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Discussion Paper No. 79

REPORT OF THE AIR FREIGHT STUDY GROUP

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Any views expressed in this paper are those of the authors. They should not be interpreted as reflecting the views of the Institute for Development Studies or of the University College, Nairobi.

Preface

This paper is a slightly revised version of a Report with the same title submitted to the Ministry of Economic Planning and Development in January, 1969.

The study was begun at short notice, and was to be completed within a two month period which included Christmas and the New Year. The short time available for the study, and the time of year in which it was carried out, meant that much of the data collected on air freight and customs duties on air freight may not have been fully representative of the data for the full year. However, the data sources are given, and can be followed up in future if desired.

The present version differs from the original in omitting references to confidential material, incorporating additional information on air-freighted imports and in containing a slightly expanded and hopefully clearer exposition of the appropriate valuation of air freighted imports for duty purposes.

This discussion paper is being issued to make available to the public an economic analysis of some of the general issues in the air freight/landing rights/customs duty fields, and not to provide information on the existing situation of particular carriers. For this reason, we have made no attempt to report on or to evaluate changes in landing rights or on the outcome of negotiations which have occurred since January.

We wish to thank all of those persons who co-operated with us in gathering data. These have included representatives of almost all airlines serving Nairobi, of I.A.T.A., of I.C.A.O., of the major horticultural exporters, of the main freight forwarding firms, and of motor, pharmaceutical and photographic firms. Personnel of the Kenya Export Promotion Council, the Ministries of Power and Communications, of Commerce and Industry, Economic Planning and Development, Agriculture and Finance were most helpful. Officials of the E.A. Civil Aviation Board, E.A. Directorate of Civil Aviation, E.A. Statistics Department, and E.A. Customs and Excise have also provided important assistance. We have drawn more heavily on the time of high-level manpower of East African Airways than any other organisation, and would like

to give special thanks to that organisation. We have acquired a great amount of sympathy with ^{EAA for} the conditions under which it must operate. We hope that this is clear inspite of some particular criticisms which are made or implied in the Report and Appendices.

The two I.D.S. authors would like to express their gratitude to Mr. Muturi for his extremely efficient organisation of interviews and data collection and his willingness to work on files and contribute to interviews long after office hours as well as during them.

Finally, this version has benefitted from the comments of Mr. E. R. Rado and Dr. John Harris, who are therefore in part responsible for any analytical errors and expository obscurities still remaining.

Summary of Recommendations

1. The backlog of freight to Zambia must and can be eliminated immediately. EAA is negotiating for an agreement with Zambia Air Cargoes to handle the situation. In the meantime, the Alitalia freighter which departs Nairobi-Lusaka each week with over 9,000 kilos of empty capacity due to a lack of pick-up rights should be given those rights on a temporary basis until EAA/ZAC agreement comes into effect. Once the EAA/ZAC flight is operating, the Alitalia freighter should be given temporary rights, on a week-to-week basis, to pick up any back-log of cargo in that week. Kenya exporters should be assured by Government that this will be done so they can seek regular markets in Zambia with the confidence that they will be able to supply them.
2. Should Air France apply for temporary cargo pick-up rights Nairobi-Paris for an all freight plane for 8 flights commencing February 4, these should be granted.
3. In any week in which there is a back-log of freight to Europe, or in which horticultural exporters are unable to secure enough space, the SAS and Zambia Airways flights which presently stop in Nairobi but have no pick-up rights Nairobi-Europe should be given those rights for freight only.
4. Some Government organisation should be responsible for continuously checking the need for temporary landing rights. Since this involves continuous checking with various manufacturers, horticultural exporters and freight forwarding agents, it would seem to require attention by a body connected with all of the economic Ministries. This might become a function of the interministerial committee on freight rates.
5. A proper study of the economics of landing rights, preferably on an East African basis, should be commissioned. The current criteria, basic principles, and evaluations of applications appear to us to be deficient. It would be desirable if Kenya's position on particular Bilateral negotiations were discussed by a body of the economic Ministries and the Ministry of Tourism and Wildlife.
6. We do not recommend any early change in the way imports by air are valued for customs purposes. It is possible that such a change may be desirable later. If so, the change should be made for a very restricted list of commodities and not for all imports by air.
7. The East African Statistical Department should ask airlines to give the space available (unused) on each flight leaving each East African airport in addition to the information already filed by the airlines. This would make it possible to secure estimates of full (passenger + freight) load-factors and would improve the accuracy of future evaluations of the capacity situation as well as the analysis of particular landing rights applications.
8. We would recommend that EAA be made a member of the Kenya Export Promotion Council. Given the mutual interests of these two bodies in increasing Kenya's exports, this move, by facilitating increased communication of each others' difficulties, would reduce the misunderstandings which currently exist and might result in increased future co-operation in expanding Kenya's exports.

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REPORT OF THE AIR FREIGHT STUDY GROUP

Terms of Reference and Introduction

1. The chain of argument we were asked to examine is:
 - (i) with more air freight space, Kenyan horticultural exports would significantly increase;
 - (ii) with a reduction in the duty levied on the airfreight element of the cif value of imports, imports by airfreight would increase;
 - (iii) with more imports, airlines would provide additional airfreight capacity into, and hence out of, Nairobi.
2. This chain of reasoning is defective because it lacks mention of landing rights:
 - (i) a greater willingness of the airlines to provide more service will result in more capacity only if they are granted landing rights for more flights;
 - (ii) without the inducement of increased imports the airlines are willing to supply more capacity now but have not been granted the landing rights to do so.
3. We have examined (a) the capacity problem (b) the question of landing and rights, and (c) the question of a tariff change. Appendices A, B, / C contain the detailed analysis of these three questions. This report is a summary of our findings.

Does airfreight space constrain horticultural exports?

4. To Zambia there is currently, and has been for some months, a backlog of freight at the Nairobi airport. During the month from mid-December, 1968 to mid-January, 1969, this varied between .9 tons and 12.9 tons, averaging 4.5 tons. The "true" backlog is considerably larger since exporters do not bother to take goods (particularly perishables) to the airport if they will not get on a plane. This shortage of capacity affects not only horticultural products, but also beef and pork products and several manufactured goods.
5. There is no excuse for this to have happened and persisted to the extent it has. We recommend that the Government take an interest in the current negotiations between EAA and Zambia Air Cargoes to ensure that the additional 20 tonnes of weekly freight capacity involved are put into service if at all possible. We also recommend that the Alitalia freighter

be given temporary landing rights to carry freight Nairobi-Zambia until the EAA/ZAC plane is flying, and that this freighter be given temporary rights on a week to week basis thereafter to pick up any backlog of cargo for Zambia which still exists.

6. To Europe (including the U.K.) horticultural exports (by weight) have decreased during the last two years. There does not appear to be any serious capacity constraint at present.
7. In the longer run, some persons in the horticultural industry claim that there would be significant increases in sales if more freight space were available since a guarantee of this availability would result in increased planting by farmers and increased demand when it became known that Kenya could supply more. We have not examined the validity of this claim. The forthcoming studies by the Tropical Products Institute and Mr. Frank Wilson of the Institute for Development Studies of long run horticultural demand and supply prospects should shed light on it.
8. At present, the Kenya Government has the power to grant landing rights which would permit an immediate minimum increase in peak month horticultural exports of 55% (over the 1967/68 level). This could be accomplished without issuing any rights for passenger uplift, and without granting rights to carry inward bound cargo or mail. (See recommendations 2 and 3 p. 3). We presume that this situation will persist for at least the next year or two. Horticulturalists should be assured that the Kenya Government will exercise this power (or have it exercised by the Community) should the need arise.
9. To other destinations (other Africa, Middle and Far East).
We have not made a detailed study of the capacity situation to other points. Enquiries to the relevant carriers, exporters, and the Kenya Export Promotion Council on the cargo situation to these points generated no evidence of capacity shortages. It has been suggested, however, that exports to other African countries could be considerably increased with lower freight rates. As well, there appears to be a need for more aggressive selling efforts by exporters and airlines.

Should Policy on the Issue of Landing Rights be Changed?

10. Appendix B discusses landing rights in some detail. To summarise the findings of that Appendix,
- (a) there may be considerable room for improving the flow of information on landing rights applications between the Community and partner East African Governments. As well, there is scope for increased communication among the Kenya economic ministries on this issue.
 - (b) there appears to be an excess demand for landing rights at present. That is, airlines would like to have rights to operate more services in and out of Nairobi.
 - (c) the past criteria used to evaluate applications for landing rights have been too restrictive. In particular, we believe that more could be done to increase the gains to Kenya - and East Africa - from granting landing rights. Individual applications are susceptible to more economic analysis than has been the case in the past. It is also probable that more gains can be secured through negotiating more limited bundles of rights than hitherto (i.e. considering and negotiating rights to pick up passengers, mail and freight separately), and through negotiating on more items than a simple reciprocal exchange of rights which has been the main item for discussion up to now. In the context of the airfreight issue, it may be possible to induce more freighters to come to East Africa, if required, by tying the grant of rights for passenger flights to the requirement that freighter services also be introduced.
 - (d) the conditions under which more members join the Community will have important implications for the gains to present Community members, and particularly to Kenya, in the landing rights field.
11. We therefore recommend that the subject of landing rights come in for more extended analysis, from the point of view of both East Africa and of Kenya. Recommendations on particular applications for landing rights are given elsewhere in this Report (see Summary of recommendations paragraphs 1,2,3.)

Should the Customs Valuation of Air Freight be Changed?

12. In 1968, £521,686 in customs revenue were collected at the Nairobi airport on imports to Kenya. We estimate that £109,000 - £114,000 of this consisted of duty on the air freight element of cif value. Additional duty was paid on air freighted imports by parcel post, and imports paying customs duties at bonded warehouses in Nairobi. Any policy changes in this area therefore involve important revenue considerations.
13. It has been argued that levying duty cif leads to inefficiency in choosing between air and sea freight. This argument is based on the fact that because air freight charges are so much higher than sea freight charges, the duty levied on the freight element of cif costs is much higher for air than sea imports.

This is alleged to lead some importers who would choose air importation were their commodities non-dutiable to choose sea importation when their commodities are subject to (ad valorem) duty. This argument is wrong. Ad valorem duties are paid on the full costs of imported goods. (This proposition and the minor exceptions to it are demonstrated in Appendix C paras 5-7.) This means that the cheapest means of importing pre-tax will also be the cheapest means of importing after tax, if a single duty rate applies to all cost elements, as is the case under cif customs valuation. This analytical conclusion is confirmed by the evidence we have been able to collect. Reducing the duty on air freight relative to sea freight would therefore discriminate in favour of air and against sea freight. This would, subject to the qualification in the next paragraph, lead to a waste of resources. The explanation of this fact is simple. The social or real or resource cost of supplying a given import demand consists of the private cost (the cost incurred by importers) less the duty paid. If duties on air freight were reduced, some importers would switch from sea to air, since air importation would then become cheaper to importers relative to sea importation. But the fall in importers' costs would consist entirely of the reduction in import duties. The other costs of the switching import would rise (otherwise, the import would have come by air in the first place). Since these other costs represent real costs, the real cost of supplying a given final demand for imports would rise.

14. Insofar as some airfreighted imports come by EAA, we would ideally like to have EAA's airfreight charges inside the duty wall rather than outside it as at present. Putting EAA inside the wall would require subjecting its services to excise taxation, partially offsetting the tax decrease from customs exemption. Since it is not possible to separate EAA from other airlines, there is a case for reducing the tariff charges on airfreight, but not in our opinion, to a large enough extent to justify the administrative changes this would require. (EAA had approximately 20% of the capacity for carrying imports from Europe in 1967/68.)

