THE INTERESTS OF EAST AFRICA

IN AN INTERNATIONAL TEA AGREEMENT (ITA)

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ABSTRACT

This paper presents a simple econometric model of the international trade in tea and describes the advantages and disadvantages to East African producers of various possible International Tea Agreements, as compared with a situation in which no agreement is reached and production continues unrestrained.

As of 1976, East Africa accounted for a small but rapidly expanding sector of world tea production, and, although tea prices have been falling for more than a decade, total revenue earned by tea in East Africa has continued to rise because the volume of exports has risen more rapidly than the decline in prices. However, it appears that East Africa could earn even higher revenues from tea if an international agreement could be reached which would not limit the region's share of world production too severely. If increased tea production were limited in such a way that the three major Asian producers, India, Sri Lanka and Indonesia, maintained their present absolute levels of tea production, and the new producers shared all the natural expansion of demand for tea, this would still allow Kenya and East Africa an attractive rate of increase of exports and revenue. The employment consequences in Kenya of a limitation on the growth of production according to this formula are not necessarily negative, and could even be positive.

EFFORTS TO REACH A NEW INTERNATIONAL TEA AGREEMENT: BACKGROUND

The 1930s saw the successful application of an international commodity agreement to tea. Utilising the advantage of a very price inelastic demand, India, Ceylon, the Dutch East Indies and subsequently East Africa raised their export revenue from tea by organising a restriction of supply. The price of tea, which had reached an inter-war low of 9.5d/lb. in 1932, had by 1937, with the exports of these countries cut back by 11 per cent, risen by 60 per cent. (6)

High prices for tea in the early 1950s led, in 1955, to the abandonment of the formal International Tea Agreement (ITA). However, as is demonstrated in Table 1, since that price boom the real price of tea has fallen steadily - by two thirds in fact from 1954 to 1975. As a result, since 1965 attempts have been made through periodic international meetings to create a new ITA with the aim once again of raising export earnings by restricting supply. However, apart from 1969 when mildly restrictive ad hoc quotas were agreed to, there has been no success in reaching an agreement.

This failure is epitomised by the results of the special working party of the subgroup of exporters on the FAO's Consultative Committee on Tea, which met in April 1975 to examine specific measures which could form part of a multidimensional tea agreement. (7) The proposals discussed were for:-

- a minimum export price scheme
- an export quota scheme
- co-operation in promotion
- rationalisation of the marketing structure
- provision of an independent market intelligence service.

Agreement could only be reached on the last three items, and then only to request further study. On the two schemes that involved a measure of export restraint, "the Working Party was ... unable to make any unanimous and concrete recommendations...". (7, p.5) The chief problem was "the difficulties that might be encountered where smallholder tea growing was being expanded" (ie. in East Africa). (7, p. 6)

The same unsuccessful outcome was repeated in March 1976 at a meeting of Commonwealth producers held in London, which was called to discuss U.K. proposals for an ITA. Basically, as one commentator reported, "the African tea producers are opposed to any measures to restrict exports or production". (Financial Times. 17/3/76, p. 27)

Table 1. London auction average tea prices   (new pence/kilogramme).

Year	Money Price	Index of Inflation (1963=100)	Real Price	Year	Money Price	Index of Inflation (1963=100)	Real Price
1951	40.2	108	117.9	1963	46.5	100	147.2
1952	33.5	105	101.1	1964	47.2	102	146.5
1953	40.1	100	127.0	1965	46.0	103	141.4
1954	58.0	99	183.6	1966	44.8	105	135.0
1955	55.8	99	178.4	1967	45.7	107	135.2
1956	53.2	101	166.6	1968	43.5	122	112.9
1957	48.8	103	149.9	1969	40.5	125	102.5
1958	50.5	100	159.7	1970	45.7	132.5	109.2
1959	50.0	99	160.0	1971	43.3	136.5	100.4
1960	50.7	100	160.4	1972	42.2	143.5	93.1
1961	48.5	99	155.4	1973	43.4	180.5	76.1
1962	49.0	99	156.7	1974	59.8	268.5	70.6
				1975	62.4	316.5	62.4

Sources: London average tea price is taken from the International Tea
Committee's Annual Bulletin of Statistics and a Note of the FAO
Committee on Commodity Problems (CCP: TE 761 Inf 2); the world
inflation index is derived from an index of the prices of all
traded commodities given in the U.N. Monthly Bulletin of Statistics.

Note: Real prices are in 1975 relative values, and are calculated by
setting the 1975 world inflation index equal to one, and thus values
for earlier years as fractions of this, and dividing the money price
series by the new inflation series.

        A new and effective ITA has not been established, despite ten years of
intermittent negotiation,because several important producers have not seen it
in their interests to co-operate.

THE POSITION OF EAST AFRICAN PRODUCERS
        Two journal articles, both produced around 1971, have attempted to
rationalise the non-cooperative stance of East Africa at the tea talks.
(Gwyer, 8 and Etherington, 5) Essentially, both base their arguments on the
position that East African producers are small, but rapidly growing exporters
for whom general export restraint may yield no net benefit.

        Table 2 sets out the relative positions of the major tea exporting
nations in recent years.

Table 2. Development of the world tea economy, 1960 - 1973.

	India	Sri Lanka	Indonesia	Kenya	Uganda	Tanzania	Malawi	World
average exports[a] 1959/61	204,356	184,278	33,952	11,072	3,748	3,198	11,625	538,050
market share	,380	,342	,063	,021	,007	,006	,022	
average exports 1972/74	201,272	193,534	41,445	49,522	18,783	9,426	21,893	688,000
market share	,293	,281	,060	,072	,027	,014	,032	
% growth p.a. 59/61-72/4	-0.1	0.3	2.9	12.2	13.2	8.6	5.0	1.9
real price[b]								
1960	172.11	174.14	107.01	148.82	137.42	138.75	115.55	160.40
1973	80.15	79.96	n.a	78.04	73.64	74.69	66.16	76.10
% change 1960-73	-53.4	-54.1		-47.6	-46.4	-46.2	-42.7	-52.6
export[c] revenue								
av. 1959/61	351.73	320.90	36.33	16.49	5.16	4.43	13.42	863.03
av. 1972/74	161.31	153.95		38.64	13.83	7.05	14.47	523.54
% change 59/61-72/4	-54.1	-52.0		134.3	168.0	59.1	7.8	-39.3

a. Exports are in metric tonnes.

b. Prices are London auction prices in new pence per kilogramme, deflated by a U.N. Monthly Bulletin of Statistics index of world inflation (see Table 1) with 1975 = 1, thus all prices are in 1975 relative values.

c. Export revenue is estimated as (total exports) x (real UK auction price) and is given in the table in £m. Figures are based on average exports for the years stated, and 1960 and 1973 prices.

