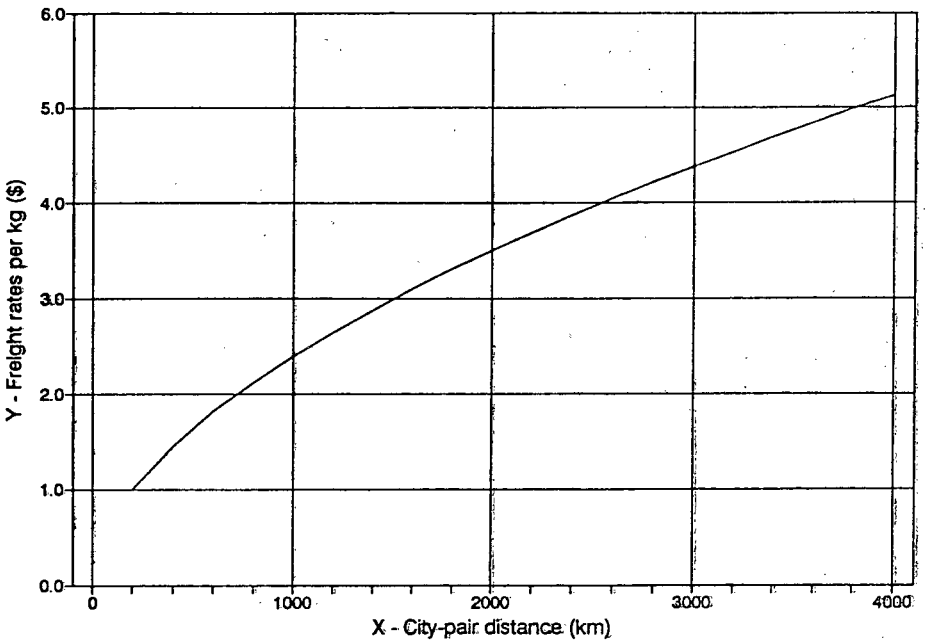
Graph 4-11. Economy class normal passenger fares (route group 6)

Table 4-11. Range of passenger fares available (route group 6)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES: First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class PEX, APEX[1]	GROUP FARES economy class
			(as a percentage of the highest economy class normal fare)					
Paris - Gran Canaria	2 830	1 332	127	-	-	60	32-40	-
Oujda - Frankfurt	1 900	945	140	-	-	65	57	-
London - Seville	1 620	782	180	-	-	80	87	-
Zurich - Malta	1 380	1 106	139	-	-	71	54	-
Rome - Bucharest	1 160	998	149	-	-	68	52	-
Belgrade - Prague	740	470	136	-	-	67	-	-
Algiers - Tunis	620	97	132	-	-	71	-	-
Amsterdam - Birmingham	440	485	163	124	-	71	65-90	-
Brussels - Strasbourg	350	456	145	-	-	68	38-58	-
Copenhagen - Gothenberg	230	378	141	-	-	-	38-63	-

1. "Eurobudget" and "Super Pex" fares also included.

Route group 6 (cont.)



Graph 4-12. General cargo rates for shipments of less than 45 kg (route group 6)

Table 4-12. 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
Paris - Gran Canaria	2 830	63	4.52	76	-	34-41	2
Casablanca - Frankfurt	2 280	64	2.32	76	69	35-63	15
London - Seville[1]	1 620	63	3.32	-	-	-	-
Zurich - Malta[2]	1 380	46	3.35	-	-	-	-
Rome - Bucharest	1 160	74	3.37	75	-	48	1
Belgrade - Prague	740	33	1.08	84	-	35-44	4
Algiers - Tunis	620	28	0.29	74	-	-	-
Amsterdam - Birmingham	440	71	2.00	76	-	51-100	8
Brussels - Strasbourg[2]	350	41	1.84	-	-	-	-
Copenhagen - Gothenberg[2]	230	42	1.93	-	-	-	-

1. 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.
2. 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.

Route Group 7: Local Middle East

Economy class normal passenger fares

1. The curve on Graph 4-13 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	1000	2000	3000
Fares in cents per pass-km, 1990	33.2	26.4	21.0	16.7	14.6
Percentage change (%), 1990/1989	2.8	3.6	4.4	5.2	5.7

Other passenger fares

3. Table 4-13 shows for September 1990 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 1990. 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

4. The curve on Graph 4-14 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.

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

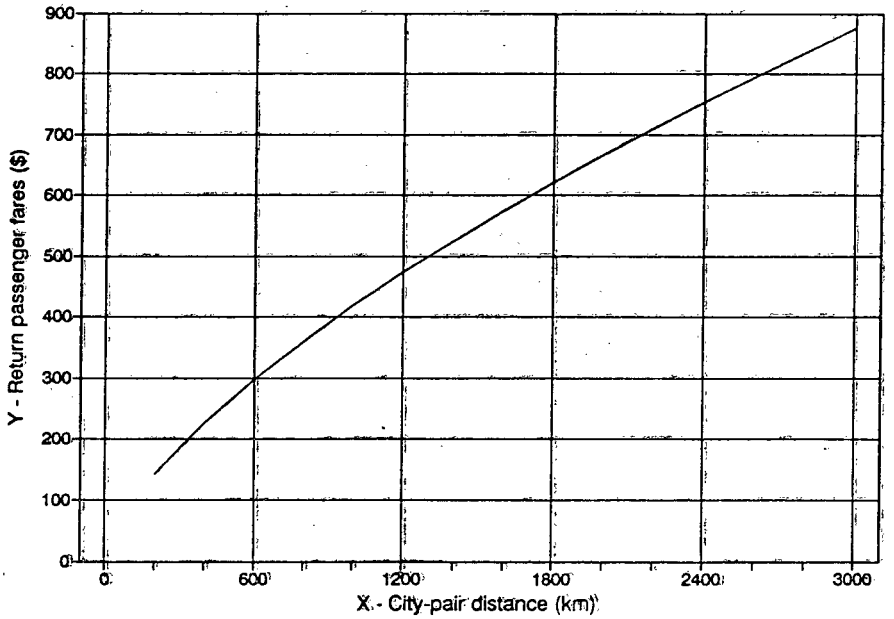
Route group 7 (cont.)

Estimated general cargo rates for shipments of less than 45 kg	Distance in km 250	500	1000	2000	3000
Rates in cents per tonne-km, 1990	250	196	153	120	104
Percentage change (%), 1990/1989	-0.2	0.2	0.7	1.1	1.4

Other cargo rates

6. Table 4-14 shows for September 1990 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 65 per cent on the general cargo rates for small shipments.

Route group 7 (cont.)

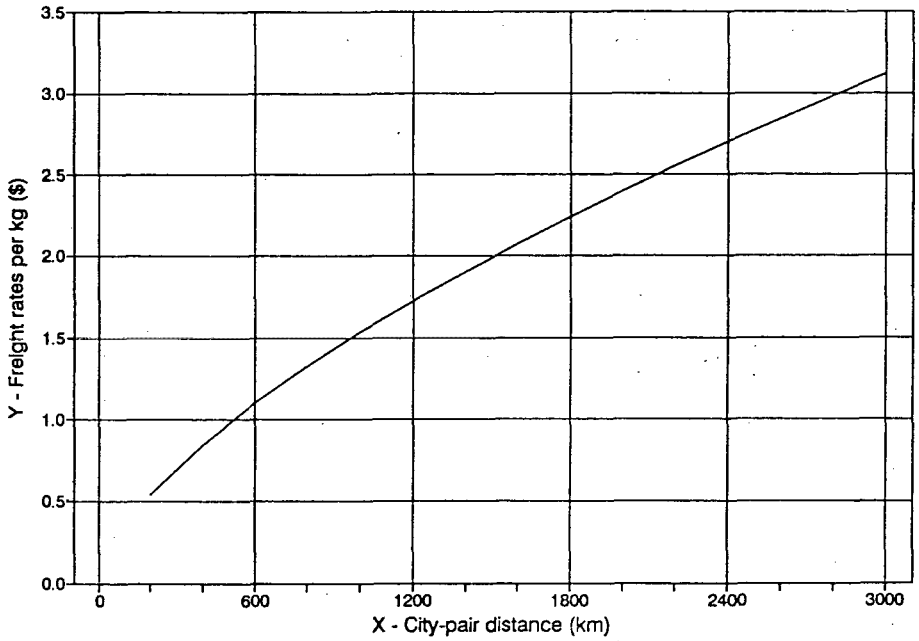


Graph 4-13. Economy class normal passenger fares (route group 7)

Table 4-13. 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	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	economy class
			(as a percentage of the highest economy class normal fare)					
Dhahran - Khartoum	2 180	650	140	110	-	75	-	-
Sanaa - Damascus	2 140	800	140	110	-	66	-	-
Bahrain - Larnaca	1 880	782	138	110	-	61	-	-
Cairo - Riyadh	1 610	540	138	110	-	66	-	-
Tehran - Sharjah	1 220	494	150	110	-	-	-	-
Jeddah - Aden	1 170	603	140	110	-	66	-	-
Kuwait - Dubai	850	288	139	110	-	70	-	-
Muscat - Doha	700	312	153	110	-	-	-	-
Shiraz - Abu Dhabi	600	372	150	110	-	-	-	-
Amman - Beirut	240	121	137	110	-	-	-	-

Route group 7 (cont.)



Graph 4-14. General cargo rates for shipments of less than 45 kg (route group 7)

Table 4-14. 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
Dhahran - Khartoum	2 180	20	2.40	75	-	35-58	2
Sanaa - Damascus	2 140	10	1.92	75	-	29-55	4
Bahrain - Larnaca	1 880	21	2.66	75	-	30-51	4
Cairo - Riyadh	1 610	22	1.96	75	-	21-43	16
Tehran - Sharjah	1 220	24	2.21	75	-	20-56	13
Jeddah - Aden	1 170	20	2.15	75	-	-	-
Kuwait - Dubai	850	21	1.46	75	-	-	-
Muscat - Doha	700	15	1.38	75	-	-	-
Shiraz - Abu Dhabi	600	24	1.39	74	-	30-44	5
Amman - Beirut	240	15	0.30	78	-	-	-

Route Group 8: Local Africa

Economy class normal passenger fares

1. The curve on Graph 4-15 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	1000	2000	4000	6000
Fares in cents per pass-km, 1990	31.1	26.1	21.9	18.4	15.4	13.9
Percentage change (%), 1990/1989	21.1	19.2	17.3	15.5	13.7	12.6

Other passenger fares

3. Table 4-15 shows for September 1990 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 1990. Economy class excursion fares were also widely available with a level some 30 per cent lower on average than the related economy class normal fares. A few group fares were also available. While there is a general lack of other special fares available to the general public for travel within Africa, there are a large number of preferential fares available to certain categories of passengers (youths, students, families, senior citizens, African diplomats, artists, sports people and seamen). Where available, these fares were some 10 to 50 per cent below the level of the applicable normal fares.

General cargo rates for small shipments

4. The curve on Graph 4-16 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:

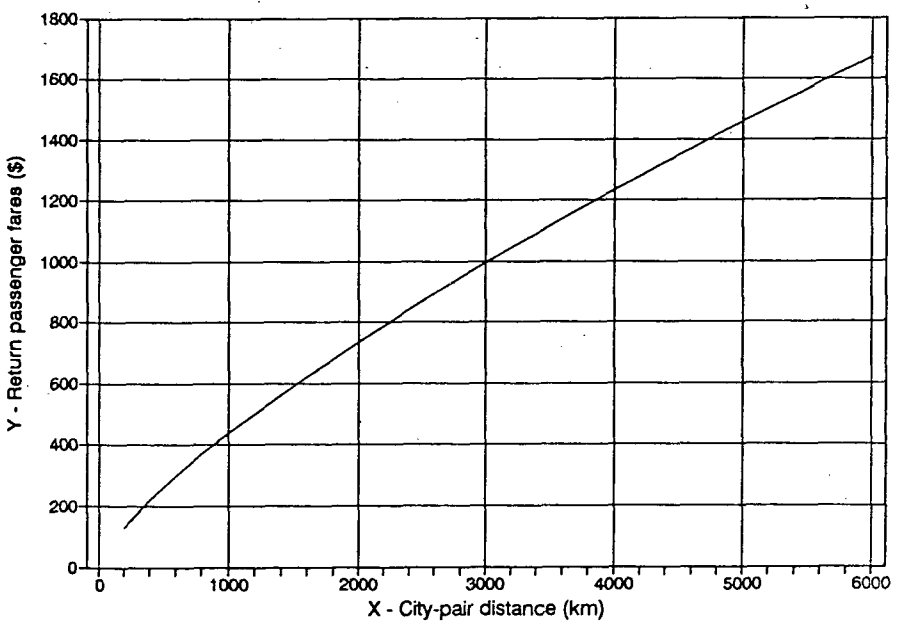
Route group 8 (cont.)

Estimated general cargo rates for shipments of less than 45 kg	Distance in km 250	500	1000	2000	4000	6000
Rates in cents per tonne-km, 1990	189	167	147	130	115	107
Percentage change (%), 1990/1989	8.9	9.9	11.0	12.0	13.6	13.6

Other cargo rates

6. Table 4-16 shows for September 1990 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 60 per cent in the general cargo rates for small shipments.

Route group 8 (cont.)