15. If it is desired to subsidise inward bound airfreight in order to increase capacity for exports, duty changes provide one means of doing this. In view of the fact (mentioned in paragraphs 5 and 9 above), that increased capacity for exports to destinations presently or reputedly suffering capacity shortages can be secured with no subsidy at all, any move at present to alter duty rates for this reason is unnecessary. Such a subsidy might be desirable in the future. If so, we would recommend that no across-the-board changes in customs valuation be considered. Rather, we recommend that the desired increase in capacity be secured at the minimum possible decrease in customs revenues. This implies changing the valuation of particular commodities. The commodities chosen should (a) be coming mainly by sea before the duty change, and (b) should be capable of providing a large sea-air switch in response to a customs valuation change. Examples of such commodities are motor spares and pharmaceuticals and cosmetics. (We calculate the likely effects of a duty change on motor spares in Appendix C, paras 24-33.)
16. Changes in air-freight rates are similar, so far as importers are concerned, to changes in duty rates on air freight. Both change the costs facing importers. However, an air freight rate reduction also reduces the cost to the economy of its imports. It is shown in Appendix C that if duty rates are reduced, the airlines will^{probably} have an incentive to raise rather than lower freight rates. This would vitiate the objectives of a duty reduction.
17. Freight rates are set at Conferences of the International Air Transport Association. They are difficult, but not impossible for Government to influence. The most effective policy tool for influencing freight rates (and passenger fares) is probably general landing rights policy (see Appendix B). However, ^{special guidelines} policy with respect to applications for landing rights by airlines which are known to oppose reductions in freight rates on East African routes might also be useful. As well, it may be possible to exert some influence through moral suasion (which might become more effective in the context of a proposed customs duty change).

Appendix A: Capacity Situation

General Framework for Analysis

1. Providing a quantitative evaluation of the capacity situation is made difficult by the complications of airline operation and the paucity of appropriate data. The general situation can be described qualitatively, however, and the description can be supported by evidence which reflects the true position. There are three general situations which we can distinguish:

- (i) there may be sufficient capacity that all shipments find space on flights proceeding directly to the desired destination (where such service is available);
- (ii) It is necessary to make use of trans-shipments and short-term unexpected shipments do not always find space;
- (iii) Capacity is not available to carry all freight which can be regularly expected to move so that goods of export quality must regularly be sold on the local market or are not produced at all.

Being in situation (ii) rather than (i) reflects a loss of revenue due both to lost sales and to a decrease in the quality of products which do reach the market. However, the loss is probably not very large. Being in situation (iii) implies the loss of considerable export earnings.

2. We shall detail below our evidence for the conclusion that situation (iii) holds for exports to Zambia, while (i) and occasionally (ii) holds for European exports at the current structure of freight charges. The underlined expression is extremely important since the amount of cargo shippers wish to send by air depends on price. The airlines have frequently made reductions in freight charges for commodities where they felt substantial increases in amounts shipped by air^{could} be induced. (This question of freight charges is extremely important for exports to other African countries as well).

3. Before turning to the details of our analysis of capacity to particular destinations we shall discuss the problems of measurement. On the demand side no figures are published (or kept) on the amounts of cargo turned away at the airport or not sent due to lack of space. It is possible for exporters, shippers and airlines to keep day to-day records of this

Table I BACKLOG OF AIR CARGO DESTINED FOR ZAMBIA
AT NAIROBI AIRPORT, (KILCS)

	FREIGHT OF KENYA ORIGIN	IN TRANSIT FROM OTHER COUNTRIES	TOTAL
Monday, December 16	530.6	3,583.0	4,113.6
Tuesday December 17	1,222.5	1,314.5	2,537.0
Wednesday December 18	2,258.0	4,278.5	6,536.5
Thursday, December 19	2,478.5	4,556.5	7,035.0
Friday, December 20	2,327.0	4,756.5	7,083.5
Monday, December 23	227.0	2,103.5	2,330.5
Tuesday December 24	229.0	4,516.5	4,815.5
Friday, December 27	447.5	6,030.5	6,478.0
Monday, December 30	72.5	1,313.0	1,385.5
Tuesday December 31	576.5	3,298.5	3,875.0
Thursday, January 2	107.0	1,446.0	1,553.0
Friday, January 3	-	1,747.0	1,747.0
Monday, January 6	-	852.0	852.0
Tuesday, January 7	4,053.0	2,837.5	6,890.5
Wednesday, January 8	688.5	430.5	1,119.0
Thursday, January 9	83.0	1,069.0	1,152.0
Friday, January 10	1,593.0	2,779.5	4,372.5
Monday, January 13	225.0	3,662.0	3,887.0
Tuesday, January 14	4,505.5	2,704.3	7,209.8
Wednesday, January 15	3,581.5	2,548.5	6,130.0
Thursday, January 17	6,912.5	5,953.5	12,866.0
Mean per day for which records are available	1,533	2,942	4,475

SOURCE: Manager, E.A.A. Air Cargo Shed, Embakasi.

expect to be able to get space and because alternative modes of transport are too expensive, uncertain, or incapable of handling perishable commodities. Further, exporters use alternative transport which is less satisfactory at current prices than air, were regular air services available. If account is taken of the unlikelihood in the near future of Zambia's 'natural' suppliers (Rhodesia and South Africa) of a wide range of commodities which are produced in Kenya (from biscuits to meat to dry ice to clothing to fruit and vegetables) becoming more acceptable sources of supply, together with the competitiveness of economically feasible Special Commodity Rates for some of these goods to Zambia, there is no doubt that the 'true' shortage of airfreight capacity to Zambia is a substantial multiple of the observed shortage. It should also be pointed out that sending an occasional chartered freighter is a poor substitute for regularly available capacity when it comes to developing export markets.

6. East African Airways has been aware of this problem for some time, although they have made urgent attempts to solve it only recently. EAA is attempting to negotiate an agreement with Zambia Air Cargos for a weekly service Dar-Mombasa-Nairobi-Ndola by a Lockheed Hercules with 20 tonnes capacity. (This freighter carries copper from Ndola to Dar). We recommend that the Kenya Government keep in close touch with these negotiations. As well, the weekly BUA freighter from the end of January will have roughly five tonnes more capacity than at present, and some of this may be available to Kenya exporters.

7. In the meantime, the Alitalia freighter which has the route Rome - (Mogadishu) - Nairobi - Lusaka - Nairobi - Tripoli - Rome, and which carries 15-20 tonnes of KMC beef to Tripoli each week, lacks the right to pick up cargo from Nairobi to Zambia. It could have taken over 9,000 kilos of cargo each week in December. In order to clear the backlog at Nairobi for Zambia, and in order to develop the airfreight market between Nairobi and Zambia, we recommend that this freighter should be given temporary rights to pick up cargo at Nairobi until such time as EAA/ZAC is ready to begin operations.

8. We suspect that in the medium term enough business will develop on this route to utilise the space available on the Alitalia freighter, the BUA freighter and the EAA/ZAC plane if the latter is secured. We therefore believe that the Government should assure exporters that the Alitalia freighter will automatically be granted rights on a weekly basis to pick up any backlog for Zambia. Someone in the Ministry of Economic Planning and Development, Power and Communications or Commerce and Industry, or some interested group, should have the duty of regularly checking the backlog situation to all points by telephoning the Manager of Air Cargo shed (Mr. Kaingu) at the airport and of assuring exporters that space will be made available.

9. While we deal with the general issue of landing rights in more detail below, it is worthwhile mentioning here the strong objection which EAA has to the granting of temporary landing rights (except for tourist charters). They feel that granting of rights on a week to week basis to handle backlogs as suggested above will provide the foreign operator with the "thin end of the wedge" to extract more permanent rights. There is no reason why temporary rights need be anything but temporary. Part of the EAA objection arises from their feeling that the foreign operator will succeed in developing new business and signing long-term contracts which will force the Government to make those rights permanent. If such potential business exists, and if EAA, for reasons of lack of skilled personnel, of commercial drive, of insufficient aircraft, or general inefficiency is unable to exploit it, Kenya's interests are hardly hurt and may be better served than expected by the granting of temporary landing rights.

10. Finally, with respect to the Alitalia freighter, it should be noted that it is the hope of Alitalia to increase the amount of through cargo Europe/Zambia and to reduce the amount of cargo presently off-loaded at Nairobi. The former tends to be more profitable than the latter. This means that the 'thin end of the wedge' argument has less relevance for this flight than might otherwise be the case since they would expect to decrease their carriage from Nairobi to Zambia even if given Nairobi pick-up rights.

Airfreight to Europe : The Current Situation

11. We shall begin by reviewing the overall situation in air traffic between Nairobi and Europe before turning to the excess capacity question. Tables II and III show the amount of aircargo and mail (in tonnes) arriving from and departing to the U.K. and Continental Europe from Nairobi and East Africa in the years 1961 to 1967, and for the year July, 1967 to June, 1968. As will be seen from the table, there is no significant excess of outward bound traffic over inward bound traffic on this sector on an annual basis.

Table II AIR CARGO WITH ORIGIN/DESTINATION UK-EUROPE/KENYA,
('000 KILOS)

	Arriving	Departing
1961	1,162	1,103
1962	1,127	1,295
1963	1,399	1,727
1964	1,694	2,016
1965	1,638	2,314
1966	2,002	2,796
1967	2,122	2,676
1967/8	2,515	2,704

SOURCE: E.A. Statistical Department.

Table III AIR CARGO WITH ORIGIN/DESTINATION UK-EUROPE/EAST
AFRICA ('000 KILOS.)

	Arriving	Departing
1961	1,330	1,166
1962	1,469	1,423
1963	1,819	2,008
1964	2,148	2,296
1965	2,181	2,751
1966	2,623	3,384
1967	3,116	3,607
1967/8	3,742	3,497

SOURCE: E.A. Statistical Department.

12. Table IV shows the situation for the months of 1967/68 and the numbers are illustrated in Chart I. As the Chart makes clear, the annual figures conceal excess of inward cargo over outward cargo for five months and the reverse in seven months. It should be noted that these figures refer to cargo and mail only. Since passengers and baggage took roughly three times the weight of freight and mail, we have an inadequate view for considering relative total capacities in each direction. (The problem was of disentangling passengers on chartered aircraft from those on aircraft carrying freight and also disentangling the effect of the Asian exodus to arrive at "normal" figures.) However, these are the appropriate data for considering all freight aircraft as we do below.

13. In February inward bound freight was 67% of outward and in April 81%. These are the lowest figures which this ratio had during the year considered. The February figure was probably affected by the Asian exodus, so there is not a very great imbalance in shipments even on a month by month basis.

14. As was pointed out earlier, it is extremely difficult to secure estimates of air freight capacity. We have two. The Board of Airline representatives had all airlines which fly North provide estimates of the amount of capacity they had for freight (excluding mail) on Scheduled services ex East Africa in a Northern direction during the year July 1967 to June 1968. After removing those flights which would appear in the E.A. Statistical Department figures for freight moved under other destinations, adding the BUA freighter (which was not included in the estimate) and deducting 10% to take care of transit cargo, this figure came to 4,662 tonnes of capacity. The other estimate, from a knowledgeable airline cargo representative, is for Northbound flights from Nairobi at the present time. This comes to 130-175 tonnes per week, (depending upon weather, transit traffic, and so on) or 6,760-9,100 tonnes per year. Deducting flights not flying to Europe and deducting recent additions to capacity (such as the Alitalia freighter) in order to get a figure comparable with that above for East Africa, we secure an estimate of 90-112 tonnes per week for an annual total of 4,680-5,824 tonnes (for cargo + mail). If we subtract from the B.A.R. figure the capacity on flights from the other two East African airports which either do not stop or do not have pick-up rights in Nairobi, we find

Table IV AIR CARGO WITH ORIGIN/DESTINATION UK-EUROPE/KENYA-
EAST AFRICA - JULY 1967 - JUNE 1968. '000 KILOS

	KENYA		EAST AFRICA	
	Arrive	Depart	Arrive	Depart
July	180	199	251	256
August	183	168	268	205
September	204	187	293	205
October	223	176	337	230
November	212	207	337	283
December	221	259	333	345
January	213	254	319	373
February	191	284	312	357
March	247	283	357	349
April	234	276	324	363
May	228	252	316	393
June	189	160	294	240
	2,514	2,704	3,742	3,599

SOURCE: E.A. Statistical Department.