Sources: Statistics are derived from the International Tea Committee's Annual Bulletin of Statistics.

We can see that over the period 1959/61 to 1972/74, total world exports rose by 1.9 per cent per annum, but that real prices fell by 52.6 per cent, from 160.40 p/kg. in 1960 to 76.10 in 1973. The net outcome therefore was an overall decline in revenue from tea of 39 per cent. This average experience, however, is

in complete contrast with that of East African producers.

If we take the example of Kenya, export volume rose 12.2 per cent per annum, so that despite a drop of 47.6 per cent in the 'real' price of Kenyan tea, export revenue was still able to grow by 134 per cent over the period, or 6.8 per cent per annum. Thus by increasing its share of world exports from 3.4 per cent to 11.3 per cent, East Africa was able to reap significant real benefits from its growing tea industry, despite the rapid fall in prices.

It appears therefore that East Africa has less need of an ITA than other tea - producing areas. This view is strengthened if we consider the case of Sri Lanka, where the export volume showed negligible increase and real export earnings fell by 52 per cent.

Gwyer's argument against co-operation in an ITA rests on the belief that small producers are in a weak bargaining position when faced with pressure from both major producing and consuming countries for an agreement. Drawing on East Africa's experience of the International Coffee Agreement, Gwyer suggests that an ITA might excessively restrain the growth of East Africa's tea exports to the advantage of the larger Asian producers:-

> Thus, one condition for the setting up of a commodity agreement seems to be a vested interest by the largest exporter of the commodity for a period of reduced competition, where market shares are determined on the basis of past export performance rather than current exportable supplies. (8, p. 467)

When, as with the International Coffee Agreement, consumer countries agree to enforce quotas on supplying countries, small but rapidly growing producers may find themselves worse off, with higher prices not sufficient to compensate for the large reduction in exports below their potential level. Gwyer shows that in the 1960s Kenya and Uganda reduced the rate of growth of coffee production by half relative to the 1950s, while Tanzania, which increased its growth rate, had to divert up to 40 per cent of its exports to low priced markets outside the Agreement. It may even be the case that tea production expanded so fast in the 1960s - with government support - because of the very severe restraint on coffee expansion.

Etherington's arguments, in contrast, are based on the view that
small but growing exporters are in a strong bargaining position in any
negotiations, and can therefore adopt a 'hard-line' strategy. (Etherington
does not consider the case of consumer - large producer collusion.)

As demonstrated in Table 2, because East Africa's market share is
relatively small it has the option of increasing its export revenue by a
rapid growth of exports, and so has less need of an ITA than Asian producers,
who, were they to expand output rapidly, would probably force down prices
more than in proportion to their growth of exports. Thus in order to secure
East African agreement to any ITA, Asian producers should be prepared to
offer attractive terms, namely a rising share in any global export quota over
the life of the ITA to accommodate African growth plans. Indeed, Etherington
shows by means of a sample ITA scheme that if quota shares were based on past
export performance then the export restraint implied for East Africa would be
so severe that there would be no net increase in export revenue from joining
the scheme. Thus a rising share in any global quota becomes a rational pre-
condition for East African participation in an ITA.

It is further pointed out that lower East African production costs
imply a greater ability to withstand further price competition in the event
of no ITA being agreed to; that because average quality has risen, prices for
East African tea have not fallen as much as the average (as shown in Table 2);
and finally that increasing domestic tea consumption in India may quite likely
lead to reduced export availability, and therefore the long-term outlook for
a balance of world supply and demand is much more favourable than in the short
term. Etherington concludes that for East Africa, "it would be a rational
decision to continue the expansion of the industry". (5, p. 107)

The Advantages of Expansion in East Africa

It is clear that to date the many advantages of producing tea have per-
suaded East African governments to follow policies of continued expansion
despite the need for production restraint at the global level.

One very important advantage of tea is that, despite the fall in real
prices, production in East Africa has still been very profitable. Considering
the estate sector first, the company accounts which have been examined have
invariably showed East African operations to be more profitable than Asian.
To give two examples, Jokai Tea Holdings Ltd. reported pre-tax profits over
the period 1970-74 of 4.75 p/kg for tea produced on its Assam estates, but

6.41 p/kg on its Malawi estates.[1] (10) Warren Tea Holdings Ltd. over the
1970-73 period reported profits of 4.1 p/kg on its Indian estates, and 8.9 p/kg
on its Kenyan estates. (15) After tax the difference is even greater. In the
case of Jokai Tea Holdings, in 1972 post-tax profits in Malawi were three times
as great they were in India, even though the acreage under tea in India was
four times as large as that in Malawi - implying post-tax profits per acre were
about twelve times larger in Malawi than in India.

The smallholder sector in Kenya has been examined by Stern. (12) He
evaluated the Kenya Tea Development Authority's Third Plan, for the planting of
35,000 acres of small-holder tea from 1968/9 to 1972/3. He concluded that at
market prices the scheme had an Internal Rate of Return (IRR) of 22 per cent,
and using the Little-Mirrlees shadow prices, an IRR of 38.8 per cent. (This
was based, however, on the expectation of constant real tea prices at their
1968/9 level.)

As well as very profitable, tea is a very labour-intensive crop, both
in its need for steady plucking and in its need for intensive care - application
of fertiliser, weed and pest control, pruning, terracing, drainage, etc. While
labour use varies with bush yield, about two acres will support one full man
year, and the ILO Mission to Kenya therefore highlighted tea in 1972 as a cash
crop well suited to an employment orientated strategy of economic development.(9)

Tea has also proved to be suitable (given efficient organisation) to
small-holder cultivation, thus providing an effective means of directing cash
incomes to small-scale, independent farmers instead of having to develop a
purely wage-labour plantation system. By 1972/3 in Kenya, where small-holder
production is most advanced, there were over 75,000 small holders cultivating
over 30,000 ha. of tea and providing about one-fourth of total output. (12)

Finally, tea production requires factory processing near the fields
where it is grown, careful supervision of cultivation and processing, efficient
transport networks to ensure the timely distribution of both inputs and output,
and financial and commercial services, so that this crop provides a stimulus
to the development of an efficient, commercially-orientated rural economy in
general.