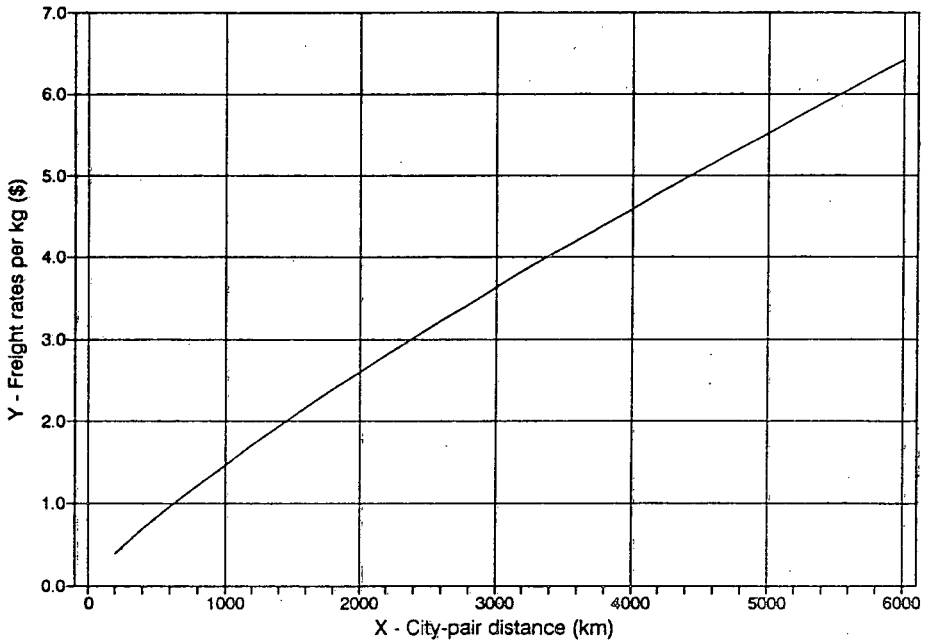


Graph 4-15. Economy class normal passenger fares (route group 8)

Table 4-15. Range of passenger fares available (route group 8)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES (as a percentage of the highest economy class normal fare)					GROUP FARES economy class
			First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	
Addis Ababa - Lagos	3 920	1 237	140	110	-	69	-	-
Nairobi - Johannesburg	2 910	663	145	115	-	81	-	-
Lomé - Kinshasa	1 970	950	140	115	-	71	-	-
Dar-es-Salaam - Lusaka	1 500	404	145	115	-	61	-	-
Monrovia - Dakar	1 230	620	140	115	-	70	-	-
Johannesburg - Harare	960	434	145	115	-	70	-	-
Antananarivo - St. Denis	870	461	145	115	-	59-72	-	48
Abidjan - Cotonou	710	312	140	115	-	70	-	50
Niamey - Ouagadougou	420	224	141	115	-	70	-	50
Conakry - Freetown	120	102	141	116	-	75	-	-

Route group 8 (cont.)



Graph 4-16. General cargo rates for shipments of less than 45 kg (route group 8)

Table 4-16. 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 (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Addis Ababa - Lagos	3 920	39	4.18	75	-	23-58	6
Nairobi - Johannesburg[1]	2 910	24	2.27	-	-	17-42	5
Lomé - Kinshasa	1 970	46	2.78	75	-	65-74	3
Dar-es-Salaam - Lusaka	1 500	26	0.93	78	-	19-50	14
Monrovia - Dakar	1 230	43	2.64	75	-	37	1
Johannesburg - Harare[1]	960	14	1.29	-	50	30-65	4
Antananarivo - St. Denis	870	42	1.55	75	-	-	-
Abidjan - Cotonou	710	46	1.33	76	-	-	-
Niamey - Ouagadougou	420	46	0.84	73	-	-	-
Conakry - Freetown	120	39	0.60	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 4-17 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	1000	2000	4000	6000
Fares in cents per pass-km, 1990					
Average	27.3	25.0	22.8	20.9	19.8
Eastbound	26.7	25.7	24.9	24.0	23.5
Westbound	28.0	24.2	21.0	18.2	16.7
Percentage change (%), 1990/1989					
Average	18.0	16.6	15.2	13.9	13.1
Eastbound	10.1	14.1	18.3	22.6	25.3
Westbound	26.5	19.1	12.2	5.7	2.0

3. Between September 1989 and September 1990 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 longer distances; however, at the shorter distances the directional imbalance in fare levels was reduced.

Other passenger fares

4. Table 4-17 shows for September 1990 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 1990. 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. Pex and group fares remained available to the general public for a few city-pairs in the sample.

General cargo rates for small shipments

5. The curves on Graph 4-18 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.

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

Route group 9 (cont.)

Estimated general cargo rates for shipments of less than 45 kg	Distance in km 500	1000	2000	4000	6000
Rates in cents per tonne-km, 1990					
Average	139	142	144	147	148
Eastbound	123	139	157	178	191
Westbound	157	144	132	121	115
Percentage change (%), 1990/1989					
Average	13.8	11.7	9.7	7.7	6.6
Eastbound	17.7	16.4	15.2	14.0	13.3
Westbound	9.9	7.0	4.1	1.3	-0.3

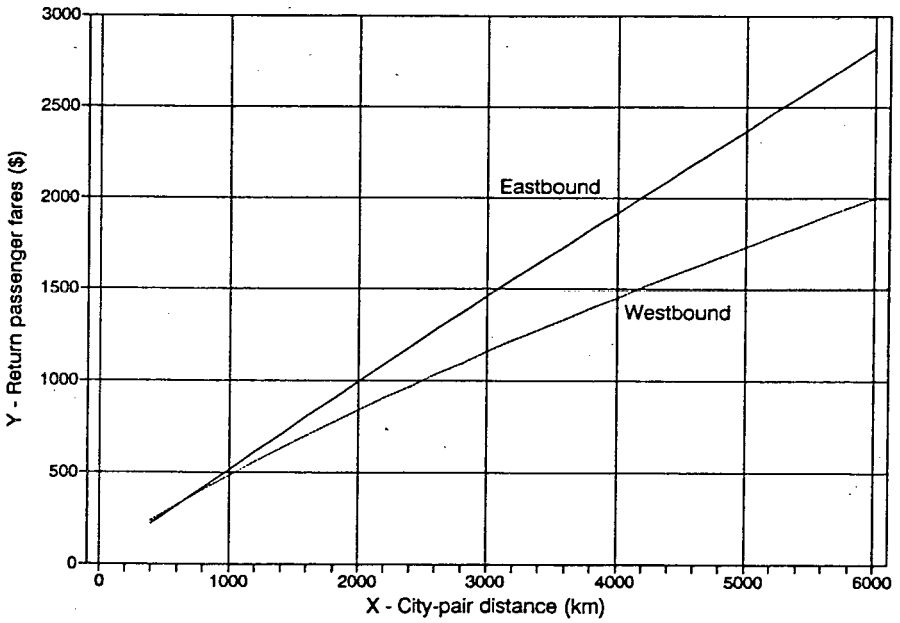
7. Between September 1989 and September 1990 there was a significant reduction in the directional imbalance in the rate levels between the eastbound and westbound direction of the estimated general cargo rates expressed in U.S. dollars for shipments of less than 45 kg at the shorter distances. However it increased significantly at the longer distances.

8. In September 1990 there was a significant spread of general cargo rates for small shipments (less than 45 kg) above and below the estimated average for rates in both directions. Thus, as in previous years, in September 1990 rates in this route group remained less dependent on distance and more dependent on other factors than rate levels in some other areas of the world.

Other cargo rates

9. Table 4-18 shows for September 1990 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 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 5 of the 10 city-pairs in the sample. A large number of specific commodity rates were available for 6 of the city-pairs in the sample. 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.)

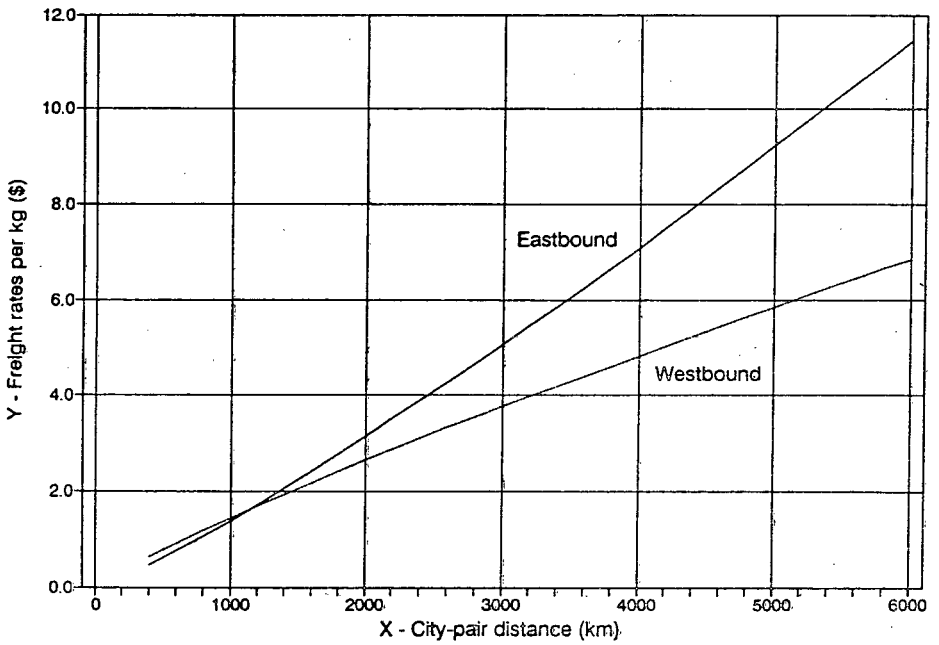


Graph 4-17. Economy class normal passenger fares (route group 9)

Table 4-17. Range of passenger fares available (route group 9)

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 PEX	
			(as a percentage of the highest economy class normal fare)					
London - Abu Dhabi	5 510	2 097	187	115	-	83	60	-
Dubai - Brussels	5 150	1 787	144	110	-	67	-	-
Zurich - Dubai	4 767	2 813	145	106	-	76	-	-
Tehran - Paris	4 188	1 793	147	110	-	78	-	-
Jeddah - Algiers	3 840	1 172	137	110	-	67	-	-
Amsterdam - Tel Aviv	3 310	1 883	146	-	-	52-62	35	49
Cairo - Frankfurt	2 920	898	145	110	-	69	-	-
Warsaw - Damascus	2 460	778	147	110	-	66	-	
Sofia - Baghdad	2 100	1 054	139	110	-	68	-	-
Amman - Istanbul	1 210	412	129	110	-	69	-	-

Route group 9 (cont.)



Graph 4-18. General cargo rates for shipments of less than 45 kg (route group 9)

Table 4-18. 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[1]	5 510	95	7.85	-	44	65- 67	6
Dubai - Brussels	5 150	50	6.63	75	32	22- 37	5
Zurich - Dubai	4 767	92	8.68	78	33	41	1
Tehran - Paris	4 188	52	6.85	75	27	20- 54	11
Jeddah - Algiers	3 840	47	3.67	75	35	-	-
Amsterdam - Tel Aviv	3 310	85	6.82	75	-	36-100	10
Cairo - Frankfurt	2 920	33	2.52	75	-	18-45	12
Warsaw - Damascus	2 460	30	4.47	75	-	-	-
Sofia - Baghdad	2 100	33	3.22	74	-	-	-
Amman - Istanbul	1 210	30	1.11	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 4-19 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	1000	2000	4000	7000	10000
Fares in cents per pass-km, 1990						
Average	26.2	23.6	21.3	19.2	17.6	16.7
Northbound	28.7	24.1	20.3	17.1	14.9	13.6
Southbound	24.0	23.1	22.3	21.4	20.8	20.4
Percentage change (%), 1990/1989						
Average	6.0	8.9	12.0	15.1	17.7	19.3
Northbound	13.1	13.4	13.7	14.1	14.3	14.5
Southbound	-1.3	4.2	10.0	16.2	21.4	24.8

3. Between September 1989 and September 1990 there was a significant increase in the directional imbalance in the level of the estimated economy class normal fares per passenger-kilometre expressed in U.S. dollars at the short and long distances.

Other passenger fares

4. Table 4-19 shows for September 1990 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 1990. 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 were also 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 4-20 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	1000	2000	4000	7000	10000
Rates in cents per tonne-km, 1990						
Average	221	190	163	140	124	114
Northbound	312	218	152	106	79	66
Southbound	155	164	174	184	192	198
Percentage change (%), 1990/1989						
Average	1.3	5.0	8.8	12.7	16.0	18.1
Northbound	3.0	5.1	7.4	9.7	11.5	12.8
Southbound	-3.5	2.4	8.8	15.5	21.2	25.0

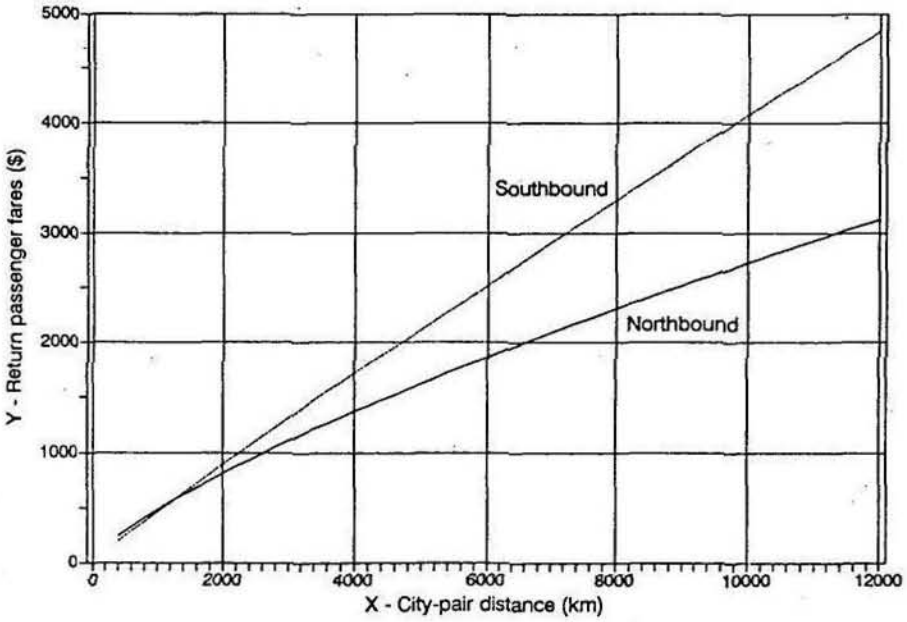
7. Between September 1989 and September 1990 there was a significant increase in the directional imbalance in the rate levels of the estimated general cargo rates expressed in U.S. dollars for shipments of less than 45 kg at the short and long distances.