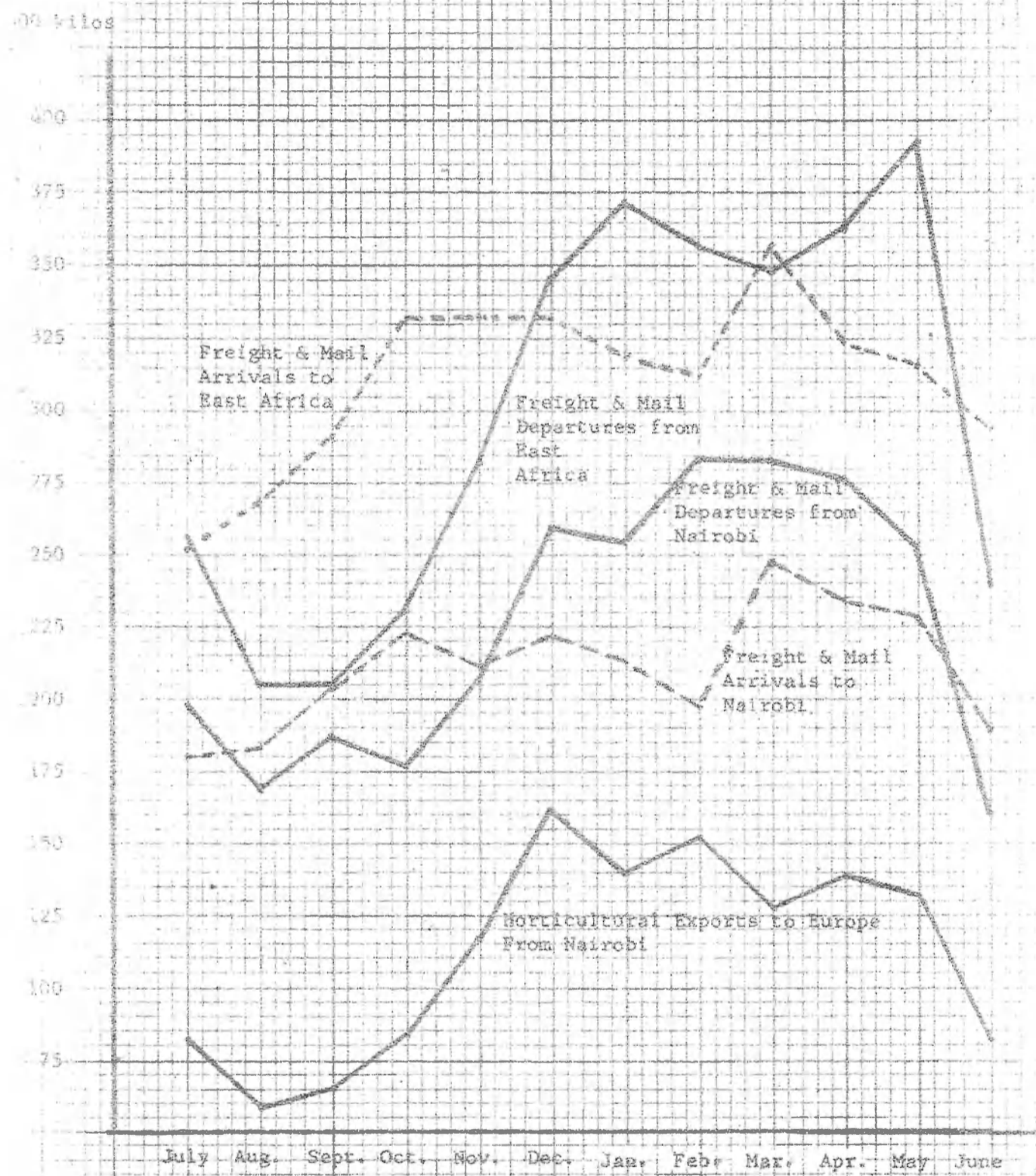
Table V

Month	'000 Kilos						Percentages			
	Horticultural Exports to All Destina- tions			Horticultural Exports to Europe *			Total Cargo to Europe		Horticultural Exports as % of Total Cargo to Europe	
	1966	1967	1968	1967	1968	1967	1968	1967 %	1968	
January	155	177	142	152	135		254		53%	
February	164	138	160	128	151		284		53	
March	185	169	136	156	127		283		45	
April	160	147	146	139	139		276		50	
May	129	127	139	118	132		252		52	
June	114	133	84	116	82		160		51	
July	71	85	67	82	62	199		41		
August	80	66	79	58	61	168		35		
September	110	79	80	65	64	187		35		
October	116	90	115	83	95	176		47		
November	149	125	160	116	129	207		56		
December	173	174	184	161	155	259		62		
Year	1,606	1510	1492	1374	1332			Annual Average 1967/8 = 49%		

* Total, less exports to Aden and "Other"

SOURCE: East African Statistical Department, Kenya Ministry of Agriculture.

CHART 1 Air Cargo* Between Europe and Kenya/East Africa and Horticultural Exports From Kenya to Europe
July, 1967 - June, 1968.
(*000 kilos)



* Includes cargo with origin/destination at intermediate points between East Africa/Kenya and Europe.

that the two capacity measures are roughly comparable. The sketchiness of these calculations re-emphasizes the need for better data.

15. If we assume that mail accounted for 16% of the tonnes of cargo moved (this was the percentage of mail in all cargo moved arriving and departing from the major East African airports in 1965 and 1966), cargo net of mail moving North came to 3,023 tonnes in 1967/8. This implies a cargo load-factor of 65% in that period on the B.A.R. figure. This is probably about the maximum achievable. (If an 80% load-factor represents full capacity utilization on a monthly basis, and given the monthly pattern of air freight movements in 1967/8, and assuming that capacity serving the peak month must serve throughout the year, the maximum annual load-factor achievable would come to 64%.) If charters are available to carry peak month loads, of course, the annual load-factors on scheduled carriers could be higher. We might also point out that the capacity usage figure and the maximum load factor figure would be larger if mail were included, and these would be the right figures for evaluating whether to put on a freighter which would have mail rights.

16. It is also worth noting that different airlines have different load-factors at present. These arise from better service and more strenuous promotion efforts by some air lines, as well as, perhaps, preferences of nationals to use their own national carriers.

The Problems of Horticulture

17. Horticultural products are the lowest paying type of cargo (they move to the U.K. at a rate which is only 20% of the General Commodity Rate) and hence are less attractive to the airlines than other freight. They are also the largest single type of commodity (in terms of weight) exported from Kenya to Europe by air (See Table V), accounting for 49% of such exports in 1967/68 with a maximum of 62% in the peak month (December) of 1967 and a minimum of 33% (in August and September, 1967). Hence, we would expect any shortages of airfreight capacity generally to manifest themselves in off-loading of, or inability to make bookings for, horticultural products.

18. On a year to year basis, horticultural air exports have fallen between 1966 and 1967 and between 1967 and 1968. (See table V). While this fall is consistent with the general complaint in the horticultural export industry that there is a shortage of freight capacity for their goods at peak seasons and at peak days of the week, this is not necessarily the case. In order to assess this situation, we asked the Manager of the EAA Air Cargo shed at Embakasi, and the major horticultural exporters [E.A. Growers, Kenya Horticultural Exporters, Horticultural Co-operative Union, and Como Coffee Co. (pineapples)] to record for us, on a daily basis, the amount of horticultural cargo off-loaded, and the amount not shipped due to an inability to make air bookings. Apart from one shipment on the first Saturday in December which was put on to a later flight, air freight space imposed no limitations on horticultural exports in December, 1968. Since the peak month for horticultural exports to Europe in the last two years has been December (See Table V), this indicates that the problem is not, at present, serious.

19. According to the trade, several shipments of horticultural produce were off-loaded earlier in 1968 and some were shipped by very indirect routes (e.g. via Lagos or Karachi). Some at least of these off-loadings are probably to be accounted for by the coincidence of the Asian exodus with the peak season for horticultural exports.

20. It has been argued that the true capacity needs of the horticultural exporters cannot be observed from the current situation since both planting by farmers and demand by European importers have adjusted to a capacity shortage situation. It has been argued by Mr. Philip of HCDA that horticultural exports would increase by two to three times the current level of £½ million with unlimited space availability. It is on this basis that he argues for a tariff change. As discussed in Appendix C, this represents an expensive subsidy. It must therefore be asked whether and by how much the situation can be improved by other means.

21. With increased demand of the size postulated by HCDA, an Air France freighter presently flying Malagassy-Djibouti-Paris almost empty would be made available to land at Nairobi. In addition, Government could grant temporary rights to SAS and Zambia Airways to uplift freight for Europe on flights which already stop here but do not have pick-up rights. These three flights

together have capacity of 22-28 tonnes per week or over 88-112 tonnes per month (depending on weather conditions etc.) This represents 62-79% of the average monthly horticultural exports during the 1967/8 high season (taken as December through May), and 55-70% of the highest single monthly total in that period (December, See table V.) Addition of these flights would provide sufficient capacity increase for exporters to demonstrate some of the postulated increase. Granting rights to these flights would also have the desirable feature of resulting in no additional competition for EAA on inbound flights, and minimal competition on outbound ones.

22. In future, it will be necessary to decide whether to bring in additional freighter aircraft Europe-Nairobi-Europe. Our sample of air waybills at the airport in early January showed an average freight charge of around shs. 12.20 per kilo on all commodities originating in Europe. If an all freight aircraft were to fly South with a 60% load-factor it would earn shs. 7.32 per kilo of capacity. (The figure of 60% was chosen to be conservative compared with 65% of 1967/68.)

With a special commodity rate of shs 3 per kilo on horticultural exports going North, and assuming that it goes 100% full in the peak month, and that the seasonal pattern is the same in future as it was in 1967/68, the freighter will earn shs 2.60 per kilo of capacity going North. The total earnings per round trip will come on these assumptions to shs. 9.92 per kilo capacity over the high season (December-May). This compares with a figure of shs 8-10 per kilo of round trip capacity necessary to induce a charter aircraft to fly Europe-Nairobi-Europe, or to induce an airline to put on a regular freighter. Thus it would appear that large policy adjustments would not be necessary to induce new all freight aircraft if horticultural exports to Europe should rise. This conclusion is further supported by the fact that three airlines (PAA, BOAC, Lufthansa) are seriously considering bringing all freight aircraft to East Africa.

23. To summarise: we see little need for action at present. There is a need for the Government to stand ready to take advantage of existing possibilities for quick additions to capacity as outlined in para 21 should demand rise. Equally important, Government should assure the relevant firms of its intention to act on capacity problems should they arise in future.

Appendix B: Landing Rights

Introduction

1. A consideration of landing rights is fundamental to any consideration of the air freight capacity problem. If more airlines wish to run services out of Nairobi, but are unable to secure rights to do so, the simplest means of increasing capacity is to issue those rights. (See our particular recommendations in Appendix A for examples.) By the same token, it is pointless for Government to change the basis of valuing imports to make Nairobi more attractive to freighter aircraft if it does not simultaneously grant rights for the additional aircraft to land here. After a brief, and extremely tentative, mention of some administrative problems, this Appendix contains a discussion of criteria for approving applications for landing rights.

The Legal and Administrative Position

2. Bilateral Air Services Agreements are negotiated between Governments which then, subject to the conditions in the agreements, nominate the carriers which will enjoy the landing rights negotiated. It is also possible for airlines to secure temporary landing rights by negotiating with the Government concerned. In East Africa, since air services are a Community matter, negotiations are carried out by Community bodies. Temporary landing rights are issued by the E.A. Civil Aviation Board. Briefs for negotiations of B.A.S. Agreements are approved by the Communications Council and hence by the Governments. The negotiations themselves are conducted by a Committee of the Communications Council. To become effective, Bilateral Air Services Agreements must be initialled by the East African Governments.