Hence tea production has been earmarked for expansion, and in the past
international agencies have helped to finance development costs. Thus in
Kenya's Development Plan for 1974-78 one of the major goals for agriculture was

1.   These figures are unweighted averages.

to be "to improve the distribution of rural income by obtaining a significant
increase in the proportion of farmers who obtain a cash income from their land",
(11, p. 197) and tea expansion was to play a major role in achieving this. Tea
was given a growth rate target of 10.7 per cent per annum for 1972-78, compared
with 2 per cent per annum for coffee. By 1978, output was planned to be 98,000
tonnes, worth £K 24,500,000 (valued at 1972 prices) compared with £K 16,000,000
in 1972. The increase over the period represents 37 per cent of the total
planned increase in marketed crop production, making tea by far the most
important single crop in the planned growth of output and employment in the cash
crop sector. It was hoped that by 1978 there would be 92,000 small-holders
employing 90,000 labourers in tea production.(11, pp. 231-238)

Effects in East Africa of Falling Tea Prices: The Disadvantages of Expansion

The prospects for the profitable expansion of tea production depend of
course on the expected levels of prices. In Kenya's 1974-78 Development Plan
discussion on this point was limited to a reference to the ITA talks, and an
expectation that "Kenya tea will continue to find a ready market in view of its
high quality". (11, p. 238) Stern gives alternative profit calculations in the
event of price changes. With a shadow wage rate of 0.6 of the market wage,
Stern's results are that the IRR on the smallholder projects falls from 39.7
per cent to 31.1 per cent if prices fall to 20 per cent below the 1968/9 level.
With a price fall of 40 per cent, the IRR drops to 20 per cent. In the event,
between 1969 and 1974 alone the 'real' price of Kenyan tea fell by 33 per cent
(relative to the average prices of Kenyan imports). Table 3 gives estimates
of the fall in the real price of tea from East Africa in terms of import
purchasing power of a unit of tea exports. The rate of decline has definitely
accelerated in recent years. Thus between 1964 and 1969, the real value to
Kenya of exporting one tonne of tea fell by 10.5 per cent, but from 1969 to
1974 it fell by 33 per cent.

It seems clear that an ITA which could stop or reverse this price trend
without imposing too severe restrictions on the growth of the East African
industry would be desirable. Moreover, the importance to East Africa of the
loss of foreign exchange implied by these falling prices has increased in
recent years as East Africa's balance of payments problems have grown more
acute.

Table 3. Changes in the real import purchasing power of unit tea exports
from East Africa, 1964-1974.

Year	Kenya 1. unit value of tea exports	Kenya 2. unit value of imports	Kenya 3.a real value of unit tea exports	Uganda 1.	Uganda 2.	Uganda 3.	Tanzania 1.	Tanzania 2.	Tanzania 3.
1964	100	100	100	100	100	100	100	100	100
1969	94	105	89.5	81	104	77.9	90	106	84.9
1970	99	115	86.1	87	119	73.1	94	105	89.5
1971	97	124	78.2	86	125	68.8	92	110	83.6
1972	95	135	70.4	84	151	55.6	91	138	65.9
1973	119	150	79.3	79	189	41.8	87	160	54.4
1974	145	241.5	60.0						

% changes in real unit value

			Kenya			Uganda			Tanzania
1964-69			10.5			22.1			15.1
1969-74 (73)			33.0			(46.3)			(35.9)

a. Col. 3 = (Col 1/Col 2) x 100.

Sources: Derived from the Economic and Statistical Review of the East
African Community, March 1975, and Annual Report for the year
ending 30/6/75 of the Central Bank of Kenya.

Table 4 shows the deterioration in Kenya's balance of payments up to
1974,when the rise in oil prices generated a massive rise in the import bill.
The balance of trade in 1975 showed no significant improvement.

Table 4. Recent development of the Kenyan economy.

	1972	1973	1974
G.D.P. at constant factor cost (Sh. mill.)	10,948	11,718	12,144
Per cent change in G.D.P.	6.8	7.0	3.6
Current account deficit on the balance of payments	- 486	- 950	- 2322
Current account deficit as a per cent of G.D.P.	3.4	5.8	12.2

Source: Central Bank of Kenya, Annual Report for the year ending 30/6/75.

In 1972 Stern, on surveying the environment in which the tea
planting project was to be assessed, could write:-

> The balance of payments' current account has been, roughly, in
> balance over the last few years and since Kenya can expect a
> continuation of the net inflow on long term capital account it
> cannot be said that she has a severe balance of payments problem....
> (13, p. 97)

Another commentator in 1976 suggested that, "Since 1974, economic growth in
Kenya has been constrained by the need to arrest the rapid deterioration in the
balance of payments." (1) With Kenya's tea exports at 12.8 per cent of total
exports in 1972, 10.2 per cent in 1973, and 9.2 per cent in 1974 (2), a substantial
rise in the real price of tea could represent a significant easing of any balance
of payments constraint on growth and on employment creation.

Improving quality, while making East Africa's tea readily saleable,
is no guarantee against falling real prices. If the past decline in price can
reasonably be expected to continue, then some form of ITA may be the only means
to sustain the profitability of tea production.

PROJECTIONS FOR THE TEA INDUSTRY: AN ECONOMETRIC MODEL

The ILO Mission to Kenya did conclude that a compromise ITA should
be possible from which all exporters would benefit:-

> It could be argued that it would be in Kenya's interest, as a
> small producer, to ignore such agreements because she could
> expand her own output rapidly without much effect on world
> prices. Since both crops (tea and coffee) are labour intensive,
> the temptation to do this appears strong. We believe it should
> be rejected.... Kenya would certainly suffer... if her example
> encouraged other producers to act in the same way, and there
> were no limits at all on exports .... What Kenya is entitled to
> argue is that all producing countries should share in the benefit
> .... This implies that small and more recent producers such as
> Kenya would be accorded quotas rising more rapidly than those
> of the big producers, and that quotas should not be based on
> historical market shares. (9, pp. 288-289)

To examine the scope and requirements of a mutually acceptable ITA,
a very simple econometric model of the international trade in tea has been
estimated for the period 1952 to 1973. The details of the model are set out
in Appendix Two. It must be stressed, however, that the model is very crude.
It consists of export equations for 6 supplying regions and import equations
for 38 consuming regions. Price elasticities of supply and demand were either

directly estimated or taken from other sources and 'fitted' into the equations.
Prices were then estimated as those which brought projected supply and demand
into equilibrium in each year. At best, all the model can really do is to
answer the questions: if the recent trends in imports and exports continue
are they likely to lead to a significant excess or deficit of supply or demand,
and roughly what sort of price change would be necessary to restore equilibrium
in the short run? With the estimates of future prices that the model provides,
we can attempt to estimate the revenue implications for tea producers of doing
nothing or of establishing various possible ITAs.