8. In September 1990, rates in the northbound direction remained much less dependent on distance and more dependent on other factors than those in the southbound direction.

Other cargo rates

9. Table 4-20 shows for September 1990 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. 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.)

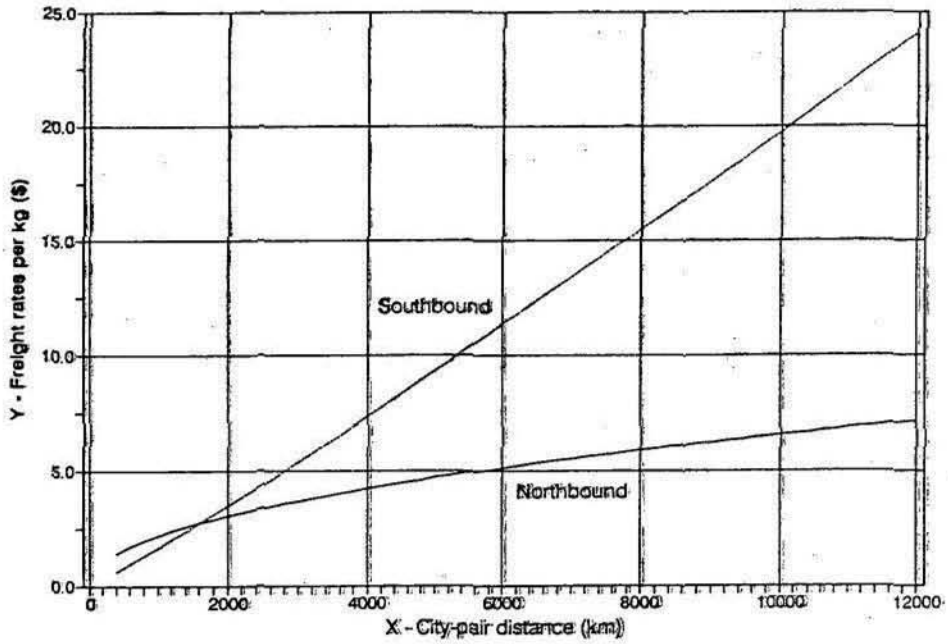


Graph 4-19. Economy class normal passenger fares (route group 10)

Table 4-19. Range of passenger fares available (route group 10)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES: First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class PEX, APEX	GROUP FARES economy class
			(as a percentage of the highest economy class normal fare)					
Moscow - Maputo	9 360	4 287	168	116	-	67	-	-
London - Johannesburg	9 070	2 721	226	123	73	76	56	-
Harare - London	*8 300*	*1 738*	*168*	*119*	-	*80-86*	57	-
Johannesburg - Tel Aviv	6 620	1 631	156	111	-	74	62	-
Kinshasa - Brussels	6 240	2 502	145	107	-	66	55	-
Rome - Nairobi	5 400	2 639	160	110	-	75	51	-
Abidjan - Paris	4 900	2 209	151	115	-	67	55	-
Khartoum - Kano	2 640	977	129	115	-	65	-	-
Addis Ababa - Jeddah	1 410	638	145	110	-	50-75	-	-
Tunis - Tripoli	540	170	140	-	-	-	-	-

Route group 10 (cont.)



Graph 4-20. General cargo rates for shipments of less than 45 kg (route group 10)

Table 4-20. 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
Moscow - Maputo	9 360	76	16.76	75	-	-	-
London - Johannesburg[1]	9 070	95	11.52	-	-	67-77	10
Harare - London[1]	8 300	34	2.57	-	60	33-45	2
Johannesburg - Tel Aviv[1]	6 620	31	3.28	-	-	-	-
Kinshasa - Brussels	6 240	57	6.08	75	-	20-57	13
Rome - Nairobi	5 400	83	9.88	75	-	30-58	13
Abidjan - Paris	4 900	65	5.87	75	-	15-45	17
Khartoum - Kano	2 640	84	3.25	75	-	34	1
Addis Ababa - Jeddah	1 410	39	2.58	76	-	13-48	8
Tunis - Tripoli	540	41	0.44	75	-	37-62	4

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 4-21 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. The graph shows only the variations of fares with distance in the eastbound direction as no significant relationship existed in September 1990 between fares and distance for the westbound direction, or over-all (see paragraph 3 below).

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 4000	6000	8000	10000	12000
Fares in cents per pass-km, 1990					
Average		[See paragraph 3]			
Eastbound	19.5	16.6	14.8	13.5	12.6
Westbound		[See paragraph 3]			
Percentage change (%), 1990/1989					
Average		[See paragraph 3]			
Eastbound	3.0	3.9	4.6	5.1	5.5
Westbound		[See paragraph 3]			

3. Between September 1989 and September 1990 there was a significant broadening of the spread in the level of fares expressed in U.S. dollars above and below the average in the westbound direction (to North America). The figures suggest that, on average, fares in this direction are more dependent on other factors than distance. In September 1990, this apparent lack of relationship between fares and distance was caused by the increase in the differential between the fare levels expressed in U.S. dollars from countries in the Eastern Mediterranean and the Middle East compared with the fare levels from the rest of Europe. At comparable distances, in September 1989 the estimated average fares from the former countries were some 7 per cent lower than those from the rest of Europe at all reference distances, whereas in September 1990 they were on average nearly 30 per cent lower. There was a significant increase in the estimated average fare levels expressed in U.S. dollars from the rest of Europe, in part due to the relatively high depreciation of the U.S. dollar in relation to the national currencies of these countries. In September 1990, the estimated average fare level expressed in U.S. cents per passenger-kilometre from countries in the Eastern Mediterranean and the Middle East ranged from 13.4 at 6 000 km to 11.1 at 12 000 km. The estimated average fare levels from the rest of Europe ranged from 21.0 cents at 4 000 km to 15.5 cents at 12 000 km.

Route group 11 (cont.)

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 1990 return fares for 82 out of 286 city-pairs in the westbound direction were some 8 to 17 per cent lower than twice the corresponding one-way fare.

Other passenger fares

5. Table 4-21 shows for September 1990 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 7 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. The average reduction of some 55 per cent on the applicable economy class normal fare was somewhat less than for September 1989 but at the same level as for September 1988. Group fares remained available on some routes.

General cargo rates for small shipments

6. The curves on Graph 4-22 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 shows only the variation of rates with distance in the eastbound direction as no significant relationship existed in September 1990 between fares and distances for the westbound direction or over-all (see paragraph 9 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 4000	6000	8000	10000	12000
Rates in cents per tonne-km, 1990					
Average		[See paragraph 9]			
Eastbound	136	112	98	88	81
Westbound		[See paragraph 9]			
Percentage change (%), 1990/1989					
Average		[See paragraph 9]			
Eastbound	2.9	1.3	0.2	-0.7	-1.4
Westbound		[See paragraph 9]			

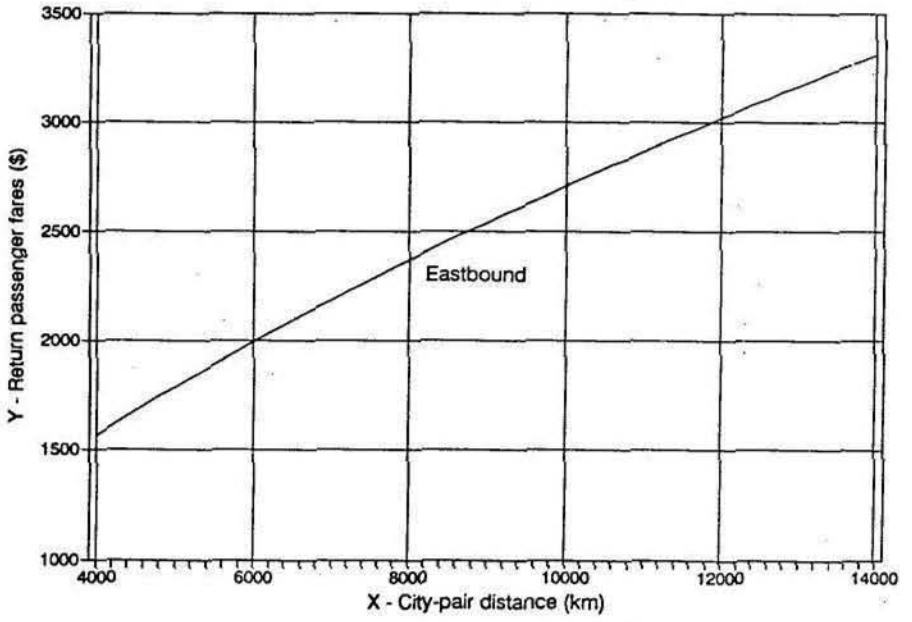
Route group 11 (cont.)

8. Between September 1989 and September 1990 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 North America). Figures for September 1990 suggest that rates across the North Atlantic in the westbound direction are less dependent on distance than on other factors. This apparent lack of relationship between rates and distance was notably influenced by a significant decrease in general cargo rates for small shipments from the Federal Republic of Germany. In September 1990 these rates expressed in U.S. dollars were some 50 to 60 per cent below those available in September 1989 and some 50 to 60 per cent lower than the estimated average rates from the other countries in Europe/Middle East/Africa for routes across the North Atlantic. In September 1990, the level of general cargo rates for small shipments expressed in U.S. dollars from these other countries was similar to that of the rates in the eastbound direction. Excluding rates from the Federal Republic of Germany, the over-all average general cargo rate level for small shipments expressed in U.S. cents per tonne-kilometres ranged from 137 at 4 000 km to 89 at 12 000 km.

Other cargo rates

9. Table 4-22 shows for September 1990 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 31 and 71 per cent, averaging some 60 per cent. Specific commodity rates were available for the majority of the selected city-pairs. Excluding specific commodity rates for shipments from the Federal Republic of 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 most city-pairs in the sample. On the route from London to New York, these rates have almost completely replaced the relatively large number of specific commodity rates which were formerly offered.

Route group 11 (cont.)



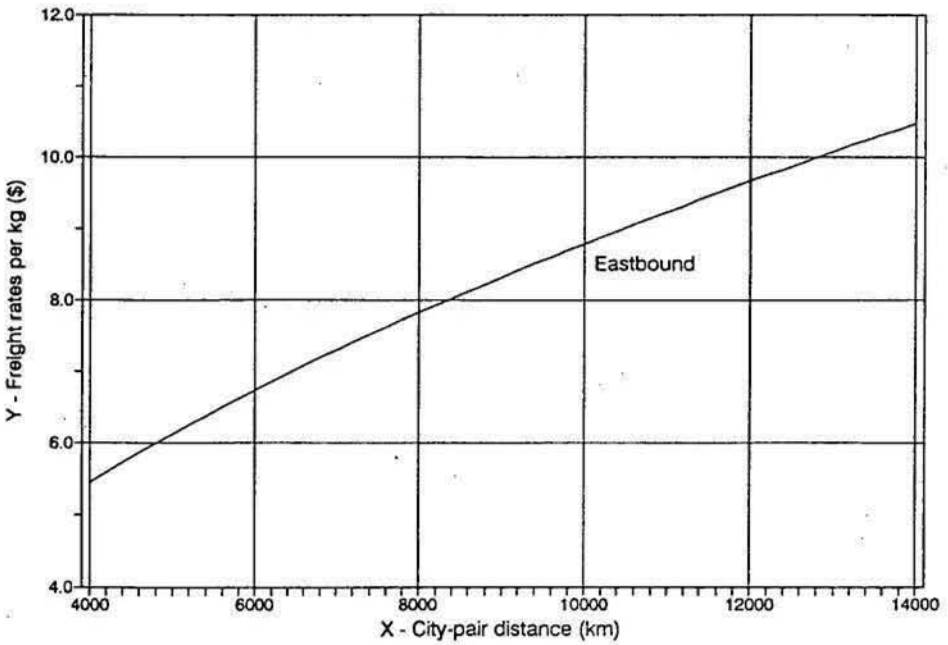
Graph 4-21. Economy class normal passenger fares (route group 11)

Table 4-21. Range of passenger fares available (route group 11)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES[1] First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class PEX. APEX	GROUP FARES economy class
			(as a percentage of the highest economy class normal fare)					
Jeddah - New York	10 220	2 174	167	110	84	47-62	-	50
Amsterdam - Los Angeles	8 960	2 936	202	124	-	52	45	-
New York - Lagos	8 440	2 392	167	116	96	81	63	-
Houston - Paris	8 070	2 142	227	140	97-100	60	39-49	48-49
Frankfurt - Atlanta	7 410	2 746	191	107	100	-	34-37	-
Miami - Madrid	7 110	1 676	253	153	100	62-69	46-50	43
Chicago - Copenhagen	6 850	1 966	216-225	115	100	58	43-54	-
Milan - Toronto	6 610	2 483	192	114	-	59	52	-
London - New York[2]	6 510	1 945	320-328	178-208[3]	55-67	-	32-50	46
Montreal - Warsaw	6 460	2 330	179	112	-	56	42-43	-

1. Where applicable, only midweek 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 4-22. General cargo rates for shipments of less than 45 kg (route group 11)

Table 4-22. 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)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Jeddah - New York	10 220	61	11.98	76	46	31	1
Amsterdam - Los Angeles	8 960	85	10.80	79	37	32- 40	10
New York - Lagos	8 440	65	12.03	39-76	53	33- 56	7
Houston - Paris	8 070	60-70	8.62	33-79	35	20- 39	10
Frankfurt - Atlanta	7 410	96	3.52	82	69	83-106	17
Miami - Madrid	7 110	60-70	7.63	41-80	32	20- 25	1
Chicago - Copenhagen	6 850	60-70	7.33	38	-	-	-
Milan - Toronto	6 610	83	6.93	79	46	42- 47	5
London - New York[1]	6 510	95	6.54	-	29	24- 25	2
Montreal - Warsaw	6 460	61	6.92	81	32	23- 74	4

1. 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 4-23 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 6000	8000	10000	12000
Fares in cents per pass-km, 1990				
Average	17.4	15.4	14.0	13.0
Eastbound	15.1	13.1	11.7	10.7
Westbound	19.8	18.0	16.6	15.6
Percentage change (%), 1990/1989				
Average	19.0	15.1	12.2	9.9
Eastbound	5.9	3.4	1.5	0.0
Westbound	33.0	27.4	23.3	20.0

3. Between September 1989 and September 1990 there was a significant increase in the directional imbalance in fare levels at all distances.

