THE PROCESS OF INDUSTRIALIZATION IN GHANA, 1950-1975

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PART I : BACKGROUND INFORMATION OF MANUFACTURING INDUSTRIES IN GHANA

Section 1: Introduction, Objectives, Scope, Data Sources and Definition of Concepts

At the turn of the century, Ghana shared in the optimism about the favourable effects of industrialization on the economy as a whole. The various development plans envisaged that a dynamic modern industrial sector would ensure sustained economic growth by generating re-investable savings on a continuous basis; it would provide employment and training in new skills to an increasing number of people. Healthy balance of payments position was also thought to depend upon the replacement of imports by domestically manufactured products which would also hopefully contribute to a diversification and expansion of exports. The Second Five Year Plan, for example, stipulated that "to promote import substitution, generate employment and diversify the economy, it was decided to give a high priority over the 5-year period to promoting the establishment of not less than 600 factories".[1]

Our objective in this paper is to consider the extent to which these expectations have been met; and what prospects will emerge for manufacturing industries in Ghana under Economic Community for West African States. The paper is divided into three parts. Part I gives basic background information about the manufacturing industries in Ghana. Part II considers the domestic effects while Part III deals with the external effects of industrialization. The history, growth and present structure are given in the three sections following this introduction. The first part concludes in Section 5 with a description of Government policies and incentives offered to prospective industrialists. It has been suggested that the ideal industrial development should be one of dispersal with a view to achieving a balanced development in the nation.[2] Part II therefore begins in

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[1]Ghana Second Five Year Development Plan 1959-1964; Accra, Ghana Publishing Corporation, 1959.

[2]See Alan B. Mountgoy, Industrialization and Underdevelopment; London, Hutchinson & Co., 1966 p. 74.

Section 6 with an analysis of the spatial distribution of the industries in Ghana. The backward and forward linkages of manufacturing output are considered in Section 7. The direct employment generated by manufacturing industry is next analysed in detail and finally the possible impact of industrialization on income distribution is considered in Section 9. In Part III import substitution and export expansion are considered in Section 10 and 11 respectively, while Section 12 considers the prospects for future export expansion and the prospects for accelerated industrialization under ECOWAS.

To provide a basis for comparing our paper with earlier studies, we will provide a brief survey of data sources. There are in the main six publications of the industrial sector from the Central Bureau of Statistics. The decennial censuses, and especially the Population Census of 1960 and 1970, provide the most comprehensive data on employment. The report on an Industrial Census conducted in 1962 covers more variables of employment than the Population Censuses of 1960 and 1970 but there has not as yet been a second Industrial Census to provide a basis for comparison. The Directory of Industrial Establishments which initially provided only the addresses of industrial establishments has since 1962 been classifying establishments according to the number of persons employed and can be used in analysing the size of these establishments. The Labour Statistics provide data on employment and earnings for establishments that employ more than five persons. But the Labour Statistics give data on only paid employees and should be considered as providing information on wage employment in the formal sector. The Industrial Statistics covers only establishments employing 30 persons or more, but it covers more variables than the Labour Statistics. While the Labour Statistics covers only paid employees and their earnings, the Industrial Statistics has data on all persons engaged in industry, including and distinguishing paid labourers and semi-skilled workers, clerical, technical and other paid employees, working proprietors and unpaid family workers.[3] The Industrial Statistics also has information on gross output and value added. Finally, the latest series of National Accounts, based on the production approach of estimation, provide data on value added and gross output of all industries both small and large scale.[4] In addition to all these secondary sources, reference will be made to earlier published studies on industrialization in Ghana.

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[3] see Kodwo Ewusi: The Development of Manufacturing Industries in Ghana and the Governments Role in It; Geneva, ILO Working Paper, WEP 2 - 23/WP 39, January 1976, Table 1, p. 1.

[4] The new series published by the CBS are Sources and Methods of Estimation of National Income at Current Prices; National Income of Ghana at Constant Prices 1969-71, Economic Survey 1972-74.

It is also important to indicate the scope of the study by given a clear definition of manufacturing activity and the basis for classification into small, medium and large scale enterprises. Clark has defined manufacturing as "the continuous transformation, on a large scale, of raw materials into transportable products".[5] Clark observe that the operative words are continuous and transportable; and while the continuous process excludes such activities as hand tailoring and shoe repairing, the transportability of products excludes all process of building, construction and installation.[6]

According to the International Standard Industrial Classification manufacturing is "the mechanical or chemical transformation of inorganic or organic substances into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or in the workers' home and whether the products are sold at wholesale or retail".[7] This definition would cover all types of handicraft activities such as wood-carving, black-smithing and gold-smithing, carried out by individuals on very small-scale.

The classification of industries into small and large scale varies from country to country. The United Nations in The Process of Industrialization in Latin America defines small-scale industries as those employing 5 to 20 workers per establishment; medium-scale industries as those employing 20 - 100 workers per establishment and large-scale industries as those employing over 100 workers per establishment.[8] The U.N. publication goes further to asset that "this grouping is admitted arbitrary and of questionable validity. The only reason for adopting is the possibility of a homogeneous grouping of the different census tabulations available and the fact that this has been the criterion used in certain national studies".[9] It should be noted that employment is not the only criterion that should be used for this classification. Additionally capital installed prime movers and output should be used to distinguish large-scale from small scale industries.

In our study, because of lack of data we are compelled to use employment as the only criterion for classification. The CBS Industrial Statistics provide data only on establishments employing 30 or more

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[5] Colin Clark: Conditions of Progress; London, MacMillan, 1960 p. 362.

[6] Ibid p. 362.

[7] Cited in M.S. Singhal and D. Narty: Sources and Methods of Estimation of National Income in Ghana; Accra, 1971 p. 36

[8] United Nations, The process of Industrialization in Latin America, New York, p. 62.

[9] Ibid p. 62.

persons. We therefore define small-scale establishments to include those employing less than 30 persons, medium-scale enterprises to include those employing 30 - 100 workers and large-scale enterprises to include those employing 100 - 500 persons, and very large establishments to include those employing more than 500 persons.[10] Industries will be similarly defined if they employ say more than 500 persons per establishment. It is our intention to cover all types of manufacturing activities as far as data possibilities would permit.

Section 2 : History of Industrialization in Ghana

The development of manufacturing industries in Ghana can be described as a post-war phenomenon.[11] The earliest available data covering manufacturing establishments indicates that 104 out of 234 firms operating in 1959 were established before 1950. But most of the 104 firms established before 1950 were in the wood and cork industries, exporting mainly logs of timber. The 1960 Directory of Industrial Establishments indicated that 45.3 percent of the total number of establishments in the manufacturing sector were in the timber exporting industry.[12] Our claim that industrialization in Ghana started in the post-war period is further confirmed by government policies. Before the 1950's the Government did not establish manufacturing firms, not did it even encouraged the private sector in the development of industries. The enactment of the Gold Coast Industrial Act of 1947 marked the first conscious effort on the part of the Government to affect the course of industrialization. This Act, inter alia, established the Industrial Development Corporation (IDC) and charged the Corporation with the task of "securing the investigation, formulation and carrying out of project for development industries in the Gold Coast".[13] However, as Killick rightly observes, "for the first few years of its existence the IDC operated more or less as a loans agency, lending funds for a variety of privately conceived projects".[14]

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[10] The Central Bureau of Statistics Initially classified establishments employing 30 persons or more as medium and large-scale as indicated for example in the Two Year Development Plan 1968-70. But in the new series of Economic Surveys, CBS considers establishment employing 30 persons or more as large-scale establishments. We prefer to use the former classification.

[11] Aboyade in his Industrial Location and Development Policy: The Nigerian Case" Nigerian Journal of Economic and Social Studies Vol.10, No.3, November 1968 also observes that industrialization in Nigeria is a post 1945 phenomenon.

[12] Ewusi, Supra cit p. 3.

