2.31   Eckbo (1975) reviewed the operation of fifty-one cartels and found that nineteen of them were 'successful' in raising prices 200 per cent above costs of production and distribution. He noticed the following common characteristics among the 'efficient' cartels: concentration of production (over 50 per cent), inelastic demand, few short-term substitutes, operating cost advantages (one or two producers with lower cost than others), and the presence of only a few outside suppliers.

2.32   Pindyck (1978) empirically estimated the gains to producers from cartelization of three exhaustible resources: bauxite, copper and petroleum. To serve as a base from which to measure the potential cartel gains, he drew on a model on exhaustible resource pricing. He pointed out that given elasticity estimates, a simple static computation of potential monopoly profits might be quite realistic and sufficient for markets where supply and demand can adjust quickly to price and where resource exhaustion is not a problem.

2.33   More recently, Schmitz et al.(1981) have estimated the economic effects of the formation of a producers' wheat cartel and the consequent imposition of an optimal export tax. They concluded that producers, as a group, would have gained approximately US $6.9 billion in 1980.

2.34   Emmanuel (1972) suggested the imposition of an export tax to compensate for the adverse terms of trade of developing countries[33]. The unequal exchange implied in his proposition can be stated succinctly as a situation of unequal wages between the centre and the periphery, with the former commanding higher values. The wage differential, as estimated by Emmanuel, is roughly equivalent to 15:1, and the implied annual transfer of resources from the developing to the developed countries, according to Evans, amounts to US $240 billion[34].

2.35   Gibson (1980) found that under the condition of equal efficiency wages there would be a 40 per cent improvement for Peru in its terms of trade with the United States. When translated to nominal dollars this would amount to an annual transfer of US$16 billion, which dwarfs the US$6 billion requested in the original version of the Common Fund.

III. DEVELOPING COUNTRY EXPERIENCE

3.1   We now turn to practical experience. Most export taxes have been based implicitly on one or other of the arguments set out above. There are, however, other reasons which apply in particular to individual countries acting in isolation.

3.2   The first is the use of export taxes as a revenue raising device. As we have already seen, governments can, in principle, tax the 'producer surplus' of intra-marginal producers' exports without distorting patterns of production. Further, export taxes are a

convenient means of taxing producers of export crops, being administratively easy to levy and collect. While export taxes can be evaded (e.g. through smuggling or under-invoicing), most other taxes have far more serious enforcement problems. Export taxes have sometimes been used as a crude substitute for an income tax on small and medium-sized farmers, and in some countries a 'de facto' income tax exemption is granted to producers of dutiable export crops.

3.3   Second, export taxes can serve to promote the processing of raw materials. This was a declared objective of export taxes in the eighteenth century - in the UK, for example, in relation to wool. And today in the developing countries export taxes on raw materials have also become an important device to promote local processing for export. Policies directed towards that end have been propounded by international agencies as well. For instance, in the case of the forestry sector of some developing countries, the staff of International Monetary Fund have sometimes recommended exchange rate differentiation in favour of forest product exports with higher value added locally, in order to encourage more employment and better utilization of transport capacity, while leaving the producing country less exposed to log price fluctuations[35].

3.4   Third, export taxes can serve as a counter-cyclical device. They can be used to mitigate some of the negative effects on development of a sudden, unplanned windfall in commodity export earnings and also offset corresponding periods of slump (see section (d)). The belief that large windfall gains falling to private exporters are damaging to longer-term development has several aspects, and these are discussed in section (d) below.

3.5   The experience of developing countries in levying export taxes is highly varied and often such taxes have been imposed unilaterally although bananas constitute one important exception. The early history of export taxes, the forms and uses of these taxes in developing countries, and trends in their application are presented below in sections (a), (b) and (c). In the two subsequent sections the importance of these taxes as a counter-cyclical device and as an incentive for greater domestic processing is examined. The attempt by Jamaica to obtain a greater share of 'rent' by means of a production levy on bauxite is analysed in section (f). The experience of banana producers is discussed in the final section.

(a) Early History

3.6   Before the nineteenth century, export duties were widely used in Europe to raise revenue and ensure raw materials for domestic processing. The latter purpose was stressed in countries following mercantilist policies, such as England[36]. The liberalization of trade in the nineteenth centure largely eliminated export taxes in Europe but they were extended to and maintained in colonial areas of Africa and Asia and in Latin America.

To some degree, these taxes were designed to discriminate in favour of the shipment of raw materials to the colonial power or other destinations in its empire, but their main purpose was to raise revenue.