3. It is essential that the East African Governments be kept abreast of applications for negotiations. As well, within each country, it is important that the "economic ministries" be kept up to date on the status of applications and negotiations. We have not had time to go into how well these requirements are met in detail. However, we have accumulated some impressions which we believe should be followed up.

4. The C.A.B. appears to work efficiently, without undue delays.

5. Applications for Bilateral Air Services Agreements which are lodged by foreign Governments with the Community and with the individual Ministries of Foreign Affairs may not be communicated to Community partners and 'economic ministries' as quickly as possible. We have not had time to establish the exact position. However, our brief investigations in Kenya indicate that these 'slippages' may be present. It would be desirable if members of the Communications Council were informed immediately of the receipt of applications for Bilateral Agreements. (This was the situation under E.A.C.S.O. The Secretary of the Civil Aviation Board automatically informed members of the Communications Ministerial Council of such applications. The interposition of an East African Minister between the operating agency and the partner countries may recently have given rise to delays.) In order to ensure that the Kenya Government does not remain in ignorance of applications for landing rights, it might be worthwhile setting up a committee to deal with landing rights (or adding landing rights to the concerns of the inter-ministerial committee on freight rates) and to inform all foreign airlines of the wish of the committee to receive immediate notice of applications which they, or their Governments, have made to the Community.
6. The Kenya economic ministries should be kept up to date with the status of landing rights applications and negotiations. Again, this might be a function for the freight rates committee. (A small point; we would suggest that working papers and memoranda referred to in the Minutes of the Communications Council be included in the ministry files containing the Minutes.)
7. In addition to new applications, the economic ministries should be aware of the services foreign airlines wish to provide but do not have rights for as a result of the compromises arising in previous negotiations. (For example, the chief economic return to the Alitalia freighter is from rights for cargo between Europe-Nairobi, Europe-Zambia and Nairobi and points north. They may not wish to jeopardize these rights by pushing also for rights between Nairobi and Zambia. But their willingness to provide this service can be made use of in the presence of temporary backlogs like the current one.)

The Criteria Followed in Granting Landing Rights in the Past: Temporary Rights

8. Rights tend to be granted almost automatically for tourist charters. We do not know what policy is followed with respect to freight charters.

Bilateral Air Services Agreements

9. The most important explicitly stated objectives to be met from reaching bilateral agreements have been to protect the commercial position of EAA and to secure more services for Dar es Salaam and Entebbe. The tourist generation effects of allowing new services have also been explicitly mentioned. It is also clear that Governments have not been unaware of the relationships among granting landing rights, securing more investments in East Africa by the airlines, securing favourable treatment of aid applications, and reaching international political objectives, (such as cementing inter-African relations, etc).

10. At various times over the last few years, these general objectives have been viewed by the Community as implying various policies on landing rights. These have included: moratoria on the granting of new rights for foreign carriers to serve Nairobi (or what comes to the same thing, delaying tactics in conducting negotiations); arbitrary ceilings on the number of new services out of Nairobi versus Dar and Entebbe and/or out of East Africa as a whole; and limitations on the numbers of services which will be granted to airlines from countries in which East African Airways is unwilling to take up the reciprocal rights negotiated.

Future Criteria for Granting Landing Rights

11. What has been conspicuously lacking, and what should be provided, is some attempt to measure the benefits and the costs from granting additional landing rights, and some attempt to provide a measure of the trade-offs among inconsistent objectives. We provide a brief analysis of the economics of landing rights, and of the information which should be sought in considering applications. It must be emphasized that we raise rather than answer questions in the following paragraphs. If we show the directions in which answers to some of the questions should be sought, our purpose will have been served.

Costs

13. There is only one cost to East Africa of granting additional landing rights to a foreign airline. The new flight may carry some passengers, mail, and freight which would otherwise have travelled on EAA (or one of its pool partners). Since this diversion of traffic is the major reason usually put forward by EAA for opposing landing rights applications, EAA should be required:

- (a) to specify in £ its expected losses from allowing the new service, and
- (b) to give detailed assumptions (including details of the costing assumptions used) underlying the estimate. (We specify a little more fully in later paragraphs, the types of information required.)

14. The losses to Kenya from any traffic diversion caused by new flights are only one third of the losses to East Africa, since Kenya is only a one third owner of EAA.

Gains

15. There are many types of gains to be secured from each new set of landing rights granted:

(a) More tourists and businessmen will come to East Africa due to more convenient flights, greater space availability at peak seasons, and increased promotional efforts by the airlines (arising from increased competition among the carriers and new publicity by new carriers). Each additional tourist arriving on a scheduled flight from Europe brings a foreign exchange inflow of £60 - £100 or more (net of air fares) to Kenya and somewhat more to East Africa. These are the average figures for receipts to Kenya from holiday visitors, depending on nationality, and are taken from the Kenya Tourist Expenditure Survey 1967 (unpublished). Diversion of one passenger from Europe to a new carrier or new service by an existing carrier from present services results in a fall of EAA's revenues in the neighbourhood of £50. (EAA runs just under 20% of the services between Europe and East Africa. 20% of the return economy fare of £240 comes to £48.) This calculation assumes that all existing services suffer diversion in proportion to their capacity, and that diversion of first class passengers paying higher fares is counter-balanced by diversion of lower paying passengers on Inclusive Tour Fares.)

Thus, if the new flight results in as much new traffic being created as it diverts, Kenya's and East Africa's foreign exchange receipts will rise. Insofar as Kenya gets the lion's share of the spending by new traffic, and suffers only one third of the loss of revenue to EAA, the breakeven foreign exchange receipt creation/diversion ratio of the new service will be around one third. Of course, it is not revenues received but net contribution to GNP which should be measured. This requires an opportunity costing of the losses to EAA and the gains in other revenues to Kenya. However, we would be surprised if, on a long run basis, this alternative calculation rendered a very different breakeven ratio.*

(b) Some airfreighted imports may arrive a little sooner saving costs to importers.

(c) With more capacity available, there will be more space for exporters.

(d) As well, there will be increased pressures on the airlines to reduce cargo rates to induce more imports and exports by air. The airlines will also have more incentive to discover new markets for Kenya exports in order to fill their capacity. A number of instances of supply creating its own demand in this sense were mentioned to us by persons in the trade. Examples included the finding of new export markets for Kenya horticultural and meat products. EAA officials have indicated that EAA is generally reluctant to take an expansionist policy of creating capacity in advance of demand. This reluctance -- which must reflect airline policy -- seems to be based on two grounds. First, as a small carrier, with limited access to finance, EAA must of necessity be more of a risk avoider than larger international airlines. Second, EAA lacks a sufficiently large and effective sales force to compete against foreign carriers. In addition, EAA faces the problem of being instructed to act as a commercial venture while also receiving instructions from Government (even worse, 3 Governments) that make this difficult.

* In the short run, of course, the breakeven ratio may be higher, since the loss from carrying fewer passengers consists of the revenue loss less only the out-of-pocket cost of handling more passengers on flights which would fly in any event. In the long run, fewer passengers would imply lower capital costs, administrative and selling costs and aircraft maintenance costs as well as lower out-of-pocket costs, and the lost profit would be commensurately smaller.

Changes in EAA's policy will probably require the East African Governments to re-examine their guidelines to East African Airways on matters ranging from financing, to staffing, to services which must be operated.

(e) Every aircraft which lands in Nairobi (or other airports) pays landing fees and ground handling fees, and under certain conditions night take-off fees and parking fees. These fees are not inconsiderable. For a single typical service between Europe and points beyond Nairobi with stop-overs at Nairobi going South (in daytime) and North (at night), these fees will amount to about £500 per week or £26,000 per year received by the Treasury.

(f) Bilateral Air Services Agreements typically include an exchange of landing rights which can be taken up by EAA.

(g) In many cases, EAA will be correct in its evaluation that it is not in a position to make profitable use of reciprocal landing rights. In these cases, it should not be told to introduce services. Nor, necessarily, should rights not be granted to foreign carriers if EAA does not wish to exercise reciprocal rights. These rights are worth something, and an effort should be made to ascertain whether East Africa - and Kenya - could derive some alternative benefit when EAA does not exercise them. As well, it will frequently be the case that gains in addition to reciprocal landing rights can be secured even when those rights are exercised. Examples of such gains include:

- (i) Equity/loan capital investment by foreign airlines in hotels.
- (ii) Promotion campaigns for East African tourism.
- (iii) Training for EAA staff. Indeed, it would be useful to have some staff in each major department of EAA with experience of different foreign airlines, including, especially, the commercial departments.
- (iv) Royalty payments to EAA for some of the passengers and/or freight handled by the new carriers. The same results can perhaps be obtained through setting up pooling agreements with the new carrier, or concluding general sales agreements, and servicing agreements.

(We have noted some reluctance by EAA officials to exact more than reciprocal landing rights, or to approve of new services unless EAA is in a position to exercise those rights. This attitude appears to us to be unduly restrictive. Certainly those holding it were unable to defend it with concrete arguments which seemed compelling to us.)

(h) As in the past, the granting of rights to carry traffic into and out of Nairobi can be tied to the requirement that increased services be provided to Dar and Entebbe. Between 1962 and 1967, the number of international airlines (excluding EAA) serving Entebbe rose from 4 to 12, Dar from 3 to 12, and Nairobi from 13 to only 17. A majority of these increases to Entebbe and Dar can probably be accounted for by the requirement that services be initiated to those cities if Nairobi rights were also to be obtained. The losses occasioned to foreign carriers from having to serve Entebbe and/or Dar in order to secure Nairobi rights represent a hidden subsidy by Kenya to the other two countries, since the quid which Kenya could secure for the quo of Nairobi rights is reduced by those losses. The value of this subsidy could be considerable to the other countries. (If it came to £10,000 for each new airline serving the other two countries, it would amount to £170,000 per year, hardly a derisory sum. Careful study of the issue would probably raise the estimate.) Insofar as the gains to the other East African countries -- in terms of the types of benefits outlined above -- probably exceed the subsidy implicitly paid by Kenya, this type of subsidy may be an extremely efficient way of raising and redistributing the gains from belonging to the Community among its members. Attempts at calculation of the implicit subsidy, and the benefits received by Kenya's partners, would in our opinion be a useful exercise both for developing future landing rights policy criteria and for bargaining in other areas of interest covered by Community organisations.

16. Some carriers have a particularly bad record of vetoing reductions cargo rates and passenger fares for East African routes proposed at the Conferences of the International Air Transport Association where those rates and fares are set. We believe that this factor should be taken into consideration in granting landing rights to particular carriers. (Insofar as airlines flying here have Conference members not flying here veto proposed rates, care would have to be taken that this policy would not simply penalize those airlines which are open in their opposition and favour those adopting a hypocritical stance.)

17. The past practice in negotiating bilateral agreements is to negotiate rights to pick up and land passengers, cargo and mail. This policy is unduly generous. Particularly if air capacity should appear to be a constraint

on air imports or exports, but not on passenger movements, and given the fact that mail is more profitable cargo than most others, we would propose that consideration be given to granting more restrictive bundles of rights as the situation appears to warrant. (We have already noted, in Appendix A, a couple of cases where there would be gains from granting rights to pick up freight only.)

18. Almost every paragraph above indicates the importance of the Community aspect of the landing rights question. In almost every case, there is some opposition of interest between Kenya and her partners. More specifically, in the field of air services, Kenya tends to be a goose which lays very golden eggs for her partners. This fact should not be forgotten when it comes to considering expanding the membership of the Community, and the detailed conditions under which new members will be admitted. With expansion of membership it is likely that Kenya will be called upon to lay even larger golden eggs. Distributed among more countries, the payoff to Kenya from them could fall.