[13] Gold Coast Industrial Development Ordinance, 1947 Cap 191 Section 3(1).

[14] Tony Killick: "Manufacturing and Construction" in A Study of Contemporary Ghana Vol. 1: The Economy of Ghana, London, George Allan and Unwin Ltd. 1966. p. 288.

When the first African Government came into power in 1950, it shared in the prevailing view that industrialization would provide the panacea to the economic problems of the time. With haste it comissioned Sir Arthur Lewis to investigate, report and make recommendation about future industrialization in the Gold Coast. Lewis' Report on Industrilisation in the Gold Coast[15] formed the lynch-pin of the government's industrialization policy and should be considered as an important landmark in the history of industrialization in Ghana. The report was generally in favour of the free enterprise mode of production with very little interference from the government. This policy of little interference by the government was pursued till the end of the 1950's when it was discovered that the development of the economy, and of industries in particular, could not be left entirely to the private sector. The declaration of the First Republic in 1960 marked the beginning of active government participation in the industrialization effort. When the Nkrumah Government was over thrown in 1966, most of the public enterprises were considered to be inefficient and were either abandoned or sold over to private enterpreneurs. The Busia era was the period of laissez fair economic administration par excellence. Thus the private sector was expected once again to spearhead the development of industries. The fall of the Busia Government in 1972 marked a change in industrialization policy. The new military government, the National Redemption Council declared self-reliance as the philosophy of development. In the field of industrialization, this implied "Indegenization" -- the transfer of foreign firms in certain specified industrial sectors to Ghanaians. Considering Government's industrial policies in Ghana from 1950 - 1977, four periods may be identified.[16]

Period I : 1950 - 1958 : During the First Five Year Development Plan 1950 - 1958 and the consolidation Plan 1957 - 1958 the Government provided the necessary social and economic infrastructure and expect private sector to develop the economy.

Period II : 1959 - 1965 : This was the period of socialization of the economy and active government participation in the industrial sector. In the Second Five Year Development Plan, the Government itself undertook to establish 600 manufacturing firms.

Period III : 1966 - 1972 : Previous government enterprises were given over to the private sector which is given prominence again.

Period IV : 1972 - 1977 : The period of self-reliance. Even though the private sector remains important, Ghanaians are now expected to take over the foreign firms in some specified sectors.[17]

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[15] Arthur Lewis, Report on Industrialization and the Gold Coast Accra, Government Printer, 1953.

[16] The details of the policies are given in Section 5 of this paper.

[17] The schedule of the industries restricted to Ghanaians are given

Section 3 : Size and Growth of the Manufacturing Sector

3.1 : Size of the Manufacturing Sector

In 1974, the latest year for which published figures are available gross output from the total manufacturing sector at current prices was estimated at ₵1,299 million, small-scale enterprises accounting for ₵233 million and medium and large-scale enterprises accounting for ₵1,066 million, value added from the manufacturing sector was however less than 50% of gross output, amounting to only ₵501.8 million for 1974. At 1968 constant prices, real output in 1974 was ₵682.9 million. Value added at constant prices was ₵267.9 million i.e. 12.2% of real Gross Domestic Product. The medium and large scale establishments accounted for 81.5% of real output and 77.7% of real value added.

Ideally the size of the total manufacturing sector should be compared to that of other African countries. The available data does not permit this. The U.N. Yearbook of Industrial Statistics provides data on medium and large scale manufacturing activities, and in Table 1, we have brought together comparative indicators for medium and large scale manufacturing activities for selected African countries.

The definition of medium and large scale establishment differs from one country to another. The definition is however more restrictive for Ghana than for all the other countries included in our sample except Kenya. While for Ghana we have defined medium and large-scale to include establishments employing at least 30 persons, for Nigeria, Egypt, Uganda and Tanzania, medium and large scale establishments are those employing 10 or more persons. For Tunisia and Zambia only one man enterprises or handicraft manufacturers are evolved from medium and large scale enterprises. This limitation should be borne in mind in interpreting Table 1. For example, gross output for the medium and large scale establishments in Ghana is lower than that of Zambia, possibly because of differences in definition. Manufacturing output in Ghana is however definitely below that of Egypt, Kenya, Nigeria and Tunisia. Egypt is the most industrialized country where modern manufacturing activity accounts for 11.4% of Gross Domestic Product. The lower ratio of value added to GDP for Nigeria is due to the dominance of oil, which in 1972 accounted for 42.7% of GDP. In Ghana value added in the medium and large-scale establishments accounted for 8.7% of GDP in 1972.

The ratio of value added to gross output indicates the degree of domestic processing. The highest ratio is for Ghana. This may partly be due to the large size of the establishments in Ghana. For the same reason productivity i.e. value added per person is quite high for Ghana which ranks second after Zambia. Average wages in Ghana is however lower than Nigeria, Tunisia, Kenya, Zaire and Zambia. Based on the limited available statistics, it can be inferred that the level of

industrial activity in Ghana is below that of Egypt, Tunisia, Kenya and Nigeria and Zambia but hither than Tanzania and Zaire.

3.2 : Growth of the Manufacturing Sector

Growth of the manufacturing sector will be measured by increases in output, employment as well as changes in the number of medium and large-scale establishments. All these variables indicate that the manufacturing sector is a small but growing sector in the economy of Ghana. According to the decennial censuses of 1960 and 1970 employment in manufacturing rose from 233,947 to 376,377, an increase of 60.9%. The recent series of Economic Surveys estimate that real output at 1968 constant prices rose from 158 million cedis to 268 million cedis an increase of 69.6% between 1965 and 1974. The Central Bureau of Statistics conducted an Industrial Census in 1962 and the results of this census represent to data the most comprehensive information on the number of establishments. According to the Report on the 1962 Industrial Census, most of the firms were small-scale establishments. Out of a total of 95,167 enumerated, 86,423 or 90.8% employed less than five persons.

Table 2 in the Statistical Appendix gives an indication of the degree of concentration with the 14 very large firms (i.e. those employing more than 500 persons) accounting for 5.5% of total employment and 22.6% of wage employment in the manufacturihg sector. Even though, as shown in Table 2, small scale establishments are quite important in terms of their numerical strength and their contribution to employment, an analysis of the growth of the manufacturing sector will have to focus mainly on the medium and large-scale establishments, because the Industrial Statistics, the principal source for our analysis, covers only establishments employing 30 persons or more. Table 3 in the Appendix gives information on several variables that can be used to measure growth of medium and large-scale establishments. The number of establishments rose from 167 in 1962 to 382 in 1974. Gross output at 1962 constant prices more than trebled, increasing from 74.4 million cedis to 254 million cedis. Real value added also increased more than two-fold from ₵43.3 million cedis to ₵104 million cedis during the same period and finally employment rose by 145.6%. The largest increase occurred in gross output.

It is worthy to note that the coverage of the Industrial Statistics is incomplete even for the medium and large scale establishments. While the Report on the Industrial Census indicated that there were 346 establishments employing 30 persons or more in 1962, the Industrial Statistics covered only 167 establishments during that year. It is likely that the coverage of the Industrial Statistics has improved over time. This implies that the growth in output and employment of the

medium and large scale establishments was due to three factors: (1) establishment of new enterprises, (2) expansion of existing enterprises and (3) better coverage. Output per establishment rose from 430 thousand cedis to 660 thousand cedis. Expansion of output in existing enterprises was however mainly through application of more raw materials from outside the industry, because value added virtually remained constant throughout the period.

Table 4 in the Statistical Appendix gives the growth rates of the main variables. These growth rates are computed from the least squares regression lines of the variables on time and indicate that the fastest average annual growth occurred in gross output. Gross output for the medium and large-scale establishment rose at an annual rate of 26.4% while value added for the same establishments increased at the rate of 7.3% per annum. For the manufacturing sector as a whole gross output between 1965 and 1974 rose at the rate of 9.1% per annum. It may therefore be inferred that most of the growth of output in the manufacturing sector has been due to the medium and large scale establishments.