3.7   The early history shows export taxes in developing countries to have been applied chiefly by entrepot centres such as Singapore and Zanzibar, by dominant suppliers such as Sri Lanka in the case of cinnamon and quinine (which approximated the theoretical conditions given in Chapter II, section (a) for an export tax), and generally by developing countries whose revenue requirements were modest and whose collection procedures and capabilities were rudimentary.

3.8   By the late 1930s, there were few countries where export taxes occupied an important place in the fiscal structure. The principal exceptions were to be found in Latin America, where in 1939 export taxes, chiefly on sugar, coffee, bananas and cotton, provided 12 to 19 per cent of the total tax receipts of the central governments of Guatemala, Haiti, Mexico and Peru (Annex Table 4). Subsequently, however, the use of this type of levy expanded markedly, particularly during the scarcity conditions of the Second World War and the raw material boom which accompanied the Korean War.

3.9   In the 1940s and 1950s, the fiscal policies of developing countries (which were mostly still colonies) were fashioned in the styles of advanced economies - development programmes generally involved minimal expenditures confined to balanced budgets. With independence (from the 1950s), it was recognised that the special conditions of the newly emerging nations would call for special treatment by way of taxation, government expenditures, budget construction and national debt. Meanwhile, many governments, facing urgent demands for social reform and economic progress, as well as the problems of income stabilization, desirous of economic diversification through raw material processing, and dissatisfied with private monopolies in trade, devised or extended various measures of an ad hoc and often experimental type. Outstanding among these measures was the taxation of primary product exports.

3.10   The need and the opportunity for fiscal action is nowhere greater than in the primary-producing type of country, heavily dependent on exports of a few staple products. For in such a country, the common developmental handicap of capital shortage is compounded by the vicissitudes of foreign trade. The export tax was seen as a device to cope with both these handicaps. Within its limits, and if rates are varied appropriately, it also serves as a compensatory device against the cyclical fluctuations of trading income; and it is also a means of obtaining developmental resources from trade, which is the principal dynamic element in these countries.

(b) Forms and Uses of Export Taxes

3.11   Export taxes have several forms and a country may apply any one or a combination of them. The most explicit is the export tax levied on an ad valorem or specific basis. During the early years,

export taxes were specific, expressing a governmental preference for a simple tax with a minimum of paper work and investigation. However, with the growing awareness of the dangers of export price fluctuations, the principle of ad valorem taxation of exports gained ground. Most countries have now shifted to such a basis in order to increase the elasticity of export duties, which other- wise would have to be kept under constant review if export tax receipts are to remain buoyant.

3.12   One of the more sophisticated forms of export tax levied by these countries' governments is the sliding scale of duties, whereby exports are taxed according to a schedule of progressive rates - sometimes in specific terms, sometimes in percentages - linked to the export price. Through such means, the governments of Sri Lanka and Pakistan, for example, captured about a fifth of the price rise during the Korean War boom.

3.13   A second form of export tax involves the surpluses gener- ated by marketing boards when their buying prices lag behind market prices - an implicit impost on agriculture. In some coun- tries such surpluses have been sought to stabilize the incomes of producers, while in others they have been employed as a source of government revenue for general use.

3.14   Another more sophisticated form of export tax is the use of differential exchange rates, in which the proceeds of selected exports are converted into local currency at a different rate from that charged on imports. For instance, in Colombia all proceeds from the export of coffee must be surrendered to the Central Bank within twenty days of registration for export. The bank exchanges these proceeds for cur- rency exchange certificates which can be converted to pesos (domestic currency) immediately at a discount of between 6 and 15 per cent or after 120 days at their full face value. This gives rise to a differential exchange rate, since in practice an exporter who surrenders a certifi- cate before 120 days have elapsed is subject to a discount and will in effect receive fewer Colombian pesos per US dollar than an exporter of commodities other than coffee. In 1977, Colombia exacted US $69 million through differential exchange rates from coffee exports.

3.15   In many developing countries the domestic currency appears to be overvalued. This is tantamount to a tax on exports and a subsidy on imports, transferring income from exporters to importers 37. The IMF and the World Bank discourage implicit taxation through exchange rates, since it is thought that this dis- courages exports and the development of a country's export potential while encouraging smuggling.

3.16   Export taxes have also been used to support the devaluation of a country's currency. Theoretically, by increasing the local currency proceeds of exporters, devaluation stimulates exports and thus helps to correct disequilibrium in the balance-of-payments. However, for commodities with low short-term elasticities of supply, the immediate increase in export receipts may not make a significant contribution to the payments deficit. In fact, the rise in exporters' incomes may generate additional demand for imported goods, militat-

ing against the restraint required; export taxes may be used to curtail any such additional demand.