The Outlook for Tea with no ITA

Table 5 gives projections of prices and exports based on past trends,
including the trends in Indian consumption and production.

Table 5.   Projections based on original trends.

	1975	1980	1985
Average Price (p/Kg. in 1975 terms)	108.4	110.5	108.4
Indian Production (tonnes)	447,920	486,223	542,313
Indian Consumption (tonnes)	331,364	461,549	661,619
Exports (tonnes)			
India	116,556	26,674	-119,306
Sri Lanka	225,276	226,912	242,730
Indonesia	37,478	38,126	39,381
Kenya	61,728	108,235	193,551
'East Africa'[a]	136,331	223,795	374,269
Export Revenue (£m)			
India	129.5	27.8	-132.4
Sri Lanka	258.8	264.8	278.7
Indonesia	35.8	37.1	37.8
Kenya	70.0	124.8	219.5
'East Africa'[a]	137.5	229.3	377.5

a. 'East Africa' includes Uganda, Tanzania, Malawi, Mauritius, Mozambique
    and Argentina as these formed one region of the model.

The results support the hypothesis of Etherington that failing exports from
India due to rising consumption could stabilise the price of tea in the medium
term, implying that an ITA would not be essential for East Africa. However the
implication of this projection is that by 1981 India would be a net importer

of tea. It is doubtful whether the Indian Government would ever allow
domestic consumption to expand so rapidly as to induce significant imports of
tea. Moreover, in recent years India has given priority to increasing
production, and has tried to restrain consumption via excise taxes. As a
result, since the early 1970s production has accelerated above projected rates
and export levels have been maintained so that, while the projection for Indian
exports in 1975 was 116,000 tonnes, in fact exports were sustained at around
the 200,000 tonne mark.

Since the early 1960s Indian exports have been kept at around 200,000
tonnes despite the diverging trends of consumption and production, and this
suggests that in practice the domestic market will be residual rather than the
export market, and that India will continue to maintain its level of exports.
The projections were therefore recalculated on the more realistic basis of
assuming constant Indian exports of 200,000 tonnes, and the results are set
out in Table 6. The outcome expected now is one of continued fall in the real
price of tea.

Table 6. Projections based on India maintaining exports of 200,000 tonnes.

	1975	1980	1985
Average Price (p/Kg. in 1975 terms)	81.6	66.6	55.3
Indian Production	499,164	579,495	676,301
Indian Consumption	299,164	379,495	476,301
Exports (tonnes)			
India	200,000	200,000	200,000
Sri Lanka	205,356	213,955	224,412
Indonesia	35,188	35,489	35,786
Kenya	57,188	98,376	170,092
'East Africa'	126,884	204,727	332,028
World	723,409	861,917	1,084,450
Export Revenue (£m)			
India	161.6	127.6	101.9
Sri Lanka	181.5	157.7	140.3
Indonesia	26.9	23.1	20.6
Kenya	50.1	71.9	106.1
'East Africa'	100.4	137.1	191.9
World	590.3	574.0	599.6

Some observers have hoped that because demand for tea is growing
rapidly in many developing countries, they will become responsible for an ever
larger share of world imports, so that total world demand will grow fast enough

to absorb the likely increase in supply without the need for any further
fall in prices. Table 7 shows how the faster growth of imports into
developing countries in the post-war years has increased their share of
total world imports.

Table 7. Shares in world imports for consumption.

Year	U.K. and Ireland	Rest of Europe & U.S.S.R.	N. America, West Indies & Oceania	Latin America, Asia, Africa, & Producing Countries[a]
1938	.517	.103	.204	.176
1947	.520	.054	.227	.200
1950	.442	.055	.282	.221
1955	.467	.072	.206	.255
1960	.444	.099	.204	.253
1965	.418	.125	.197	.260
1970	.381	.101	.179	.339
1973	.295	.133	.205	.366
1974	.315	.129	.204	.357

a. The chief producing country which imports tea is Japan, which became
     a net importer in 1966.

Source: derived from the International Tea Committee, Annual Bulletin of
         Statistics.

In fact, imports of tea by Latin America, Asia, Africa and producing
countries rose from 70,300 tonnes in 1947 to 249,800 tonnes in 1974 (50,000
tonnes more than U.K. imports), a growth rate of 4.8 per cent per annum.
However, as we have seen, if India does succeed in maintaining her exports
then this rapid growth of demand in other developing countries will not be
enough to absorb the very large increase in output which Kenya and 'East
Africa' will achieve, if recent trends continue, without a continuing fall
in the real price of tea.

It has been argued (see Elz, 4, for example) that tea has reached,
or is close to reaching, floor price, at which increasing bankruptcy among
Asian producers will curtail output sufficiently to prevent further price
falls. If this were the case, then obviously the past decline in prices cannot
simply be extrapolated into the future. However, there is evidence to suggest

that a large economic 'surplus' is still earned from Asian production. In the
case of Sri Lanka, this goes chiefly to the government in the form of indirect
taxes on tea exports. In 1974 taxes averaging 28 per cent of the Colombo auction
price, gross of rebates, were levied on tea exports (derived from the International
Tea Committee's Annual Bulletin of Statistics). Moreover, tea export revenues
are exchanged for local currency at an overvalued exchange rate under a dual
exchange rate system, so that a further substantial tax is implicitly levied on
tea. Since the government now owns the tea estates in Sri Lanka, it would be
rational to subsidise production for export as long as overall tax and profit
yield exceeds the subsidy, providing of course that resources used for tea
production could not earn a greater return in other activities. Thus while
low prices may prevent a significant expansion of Asian production by failing
to provide enough additional funds for investment, in the medium-term future
they would probably not cause a major fall in exports.

The projection of a continuing surplus of supply over demand only
repeats the results obtained from earlier studies by the World Bank and
UNCTAD. (4 and 14) Our model does have an explicit price adjustment mechanism,
however, and so it is capable of assessing the revenue implications of various
ITA schemes.