Section 4 : Structures of Manufacturing Industry

The term structures of an industry is a broad one and has several meanings. It may include the basic characteristics of the industry such as the size of establishments classified according to either employment or output, the availability of the industries, the technology used, the problems of foreign and indigenous participation, government and private participation and the commodity structure of manufacturing output. The term "structure" is used in our present context to refer to (1) the commodity composition of manufacturing output, (2) the foreign and indigenous participation and (3) public and private participation in manufacturing activity.

4.1 : Commodity Composition of Manufacturing Output

There are two separate sources on the commodity composition of the manufacturing sector. The Industrial Statistics series published for the year 1962 through 1970 cover only medium and large-scale industries, while the new Economic Survey Series covering 1965-1974 provides data on the whole manufacturing sector.

The data from the Industrial Statistics indicate that most of the manufacturing enterprises are for light non-durable consumer goods. These industries, comprising food, beverages, tobacco, textiles and wearing apparel accounted for 45.4% of real gross output and 59.8% of value added in 1970. At the 2-digit level the textile indusyry was the most important industry in 1970, accounting for 15.7% of gross output and 17.0% of value added in that year. Tables 5-10 in the Appendix make it

In 1960 it accounted for 32.5% of real output but in 1970 it accounted for only 5.3%. Its share in value added has also fallen from 33.4% in 1962 to 9.1% in 1970. It may therefore be observed that industrialization in Ghana started with the processing of timber for export but has now shifted to the production of light consumer goods for the domestic market[18]. It may further be observed that after 25 years of industrialization, Ghana is still at the first stage of industrialization where light consumer industries are predominant.

It is the view of the present writer that, barring the perennial problems from raw materials, Ghana should now move to the next stage of industrialization where manufactures of machinery and equipment is started. This view is supported by Butler who describes the second stage of industrialization as "the stage where domestically based or indigenous technology is strenghtened and multi-purposes machine capable of turning out replacement parts for machinery in the country are available".[19]

The available evidence on the total manufacturing sector confirms the importance of light consumer goods industries. According to Tables 11 and 12 in the Appendix, these industries accounted for 50.1% of value added in 1970 and 59.6% in 1974. By 1974 the food manufacturing industries accounted for the greatest share of contribution to Gross Domestic Product. In 1970, the textiles industry was far more important, accounting for 14.1% compared to the 7.4% of the food manufacturing sector. Output from small-scale industries are estimated to be slightly under ¢60 million. In 1965, it was estimated that the value added from the small scale establishments accounted to ¢57.6 million i.e. 36.6% of total value added of the manufacturing sector. By 1974 value added of the small scale enterprises were still estimated at ¢59.6 million, 22.3% of the total contribution of the manufacturing sector to GDP. Certain activities such as petroleum refinery, production of chemicals and aluminium products are carried out solely in large-scale establishments. In fact the small-scale establishments are dominated by food manufacturers who in 1974 accounted for 30.3% of the value added of the small-scale establishments. In the food industries, the small-scale

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[18] Aboyade observes that post-war industrial development in Nigeria was a movement from export promotion to intermediate products such as sawn timber to import substitution of manufactured goods. See his article cited above. p. 278

[19] R.G. Butler, "Strategies For Planning and Development of Industrial Engineering in Ghana" Economic and Social Affairs Vol. 1, No.1 January 1975.

producers are almost as important as the medium and large scale producers. In 1972, value added from small scale food producers amounted to ¢16.1 million versus ¢15.3 million for the medium and large scale food producers. However, in 1974 value added from the small scale establishments was ¢18.1 million compared to ¢18.2 million from the medium and large scale enterprises.

4.2 : Foreign Versus Ghanaian Participation in Manufacturing Activity

The present Government's philosophy of self reliance has led to the call on Ghanaians to capture the "commending heights of the Economy". The fear of foreign domination of economic activity has also led to the enactment of an indigenisation decree restricting ownership of some manufacturing activities only to Ghanaians. It is of relevance therefore to investigate the extent of foreign influence in the manufacturing sector. This is ideally determined by the pattern of ownership of investment or capital stock in manufacturing industry. We will provide data on gross output, value added, employment as well as ownership of investment to indicate the prepondanant role of foreign enterprises in manufacturing activity. Our analysis is limited to medium and large-scale manufacturing enterprises.

Table 13 indicate that in the sixties, Ghanaian-owned establishments accounted for less than one-third of gross output in manufacturing. In 1962, foreign firms accounted for 63.2% of gross-output. Their share in output has however declined to 40.1% by 1969. But even by 1969 the non-Ghanaian firms had a greater share of output than either the Ghanaian or mixed enterprises. The share of non-Ghanaian in value added is even higher, accounting for 67.8% of value added, compared to 63.2% of gross output in 1962. There have been some noticeable changes, however, The share of Ghanaian enterprises in value added increased by three percentage points from 20.0% to 23.0% between 1962 and 1969. During the same period, the share of non-Ghanaian establishments in value added declined by almost 25 percentage points from 67.8% to 43.4%. But even by 1969 the foreign establishments accounted for a large fraction of output. Their share in gross output was 40.1% for Ghanaian enterprises. The share of foreign enterprises in employment compares favourably with their shares in output but their share in the total wage bill is not as high as their share in either output or employment.

Another crude measure of the degree of foreign participation is their share in the number of medium and large scale establishments. The number of foreign establishments arose from 82 in 1962 to 156 in 1969. The number of foreign firms has always exceeded the number of purely Ghanaian firms.

As regards shares in investment, Hakam has analyzed the book value of investments in fixed assets made in 1966 and has found that out of a total investment of ¢110.2 million, ¢54.0 million or 49.7% represented foreign investment[20]. As shown in Table 14 private indigenous investment for 1966 was only ¢8.6 million or 7.9% of total investment in the manufacturing sector.

There is evidence to show that the foreign influence in manufacturing still prevails but this time mainly through joint partnership with private Ghanaians or with the Government[21]. Information released by the Capital Investment Board on the volumes of investment granted GIB concessions shown in Table 13 indicated that purely foreign enterprises invested ¢12.5 million. On the other hand joint foreign/Ghanaian investment approved by the Board amounted to ¢69.2 million or 67.2% of total investment approved for the period. The purely Ghanaian enterprises were permitted to invest ¢12.8 million or 12.4% of total approved investment.

4.3 : Government and Private Participation in Manufacturing Activity

By the sixties the economy was divided up basically into four main sectors: The Public Sector, Joint Public/Private Sector, the Private Sector, Co-operative Sector. Available data from the Industrial Statistics on the type of ownership in manufacturing industries cover the period 1962 to 1970. Table 16 in the Appendix summarize the shares of the various sector in number of establishments, real output, value added and total employment. The predominant role of the private sector is evident. The number of establishments in the private sector has increased in both absolute and relative terms. In 1962 there were 132 private medium and large scale establishments, accounting for 79% of the total number of establishments, by 1969 there were 335 private establishments accounting for 87% of the total number of establishments. In terms of real output and value added however the public sector is increasing its importance.

Its share in real output and value added increased from 11.8% to 20% and 11.5% to 17.6% respectively. The public sector plays an even more important role in employment than its shares in output would seem to indicate. Because 1962 and 1969, the public sector's share in

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[20] A.N. Hakam, "Impediments of the Growth of Indigenous Industrial Enterpreneurship in Ghana 1946-68", The Economic Bulletin of Ghana Vol. 2, No.2, 1973

[21] The Indigenization decree has forced several foreign firms to enter into partnership with Ghanaians. But usually the Ghanaian participation is limited to equity. Management is still left in the hands of foreigners and thus effective control cannot be said to have been passed on to Ghanaians.

employment averaged 29.3%, versus its share of 11.7% in gross output. During the same period the public sector's share in employment rose from 24.3% to 30.3%, an increase of six percentage points. The role of Government in industrialization is however best reflected in its policies which we discuss in the next section.