3.17   In so far as high export taxes are levied for limited periods, either to reduce the profits of exporters during devaluations or to reduce their gains during export booms associated with sharply higher export prices - for example, the coffee boom in the mid-1970s - their disincentive effects are likely to be limited while their stabilization effects may be substantial. This is because individually, the developing country producers concerned are price-takers in the international market, so there is limited opportunity for permanent rather than counter-cyclical taxation.

(c) Export Tax Trends

3.18   Table 3 summarises the relative importance of export taxes in 39 developing countries. Data are presented for 1972 and 1978, and in order to permit an easier inter-country comparison, export tax revenues are expressed as proportions of GDP, total tax revenue and export values. The data indicate that export taxes have been quite significant in at least a few countries. For instance, in 1978 they accounted for over 7 per cent of GDP in Uganda and Sri Lanka, over 4 per cent in Malaysia and Rwanda, and between 3 and 4 per cent in Zaire, Sierra Leone and Swaziland, while in 16 other countries the proportion was at least 2 per cent. Unlike the conclusion reached by much of the literature on the change in tax structure that accompanies economic development, there is no clear-cut evidence to show that export taxes became significantly less important between 1972 and 1978. In only nine countries (Chad, Ghana, Ivory Coast, Seychelles, Sudan, Zaire, India, Pakistan and Philippines) did the proportion fall rapidly. This may be thought rather disturbing in view of the negative effects that these taxes can have on the allocation of resources, and on production and exports when done unilaterally (see paragraph 3.22). But it can be argued that export taxes have been considered largely as a substitute for income taxes and in some cases have been levied to prevent exporters from obtaining unusually high profits.

3.19   The table also shows the dependence on export taxes for a large share of tax revenue in several countries at different stages of development. In Burundi, Ethiopia, Ghana, Sao Tome and Principe, El Salvador and Guatemala, export taxes in 1978 accounted for at least 20 per cent of total tax revenue while in Uganda, for special reasons, the proportion was over 70 per cent. Reliance on this tax made it possible for these countries to raise the total level of taxation substantially, but they may have paid a significant price in terms of efficiency of resource allocation.

3.20   Table 3 also gives export taxes as a proportion of export values. In 1978, these proportions ranged from under two per cent for some countries - e.g. Seychelles, Togo, and Pakistan to over 20 per cent for several others - e.g. Burundi 43 per cent, Ethiopia 33 per cent, Uganda 30 per cent, Sri Lanka 27 per cent, Ghana 25 per cent and Rwanda 25 per cent.

TABLE 3

Composition of Export Taxes in Selected Countries

Selected Countries	Per Capita Income US$,1980	Export Taxes as a Percentage of					
		Gross Domestic Product		Total Tax Revenue		Exports (values)	
		1972	1978	1972	1978	1972	1978
Burundi	200	1.9	..	17.9	31.5	18.7	42.9
Central Afr.Rep.	300	0.6	0.7	3.7	9.4	2.1	10.5
Chad	120	1.8	1.6	8.0	10.0	9.4	8.6
Comoros	300	n.a.	n.a.	20.2	14.0	n.a.	n.a.
Ethiopia	140	1.3	2.7	8.1	26.1	9.2	33.1
Gambia,The	250	2.4	2.7	17.0	10.2	7.0	6.9
Ghana	420	3.9	2.9	29.8	23.7	19.5	25.0
Ivory Coast,The	1,150	4.3	2.3	19.4	12.3	12.7	7.7
Madagascar	350	n.a.	n.a.	6.8	9.0	5.8	n.a.
Mauritius	1,060	1.6	2.5	9.6	12.6	4.0	7.0
Rwanda	200	2.0	4.4	22.1	19.8	17.6	25.0
Sao Tome & Principe	490	n.a.	n.a.	18.0	35.6	n.a.	n.a.
Seychelles	1,770	0.4	0.1	2.1	0.4	3.5	0.3
Sierra Leone	280	1.8	3.1	10.5	17.4	7.1	15.7
Sudan	410	0.9	0.7	6.2	4.0	6.2	6.6
Swaziland	680	0.02	3.0	. 0.1	11.1	0.03	5.3
Tanzania	280	0.4	1.2	3.1	7.8	2.0	14.9
Togo	410	1.7	2.5	6.9	9.8	6.3	1.8
Uganda	300	2.4	7.1	19.3	70.4	13.5	30.0
Upper Volta	210	0.3	0.5	2.9	3.7	5.5	10.3
Zaire	220	7.7	3.3	21.8	11.6	24.2	15.7
India	240	1.4	0.2	19.2	1.1	36.8	2.9
Indonesia	430	n.a.	0.9	2.9	6.0	n.a.	3.4
Malaysia	1,620	2.0	4.4	13.2	21.8	5.2	8.5
Papua New Guinea	780	n.a.	n.a.	0.3	3.4	n.a.	n.a.
Pakistan	300	2.0	0.1	10.0	1.2	17.6	1.5
Philippines	690	0.8	0.3	10.1	2.9	5.2	2.2
Solomon Islands	460	n.a.	n.a.	12.9	23.1	n.a.	n.a.
Sri Lanka	270	2.2	7.6	13.0	37.5	14.1	26.5
Thailand	670	0.2	0.4	1.7	3.9	1.3	2.4
Brazil	2,050	n.a.	0.3	0.7	1.9	n.a.	4.6
Colombia	1,180	0.8	1.6	8.0	17.3	8.2	18.5
Costa Rica	1,730	0.2	1.6	1.1	9.3	0.7	6.4
Ecuador	1,270	2.1	0.8	18.8	7.6	7.0	3.7
El Salvador	660	1.8	2.6	18.3	33.6	7.2	14.4
Guatemala	1,080	0.5	2.4	14.5	25.3	3.1	12.3
Guyana	690	0.5	0.5	2.3	0.6	1.0	0.8
Mexico	2,090	0.2	1.0	2.2	8.2	4.9	15.9
Peru	930	0.3	2.7	2.2	17.7	2.0	12.1

