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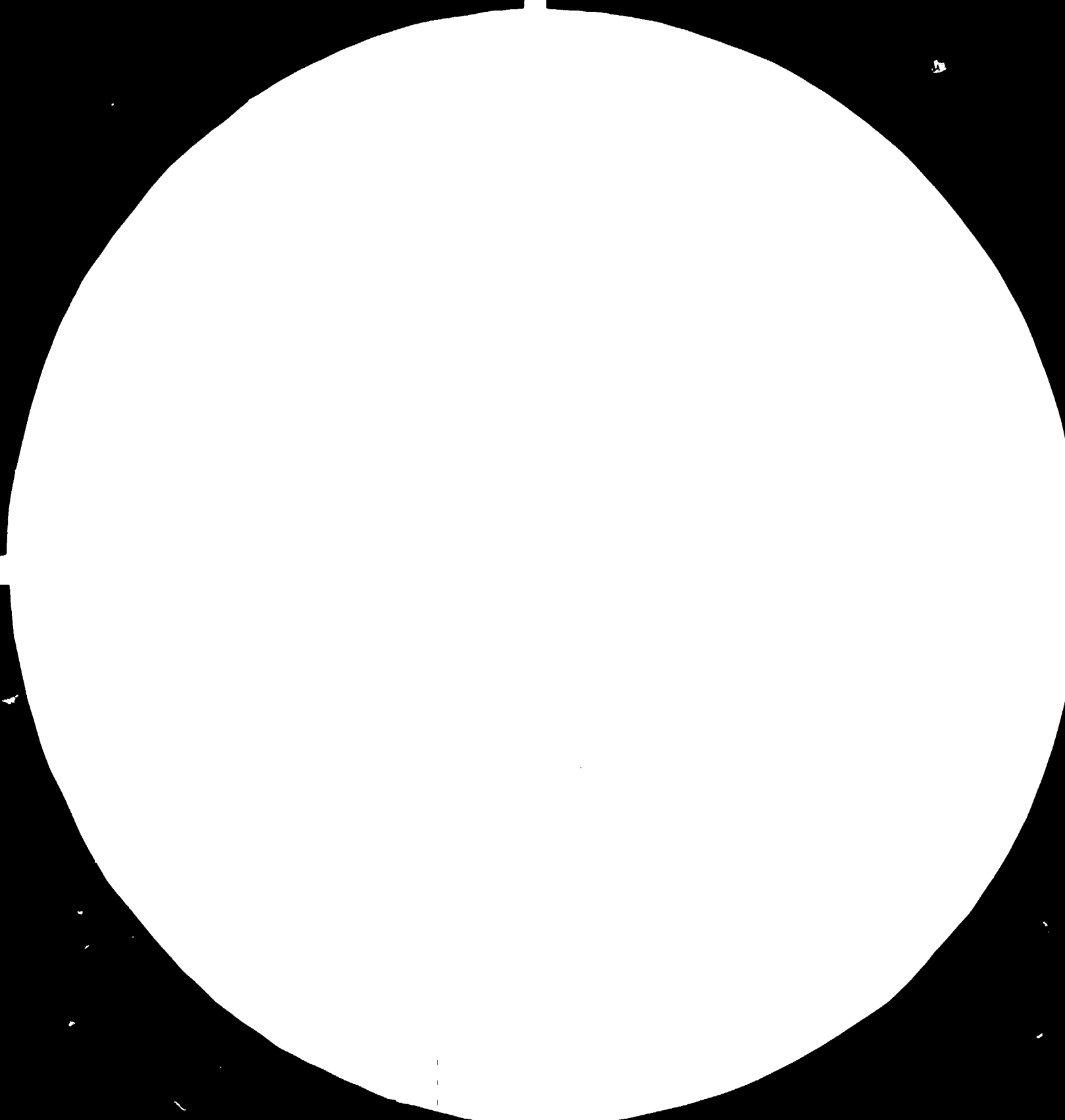

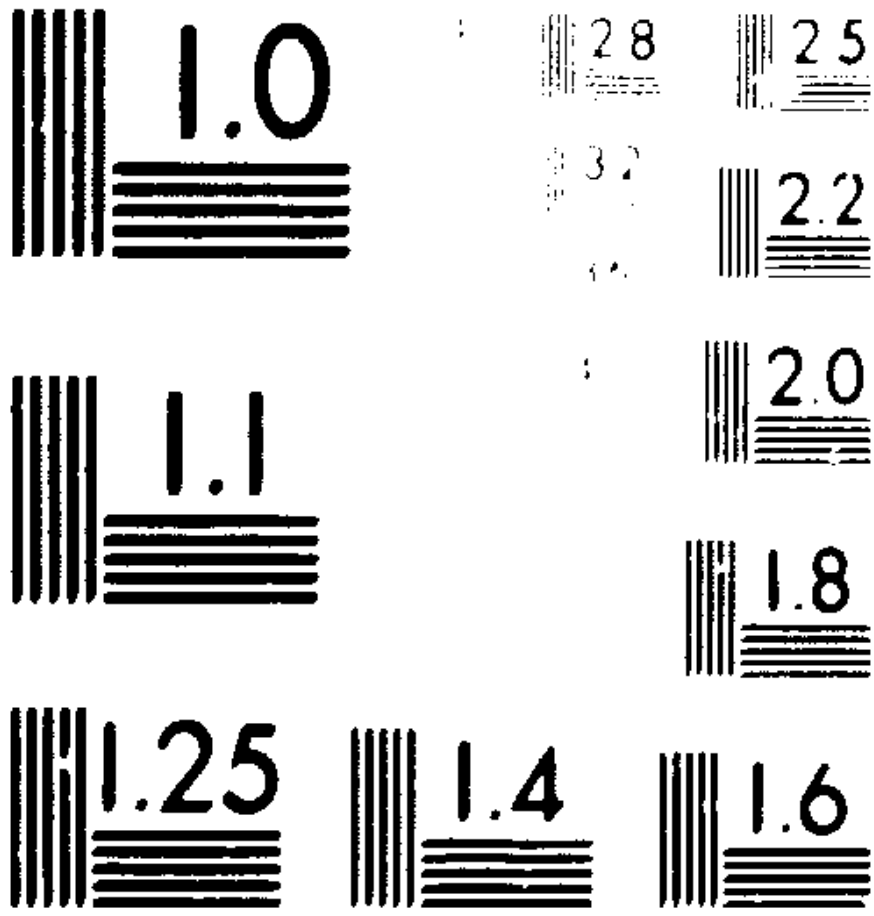

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AFRICAN EXPERIENCES WITH INDUSTRIAL POLICIES AND PERFORMANCE, 1960-80

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The general purpose of this paper is to elucidate, and comment upon, industrial policies in Africa and the resulting performance of the manufacturing sector, with special reference to structural change. While we are particularly interested in the record of the 1970s it is also necessary to consider the 1960s, because structural change is a necessarily gradual process and, in any case, the data coverage for the later 1970s is poor.

Some general cautions are in order. The most obvious relates to the quality of the data, which leaves a great deal to be desired. For a few countries virtually no meaningful data are available at all. For most others, the coverage is incomplete and the reliability is often dubious. In some cases, distortions are introduced by failures to correct adequately for changing prices; the tendency for many of the governments of the region to maintain artificially over-valued exchange rates is another source of difficulty. Of the various types of statistics, there is a particularly acute shortage of economy-wide employment statistics by sector; national accounting data are also highly suspect in a number of countries. While it would be possible to argue that an adequate data base does not exist to meet the purposes of this paper, the view taken here is that it is better to make the most of the data which do exist - but to treat them with caution - rather than wait for the time when a more satisfactory base exists. Moreover, we have tried to evade some of the larger problems by devoting particular attention to a sample of countries for which there is a reasonable body of information.

A second caution concerns the limited scope for generalisation in a continent as diverse as Africa. In what follows, the Republic of South Africa is excluded throughout but, even so, there remains enormous heterogeneity among the remainder. There are large differences in living standards, size and resource endowments, stage of development, physical and institutional infrastructure, religious and political orientation, and so on. The scope for statements of general applicability throughout the continent is hence extremely limited and we have sought to avoid over-generalisation in what follows.

Part I of the paper, which follows, examines general economic and industrial trends, and comments on the structure of industry in Africa. Part II provides a more detailed examination of the experiences of a small sample of countries, namely Egypt, Ivory Coast, Kenya, Nigeria and Tanzania. Part III provides a summary and some general conclusions.

I - GENERAL TRENDS

The economic environment

By most socio-economic indicators a large majority of African states are still at a considerably earlier phase of development than most Asian or Latin American countries. Whether measured in terms of per capita income; the share of primary activities in total production; education; mortality and health indicators; or energy consumption; this observation holds good. A majority of the countries classified as 'least developed' by the UN is African, and 20 out of 33 countries classified by the World Bank as 'low-income' developing countries are located in Africa.[2] This implies relatively little industrialisation, since manufacturing is characteristically among the most dynamically expanding sectors in the transition from low income levels.

Not only is the typical African economy at an early phase in the development process, it is also at present confronting particularly grave economic problems (ODI, 1982). Some indicators of these are provided for sub-Saharan Africa, in Table 1, from which we can see:

(a) That all the growth rates shown for Africa in the table recorded a slowing-down in the 1970s, by comparison with the 1960s. (However, by comparing the figures for the growth of total and per capita GDP, it can be inferred that population growth actually accelerated; at 2.7% p.a. it was a little above the 2.6% of the 1960s and also above the 2.4% for all developing regions.)[3]

(b) That the record in the 1970s was generally much worse than for the rest of the Third World.

(c) That the performance of agriculture was particularly dismal, both by comparison with the earlier decade and with other developing regions.

Indeed, the indications are that there was a sharp fall in average per capita food production (USDA, 1981), and that the volume of agricultural exports also declined.

(d) That the growth of manufacturing, while remaining well above that of the economy as a whole, also slowed down sharply and was by the latter period well below the rates of expansion being achieved by the other developing regions (although UNIDO data, discussed shortly, suggest a somewhat different situation).

Moreover, the prospects for the 1980s have been projected by the World Bank (1982a, Table 4.4) as even bleaker. The following are the Bank's projections of growth rates for GNP per capita in 1980-90 on alternative 'high' and 'low' assumptions (% p.a.):

	high	low
All developing countries	3.3	2.2
Africa: low-income	0.1	-1.0
middle-income	0.3	0.0

At the heart of much of this difficulty was the balance of payments and, especially, the deteriorating terms of trade (for the oil-importing majority of African countries). Leaving the oil-exporting countries to one side, in 1980 the balance of payments deficit on current account was equal to 9.2% of GDP - twice the average for all developing regions. The external debt of the region increased five-fold during the decade; external reserves fell to very low levels. Even some of the countries which had formerly done well, such as the Ivory Coast and Kenya, were experiencing difficulties, to which even oil-rich Nigeria was not immune.

Being the sector of production with generally the strongest linkages to the rest of the economy, manufacturing could scarcely fail to be affected by the poor and deteriorating economic environment just described. In particular, the poor performance of agriculture and the acute balance of payments difficulties were liable to react adversely on manufacturing. Industry needs a thriving agriculture (a) as a supplier of raw materials; (b) as an earner of the foreign exchange needed to pay for the import needs of industry; and (c) as the principal market for its output. Without doubt, the further expansion of manufacturing output in Africa is today

Table 1 Selected Economic Indicators, by Region

(annual % change)

	Growth of GNP		Growth of GNP per capita		Growth of agricultural production		Growth of manufacturing production	
	1960-70	1970-81	1960-70	1970-81	1960-70	1970-81	1960-70	1970-81
Sub-Saharan Africa	4.7	3.6	2.1	0.9	2.3	1.4	8.3	4.9
East Asia & Pacific	7.3	6.7	2.1	3.1	4.6	3.6	10.3	9.4
South Asia	4.3	3.8	1.9	1.5	2.5	2.6	6.5	4.9
Latin America & Caribbean	5.5	5.0	2.6	2.6	3.2	3.4	6.5	5.8[a]
All developing countries	5.8	5.5	3.5	3.1	3.0	2.7	8.1	7.3[a]

Source: World Bank, 1982b and author's estimates

Note: (a) 1970-80. South Africa is included in the Sub-Saharan group.

retarded by sluggish domestic markets, inadequate raw material supplies for key agro-based industries, and shortages of imported materials, spares and machinery. Moreover, the generally stagnant nature of the domestic economies can scarcely fail to have a depressing effect on industrial investment and, therefore, future expansion.