Section 5 : The Government's Industrial Policies and Incentives

To discuss government's policy towards manufacturing industries we will consider the various development plans, which gave expression to policies affecting the economy as a whole and the manufacturing sector in particular. Most public statements and press comments were directly or indirectly elucidations of the contents of the plans. The various Acts, or Laws that provided incentives for industrialization in Ghana will also be analysed in this section.

5.1 : The Government's Industrialization Policies as Outlined in Development Plans

Our analysis will deal with the first plan of the Nkrumah regime, the First Five Year Development Plan, 1951 - 1956, the Consolidated Plan, 1957-1959, which primarily sought to complete the unfinished projects of the First Five Year Plan; the Second Five Year Development Plan 1959-1964, and the Seven Year Development Plan 1963/64-1969/70, the two Year Development Plan 1968-70, the One Year Plan 1970-71 and the Five Year Plan 1975 - 1980.

It may be noted parenthetically that the first plan to be implemented in Ghana was the Guggisberg Ten Year Development Plan of 1919-1929. After it, no other plan was implemented, till the First Five Year Development Plan of 1951-1956. Two other plans in the Ten Year Development Plan of 1946, which envisaged an expenditure of £11.4 million and the Ten Year Development Plan of 1950 merely had theoretical existence. Hence the 1951 Development Plan sought to lay an effective foundation of infrastructure and social services on which future economic prosperity depended. It is important to note that all the plans drawn before the Seven Year Plan were only capital budgets for the public sector. They did not include the private sector. They gave allocations of planned capital expenditures for various Departments. In this connection, it must be further noted that no separate government Ministry of Industries existed before 1961. Before this date there was a combined Ministry of Trade and Industries.

The 1951 Plan did not give explicit statement to the Government's objective with regard to industrialization. The allocation of funds were also under four main groups: Economic and Productive services, Communications, Social Services and Common Services.

The industrial sector was included in the sector for economic and productive services. There was no indication in the plan itself of how much

Survey did shed some light on this; "the 1951 Plan provided £3,410,000 for investigations and investment in industrial projects. The possibilities were known in general terms but no detailed investigations had been made at that time. Government was particularly concerned to lay the Foundations of industrial development".[22] The sum of £3,410,000 represented 25.8% of the amount allocated to the Economic and Productive Services Sector but only 4.6% of total planned expenditure. Moreover, this sum was not truly representative of the amount which the government was prepared to spend directly on manufacturing enterprises because projects other than those connected with manufacturing were included. It must be noted that the Nkrumah Government took over the 1950 of the Colonial Government in its entirely and adopted it as its First Five Year Development Plan. Thus allocation under the plan did not fully reflect the Nkrumah Government's enthusiasm about industrialization. Soon after attaining power, the Nkrumah Government commissioned Sir Arthur Lewis to investigate, report and make recommendations about future industrialization in the Gold Coast. Lewis Report published in 1953 influenced both directly and indirectly the government policies on industrialization in the early 1950's. The main thesis of the 1953 Lewis Report is that the process of industrialization should be preceded by a vigorous programme of agricultural production which will increase productivity in food production.

As to policy, the Lewis report was generally in favour of the free-enterprise mode of production with very little interference from the government. The report favoured the dependence on foreign capital and recommended that the government should guarantee the free transfer of profits and dividents. It should be reluctant to take on the ownership of industrial undertakings, except where this is inescapable. It may be inescapable in two cases, in public utilities and for purposes of planning. This policy of non-participation by the government was pursued till the end of 1950's when it was discovered that the development of the economy and of industries, in particular could not be left entirely on the private sector. The Second Five Year Development Plan 1959-1964 marked the change in Government Policy on industrialization.

In the preface to the plan, the importance of industrialization was well articulated "although Ghana is and will remain predominantly an agricultural country, the Government is determined to develop to the maximum its potential for industrialization which will not only be based on the processing of agricultural products and exploitation of mineral resources but on the fabrication of all products for which there is a market in Ghana".[23] To provide a more strongly based foundation for industrialization, basic services such as communications, power and water were considered important in order to build upon the achievements of the

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[22] CBS, Economic Survey, 1955. Accra, 1957, p. 34.

[23] Ghana, The Second Five Year Development Plan 1959-64, Accra, 1965.

First Plan. The total amount of planned public capital expenditure under the plan was £350 million including 100 million for the Volta River Project. The government realised that the task involving the expenditure of £250 million in five years was a formidable one. The Government therefore decided that a number of projects should be selected "upon which it will embark immediately. But to which it will add as opportunity source of increasing the financial resources available either internally or by borrowing".[24] Thus the plan had two programmes: (1) a selected programme for immediate implementation with a financial allocation of £132 million (2) a more ambitious programme involving an additional expenditure of £118 million.

This plan also gave only planned public expenditures, and allocations under the plan were made accordingly to existing government departments or Industries. Again industry did not have a separate Ministry and was classified with Trade as the Ministry of Trade and Industries. In the "immediate" plan the first three priorities were Communications, Health including Sanitation and Water Supplies, and Trade and Industry with 21.7%, 14.9% and 11.7% of planned expenditure respectively. It is important to note that Trade and Industry now become the third priority. It was allocated £15.4 million, £10 million of which was to be spent on direct industrial development. This amount allocated for direct industrial development represented 7.6% of the total planned expenditure, compared to the 4.6% given to this sector under the First Plan. Indeed, the planners themselves admitted that "the policies of the First Development Plan have succeeded in preparing a good framework for industrialization in the form of adequate public services.... so the country is now ready to make a substantial leap forward in this sphere".[25] Hence to promote import substitution, generate employment and diversify the economy, it was decided to give a high priority over the 5-year period to promoting the establishment of "not less than 600 factories of varying size producing a range of over 100 different products"[26]. The Plan provided for the development of industrial estates in Accra-Tema, Takoradi and Kumasi. In addition to these it was the Government's intention to build up some twenty other rural centres each of which would have some industrial development. These centres were either district and local administrative centres or places where some raw material was available. The main idea behind this decision was to set up in these towns such foot loose industries which could survive commercially over outside the large urban or industrial centres.

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[24] Ibid p.

[25] Ibid p.

[26] Ibid p. 10

Professor Greenstreet has described this target as ambitious.[27] The Plan itself was abrogated in 1961. Dorm Adzobu has also observed that "Sixty-eight industries were established during the first year of the Plan. These were either publicly, jointly or privately owned".[28] However, by 1964 there were only thirty-five industries in operation which were owned by the Government. The poor performance under the Second Development Plan notwithstanding, it could be said that the government had now begun to play a more active role in the industrialization effort.

The Seven Year Development Plan differed significantly from its predecessors. It did not comprise a schedule of public expenditures as was the case with earlier plans; both the state and the private sectors of the economy were taken into consideration. An annual growth rate of 5.5% in real terms was envisaged for the economy. Total planned investment amounted to £1,016 million, of which private enterprise was expected to contribute 53%. An additional £37 million was allocated for the completion of the Volta River Hydro-Electric Project. Special Attention was devoted to the productive fields of Industry. including manufacturing, and agriculture, which were given much greater emphasis in the Year Plan that in the First and Second Five Year Plans.

The 37.3% allocated to the productive sector was further broken down with 23% for Industry and 14.3% for Agriculture. Industrialization was given prominence in the Plan which postulated an increase of 83 percent in the output of that sector by 1970. The objectives of industrialization were fully spelt out:

1. To the largest degree possible domestic substitutes should be produced for these manufactured staples of consumer demand for whose supply Ghana is now entirely dependent on foreign sources and expends large sums in foreign exchange each year.
2. The agricultural and mining commodities that are at present exported mostly as processed primary products should progressively processed before export.
3. The building materials industry should be expanded and modernized to enable it to support the inevitable increased activity in construction and a start should be made on the development of other basic industries in the field of metals and chemicals.