n.a. not available.
Source: Tax data are from IMF, "Taxation in Sub-Saharan Africa", Occasional
Paper No.8, Washington, D.C. October 1981; per capita incomes are
from The World Bank, "1981 World Bank Atlas", Washington D.C.

3.21   The breakdown of export taxes by commodities (Table 4) shows that in all the countries analysed, the revenue is derived from a small number of products, and is generally heaviest in the most dynamic primary sector of the economy: coffee in Burundi, Tanzania and Guatemala; sugar in Guyana; phosphate rock in Morocco; tea in Sri Lanka, and rubber in Malaysia. In the case of Colombia, export taxes are limited to the leading primary sector, coffee.

3.22   A comprehensive analysis of shifting the incidence of export taxes is not attempted here. It is determined by such factors as the nature and organisation of production, the country's share in the world market and the options open for the market participants. The developing countries reviewed in this study usually command individually only a small proportion of world supplies of primary products; thus, their market position normally approximates to that of price takers. It is likely, therefore, that if each country were to act individually, the burden of an export tax would be borne largely by domestic producers. But if they acted in concert (e.g. as in bananas), it would be possible in some cases for them to make substantial revenue gains. These instances are assessed in the following chapter.

(d) A Counter-cyclical Device

3.23   We have noted above that export taxes can be, and sometimes have been, used for counter-cyclical purposes. This role arises because of the frequently destabilizing effects of fluctuations in commodity earnings which produce large shortfalls or windfalls of foreign exchange. A counter-cyclical tax which is graduated can help to stabilize windfall earnings (by increasing the rate of tax) and dampen the effect on producers of shortfalls (by lowering the tax rate).

3.24   The macro-economic impact of commodity earnings fluctuations will partly depend on how much of the instability is passed back to producers and then on how specific groups dispose of their earnings. In situations which involve a few large traders dealing with a multitude of small producers, or large plantations or mining companies - domestic or foreign-owned - dealing with unorganised workers, only a portion of the price rises in the international market may be transmitted to the domestic producer or worker. The secondary effects then depend on the various marginal propensities for disposing of additional earnings between consumption and saving, between domestic goods and imports and between hoarding and productive investment.

3.25   If, however, there is a decline in export prices it is plausible to suggest that the exporters will try to shift most of the impact to the domestic producers in an effort to maintain their profit margins. This