A Landing Rights Study

19. This Appendix has raised more questions than it has answered. Conclusive answers must await a properly researched study of the issues raised. At a minimum, this study needs to outline the present situation and evaluate the following:

- (a) the legal and administrative situation with respect to the granting of landing rights;
- (b) the revenue sources of EAA, and a proper system for costing EAA flights; (This aspect would also be expected to throw more light on the profitability of EAA international versus domestic operations.)
- (c) the traffic creation versus traffic diversion effects of granting new flights;
- (d) the value to these countries of the traffic created by new flights as contrasted with the likely size of the losses to EAA from new flights;
- (e) the extent to which EAA's competitiveness can be improved, including an evaluation of the degree to which Government policies on financing and staffing of EAA should be changed to render it more competitive with other international carriers.

A Summary of the Appendix

20 We feel that East Africa - and especially Kenya - should adopt a generally expansionist attitude to the granting of landing rights. Expansion in capacity can be expected to result in pressures on the airlines to reduce air fares and cargo rates and to promote increased tourist and cargo business, including Kenya exports. Landing rights applications should be viewed in terms of the total gains which can be derived from them. Conventions hitherto followed on appropriate quids for Nairobi landing rights quos and on the bundles of rights negotiated should be re-examined to see whether more gains cannot be reaped. While such a re-examination might well begin with a study on the landing rights question, reaping the full gains possible may also require an improvement in the flow of information between Community Organisations and East African Governments, and within the Governments themselves.

Appendix C: The Valuation of Air Freight Charges for Customs Purposes

Introduction

1. We were initially requested to comment on the likely effects of a change in the basis of duty valuation on the amount of air freight capacity offered by the airlines. This issue is analyzed in this Appendix. We first examine the efficiency arguments for treating air freight charges differently than sea freight charges for purposes of levying customs duty. Second, we outline what information we have been able to collect on the amount of imports by air and duty levied on them. Third, we comment on efficient strategies for switching to different bases of customs valuation for air freighted imports, should that be considered desirable in future.

The Efficiency of cif Customs Valuation

2. For analytical purposes, it is necessary to distinguish three classes of goods which come in by air:

- (a) Commodities which would not come by sea at all, and commodities which radically change their nature due to quick transport. Examples include perishable horticultural produce, high fashions (which change rapidly), newspapers, and some periodicals.
- (b) Commodities which normally come by sea, but come by air in emergencies. Examples include machine and auto parts which are not in stock but are needed if some larger operation (factory or car) is to function. Slightly different are imports of goods where the importer underestimated demand, or is concerned to promote sales by guaranteeing early delivery (e.g. Rank-Xerox charter).
- (c) Commodities which may normally be stocked by either air or sea depending on the cost factors.

3. A commodity of type (a) can be treated like any other good for determining the appropriate duty to levy. Commodities of type (b) are in very inelastic demand and so are good sources of revenue, although it may be felt inappropriate to tax heavily people who are already having an unexpected problem (as in the case of emergency repairs). It is goods of type (c) with which we will deal in some detail.

4. If an importer switches from regular stocking by sea to regular stocking by air, there are the following differences in costs:

- (a) freight charges per kilo imported are higher (5 to 10 times higher, depending on the commodity);

- (b) packing costs may be lower, which will also lower the weight per item imported and so the freight bill. (However, factories are only willing to do special air packing when there is sufficient volume and cost saving per item);
- (c) lower inventories can be kept in Kenya, implying lower capital costs;
- (d) Insurance on air shipments is a smaller percentage of fob price than on sea shipments;
- (e) obsolescence will be lower, reducing purchases necessary to supply a given demand, capital tied up in stocks, and freight charges since fewer items need to be imported. (Obsolescence can arise from deterioration in transit and storage or from the inability to sell items stocked due to model changes. For example, when motor spares are brought by sea, around 10-15% of the value of inventories obsolescences per year, while air importation might cut this in half);
- (f) (i) Smaller inventories will be in transit (this reduces interest costs);
- (ii) lower inventories held in Kenya will require less space to be devoted to storage (and hence saving of rent and/or interest on warehouses) and perhaps fewer stock room staff;
- (iii) there may be somewhat less nuisance to the importer and somewhat better service to the customer (although the latter effect can be viewed as changing the commodity to something like goods mentioned in paragraph 2 (a)).

5. With the exception of (f) all of the cost elements listed above are subject to the same ad valorem duty whether they come by air or by sea.* Thus, apart

* That duties are charged on obsolescence and interest on inventories held in Kenya can be clarified if we show algebraically the components of the cost incurred by a firm in supplying a final unit of demand.

$$C = (1+b)(P+F) \sqrt{(1+t)(n/52)(1+i)} + (s/52)i\sqrt{}$$

C = cost of the item sold from stocks

b = obsolete items as a proportion of items sold. Thus, if for every 100 items sold, 5 become obsolete, b = 0.05.

P = fob cost of the item

F = freight and insurance on the item

t = ad valorem duty rate

n = the number of weeks sales which are held as inventories in Kenya

i = the rate of interest

s = the number of weeks sales which are held as inventories in transit.

/We could have complicated this formula by separating other costs such as packing, insurance, rent on warehouses in Kenya, etc. While this would have been necessary if we were costing a particular item, it is unnecessary to clarify the analytical point being made./

All of the items in the above formula - except "i" - will be different for sea shipment versus air shipment. The firm which wishes to minimize "C" by choice of mode of transport will calculate this formula for both modes of transport. The important point to note is that all elements of cost - excluding the cost of capital tied up in inventories in transit - are multiplied by "t", the duty rate. That is, with one exception, all costs of stocking the item are subject to the same duty rate, and there is no discrimination between transport modes.

On the other hand, if duties were levied on the fob value of imports, the cost formula would become:

$$C = (1+b)(P) \sqrt{(1+t)(n/52)(1+i)} + (s/52)i\sqrt{}$$

$$+ (1+b)(F) \sqrt{(n/52)(1+i)} + (s/52)i\sqrt{}$$

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from (f), importers minimizing costs in their stocking for a given demand will make the same decision between air and sea freight as if there were no duties at all. On the assumption that Government and importers use the same rate of interest in their analyses, then, the argument that duties on cif values rather than fob ones are inefficient is false (still excluding (f)). The error arises from considering just shipping costs and ignoring the fact that the other relevant costs are also subject to duty at the same rate. The facts cited in paragraphs 14 and 15 of this Appendix confirm the theoretical analysis given here.

6. Continuing to ignore (f), we can see that any lowering of duty on air freight not only leads to inefficiency (discrimination in favour of air freight) but also loses customs revenue for the Government. This is true even though the customs revenue on the freight component of the duty base goes up, since the other components (interest on inventories held, obsolescence, etc.) must go down if it is to be worthwhile switching from sea to air. We can think of such a duty lowering as being a subsidy on air freight to the full extent of the duty loss. The larger the number of commodities which switch due to a duty change the larger the subsidy.

7. Let us consider (f) (i). At present, shipping times by sea are on the order of three to five months longer than by air (which takes one to two weeks on rush orders). If the goods are paid for when they leave the factory, the interest on the capital tied up in inventories in transit does not enter into the calculation of cif value for customs purposes.* If we assume a 10% interest rate, the cost saving from a switch to air from sea on an item comes to around

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In this case, not only does the cost of capital tied up in inventories in transit escape duty, but also the freight charges, and interest on that part of inventory value held in Kenya which consists of freight and duty on freight cost. Thus, switching from cif to fob valuation of imports for duty purposes will lead firms to substitute untaxed (transport) costs for other taxed (mainly capital and obsolescence) costs. If all of these costs, exclusive of duty, represent opportunity costs, the switch will lead to an inefficient allocation of resources - that is, to the use of more scarce resources to supply given final demands.

* See footnote on page 31. (On the other hand, if the factory sells on credit, and includes the finance charges in the price of the goods, this item, (f) (i), will be included in cif value and hence will be dutiable.)

3% $\frac{3/12 \text{ to } 5/12}{10\%}$ of the cif value of the good. If, by a slight reduction in duty on air freight, an importer just on the margin of switching from sea to air freight does so, essentially the whole cost of the good will become subject to duty (if we ignore the interest on inventories in transit for one/two weeks). In these circumstances, the amount of duty paid by the marginal importer will rise, since even though he pays a lower rate of duty, it is levied on a larger cif value. In the case of the marginal importer, it is theoretically possible for the Government to capture the whole 3% in revenue. We have not attempted any detailed estimate of the size of (f) (ii), or (f)(iii). However, we are of the impression that any inefficiency of the present duty system on these grounds is probably minor.

8. There are three further points which should be considered in this analysis. First, increased air imports may result in increased amounts of air cargo capacity to carry them and hence increased capacity for exports. This can be thought of as an externality. If of important size, it may be worth while subsidising air freight (through a duty reduction) to secure it. Since, as pointed out in Appendix A, there does not appear to us to be a shortage of air freight capacity, we would not recommend such a subsidy at present. However, it is a valid argument for a subsidy should capacity shortages develop in future. We do some sample calculations later (paras 22-28) on the cost of such a subsidy.

9. Second, changes in the duty structure, together with resulting changes in the demand for air freight space, will induce the airlines to attempt to change freight rates. In particular, reductions in duty rates will lead the airlines to seek higher freight rates. Airlines will not, in general, wish to raise rates by the same amount as the fall in duty. It will be worthwhile having the price facing importers (including duty on air freight) fall somewhat, so that more business can be done at a higher price. The evidence we have collected (para 16) is consistent with the theoretical conclusion that duty rates and air freight rates are inversely correlated (although other factors, also noted there, may also be at work). The main point we would emphasize is that if a duty change is contemplated, every attempt be made,

through negotiations with the airlines, simultaneously to secure lower cargo rates on the items affected (or at least no rises in them).*

* The argument in the text can be stated algebraically. Assume that the profit function of the airlines is represented by

$$(1) \quad T = p \cdot Q / (1+t)p - C \{Q / (1+t)p\}$$

where T equals the profits of the airlines, p is the commodity freight rate, $Q / (1+t)p$ is the quantity of the commodity moving by air and is assumed to depend upon the price which transporters must pay for transport (which consists of the freight rate + the duty on the freight rate), and C is the cost of air freighting goods to the airlines, which is assumed to depend upon the quantity of freight carried. Since the airlines have a cartel, they are in a position to act monopolistically. Even if they were not in a cartel, most airlines have a large enough share of the market that the demands facing them are downward sloping: that this, that they would be able to affect the amount of freight they secured by altering the freight rates charged.

Differentiating (1) with respect to p yields the first order condition for a profit maximum:

$$(2) \quad \frac{dT}{dp} = p \cdot Q' \cdot (1+t) + Q - C' \cdot Q' \cdot (1+t) = 0$$

The condition for this to be a maximum is that the second derivative of T with respect to p be less than 0:

$$(3) \quad \frac{d^2T}{dp^2} = p \cdot Q'' \cdot (1+t)^2 + 2Q' \cdot (1+t) - (1+t)^2 \cdot C'' \cdot Q'^2 + C' \cdot Q'' < 0$$

Now, to find what happens to p when we change t, we take the differential of (2), set $\frac{dT}{dp}$, and dQ equal to zero, and form:

$$(4) \quad \frac{dp}{dt} = - \frac{p \cdot Q' - C' \cdot Q'}{d^2T/dp^2}$$

(3) tells us that the denominator of this expression is negative.