4. In September 1990 the spread in economy class normal fare levels on the Mid Atlantic above and below the estimated averages remained significant, particularly in the eastbound direction. Hence, fare levels on the Mid Atlantic continue to be less dependent on distance and more dependent on other factors compared with routes in other areas.

Other passenger fares

5. Table 4-23 shows for September 1990 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 1990 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 some city-pairs in the sample, at a level about 50 per cent lower than the applicable economy class normal fare on average.

Route group 12 (cont.)

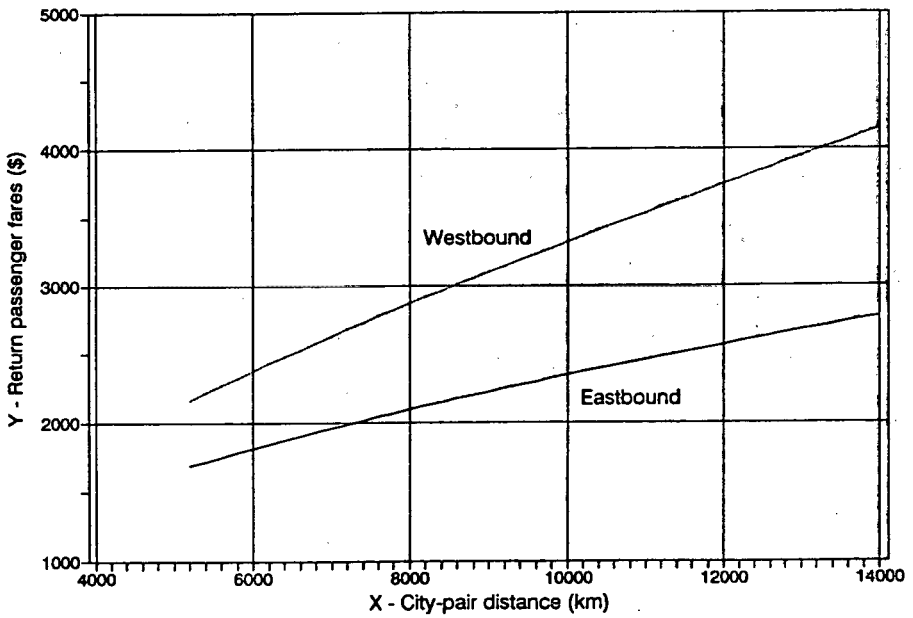
General cargo rates for small shipments

6. Between September 1989 and September 1990 there was a significant broadening of the spread in the level of rates for small shipments (less than 45 kg) above and below the average in the eastbound and westbound directions. In September 1990 the level of rates in the eastbound direction was virtually independent of distance and is therefore not included. However, the apparent lack of relationship between rates and distance in the westbound direction (i.e. to the Caribbean and Latin America) was notably influenced by a significant decrease of general cargo rates for small shipments from the Federal Republic of Germany. In September 1990 these rates expressed in U.S. dollars were some 60 per cent below those available in September 1989, and some 60 per cent lower than the estimated average rates from other countries in Europe/Middle East/Africa for routes across the Mid Atlantic. Excluding rates from the Federal Republic of Germany, the level of general cargo rates for small shipments expressed in U.S. cents per tonne-kilometres in the westbound direction ranged from 174 at 6 000 km to 147 at 12 000 km.

Other cargo rates

7. Table 4-24 shows for September 1990 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 the Federal Republic of Germany, shipments over 500 kg continued to benefit from reductions of some 60 to 70 per cent on the small shipment rate. Similarly, specific commodity rates were available for all 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. The relatively high level on average of general cargo rates across the Mid Atlantic shown in paragraph 6 should therefore be considered in the context of the particularly large number of lower rates available.

Route group 12 (cont.)



Graph 4-23. Economy class normal passenger fares (route group 12)

Table 4-23. Range of passenger fares available (route group 12)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES: First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class PEX, APEX	GROUP FARES economy class
			(as a percentage of the highest economy class normal fare)					
Lima - Madrid	10 030	2 500	163	108	-	63-80	58	-
Moscow - Havana	9 860	2 432	165	112	-	69	-	-
Amsterdam - Guayaquil	9 840	3 427	165	109	-	76	46	-
Mexico - Frankfurt	9 770	2 106	176	112	-	74	50	-
Bogota - Paris	8 660	2 194	171	110	-	65-77	-	-
Caracas - Milan	8 060	1 962	165	110	-	60-80	-	-
Frankfurt - San Juan	7 375	2 526	158	111	-	85	44	-
Port-of-Spain - London	7 090	1 956	187	122	72	-	47-52	-
Madrid - Santo Domingo	6 690	2 667	169	112	-	78	50-58	-
Lisbon - Recife	5 860	1 880	165	110	-	76	57	53

Route group 12 (cont.)

In September 1990 there was no significant relationship between rates and distance on routes across the Mid-Atlantic in either direction.

Graph 4-24. General cargo rates for shipments of less than 45 kg (route group 12)

Table 4-24. 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 (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Lima - Madrid	10 030	51	12.80	77	36	12-33	12
Moscow - Havana	9 860	93	16.78	78	40	39-44	1
Amsterdam - Guayaquil	9 840	85	18.60	77	42	28-36	9
Mexico - Frankfurt	9 770	60	8.60	83	41	13-65	15
Bogota - Paris	8 660	55	9.00	80	38	11-42	15
Caracas - Milan	8 060	60	9.00	80	27	9-27	11
Frankfurt - San Juan	7 350	96	3.97	84	73	76-97	17
Port-of-Spain - London	7 090	68	13.10	76	38	4-58	4
Madrid - Santo Domingo	6 690	88	11.78	77	36	21-49	6
Lisbon - Recife	5 860	47	9.53	75	43	22-40	18

Route Group 13: South Atlantic

Economy class normal passenger fares

1. The curves on Graph 4-25 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.

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 6000	8000	10000	12000	14000
Fares in cents per pass-km, 1990					
Average	15.0	15.4	15.7	15.9	16.1
Eastbound	15.4	14.3	13.5	12.9	12.4
Westbound	14.3	16.4	18.2	19.8	21.3
Percentage change (%), 1990/1989					
Average	17.0	15.0	13.4	12.2	11.2
Eastbound	6.4	4.3	2.7	1.4	0.3
Westbound	25.0	25.1	25.2	25.3	25.3

3. Between September 1989 and September 1990 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 it remained significant at the longer distances. Also in September 1990 fare levels on the South Atlantic in the eastbound direction (from South America) remained more dependent on distance and less on other factors than fare levels in the westbound direction.

Other passenger fares

4. Table 4-25 shows for September 1990 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 1990 first and intermediate class fares were widely available in this route group. Economy class excursion fares continued to be widely available in September 1990 but at levels about 20 per cent below the related economy class normal fare. Pex-type fares remained available for most city-pairs in the sample at levels ranging between about 40 and 60 per cent below the economy class normal fare.

General cargo rates for small shipments

5. The curves on Graph 4-26 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:

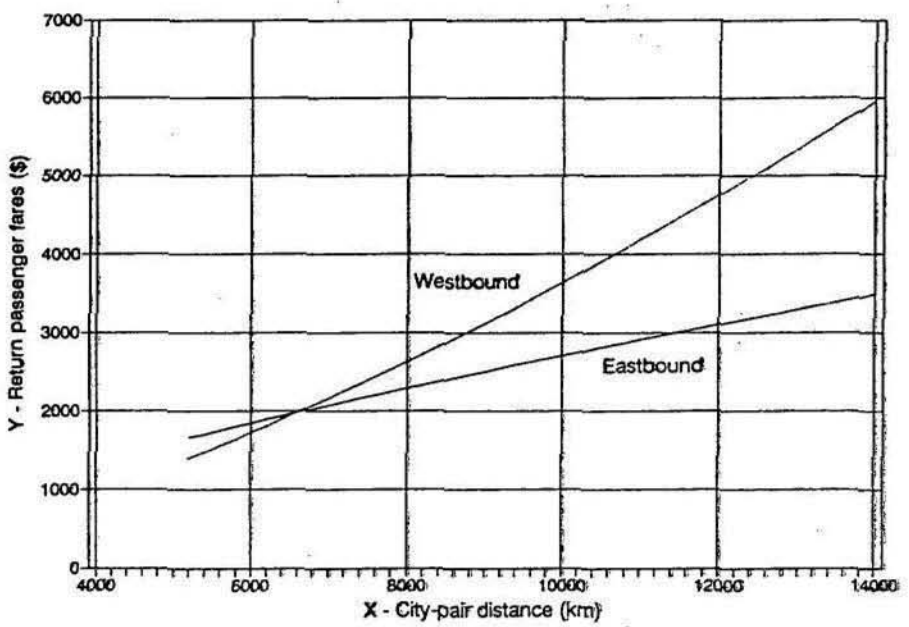
Estimated general cargo rates for shipments of less than 45 kg	Distance in km 6000	8000	10000	12000	14000
Rates in cents per tonne-km, 1990					
Average	135	135	135	135	134
Eastbound	125	116	110	106	102
Westbound	142	154	163	172	179
Percentage change (%), 1990/1989					
Average	5.2	7.9	10.1	11.8	13.3
Eastbound	-10.3	-5.2	-1.1	2.4	5.4
Westbound	19.7	21.0	22.0	22.8	23.5

7. Between September 1989 and September 1990 there continued to be a significant directional imbalance in the level of general cargo rates for small shipments (less than 45 kg) for routes across the South Atlantic in particular at the longer distances. Also, in September 1990, cargo rates for this route group in the westbound direction remained less dependent on distance and more dependent on other factors than those in the eastbound direction.

Other cargo rates

8. Table 4-26 shows for September 1990 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 breakpoints at 100 and 300 kg) giving, as for the previous years, an average reduction of some 60 per cent for shipments over 500 kg. 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.)

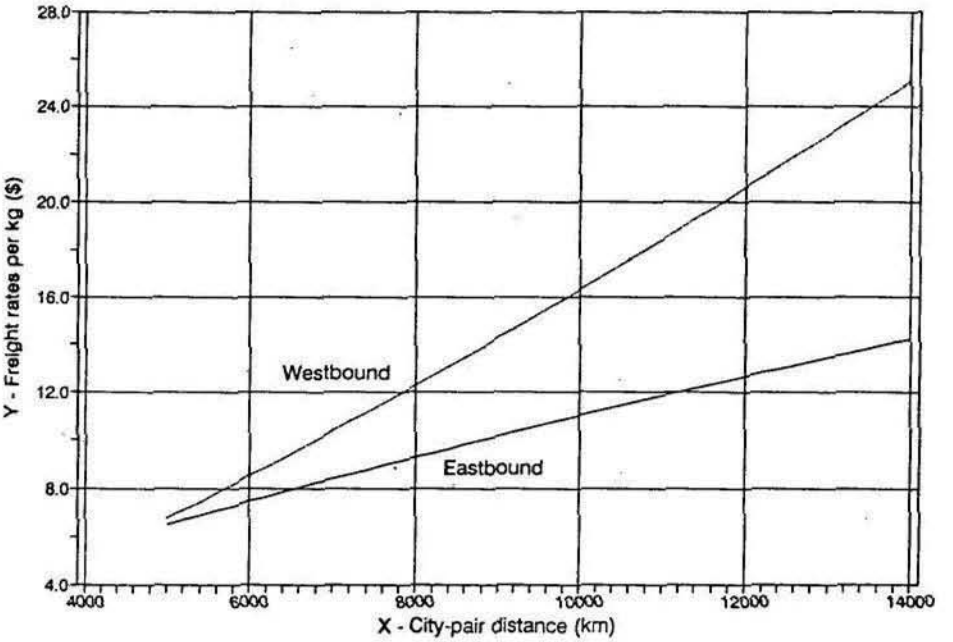


Graph 4-25. Economy class normal passenger fares (route group 13)

Table 4-25. 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	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)					
Frankfurt - Santiago de Chile	12 700	4 771	149	110	-	105	43	-
Santiago de Chile - Paris	12 316	3 057	150	110	-	56-65	-	-
Amsterdam - Montevideo	11 380	4 330	153	110	-	76	43	-
Buenos Aires - Rome	11 170	2 969	150	110	-	78	52-57	-
Copenhagen - Rio de Janeiro	10 180	4 210	156	108	-	76	51	37
Asuncion - Madrid	9 620	2 340	141-152	110	-	78	57	-
Rio de Janeiro - Casablanca	9 300	2 259	161	110	-	74	58	-
London - Rio de Janeiro	9 250	2 982	230	144	-	95	53	-
Lisbon - Sao Paulo	8 070	2 115	159	110	-	76	55	51
Rio de Janeiro - Johannesburg	7 149	2 055	143	115	-	70	-	-

Route group 13 (cont.)