The fact that the typical African economy is still in an early phase of development introduces certain 'structural' features which also condition the environment within which industry must operate. On the positive side, the fact that these economies start from a small industrial base implies that there may be much scope for industrialisation, as also does the existence within some countries, though by no means all, of a rich endowment of natural resources. More negatively, tha fact that most African countries have small, poor populations implies that the existing domestic market for manufactured consumer goods is small - far too small to permit maximum scale economies in many branches of industry.[4] Even in a larger, more prosperous economy, like Nigeria, high transport and other distribution costs effectively reduce the size of the available market. Other features which should be mentioned include shortages of power, of a skilled and experienced industrial labour force, of savings and entrepreneurs, and poor communications.

The record with industrialisation

Given this environment and that virtually all the governments of the region desire industrialisation, how much progress has been made with this objective? Table 2 presents a few key indicators. It can be seen from this that if we take industrialisation to be denoted by a rising share of manufacturing in GDP then a certain amount of apparent progress has been made, although the share was still just under 10% of GDP in 1978. On the other hand, the progress recorded has been rather gradual. Virtually all African economies are still dominated by agriculture and other primary production, plus associated tertiary activities. Moreover, the rising share of industry is at least partly the consequence of lagging agriculture, reported earlier, rather than of rapid industrial growth per se. A final qualification is that the government's tendency to use their powers of taxation and subsidisation artificially to shift relative prices in favour of manufacturing imparts an upward bias in the estimates for the latter.[5] Indeed, if the relative contributions of the respective sectors were valued at world prices rather

than internal prices, it is not self-evident that any industrialisation would be recorded at all. Even if we accept the conventional valuations, the modest extent of industrialisation is put in perspective by figures in Table 4, below, which show Africa's share in world output of manufactures to be less than 1% of the total.

Table 2 Comparative Indicators of Africa's Industrial Performance

	Africa	Other developing regions
1. Share of manufacturing in GDP (%)		
1960	7.2	
1970	8.5	
1978	9.9	
2. Rates of growth of manufacturing in constant (1975) prices (% p.a.)		
1960-65	8.3	7.4
1965-70	7.3	7.6
1970-75	5.2	7.7
1975-78	8.2	6.1

Source: UNIDO

The growth rates in Table 2 are also affected by the price distortions just mentioned. On the other hand, there is no question that a good deal of industrial growth has occurred and the figures for 1975-78 suggest that this has been well sustained.[6] It seems likely though, that the results were poorer for the years immediately after 1978, because of the adverse effects of the second oil shock and the OECD recession.

Data are also available to permit us to examine the inflation record of the major sectors of the economy and are presented in Table 3. It appears from this that it is agriculture which is particularly prone to above-average inflation rates, presumably reflecting the shortfalls in food production already mentioned. While the general level of manufacturing prices may be distorted in an upward direction, there is no evidence in the table that the trend for the sector is particularly inflation-prone.

Table 3 Price Indices for Value-Added by Major Sector - Africa, 1960-78
(implicit national accounting deflators; 1970 = 100)

	Agriculture	Manufacturing	Services
1960	72	88	82
1970	100	100	100
1974	167	151	162
1978	259	226	227

Source: UNIDO

If we return to the statistic in Table 2 which shows manufacturing to comprise an average of about 10% of GDP in Africa, it is essential to stress that the geographical spread of industry across the continent is extremely uneven (just as it usually is within each country). Four countries alone accounted for 60% of African manufacturing value-added in 1979 - Algeria, Egypt, Morocco and Nigeria.[7] Sixteen out of 35 African countries had value-added of less than $100mn each and together they accounted for just 5% of the continent's total manufacturing value-added. Another 15 countries contributed the remaining 35%. Summary figures of the kind just presented do not, of course, take account of differences in economy size. Perhaps a better way of illustrating the varying degrees of industrialisation is to group countries according to the share of manufacturing in GDP. This is done in the statistical appendix, in Appendix Table A1, which shows 10 African countries in which manufacturing comprises less than 5% of GDP and, at the other extreme, 7 countries in which the share is above 15%. But by either type of indicator, there is a great deal of geographical diversity and this adds point to the earlier warning against over-generalisation across countries.

Sources of industrial growth

Conceptually, we can decompose the sources of industrial growth into three elements: (1) production for export; (2) production in response to growing real demand within the domestic economy; and (3) production to satisfy existing demand formerly satisfied by imported goods (import-substituting industrialisation, or ISI). If we follow this, what has been the pattern for Africa?

Unfortunately, data on manufacturing exports are weak, which is particularly unfortunate because they could provide valuable indicators of relative efficiency and comparative advantage. However, one set of indicators is provided in Table 4, which shows Africa's share in world production and exports of manufactures. Africa's share in both aggregates is minuscule but that is especially the case with exports with a share of just 0.36% in 1980./ What is particularly interesting about this table is that

Table 4 Africa's Share in World Production and Exports of Manufactures, Selected Years (% of world totals)

	Output (1)	Exports[a] (2)	(2) as fraction of (1) (3)
1960	0.73	...	...
1965	0.76	...	...
1970	0.80	0.48	0.60
1972	0.80	0.41	0.51
1974	0.81	0.39	0.48
1976	0.85	0.28	0.33
1978	0.90	0.29	0.32
1980	...	0.36	...

Source: UNIDO

Note: (a) SITC 5-8 less 68.

Africa's relative performance in industrial exports has been a good deal worse than in total production, despite the open nature of the economies of the region, the good natural resource base in some countries and the very small size of the domestic market. Moreover, it can be gauged from column (3) of the table that there is a secular tendency for the relative export performance to worsen. As a consequence of this poor export record, countries have been unable to alter the composition of their exports in favour of processed goods. In fact, the following UNIDO figures of the share of processed goods in total African exports indicates precisely the opposite trend:

1965	26.7%
1970	25.6%
1978	21.6%

Far and away the most important manufactured exports of the region are petroleum products (presumably mainly intra-regional trade plus sales to air and shipping lines) and smelted copper. Between them, these two made up 43% of total African manufactured exports in 1978. All types of resource-based exports made up 78%. Cocoa products and tea were among the other more important resource-based products. Among exports classified by UNIDO as non-resource-based, clothing and textile produces were overwhelmingly the more important.

It is impossible to say with any precision what proportion of total African manufactured output is sold as exports but the indications are that it is probably in the range of 10-20%, possibly even less than 10%. This implies that by far the bulk of the region's industrial growth must have been the consequence either of expanding real demand or of ISI.

It is easy to infer from the statistics in Table 1 showing only slowly growing (in some cases declining) per capita incomes that the bulk of the remaining industrial expansion must have emanated from ISI and this is consistent with the observations of writers on the economies of Africa. The general belief is that industrialisation in Africa has principally consisted of the setting up of industries producing the simpler types of manufactured consumer goods to meet a local demand formerly satisfied by imported goods. What has frequently been observed, therefore, is a declining share of finished consumer goods in total imports, with increases in the shares of intermediate and capital goods. Since they are often rather capital-intensive and heavily dependent on imported raw materials, the new industries not only contribute to the relative decline in imported consumer goods but they also contribute to the increase in the shares of the other two categories. However, the figures of imports by end-use in Table 5 are rather puzzling because they do not support the general expectation just described. Little significant change can be observed in the share of consumption goods - which are recorded as only a fifth of imports as early as 1965 - and the main shift is away from intermediate goods towards capital goods.

Table 5 End-use Composition of Imports - Africa, 1965, 1970 and 1978

(% of total)

	1965	1970	1978
Capital goods	16.5	17.9	23.9
Intermediate goods	59.9	58.2	53.5
Consumption goods	19.7	20.4	18.9
Gasoline and passenger cars	2.4	2.4	2.3
Other goods	1.4	0.7	1.3
TOTAL	100.0	100.0	100.0

Source: UNIDO

It is not at all clear why Table 5 does not yield the expected result, particularly in view of evidence presented in Part II. What can be said is that it would be most appropriate to set the output of domestic industry against an end-use classification of manufactured imports. Unfortunately, our data do not permit that; if it were possible, we would expect it to show a process of import-substitution, which we believe has been the chief source of industrialisation in Africa.

The structure of industry

If this is the case it carries implications for the product-structure of industry, for we would then expect manufacturing to be dominated by enterprises making relatively simple consumer goods that had previously been imported. This expectation is largely borne out by the available evidence on the product composition of manufacturing in Africa. In the majority of countries the 'foods, beverages and tobacco' group is dominant, followed by textiles and clothing. If we study the matter at the ISIC three-digit level and calculate unweighted means of the shares of the key sectors in total manufacturing we find for 45 African countries in 1975 (latest available) that food products (ISIC 311) alone comprised 37% of total manufacturing value-added. Textiles (321) was second with 11% and beverages (313) third with 6%. Between them, therefore, these three made up an average of over half of total manufacturing value-added, with the remainder

Table 6 Trends in the Industrial Structures of Four Major African economies,[a] 1960-75

(values in millions of US $ in constant - 1975 - prices)

ISIC	Description		1960	1970	1975	Growth rates (% p.a.) 1960-75	Growth rates (% p.a.) 1970-75
31	Food, beverages & tobacco	value	769	1219	1692	5.4	6.8
		%	34.5	27.3	26.3		
32	Textiles, clothing, etc.	value	551	1130	1460	6.7	5.3
		%	24.8	25.3	22.7		
33	Wood & wood products	value	112	164	202	4.0	4.3
		%	5.0	3.7	3.1		
34	Paper, printing, etc.	value	131	272	313	6.0	2.8
		%	5.9	6.1	4.9		
35	Chemicals, petroleum etc.	value	249	720	1205	11.1	10.8
		%	11.2	16.1	18.7		
36	Other non-metallic mineral products	value	101	228	343	8.5	8.5
		%	4.5	5.1	5.3		
37	Basic metal industries	value	100	185	220	5.4	3.5
		%	4.5	4.1	3.4		
38	Metal products, machinery & equipment	value	209	527	975	10.8	13.1
		%	9.4	11.8	15.2		
39	Other	value	4	17	21	11.7	4.3
		%	0.2	0.4	0.3		
	TOTAL	value	2226	4462	6431	7.3	7.6
		%	100.0	100.0	100.0		

Source: UNIDO

Note: (a) Algeria, Egypt, Morocco and Nigeria.

spread over a wide variety of other industries. Petroleum refineries are important in a number of African states; so too are wood products, printing and publishing, and certain metal products.

It would, however, be desirable to go beyond this cross-sectional picture to study trends in the composition of manufacturing over time. In order to simplify the task of aggregation and to overcome variations in coverage in different years, Table 6 presents the results of an aggregation of the industrial structures of Algeria, Egypt, Morocco and Nigeria. As was noted earlier, these accounted for 60% of all African manufacturing in 1979 and hence represent a very important sample. On the other hand, precisely because they are the more industrially developed, their structures are more complex and diversified than in the smaller, less developed economies. Considered as a sample, they are in a sense 'ahead of their time' in the African context, so that they past patterns may foreshadow a chronology of change that still lies in the future for many countries.

In very broad terms, the pattern of change displayed in Table 6 is one that might be expected in the transition from early-stage industrialisation: a relative shift from the simpler consumer goods towards the development of heavier industry and more sophisticated products. Perhaps the most significant features of the results shown are the relative decline of the food, drinks and tobacco group, and the relative rise of groups 35 and 38. As regards the former, the creation or expansion of petroleum refineries was a major factor, although the growth of 'other chemical products' (352) was even more important. With regard to the 38 group, the growth was spread over a number of three-digit industry branches, with no particularly outstanding developments within them. From the right-hand column of Table 6, it appears that it is this group which was the most rapidly expanding in the later years covered by the table.

More casual examination of the data on other countries suggests only gradually changing structures. UNIDO calculations of 'coefficients of similarity', which provide a measure of the industrial structures of developing countries relative to the average structure of developed market economies, similarly indicate little radical change in the limited number of countries for which reliable data are available. What the coefficients do show is that the more industrially advanced African economies have structures

which are closer to the structures of the industrial countries than is the case of the countries with still small industrial sectors. In these latter cases the 'industrial structure' does not add up to much more than some small factories, probably concentrated in the capital city and one or two other towns, making processed foods, drinks, cigarettes, cotton material and simple clothing.

What deserves to be stressed is that we have, of necessity, been discussing only 'recorded' manufacturing. It has long been acknowledged that the coverage of official industrial statistics is particularly suspect with respect to small establishments but in recent years observers have extended this and have developed the concept of '<u>informal</u>' manufacturing. While a variety of definitions has been employed, these are characteristically enterprises which do not operate in permanent buildings, probably do not have access to electrical power, use only the simplest equipment (mainly hand tools), are very small, may possess a dubious legal status and, in practice, are often discriminated against by government policies. Unfortunately, it is impossible to give even an order-of-magnitude estimate of the relative importance of informal manufacturing (although some information is provided later on Kenya) but there is general agreement that it is likely to be quite large, both as a producer of simple processed consumer goods and as an employer of labour.