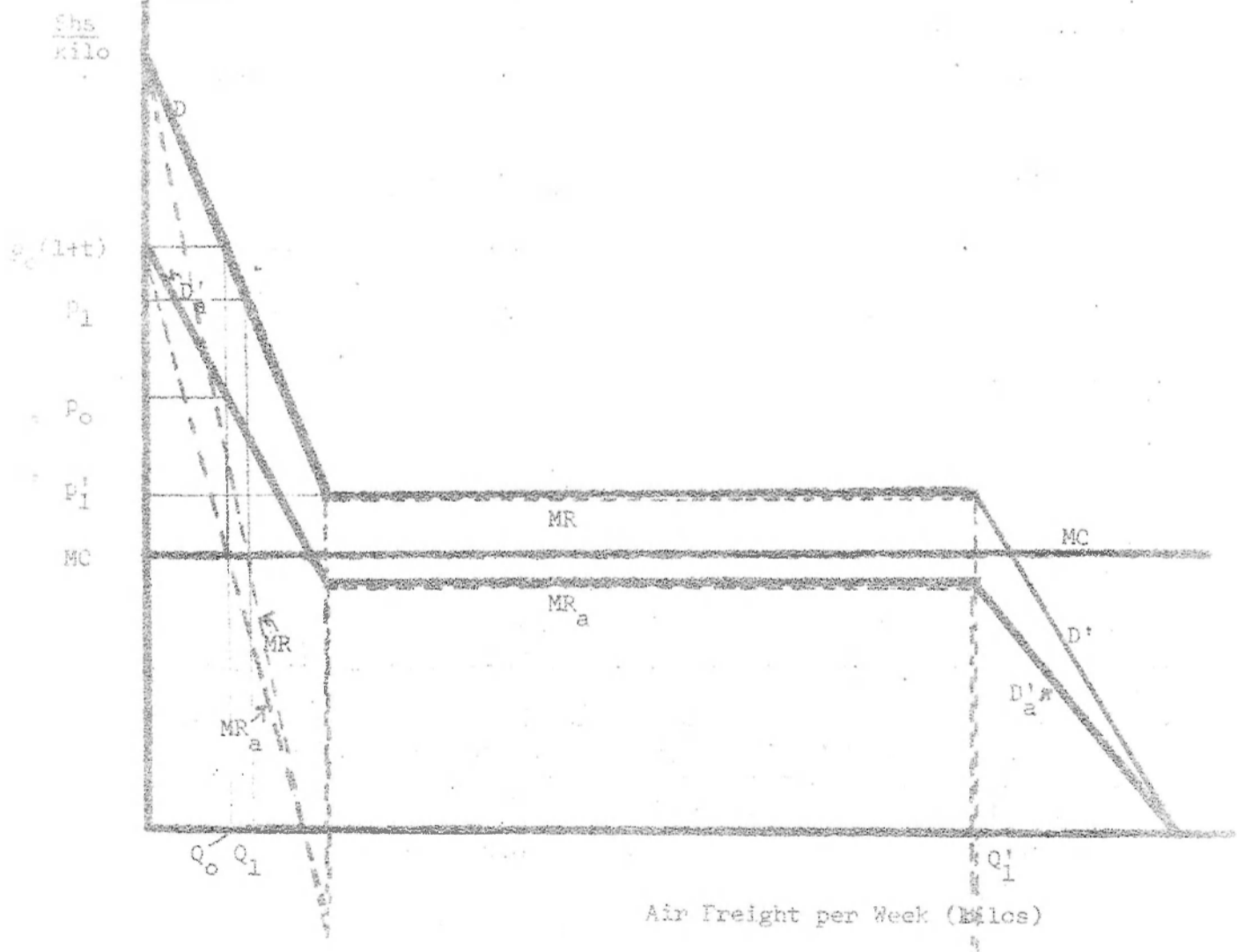
(2) tells us that the numerator must be negative. Since the whole expression is preceded by a minus, (4) is negative. That is, as tariff rates, t, are raised, air freight charges will fall, and vice versa.

This conclusion is subject to one qualification. The conditions for a profit maximum given above only ensure a local maximum. If there is more than one profit maximizing point, the above procedure does not indicate which is the largest maximum. The argument of the above algebra and the qualification can be shown diagrammatically. (Note that in the diagram, we are, unlike in the algebra, using quantity rather than price as the control variable.)

DD' represents the demand for air freight, inclusive of duty. With a 35% duty rate, the demand facing the airlines will be DD'. If the marginal cost of handling freight is MC, the airlines will maximize their profits by setting a freight rate of p_0 , and handling Q_0 of cargo. (The price paid by the shippers will of course be higher by the amount of the duty, and they will pay $p_0(1+t)$ per kilo shipped.)

Now let us assume that no duty is charged on airfreight, all other duty rates remaining the same. The demand facing the airlines will now be DD'. In this new situation, there are two local profit maximizing points. The first is at Q_1 , where the airlines charge p_1 for freight (which is higher than p_0). This is the case outlined above. The other is at Q'_1 , with the corresponding freight rate of p'_1 . This is lower than the initial freight rate p_0 .

Clearly, we will only secure the latter result if there is a sharp bend in the demand curve. That is, we may have a lowering of freight rates as a result of a duty change if there is some 'threshold' freight rate below which very large quantities of freight would switch from sea to air. Is such a 'threshold' likely? It is obvious that for any particular commodity there will be a threshold freight rate below which it will switch to air. However, most 'commodities' defined for customs (or Special Commodity Rate) purposes (such as 'motor spares') are far from homogeneous in terms of fob value per kilo of particular consignments, and presumably in terms of switching rates. In general, then we would not expect to find large switches at particular threshold rates. (In para. 22-28, where we calculate the implications of reducing the duty on the air freight charge on motor spares, we assume that each shilling reduction in air freight cost will induce equal amounts of spares to switch.)



10. Third, some air freight imports come by East African Airways.* When an import switches from sea to air by EAA there is an increase in EAA's profits. For this reason, it might be possible to justify subsidizing air freight relative to sea freight. E.A.A. carries about 20% of imports from Europe. Short run marginal costs on this route are probably on the order of shs. 1.50 while the average charge on air freight imports Europe-Kenya is approximately shs 12.20.** Thus, for "average" good that switches (to use existing air capacity), 18% of the freight bill $\frac{20\% \times (12.2 - 1.5)}{12.2}$ represents an increase in profitability to EAA. Ideally, we would like E.A.A. inside the tariff wall (but perhaps subject to excise taxation) and all other airlines outside it. Since this is not possible, there is some basis for a decrease in duty on airfreight. It should be remembered, however, that only one third of the EAA gains will accrue to Kenya and that all foreign carriers will be subsidized to the same extent as EAA. As well, in the long run, when the full marginal costs of adding to airline capacity must be covered, the percentage of the freight bill on switching imports which represents an increase in the profitability of EAA will be much smaller.

* E.A.A. has about 20% of the freight from Europe, whereas a much smaller proportion of sea imports come on East African ships.

** This air freight rate was calculated from our sample of airwaybills at Embakasi as follows:

CALCULATION OF AVERAGE AIR FREIGHT RATE EUROPE-NAIROBI

Sample	Tonnes in Sample ('000 kg)	Assumed tonnes ('000 kg)	Freight Charge per Kilo (shs/kg)	Total Air Freight Charge (shs.)
	(1)	(2)	(3)	(4)
Dutiable Freight from Europe in				
week 1	11.74	11.74	X 10.55	= 124,000
week 2	14.56	14.56	X 10.71	= 156,000
Non-Dutiable Freight from Europe in				
week 1	5.74	12.55 ^{a/}	X 11.50	= 144,000
week 2	6.19	13.54 ^{a/}	X 15.90	= 215,000
Total		52.39	(12.20) ^{b/}	639,000

a/ The tonnages of non-dutiable freight were adjusted on the basis that the second week's sample included 0.4572 of total kilos of non-dutiable goods passing through customs at Embakasi.

b/ Calculated from dividing total of Col. (2) into total of Col (4)

Source: See Table VII

11. To Summarise: that imports by air are valued for duty purposes on a cif basis results in no significant inefficiency of treatment of air versus sea traffic. Changing the basis of duty valuation on air imports is one legitimate way of subsidising air freight should that be considered desirable for purposes of increasing air freight usage. At present, there appears to be sufficient air freight capacity to handle demands to Europe -- and substantial increases in capacity can be made without any changes in the duty rate (see appendix A). Since the present situation may not persist, however, it is necessary to discuss the nature of the changes in duty which might be made in future to increase air freight capacity. Before going on to this, we first set out the information we have been able to collect on air freight imports, duty on them, and the evidence supporting the analytical conclusions of this section.

The Current Situation

12. Customs revenue for Kenya collected at the airport increased from £357,197 in 1967 to £521,686 in 1968. (Monthly figures are given in Table VI.) This figure represents collections at the airport and so includes a small figure for revenue collected on goods brought with passengers. It excludes the revenue on goods that are imported by air but are taken to bonded warehouses in Nairobi before paying customs duty. Customs officials feel that the exclusion is under 5% of the total. The estimate also excludes duty paid on air-freighted imports by parcel post. (The total duty on parcel post for Nairobi alone came to £758,713 in 1968 but we do not know how this breaks down between air and sea shipments).

13. To obtain some idea of the nature of this revenue, we took a full sample of air waybills for dutiable consignments arriving at the Nairobi airport between 3rd January, 1968 and 10th January, 1968 (Excluding 5th January, 1968) and between 16 and 23 January 1968 excluding 19th January). In addition, we took an approximately one in ten sample of air waybills for non-dutiable consignments arriving during the first period and one in two in the second. (Note that non-dutiable items are occasionally included in the same consignments as dutiable ones. These are included with the latter in our figures. It should also be noted that the representativeness of the sample may be affected by the season -- Christmas/New Year traffic -- and by the current uncertainty over the issue of trade licenses.) The basic data are summarised in Tables VII, VIII and IX.

TABLE VI

IMPORT DUTIES COLLECTED AT NAIROBI AIRPORT,
MONTHLY 1967 and 1968

	<u>1957</u> <u>Shs.</u>	<u>1968</u> <u>Shs.</u>
January	528,642	571,588
February	485,864	532,672
March	495,770	901,717
April	402,649	723,916
May	423,603	965,754
June	488,174	654,387
July	596,277	1,066,196
August	653,768	834,342
September	672,567	1,011,492
October	696,758	1,068,082
November	751,008	1,220,605
December	948,852	882,861
	<hr/>	<hr/>
TOTAL	7,143,932	10,433,612
TOTAL £	357,197	521,686

SOURCE: E.A. Customs and Excise, Air Cargo Shed, Embakasi.

TABLE VII DUTY COLLECTED, AIRFREIGHT CHARGES PAID, AND KILOS OF FREIGHT PASSING THROUGH CUSTOMS AT EMBAKASI.

(a) Sample Week 1 (3-10 January, excluding 6 Jan., 1968)

Duty Status Origin of freight	Dutiable Freight			Non-Dutiable Freight ^{a/}		
	Europe	Other	Total	Europe	Other	Total
1. CIF Value(shs '000)	545	307	852	366	90	455
2. Freight Charge (")	124	37	161	66	9	75
3. Total Duty (")	143	84	228	-	-	-
4. Duty on Freight (")	36	12	47 ^{b/}	-	-	-
5. Tonnes ('000 kg)	11.74	5.50	17.24	5.74	2.16	7.89

(b) Sample Week 2 (16-23 January, excluding 19 January)

Duty Status Origin of freight	Dutiable Freight			Non-Dutiable Freight		
	Europe	Other	Total	Europe	Other	Total ^{a/}
1. CIF Value (shs '000)	637	551 ^{c/}	1,187	587	257	854
2. Freight Charge (")	156	38	194	98	23	122
3. Total Duty (")	184	54	239	-	-	-
4. Duty on Freight (")	45	7	52 ^{b/}	-	-	-
5. Tonnes ('000 kg)	14.56	3.51	18.07	6.19	1.86	8.05

Note: Some totals do not add up due to rounding.

a/ These figures are for a very small sample of non-dutiable freight passing through Embakasi in the first week. For the second, they represent 45.72% of non-dutiable freight, by weight.

b/ Estimated on the basis of duty rate times freight charge. Since many consignments included items with different duty rates, some estimation was required.

c/ One large shipment from the U.S.A. with many duty free components (tractor spares) was worth just over $\frac{1}{2}$ the cif value of this column. It came to shs. 709 per kilo!

Source: Air Waybills and Customs Manifests, East African Customs and Excise Department, Air Cargo Shed, Embakasi.