Graph 4-26. General cargo rates for shipments of less than 45 kg (route group 13)

Table 4-26. 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	12 700	96	20.03	75	36	27-33	6
Santiago de Chile - Paris	12 316	50	12.72	75	36	13-17	16
Amsterdam - Montevideo	11 380	85	20.13	75	37	26-40	14
Buenos Aires - Rome	11 170	50	12.19	75	38	13-66	20
Copenhagen - Rio de Janeiro	10 180	84	16.01	76	37	27-32	2
Asuncion - Madrid	9 620	50	10.77	76	38	15-32	8
Rio de Janeiro - Casablanca	9 300	50	9.06	75	43	22-43	15
London - Rio de Janeiro[1]	9 250	95	12.01	-	37	43-74	3
Lisbon - Sao Paulo	8 070	47	9.71	75	43	18-40	19
Sao Paulo - Dakar	5 310	50	7.39	78	34	19	1

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

Route Group 14: Local Asia/Pacific

Economy class normal passenger fares

1. The curve on Graph 4-27 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.

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	1000	2000	4000	7000	10000
Fares in cents per pass-km, 1990	20.8	19.1	17.5	16.1	14.7	13.8	13.2
Percentage change (%), 1990/1989	2.6	3.0	3.3	3.6	3.9	4.2	4.4

Other passenger fares

3. Table 4-27 shows for September 1990 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 1990. 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 11 and 59 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

4. The curve on Graph 4-28 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.

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

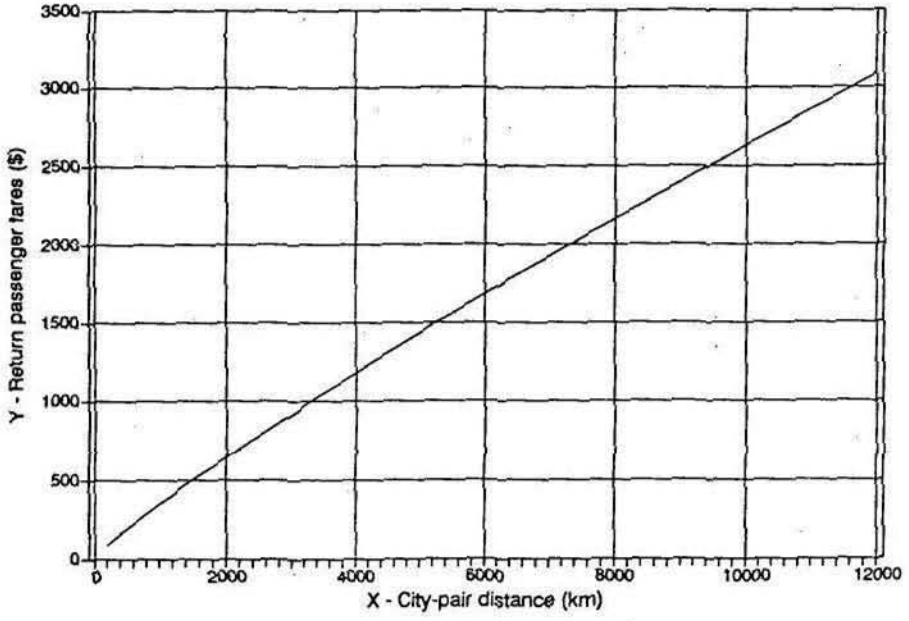
Route group 14 (cont.)

Estimated general cargo rates for shipments of less than 45 kg	Distance in km						
	250	500	1000	2000	4000	7000	10000
Rates in cents per tonne-km, 1990	205	174	148	126	107	93	86
Percentage change (%), 1990/1989	5.4	4.6	3.8	3.0	2.3	1.6	1.2

Other cargo rates

6. Table 4-28 shows for September 1990 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.)

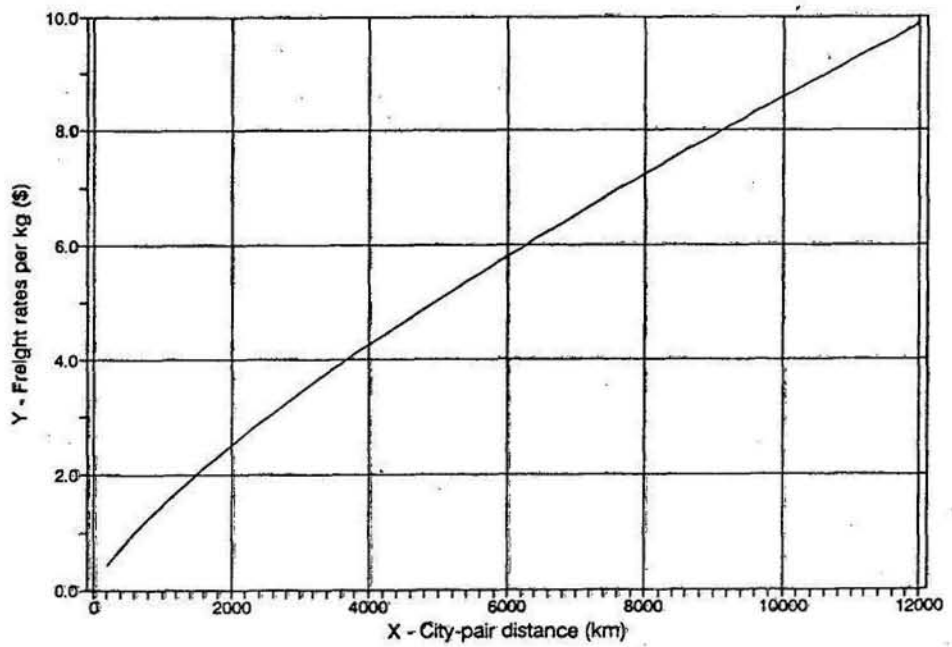


Graph 4-27. Economy class normal passenger fares (route group 14)

Table 4-27. Range of passenger fares available (route group 14)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES (as a percentage of the highest economy class normal fare)					GROUP FARES (as a percentage of the highest economy class normal fare)
			First class normal	Intermediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	Economy class
Auckland - Singapore	8 410	2 072	150	115	-	42	41	-
Karachi - Manila	5 720	1 051	144	110	-	55	-	-
Beijing - Karachi	4 863	1 650	140	110	-	-	-	-
Bangkok - Seoul	3 690	1 140	147	110	-	85	-	-
Hong Kong - Tokyo	2 940	703	142	110	-	89	-	-
Melbourne - Christchurch	2 410	792	175	136	-	68	55-89	-
Port Moresby - Brisbane	2 090	706	175	133	-	-	69	57
Sydney - Noumea	1 980	808	146	125	-	60	-	50
Kuala Lumpur - Jakarta	1 200	316	131	110	-	75	-	-
Madras - Colombo	650	96	132	110	-	-	-	-

Route group 14 (cont.)



Graph 4-28. General cargo rates for shipments of less than 45 kg (route group 14)

Table 4-28. 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 (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Auckland - Singapore	8 410	31	7.93	-	-	20-45	6
Karachi - Manila	5 720	20	3.67	75	-	15-52	5
Beijing - Karachi	4 863	5	3.71	75	-	-	-
Bangkok - Seoul	3 690	28	4.05	75	-	37-58	2
Hong Kong - Tokyo	2 940	24	2.68	75	-	50-57	5
Melbourne - Christchurch	2 410	28	3.71	75	44	28-42	2
Port Moresby - Brisbane	2 090	32	2.32	-	85	27-72	3
Sydney - Noumea	1 980	28	2.05	74	-	70	1
Kuala Lumpur - Jakarta	1 200	19	1.08	75	-	-	-
Madras - Colombo	650	12	0.47	74	-	67	1

Route Group 15: Between Europe/Middle East/Africa and Asia/Pacific

Economy class normal passenger fares

1. The curves on Graph 4-29 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 1000	3000	6000	10000	14000	18000
Fares in cents per pass-km, 1990						
Average	13.7	14.0	14.1	14.3	14.3	14.4
Eastbound	17.5	16.6	16.1	15.7	15.4	15.2
Westbound	10.8	11.8	12.4	12.9	13.3	13.5
Percentage change (%), 1990/1989						
Average	-0.4	5.4	9.2	12.0	14.0	15.5
Eastbound	-8.0	4.9	13.9	21.0	26.0	29.8
Westbound	7.9	5.8	4.5	3.6	3.0	2.5

3. Between September 1989 and September 1990 there was a significant reduction in the directional imbalance in the level of the estimated economy class normal fare per passenger-kilometre at most distances. However, in September 1990 the directional imbalance at the shorter distances was still significant.

Other passenger fares

4. Table 4-29 shows for September 1990 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 1990. A few restricted or special fares for first and intermediate class were also available as were some economy class special fares. Economy class excursion fares or Pex-type fares were available for 7 of the 10 city-pairs in the sample, with levels ranging from 12 to 59 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

5. The curves on Graph 4-30 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.)

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

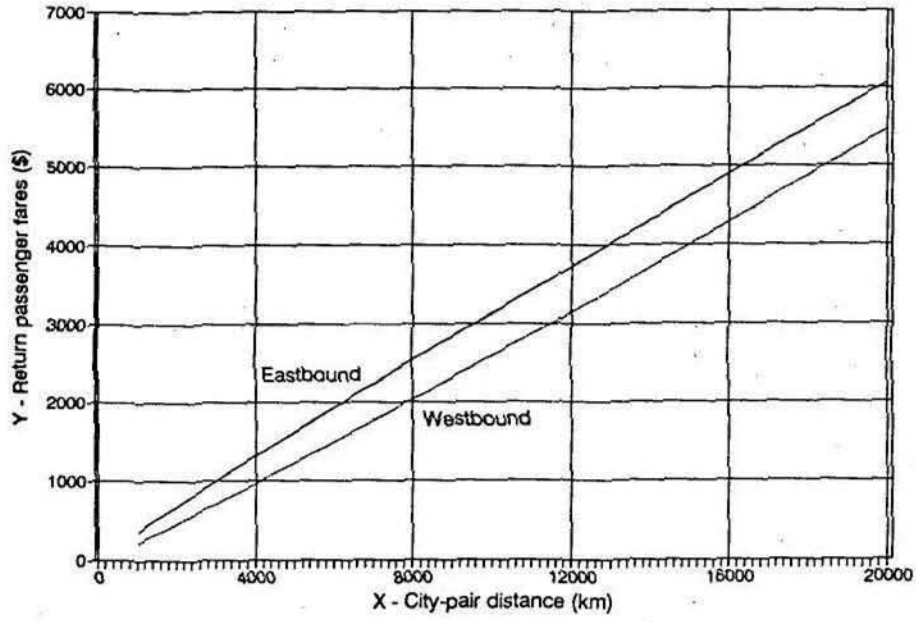
Estimated general cargo rates for shipments of less than 45 kg	Distance in km 1000	3000	6000	10000	14000	18000
Rates in cents per tonne-km, 1990						
Average	140	121	111	104	99	96
Eastbound	192	156	136	124	116	111
Westbound	102	94	90	87	85	83
Percentage change (%), 1990/1989						
Average	8.9	4.7	2.1	0.3	-0.9	-1.8
Eastbound	7.1	2.8	0.2	-1.7	-2.9	-3.8
Westbound	10.2	6.4	4.1	2.4	1.3	0.5

7. Between September 1989 and September 1990 there was little change in the directional imbalance in the level of the estimated general cargo rate for small shipments (less than 45 kg) in this route group. Consequently, in September 1990, the directional imbalance remained significant at all distances.

Other cargo rates

8. Table 4-30 shows for September 1990 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, which were 25 per cent lower than the general cargo rate for small shipments. Where available, discounts for large shipments (over 500 kg) were generally in the order of 50 to 60 per cent with substantially lower levels in two instances. Though somewhat less than for the previous year, in September 1990, a significant number of specific commodity rates remained available in the route group at a level some 65 per cent lower on average than the general cargo rate for small shipments (compared with 60 per cent for September 1989). As for the previous year, in September 1990 there were no bulk unitization rates for freight carried in unit load devices (ULDs) for the ten city-pairs in the sample.

Route group 15 (cont.)



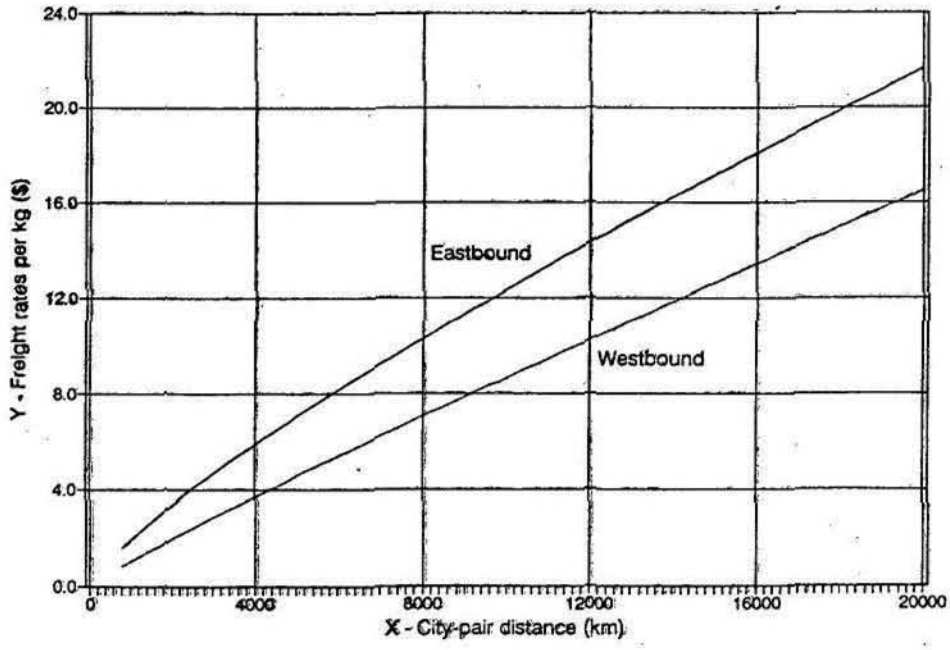
Graph 4-29. Economy class normal passenger fares (route group 15)

Table 4-29. Range of passenger fares available (route group 15)

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 PEX	Economy class
		(as a percentage of the highest economy class normal fare)						
Melbourne - Belgrade	15 690	3 822	139	110[1]	-	52-62	-	-
Zurich - Seoul	12 340	4 492	173	110	-	-	48	-
Jakarta - Rome	11 630	2 884	162	110	-	57	-	-
London - Tokyo	9 590	4 684	186	110	52	-	41	-
Perth - Harare	8 500	3 214	154	118	-	-	56	45
Bahrain - Manila	7 560	1 995	151	110	-	-	-	-
Bombay - Moscow	5 500	1 103	139	110	-	-	-	-
Nairobi - Bombay	4 530	552	151	110	-	73-88	-	-
Dhaka - Dubai	3 540	844	132	110	-	-	-	-
Dhahran - Karachi	1 710	641	142[2]	110	-	71	-	-

1. Intermediate class restricted fares also available.
2. First class restricted and/or excursion fares also available.

Route group 15 (cont.)