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[27] D.K. Greenstreet: "The Government and Manufacturing Sector in Ghana", The Nigerian Journal of Economic and Social Studies Vol. 15, No. 3, November 1973, p. 35.

[28] Dorm Adzobu : "The State and Industrial Development", Ghana Social Science Journal Vo,. 1, No. 1, May, 1971, p. 8.

4. In the development of basic industries particular attention should be paid to preparing the economy for the further stages of industrialization envisaged under subsequent plans. A beginning should therefore be made in a small way in the field of machine ihdustries, electrical equipment and electronics.
5. Industries will be developed in such a way that they will fit in with the development in other countries.

In sum, the government's intention was that the allocation of investment funds for the development of industries would generate increased production in either fields by providing forward and backward linkages. A total of £296.3 million was expected to be invested in industry from both public and private sources. The allocation to the manufacturing sector was not immediately available. But both private and public investment in manufacturing enterprise was expected to be high. The biggest single expected investment was the £58 million aluminium smelter that was to be sited at Tema and which would draw upon the abundant cheap electricity on the Volta River Hydro-Electric Project. Three main manufacturing priorities were identified, first the manufacture of clothing, footwear and soap; second, the processing of foods, canning and food packing and third, the processing of agricultural and mineral resources such as cocoa and gold which had been exported in their raw form. Noteworthy is the fact that the furniture industry was expected not only to satisfy the local market but also to provide a surplus for export. New Lines in manufacturing such as rope making and leather were introduced. A steal works plant was to be established to draw on local supplies of scrap metal.

In the first year of the plan period, government invested an estimated total of £10.5 million in industry. Construction work started on the following state enterprises: Cocoa processing at Takoradi, Glass factory at Aboso, Meat Processing Factory at Bolgatanga and a radio assembly plant at Tema. By the second year of its existence, however, there were clear indications that the success of finance for the plan was in doubt. This was mainly due to the fact that much of the investment expected from external sources was not forthcoming. There was shortage of imported raw materials because of foreign exchange difficulties and some factories were forced to close down or lay off most of their workers.

In the first two years of its existence, the NLC Government sought to stabilize the economy and did not embark upon any development programmes. The Two Year Development Plan 1968-1970 aimed at stimula ting economic, social and cultural progress which provide higher standards of living to Ghanaians. The plan considered the Ghanaian

economy to be essentially a private enterprise economy and therefore placed the onus of industrial development on the private sector.

The planners felt that the pivotal role accorded industrialization in the previous regime and the primary importance accorded the public sector was ill-conceived. It was therefore decided to reduce the field covered by full state ownership. Two broad industrialization policies were identified as follows:-

i) "Within the industrial sector priority will be given to the utilization of existing capacity where an economic return can be assured and to the elimination of loss making operation for which no reasonable prospect exists.

ii) "Small and medium scale industries will be stimulated in order to disperse industrial activities and create oportunities for Ghanaians to acquire managerial experience".[29]

It was further noted that in conformity with the philosophy of development, the private sector would be encouraged to make full contribution to the industrialization effort.

The main instruments for attaining industrial objectives would include (1) improving the existing import licensing system, (2) further development of industrial estates, (3) the maintenance of a fine balance of taxes, tax concessions and protective duties and (4) wider consultations with the private sector.

For the two-year period it was estimated that the Government would invest Ø4.6 million in the 19 existing public manufacturing enterprises output in the manufacturing sector as a whole was expected to increase by 10% in 1968 and more than 15% in 1969.

The Busia Government continued with the policies of the NLC Government. The Government in its One Year Development Plan declared itself committed to the task of accelerating the pace of the nation's economic and social development and to ensuring that the fruits of development accrue in an equitable fashion to all sections of the population and to all the regions of the nation.

The One Year Development Plan was confined to the public sector and should basically be considdred as the Capital Budget for the period 1970-71. The Busia Government also hoped to rely primarily on the private sector for industrial development. The plan noted that "the Government will continue to foster the growth of private industry and will not set up new Government owned factories"[30]. It was felt that industrial development must aim at a further increase in the use of

[29] Ghana, Two Year Development Plan 1968-1970, Accra, 1968 p. 4

[30] Ghana, One Year Development Plan 1970-1971, Accra, 1970, p. 8.

existing installed capacity. Based on studies by the Ministry of Trade and Industries, it was concluded that the opportunities for traditional import substitution were limited. Industrial promotion policy must, therefore, now be focussed on identifying new growth points such as exports and the production of intermediate and capital goods. Industrial policy, according to the Plan, was to be guided by the following broad considerations:

i) For those industries with export potential and those based on substantial use of local resources and yielding high net earnings in foreign exchange, reasonable inducements such as special foreign exchange bonuses will be given. The customs duty draw-back arrangement for exporters will be simplified.

ii) Industries with potential for producing intermediate goods at competitive prices will be given the needed facilities either to establish or expand.

iii) To achieve rationalization increased licenses will be given to those industries which by increasing their capacity utilization levels can reduce costs substantially both to themselves and to other industries.

iv) The Government will continue to encourage import substituting industries, especially those manufacturing essential commodities and those with low import contents.

v) Concrete plans will be introduced for promoting small and medium scale industries within the framework of the Ghanaian Business Promotion Act.

iv) The Ministry of Trade and Industries will control the expansion of existing industries and the establishment of new ones with a view to encouraging increased use of labour and a shift of investment into rural areas.

During the plan period of 1970-71 no new investments were to be undertake Planned investment for existing public enterprises totalled Ø5.9 million, of which 70% was earmarked for the sugar and glass manufacturing industries.

The present SMC Government came into power in 1972. Even though it has issued some policy statements relating to industrialization, its ideas have been crystallized in the latest five-year Development Plan. "The aim of the Plan is to build an independent national economy, firmly structed on the resource potentials of the country and in the context of the stated Government principle of self-reliance".[31] Economic independence is interpreted to mean that Ghanaians should capture the comm-

heights of the economy. Before the publication of the current five Year Plan, the Government issued a White Paper on Investment policy in 1973, specifying areas reserved for State ownership, for joint State/ foreign ownership, private Ghanaian/foreign ownership and full Ghanaian ownership.

The Plan in essence re-iterated the principles and objectives of the Government White Paper. It specified industrial objectives to include (1) accelerating industrial development (2) self-sufficiency in a selected consumer goods industries including sugar, milk, beverages, textiles and footwear, (3) diversification of the industrial sector, (4) encouraging appropriate linkages between industry and other sectors, (5) stimulating small scale industries, (6) promotion of exports of manufactured products, (7) disposal of industries and (8) Ghanaianisation.

Manufacturing output is expected to grow at an annual rate of 7.5% so that the share of manufacturing in GDP will rise from 14.9% in 1974 to 16.4% by 1979/80. The Government planned to invest ₵31.6 million in new projects including a six million cedis steel work to be sited at Kumasi. An additional ₵745,000 was to be spent in re-activating abandoned cottage industries.

5.2 : Tax Incentives and Concessions to Prospective Investors

Throughout the Nkrumah period much reliance was placed on foreign capital. Many inducements were held out to would-be foreign investors during these were attractive tax concessions, repartriation of profits, assistance in the form of advice by government agencies and the provision of industrial estates. Several lagislative and administrative instruments such as the Pioneer Companies Relief Act had been passed to encourage industrial development. The most important legislation, which also embodied most of the incentives to prospective investors was the Capital Investment Act of 1963, which will be briefly reviewed.

Tax incentives that projects approved under the Act may enjoy include an income tax holiday of 5 to 10 years and an accelerated depreciation rates for buildings, plant and equipment. For a period of up to five years, income tax is charged only after allowing for the deduction of 20% of any expenditures made on scientific research. Where a prospective investor is subject to double taxation (i.e. both inside and outside Ghana), the Government (of Ghana) is to establish contacts with the appropriate foreign authorities with the view of minimising the tax payable by the investor outside Ghana.