TABLE VIII FREIGHT AND DUTY RATIOS FOR DUTIABLE AND NON-DUTIABLE AIR IMPORTS PASSING THROUGH CUSTOMS AT EMBAKASI.

(a) Sample Week 1

Duty Status Origin of Imports	Dutiable			Non-Dutiable		
	Europe	Other	Total	Europe	Other	Total
1. <u>Air Freight Charge</u> CIF Value	.227	.119	.188	.180	.102	.165
2. <u>Duty on Freight</u> Total Duty	.248	.138	.208	-	-	-
3. CIF(sh)/Kilo	46.41	55.90	49.44	63.78	41.52	57.69
4. Freight Chg(sh)/kg	10.55	6.67	9.31	11.50	4.22	9.51

(b) Sample Week 2

Duty Status Origin of Imports	Dutiable			Non-Dutiable		
	Europe	Other	Total	Europe	Other	Total
1. <u>Air Freight Charge</u> CIF Value	.245	.068	.163	.167	.091	.142
2. <u>Duty on Freight</u> Total Duty	.243	.138	.219	-	-	-
3. <u>CIF Value (sh)</u> Kilos	43.73	157.00	65.72	94.91	137.87	106.09
4. <u>Freight Chg.(sh)</u> Kilos	10.71	10.74	10.71	15.90	12.52	15.12

Source: Table VII

TABLE IX Composition of Airfreight (percentage by weight) in Sample Weeks Passing Through Customs at Embakasi.

	<u>Dutiable</u>		<u>Non-Dutiable</u>	
	1st week	2nd week	1st week*	2nd week*
	%	%	%	%
Motor Spares	30	48		-
O. Spares & Parts	17	17		19
Food	7	7		
Air craft spares				11
Airline goods (incl. diaries, calendars, bags etc.	19	2		
Advertising materials (incl. sales manuals)	8	2		4
Clothing & Cloth	4	3		
Machinery & Equipment	4	1		19
Films for Exhibition and some promotional materials	2	2		
Cosmetics, pharmaceuticals, and medicines	1	3		2
Photo Film	1	1		
Cameras & accessories	1	1		
Newspapers & periodicals	-	-		22
Chicks, seeds, livestock, semen				3
Books				1
Misc.	6	13		20
Total	100	100		101
No. kilos in Sample:	17.2	18.1	7.9	8.1

* First week's sample was too small to warrant reporting here. (So, perhaps, was the second week's.) However, the major items appearing in the list, as in the second week, were aircraft spares, newspapers and various types of equipment.

Note: It should be remembered that substantial quantities of some of these commodities are imported via air parcel post, which is cleared through customs at Post Offices. At Nairobi Post Office alone, duty on Parcel Post imports came to £758,000 in 1968 (compared with £522,000 collected at Embakasi).

Source: Airwaybills and Customs Manifests, East African Customs and Excise Department, Air Cargo Shed, Embakasi.

14. We can use the information collected to test the analytical conclusion of para/ 5 that cif customs valuation does not discriminate against air freight. If this conclusion is true, we would expect to find that freight charges as a proportion of cif value would be no lower for dutiable than for duty-free commodities. (If cif valuation were discriminatory, we would expect to find that freight would be a smaller proportion of cif value for dutiable than non-dutiable commodities.) We found that freight charges as a percentage of cif value for dutiable commodities came to 18.8% and 16.3% in our two sample weeks. For non-dutiable commodities, this percentage was 16.5% and 14.5% in the two weeks. Thus, the hypothesis of para 5 is supported by the evidence.

15. Additional evidence to the same effect can be secured by comparing, within dutiable commodities, the percentage of cif value comprising freight charges for commodities subject to different duty rates. If the non-discriminatory hypothesis is correct, we would expect to find that there is no difference in this percentage for high duty and low duty commodities. (If the discriminatory hypothesis is correct, we would expect to find that freight charges are a lower percentage of cif value for high duty commodities than low duty ones.) The means we used to perform this test was to compare the ratio of duty on freight to total duty paid with the ratio of freight charges to the cif value of imports. If there is no discrimination, the two ratios should be the same. If there is discrimination against air freight, the first ratio should be smaller than the second. For the two sample weeks, duty on air freight as a percentage of total duty came to 20.8% and 21.9%, while as we saw in the last paragraph, the air freight charge as a percentage of cif value on dutiable commodities came to 18.8% and 16.3%. Thus, the evidence does not support the discriminatory hypothesis.*

* The discriminatory hypothesis for a two good case can be written as follows:

(1) If $t_1 > t_2$ then $F_1/CIF_1 < F_2/CIF_2$ or if $t_1 < t_2$ then $F_1/CIF_1 > F_2/CIF_2$ where F_i is the freight charge on good i , CIF_i is the cif value of good i , and t_i is the ad valorem duty rate on good i .

The test employed in the text stated that if

$$(2) \frac{t_1 F_1 + t_2 F_2}{t_1 CIF_1 + t_2 CIF_2} < \frac{F_1 + F_2}{CIF_1 + CIF_2}$$

is true, then the discriminatory hypothesis must hold. That (2) gives the same result as (1) can be verified by cross multiplying (2), rearranging terms, and dividing by t_1 and $CIF_1 \cdot CIF_2$ to secure

$$(3) \left[1 - \frac{t_2}{t_1} \right] \left[\frac{F_1}{CIF_1} - \frac{F_2}{CIF_2} \right] < 0$$

16. The theory set out in para 9 implied that we would expect to find higher air freight charges for non-dutiable than dutiable commodities. This was supported by the evidence on air freight charges which we were able to collect (Table VIII). In particular, the average freight rate for dutiable commodities came to shs 9.31 and 10.71 per kilo in the two sample weeks. For non-dutiable commodities, it came to shs 9.51 and 16.12 per kilo.*

17. The tests employed in the three preceding paragraphs are very rough. However, when they are combined with our theoretical analysis, our assessment of the landing rights situation, and the costs of changing duty rates (discussed in paras. 24-30), they are sufficient to lead us not to recommend any duty changes at present. Should such a change be seriously considered in future, we would strongly recommend that a more detailed analysis be carried out using a sample of individual consignments large enough to permit disaggregation of the influence of more geographical areas and the commodity composition of imports on the ratios shown, as well as to check the validity of the empirical evidence given here.

18. We can also use the information gathered to estimate some total magnitudes for 1968. Using the ratios found for duty on freight to total duty paid, it is likely that £109,000 to £114,000 of the duties collected at the airport were paid on air freight charges. The ratios of duty to cif value, together with the figure for duties collected at the airport, result in estimates of dutiable imports of £1,950,000 and £2,590,000 in 1968. If we assume that

Cont'd from page 41

The data cited in the text contradicted (2) and hence the discriminatory hypothesis. By the same token, it confirmed the non-discriminatory hypothesis.

Of course, it may be that goods of type (a) and (b) (See para. 2 of this Appendix) tend to have higher tariff rates than goods of type (c) which our analysis deals with, and that the presence of these types of goods biases our empirical result. However, the preponderance of motor and other spares indicated in Table IX among dutiable air imports, which we know from interviews to be regularly stocked by air, indicates that this is not the full explanation.

* These results may be biased by the fact that volume as well as weight is a relevant dimension of air freight, and that there may be systematic differences between the volume/weight ratios of dutiable and non-dutiable freight. As well, the result may have been a result of systematically different points of origin for dutiable versus non-dutiable freight. Air freight charges were higher on non-dutiable commodities than dutiable ones coming from Europe in both sample weeks, but higher in one, and lower in the other in the case of imports from other areas. 'Other' areas were a very mixed bag, including shipments from America to Zambia.

these two weeks were typical of the period, we can multiply the cif value of dutiable imports for those two weeks (See table VII) by 26, to secure an estimate of £2,650,000. In the case of non-dutiable imports, we do not know what percentage our sample was of imports in the first week. In the second week, our sample comprised 45.72% of non-dutiable imports by weight. Dividing the CIF value of our sample in that week by this percentage and multiplying by 52 yields an estimate of non-dutiable imports via Nairobi for 1968 of £4,900,000. (We would warn that this estimate is arrived at on the basis of very slender information indeed). If the above estimates are correct, the cif value of air freight/passing through customs at Nairobi airport came to around £ 7.5 million in 1968.

19. Paragraph 11 indicated that we do not recommend any tariff change at present, but that such a change may be desirable in future. It is therefore worthwhile commenting upon the type of change which should be considered if a change is desired.

20. If Government wishes to increase air freight capacity by a certain amount by altering duty rates on air freight, we recommend that the increase be sought at the minimum loss of customs revenues. The basic rationale for this recommendation is that duty loss minimizing changes will involve the least social cost.* In view of the substantial duties collected on presently air freighted imports, and the fact that some of these goods come under ^{the} classifications (a) and (b) of paragraph 2, this criterion precludes consideration of any schemes for treating all air freighted imports alike. (If such a course is considered, however, we would suggest that the experience of Ethiopia which recently moved from cif to rating air freight at 1/3 for customs purposes, be investigated. It may

* Importers will only switch from sea to air if air becomes cheaper - to the importer - than sea. Barring a rise in freight rates (viz. paras. 9 and 16), the only cost element to fall as a result of a duty change will be duty. If importers switch, the other costs of importation must rise. Hence, switching importers must incur higher real or social (non-duty) costs after than before the rise. Therefore, the smaller the fall in duty revenues to secure a given increase in air freight capacity, the smaller will be the rise in social costs of supplying the demand for imported commodities. It should be noted that this argument does not refer to the desirability of leaving total tax receipts unchanged. If the Government's revenues were the only consideration, any reduction in duties arising from reducing the duty on air freight charges could be made up by raising all duty rates proportionally to make good the deficiency.

also be worthwhile checking on countries which levy customs duties fob* (see Table X)). Instead, Government should seek commodities of which little presently comes by air and of which substantial quantities would switch from sea to air with a small duty reduction.

21. Two commodities were suggested to us as filling this description and as being of quantitative significance. These are motor spares and pharmaceuticals and cosmetics. (Film products had to be ruled out because it is the unalterable policy of the largest importer's suppliers to bill the importer at prices fixed at cif Mombasa, to which air freight charges are added if particular shipments come by air!) The commodity composition of air imports in our sample is shown in Table IX. See also Table XI for the composition of Kenya's imports from the U.K., valued fob in £ Sterling.

22. From industry sources we estimated that duty on the air freight charges on air imported motor spares in 1968 came to £ 28,000 or to 25 or 26% of the total duty on air freight charges estimated in para 18 above. The percentage of total duty comprising duty collected on auto spares came to 22.7% and 33.9% in the two sample weeks. These percentages imply duties paid on auto spares coming in by air in 1968 of £ 118,000 and £177,000, and duties paid on the air freight charges of auto spares of £25,000 and £ 48,000.

23. Industry sources indicated that little in the way of dutiable pharmaceuticals or cosmetics are coming in by air. In the first week's sample, duty on the air freight of these items amounted to shs 22 out of a total of shs 47,282, and in the second, to shs 1,927 out of shs 52,275.

* It should be noted that for some of these countries, the argument raised in para 10 for subsidizing air freight may have more relevance than it does for Kenya. In particular, it is likely that a much higher proportion of airfreight to the United States is carried by national carriers than is true for Kenya. (We hope to investigate the figures later.) The U.S.A. is also a major exporter of aircraft - but a minor producer of ships - and therefore has more interest in subsidizing air transport than Kenya which has no standing in either field. Finally, of course, the United States is concerned to have a large air industry for military reasons.