Two further aspects of structure deserve mention even though it is not possible to offer continent-wide information on either. The first is the structure of <u>ownership</u>. There is a wide variety of ownership patterns. At the one extreme there is a 'neo-colonial' dominance of industry by foreign-owned private enterprises; at the other (eg. as in Tanzania) there are industrial sectors dominated by state enterprises.[8] There are also, of course, many indigenously-owned private concerns. Mixed enterprises owned jointly by the state and foreign investors are also important, probably increasingly so. Informal industry is, of course, almost entirely owned by indigenous private entrepreneurs, although that has not secured them favourable treatment!

Finally, there is <u>market</u> structure, ie. the classification of industry according to the degree of competition which exists within each branch. Here

again, we will later be reporting on this with regard to Kenya. Suffice it to suggest here a general presumption that there will be a considerable amount of monopoly power in a characteristic industry. The domestic market is not large enough to support more than one or a few establishments producing any particular product and government protectionist measures will often safeguard against competition from the rest of the world (Killick, 1981, ch. 10). If this presumption is correct, it clearly has strong implications for the probable efficiency of the monopoly industries, for their profits and for the final prices paid by consumers. It adds further to the suspicion aroused earlier because of poor export performance - that much of the continent's industry is likely to be inefficient.

II - COUNTRY EXPERIENCES

What follows draws upon materials from five countries: Egypt, the Ivory Coast, Kenya, Nigeria and Tanzania. These were selected on the simple criterion that for these countries, unlike most others, there was a reasonable amount of fairly reliable and up-to-date information. There is thus no sense in which they are a random sample. Nevertheless, they do have some claim to be representative. They span north, west and east (but not southern) Africa. In terms of economic systems they cover mainly market economy (Ivory Coast, Kenya) and more dirigiste countries (Tanzania, Egypt). They cover a wide range of per capita income levels, from Ta $280 to the Ivory Coast's $1150.[9] They include both large (Egypt, Nigeria) and small (Kenya, Tanzania) countries; and the share of manufacturing in GDP among them ranges from 6% (Nigeria) to 28% (Egypt). Between them they accounted in 1979 for 45% of total manufacturing value-added in Africa, so they are important in relation to the whole region. Considered as a sample, their main deficiency is that they do not include any of the poorest, smallest countries at a very early phase of industrialisation. And while these were the countries with the best information base, that information is nonetheless very patchy and unsystematic, so that in what follows the experiences of these countries is drawn upon in an illustrative and selective manner.

Objectives of policy

In the matter of defining government objectives there are two familiar and related problems. First, governments rarely specify their objectives with precision - in speeches, development plans, white papers and the like they are usually expressed in general terms and the specification is likely to vary according to the author, the audience and the time. Second, multiple objectives are mentioned which are not necessarily consistent with one another but it is very rare for clear and consistent priorities to be attached to each of them, to act as a guide for action in the event of a trade-off situation between the various goals. It has thus proved of limited value to study the policy statements of governments in order to elucidate priorities, and this section attempts instead to set out more or less systematically a reasonable interpretation of what the objectives were.

It would be naive to subsume all government objectives under the general heading of 'economic development', just as it would be excessively cynical to deny an important place for the development objective altogether. While there have certainly been other, and shorter-term, objectives, the desire for development has been present and strong and this overall goal gives us a first approach to the matter of industrial policy. The main strategy of most African countries since Independence for achieving the aim of economic development - defined as a sustained increase in the standard of living for an increasing proportion of the population - may be very broadly described as economic modernisation. This, in most cases, has meant the desire to change the composition of output away from primary production towards secondary activities, ie. to industrialise. To this broad and long-term strategy of industrialisation, one must add the shorter-term ones of an accelerated growth of output and the creation of employment opportunities (for the reduction of underemployment/unemployment and to contribute to the elimination of mass poverty). The industrialisation objective may be justified as a means towards economic development at the levels of both economic theory and empirical research. At the latter level, there is a multitude of cross-section and historical studies showing manufacturing to play a crucial role in development, generally acting as the leading sector of the economy.[10] There are good a priori reasons why this should be so. Relative to primary production and traditional types of

services, manufactured products have larger income elasticities of demand. They are also particularly able to take advantage of increasing returns to scale, so that the efficiency of resource-use goes up as industry expands. Manufacturing is further marked by especially strong backward and forward linkages with other branches of the economy. And it is in manufacturing that a great many modern technological improvements have been applied or developed.

On this view, industrialisation tends also to stimulate the expansion of other sectors of the economy, like agriculture, by creating a larger market for their products, by supplying necessary equipment and machinery, by stimulating technical progress. On the other hand, it is recognised that the relative allocation of resources to industry and to the other sectors must be kept in some reasonable balance, for a neglect of the non-industrial sectors will itself frustrate the expansion of manufacturing. There is a widespread feeling that such an imbalance has occurred in Africa and is one of the reasons for the poor agricultural performance described earlier.[11]

In addition, industrialisation has been advocated as a source of employment creation and as a means of escaping from the foreign exchange constraint upon development. The creation of employment has long been a key goal in African economies characteristically marked by high levels of un- and under-employment. The view that the desire for employment creation provided a reason for placing priority on the expansion of the (relatively capital-intensive) manufacturing sector may now seem misplaced and naive, particularly because of abundant evidence of disappointing results in this respect (Morawetz, 1974) but these matters were less well understood in the years when the industrialisation strategies were being formulated.

The balance of payments aspect was based on the view that the economies of Africa were likely to encounter a chronic foreign exchange constraint as they sought to develop their economies. This was chiefly because the income elasticity of demand for traditional primary product exports was expected to be well below the income elasticity of demand for imports, thus tying Africa's growth to that of the First World countries. Industrialisation was seen as a way of breaking this tie, by reducing the continent's dependence on imported manufactures and also (although much less emphasis was placed on this strand of the argument) as a source of nontraditional exports having a larger income elasticity of demand.

To talk of 'industrialisation' does not take us very far in describing government objectives. What can be said of the chosen strategy of industrialisation? There is only limited scope for generalisation here. The element common to most cases was an emphasis on import-substitution. And since most possibilities of ISI in the very small economies of Africa were for the manufacture of consumer goods, the decision in favour of ISI carried implications for the product-structure of manufacturing, as was seen earlier. Even with respect to ISI some qualifications are necessary. In a few cases (Kenya and what is now Zimbabwe) it was the intention also to produce for the market in neighbouring countries that were linked in a regional preferential trading arrangement, such as the former East African Community and Central African Federation. There were also specific industries aimed at the broader world market, of which Zambia's copper-based industries are an obvious example. But there was pessimism (probably often well founded) about the export prospects of Africa's newly-founded industries and the main attention was upon the domestic market. Much more recently the grave payments difficulties of the continent have given new impetus to the promotion of industrial exports, but this is too recent to have had much effect yet on industrial structures.

Concerning other aspects of industrial strategy, there was much less agreement. This was true, for example, concerning the respective roles of the state and private enterprise, and the extent of government regulation. It was true with respect to attitudes towards, and incentives for, investments by transnational corporations. There were differences, too, in attitudes towards the spacial distribution of industry: political forces have made this a highly sensitive issue in Nigeria; in Kenya there has been at least some attempt at dispersion;[12] in Egypt it does not appear to have been a major policy issue at all.

This discussion of industrialisation strategies can be given more concrete form by considering the approaches of some of the countries in our sample. Beginning with Nigeria, the first post-independence government, whilst not using ISI as part of a planned strategy of industrialisation, adopted ISI as a policy 'to curb growth of imports and provide greater incentives for the expansion of Nigerian industry' ("The Six Budget Speeches 1958-1963', quoted by Ogbonna, 1976). That is, a policy of ISI followed

from the desire to diversify the economy, reduce dependence on imported capital and relieve the foreign exchange constraint. According to the Second National Development Plan (p.294) 'Nigeria should be in a position to generate from a diversified economy sufficient income and savings of its own to finance ... growth with no more dependence on external sources of capital and manpower'.

Kenya's approach has also been based largely on import-substitution. Indeed, one writer has gone further to describe it as based on the 'replication locally of goods previously imported. To achieve the exact replication the policy requires the use of the same technology, which has to be imported and with it, very often, the technical skills and managerial resources that go with the technology' (Stewart, 1976, p.78). However, this description as a policy of 'import reproduction' is probably over-drawn, since we have no grounds upon which to think tha IS took any different form in Kenya than in most of the other countries under study. Moreover, it must be remembered that until the demise of the East African Community in 1977 a substantial proportion of the country's manufacturing output was sold to its Community partners, Tanzania and Uganda, and also to Zambia. More recently, emphasis has been given in government pronouncements on the importance of improved manufacturing export performance, and an export subsidy scheme is in operation.

Tanzania represents a rather different case, for according to the World Bank (1981a, p.17) import substitution 'played no role whatever in overall expansion of Tanzanian manufacturing'. According to Green (1982, pp.82-84), industrialisation strategy can be divided into four phases: pre-independence; 1961-67 (pre-Arusha); 1967-73 (toward public sector dominance); and post-1973.

The colonial period strategy was laissez-faire, with manufacturing activity negligible. After independence, the state pursued a strategy of 'industrialisation by invitation', centred on broad market final consumer goods plus three broad market intermediate plants - corrugated roofing, cement, petroleum refining. The policies employed included tax incentives, protection, joint ventures with foreign firms and - in a handful of cases - 100% public ownership. The 1967 Arusha Declaration marked a sharp

switch, announcing a strategy of making the public sector dominant through nationalisation. The goods that were to be produced remained rather vague, but the actual shift to intermediate goods combined with the further expansion of non-luxury mass market consumption goods - eg. textiles - was systematic enough to be described as an operational strategy. Finally, the post-1973 phase has been marked by attempts to build, articulate and apply a coherent medium-term strategy, termed the basic industry strategy. According to the World Bank (1981b, p.16) the basic industrial strategy 'gave priority to industries supplying minimum mass consumption needs and producing intermediate goods entering into a wide range of industrial products. Preference was to be given to industries using local inputs and geared to the requirements of the domestic market, although the role of agricultural processing for export was also recognised. The choice of techniques and location of industries was to take into account the effects on employment generation and regional equality'.

Significant industrialisation in modern Egypt began with the introduction of tariff protection in 1930. Since then industrialisation has followed a typical ISI course and radical changes in the country's policy orientation, first towards planning and then back towards liberalisation, have not deflected industrialisation from that course (World Bank, 1978, p.87). According to the detailed study by Girgis (1977, p.204), ISI contributed positively to industrial output and employment but negatively to resource allocation and the growth of manufactured exports. Further ISI overshadowed the relative contributions of domestic and foreign demand to almost all sectors' growth of output, to the extent that 'it alone accounted for more than 70 per cent of the output growth in metals, petroleum refining, fertilisers, chemicals, oils and fats, miscellaneous food products and paper products'. However, we shall see later that exports have become substantial.

Finally, ISI has been a major strand of policy in the Ivory Coast but, parallel with this, importance has also been placed on the processing of agricultural raw materials for export - with considerable success, as will be shown later.

Returning now to the more general discussion of policy objectives, the discussion so far has been presented in the context of the pursuit of

economic development. In addition, an important strand in most African countries has been the pursuit of what the rhetoric calls 'economic independence', or self-reliance, or Africanisation. We may follow the UN Economic Commission for Africa (1978) in identifying four separate aspects of this general objective of indigenisation: (1) of employment, through the development of indigenous labour and management skills and the replacement of foreign nationals in the labour force; (2) of ownership, eg. through nationalisation, the creation of new state-owned industries and the encouragement of indigenous private entrepreneurs; (3) of control, for example by government regulation and planning, and by means of mixed enterprises; and (4) of technology, through the development of industries and techniques based on local needs, factor proportions and natural resources. With the exception of (4), which is mainly honoured by lip service, all the above have been actively pursued in an important number of African countries.

Finally, we should pass from describing objectives to say something about the policy instruments employed to achieve the desired rate and pattern of industrialisation. Once again, there is little scope for generalisation, except to say that a wide variety of instruments has been employed. Important among these has been the use of the state's powers of taxation. These have been used to provide tariff protection against competing imports; to provide incentives (via tax holidays, write-off concessions, etc.); and to favour the geographical dispersion of industry. State expenditures have been no less important - in providing the supporting infrastructure needed by industry; to make special provision for the support of small businesses, for example by the building of industrial estates; for the nationalisation or part-acquisition of certain industries and the creation of new state enterprises; for the subsidisation of exports, the public sector and certain other activities; and for the provision of education and training for the industrial labour force. Government powers of regulation have been important too - in imposing restrictive import quotas as a means of industrial protection; in imposing price controls; in introducing nationality quotas in the ownership of industry; in regulating the employment of foreign nationals; in the overall regulation of industry and in questions of industrial location.