TABLE 4

Breakdown of Export Taxes by Main Primary Products in Selected Countries

	Commodity Export Tax as a Percentage of Total Tax Revenue						Commodity Export Taxes as a Percentage of Total Export Taxes					
	1974	1975	1976	1977	1978	1979	1974	1975	1976	1977	1978	1979
1. Burundi												
Coffee	10.1	5.1	28.0	30.5	n.a.	n.a.	90.3	86.5	96.4	97.0	n.a.	n.a.
Minerals	0.2	0.3	0.4	0.7	n.a.	n.a.	2.1	4.5	1.2	2.1	n.a.	n.a.
2. Morocco												
Minerals	3.7	2.3	1.4	1.0	0.9	0.7	88.3	88.7	77.9	82.7	81.0	74.4
3. Sierra Leone												
Cocoa	0.4	3.1	3.9	5.9	5.9	5.0	3.4	30.5	34.4	30.1	33.9	43.9
Coffee	1.7	0.4	3.9	10.7	8.7	4.6	16.1	3.7	34.4	54.2	50.0	40.6
Palm kernals	6.9	4.9	1.0	0.9	0.7	0.5	65.5	50.0	8.6	4.6	3.9	4.4
4. Tanzania												
Cashew nuts	0.2	0.3	0.2	0.3	0.2	0.2	2.3	4.9	3.8	1.7	2.0	2.4
Coffee	4.4	1.5	3.1	16.0	15.4	6.4	53.2	21.4	66.9	84.9	87.9	83.0
Cotton	0.5	0.3	0.4	2.0	0.6	0.8	5.6	4.0	9.6	10.5	6.4	10.4
Sisal	3.0	4.5	0.5	0.5	0.3	0.3	36.6	66.0	10.2	2.5	3.1	3.3
5. Colombia												
Coffee	6.4	8.0	9.4	11.6	11.1	17.3	100.0	100.0	100.0	100.0	100.0	100.0
6. Costa Rica												
Bananas	3.1	7.0	6.2	5.1	3.9	3.8	30.5	55.0	57.1	43.7	42.9	40.7
Sugar	0.5	0.7	0.7	0.3	0.3	0.1	4.5	5.5	6.1	2.4	2.9	0.6
7. Dominican Republic												
Cocoa & Coffee	n.a.	0.1	2.0	11.7	4.9	6.4	n.a.	0.5	16.2	77.0	70.1	75.3
Sugar & Honey	14.5	25.4	9.2	3.3	1.9	1.9	98.3	98.8	73.9	21.8	27.1	22.5
8. Guatamala												
Bananas	0.1	0.1	1.7	1.2	1.2	1.0	1.3	1.4	12.7	4.4	4.8	5.2
Coffee	7.8	2.6	10.4	25.1	23.5	18.3	95.9	24.8	78.7	92.6	93.0	91.4
Cotton	0.2	0.5	0.4	0.8	0.5	0.6	2.4	5.0	3.2	2.8	2.0	3.0
Sugar	n.a.	7.0	0.7	0.1	0.01	0.01	n.a.	68.5	5.1	0.2	0.01	0.2
9. Guyana												
Sugar	30.9	47.8	18.8	3.7	n.a.	n.a.	95.7	99.0	98.0	88.2	n.a.	n.a.
10. Malaysia												
Palm oil	5.3	6.2	3.0	4.9	2.6	2.5	24.2	45.0	16.4	25.0	14.2	17.0
Rubber	8.9	2.7	9.5	7.9	9.0	12.0	40.8	19.3	51.4	40.0	48.2	54.8
Tin	6.3	4.3	5.3	6.2	6.3	5.8	28.7	31.3	28.8	31.7	34.2	26.0
11. Sri Lanka												
Coconut	4.0	1.5	0.1	0.5	3.3	3.0	23.9	14.2	1.0	3.7	7.8	8.0
Rubber	7.0	3.3	4.1	4.6	9.5	11.1	41.9	30.6	39.8	36.0	22.7	29.7
Tea	4.3	4.8	5.0	6.6	27.9	22.4	25.4	44.9	48.7	51.3	67.0	60.0
12. Thailand												
Rice	7.8	2.3	0.1	n.a.	n.a.	n.a.	62.9	37.8	23.3	n.a.	n.a.	n.a.

n.a. not available

Source: International Monetary Fund, Government Finance Statistics Yearbook Vol. v, 1981.

sequence means that the decline in real income will be accompanied by domestic deflation as well as foreign exchange difficulties.

3.26   These broad responses of a developing country to fluctuations in export prices are sometimes aggravated by monetary phenomena. During a boom period the banking system is likely to show a tendency toward expansion of commercial credit, based on a short period of increment of foreign exchange and hence of bank reserves. When later the induced imports begin to rise, the banks lose reserves and tend to contract credit, thus putting a brake on economic activity.

3.27   The ability of a government to cope with the problems of stabilization as well as to promote economic development depends partly on the fiscal and monetary treatment of export price fluctuations. Where governments have already instituted export taxes, differential exchange rates, or other devices bearing directly on primary product exports, a rise of export prices can be expected to bring automatically an increment in government revenue. This effect will be enhanced if in addition the authorities act promptly to raise the rates in question, or have already established a sliding scale of rates.

3.28   Where governments rely largely or wholly on general taxation, the revenue effects of an export price boom are more uncertain, depending on the diffusion of income increases through the economy and on the scope and effectiveness of the whole taxation network. In a developing country, where increases in income are often concentrated and sometimes concealed, the progressive income tax is limited in its effects, and those effects are belated. Stepped-up excise taxes are more enforceable but are undesirably regressive, and sometimes are perverse in extending the inflation they were designed to prevent. Other widely-used levies, like the land tax, are clumsy and inappropriate for counter-cyclical purposes. The export tax can by comparison, be both automatically stabilizing and efficient.