TABLE XI

COUNTRIES WHERE AIR CARGO "IS NOT DISCRIMINATED
AGAINST"^{a/}

Antilles*	Seychelles**
Australia**	South Africa*
Bermuda*	St. Helena*****
Botswana*	Swaziland*
Br. Solomon Is.**	Switzerland*****
British Virgin Is.*	Turks & Caicos Is.*****
Canada**	U.S.A.*
Dominican Rep.*	Venezuela* ¹
Faroes ****	Zambia*
Gilbert & Ellice Is.*	
Greenland*****	
Lesotho*	
Mexico (Several)	
New Zealand**	
Panama*	
Paraguay* ¹	
Peru* ¹	
Rhodesia**	

*¹ fob with "non-discriminatory" variations

* fob ** price paid or current domestic value *** fair market value

**** ex-factory price ***** Specific ***** invoice price

a/ We could, following the analysis of this report, cite this as a list of Countries which discriminate in favour of air-freight. We considered it less confusing to use the terminology of the source.

SOURCE: Memo by (BOAC) Cargo Marketing Manager, Air Terminal

(London) 23.12.68.

TABLE XI KENYA IMPORTS FROM THE U.K. BY AIR AND BY SEA, 1967
(fob value in £ Sterling)

CODE(DIV)NO.	COMMODITY DESCRIPTION	AIR TRADE £000's	SEA TRADE £000's	TOTAL TRADE £000's
00	Live animals, seed, Zoo animals, dogs and cats	24.6	9.2	33.8
01	Meat & Meat preparations	0.2	47.2	47.4
02	Dairy products & Eggs	0.3	43.6	43.9
03	Fish & Fish preparations	0.8	31.9	32.7
04	Cereals and Preparations	0.02	235.08	235.1
05	Fruit & Vegetables	0.1	61.6	61.7
06	Sugar and Preparations, honey	0.9	197.8	198.7
07	Coffee, Tea, Cocoa, Spices	0.1	311.2	311.3
08	Feeding stuff for animals	1.2	34.3	35.5
09	Misc. food preparations	0.8	175.5	176.3
11	Beverages	3.9	285.1	289.0
12	Tobacco and manufactures	9.7	69.3	79.0
21	Hides and Skins, undressed	2.9	0	2.9
23	Crude rubber and synthetic	0.04	16.1	16.14
26	Textile fibres not mfgd. into gowns etc.	0.03	207.17	207.2
27	Crude fertilizers and minerals	0.07	66.03	66.1
29	Crude Animal & Vegetable materials	3.3	8.1	11.4
32	Mineral-fuels		8.3	8.3
33	Petroleum & products	0.8	592.0	592.8
51	Chemical elements and compounds	1.4	339.3	340.7
53	Dyeing, tanning & colouring materials	2.9	434.1	437.0
54	Medicinal & pharmaceutical products	93.9	1000.1	1094.0
55	Essential Oils & Perfume materials toilet preparations	7.7	370.4	378.1
56	Fertilizers, manufactured	0.03	34.77	34.8
57	Explosives & pyrotechnic products	3.7	153.6	157.3
58	Plastic materials, resins	3.2	394.4	397.6
59	Chemical materials N.E.S.	4.0	733.4	737.4
61	Leather, Leather mfgs., dressed fur skins	6.2	18.8	25.0
62	Rubber mfgs. N.E.S.	29.3	1044.7	1074.0
63	Wood & Cork mfgs.	1.1	44.2	45.3
64	Paper & paper mfgs.	19.2	828.6	847.8
65	Textile yarn, fabrics & related prds	27.2	1079.6	1106.8
66	Non-metallic mineral mfgs. N.E.S.	9.1	447.4	456.5
67	Iron & Steel	0.8	1464.0	1464.8
68	Non-ferrous metals	5.0	452.4	457.4
69	Manufactures of metal	39.9	1853.7	1903.6
71	Machinery other than electric	1653.8	6955.0	8608.8
72	Electrical machinery, apparatus and appliances	344.6	2946.2	3290.8
73	Transport equipment	1369.4	15460.0	16829.4
81	Sanitary, plumbing, heating and lighting fittings	2.0	221.3	223.3
82	Furniture	11.5	129.1	140.6
83	Travel goods, handbags etc.	6.3	40.9	47.2
84	Clothing, knitted or crocheted	46.6	212.9	259.5
85	Footwear	3.9	99.7	103.6
86	Professional, Scientific & Controlling instruments	232.5	571.1	803.6
89	Misc. mfgd. articles, N.E.S.	418.8	1101.6	1520.4
90	Misc. Postal parcels, dogs, cats, etc.	524.9	1557.9	2082.8
	TOTAL	4918.7	42398.7	47320.3

SOURCE: Provided by EOAC Air Cargo Manager, East Africa.

A Sample Calculation of a Duty Switch: Auto Spares

24. At present, air imported motor spares from Europe to Nairobi come at Special Commodity (Freight) Rates of shs 7.14 to shs 8.56 per kilo for consignments of a minimum size of 500 or 1,000 kilos depending upon the point of departure. The average freight charge for auto spares from Europe in our first week's sample was shs 7.77 per kilo, and in the second week's sample, shs 7.22 per kilo. In what follows, we assume a rate of shs 7.50 per kilo. With the addition of approximately 35% duty,* the cif freight cost comes to shs 10.12 per kilo.

25. It has been suggested to us by persons in the trade that if the total freight cost (freight rate + duty) of air freighting auto spares could be reduced to shs 6.00 per kilo, the amount of auto spares imported by air would rise from 1968's approximate figure of 200,000 kilos to around 960,000 kilos (80,000 kilos per month). Let us assume that this is correct. If Government were to charge duty on only one third of the freight bill for imports of motor spares, the airlines would have to reduce the freight rate to shs. 5.37 to reach the shs 6.00 per kilo target. While it is optimistic to think the airlines would cut the rate, we assume for the moment that they will. On present (1968) imports of motor spares, the customs loss due to this change would be £19,900 $\overline{200,000 \text{ kilos times } (2.62-0.63)}$. What would the duty loss be on the 760,000 kilos which switched from sea to air? On those commodities which are even now on the margin of switching, the duty loss will come to the full shs 1.99 (2.63-0.63) per kilo since they would pay essentially the same duty if they came by air today as they now are when they are coming by sea.**

* This includes a small uplift on the published rate of 33% to take care of dealer discounts. While the average duty rate found for our samples was around 33%, the sample shipments included some tractor spares mixed in with the motor spares. Since tractor spares do not pay duty, their presence reduced the average.

** We ignore the fact that the duty base would rise slightly for the reasons pointed out in para 7. Inclusion of this factor would reduce the loss figures slightly.

On those commodities which are just on the margin of switching after the lower freight and duty rates are in force, the customs duty loss would come to shs 0.93 per kilo*. If we assume that for equal reductions in landed cost equal amounts of motor spares will switch, the average customs duty loss per kilo switching will be (shs 1.99 + shs 0.93)/2 or shs 1.46 per kilo. This implies a duty loss on switching traffic of £ 55,480 (760,000 kilos times shs 1.46 kilo). Adding the duty loss from the existing traffic, we secure a total duty loss of £ 75,380. This comes to a loss of duty of shs 1.99 per kilo switching. This loss to Government is counterbalanced by a reduction of freight rates to current importers of shs 2.13 per kilo (shs 7.50 - 5.37) and an average reduction in cost on this account to switching importers of one half this, or shs 1.07 (calculated on the same assumption about the sensitivity of switching to import costs as used above to calculate the duty loss). In total, the savings to importers (and the country) on account of the freight rate change comes to £61,770.** The saving to importers on account of the duty loss comes to £ 75,380, and the total saving due to the change in duty and freight rate to £137,150 or to shs 2.86 per kilo. This saving will accrue as increased profits to stockists of motor spares, and lower prices to users of motor spares.

26. Let us now ask about what would happen if the airlines refused to reduce their freight rates, but if the Government nevertheless charged duty on only 1/3 of the air freight component of auto spares. On the basis of our above assumption about the numbers of kilos which would switch as the combined price of air freight + duty on air freight fell, this change would imply a switch of approximately 320,000 kilos.*** The duty loss to the Government would come to

* If an importer is just on the margin of switching when the air freight + duty on it is shs 6.00, this means that he can switch and pay no more for air importation than he did by sea importation. At 35% duty, the duty component of shs 6.00 landed cost is $6.00/1.35 = 4.44$ and the duty element is $6.00 - 4.44 = 1.56$. However, when the commodity comes by air, he pays only 11.67% duty on the air freight, or shs 0.63. Thus, by switching, he pays $1.56 - 0.63 = \text{shs } 0.93$ per kilo less in duty.

** This comes to shs 1.63 per kilo switching. It should be noted that 20% of this reduction will represent a revenue loss to E.A.A.

*** In this case, the air freight rate remains at shs 7.50. One third of the regular duty on this comes to $0.1167 \times 7.50 = 0.88$. The previous duty was shs 2.62 per kilo. The duty saving (and the cost reduction to importers) comes to $2.62 - 0.88 = 1.74$. In the previous case, a cost reduction of shs 4.12 (shs 10.12 - shs 6.00) was assumed on the basis of information of the trade to lead to a switch of 750,000 kilos. If we assume that equal quantities will switch for each shilling reduction in cost, which assumption we used above in calculating costs and savings, the switch in this case will come to $760,000 \times 1.74/4.12 = 320,971$.

£ 17,900 on existing freight, and to £ 16,580 on switching freight, for a total duty loss of £ 34,480.* This comes to a duty loss of shs 2.15 per kilo switching.

27. 100% loads of auto spares south at shs 5.37 per kilo and horticultural produce North at shs 3.00 per kilo would be marginally profitable for a new freighter (see Appendix A: paragraph 22). They would definitely be profitable at shs 7.50 South and shs 3.00 North if these load-factors could be secured.

28. If we assume that we could secure 100% loads in both directions, and if we assume that new freight capacity would appear to carry them, would making the duty changes be worthwhile? Kenya's horticultural exports earn shs 6-7 per kilo valued fob, say shs 6.50. In the first case, where the airlines reduce freight rates, the Government would lose shs 1.99 per kilo of new aircraft capacity (assumed equal to switching imports of auto spares). In essence, it would be spending shs 1.99 to secure increased foreign exchange earnings of shs 6.50. This comes to a subsidy of almost 31%. (On the other hand, importers make a saving due to lower freight rates of shs 1.63 per kilo switching. The net subsidy comes to shs 1.99 - 1.63 = shs 0.33 per kilo or around 5% of new export earnings.)

28. In the case where the airlines do not reduce their freight rates, the whole shs 2.15 duty loss per kilogram represents a subsidy to horticultural exports. This comes to a subsidy of 33%.

30. The above figures are minimum estimates of the subsidy. We would expect horticultural exports to be more seasonal than imports of auto spares. This means that we would have to induce more than one kilo of auto spares to move by air per kilo of induced horticultural exports. If, as is likely, the ratio were as high as 2, we should double the numbers given above for rates of subsidy

* Duty saving by the marginal switcher at the initial duty rate comes to shs 1.74 per kilo. Duty saving to the switcher who is marginal at the new duty rate comes to shs 1.30. If it is just worth his while to import by air when the total cost of air importation comes to shs 8.38 per kilo (freight rate of shs 7.50 + duty at .1167% or shs 0.88), then the duty he is paying if he brings his goods by sea will be shs 8.38 - 8.38/1.35 or 2.18. Now, however, even though his costs are the same, the duty paid on this element of cost is only shs 0.88 per kilo, and so he pays shs 2.18 - 0.88 = shs 1.30 less duty per kilo. Given our assumption that we get the same kilos switching per shilling reduction in landed cost, the average duty loss will be $(1.30 + 1.74)/2 = 1.02$, and the total duty loss on switching traffic will be $320,000 \times 1.02 =$ shs 321,600. Finally, it should be noted that since importers substitute air freight costs for duty if they are to switch, this duty loss also represents an increase in foreign exchange cost (ignoring the freight which would be carried by EAA) of filling import demands.

on horticultural exports to 62% (10%) and 66% respectively. Whether subsidies on airfreight of this order magnitude to expand horticultural exports are worthwhile will depend upon what opportunities there are for subsidizing other exports or subsidizing horticulture in a different way, and upon whether it is in the interest of Kenya to subsidize exports at all.