Table 6 showed that Kenya and 'East Africa' can, even without an ITA,
increase their total export revenue from tea because their projected rate of
export growth exceeds the projected rate of price decline. Therefore, the
questions for East Africa are whether or not an ITA will bring about even
higher revenues, and whether or not East African participation in any ITA is
necessary for its success.

The Possibility of a Unilateral Export Restriction Scheme

Clearly, if African participation in an ITA were not a necessary
condition for its success, then these smaller producers would gain most by letting
India and Sri Lanka restrict exports unilaterally and so raise all tea prices,
while suffering no restraint on their own production.

India and Sri Lanka would only be able to increase their export
revenue by cutting back their exports unilaterally if, together, they
faced a price inelastic demand for their tea. One approximate measure of
the price elasticity of demand for one producer's product in a homogeneous
market is given in equation (1) below, with a simple proof presented in
Appendix One.

$$E_i = \frac{E_w - e_{rw} \cdot k_{rw}}{k_i}$$

where: E_i is the price elasticity of demand for the tea from country i

E_w is the price elasticity of demand for the world's tea as a whole

e_{rw} is the price elasticity of supply of tea from all other countries

k_i is the share in world exports of country i's tea

k_{rw} is the share in world exports of all other countries' tea $(1-k_i)$.

Thus the elasticity of demand for the tea of India and Sri Lanka taken together depends on their share of the market, the overall world elasticity of demand for tea, and the response of other producers to any change in price. Using this equation, we can see approximately how the elasticity of demand for India and Sri Lanka's tea has developed over the post-war period. In the tea model, estimates of -0.3 and 0.25 were produced for E_w and e_{rw} respectively. Thus for 1950:-

$$E_{I\&SL} = \frac{-.3 - (.25 \times .2)}{.8} = -.4375,$$

while for 1973 $E_{I\&SL} = \frac{-.3 - (.25 \times .428)}{.572} = -.7132.$

Clearly, over the period the gain to India and Sri Lanka from unilateral export restriction has declined as their market share has declined. Looking to the future, the model was used to estimate the percentage rise in price that would follow in any one year if India and Sri Lanka reduced their projected exports by 1 per cent in that year. Clearly India and Sri Lanka can only increase their revenue by this unilateral action if prices rise by more than 1 per cent, i.e., if the price elasticity of demand for their tea is low. Table 8 sets out the results for the period up to 1985, and shows how by 1982 India and Sri Lanka will have lost their joint ability to gain by export restriction on their own because of the continued decline of their market share. For comparison, Table 8 also shows the substantial price rise that will follow if all exporters cut back by 1 per cent on projected production

levels in any one year.

Table 8. Response of price to export restriction.

Year	% rise in price of Sri Lanka tea following 1% export cut by India & Sri Lanka	% rise in world average price following a universal 1% export cut
1975	1.49	3.59
1976	1.41	3.80
1977	1.31	3.76
1978	1.24	3.68
1979	1.16	3.58
1980	1.08	3.48
1981	1.01	3.38
1982	.93	3.27
1983	.88	3.20
1984	.82	3.13
1985	.76	3.05

Thus there is no expectation that India and Sri Lanka will set up a unilateral export restriction scheme in the event of the continued failure of negotiations for a full ITA. The implication is that African co-operation is essential. It is misleading therefore to argue that small producers can expand production without much affecting prices, as implied by the standard equation (1), because that decision - to join an ITA and restrain export growth or not to join and place no restraint on exports - will determine whether or not an international attempt is made to regulate prices. So despite their relatively small share of the market, African tea producers have in fact a large degree of control over what the price of tea will be in the future.

Possible ITA Schemes

Three schemes were analysed having in common the assumed objective of maintaining prices at 111p/kg.[2] (in 1975 price terms) which is around the 1970 level, and achieving this by means of a global restraint on export growth. The differences between the schemes rest on how the global quota is distributed amongst participating countries.

2.   In fact prices at the London auctions had risen to around this level in mid-1976, as a result of unplanned restraints on supply due to continuing drought in East Africa and smaller shipments to London of tea from Sri Lanka. The ITA schemes outlined can therefore be seen as the means to sustain this new price level in real terms on a surer basis.

Table 9. Price stabilisation with 1972-based quotas.

A. The 1972 Position

	Exports	Export Shares	Estimated Revenue
India	209,814	.305	175.3
Sri Lanka	190,088	.276	168.4
Indonesia	38,529	.056	28.8
Kenya	47,368	.069	40.2
'East Africa'	90,922	.132	69.9

B. The Quota Scheme	1975	1980	1985
Average price (p/Kg, 1975 terms)	110.8	110.8	110.8
World export quota (tonnes)	665,900	741,936	864,402
World export revenue (£m)	738.0	822.2	958.1
National Quotas (tonnes)			
India	203,100	226,290	263,642
Sri Lanka	183,788	204,774	238,575
Indonesia	37,290	41,548	48,407
Kenya	45,947	51,194	59,644
'East Africa'	87,899	97,936	114,101
Export Revenue (£m)			
India	231.2	257.6	300.1
Sri Lanka	215.4	240.0	279.6
Indonesia	36.2	40.4	47.0
Kenya	53.1	59.2	69.0
'East Africa'	90.4	106.8	117.4

With the overall world demand for tea inelastic in terms of price,
there is of course a substantial global gain from all three schemes. By
1985 without any global restraint world exports are projected at 1,084,000
tonnes, and revenue is £599,600,000. With restraint, exports rise to only
864,402 tonnes, but revenue becomes £958,100,000. Thus a 20.3 per cent
cut-back in world exports in 1985 achieves a 100.7 per cent rise in the
average world price and a 59.8 per cent increase in world export revenue.

A Scheme Based on Historical Shares: Table 9 sets out the distri-
bution of the global quota on the basis of 1972 shares in world exports.
This confirms the view of Etherington that East Africa would not benefit from
such a scheme. Indeed because the restraint on Africa's export growth would be
so severe (compared with actual 1974 exports, Kenya would be allowed an annual
export growth of 0.5 per cent from 1974 to 1978 and 3.1 per cent from 1980 to

1985), less export revenue would be earned under the scheme than without it.
Without the scheme projected earnings are £106,100,000 and £191,900,000 for
Kenya and 'East Africa' respectively; with the scheme these fall to £69,000,000
and £117,400,000. This confirms that an ITA based on historical market shares
would not attract widespread participation.