Graph 4-30. General cargo rates for shipments of less than 45 kg (route group 15)

Table 4-30. 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
Melbourne - Belgrade	15 690	44	9.33	75	25	22-27	1
Zurich - Seoul	12 340	92	16.06	71	28	-	-
Jakarta - Rome	11 630	64	9.80	75	-	32-54	11
London - Tokyo1	9 590	95	15.44	-	51	28-53	9
Perth - Harare1	8 500	44	7.07	-	50	26-36	1
Bahrain - Manila	7 560	58	12.73	75	-	-	-
Nairobi - Bombay	5 500	27	2.59	75	-	50	1
Bombay - Moscow1	4 530	25	4.15	-	50	41-66	9
Dhaka - Abu Dhabi	3 540	20	3.46	75	43	-	-
Dhahran - Karachi	1 710	37	2.74	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 4-31 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				
	6000	8000	10000	14000	18000
Fares in cents per pass-km, 1990					
Average	12.7	11.2	10.1	8.7	7.8
Eastbound	13.1	11.4	10.2	8.6	7.6
Westbound	12.2	10.9	10.0	8.8	8.0
Percentage change (%), 1990/1989					
Average			[See paragraph 4]		
Eastbound			[See paragraph 4]		
Westbound	2.0	3.0	3.8	4.9	5.8

3. Between September 1989 and September 1990 there was a significant narrowing of the spread in the level of fares expressed in U.S. dollars above and below the average in the eastbound direction (from Asia). For the first time since September 1985, the figures suggest that, on average, fares in this direction have become more dependent on distance and less dependent on other factors. In previous years, this apparent lack of relationship between fares and distance was caused by the relatively high fares out of Japan compared with those from the rest of Asia. In September 1990, economy class normal fares from Japan across the North-Mid Pacific were represented by 31 of the 94 city-pairs in the eastbound direction. In U.S. dollar terms these fares were on average between 35 and 45 per cent higher than the estimated average fares from other Asian countries across the North-Mid Pacific, some 5 to 15 percentage points lower than the comparison for September 1989. This relative reduction in fares expressed in U.S. dollars from Japan was mainly due to a reduction in the levels expressed in local currency between September 1989 and September 1990, along with a weakening of the Japanese Yen in relation to the U.S. dollar.

4. Since no estimated average fare levels were published for the eastbound direction for September 1989, no percentage change between September 1989 and September 1990 are shown in the table above. However, excluding fares from Japan, the over-all average fare levels expressed in U.S. cents per passenger-kilometre increased by between 1 and 3 per cent between September 1989 and September 1990.

Route group 16 (cont.)

Other passenger fares

5. Table 4-31 shows for September 1990 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 all the city-pairs in the sample. Also intermediate class normal fares were, in some cases, at the same level as the highest economy class normal fare. Economy class restricted fares remained available for most city-pairs in the sample in September 1990. 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 8 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 25 per cent below the economy class normal fare. The relatively commonly available Apex and Pex-type fares which, on average, offered reductions of around 35 per cent of the economy class normal fare were at a somewhat higher level than those available in September 1989. A number of group fares at levels between 8 and 46 per cent below the economy class normal fare also remained available in September 1990. "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; generally four free stopovers are allowed.

General cargo rates for small shipments

6. The curve on Graph 4-32 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 1990 between rates and distance for the eastbound direction (see paragraph 8 below).

7. 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 6000	8000	10000	14000	18000
Rates in cents per tonne-km, 1990					
Average		[see paragraph 8]			
Eastbound		[see paragraph 8]			
Westbound	108	90	78	63	54
Percentage change (%), 1990/1989					
Average		[see paragraph 8]			
Eastbound		[see paragraph 8]			
Westbound	-1.1	0.3	1.4	3.1	4.3

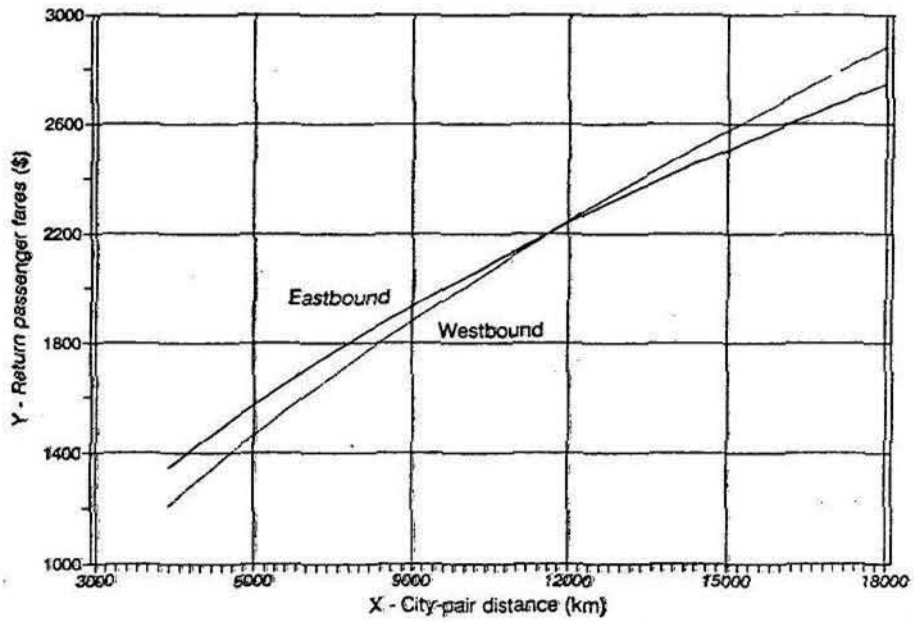
Route group 16 (cont.)

8. Between September 1989 and September 1990 there was a reduction in the spread of the under 45 kg general cargo rate for individual city-pairs above and below the average in the westbound direction. Hence cargo rates from the Americas were more dependent on distance and less dependent on other factors in September 1990 than in September 1989. However, as in previous years in September 1990 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

9. Table 4-32 shows for September 1990 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 1990, 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) remained available for 8 out of 10 city-pairs in the sample.

Route group 16 (cont.)



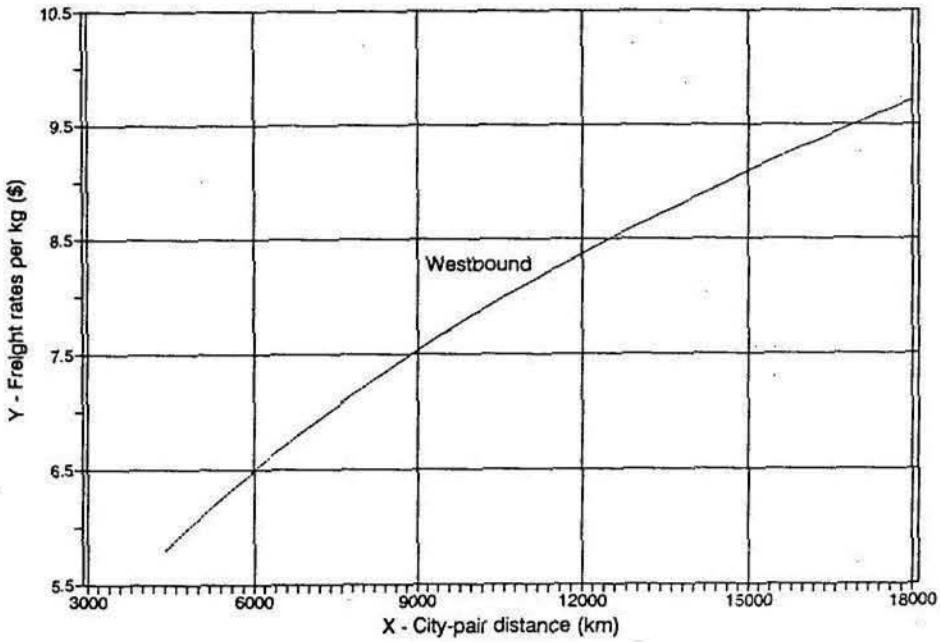
Graph 4-31. Economy class normal passenger fares (route group 16)

Table 4-31. Range of passenger fares available (route group 16)

City-pair (originating city first)	Flight distance (km)	INDIVIDUAL FARES[1]						GROUP FARES
		Highest economy class normal (U.S.$)	*First* class normal	Inter-*mediate* class normal	*Economy* class restricted	*Economy* class excursion	Economy class PEX, APEX[2]	economy class
		(as a percentage of the highest economy class normal fare)						
Lima - Tokyo	15 470	2 982	185	107	89	-	59	-
Bangkok - Dallas/Fort-Worth	14 970	2 496	174	108	92	-	51-53	78
Singapore - San Francisco	13 680	2 613	157-165	110-111[3]	-	54-88	54	54-75
Los Angeles - Manila	12 380	1 924	158-210[4]	116[3]	88-96	62-72	46-76	49-68
Tokyo - Mexico	*11 446*	*2 646*	*190*	*100*	-	-	*72-82*	*74-92*
San Francisco - Hong Kong	11 110	1 924	202-210	111-117[3]	92-96	72-75	51-75	49-79
Hong Kong - Vancouver	10 250	1 665	219	121	-	87	80-85	80
Seattle - Okinawa	9 330	1 982	223	121	100	-	60	-
Seoul - Seattle	8 350	1 656	190	111[3]	83-100	80	-	50
Honolulu - Tokyo	6 130	1 746	188	100	75	-	45	-

1. Where applicable, only midweek fare levels are shown; weekend fares are somewhat higher.
2. "Budget" and "Super Pex" fares also included.
3. Intermediate class restricted fares also available.
4. *First class restricted fares also available.*

Route group 16 (cont.)



Graph 4-32. General cargo rates for shipments of less than 45 kg (route group 16)

Table 4-32. 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)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Lima - Tokyo	15 470	60	11.39	76	49	27-35	10
Bangkok - Dallas/Fort Worth	14 970	56	6.47	75	58	47-60	4
Singapore - San Francisco	13 680	58	9.19	76	54	37-71	4
Los Angeles - Manila	12 627	50	7.06	76-79	47	-	-
Tokyo - Mexico	11 450	67	14.90	76	50	50	2
San Francisco - Hong Kong	11 110	50	7.48	65-76	47	22-33	2
Hong Kong - Vancouver	10 250	60	10.24	76	47	35-63	11
Los Angeles - Osaka	9 760	55	7.40	76-96	47	31-50	13
Seoul - Seattle	8 350	41	4.24	79	67	-	-
Honolulu - Tokyo	6 130	55	6.07	76	48	30-50	4

Route Group 17: South Pacific

Economy class normal passenger fares

1. The curves on Graph 4-33 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 4000	6000	8000	12000	16000
Fares in cents per pass-km, 1990					
Average	15.7	15.6	15.5	15.3	15.2
Eastbound	16.9	16.4	16.1	15.7	15.4
Westbound	14.5	14.7	14.8	15.0	15.1
Percentage change (%), 1990/1989					
Average	15.4	11.4	8.7	4.9	2.3
Eastbound	20.1	14.4	10.5	5.2	1.6
Westbound	10.5	8.4	6.9	4.8	3.4

3. Between September 1989 and September 1990 there was a significant increase in the directional imbalance in economy class normal fares between the eastbound and westbound direction at the shorter distances.

Other passenger fares

4. Table 4-33 shows for September 1990 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 as well as first and/or intermediate class restricted fares were available for all 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 15 to 35 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 41 to 78 per cent below the applicable economy class normal fares. In September 1990, one-way Apex fares were available, often at a higher level than the excursion fares (special fares are generally only available for round trips). As for previous years, in September 1990 most excursion or Apex-type fares could be used alternatively as inclusive tour fares on this route group. Several "circle fares" were also available in September 1990. These are published fares which allow for travel by a continuous circuitous air route which may include points in the North-Mid Pacific; generally four free stopovers are allowed.

Route group 17 (cont.)