(e) Processing

3.29   The ability of export taxes to fulfil one of their declared objectives - to promote the processing of products before export - is illustrated below with a few examples.

3.30   In Indonesia, the government policy of promoting more domestic processing of timber can be seen as an attempt to maximize the long-term benefits from forestry-related activities by ensuring the capture of the resource rent which arises[38]. In pursuit of that policy, the government, in 1978, increased the export tax on logs from 10 per cent to 20 per cent of the government-determined 'check prices' and in the following year imposed a tax of 5 per cent on exports of roughly sawn timber (hardly processed) in an attempt to overcome efforts by exporters to evade the tax and other charges imposed on log exports. There are currently almost a dozen separate government charges on the latter, and they amount to 42-45 per cent of the f.o.b. price of logs (see Annex Table 5).

3.31   There are no reliable data on price elasticities to evalu-
ate whether Indonesia has shifted its export taxes on to foreign
consumers. However, the impact of its policies has been remark-
able. For instance, the volume of log exports declined in 1980
and 1981, while log prices increased sharply in 1979 and remained
high till the end of 1980. Moreover, a 50 per cent differential was
created between the prices of logs for export and those for local
processing, providing a strong incentive for the latter so long as
export taxes on forestry products remain nil or negligible. In fact,
Indonesia's exports of sawn wood and plywood rose rapidly, the
annual growth being 28.7 per cent (1961-79), and 186.6 per cent
(1975-79) respectively. Moreover, the number of plywood factories
reached 22 in 1980, with an aggregate annual capacity of 1.1 million
cubic metres, compared with 16 at the end of 1978.

3.32   In Brazil, several government policies have been used to
encourage the domestic processing of cocoa. The government levies
an export tax on cocoa beans of 10 per cent whereas on semi-
processed products it is only 6 per cent. In addition, during the
early 1970s, when stringent foreign currency restrictions had been
in force, the government paid more domestic currency per dollar
to exporters of semi-processed cocoa. This differential exchange
rate amounted to an implicit export tax on cocoa beans. Due to
these and other incentives the expansion of cocoa processing in
Brazil has been remarkable, and it processed about half of its cocoa
beans in 1980. This development has had its effects on the world
market and Brazil's exports of cocoa liquor as a proportion of the
world total rose from under one per cent in the late 1960s to
38 per cent in 1980 [39].

3.33   In the Philippines, there are long-standing differential
export duties on copra and coconut oil, 7.5 per cent and 4 per cent
respectively, which encourage local processing [40]. In addition to
the basic export duty, 'premium' duties are levied on the difference
between the customs valuation price and a basic price established
by the authorities. The premium duty is levied at 20 per cent on
coconut oil (a processed product) and 30 per cent on copra. It is
not payable when the customs valuation is below the basic price.
During the 1970s, exports of coconut oil grew at a phenomenal rate
while those of copra declined rapidly.

(f) Bauxite Taxation in Jamaica

3.34   One good contemporary example of export taxation is that
of bauxite. Its use by Jamaica was inspired by several of the con-
siderations discussed above: an attempt to lead the way in concerted
action by producers; an attempt to extract 'rent' from mining
companies; and to promote processing. In 1974 the Jamaican
government imposed a production levy on all bauxite "deemed to
have been exported", equivalent to 7.5 per cent of the arithmetic
average of the price realised for primary aluminium by the three
major US producers (Aluminum Company of America, Reynolds
Metal Company, and Kaiser Aluminum and Chemical Corporation)
for every 4.3 long dry tons (the amount required to produce one
short ton of aluminium). The impact of the levy on the cost of

producing aluminium metal was equivalent to about US ¢2.5 per pound in 1974.

3.35   Jamaica was the major producer of bauxite until 1970 when it accounted for almost a quarter of the world total (outside the centrally planned economies). It also supplied two-fifths of US aluminium production. Its production rose steadily in response to the growth in demand for aluminium, the relatively low cost of mining and processing in Jamaica and of transportation to North America. By 1970 there were five alumina plants and three bauxite exporting operations, all owned wholly or partly by subsidiaries of four of the six major aluminium multinationals (Alcoa, Kaiser, Reynolds and Alcan). The capital investments of these companies in Jamaica had reached US $800 million (gross) in 1974.

3.36   Successive Jamaican governments had attempted in different ways to improve the contribution of the bauxite industry to the local economy. Mining had expanded and there had been investment in alumina refineries but government revenue per tonne of bauxite had remained modest. After rising from US ¢70 in 1950 to US $2.24 in 1957, it reached US $3.08 in 1966 but declined to US $2.01 in 1973[41]. The aluminium multinationals were subject to the 'normal' company tax on income. But since bauxite and alumina were traded within vertically integrated concerns, 'notional profits', based on the 'negotiated' price of bauxite, were used for tax purposes. However, there was a wide gap between the negotiated price and the declared f.o.b. unit value of Jamaican bauxite imported into the USA, broadly illustrative of the extent of the rent accruing to the aluminium companies by means of transfer pricing.