Prospective investors may also be granted exemptions from indirect taxes and charges. Projects producing goods for export with domestic raw materials or producing import - substituting goods may be granted exemption from import and custom duties and purchase tax for machinery,

raw materials, spare parts and fuel which the project uses and which are not produced in sufficient quantities in Ghana. They may also enjoy exemption up to 100% for export or excise duties on any exported product. Again exemption may be granted from property taxes and rates on factory, warehouse and workshop for five years if these are used for an approved project.

Other concessions include employment tax credit for up to ten years and for companies having share capital or which propose to increase their capital, the payment of registration fee and stamp duty may be deferred up to five years.

Aside from these concessions adequate provision is enshrined in the Act to assure prospective investors that their investments would be well protected. Thus Section 8 of the Act specified that no investment under it shall, except in exceptional circumstances, be subject to expropriation by the government. Where a take-over does occur, the government shall pay fair compensation in connection with which an unsatisfied investor could have ultimate recourse to a reputed international organisation, namely, the International Bank for Reconstruction and Development for arbitration. The remittance of capital in the event of sale or liquidation of a project is guaranteed. Similarly, the transfer of profits after payment of any taxes due.

Under an agreement signed with the U.S. Government in 1958, U.S. investors may secure specific investment guarantees against inconvertibility, expropriation and war risks as well as extended risk policies against commercial losses. West Germany's investment guarantee programme is also operative. Adequate provisions are made for expatriate personel employed in an approved project for making reasonable remittances abroad In all these however, temporary restrictions may be imposed in order to safeguard the external payments position of the country. In 1973, a new Capital Investment Decree was formulated but the dew decree did not revise substantially the incentives provided by the 1963 Act and outlined above.

PART II : THE DOMESTIC EFFECTS OF INDUSTRIALIZATION IN GHANA

Section 6 : Spatial Distribution of Manufacturing Establishments and Its Implications For Balanced Development

Aboyade has observed that "properly designed and executed, industrial location policy can provide the development planner with the powerful tool for achieving a good measure of socio-economic welfare".[32] The need for regional balance in the process of national economic development[33] has led to increasing interest in the implications of spatial distribution of industrial activities on the theoretical level.

Weber in his pioneering and classic work identified three factors namely, transport, labour and local agglomerative or deglomerative factors as the main determinants for location of industries.[34] Weber viewed transport costs as the primary determinant of plant location and noted that transport costs are a function of weight to be carried and distance to be covered. He defined the least transport cost location to be the point at which the total ton mile involved in getting materials to a place of production and the finished product to the market is at a minimum. Weber noted that if the weight of localized raw materials used in the production of the commodity exceeds the weight of the final product, then there is a raw material orientation for the siting of the industry; but if ubiquitous raw materials enter significantly into the manufacturing process, so that the raw material index is far less than one then the industry is market oriented and should be located at the market.

Weber sees that the labour and the local factors are subsidiary to transport costs and should be considered only to the extent that they offset additional transport costs. He notes for example that an industry will be labour oriented only if the saving in labour costs exceeds the additional transport costs incurred. Weber's work has received so much refinement and mathematical embellishment at the hands of Lefeber, Isard and Moses[35] that time, space and the available data in Ghana will not permit us to follow the refined

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[32] Aboyade op cit p. 275

[33] see for example Kodwo Ewusi "Disparities in Levels of Regional Development in Ghana", Social Indicators Research Vol. 3, 1976 pp. 75 - 100.

[34] Alfred Weber: Theory of Location of Industries first published in German in 1909 and translated into English by C.J. Priedrich, Chicago; University of Chicago Press, 1928.

[35] L. Lefeber: Allocation in Space-Production, Transport and Industry Location, Amsterdam, North-Holland Publishing Co., 1958.
W. Isard: "The General Theory of Location and Space Economy" Quarterly Journal of Economics Vol. 63, 1949, pp.476-489.
L.N. Moses, "Location and the Theory of Production" Quarterly Journal of Economics Vol. 72, No. 2, May, 1958.

classifications provided by these authors. Thus while a host of economic, geographical, technological and institutional influence impinge on location policy, in our present work we will relate Ghana's industrial profile to the economic and geographical factors.

Economic forces determining industrial location are conventionally based on "orientation" in terms of (a) raw materials (b) labour (c) power and (d) market. Orientation as used in this context simply refers to the availability or supply of the factor concerned. From the geographical viewpoint industries might be considered as rooted, linked, swarming, dispersed or foot-loose.[36] These two classifications are not mutually exclusive and an industry located at a point can be justified by a combination of geographical and economic considerations. Even one factor can be considered as being either economic, geographic or institutional. In what follows we will first attempt to describe the industrial landscape of Ghana and then analyse the factors that have accounted for the present configuration of industries.

The first but crude indicator of spatial distribution of industries is merely the number of medium and large scale establishments in the different regions in the country. Table 17 indicates the concentration of manufacturing establishments in the Greater Accra Region. In 1970 over 60% of the factories were located in the Greater Accra Region. Not only does the Greater Accra Region have a higher proportion of the industries, but its share has increased over time from 46% in 1962 to 61% in 1970. Ashanti has the second highest number of industries, even though the number of industries in 1970 was only 70 which is less than one-third the number of industries in the Greater Accra Region. The percentage share of the Ashanti in the number of industrial establishments has fallen by almost five percentage points from 22.6% in 1962 to 18.1% in 1970. The Western Region has the third highest number of industrial establishments, with its 38 firms accounting for 9.8% of the total number of establishments. Between what is known as the golden triangle 88.8% of the industrial establishments were located in 1970. Between 1962 and 1970, the net additions to the number of establishments was 219. Greater Accra Region accounted for 158, or 72.1%, Ashanti Region accounted for 32 or 14.6% while the Western Region accounted for 5.0% of the net additions. Thus over 90% of the net additons to manufacturing industries were sited in the three Region. The three least

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[36] A rooted industry is an industry based on available raw material which is relatively immobile, a linked industry is an industry which will derive either forward or backward linkage from another industry already sited in the locality for the new industry, swarming industries are industries located on an industrial estate which enjoy certain externalities which may not necessarily be described as backward or forward linkages. Finally dispersed or footloose industry is an industry which can be located in any part of the country

developed regions of Volta, Northern and Upper Regions have the least number of industrial establishments. Volta and Upper Regions had only one establishments each, while the Northern Region had six establishment in 1970.

The distribution of output from medium and large scale establishment also follows the same pattern as the distribution of establishment with slight regional variations. The Greater Accra Region accounted for 8% of gross output. The three most industrialized regions of Greater Accra, Western and Ashanti together accounted for 85.1% of gross output and 92.1% of value added in 1969. It is worthy of note that even though Ashanti has more industrial establishments than the Western Region, its share in gross output is less than that of the Western Region. Similarly the Volta Region had only one establishment in 1969, but it accounted for 1.0% of gross output and 1.2% of value added. The Northern Region with four establishments accounted for 0.1% of value and 0.2% of gross output.

The pattern of employment also confirms the concentration partern above. In 1970, the Greater Accra Region accounted for 51.5% of employment, Ashanti and the Western Regions accounted for 16.4% and 17.6% respectively of total employment. There has been significant change in the share of employment. In 1962 the Western Region was the most important region in terms of employment accounting for 36 of total employment, compared to 26.2% for the Greater Accra Region. The Western Region lost its leading role in employment to the Greater Accra Region in 1964 when their respective shares in employment were 32.0% and 34.7% respectively.