As is evident from this account, a large number of policy influences play upon industry and this - plus the impact of non-policy variables - makes it extremely difficult to trace the precise effects of any one of them. In practice, there is little alternative but to take policy as a whole and to examine the overall results of this, which is the general approach of this paper.

Some consequences of the ISI strategy

Observers have often noted that policies in support of ISI tend to have certain unintended and undesirable consequences for the process of industrialisation. In this section we will examine an interrelated group of these, as they relate to our sample of countries, namely their effects on technology choice, on market structure, on incentives and on industrial export performance.

We have already observed in Part I that the industrial structures of most African economies are largely concentrated on a few consumer good industries and that only very limited progress has been made in the development of branches producing intermediate and capital goods. This carries the danger, that has also been observed in other developing regions, that ISI will get 'stuck' once the easy replacement of a limited range of consumer good imports has been achieved by local manufactures, and that the economies in question will remain more or less permanently dependent on imported intermediate and capital goods. When this happens, the technology used in the newly-established industries would be more appropriate for use in developed countries where it was 'produced' and would not reflect the labour abundance-capital scarcity characterising African and other developing countries.

Even so, there remains the important issue of whether or not the imported technology allows sufficient possibilities for substitution between labour and capital to enable countries to choose the more labour-intensive methods appropriate to their specific needs. If quite extensive substitution is possible then something like the appropriate technique would be used, provided market factor prices reflect the true state of demand and supply for labour and capital.

Studies attempting to estimate the degree of substitution allowed by imported technology in some African countries suggest that such substitution may be affected to a degree greater than might have been expected. For example, Maitha and Manundu (1981) found in Kenya that the elasticity of substitution in manufacturing as a whole, whatever the specifications of the model used to estimate this elasticity, did not differ significantly from unity. This meant that a given proportionate change in the wage-rental ratio would lead to a roughly equal proportionate change in the employment of labour relative to capital, and suggested that government policies towards wages and the returns to capital have an important bearing on the creation of new employment opportunities. In Nigeria, Odejide (1981, p.264) indicates that there also exists scope for factor substitution, arguing that there is the possibility of employing more labour-intensive methods if there is a change in relative factor prices, or where there is capital-saving technical progress.

Does this mean that the appropriate techniques are actually used? Here the evidence is mixed. On Kenya, for example, Kaplinsky (1978, ch. 5) has pointed to the preponderant influence of multinational subsidiaries in the industrial structure and has researched the extent to which these seek to adapt technologies to local conditions. His researches found little sign that multinational subsidiaries generate new technology themselves and that they largely employ the technologies of their parents. He also found that the acquisition of new technology from outside sources is controlled by the parent company, reinforcing the technological dependency of the subsidiaries. Pack (1976), also writing about Kenya, reached rather different conclusions. He not only found that there was scope for a considerable amount of labour-capital substitution in Kenyan manufacturing but that considerable advantage was taken of these possibilities. He suggested that there was no evidence to suggest that capital-intensity in Kenya manufacturing was excessive and found that it was only a fraction of that in US manufacturing in 1939.

An important problem regarding the choice of technique arises from the fact that in many countries governments deliberately manipulate factor prices in order to achieve social aims. In Egypt, Girgis (1977, p.198)

reports that the government controlled factor prices and that wages were set higher and the price of capital was set lower than their opportunity costs. He suggests that these price distortions increase capital intensity in the manufacturing sector. He estimated that the unweighted average physical capital intensity (non-wage value-added per employee) approximately doubled in Egypt from 1954 to 1969-1970.

Turning next to the question of market structure, there are two chief ways in which ISI is liable to affect this. First, tariff and non-tariff forms of protection regarded as necessary to encourage the creation of the industries will limit - often severely so - the amount of competition from the outside world. Second, it will tend to lead to the creation of industries designed for the far larger markets of industrial countries and subject to large economies of scale. Both influences have been at work in the countries under study. Thus, Odejide (1981, p.262) refers to the identification of increasing returns to scale in most Nigerian industries. In the Nigerian (and Egyptian) case, however, the internal market may be sufficiently large to permit the efficient operation in any given branch of industry of a number of efficient establishments. In the smaller economies a much more likely result is the emergence of a small number of monopolistic or oligopolistic producers and little competition.

In a study of market structures in Kenya's industrial sector, House (1981a) not only confirmed the prevalence of monopoly and oligopoly but also found that a declining proportion of firms were located in 'competitive' industries. His chief results are summarised in Table 7, from which it can be seen that the proportion of manufacturing employment located in industries classed as competitive fell between 1963 and 1972. However, there was also some decline, in 1967-72, in the proportion of monopolistic industry; over his entire period the share of 'unconcentrated oligopoly' more than doubled. By 1972 only a fifth of Kenyan industry was classified as operating in 'competitive' conditions. He went on to confirm the predictions of economic theory by finding that the profitability of industry was inversely related to the degree of competition. If we are correct in suggesting that African industry is marked by a general absence of competition, this implies the existence of substantial monopoly profits and an associated loss of consumers' welfare, both of which have implications for efficiency and for equity.

Table 7 Kenya: Proportion of Manufacturing Employment, classified by Market Structure

		1963	1967	1972
Group 1:	monopoly and concentrated oligopoly	49	51	43
Group 2:	unconcentrated oligopoly	16	25	36
Group 3:	competitive	35	24	21

Source: House (1981a, Table 2)

However, modern writings on the effects of monopoly power also emphasise its implications for efficiency and technological progress. On the one hand, monopoly power will reduce pressures on producers to achieve least-cost methods of production and reduce organisational slack, ie. it will tend to increase what is known as X-inefficiency. Similarly, the absence of competition will reduce incentives for firms to adapt imported technologies to local conditions, to develop their own technologies and to innovate.

Pack's work on Kenya's manufacturing industry provides valuable insights into the nature of this adaptation process as well as X-inefficiency. So far as the latter is concerned, he argues that whilst economists often assume that there is a deus ex machina at work, translating factor prices into the 'correct' choice of technique, such translation depends critically on the abilities and perceptions of managers. He suggests that it is useful to classify managers as falling into one of two categories: those with and those without technical training or a background in production. The technically trained, he suggests, understand why operations are performed the way they are and the possibilities of using other methods. This group is able to make the adaptations which allow a more labour intensive process to function properly. The other group, he argues, tend to duplicate Western processes in toto, following the advice of consultants and machine salesmen. Pack's research findings illustrate the importance of the adaptation of imported technology to local needs. He notes that

> substantial productivity growth has taken place simply as a matter of reorganisation of production and better training and supervision. A typical change involves a simple rearrangement of the position of two processes within the same plant. The worker who had been formerly idle half of the time (evenly spaced

> over the day) was more fully employed when two processes converged on him. In addition to these types of completely disembodied change, there were some that could be called slightly embodied in so far as they were implemented with internally produced "equipment".

He provides specific illustrations of this process.

It may be appropriate at this point to consider the extent to which the expansion of the informal sector is related to the above issues. That a relationship may be expected becomes clear when it is remembered that 'informal' activities are a way of doing things characterised by unregulated, competitive, easy-to-enter markets operating labour-intensive and adaptive technology, in contrast to the formal sector activity of protected, oligopolistic, difficult-to-enter markets operating capital-intensive technology (ILO, 1972, p.6). Fortunately House (1981b) has studied the informal sector in Nairobi and his evidence yields valuable insights.

Since it is often claimed that the technology employed in the informal sector is appropriate for developing countries in the sense that it reflects the countries' resource endowments, House estimated the capital-output (K:Q) and capital-labour (K:L) ratios (expected to be lower than in the formal sector), and the average output per worker (Q:L) - also expected to be lower in the informal sector - by major informal and formal sector activities. His results are reported in Table 8.

Table 8 Kenya: Capital, Labour and Output Ratios for Informal and Formal Manufacturing Activities, 1977 (values in £Ks)

Activity	Informal			Formal
	K:Q	K:L	Q:L	Q:L
Tailoring	1.6	248	342	1080
Footwear	0.7	135	326	1891
Furniture	0.7	133	362	992
Metal Goods	0.2	135	577	1916
All manufacturing	1.0	182	410	1548

Source: House, 1981b, Table 2.

Where comparisons are possible labour productivity in the formal sector exceeds that in the informal sector by a multiple of at least 3. Comparisons with the formal sector of capital-intensity are extremely difficult because of lack of capital stock data, especially at a sectoral level. House (p.359) reports estimates by Powell (1973) who estimated a K:Q of 1.5 for Kenya's non-agricultural/non-residential monetary sector for 1971, which exceeds almost all subsectors' K:Q given in Table 8 by a considerable margin, and by Tobin (1973) whose estimated K:Q was from 2.5 to 1.1 for Kenya's formal manufacturing sector. Further, he reports Powell's estimate of K:L (in 1964 prices) as K£941 for 1971 (non-agricultural/non-residential sector). This had increased by 18% over 1964-1971 and so were this trend to be continued it would be £K1,110 (in 1964 prices) by 1977, which exceeds by a factor of almost 7 the highest K:L found in the informal sector. House therefore concludes (p.359) that

> the technology employed in the informal sector is of a much greater labor intensity than that found in the formal sector. If we apply Powell's estimates to the formal manufacturing sector and consider the relative changes in output and employment from an investment of K£10,000 in the two sectors, we see that while annual output would rise by K£6,667 in the formal sector, the change in output from the informal sector would be K£10,000. In addition, and perhaps more importantly, given Kenya's employment problem, while 5 new jobs would be created in the formal sector, that same investment in the informal sector would have brought about 55 new employment opportunities.

Given these advantages, we might expect governments to encourage the development of the informal sector but among the most common complaints is that policies actually discriminate against informal businesses. Both the ILO (1972) and House found this in Kenya. By and large, the discrimination occurs as a result of neglect. It is the formal industries which receive the protection, the tax reliefs, the supporting infrastructure and the like. House's respondents particularly complained of inadequate access to infrastructural facilities and credit. However, they complained too of actual harrassment by local authorities in the enforcement of health and other regulations. In extreme cases this may culminate in wholesale physical destruction of informal businesses, a 1977 example of which is described by House (p.366). This occurred in stark contrast to the government's officially stated policy and subsequently Kenya's fourth five-year plan spelt out an admirable set of policies to encourage the informal sector. However, casual observation in Nairobi strongly suggests that little has improved in practice.

Turning now to the effect of ISI on industrial export performance, the tariff and other protection with which it is associated may redistribute scarce resources, especially capital and skilled labour, from the export sector to IS industries by making production in the latter generally more rewarding. As IS is accompanied by high tariffs, quotas and sometimes outright prohibition of competitive imports, exporters are penalised by the inefficiency of the local input-producing industries, their low quality, their low rate of capacity utilisation and production bottlenecks. They are often also penalised by over-valued exchange rates made feasible by the high tariff levels. It has been calculated that for Egypt 'the subsidies required merely to counterbalance this tariff-related bias against exports were, on the average, about twenty per cent in 1954, twenty four per cent in 1967 and thirty three per cent in 1970' (Girgis, 1977, pp.174, 198). Evidence from Nigeria also points to protection having led to discrimination against export-orientated industries through the disincentives of an over-valued exchange rate (this being accentuated by large oil revenues) and high infrastructure and labour costs (Odejide, 1981, p.256).

According to Odejide, the Nigerian tariff structure showed very high nominal and effective rates of protection (arising from trade policy) for consumer goods industries and relatively low rates of protection for intermediate and capital goods industries. This structure of protection, which is characteristic of an ISI strategy, seems to have cheapened capital goods and made their production unattractive; that is, both the intermediate and capital good sectors have been discriminated against by the tariff structure. Relating the amount of IS that took place to tariff rates showed that the latter had very little bearing on the actual amount of import substitution that took place in the fostered industries. 'This result would seem to show that the tariff structure as an instrument for directing resources from one sector to the production of favoured commodities was not very effective' (pp.255-56).

The tariff structure described above for Nigeria has been typical of other African countries. Thus in Kenya Hazelwood (1979) found that the system of protection had generally favoured final products but had largely exempted imported inputs, hence discouraging their domestic production, though this was less true after the mid-1970s, when tariffs were imposed

on imported raw materials. Until 1976 there were no tariffs on capital equipment, thereby discouraging its domestic production and encouraging capital-using methods of production, although there have been some changes since. Hazlewood also noted, however, that during the 1970s the tariff became to some extent redundant, the effective restriction of competitive imports being achieved by a system of licensing and quotas but, in general, he believed the effect of this to have been similar to that of the tariff.