A Scheme Based on Projected Shares: The opposite extreme is to set
quotas relative to what market shares would be, were there no ITA, as projected
by the model and given in Table 6. Thus, whereas in the scheme based on
historical shares Kenya's share of the global quota is fixed at 6.9 per cent,
in a scheme based on projected shares Kenya is allowed a share rising to 11.4
per cent by 1980 and 15.7 per cent by 1985, and her exports can thus grow by
9.2 per cent per annum from 1974 to 1980, and 9.9 per cent per annum from 1980
to 1985. As a result, Kenya's revenue is projected to rise to £157,100,000 by
1985, and 'East Africa' to £272,100,000, as shown in Table 10. This gives Kenya
48 per cent and 'East Africa' 42 per cent greater revenue than the level projected
with no ITA.

However, while India and Sri Lanka are still net gainers from this
scheme, because of their rapidly falling quota shares these countries are
still required to steadily reduced their absolute level of exports. This may
prove unacceptable, especially given the existing high levels of unemployment
and under-employment amongst the tea estate labour force in Asia.

Compromise Scheme: One possible intermediate scheme would be to allow
Asian producers to keep their exports constant at current levels (200,000 tonnes
each for India and Sri Lanka and 30,000 tonnes for Indonesia) and let the newer
producers share all of the natural expansion of demand for tea in proportion
to their relative expected market shares were there no ITA. Such a scheme is
depicted in Table 11. For Kenya this still allows export growth of 6.9 per
cent per annum from 1974 to 1980 and 9.8 per cent per annum from 1980 to 1985,
while export revenue in 1985 is 29.3 per cent above projected levels without
the ITA. For 'East Africa' revenue is up by 23.6 per cent.

Of course, in reality, any compromise scheme can only be determined
by specific bargaining amongst potential members. Nevertheless, the examples
given do indicate the widespread scope that exists for a mutually beneficial
agreement between both the traditional and the newer producers.

Table 10. Price stabilisation with projected market shares.

National Quotas& Quota shares ()	1975		1980		1985	
India	183,788	(.276)	172,129	(.232)	159,050	(.184)
Sri Lanka	189,116	(.284)	184,000	(.248)	178,931	(.207)
Indonesia	32,629	(.049)	30,419	(.041)	28,525	(.033)
Kenya	52,606	(.079)	84,581	(.114)	135,711	(.157)
'East Africa'	116,532	(.175)	176,581	(.238)	264,507	(.306)

Export Revenue (£m)						
India		209.2		196.0		180.9
Sri Lanka		221.7		215.7		209.7
Indonesia		31.6		29.6		27.7
Kenya		60.9		93.3		157.1
'East Africa'		119.9		181.6		272.1

Table 11. Price stabilisation with constant Asian exports.

National Quotas & Quota Shares ()	1975		1980		1985	
India	200,000	(.300)	200,000	(.270)	200,000	(.231)
Sri Lanka	200,000	(.300)	200,000	(.270)	200,000	(.231)
Indonesia	30,000	(.045)	30,000	(.040)	30,000	(.035)
Kenya	47,888	(.072)	74,241	(.100)	118,592	(.137)
'East Africa'	105,919	(.159)	155,032	(.209)	230,667	(.267)

Export Revenue (£m)			
India	227.7	227.7	227.7
Sri Lanka	227.7	227.7	227.7
Indonesia	29.1	29.1	29.1
Kenya	55.4	85.9	137.3
'East Africa'	108.9	159.5	237.3

Possible Disadvantages of an ITA

While the available evidence may suggest that East Africa can increase
her income and export revenue from tea production via a suitable ITA, the
possibility remains that an ITA may have adverse repercussions on other national
objectives. It could be argued that the need to limit the growth of tea production
will generate a trade-off between income and employment creation. If the government's
prime objective is job creation, then participation in an ITA may be rejected.

Clearly reducing the rate of growth of tea output will reduce the number of potential jobs in tea production, but this is only one part of the total employment picture. We have already touched on the possibility that currently the chief constraint on growth -- and so on general employment creation -- is the balance of payments problem. While not readily quantifiable, a relaxing of this constraint via an ITA should allow additional job creation in the economy. Secondly, the land which would not be planted under tea because of an ITA could be put to some alternative use. In the case of Kenya, Stern reports that maize is the crop most likely to be grown instead of tea, and maize also requires considerable labour input. (13) Stern found that maize cultivation produces a satisfactory economic return to land by prevailing standards, and so land not used for tea as a result of an ITA would probably generate substantial levels of income and employment under maize, even though not as high as if it were used for tea production. Finally, the consequences for employment of the additional income generated under an ITA must also be considered. Taking the year 1985 as an example, under the compromise scheme outlined in Table 11, Kenya's total revenues from tea exports (yielding higher incomes to small-holders, workers and companies and higher government revenues) would be 29 per cent higher than they would be without an ITA, but export quantity (and so, roughly, employment) would be 30 per cent lower. Even ignoring the alternative use of the land which would have been put under tea and the effect on the balance of payments constraint, the additional 30 per cent expenditure by the tea sector would generate extra employment in sectors outside tea -- and also generate extra income which in turn will be spent and so generate further employment. It is not unreasonable to expect that this multiplier process, stemming from an increase in export earnings, could generate significant levels of employment, provided that the marginal propensity to import is not excessive.

Gwyer has suggested that, "Export restriction agreements of the coffee, tea and sisal type will, for countries like East Africa which have industries set to grow under a wide range of prices, inevitably entail a reduction in agricultural employment." (8, p. 466) We can now question the inevitability of even this adverse consequence of an ITA. Given, as in the case of Kenya, fairly high marginal propensities to consume food out of additional income and a high degree of agricultural self-sufficiency, it is conceivable that the multiplier process generated by higher tea revenues, and the alternative use of lands earmarked for tea, will stimulate agricultural production and thereby agricultural employment - leaving the net rural employment effect uncertain. Clearly, more work is required to establish with any degree of certainty the actual employment consequences of any specific ITA, but the

assumption of a necessary decrease can be strongly challenged on several
grounds.

A further potential disadvantage of an ITA to East Africa may be the
political consequences of imposing restrictions on small-holder tea production.
One researcher in the late 1960s noted that in Kenya, "We found an almost
universal desire among farmers to plant more tea". (de Wilde, 3) Etherington
has noted that during the 1960s:-

> A major constraint on the rate of growth of the area under tea
> was the availability of planting material from the large centralised
> nurseries of the Kenya Tea Development Authority (KTDA). The
> introduction of vegetatively propogated (VP) stumps has not only
> removed the seedling constraint but opened a potential floodgate
> of 'illegal' planting. (5, p. 90)

While of course the KTDA can still control realised output through its control
of factories and marketing, there may clearly be political problems in restrain-
ing farmers from cultivating a very profitable crop if planting material is
readily available.