One measure of concentration, the location quotient, attempts to relate the degree of specialization of one region at one kind of economic activity with their employment or output data as the indicator. Using employment as the indicator, the location quotient is computed as a result of two ratios. The first ratio, the numerator, relates the industrial employment in any given region to the total employment in that region. The second ratio, the denominator, relates the industrial employment to the employment in the country. A quotient exceeding unity implies that a region has greater specialization in an economic activity. On the other hand, a quotient far below unity and very close to zero implies that a region does not have much concentration of the economic activity being studied.

Based on information from the Labour Statistics which covers only wage employment, we provide in Table 18 the location quotients for the regions. In 1972, the Eastern Region, which included the Greater Accra Region, had the highest quotient, followed by Ashanti and then the Western Region. For all the selected years the Ashanti Region had a quotient exceeding unity. The Western Region had the highest quotient in 1962 but it was declined to 0.97% in 1970.

As the indices we have computed indicate the extent to which manufacturing activity is concentrated in the Greater Accra Region. Even though its share of total population in 1970 was 9.9% it accounted for 51.8% of Gross Output, 49.5% of value added and 45.6% of total employment.

As regards concentration of manufacturing activity in the Greater Accra Region, the World Bank has noted that various factors are responsible for the dominance of the Accra district in manufacturing activity. First, most of the output of the manufacturing sector is produced for the domestic market, and, hence, location in the largest single high-money income market is important. Second, the proximity to the port of Tema and the network of transportation and communcation facilities that radiate from Accra offer distinct locational advantages. Finally, location near Government bodies involved in granting import and investment licenses is crucial".[37] In what follows we will attempt to assess the relative importance of the various economic and geogr phical factors influencing the location of industries. Aboyade has rightly observed in this regard that "once an industrial centre is firmly established, its growth process becomes cumulative. With increased urban concentration around it, incentives for establishing further secondary and ancillary industries are provided. The initial reason for locating the earlier plants in the centre may become submerged in, or indeed irrelevant to, the new complex of decision motives and locational pull associated with large industrial connurbations".[38]

Indeed it is not easy to isolate economic and geographical factors, and even for economic factors, two seemingly opposing forces, raw material orientation and market orientation, can both influence an enterpreneur's decision. In our empirical study we have first utilized the information in the Directory of Industrial Establishments relating to the very large firms that is, enterprises employing at least 500 persons. A two-way classification of these industries on regional and product basis indicates that most of the establishments are in textiles industries in the Greater Accra Region. Of the 26 very large establishments listed in the Directory, 14 were in the Greater Accra Region, five establishments were in the Western Region, four in Ashanti and one each in Central, Eastern and Volta Region. In Tables 19 and 20 we have tabulated the possible casual factors for location, using market, raw material, non-power orientation and economic institutional factors. Because labour is relatively more abundant and mob as has excluded that from our consideration. On the basis of geographica factors, we have classified the 26 industries into rooted, linked, swarmin or foot-loose (dispers where we find that most of the industries can be

[37] IBRD, Towards Efficient Self-Reliance: The Role of Manufacturing in Ghana Washington, 1974 p. 25

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described as swarming and can be inferred that the provision of the infrastructural services has the concentration of industries in the Greater Accra, Ashanti and Volta Regions.

In a study of the levels of regional development we identified the Greater Accra and Western Regions to be more developed than the other Regions in Ghana. The close relationship between the levels of development and levels of industrialization of the regions cannot escape attention. When we correlated the levels of industrialization with the less development we obtained a Spearman coefficient of 0.93. Correlation analysis does not establish causality but we can infer that if future industrialization is concentrated only in the three regions there will be continued skewed development. An optimal locational policy should therefore veer away from the creation of industrial estates in the level of connurbations. It must be remembered in this respect that certain instances can only be rooted to specific locals, and policy must be directed at the industries which can be described as foot-loose. Because the unequal distribution of resources across space there would also some areas of a country with very little industrial activity. Individual location policy must therefore be conceived as part of the general problem area of regional development and even within the wider context general economic planning.

Section 7 : The Forward and Backward Linkages of Manufacturing Output

The most direct way to observe the linkages that one sector has with the rest of the economy is through an analysis of an input-output sample of the economy. Two input-output tables have been prepared for Ghana by Szerezewski (1960) and Singhal (1968).[39] As should be expected the 1968 input-output table is more detailed, with the economy disaggregated into 37 sectors at the 3-digit ISIC dissification. The 1960 total gave only 10 sectors corresponding to the 1 digit level classificational methods of presentation also differed. Singhal included in his table, the intra-sectoral transactions. Szerezewski excluded intra-sectoral transactions.

These two approaches respectively correspond to the gross output and net output methods of input-output estimation. Our greatest difficulty in making comparison stems from the fact that Singhal consideration imports as additions to the local production of the appropriate domestic producing sectors and as such the import were "included in all the rather than being shown in a separate row vector. It is easy to see example from the Szerezewski table that the manufacturing sector used ₡12.0 million cedis worth of imports as intermediate inputs.

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[39] R. Szerezewski: "The Inter-Sectoral Structure of the Economy of Ghana, 1960" Economic Bulletin of Ghana, 1963.
M.S. Singhal, Input-Output Table of Ghana, 1968, Accra, 1973

Tables 21 and 22 for 1960 gives better picture of linkages between the manufacturing sector and other sectors of the economy than Tables 23 and 24 for 1968. In 1960, the manufacturing sector imported 23% of its inputs. Wood and cork industry was the most important manufacturing sector, it is easy to understate therefore that 21% of total input came from the forestry sector. The agricultural sector privided only ₵0.6 million, less than 2% of the total needs of the manufacturing sector. Three quarters of the output from the manufacturing sector in 1960 went into final consumption with construction taking up 16% of the output. Bearing in mind the difficulty about the treatment of imports in the 1968 input-output table, it is difficult to state whether the inputs shown in Table 31 are inputs from the domestic industries. The share of forestry in the total inputs has declined both absolutely and relatively. In 1968, only ₵8 million or 1.8% of total inputs for manufacturing was derived from forestry. This ₵8 million represented 12.3% of total output of the forestry sector.

The increased processing of cocoa is reflected by the fact that ₵25 million of the output of the cocoa sector was used as inputs by the manufacruting sector. Table 24 indicates that almost ₵15 million of agricultural inputs was used by manufacturing. But most of this would have been imported agricultural raw materials such as cotton. It appears that the linkages between the manufacturing sector and other sectors of the economy are not strong enough. The growth of the manufacturing sector, has failed to generate the required backward linkages with the agricultural sector. Consumer goods manufacturing industries were established to depend on imported raw materials and unfortunately they continue to do so.

There are however other direct benefits and unquantifiable externalities which the economy derives from the manufacturing sector. The direct benefits include employment generation, provision of personal incomes, contribution to government revenues and foreign exchange. Employment generation and contribution of foreign exchange earnings are dealt with in subsequent sections. Total payments by the medium and large-scale industry rose from ₵5.9 million in 1962 to ₵32.9 million in 1970. Average wages in the manufacturing sector was generally higher than the mean for all industries combined, and over the period 1957 to 1970, real wages in manufacturing rose faster than in any other sector. While real wages in all industries combined declined by 12.1%, real wages in the manufacturing sector rose by 17.2%.

It has been estimated that in 1969/70 the manufacturing sector contributed between ₵70 million and ₵75 million as taxes to the Government[40] This total includes company income and profit tax, import duty on industrial

[40] IBRD op cit p. 4

inputs, excise tax and local duty and sales tax. This tax burden on the manufacturing industries is considered to be onerous since it constitutes about half the value of value added and may have the effect of reducing reinvestable surplus. There are other externalities provided by manufacturing enterprises which will need detailed case-studies. A case study of the Firestone Rubber Company at Bonsaso, for example, indicated that apart from its own labour force of 690, it has helped to maintain or generate 2000 more jobs as therubber plantations owned by the Ghana Rubber Estates Ltd.[41] It is noted that the 2000 workers of the Ghana Rubber Estates Ltd. are unskilled workers who would have migrated to commercial towns to aggravate the problem of urban unemployment. Firestones also provides forward linkages by appointing agents for its products. There are 44 distributors in Greater Accra District, 28 in Kumasi and 14 in Takoradi district. Firestone further provides accommodation for its employees and free medical services. "Buses convey workers to and from the factory. One free meal a day is provided for each worker. The firm also pays for the correspondence courses being undertaken by workers". The study of the Firestone Company indicates that not all the benefits of manufacturing enterprises can be discerned from global figures or input-output tables.