In addition to the difficulties created by the system of protection, one should remember that to supply an export market may involve higher set-up costs than to supply a local one since it requires extra investments to research the export market and additional advertising and other promotional expenditure may be required to make a 'name' in an export market as compared with a local one. These considerations would seem to suggest that governments should subsidise (rather than penalise) production aimed at exporting, and this is done in some cases, including Kenya. Nevertheless, the evidence presented in Part I of a poor and deteriorating export performance suggests that government action has so far fallen short of needs.

Structural change, employment creation and the balance of payments

We turn next to examine some further effects of the industrialisation processes of our sample countries, paying particular attention to the consequences for economic structures. It is convenient to undertake this on a country-by-country basis.

THE CASE OF NIGERIA

Nigeria has been among the most successful of African states in achieving rapid and sustained industrial expansion. Between 1960 and 1978 value-added in manufacturing increased by more than six-fold in real terms, giving a compound growth rate for the period of 10.5% p.a. Moreover, growth in the latter part of that period was no less rapid than for the earlier years. In consequence and despite the explosive growth of the petroleum industry (included under 'mining and quarrying'), the share of manufacturing in GDP more than doubled over the 18 years in question, as can be seen from Appendix Table A2, although by 1978 it was still only 6.5% of the total. In assessing these achievements, however, we should bear in mind (a) the

qualification introduced earlier (page 5) that official data probably over-state the contribution and growth of manufacturing, and (b) that by comparison with almost all other African countries, Nigeria has the advantages of a fairly large internal market and - as an oil exporter - of a generally abundant supply of foreign exchange. The negative aspect of the changing structure of the GDP, of course, has been the dramatic decline in the share of agriculture - due not only to the dynamic growth of other sectors but also to lagging agricultural output.

Most of the industrial growth has remained concentrated on the increased production of consumer goods, as is consistent with the general pattern for Africa as a whole, discussed earlier. As can be seen from Appendix Table A3, showing changes in the composition of manufacturing value-added in 1964 and 1975, there was a relative decline in the food and beverages group and a large increase in the share of textiles. There was also an increase in the share of 'chemical products' in total value-added and a smaller rise in 'basic metal' industries but, even so, the structure of the manufacturing sector in 1975 (the latest year for which detailed data are available) remained heavily concentrated on consumer goods, with the first three branches listed in the table contributing 44% of value-added in 1975.

Weaknesses in developing intermediate and capital goods industries remain despite Nigeria's advantages. In the process of import substitution textiles, tobacco and footwear were the first candidates because of the relative simplicity and labour-intensity of the technological process. Further, imports of cotton textiles had been by far the most important user of foreign exchange (Ogbonna, 1976, p.295). Between 1961 and 1971 the home production of textiles - the first plants for which were initiated by state capital - as a proportion of total consumption rose from 5% to 71% (with an effective rate of protection of approximately 130% in the mid-60s). There remain substantial incentives for low value-added consumer good industries and 'finishing touches' assembly plants based on imported raw materials. Industrial protection has discriminated against agriculture through domestic terms of trade that were worsened at least up the early 1970s by the pricing policies of marketing boards. Agricultural and industrial exports were discouraged by the appreciation of the naira once oil revenues became large (Forrest, 1982, p.332).

The overwhelmingly import-substituting nature of Nigerian industry may be inferred from the fact that in 1978 export sales made up only 1.1% of the gross output of the manufacturing sector (and only 0.7% of the country's total export earnings).[13] If we take export performance as an indicator of revealed comparative advantage and international competitiveness, it is not unreasonably to infer that much of Nigerian industry is inefficient, although it labours under the additional disadvantage of an over-valued exchange rate induced by the large oil exports. Even though government statements were placing increasing stress on the need to improve export performance, as Forrest (p.334) notes, the pressure for this policy did not come from within industry. In the absence of large government subsidies, it must be doubted whether much of Nigerian industry will be successful in stepping up exports for some time.

In fact, the main effect of industrialisation has been to shift the composition of imports away from consumer goods towards intermediate and (especially) capital goods, as is clear from Appendix Table A4. Whether this is aptly described as reduced import dependence is a moot point, not the least because in the 1970s the volume of imports grew (at 20.0% p.a.) much faster than the domestic economy. It must also be doubted whether the manufacturing sector contributed to the strengthening of the country's balance of payments, although insufficient data exist to be able to demonstrate this.

THE CASE OF KENYA

Kenya is another country which has been able to sustain fairly rapid industrial growth, both absolutely and relative to total GDP, as is shown by the following real growth rates:

	manufacturing	total GDP
1966-70	8.0	6.2
1970-74	9.5	5.0
1974-78	11.3	5.1
1978-81	5.9	4.0

Two points are particularly worth noting here. First, observe the acceleration in the growth rate of manufacturing over the first three periods: Kenya's post-independence industrialisation was not one which ran quickly out

of steam. However, note secondly the sharp falling-off in 1978-81. By these latter years the economy was running into serious balance of payments and other difficulties.[16] The generally depressed state of domestic demand plus difficulties in sustaining adequate supplies of imported materials and spare parts had a particularly adverse effect on the industrial sector.

With manufacturing growing more rapidly than the remainder of the economy, the share of this sector in GDP was rising, as is recorded in Appendix Table A5. However, the rate of industrialisation was far less marked than in Nigeria, partly because the general performance of agriculture in Kenya was quite good, helping that sector to retain much of its large share in GDP.

The changing composition of the manufacturing sector is set out in Appendix Table A6. Possibly the most noteworthy development recorded there is the emergence of a large paper and printing industry (group 34), making up about an eighth of total value-added in 1979. There was a sharp relative decline in the foods, drinks and tobacco group in 1960-70 but a recovery thereafter; and there was a relative decline in the metal products, machinery and equipment group in 1970-79. However, these apparent changes (and presumably those for other countries) are sensitive to the source of information, with data provided elsewhere showing a rather different pattern of change.[17] Overall, it is difficult to go much beyond the now commonplace observation that the manufacturing sector remains heavily weighted towards the production of consumer goods (plus petroleum products) and that there are as yet only fledgling intermediate and capital goods producing industries.

This was also a feature noticed by Ikiara (1981, p.25) in his study of changes in the structure of the Kenyan economy, based largely on an analysis of input-output tables for 1967 and 1971. Between these two years he found an increased dependence of the economy on imported intermediate inputs and that, although there was some increase in forward linkages, there was no corresponding increase in backward linkages despite the continuing industrialisation:

> This conclusion raises some questions concerning Kenya's industrialisation. It would seem that the type of industrialisation which the economy has experienced, at least between 1967 and 1971, has mainly been to satisfy final demand, with little attention directed to the production of intermediate goods. This has led to an increased reliance of productive sectors on imported inputs ... A further look at input-output data ... shows that for about 60 per cent of the Kenyan

manufacturing sector the ratio of imported inputs increased in varying degrees.

One implication of the above is that industrialisation may have contributed little to an improvement in the country's balance of payments. With a good deal of industry rather heavily reliant upon imported inputs, as well as imported capital, know-how and management, the amount of net import substitution may in many cases be small, even negative. Against this, we must set the value of manufactured exports. One of these, petroleum products, is a major source of foreign exchange earnings, with substantial sales to Uganda and other nearby countries, and also to foreign air and shipping lines. Unfortunately, Kenyan data do not lend themselves readily to an analysis of the extent of export or other manufactured goods but it is probably not very substantial. As already mentioned, this type of trade was rather badly affected by the collapse of the East African Community and only limited success has been achieved in developing alternative markets.[18]

Figures on the end-use composition of imports, set out in Appendix Table A7, reveal the usual pattern of a diminishing share for consumer goods, with corresponding rises among the other categories. Hazlewood (1979, pp.74, 75), however, has taken this type of exercise two steps further, first by confining the analysis to the structure of manufactured imports and then by studying the proportion of imports in total supplies of manufactures, by end-use categories. His results are reproduced in Table 9 below. The left-hand side of the table reveals the expected pattern of change, already reflected in Table A7, but the right-hand side yields a rather different impression. We see there that between 1964 and 1975 there was reduced dependence on imports for each end-use category, when considered in relation to the total supply of manufactures. The level of import dependence is still much the greater for capital goods, for which only a rather gradual import-substitution process appears to be at work. But the more rapid replacement of imported intermediate goods recorded by him conflicts strongly with Ikiara's observations reported earlier.

Mention should also be made of the efforts of the Kenyan government to reduce the concentration of industry by the use of various policy instruments, not the least because this provides one of the very few pieces of evidence on the direct impact of industrial policy instruments. According to

Wescott (1981, passim), a variety of the incentives provided had some influence on locational decisions by private investors. The most important of these was the provision of infrastructure. Differential policies with respect to protection also had some effect, whereas the use of wage and credit incentives had little impact. Incentives for the promotion of industrial exports also encouraged the dispersion of industry, for those with comparative advantage were most likely to be natural-resource-based and would thus tend to be located in rural areas.

However, Wescott also emphasises the costs involved in providing these incentives, meaning not only fiscal revenue costs but wider economic costs. In particular, they tended to discourage small-scale and informal industry. In consequence, he reaches a rather agnostic conclusion (p.354):

> the effectiveness of incentives for industrial location in Kenya has been mixed. Although there has been some limited progress towards greater spacial balance within the formal manufacturing sector, these enterprises are still overwhelmingly concentrated in Nairobi and Mombasa. Furthermore, while there are indications that government incentives have had a role in achieving greater spacial balance, these incentives have also had certain negative effects on non-spacial aspects of industrial development, and on the development of the small-scale and informal sector.

Table 9 Kenya: End-use Classifications of Manufactured Imports

(percentages)

	Imports of manufactures		Imports as % of total supply of manufactures	
	1964	1975	1964	1975
Consumer goods	33.0	22.4	26.8	15.9
Intermediate goods	18.0	23.5	40.5	27.8
Capital goods	49.0	54.1	63.6	55.6
All manufactures	100.0	100.0	40.8	31.0

Source: Hazlewood, 1979, Tables 5.15 and 5.16.

The question of factor proportions and employment generation in Kenyan manufacturing has already been discussed (p.22). Suffice it to record here that employment in the manufacturing sector has generally not expanded as fast as output (ie. average productivity has risen) and this has limited the contribution of industrialisation to government employment objectives. Nevertheless, there has been a substantial increase in total numbers employed:

Rempel (1981, Table 6) estimates an annual growth in manufacturing employment of 6.5% p.a. in 1964-76 plus an increase of average productivity of 1.5% p.a.; since 1976 industrial employment has grown at 6.1% p.a. In 1981 an estimated 146,000 people were employed in manufacturing, which was 14.3% of total recorded employment but perhaps only about 2½% of the total nationa' labour force.

THE CASE OF TANZANIA[19]

In turning to discuss the record of industrialisation in Tanzania, it should be stated immediately that the official national accounts of this country are notoriously inaccurate and are widely believed to have overstated economic growth in recent years, especially in the rural economy. If, in the absence of other more reliable estimates, we take those of the government, the results indicate a rapid industrialisation during the 1960s which was sustained until about 1973 and then a sharp tailing-off. Annual real growth rates are summarised below:

	manufacturing	total GDP
1960-73	11.6	5.9
1973-78	1.4	5.0

Figures for the GDP by industrial origin are presented in Appendix Table A7 and these show increases in the share of manufacturing between 1966 and 1973 of from 8.1% to 11.0% of GDP in current prices (although a slightly smaller increase when calculated in constant prices). If we take the start of the 1960s as the reference point the rate of industrialisation was even more dramatic, for the share of manufacturing in current price GDP in 1960 was only 3.0% (although it was 5.5% in constant prices). As can be observed from Table A8, there was a clear de-industrialisation between 1973 and 1979, with a declining share of manufacturing whether measured in current or constant prices. We return shortly to discuss the reasons for this decline, but let us next examine changes in the industrial structure.

We should recall at this point the description provided earlier of the country's policy objectives (page 18), of which two points are particularly noteworthy: (a) the policy after 1967 of increasing the share of publicly owned industry and (b) the emphasis from that time and particularly after 1973 on producing mass-market consumer goods and manufactured intermediate

products. These priorities find a certain reflection in the figures on the structure of the industrial sector in Appendix Table A9. However, Bienefeld has provided an even more useful classification by end-use categories and this is set out in Table 10 below.

Table 10 Tanzania: Composition of Manufacturing Value-Added by End-use, 1961-78 (% of total)

	1961	1966	1969	1972	1974	1978
Consumer goods	74	67	60	64	56	57
Intermediate goods	23	29	30	29	35	35
Capital goods	3	4	10	6	9	8

Source: Bienefeld, 1982, Table 6.3

We see from this that, although the production of consumer goods still dominates and little progress has been made in raising the contribution of the capital-goods sector, the production of intermediate goods does show some apparent response to the government's policies. Having maintained a constant share of manufacturing value-added in 1966-72, this rose considerably in the following two years but then appeared to reach a new plateau as the general problem of the industrial sector began seriously to affect the newer industries. One other structural feature - which is not recorded in the statistics but which is commented upon by a number of observers (eg. Bienefeld, 1982; Green, 1982) - has been a relative decline in the contribution of small-scale producers during the later 1960s and early 1970s, followed by a revival subsequently.