General cargo rates for small shipments

5. The curves on Graph 4-34 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.

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

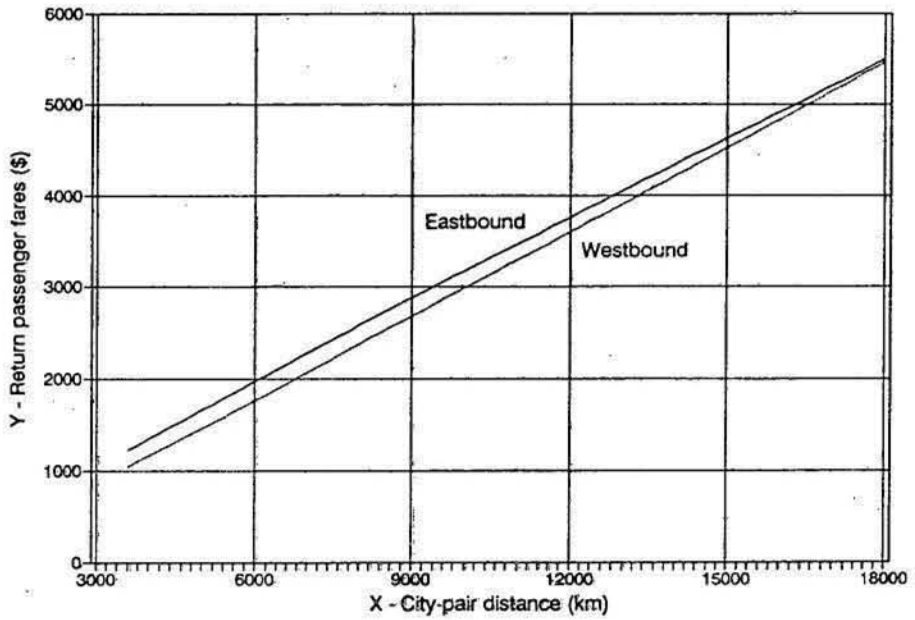
Estimated general cargo rates for shipments of less than 45 kg	Distance in km				
	4000	6000	8000	12000	16000
Rates in cents per tonne-km, 1990					
Average	150	122	106	86	75
Eastbound	156	127	110	90	77
Westbound	141	117	102	84	73
Percentage change (%), 1990/1989					
Average	7.7	6.2	5.1	3.6	2.6
Eastbound	15.4	12.4	10.4	7.5	5.6
Westbound	-1.0	-0.4	0.0	0.7	1.1

7. Between September 1989 and September 1990, there was a significant increase in the spread of rates for small shipments above and below the average in the eastbound direction (i.e. from the South Pacific). Thus in September 1990 these rates were less dependent on distance and more dependent on other factors than in September 1989. In September 1990 rates in the eastbound direction were also less dependent on distance and more dependent on other factors that those in the westbound direction.

Other cargo rates

8. Table 4-34 shows for September 1990 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 60 per cent on the applicable general cargo rates for small shipments. Bulk unitization rates for freight carried in unit load devices (ULDs) remained available for 7 out of 10 city-pairs in the sample.

Route group 17 (cont.)



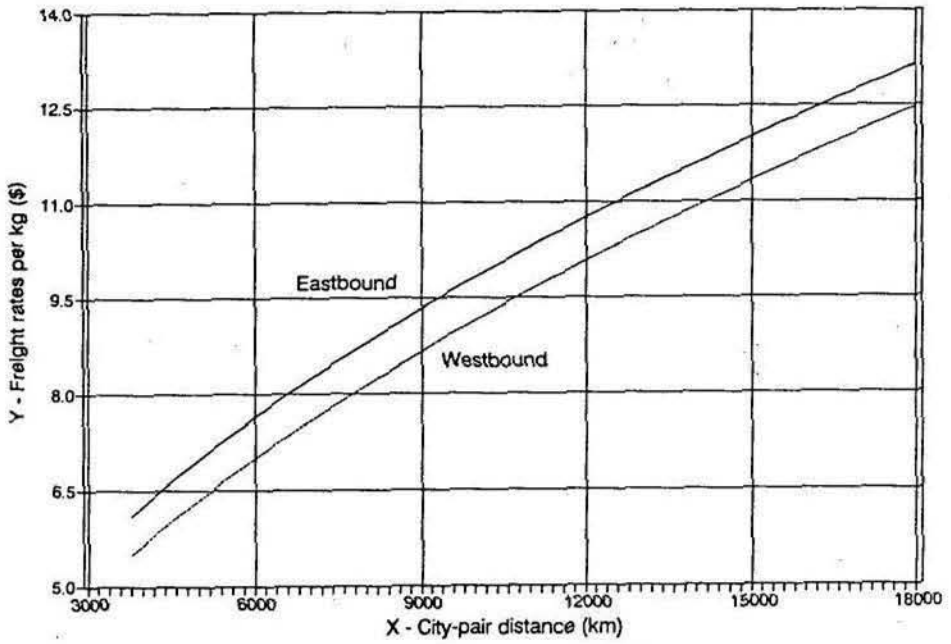
Graph 4-33. Economy class normal passenger fares (route group 17)

Table 4-33. Range of passenger fares available (route group 17)

City-pair (originating city first)	Flight distance (km)	Highest economy class normal (U.S.$)	INDIVIDUAL FARES[1] First class normal	Inter-mediate class normal	Economy class restricted	Economy class excursion	Economy class APEX	GROUP FARES economy class
			(as a percentage of the highest economy class normal fare)					
Sydney - Toronto	15 640	4 518	178	120	86	-	35-48	-
San Francisco - Melbourne	12 650	3 720	201	130	53	43	30-40	-
Vancouver - Sydney	12 520	3 864	201	129	84	53	34-59	-
Auckland - Los Angeles	10 490	3 361	187	121	83	-	27-57	-
Nadi - Vancouver	9 460	2 073	161	124	82	39	53	-
Los Angeles - Nadi	9 200	2 608	205	130	76	42	38-59	-
Melbourne - Honolulu	8 870	3 393	153	126	79	36	22-53	-
Honolulu - Auckland	7 090	2 388	215	131	65-82	41-55	34-49	-
Los Angeles - Papeete	6 610	1 958	213	127	100	48	40	-
Nadi - Honolulu	5 110	1 597	172	137	72	38	52	-

1. Where applicable, only midweek fare levels are shown; weekend fares are somewhat higher.

Route group 17 (cont.)



Graph 4-34. General cargo rates for shipments of less than 45 kg (route group 17)

Table 4-34. 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)	Over 500 kg (as a percentage of under-45 kg rate)	Range (as a percentage of under-45 kg rate)	Number of commodities
Sydney - Toronto	15 640	56	12.63	52	22	-	-
San Francisco - Melbourne	12 650	66	11.44	66-80	63	-	-
Vancouver - Sydney	12 520	57	10.63	76	62	-	-
Auckland - Los Angeles	10 490	77	10.75	76	64	19-41	4
Nadi - Vancouver	9 460	48	6.15	76	67	20-45	3
Los Angeles - Nadi	9 200	75	7.95	76	67	36	1
Melbourne - Honolulu	8 870	40	8.72	64	-	31	1
Honolulu - Auckland	7 090	66	6.09	78	75	46	1
Los Angeles - Papeete	6 610	75	8.69	76	68	19-71	10
Papeete - Honolulu	4 420	63	8.62	77	73	29	3

Appendix 1
DESCRIPTION OF ROUTE GROUPS

Route group	Description
1	*Between North America and Central America/Caribbean.* 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	*Between and within Central America and the Caribbean.* 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	*Between Canada, Mexico and the United States.* Includes routes between or among the above States. The United States includes Alaska and Hawaii but excludes Puerto Rico and the Virgin Islands.
4	*Between North America/Central America/Caribbean and South America.* Includes routes between the geographical areas defined on the one hand by route group 1 and/or Mexico and on the other hand by route group 5 ("local South America").
5	*Local South America.* 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	*Local Europe.* Includes routes between or among the States of geographical Europe, Algeria, Azores, Canary Islands, Greenland, Iceland, Madeira, Malta, Morocco, Tunisia and Turkey.
7	*Local Middle East.* 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	*Local Africa.* 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	*Between Europe and Middle East.* Includes routes between the two geographical areas defined by route group 6 ("local Europe") and route group 7 ("local Middle East") respectively.
10	*Between Europe/Middle East and Africa.* 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").

Route group	Description
11	*North Atlantic.* 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	*Mid Atlantic.* 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	*South Atlantic.* 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	*Local Asia/Pacific.* 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	*Between Europe/Middle East/Africa and Asia/Pacific.* 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	*North and Mid Pacific.* 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	South Pacific. 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.

Appendix 2
CURRENCY CONVERSION RATES

Country or area	Local selling currency in September 1990	ISO code	Currency units per U.S. dollar[1] 1990	1989
Afghanistan	U.S. Dollar	USD	1.00	230.00[2]
Albania	Lek	ALL	5.33	6.38
Algeria	Algerian Dinar	DZD	8.92	7.89
Angola	Kwanza	AOK	29.92	30.41
Anguilla[3]	East Caribbean Dollar	XCD	2.70	2.70
Antigua and Barbuda[2]	East Caribbean Dollar	XCD	2.70	2.70
Argentina[4]	U.S. Dollar	USD	1.00	1.00
Aruba	Aruban Guilder	AWG	1.79	1.79
Australia	Australian Dollar	AUD	1.24	1.32
Austria	Schilling	ATS	10.97	13.71
Bahamas[3]	Bahamian Dollar	BSD	1.00	1.00
Bahrain	Bahraini Dinar	BHD	0.37	0.38
Bangladesh[3]	Taka	BDT	34.43	31.13
Barbados[4]	U.S. Dollar	USD	1.00	1.00
Belgium	Belgian Franc	BEF	32.08	40.78
Belize[4]	U.S. Dollar	USD	1.00	1.00
Benin	CFA Franc	XOF	262.41	329.15
Bermuda[3]	Bermudian Dollar	BMD	1.00	1.00
Bhutan	Ngultrum	BTN	17.34	16.70
Bolivia[4]	U.S. Dollar	USD	1.00	1.00
Botswana	Pula	BWP	1.79	2.04
Brazil[4]	U.S. Dollar	USD	1.00	1.00
British Virgin Islands[4]	U.S. Dollar	USD	1.00	1.00
Brunei Darussalam	Brunei Dollar	BND	1.79	1.96
Bulgaria	Lev	BGL	2.93	1.68
Burkina Faso	CFA Franc	XOF	262.41	329.15
Burundi	Burundi Franc	BIF	168.27	164.50
Cambodia[4]	U.S. Dollar	USD	1.00	1.00
Cameroon	CFA Franc	XAF	262.41	329.15
Canada	Canadian Dollar	CAD	1.14	1.18
Cape Verde[4]	U.S. Dollar	USD	1.00	1.00
Cayman Islands	Cayman Islands Dollar	KYD	0.83	0.83
Central African Republic	CFA Franc	XAF	262.41	329.15
Chad	CFA Franc	XAF	262.41	329.15
Chile[4]	U.S. Dollar	USD	1.00	1.00
China	Renminbi	CNY	4.69	3.70
Colombia[4]	U.S. Dollar	USD	1.00	1.00
Comoros	Comoro Franc	KMF	262.41	329.15
Congo	CFA Franc	XAF	262.41	329.15
Cook Islands	New Zealand Dollar	NZD	1.62	1.71
Costa Rica[4]	U.S. Dollar	USD	1.00	1.00
Côte d'Ivoire	CFA Franc	XOF	262.41	329.15
Cuba	Cuban Peso	CUP	0.80	0.76
Cyprus	Cypriot Pound	CYP	0.44	0.50
Czechoslovakia	Koruna	CSK	15.91	15.09
Democratic People's Republic of Korea[5]	North Korean Won	KPW	2.15	0.63
Denmark	Danish Krone	DKK	5.98	7.57
Djibouti	Djibouti Franc	DJF	176.94	175.87
Dominica[3]	East Caribbean Dollar	XCD	2.70	2.70
Dominican Republic[4]	U.S. Dollar	USD	1.00	1.00

Country or area	Local selling currency in September 1990	ISO code	Currency units per U.S. dollar[1] 1990	1989
Ecuador[4]	U.S. Dollar	USD	1.00	1.00
Egypt	Egyptian Pound	EGP	2.70	2.54
El Salvador[4]	U.S. Dollar	USD	1.00	1.00
Equatorial Guinea	CFA Franc	XAF	262.41	329.15
Ethiopia	Ethiopian Birr	ETB	2.07	2.07
Fiji	Fijian Dollar	FJD	1.46	1.52
Finland	Markka	FIM	3.69	4.39
France	French Franc	FRF	5.25	6.58
French Polynesia	CFP Franc	XPF	95.42	119.69
French Antilles	French Franc	FRF	5.25	6.58
Gabon	CFA Franc	XAF	262.41	329.15
Gambia[4]	U.S. Dollar	USD	1.00	1.00
Germany, Federal Republic of	Deutsche Mark	DEM	1.56	1.95
Ghana[4]	U.S. Dollar	USD	1.00	1.00
Greece	Drachma	GRD	154.09	167.86
Grenada[3]	East Caribbean Dollar	XCD	2.70	2.70
Guatemala[4]	U.S. Dollar	USD	1.00	1.00
Guinea[4]	U.S. Dollar	USD	1.00	1.00
Guinea-Bissau[4]	U.S. Dollar	USD	1.00	1.00
Guyana[4]	U.S. Dollar	USD	1.00	1.00
Haiti[4]	U.S. Dollar	USD	1.00	1.00
Honduras[4]	U.S. Dollar	USD	1.00	1.00
Hong Kong	Hong Kong Dollar	HKD	7.77	7.81
Hungary	Forint	HUF	64.41	61.67
Iceland[6]	Icelandic Krona	ISK	56.75	60.48
India	Indian Rupee	INR	17.34	16.70
Indonesia[4]	U.S. Dollar	USD	1.00	1.00
Iran, Islamic Republic of	Iranian Rial	IRR	66.91	73.66
Iraq	Iraqi Dinar	IQD	0.31	0.31
Ireland	Irish Pound	IEP	0.58	0.73
Israel[4]	U.S. Dollar	USD	1.00	1.00
Italy	Italian Lira	ITL	1148.45	392.65
Jamaica[4]	U.S. Dollar	USD	1.00	1.00
Japan	Yen	JPY	148.17	142.41
Jordan	Jordanian Dinar	JOD	0.66	0.57
Kenya	Kenyan Shilling	KES	22.88	21.20
Kiribati	Australian Dollar	AUD	1.24	1.32
Kuwait	Kuwaiti Dinar	KWD	0.29	0.30
Lao People's Democratic Republic[4]	U.S. Dollar	USD	1.00	1.00
Lebanon[3]	U.S. Dollar	USD	1.00	1.00
Lesotho	Loti	LSL	2.57	2.74
Liberia[3]	Liberian Dollar	LRD	1.00	1.00
Libyan Arab Jamahiriya	Libyan Dinar	LYD	0.28	0.31
Luxembourg	Luxembourg Franc	LUF	32.08	40.78
Madagascar	Malagasy Franc	MGF	1451.98	634.90
Malawi	Kwacha	MWK	2.65	2.79
Malaysia	Malaysian Ringgit	MYR	2.69	2.68
Maldives[4]	U.S. Dollar	USD	1.00	1.00
Mali	CFA Franc	XOF	262.41	329.15
Malta	Maltese Lira	MTL	0.31	0.36
Mauritania	Ouguiya	MRO	82.48	86.35
Mauritius	Mauritius Rupee	MUR	14.68	15.84
Mexico[4]	U.S. Dollar	USD	1.00	1.00
Monaco	French Franc	FRF	5.25	6.58
Mongolia[4]	U.S. Dollar	USD	1.00	1.00
Montserrat[3]	East Caribbean Dollar	XCD	2.70	2.70