Opposition may also be expected from many of the private tea companies
which still produce the bulk of East Africa's tea. As Etherington again points
out, "The tea industry in East Africa was, for the most part, established by
British tea companies with considerable experience of tea estates ... in India
and Ceylon." (5,p.89) The prime motivation for the movement of these companies
into East Africa was the high taxes and political uncertainty that came with
the political independence of the Asian countries. For many tea companies,
profitability and long-run security have been maintained by concentrating on
expanding production in East Africa and sometimes selling off Asian estates.
We have already noted the higher profitability of African production both
before and after taxes. An ITA which slowed down the rate of the transfer
of production from Asia to Africa would be clearly contrary to the strategy
that many tea companies have followed in the post-war period. Moreover, if
governments react to increased tea prices achieved under an ITA with higher
excise and profits taxes, then the companies may see very little of the gains
from an ITA. They may also fear that any overall constraint on production
growth will be weighted against them so as to minimise the constraint on
small-holder production.

CONCLUSION

It has been shown on the basis of a very simple model of the world
tea economy that East Africa can benefit in terms of total export revenue
from an International Tea Agreement under which the region is allowed
rising shares of any global quotas. It has also been shown that there need
not necessarily be any employment cost to such an agreement; indeed, the net
employment effect may be favourable. Clearly more work needs to be done
before these observations can be considered proven. However, the results do
imply that East Africa could usefully pursue a more positive approach to the
ITA negotiations, in particular with the aim of discovering the extent to
which Asian producers are prepared to compromise over the allocation of quotas,
and so provide the basis for a mutually beneficial agreement.

APPENDIX ONE

If we consider tea as a homogeneous commodity, then it does
not make any sense to ask what is the effect of demand for, say, India's
tea if the price of India's tea rises, because for a homogeneous good there
can only be one price, and the price of India's tea could not change unless
the price of all tea changes. It does make sense, however, to seek the
inverse of the price elasticity of demand for one country's tea, that is, the
effect on the general price level of one country changing the quantity of tea
it supplies. The change in price will obviously depend on the size of the
change in supply, the overall world price elasticity of demand for tea in
general, and the effect any change in price has on the supply from other
countries.

Thus if $\%\Delta$ = percentage change in

q = world demand

p = price of all tea

E_w = world price elasticity of demand

q_i = supply of tea from country i

q_{rw} = supply of tea from all other countries

E_i = price elasticity of demand for tea from
              country i

e_{rw} = price elasticity of supply of tea from all
              other countries

k_i = the share in world exports of country i's tea

k_{rw} = the share in world exports of all other
              countries' tea,

then:

$$\%\Delta p \;=\; \%\Delta q_i \;\times\; k_i \;\times\; \frac{1}{E_w} \;+\; \%\Delta\, q_{rw} \;\times\; k_{rw} \;\times\; \frac{1}{E_w}$$

which simply states that the change in price depends on world price elasticity
of demand and the various quantity changes that take place. To determine E_i
let an exogenous change in q_i take place. Whatever price change follows will
cause q_{rw} to change. The change is determined by:-

$$\%\Delta p \;\times\; e_{rw} \;.$$

So, following a change in q_i :

$$\%\Delta p = \%\Delta q_i \times k_i \times \frac{1}{E_w} + (\%\Delta p \times e_{rw}) \times k_{rw} \times \frac{1}{E_w}$$

Rearranging:

$$\%\Delta p \times (1 - e_{rw} \times k_{rw} \times \frac{1}{E_w}) = \%\Delta q_i \times k_i \times \frac{1}{E_w}$$

Let $\%\Delta q_i = 1$,

then : $$\%\Delta p = \frac{k_i \times 1/E_w}{1 - e_{rw} \times k_{rw} \times 1/E_w}$$

This then is the percentage change in price following a 1 per cent change in the quantity of exports by country i, and inverting gives the price elasticity of demand for the tea of country i:-

$$E_i = \frac{1 - e_{rw} \times k_{rw} \times 1/E_w}{k_i \times 1/E_w} \qquad \therefore \quad E_i = \frac{E_w - e_{rw} \times k_{rw}}{k_i}$$

APPENDIX TWO

The simple model of the trade in tea which has been used is designed to determine all imports and exports only by the average London price of tea and time. This means that the equilibrium price of tea for any year can be forecast as that price which ensures total import demand just equals total available exports.

The time trends are clearly a simplification of many factors affecting exports and imports. The trend in exports represents the combined effects of assumed steady trends in the productivity of existing estates and small-holdings, and in the extension of acreage. The import trend covers the effect of rising incomes and populations and changing tastes on tea consumption.

The structure of the model is thus

Exports: $X_{it} = f^1 (P_{i,t-1}, T)$ (1)

where X_{it} = exports from region i in year t

P_i = the real price at the London auctions of tea from region i

T   = time in years.

Thus exports this year are viewed as being determined by last year's prices on the basis that producers respond to price changes with about a one-year lag.

Prices: $P_{it} = f^2 (P_t)$ (2)

where   P = the London average price for all teas.

Thus we relate all separate tea prices to the one average, and so we can rewrite (1) as:-

$X_{it} = f^1 (f^2 (P_{t-1}), T)$.   (3)

Imports: $M_{jt} = f^3 (P_t, T)$ (4)

where M_{jt} = imports into country j in year t;

stocks: $dS_{uk,t} = f''(P_t, P_{t-1})$ (5)

where dS_{uk} = the change in the level of U.K. stocks.

Thus the change in the level of U.K. stocks depends on how prices have been moving in the recent past, with, in fact, stocks rising as prices fall.

Equations (1) and (4) for exports and imports were estimated in logarithmic form, thus price coefficients represent elasticities of supply and demand and the time trends are assumed to be exponential.

Altogether, the model has export equations for 6 supplying regions, and import equations for 37 countries and the 'rest of the world'. This degree of disaggregation allows average world trends in supply and demand to change over time, and so allows the trend in real prices to change.

In the cases of India and Japan, exports and imports depend on the difference between production and consumption, both of which have strong trends. In these two cases therefore, we estimated equations both for output and consumption and then derived exports as a residual.