Seeking to form an overall evaluation of the country's industrialisation performance, one recent writer has summarised it as follows (Bienefeld, 1982, p.134):

> The detailed account of Tanzania's industrial experience can be summarised thus: a respectable macro-economic performance with respect to output and productivity has been sustained in industry, interrupted by major set-backs in 1975 and 1979. This aggregate performance has, however, obscured a number of significant and highly problematic features of this growth. Productivity performance has been extremely uneven, and in many specific areas of production there have been significant declines which obviously reflect major production problems. At the same time the inevitable foreign-exchange intensive

> early phase of industrialisation had clearly been pushed ahead at a pace which was exceeding the economy's effective capacity (within this strategy) to earn foreign exchange, as well as straining its capacity to produce various essential domestic inputs for industry. The resulting industrial vulnerability to the foreign exchange constraint and to the weather was cruelly exposed after 1973, when severe drought, the Uganda war and the oil price explosion turned a modest trade deficit into a disastrous foreign exchange gap.

Others have also commented upon the heavy reliance of industry on imports, and thus the adverse effects of the balance of payments difficulties (eg. Kim, 1978). They also refer to the absence of a coherent strategy of industrialisation, with the consequence of a large number of ad hoc decisions, not a few of which were ill-chosen (eg. Coulson, 1982, p.74; Green, 1982, p.97).

But while there is general agreement that the foreign exchange crisis was important, there is also evidence that this is far from being the whole story. In particular, the state-owned enterprises that were created in response to the policy change of 1967 have performed particularly poorly (Kim, 1981; Wilton, 1981). To illustrate this, Table 11 below sets out a variety of comparisons of the performance of private and public enterprises in the manufacturing sector. These show public enterprises to have made large operating deficits, in contrast with the surpluses of the private concerns and despite the fact that the government policy was that 'profit is necessary whether an enterprise is privately or publicly owned'. The table also shows a markedly poorer performance in terms of the productivity of both labour and capital. Commenting on these results, which are generally consistent with other evidence, Kim particularly emphasises the negative effects of the excessive sizes of public enterprise labour forces and of the inefficiency of their managements.

Overall, while there seems no doubt that the pace of industrialisation and the shift towards the production of intermediate goods was attributable to government efforts, it also seems that much of the slowing-down after 1973 was due to failings in government policies, particularly to the lack of discrimination and the forced-pace expansion of publicly-owned industry.

TABLE 11

Tanzania : Operating Surplus and Factor Productivity : Manufacturing Sector, 1970-75

(In TSh)[a]

	1970	1971	1972	1973	1974	1975	Yearly Average[b]
Operating surplus[c] per employee							
1. Private enterprise	9,334.6	-11,650.4	1,613.0	19,080.4	8,041.9	9,698.4	4,726.1
2. Public enterprise	-7,596.9	858.0	-13,218.2	- 771.7	-11,706.6	- 7,690.2	-8,341.3
Value added[d] per employee							
3. Private enterprise	26,414.2	1,334.0	23,538.0	18,866.0	28,589.9	32,538.4	22,205.9
4. Public enterprise	6,320.7	20,739.1	22,884.1	20,544.1	23,801.7	17,796.9	20,611.5
Operating surplus as proportion of value added							
5. Private enterprise	.353	- .873	.069	.661	.281	.298	.213
6. Public enterprise	-1.201	.041	- .578	- .038	- .492	- .432	- .405
Gross output per unit of operating capital[e]							
7. Private enterprise	12.24	29.29	18.67	17.74	20.68	14.15	18.10
8. Public enterprise	5.43	7.46	5.91	6.54	11.19	11.80	7.41

a The official exchange rate was 7 TSh = US $1.00

b Calculated as weighted averages, weighted by different frequencies of observations each year.

c The difference between the firm's total receipts and its total total costs that exclude government taxes and subsidies but include such items as wage and salaries, materials, utilities, rents and depreciation.

d A residual figure obtained by subtracting all intermediate input costs from total costs.

e Gross output is the total of wages and salaries, rents, depreciation, operating capital costs, operating surpluses, and indirect taxes less subsidies. Operating capital comprises materials and energy costs.

Source : Kim, 1981, Table 2.

THE CASES OF EGYPT AND IVORY COAST

We will deal with these two countries rather more briefly because they largely confirm aspects which have already featured in the other country illustrations, although they are not without interest in themselves.

In commencing with Egypt we should recall the fact mentioned earlier, that the industrialisation of this country began in the 1930s - considerably earlier than in the other countries under study. When we examine the last 10 or 20 years, it may thus be expected that the pace of industrialisation will be slower (because the easiest phase of import substitution will already have been completed) and that the structure of the industrial sector will exhibit greater 'maturity' than in the other countries, ie. will be less heavily biased towards the rpoduction of import-competing consumer goods.

The first of these expectations is certainly borne out, as may be judged from the following real growth rates:

	manufacturing	total GDP
1960-70	4.8	5.8
1970-78	6.6	6.5

If we think of industrialisation as constituted by a rising share of the manufacturing sector in GDP then the reverse of this was in operation in the 1960s, and during the 1970s manufacturing did little more than hold its own. These features are confirmed by the estimates of GDP by industrial origin in Appendix Table A10, where the share of manufacturing is recorded as declining between 1966 and 1972, then rising a little to 1978.

Whether the industrial structure exhibits greater 'maturity', as hypothesised, is more difficult to judge. Information on the composition of the manufacturing sector is set out in Appendix Table A11, from which it will be seen that even in 1978 groups 31 and 32 between them still comprised almost half of total value-added. On the other hand, their share had declined somewhat (they accounted for nearly two-thirds of value-added in 1960), and group 38 (metal products, machinery and equipment) had undergone a more significant growth. The position is perhaps easier to gauge from an end-use classification prepared by the World Bank, reprcduced in Table 12

below. This indeed shows a clear process of maturation in 1947-1966/7 but then a slowing down, with little change in the last period recorded.

Table 12 Egypt: Composition of Gross Value-added in Manufacturing by End-use Categories; Selected Years

(% of total, from current price estimates)

Category[a]	1947	1966/67	1969/70	1975
A. Basic consumer goods	79.8	55.0	51.6	49.7
B. Intermediate industries	19.7	38.2	40.6	40.6
C. Consumer durables/ capital equipment	0.5	6.8	7.4	9.3

Source: World Bank, 1978, Table 11.4

Note: (a) Category A includes food, beverages, tobacco, textiles and apparel; B includes wood, paper, printing, leather, rubber, chemicals, coal, petroleum products, basic metals, metallic products and miscellaneous; C includes non-electrical machinery, electric machinery and transport equipment.

Perhaps another aspect of a process of maturation is the growth of manufactured exports, despite the anti-export bias mentioned earlier. As a percentage of the country's total exports, these increased from 6.0% in 1952/53 to 19.5% in 1960/61, 34.0% in 1971 and 48.0% in 1975 (World Bank, 1978, Table 12.2). In the early years these were made up largely of cotton goods but the composition of industrial exports has been diversified over the years so that sugar, chemicals and basic metal products now feature prominently. It is unfortunately not possible to estimate the proportion of total industrial production which is exported; what can be said is that (on a current-price basis) the value of manufactured exports rose much faster in the early 1970s than total manufacturing value-added - by 25.8% p.a. and 8.4% p.a. respectively in 1971-75.

Against this, there is evidence that, at least in the earlier years, there was a tendency for the industrial use of imported inputs to increase. Comparisons by Girgis (1977, p.202) of input-output tables for 1954 and 1969/70 show that imported inputs as a proportion of total output went up from 6.8% to 16.4% when only the direct imports were considered, and from 15.9% to 24.7% when indirect imports were also taken into account (using the inverted matrix). That Egypt has during the past decade escaped a major foreign exchange constraint is particularly due to its position as an

oil exporter, large inflows of workers' remittances and long-term capital, and the successful operation of the Suez canal.

At least until the mid-1960s, it appears that the industrial sector made a major contribution to the absorption of the labour force into productive employment, for Girgis records (p.204) that in 1954-67 industrial employment increased by about 835,000 jobs, equal to 23% of the increase in the labour total force in this period. However, this was a period when the productive performance of the industrial sector was particularly weak, partly due to a deliberate policy of maximum labour-absorption, leading to reduced efficiency. In more recent years the record has been quite different. During 1966-76, industrial employment rose at only 1.7% p.a. (against a constant-price output growth of 3.3% p.a.) and absorbed less than a tenth of the total increase in recorded employment. By the latter year it contributed one-eighth of total recorded employment - rather less than its contribution to GDP.[20]

By comparison with Egypt, the Ivory Coast has been able to sustain rapid industrial growth, both absolutely and in relation to GDP, as can be seen from the following growth rates:

	manufacturing	total GDP
1960-70	12.3	7.3
1970-78	11.1	7.5

In consequence, and despite the rapid growth of the economy as a whole, manufacturing has captured a strongly rising proportion of total GDP, as can be seen from Appendix Table A11. In fact, the share of manufacturing doubled in 1960-78, which is a considerable achievement.

Industrialisation has essentially taken two parallel forms. First, there has been the familiar process of ISI utilising imported inputs but, second, there has been a strong growth in industries producing largely for export and based upon the processing of agricultural materials. In the 1960s these two classes of industry grew at roughly the same pace but in at least the first half of the 1970s it was the latter category which expanded the most rapidly, as can be seen from Table 13.

Table 13 Ivory Coast: Manufacturing Growth by Industry Type

(% p.a., computed from current price estimates of value-added)

	1965-70	1970-72	1972-74
Agro-industries (including wood products	15.8	14.6	36.5
Agro-industries (excluding wood products)	24.2	18.8	36.2
Import-based industries	20.7	16.0	18.5

Source: World Bank, 1977, p.2

The important agro-based industries include canned fruits, coffee and cocoa products, palm oil and latex rubber, as well as sawn timbers and veneers.

A fairly familiar pattern of industrial change is recorded in Appendix Table A13 as regards the 1960s, although with rather less marked shifts in the 1970-75 period. What is seen there is a diminution in the preponderance of groups 31 and 32 and a characteristic rise in the shares of groups 35 and 38.

Along with the rapid growth in manufacturing, industrial employment has shown sizable increases, rising from 1966 to 1974 by about 10% per year. Industrial exports have also reached sizable proportions, amounting to 20% of industrial production in 1960 and 29% in 1973, and by 1974 industrial goods made up 30% of the country's total exports. The successful development of medium- and large-scale industry can be related to the rapid growth of agriculture, mostly export-oriented, which helped earn the foreign exchange to pay for the imports of equipment and raw materials required for industrial expansion. A stable political climate favourable to direct foreign investment, expatriate management and technicians also contributed, as well as a relatively adequate infrastructure.

On the other hand, problems of inefficiency, unemployment, foreign ownership and income distribution have arisen. The country has begun to run into balance of payments problems and economic growth has slowed down. The overall development of the industrial sector has not significantly reduced dependence on imported intermediate goods. A fall in the share of imported inputs for agro-based industries has been offset by increased

reliance on these inputs in most other sectors (which is typical of the early industrialisation process - increased dependence on imported inputs has been a feature of industrialisation for several of the countries analysed here). Creation of jobs has been lower than foreseen and has increased less than output due to improved productivity and the capital-intensity of enterprises. Further, industrial growth has been heavily based on foreign technology, capital and expatriate skills, with relatively low rates of absorption of local labour. Policies which favoured capital-intensive industries led to a demand for skilled labour of all kinds and therefore tended to displace less skilled African workers who might have been employed in smaller-scale enterprises using more simple techniques. Finally, Ivorian participation in manufacturing is still limited, with 67.7% of equity being owned by foreigners in 1975. The outlook for the factors just discussed is, furthermore, not good: with the easiest opportunities for import-substitution having already been taken, this policy is becoming more difficult and expensive; thus, planning priority is now given to export-oriented industrialisation. Such development includes agro-based industries as well as highly capital intensive paper pulp and iron mining projects. In the view of the World Bank (1977), many of the projects cannot be implemented without foreign capital and expertise so that to realise its plans the government is bound to continue its policy of attracting expatriate firms.

Country experiences with indigenisation policies

The last sentence provides a convenient transition for us to turn now to a consideration of country experiences with indigenisation. We earlier (page 20) distinguished four aspects of the objective of indigenisation: of employment; ownership; control; and technology. It is probably true to say that the employment objective was foremost in the years immediately before and after the winning of political independence. The ownership and technology aspects have assumed prominence only more recently.