3.37   The government entered into negotiations with the aluminium companies in early 1974 with a view, primarily, to increasing tax revenue. These negotiations broke down and the government imposed a bauxite production levy. Its immediate effect was to raise government revenue from about US $2.00 per tonne in 1973 to US $12.00 in 1974, when it totalled almost US $175 million.

3.38   However, the Jamaican government began to face considerable pressures from the multinationals and in order to avoid external constraints on its fiscal and other measures, it withdrew from the international centre for the settlement of investment disputes, thus preventing the US companies from resorting to the centre for arbitration. The companies cut back production - between 1974 and 1976 bauxite and alumina production declined by over 30 per cent and 75 per cent respectively - and started laying-off workers. In that period there was considerable industrial unrest in the Jamaican industry, culminating in the closure of an alumina plant.

3.39   The government's attempts to get a common pricing policy by the International Bauxite Association (IBA) members failed. In fact, Australia and Guinea, two IBA members, increased their bauxite output. Moreover, the market economies were facing recession and world bauxite supplies were outstripping demand. These factors enabled the companies to apply pressure on the government and it agreed to a remission of the levy.

3.40   It is paradoxical that in spite of falling demand in the US, that country's aluminium prices rose sharply from 1973 to 1975. An investigation by the Executive Office of the US President into the pricing policies of the aluminium industry revealed, among other things, that the profitability of the major US aluminium companies had improved since the imposition of the bauxite levy (see Table 5).

3.41   The Jamaican experience suggests the need for concerted action on the part of producers if they are to obtain a large share of rent in the mineral industries. For an example of such action, we turn to bananas.

(g) Case Study on Bananas

3.42   As we have argued and shall further demonstrate in the following chapter, under plausible elasticity assumptions it is feasible to consider effective concerted action on price by producers of several commodities including bananas. Using bananas as an example, an attempt is made here to relate the theoretical conditions given in Chapter II to the practical problems exporters face in imposing an export tax.

3.43   At a meeting in April 1974 between all major Latin American exporters, a preliminary decision was taken to establish the Union de Paises Exportadores de Banano (UPEB). Its three principal advocates - Panama, Costa Rica and Honduras - also decided to link the creation of UPEB with an export tax of US ¢2.5 per pound - $1.00 per box of 40 pounds effective April 15, 1974. Though the UPEB was formally established in September 1974, it took over one and half years to gain ratification by the governments of Colombia, Costa Rica, Guatemala, Honduras and Panama. Subsequently, Dominican Republic, Nicaragua and Venezuela acceded to the agreement.

3.44   The initial steps to create UPEB were taken in response to a particular set of historical circumstances. Before the Second World War, Costa Rica, Guatemala, Honduras and Panama were the principal producers of bananas exported to the developed countries. Since then in each of the four countries, bananas have represented as much as 70 per cent of their total export earnings. Though in recent years the traditional predominance of the sector has been eroded by diversification, it still remains the largest employer. Between 1971 and 1975, the four countries on average accounted for 38 per cent of world banana exports, and they are expected to maintain this share in 1983 in spite of export taxes.

3.45   The evolution of the banana industry in the four countries shows the dominance of three multinational companies which in 1973 accounted for almost three-fifths of the banana exports. All three companies are vertically integrated from production and purchase in the exporting country to sales at the free-on-rail stage in the importing country.

3.46   Price formation in the world banana market is considered to be a classic example of transfer pricing by multinational companies[42]. 'World' banana prices remained virtually static in nominal terms from

TABLE 5

Average Rates of Return on
Invested Capital of Major US Aluminium Companies

Selected Aluminium Companies	Returns		
	1965-74	1970-74	1973-77
	------------per cent ----------		
Alcoa	6.98	6.73	7.3
Kaiser	7.35	6.74	8.1
Reynolds	5.88	5.53	7.4
Alcan	7.78	8.25	9.1

Source: Aluminium Prices 1974-75, Staff Report - Executive Office
of the President, Council on Wage and Price Stability,
Washington, D.C., September 1978, p. 202.

1950 to 1974 while the terms of trade of the four banana exporting countries fell 60 per cent; the terms of trade problem became particularly acute following the oil price increase in 1974.

3.47   The export tax decided upon by Panama, Costa Rica and Honduras at the inception of UPEB would have generated US $130 million in government revenue and even if the tax had been fully passed on to consumers it would have increased the retail price by a mere US ¢2.5 per pound (0.8 per cent of the average retail unit value). By contrast, import duties in developed countries averaged 6.9 per cent.