The export, price and stocks equations were directly estimated by ordinary least squares (OLS), but the import equations were derived from various existing estimates of the price-elasticity of demand for tea in several countries. These estimates were used as a guide to the probable price elasticity of demand in other similar countries. The estimates were then incorporated into the overall import equations.

The underlying relationship was assumed to be:-

$$\log M_{jt} = a' - B'\log P_t + C' T_t \qquad\qquad (6)$$

where B' is the estimate of the price-elasticity of demand.

By OLS an estimate of price through time was derived:-

$$\log P_t = a'' + k T_t + u_t \qquad\qquad (7)$$

where   u is an error term with mean = zero.

Thus an estimate of (6) is given by

$$\log M_{jt} = a' - B'a'' - b'u_t + (C' - B'\hat{k}) T_t \qquad (8)$$

By OLS an estimate was made of:

$$\log M_{jt} = \hat{a} + \hat{C}T_t. \qquad (9)$$

Thus C is an estimate of $(C' - B'k)$ and so C' is estimated by
$C + B'\,k$.

Substituting in (6), an estimate of a' is given by:

$$a' = \log \bar{M}_{jt} + B' \log \bar{P}_t - (\hat{C} + B'\,\hat{k}) \bar{T}_t \qquad (10)$$

where the superscription '-' symbolises mean value
and thus are derived estimates of all the parameters of the import
equation (6).

Tables 12 and 13 present the trends and price elasticities that
were used in the projections, giving alternatives where these were tried.
Thus for developing countries an average price elasticity of demand for
imports of -.54 was taken, while for developed countries an average of
about -.2 was used. Some further evidence in support of these estimates
was provided by a subsequent Ordinary Least Squares estimation of the
import demand functions for 16 developed and 23 developing countries, in
the form of equation (6) above. As expected, given the crude specification
and the complexity of the real relationships, many estimates were neither
significant nor sensible. However, for 11 developed and 10 developing
countries, estimates of the price elasticity of demand lying between 0 and
-1 were obtained, and of these, the average for developed countries was -.22,
and for developing   countries was -.45. The significance of these
results is difficult to interpret, but they are at least consistent with the
orders of magnitude used in the model.

There are many obvious weaknesses in the model. Firstly, exports are
not determined only by last year's price and an autonomous trend. Trend itself
is affected by long-run price movements, while short-run changes in exports
can be caused by current price fluctuations.Similarly, demand cannot be fully

explained by one average price and a trend; incomes, population the price
of different types of tea and of other drinks are all important. In all
countries, export and import duties, retail taxes and subsidies disturb the
relationship between the consumers' and producers' tea prices and the price
at London auctions. Moreover, while dominant, the London auction is not the
only auction—most large exporters have their own auctions where prices do
not always move precisely parallel with London prices. The price elasticity
of demand estimates that were borrowed were not produced on a uniform basis.
Some relate to real prices, others to money prices; some to retail prices,
others to auction prices. In the model they were simply lumped together
assuming that they were approximately correct for a system using only real
London auction prices. Further, these elasticities are assumed constant,
but it is generally recognised that the price elasticity of demand for tea
falls as income rises.

This does not exhaust the list of weaknesses, but it is already clear
that the projections based on the model must be treated with great caution.
However, because it is simple, the model is fairly robust, and providing that
the estimates of the price elasticities of demand are of the right order of
magnitude, then given the continuation of import and export trends the
projections should provide a rough guide to possible future developments in
the world tea economy.

Table 12. Supply parameters of the model.

Region	Price-elasticity of supply	Underlying trend in exports: % p.a.
India	0.000	2.3 (output)
Sri Lanka	0.253	2.0
Indonesia	0.196	0.5
Kenya	0.227	12.4
'East Africa '	0.225	10.9
Rest of World	0.309	3.0

Table 13. Demand parameters of the model.

Country	Actual rate of growth of imports,1963 - 1972 % p.a.	Estimated price elasticity of demand low	high	Deduced underlying trend in imports % p.a.	Underlying trend if high elas. used
Australia[a]	- 1.2	-.13	-.94	- 1.65 /	-4.50
USSR	4.3	-.30		3.25	
New Zealand[a]	- 0.2	-.13	-.94	- 0.65 /	-0.34
U.K.[a]	- 1.9	0.00	-.33	- 1.9 /	-3.00
Yugoslavia	11.5	-.50		9.75	
Switzerland	2.8	-.20		2.1	
Sweden	5.9	-.20		5.2	
Spain	12.1	-.50		10.35	
Norway	5.3	-.20		4.6	
Belgium	6.4	-.20		5.7	
Poland	9.5	-.30		8.45	
Netherlands	- 1.3	-.20		- 2.0	
Italy	3.0	-.30		1.98	
Ireland[a]	1.1	-.14		0.61	
West Germany	2.5	-.20		1.8	
France	8.1	-.20		7.4	
Denmark	4.7	-.20		4.0	
Czechoslovakia	- 3.1	-.30		- 4.42	
Syria	1.2	-.54[c]		- 0.69	
Lebanon[b]	24.4	-.54[c]		22.51	
Jordan	7.5	-.54[c]		5.61	
Japan (output)	(2.3)			(2.3)	
(consump.)	(4.2)	-.30		(3.1)	
Israel	13.3	-.30		12.25	
Iraq	1.1	-.54[c]		- 0.79	
Iran	2.1	-.54[c]		0.21	
Hong Kong	5.6	-.40		4.2	
Afghanistan	13.9	-.54[c]		12.01	
Chile	5.0	-.40		3.6	
U.S.A.[a]	2.5	-.05	-.34	2.33 /	1.30
Canada[a]	0.4	-.13		-0.055	
Tunisia	-0.3	-.54[c]		-2.19	
Sudan	7.3	-.54[c]		5.41	
South Africa	2.2	-.40		0.8	
Somalia	9.2	-.54[c]		7.31	
Morocco	4.1	-.54[c]		2.21	
Lybia	14.0	-.54[c]		12.11	
Egypt	-5.7	-.50		- 7.45	
India (consump.)[ad]	(6.6)	-.10	-.93	(6.66)/	(7.16)
Rest of World (62-71)	3.9	-.30		3.0	

a. An estimate of price elasticity was available from external sources.
b. Lebanon's import trend was revised down by 0.5% p.a. from 1973 on because its 1960s growth rate is unmaintainable.
c. The price elasticity estimate of -.54 for most developing countries was derived from a source giving this as the price elasticity of demand in Sri Lanka.
d. To calculate India's underlying consumption trend, a Calcutta auction price series was used.

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