As is implicit in the foregoing, indigenisation cannot be understood in isolation from broader economic structures and strategies. This is particularly true of ISI which can easily increase dependence on foreign inputs, especially managerial skills, technology and capital goods. Indeed, on balance ISI appears to have increased the dependence of at least some African countries (UNECA, 1978, p.12):

> the strategy increased the role of multi-nationals in African economies as well as the role of foreign investment in development for the simple reason that it created a heavy demand for imported inputs. Also the need for imported inputs increased the need for greater foreign exchange earnings which in turn created pressure for increasing the output of primary commodities, thereby reinforcing Africa's traditional role in the international division of labour which is at the very root of its dependence. Import substitution industrialisation is not a suitable development strategy for the pursuit of indigenisation despite the appearance of promoting self-reliance.

We now turn to some brief observations on some country experiences with indigenisation.

NIGERIA[21]

The history of Nigerian indigenisation policies stretches well back into the colonial period when in 1946 the government set up the Nigerian Local Development Board with a view to granting direct loans to Nigerian-owned enterprises. A national committee on the Nigerianisation of Business Enterprises was set up in 1956 and, in 1968, an Expatriate Quota Allocation Board was established to attempt to maximise Nigerian participation in senior management positions of foreign business. But the major impetus to the indigenisation of the Nigerian economy came with the Nigerian Enterprises Promotion Decrees of 1972 and 1977. The 1972 decree authorised the transfer of those businesses in the private sector which were believed to be within the competence of indigenous expertise, and required a minimum Nigerian interest of 40% equity in other business where joint participation was still considered necessary. The remainder were to be allowed to continue to operate under full foreign control. The second (1977) decree (coming into effect in December 1978) listed three schedules, providing for whole or part indigenisation of all foreign enterprises.

The implementation of the Nigerian approach to promoting indigenisation, of increasing equity participation in foreign enterprises, is apt to make a heavy demand on financial resources. Nigeria, as an oil exporting country, does not face the savings or foreign exchange constraint of most African countries. This meant that, until recently, Nigeria had no serious problems with the financing of indigenisation. Thus, progress has decidedly been achieved in the indigenisation of ownership. Howeve , much less progress

has been achieved with the indigenisation of technology, as Nigeria remains overwhelmingly dependent on imported know-how. As Odejide (1981) puts it, 'there is a massive disarticulation between the consumption of foreign technology and the indigenous control and generation of this technology'. This remains so, despite government efforts in the 1970s towards greater self-reliance in technology that led to the establishment of the National Science and Development Agency, and, more recently, a Ministry of Science and Technology and a National Office of Industrial Property, responsible for the supervision and funding of research institutes (Forrest, 1982, p.337).

KENYA

Apart from industrialisation, one of the prime aims of post-independence policy in Kenya was to take over positions of power and privilege from Europeans and Asians. The first task was in the civil service itself. By 1967 it was estimated that 90%of the civil service was Kenyanised. Many of the settlers in the 'White Highlands' were rapidly bought out and the land redistributed to Kenyans. Subsequently attempts have been made to replace foreigners in the army, education system, and industry. According to Stewart (1976)

> the process has been slow and indeed rather ineffective. With a shortage of qualified people, abundant advice from foreign experts on the dangers of going too fast, increasing availability of foreign technical assistance, and the expansion of the economy increasing the need for high-level personnel, nearly ten years after independence the pyramid of privilege with Europeans at the top and Africans at the bottom still looks much as it did in 1963.

Not all would accept this judgement as fair, however. While it clearly is true that many non-Kenyans remain in important positions of responsibility and influence, that much of private industry is wholly or (to an increasing extent) partly owned by foreign capital and that little has been achieved in reducing technological dependence,[22] the fact is that by 1981 98.7% of all recorded employment was of Kenyans (Kenya, 1982, Table 4.6). No doubt it would be more relevant to relate progress to the occupancy of high-level jobs but even here in 1975 (latest available) an estimated 86% of all high-level jobs was held by Kenyan citizens (Ikiara and Killick, 1981, Table 8). Non-citizens have been barred from specific trading businesses in certain areas and licensing procedures have been used in favour of Africansation.

An important constraint upon Kenyan indigenisation policy has been a concern to refrain from alienating foreign capital and technical assistance. Thus, Kenya's indigenisation policy in commerce and industry has been directed less at taking over foreign-owned enterprises than at increasing Kenyan participation in economic expansion. The government's argument for adopting this policy is that money paid for compensation to foreigners for nationalised assets 'would most likely leave the country, increasing our foreign exchange problems'. The government argues further that 'if the nation's limited domestic capital is used to buy existing land, livestock, machinery and quipment, the nation has no more productive assets than before only their ownership has changed', rather it loses the 'new resources that could have been purchased instead' and the added output that would come from the new resources' (UNECA, 1978, p.32).

TANZANIA

In Tanzania the quest for economic self-reliance in a socialist framework was articulated in the 1967 Arusha declaration. Unlike Nigeria and Kenya, Tanzania used state enterprises as its main instrument for the indigenisation of the industrial and commercial sectors. The problems associated with these and their deteriorating performance during the seventies has already been discussed (pp. 36-7). Suffice it to say here that poor economic performance by the parastatals has meant that Tanzania has achieved limited success as regards indigenisation of control if the latter is associated with success in increasing productivity. As the above cited UNECA report notes, whilst there has been some rise in productivity 'A steep rise is necessary to achieve self-reliance because, in the final analysis, countries become economically dependent mainly because they are not able to produce enough of what they need by themselves' (1978, p.55).

On the other hand, Tanzania has made considerable progress as regards the indigenisation of manpower and ownership. As regards the first, Tanzania made an intensive effort to train personnel, increasing its facilities for manpower training. In the civil service Tanzanian participation increased between 1961 and 1975 from about 26% to 94%. Whilst there is similar evidence for the parastatal sector, indications are that it is less indigenised. Analysis of the 1969-74 development plan

suggests that Tanzania did well in the supply of high-level manpower but the expectation was that full indigenisation of manpower could not be achieved for some time.

In the indigenisation of ownership Tanzania has also made considerable progress. Since the Arusha Declaration the extent of public ownership has been expanding rapidly. Some idea of the dominance of the public sector could be acquired by the fact that by 1973 the public sector capital stock had risen to 70% of the total while the public sector's share of wage employment had risen to 64%. However, it should be noted that the statistics on the expansion of the public sector will exaggerate the extent of public ownership because the government does not have 100% shareholdings in all public enterprises (UNECA, 1978, p.55).

III - SUMMARY AND CONCLUSIONS

Summary

The fragmentary nature of the evidence and the diversity of experience necessarily limits the scope for summarisation, but the following are among the more important points to have emerged:

(a) Aside from the oil-exporting countries, most African states are confronting a grave economic crisis. This creates an adverse economic environment for industrialisation and has a harmful effect of industrial efficiency and growth. The often poor state of the balance of payments and of agriculture have particularly serious implications.

(b) If we take Africa as a whole, it appears that only moderate progress has been made with industrialisation. However, there are large geographical disparities between countries. Much of African industry is concentrated in a small number of countries and at least some of these have made major progress towards industrialisation.

(c) Although there are important exceptions to this generalisation, import-substitution has been the chief impulse behind African industrialisation. Export performance has been generally poor and there is evidence that it is deteriorating over time.

(d) This poor export performance plus other indicators suggests strongly that much of the industry that has been created is inefficient by international standards.

(e) A number of the more industrialised countries included in our case studies have made progress towards a more 'mature' industrial structure, ie. towards relatively greater production of intermediate and capital goods, and a reduced share of import-substituting consumer goods. Among the poorer, least industrialised countries, however, we suspect that little such change has been occurring.

(f) There are strong a priori and evidential reasons for believing that much of African industry possesses considerable monopoly power, with important implications for consumer welfare, the distribution of income and the efficiency of resource use.

(g) There are also good reasons for believing that 'informal' manufacturing, which goes unrecorded in official statistics, is not only quantitatively important but also has favourable economic characteristics, including labour-intensity, indigenous ownership and stronger linkages with the domestic economy. It is nonetheless discriminated against.

(h) There is limited scope for generalising about the industrialisation objectives of African governments but an important aspect of these has been a chain of logic which runs from economic development to modernisation to industrialisation to import substitution. The desire for Africanisation has also been strong. But there have been large differences between governments in such matters as attitudes towards foreign investment, nationalisation and state control. Objectives have often been such as to place little weight on questions of efficiency.

(i) As might have been predicted, industrialisation has made a limited impact on labour absorption and employment creation. This is partly because of the nature of manufacturing but has been aggravated by certain pricing distortions. Some governments reacted by forcing industry to employ more workers than needed but this had adverse effects on efficiency and industrialisation.

(j) For the most part, it is unlikely that industrialisation has been a net earner or saver of foreign exchange during the period under study. This was partly to be expected but has been aggravated by investment decisions and pricing structures that have led to heavy dependence on imported inputs, capital and management, and by the poor export performance. However, there have been important exceptions to this.

(k) Although the evidence is very scrappy and the position no doubt varies greatly between countries, it seems likely that considerable progress has been achieved in the indigenisation of employment. It is not possible to generalise about progress with the indigenisation of control and ownership but it is probable that very little progress has been made in reducing dependence on imported technology.

Conclusions

Let us finally briefly sketch some of the implications of the foregoing for future industrial policies in Africa.

First, there is the question of efficiency. One of the themes emerging above is the limited attention that has been paid by governments to the efficiency (by international standards) of the industries they have helped to create and the ways in which inefficiency has retarded the objective of industrialisation - by creating a drain on foreign exchange, because of limited backward linkages with the rest of the economy, because of capital-intensity, because of high costs and final prices and, sometimes, poor quality. The evidence suggests strongly that if progress with industrialisation is to be maintained greater attention will have to be paid to this factor. If so, this carries strong implications for government policies towards protection, investment incentives and appraisals, exchange rates, employment and indigenisation.

One particular aspect of this relates to policies towards concentrations of monopoly power in manufacturing. Despite evidence that such concentrations are large, it is probably true to say that not one African country has an effective set of laws and institutions safeguarding the public interest against the adverse effects of monopoly power, in strong contrast to the position in many industrial countries (where there is probably

relatively less monopoly concentration). There is a strong case for government action in this field, which is closely related to the issue of protection against import competition.[23]

Probably the chief constraints upon further industrialisation in the generality of African economies are the small size of the domestic market; shortages of specific technical and entrepreneurial skills, know-how and capital; and the generally poor state of the domestic economy, especially the foreign exchange constraint. If we think in terms of future changes in industrial structure, there are two conflicting factors at work. On the one hand, we would expect on historical grounds that further industrialisation would be accompanied by a maturation of the industrial structure, in the direction of the relative expansion of intermediate- and capital-goods production. But the small size of the market and shortages of skill and capital tell against this type of development, suggesting that there is likely to be a conflict for some time between maturation and efficiency. What these various considerations point to, therefore, is the key importance for the future of improved export performance and of shifts in industrial structures towards export industries. Countries such as Egypt and the Ivory Coast have demonstrated that this is by no means an impossible route to follow, although it does depend crucially on access to the markets of Europe and hence upon the policies of the European states towards import penetration and protection.

Export-led industrialisation has the large advantages of alleviating the balance of payments problem and permitting an escape from the confines of the domestic market. But it depends critically upon low-cost production and it carries major implications for the structure of incentives created by government policies, including, of course, the exchange rate.

Still on the subject of efficiency, the experiences of Tanzania with nationalisation and public enterprises raise the general issue of the suitability of these means of promoting industrialisation (although it must be added that the motives for public ownership were broader than simply the promotion of industry). A substantial number of other African countries have also used these means in varying degrees. The role of the public sector in the industrialisation of African countries was recently reviewed

by the present writer (Killick, 1981a) and it may be pertinent to repeat here a conclusion of that study (pp.56, 58):

> To an African government contemplating the creation of a substantial public sector as a means of promoting industrialisation our advice would have to be: don't do it; there are better ways of stimulating industrial growth... If we take a multiplicity of government objectives (which, however, are rarely articulated with any clarity) to be a pervasive feature of state enterprise and if socio-political motives are often given primacy, then we must predict a continuation of poor economic performance.

We should also revert to the position of the informal sector and to the tendency for government policy, in effect, to discriminate against this type of enterprise. In economic terms we have already shown this to be unfortunate and it should be added that the work by House (1981b) showed there to be considerable potential for dynamic growth in at least some of the informal activities which he investigated. Improved policies in this area might fall into two phases: the reduction and eventual elimination of measures which discriminate against informal industry; and positive measures actually to promote it.