3.48   This decision was strongly contested by the multinational companies and led to a series of actions including curtailment of export volumes, and alleged bribery of government officials. Consequently, in 1974 the tax rates were lowered from US $1.00 to 25 cents per box in Costa Rica, Honduras and Panama and to 35 cents in Guatemala. The 1982 banana export taxes in the main UPEB countries were Costa Rica US $1.00 per box, Guatemala, Honduras and Nicaragua 50 cents and Panama 60 cents. It is estimated that the UPEB members have earned over US $600 million from export taxes levied up to 1982. A recent study has concluded that the multinational companies have increased their selling prices considerably more than the export tax applied.

3.49   Several economic arguments were used against the imposition of the tax. Unlike oil, bananas were not considered an essential commodity in the developed countries and it was suggested that the price increase would result in a fall in consumption and hence in export earnings. This argument implied a price elasticity of demand for bananas greater than unity; but according to some estimates, it ranges between -0.5 and -0.8 (Annex Table 2) which satisfies the theoretical criteria on the demand side (Chapter III). Another argument was that the competitive position of non-members, particularly Ecuador (which accounts for a fifth of world exports), would be improved, causing a diversion of trade. This implies a price elasticity of supply of more than unity. However, it is estimated to be well below unity (Annex Table 2), satisfying the theoretical criteria on the supply side (Chapter III).

3.50   Though the UPEB countries reduced the export tax rate under pressure from the multinational companies, the economic arguments advanced against the tax proved to be inaccurate. After the imposition of the tax, retail prices increased considerably in the developed countries and in the US they rose on average by 50 per cent. Though the UPEB countries experienced a marginal (4 per cent) decrease in their exports (volume) in 1975, their exports in 1981 were one-fifth greater than the 1974 level. On the other hand, contrary to expectations, Ecuador's exports declined by 10 per cent and its production by one-third in the corresponding period, though according to some sources its production costs are estimated to be lower (see Table 9).

3.51   The paradox of Ecuador is due to several factors including lower producer prices, a greater incidence of sigatoka disease (whose effects were compounded by intermittent strikes by crop sprayers), and a highly over-valued currency (whose 'free rate' in 1982 was almost 80 per cent higher than the official rate).

3.52   Overall, it appears that the UPEB experience can be repre-
sented as an example of the successful implementation of a flexible
export tax regime by a group of countries acting in concert. It has
enabled the UPEB members' governments to earn considerable
revenues without a decline in export volume,their share of world
exports rising from 43 per cent in 1974 to 52 per cent in 1981. There
may be still more scope for such revenue raising activities, and the
estimates of this study indicate that the optimal export tax rate for
bananas ranges from 20 to 80 per cent (Table 12) above existing rates.
If the banana exporters levied a 20 per cent tax, it is estimated that
their annual export earnings would increase by 7 per cent and yield
US $255 million in tax revenue.

IV. ASSESSMENT OF COMMODITIES SUITABLE FOR EXPORT TAXES

4.1   To the extent that developing countries remain the major
suppliers, they have an incentive as well as an opportunity to exercise
market leverage and gain economic advantage through cartel action and,
in particular, through export taxation. The dependence of the devel-
oped market economy countries on the developing countries for supplies
of primary products, including minerals, is highlighted by the fact
that as a proportion of their apparent consumption, imports of primary
products from developing countries were 20 per cent as against 3 per
cent in the case of manufactures. Imports of fuel (coal, petroleum
and gas) from the developing countries in 1979/80 constituted on
average 51 per cent of apparent consumption in the developed coun-
tries (ranging from 77 per cent in Japan to 20 per cent in the US);
those of other minerals averaged 25 per cent (ranging from 37 per
cent in Japan to 14 per cent in the US).

(a) Production and Trade Concentration

4.2   Several methods can be used to measure the degree of
market power of sellers. The Lerner index, which is the difference
between price and marginal cost, purports to measure the deviations
from competitive marginal cost pricing[43]. Long-run net profit is
another indicator. Cross-price elasticity of demand, which reflects
a firm's capacity to exploit price advantage, is a third. The number
of sellers in an industry also seems a relevant indicator, since it is
inversely related to the degree of monopoly power. However, all
these indicators suffer from severe problems relating to data require-
ments. The most widely-used measure is the concentration ratio,
i.e. the share of an industry's total sales (or output/employment/value-
added/assets) accounted for by the largest firms. The existence of
cases in which sales or purchases are controlled nationally and the
increasing interest in forming international agreements by co-operation
among governments make the distribution of national shares in produc-
tion and trade quite pertinent to examing the market power.