Country or area	Local selling currency in September 1990	ISO code	Currency units per U.S. dollar[1] 1990	1989
Morocco	Moroccan Dirham	MAD	8.23	8.47
Mozambique	Metical	MZM	931.22	761.49
Myanmar	Kyat	MMK	6.17	7.04
Nauru	Australian Dollar	AUD	1.24	1.32
Nepal	Nepalese Rupee	NPR	29.20	23.93
Netherlands, Kingdom of the	Guilder	NLG	1.76	2.20
Netherlands Antilles	Netherlands Antillean Guilder	ANG	1.79	1.79
New Zealand	New Zealand Dollar	NZD	1.62	1.71
Nicaragua[4]	U.S. Dollar	USD	1.00	1.00
Niger	CFA Franc	XOF	262.41	329.15
Nigeria	Naira	NGN	7.96	7.26
Norway	Norwegian Krone	NOK	6.07	7.12
Oman	Rial Omani	OMR	0.38	0.38
Pakistan	Pakistan Rupee	PKR	21.83	20.61
Panama[4]	U.S. Dollar	USD	1.00	1.00
Papua New Guinea	Kina	PGK	0.95	0.87
Paraguay[4]	U.S. Dollar	USD	1.00	1.00
Peru[4]	U.S. Dollar	USD	1.00	1.00
Philippines[4]	U.S. Dollar	USD	1.00	1.00
Poland[4]	U.S. Dollar	USD	1.00	1.00
Portugal	Portugese Escudo	PTE	138.00	162.54
Qatar	Qatari Riyal	QAR	3.64	3.64
Republic of Korea[4]	U.S. Dollar	USD	1.00	1.00
Reunion	French Franc	FRF	5.25	6.58
Romania	Leu	ROL	20.25	4.18
Rwanda	Rwanda Franc	RFW	72.77	82.40
Saint Kitts & Nevis[3]	East Caribbean Dollar	XCD	2.70	2.70
Saint Lucia[3]	East Caribbean Dollar	XCD	2.70	2.70
Saint Vincent and the Grenadines[3]	East Caribbean Dollar	XCD	2.70	2.70
Samoa	Tala	WST	2.27	2.34
Sao Tome and Principe[4]	U.S. Dollar	USD	1.00	1.00
Saudi Arabia	Saudi Riyal	SAR	3.75	3.75
Senegal	CFA Franc	XOF	262.41	329.15
Seychelles	Seychelles Rupee	SCR	5.24	5.67
Sierra Leone[4]	U.S. Dollar	USD	1.00	1.00
Singapore	Singapore Dollar	SGD	1.80	1.96
Solomon Islands	Solomon Island Dollar	SBD	2.55	2.37
Somalia[4]	U.S. Dollar	USD	1.00	1.00
South Africa	Rand	ZAR	2.57	2.74
Spain	Spanish Peseta	ESP	96.07	121.87
Sri Lanka	Sri Lanka Rupee	LKR	39.99	35.79
Sudan	Sudanese Pound	SDP	4.50	4.50
Suriname[3]	Suriname Guilder	SRG	1.79	1.79
Swaziland	Lilangeni	SZL	2.57	2.74
Sweden	Swedish Krona	SEK	5.76	6.60
Switzerland	Swiss Franc	CHF	1.31	1.68
Syrian Arab Republic	Syrian Pound	SYP	22.00	22.00
Thailand	Baht	THB	25.19	25.62
Togo	CFA Franc	XOF	262.41	329.15
Tonga	Pa'anga	TOP	1.24	1.32
Trinidad and Tobago[4]	U.S. Dollar	USD	1.00	1.00
Tunisia	Tunisian Dinar	TND	0.86	0.95
Turkey[6]	Turkish Lira	TRL	2680.33	193.80
Turks and Caicos Islands[4]	U.S. Dollar	USD	1.00	1.00
Tuvalu	Australian Dollar	AUD	1.24	1.32

Country or area	Local selling currency in September 1990	ISO code	Currency units per U.S. dollar[1] 1990	1989
Uganda[4]	U.S. Dollar	USD	1.00	1.00
Union of Soviet Socialist Republics	Rouble	SUR	0.58	0.63
United Arab Emirates	UAE Dirham	AED	3.67	3.67
United Kingdom	Pound Sterling	GBP	0.52	0.64
United Republic of Tanzania	Tanzanian Shilling	TZS	194.57	143.14
United States	U.S. Dollar	USD	1.00	1.00
Uruguay[4]	U.S. Dollar	USD	1.00	1.00
Vanuatu	Vatu	VUV	112.68	118.05
Venezuela[4]	U.S. Dollar	USD	1.00	1.00
Viet Nam[4]	U.S. Dollar	USD	1.00	1.00
Yemen[7]	Yemeni Dinar	YDD	0.46	0.34
	Yemeni Rial	YER	12.00	9.76
Yugoslavia[4]	U.S. Dollar	USD	1.00	1.00
Zaire[4]	U.S. Dollar	USD	1.00	1.00
Zambia[4]	U.S. Dollar	USD	1.00	1.00
Zimbabwe	Zimbabwe Dollar	ZWD	2.47	2.20

1. "IATA Clearing House 5-day Monthly Rate" for the month of August.
2. In September 1989 international fares, and/or rates from these countries were quoted in local currency.
3. International fares from these countries are usually quoted in U.S. dollars whereas cargo rates are usually quoted in local currency.
4. International fares and rates from these countries are usually quoted in U.S. dollars.
5. In September 1990 fares were quoted in North Korean won whereas in previous years they were quoted in Russian roubles.
6. International cargo rates from these countries are usually quoted in U.S. dollars, whereas fares are usually quoted in local currency.
7. Although North and South Yemen were united into a single country, both currencies were still being used in September 1, 1990.

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 1990 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 1990
(*X* = city-pair distances in km; *Y* = return fare in U.S.$)

Route group		Number of city-pairs	*X* mean	*Y* mean	Equation $y = ax^b$ Coefficients *a*	*b*	Correlation coefficient *R*
International total	WORLD	10 281	3 242	1 178	6.017	0.656	0.868
Between North America and Central America/Caribbean	ALL	456	2 149	628	16.545	0.478	0.878
	Northbound	225	2 124	625	16.316	0.480	0.879
	Southbound	231	2 174	630	16.771	0.476	0.877
Between and within Central America and the Caribbean	ALL	405	678	284	8.136	0.553	0.904
Between Canada, Mexico and the United States	ALL	645	1 821	512	13.101	0.492	0.851
Between North America/ Central America/Caribbean and South America	ALL	318	3 890	1 065	1.478	0.799	0.975
	Northbound	164	3 883	1 046	1.524	0.793	0.977
	Southbound	154	3 898	1 085	1.431	0.804	0.973
Local South America	ALL	207	2 083	584	1.569	0.777	0.956
Local Europe	ALL	3 098	1 161	831	15.358	0.566	0.774
Local Middle East	ALL	386	1 399	518	4.132	0.669	0.928
Local Africa	ALL	584	1 689	642	2.502	0.748	0.892
Between Europe and Middle East	ALL	662	3 295	1 442	1.228	0.870	0.824
	Eastbound	331	3 288	1 638	0.732	0.949	0.829
	Westbound	331	3 301	1 246	2.033	0.792	0.904
Between Europe/Middle East and Africa	ALL	754	4 919	1 885	1.338	0.849	0.864
	Northbound	374	4 918	1 626	2.673	0.752	0.851
	Southbound	380	4 920	2 141	0.675	0.945	0.908
North Atlantic	ALL	566	7 322	2 372	20.357	0.534	0.564
	Eastbound	280	7 336	2 257	10.858	0.599	0.687
	Westbound	286	7 308	2 485	38.135	0.468	0.482
Mid Atlantic	ALL	188	8 325	2 565	13.961	0.576	0.430
	Eastbound	92	8 330	2 152	23.449	0.500	0.530
	Westbound	96	8 320	2 961	7.998	0.655	0.658
South Atlantic	ALL	117	9 840	3 143	0.143	1.085	0.774
	Eastbound	59	9 823	2 664	2.719	0.750	0.945
	Westbound	58	9 856	3 630	0.005	1.467	0.898
Local Asia/Pacific	ALL	828	3 036	947	0.824	0.876	0.927
Between Europe/Middle East/ Africa and Asia/Pacific	ALL	820	7 606	2 243	0.244	1.017	0.902
	Eastbound	409	7 594	2 489	0.490	0.952	0.896
	Westbound	411	7 618	1 998	0.126	1.078	0.938
North and Mid Pacific	ALL	186	10 833	2 134	11.676	0.560	0.621
	Eastbound	94	10 807	2 251	19.295	0.506	0.538
	Westbound	92	10 861	2 118	6.869	0.616	0.719
South Pacific	ALL	61	9 722	3 018	0.375	0.978	0.887
	Eastbound	30	9 604	3 090	0.586	0.934	0.845
	Westbound	31	9 836	2 949	0.230	1.028	0.936

Regression equations

General cargo rates for shipments of less than 45 kg: September 1990
(X = city-pair distances in km; Y = rates per kg in U.S.$)

Route group		Number of city-pairs	X mean	Y mean	Equation $y = ax^b$ Coefficients a	b	Correlation coefficient R
International total	WORLD	8 025	3 908	5.023	0.018	0.682	0.841
Between North America and Central America/Caribbean	ALL	190	2 709	2.759	0.018	0.637	0.770
	Northbound	91	2 688	2.792	0.016	0.648	0.764
	Southbound	99	2 728	2.729	0.019	0.628	0.775
Between and within Central America and the Caribbean	ALL	220	834	1.548	0.044	0.531	0.798
Between Canada, Mexico and the United States	ALL	172	1 987	1.523	0.103	0.359	0.817
Between North America/ Central America/Caribbean and South America	ALL	285	4 232	4.014	0.016	0.663	0.903
	Northbound	144	4 181	3.521	0.023	0.608	0.917
	Southbound	141	4 285	4.518	0.011	0.722	0.911
Local South America	ALL	159	2 326	2.768	0.010	0.723	0.850
Local Europe	ALL	2 077	1 253	2.832	0.054	0.548	0.644
Local Middle East	ALL	341	1 346	1.897	0.018	0.647	0.806
Local Africa	ALL	502	1 841	2.550	0.005	0.821	0.840
Between Europe and Middle East	ALL	636	3 389	5.328	0.001	1.025	0.711
	Eastbound	322	3 384	6.250	0.000	1.178	0.776
	Westbound	314	3 395	4.382	0.003	0.872	0.703
Between Europe/Middle East and Africa	ALL	747	4 970	7.426	0.009	0.780	0.692
	Northbound	370	4 949	4.879	0.080	0.479	0.618
	Southbound	377	4 990	9.926	0.001	1.081	0.879
North Atlantic	ALL	572	7 374	7.700	0.051	0.560	0.388
	Eastbound	281	7 378	7.518	0.073	0.520	0.687
	Westbound	291	7 371	7.876	0.036	0.598	0.318
Mid Atlantic	ALL	187	8 303	11.613	0.086	0.539	0.311
	Eastbound	91	8 323	10.496	0.465	0.343	0.271
	Westbound	96	8 284	12.671	0.021	0.702	0.360
South Atlantic	ALL	117	9 790	13.606	0.001	0.995	0.643
	Eastbound	57	9 828	10.852	0.010	0.761	0.868
	Westbound	60	9 754	16.223	0.000	1.274	0.757
Local Asia/Pacific	ALL	704	3 271	3.714	0.008	0.764	0.851
Between Europe/Middle East/ Africa and Asia/Pacific	ALL	821	7 792	9.003	0.003	0.871	0.758
	Eastbound	413	7 788	10.687	0.007	0.809	0.746
	Westbound	408	7 795	7.299	0.002	0.929	0.847
North and Mid Pacific	ALL	233	11 235	8.903	0.889	0.243	0.221
	Eastbound	117	11 205	9.631	3.342	0.107	0.073
	Westbound	116	11 266	8.168	0.165	0.367	0.671
South Pacific	ALL	62	10 625	9.783	0.097	0.497	0.674
	Eastbound	28	9 988	9.975	0.104	0.493	0.550
	Westbound	34	11 149	9.624	0.071	0.527	0.856

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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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