Finally, we might mention the limitations and costs of policies. While far more research and evidence is needed on this, it seems clear that a number of the policy instruments chosen to foster industry have been of limited effectiveness and/or have incurred heavy economic costs. This is not to dispute that much of the industrialisation that has occurred has been in response to policy inducements. The point is rather that governments need to be discriminating in their choice of measures and need to take fully into account the direct and indirect costs involved, as was illustrated by Wescott's work on location policy in Kenya (pp.32-3). Here again, efficiency questions are likely to loom large.

A study of the costs and benefits of alternative industrial policy measures is only one of the fruitful areas of future research suggested by this study. Another is the crucially important question of the determinants of export performance (for example, does comparative advantage lie chiefly with industries based upon local natural resources?). The subject of market structure is largely neglected but very important, and this writer's report on public enterprise just cited also pointed to the need for more research

in that area. Indeed, it may well be that the only firm conclusion to be drawn from this study is that the data base is too poor for any firm generalisation at all, so that governments have to form policies in a state of ignorance. There is scarcely an aspect of the subject-matter of this paper on which a great deal more information is not badly needed.

* * * * *

STATISTICAL

APPENDIX

Table A1 Share of manufacturing in GDP, 1978[a]

Less than 5% of GDP

Angola	Lesotho
Congo	Libya
Equatorial Guinea	Nigeria
Gambia	Reunion
Guinea-Bissau	Uganda

5% to 10% of GDP

Benin	Mauritania
Botswana	Mozambique
Cameroun	Namibia
Cap Verde	Sierra Leone
Chad	Somalia
Comoros	Sudan
Congo	Togo
Gabon	Zaire
Guinea	

10% to 15% of GDP

Burundi	Malawi
Central African Republic	Mali
Ethiopia	Niger
Ghana	Rwanda
Ivory Coast	Tanzania
Kenya	Tunisia
Liberia	Upper Volta
Madagascar	

Above 15% of GDP

Egypt	Swaziland
Mauritius	Zambia
Morocco	Zimbabwe
Senegal	

Source: UNIDO

Note: (a) Calculated from current-price GDP estimates.

Table A2 Nigeria: GDP by industrial origin (at constant '75 prices) (% of GDP)

	1960	1966	1972	1975	1978
Agriculture	57.5	43.6	28.7	23.5	21.6
Mining & Quarrying	2.5	13.7	31.7	26.3	24.0
Manufacturing	2.6	4.1	4.0	5.0	6.5
Utilities	0.1	0.2	0.2	0.3	0.5
Construction	2.7	3.3	5.5	6.7	8.6
Services	34.4	35.0	29.6	38.1	39.1

Source: UNIDO

Table A3 Nigeria: structural [illegible] in manufacturing

	share of value added		share of employment	
	1964	1975	1964	1975
Food & beverages	29.8	16.9	16.0	19.0
Tobacco, beer & spirits	15.5	10.9	5.8	4.3
Textiles	6.2	16.2	13.7	24.8
Leather	2.0	3.4	2.9	2.6
Wooden products	8.6	3.7	17.3	8.8
Paper, printing, etc.	3.5	6.0	9.3	7.2
Chemical products	9.8	16.0	5.7	5.3
Rubber	7.6	3.3	10.0	4.6
Plastic	0.0	1.7	0.0	2.1
Pottery and glass	0.1	0.5	0.7	0.8
Other non-metallic	6.7	3.5	5.4	5.3
Basic metal	6.9	10.5	8.2	11.3
Machinery	0.1	0.2	0.1	0.2
Electrical equipment	0.4	1.7	0.6	1.4
Transport	2.0	4.6	3.0	1.8

Source: Forrest, 1982, Table 16.9

Table A4 Nigeria: trends in import composition for selected years (percentage shares)

	1960	1965	1972	1978
1. Consumer goods	61	45	36	28
of which:				
durable	-	-	10	8
non-durable	-	-	26	20
2. Capital goods	22	31	37	49
3. Raw materials	17	24	26	24

Source: Odejide, 1981, p.259.

Table A5 Kenya: GDP by industrial origin, selected years (percentage of GDP)

	1964	1972	1981
Agriculture and non-monetary activities	42.5	37.1	39.0
Manufacturing	10.5	11.8	13.4
Building and construction	3.9	5.4	3.5
Private services	30.4	29.1	29.2
Government	12.3	16.2	14.7
Other	0.4	0.4	0.2

Source: Kenya, Statistical Abstracts and Economic Survey, 1982.

Table A6 Kenya: Composition of manufacturing sector in selected years (percentage of total)

ISIC Group	1960	1970	1979
31	40.2	30.6	34.2
32	10.7	9.3	12.3
33	3.6	3.5	3.1
34	-	7.8	12.7
35	14.6	17.9	17.5
36	8.1	8.2	5.0
37	-	0.5	-
38	21.9	21.0	13.9
39	0.9	1.3	1.3

Source: UNIDO

Table A7 Kenya: Imports by end-use, selected years
(percentage of total imports)

	1964	1972	1975	1978	1981
1. Consumer goods					
(a) Fuels & lubricants[a]	1.4	1.6	2.1	1.4	3.1
(b) Other	21.2	17.6	10.7	10.6	6.5
(c) TOTAL	22.6	19.2	12.8	12.0	9.6
2. Intermediate goods					
(a) Fuels & lubricants[a]	2.7	2.9	15.4	10.4	22.6
(b) Other	39.5	37.8	32.7	30.9	28.1
(c) TOTAL	42.2	40.7	48.1	41.3	50.7
3. Capital goods					
(a) Transport equipment	15.5	14.3	12.9	19.2	9.2
(b) Machinery & other capital equipment	9.8	19.1	17.0	21.3	17.3
(c) TOTAL	25.3	33.4	29.9	40.5	26.5
4. Miscellaneous					
(a) Fuels & lubricants for re-export[a]	5.8	6.1	8.9	6.0	13.1
(b) Unclassified	4.1	0.6	0.2	0.3	0.2
(c) TOTAL	9.9	6.7	9.1	6.3	13.3
5. GRAND TOTAL	100.0	100.0	100.0	100.0	100.0

Source: Own computations

Note: (a) Fuels and lubricants have been allocated to the end-use categories in proportions given by input-output tables for Kenya.

Table A8 Tanzania: GDP in industrial origin, selected years
(percentage of total)

	At current prices			At 1966 prices	
	1966	1973	1979	1973	1979
Monetary Sector	68.5	72.1	60.4	72.2	68.6
Agriculture	21.6	18.7	19.8	18.5	16.2
Mining	2.9	1.1	0.5	1.0	0.5
Manufacturing	8.1	11.0	8.9	10.1	8.3
Electricity & water supply	1.0	0.9	0.8	1.3	1.4
Construction	2.7	4.6	2.5	4.1	2.5
Transport & communications	7.4	8.9	5.7	10.3	9.6
Trade	12.7	13.1	11.5	11.8	11.5
Commercial services	2.5	3.7	4.1	3.6	3.3
Public administration	10.6	11.6	9.1	13.1	16.6
Less: imputed bank charges	-0.8	-1.6	-2.6	-1.6	-1.3
Subsistence Production	31.5	27.9	39.6	27.8	31.4
Agriculture	23.7	20.8	33.7	20.8	25.4
Construction	0.8	0.7	0.5	0.7	0.6
Owner-occupied dwellings	7.0	6.5	5.3	6.3	5.4
Total	100.0	100.0	100.0	100.0	100.0

Source: World Bank, 1981b, Table 1.2

Table A9 Tanzania: Composition of manufacturing sector in selected years (percentage of total)

ISIC Group	1960	1970	1975[a]
31	28.2	35.9	31.9
32	31.9	21.4	22.5
33	21.4	10.0	2.7
34	4.7	3.9	6.4
35	4.1	13.6	19.8
36	3.6	3.1	3.1
37	-	3.2	2.8
38	5.3	8.5	9.5
39	0.6	0.4	1.3

Source: UNIDO

Note: (a) This is the latest year for which full details are available but most of the entries have been estimated by UNIDO.

Table A10 Egypt: GDP by industrial origin (percentage of total; constant prices)

	1960	1966	1972	1978
Agriculture	36.0	29.2	27.2	23.1
Mining & Quarrying	4.7	4.6	5.7	2.8
Manufacturing	19.7	20.1	17.2	18.2
Utilities	0.7	1.0	1.3	1.4
Construction	2.5	3.5	3.1	4.8
Services	36.2	41.5	45.3	39.8

Source: UNIDO

Table A11 Egypt: Composition of manufacturing sector in selected years (percentage of total)

ISIC Group	1960	1970	1978
31	23.9	24.3	21.3
32	40.9	28.5	28.0
33	1.5	2.4	1.2
34	3.8	7.1	4.8
35	12.1	12.2	17.0
36	4.3	4.8	4.0
37	9.0	8.5	7.9
38	4.4	11.7	15.7
39	0.1	0.4	0.1

Source: UNIDO

Table A12 Ivory Coast: GDP by industrial origin, selected years (percentage of GDP; constant prices)

	1960	1966	1972	1978
Agriculture	38.2	30.8	25.0	26.9
Mining & Quarrying	0.8	0.5	0.3	0.3
Manufacturing	7.8	9.5	12.9	15.9
Utilities	2.2	3.0	1.5	2.0
Construction	5.0	5.6	6.7	11.0
Services	46.0	50.5	53.6	44.0

Source: UNIDO

Table A13 Ivory Coast: Composition of manufacturing sector, selected[a] years (percentage of total manufacturing value-added)

ISIC Group	1960	1970	1975
31	50.8	39.9	34.1
32	24.6	16.7	16.5
33	5.3	5.1	7.2
34	5.9	4.2	3.7
35	3.3	13.8	17.6
36	2.9	2.1	2.5
37	-	-	1.0
38	1.3	14.0	13.5
39	5.5	4.1	3.9

Source: UNIDO

Note: (a) Most of the detailed information upon which this table is based has been estimated by UNIDO. 1975 is the latest year for which full detailed information is available.

FOOTNOTES

1 The author is Director of the Overseas Development Institute, London but is presenting this paper in a personal capacity. He would particularly like to thank Mr. Yannis Katsoulacos who, as research assistant, made a major contribution to the content of Part II.

2 See World Bank, 1982a, Table 1, p.110.

3 See World Bank, 1982b, p.130.

4 Some impression of the extent of this problem can be obtained from the following description of the Ghanaian situation (from Killick, 1978, p.200):

> The point can be demonstrated more strikingly by referring to the conclusions of an International Economic Association conference that, 'it seemed to be our general impression that most of the major industrial economies of scale could be achieved by a relatively high-income nation of 50 million; and that nations of 10-15 million were probably too small to get all the technical economies available...'. Now reduce this to values. We take $1400 as a representative per capita income of high-income countries at the beginning of the sixties. This means that countries with gross products of about $14,000 million to $21,000 million were considered too small to get all available scale economies. Now compare with Ghana's GDP in 1965, of about $1,500 million at the official exchange rate, or, say, $1,000 million after adjusting for the over-valuation of the cedi. Ghana's economy, measured in this way, was only one-fourteenth of the countries identified at the lower end of the range of those too small to obtain full economies of scale. This underestimates the comparison, moreover, for, with relatively high income elasticities of demand for manufactured consumer goods, the relevant market size is proportionately greater in a high-income country than is indicated simply by comparing GDP values.

5 This argument is made more fully in Little et al, 1970.

6 Note the differences between these figures and those of the World Bank in Table 1. It appears that the discrepancies arise from differences in geographical coverage, in the periods covered and, perhaps, from differing data sources.

7 Computed from World Bank, 1982a, Table 6, p.120.

8 For a discussion of the role of public enterprise in African industrialisation see Killick, 1981a.

9 The information in this and the following two sentences is taken from the 'World Development Indicators' in World Bank, 1982a.

10 For a recent brief survey of this literature see Singh, 1982, pp.24-28.

11 See World Bank, 1981, for an example of this point of view.

12 See Wescott, 1981, for a discussion of this aspect of Kenya's industrial policies.

13 Calculated from data presented in Forrest, 1982.

14 Note here that we are referring to the labour-intensity of output since we do not have the data to permit comparisons of the use of labour relative to capital.

15 The figure of 1% is taken from Winston, 1981, p.133.

16 These are discussed in some detail in Killick, 1982.

17 For example, compare Table A6 with Ikiara, 1981, Table 13.

18 See Hazlewood, 1979, chapters 5 and 7, for a further discussion of this topic.

19 For a useful recent discussion of Tanzania's industrialisation experiences see Fransman (ed), 1982, chapters 3-6.

20 The comparison is, however, complicated by the fact that the employment data just cited include the mining and quarrying sector (and hence the petroleum industry).

21 The following paragraphs are largely based on Hoogvelt, 1979.

22 On these aspects see Kaplinsky, 1978.

23 The question of monopoly policies in developing countries is the subject of chapt 10 of Killick, 1981b.

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