In considering the overall effect of industrialization on the economy, it must be noted that the share of the total manufacturing sector in real GDP rose from 2.0% in 1960 to 12.6% in 1970. But the share of GDP from the primary sector remained at a high 44.2% in 1970, versus 56.3% in 1960. The total agricultural sector accounted for 52% of GDP in 1960 and 42% in 1970. Even though the Ghanaian economy remained predominantly agricultural, it is true that manufacturing had become far more important. The economy has not been completely transformed, but at least the manufacturing sector now plays a far more important role in the economy then it did in 1960.

Based on the growth in output, we are inclined to suggest that even though the industrial sector did not become a leader, it had contributed to the over-all growth of the economy, unsatisfactory though this was. As far as promoting further industrialization is concerned the record is a mixed one. It appears that the process of industrialization generated forward linkages. As we have noted above by 1975, there was a demand for machine spare parts. Also the growth of the textile industry stimulated the commercial sector. However, industrialization failed to generate backward linkages. Most of the industries were started with imported raw materials. Meaningful [illegible]ming should have demanded the development of the raw materials to f[illegible] these industries. One of the reasons for the failure of the economy as a whole was the dependence on

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41 Francis Kojo Yankey: "The Role of Firestone in the Ghanaian Economy" Unpublished B.Sc. Thesis, Economics Department, University of Ghana. June, 1976.

the world market of cocoa. Similarly the dependence on foreign sources for raw materials which have been limited by scarce foreign exchange resources has created serious problems for the industrialization effort. One is tempted to re-iterate Lewis' earlier advice that industrialization especially for domestic consumption should be based on readily available local raw materials. In considering the role of manufacturing in stimulating economic growth and fostering further industrialization, it must be remembered that the performance of the industrial sector and the economy are interdependent and that the depressed world market price of cocoa proved to be the Achilles heels of the ambitious Seven Year Plan which in bringing the economy to its knees not only had a detrimental effect on the operations of manufacturing enterprises but also exacerbated their weaknesses.

Section 8 : Employment Generation in Manufacturing Industries

Employment generation has been considered to be one of the prime objectives of industrialization. The experience of most developing countries has however not satisfied high expectation for rapid labour absorption into modern manufacturing activities. Ghana's employment problems in the industrial sector have not followed the general pattern for developing countries. Two off setting factors have been at work to result in a faster employment generation in the manufacturing sector. While the private establishments have experienced slowest growth in employment, the public enterprises have tended to engage more people than needed. It is argued in this section, therefore, that the global figures indicate that employment generation in Ghanaian manufacturing industries has been an exception to the observed pattern for most developing countries. It is further contended that the authors who consider employment generation in Ghanaian manufacturing industries to be rather slow based their assessment on wrong criterion.[43] These authors often complain that growth in employment has lagged far behind growth in output.[44] While the observation is true, it is not meaningful, because it is tautological. It is always true that employment will lag behind output unless productivity declines or remains constant over time. The following formulation explains this reasoning:

$$\text{If} \qquad V = \frac{V}{L} \cdot L$$

$$\text{Then} \qquad dV = L \frac{dV}{dt} + V \cdot \frac{dL}{dt}$$

Since we are concerned primarily with the rate of change over time, the above formula implies that growth rate in value added (which we are using

[42] J.L. Enos and K.B. Griffin who have analyzed employment in several developing countries have observed that "only El Salvador and Ghana have managed substantially to increase the proportion of the labour force engaged in industry. In most of the other countries the proportion of the total labour force employed in large-scale manufacturing is probably falling. See their Planning Development; London, 1972, p. 65

[43] See for example Ken Brew "An Empirical Analysis of the Manufacturing

here as a proxy for output) is an additive function of the growth rate in productivity and growth rate in employment. The data for Ghana's economy as a whole bears ample support to the above argument. While real Gross Domestic Product increased at an annual rate of 2.4%, employment increased at an annual rate of 2.1% and productivity measured by GDP per worker increased at the rate of 0.3%.[45] Maitha's studies on selected countries, shown in Table 25 in the Statistical Appendix, confirm the same point.[46]

With the exception of Kenya, Panama and Israel, the growth rate of output is the sum of growth of productivity and growth of employment. It is tautological to argue that employment is lagging behind output, because employment can grow at the same rate as output if and only if there were:

1. No factor substitution (either because of fixed factor) proportions; or relative factor prices do not change).
2. No change in labour skills and efficiency (from increased) education, training, or learning by doing).
3. No organisation and managerial changes (improvements in the way in which the productive process is organised and carried out).
4. No embodied technological changes.
5. Constant returns to scale.
6. Full utilization of plan capacity, and
7. No non-economic or non-polistic elements in decision-making.

Since most of the seven conditions will not be met in the Ghanaian case we do not expect and will not judge employment performance by whether or not its growth keeps pace with growth in output.

To assess the performance of the manufacturing sector with regard to employment generation, we can make spatial as well as longitudinal comparisons. Two types of spatial comparisons are also possible. We can compare employment generation of Ghanaian manufacturing industry with that of the other sectors of the economy. We can also compare employment growth in Ghanaian manufacturing firms with that of manufacturing industries in other countries. As shown in Table 26 in the Appendix, the manufacturing sector registered the second fastest growth in employment after the services sector.

These figures are derived from the censuses of 1960 and 1970 and deal with total employment inclusive of self-employed and employees. When we consider jobs that are provided by the various industries, we also find that agriculture, services and the manufacturing sector provided more jobs than any other industry. It must be noted that between 1960 and

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[45] Kodwo Ewusi: The Size of the Labour Force and Structure of Employment in Ghana; (Accra, 1975).

[46] J.K. Maitha: "A Short Term Employment Function for Kenya Manufacturing"; Eastern African Economic Survey; 1970.

1970, the mining construction and utilities suffered absolute declines in their employment.

When we compare only those industries which had positive increases in employment, it is important to emphasize that part of the additional jobs provided by the positive growth industries were taken by the negative growth industries including mining and construction. So that for the economy as a whole the absolute increase in employment was 573,659 compared to the increase of 607,913 shown in the Table 26. If we related the increment in total employment in the economy, we find that the manufacturing sector accounted for 23.4% of the increase in total employment.

When employment growth in the manufacturing sector in Ghana is compared with that of manufacturing sectors of other developing countries, it is usually found that the situation in Ghana is better than in other developing countries.[47]

Table 27 compares employment growth in Ghana's manufacturing industries with other African countries and indicates that Ghana had the fastest growth rate. The proceding spatial comparisons between manufacturing and other industries in Ghana as well as between manufacturing in Ghana and in other countries indicate that employment in Ghana's manufacturing industry has not been unsatisfactory. We will now consider what has been happening in the manufacturing sector over the years. Here data limitations prevent us from considering the manufacturing sector as a whole. Based on the Industrial Statistics we compare total and wage employment in medium and large scale manufacturing enterprises.

Growth in both total employment and wage employment were respectively 8.3% and 9.8% per annum. What is more interesting from our viewpoint is the year-to-year change as given in columns 3 and 6. According to Table 28 there was no absolute decline. The slightest increase occurred in 1967 when total employment increased by only 1.9% (for total employment) and 1.6% for wage employment. We may conclude then that when we examine the annual change in employment, then over time the medium and large scale manufacturing enterprises have not fared badly.

But there are other parameters that can be used to assess the employment situation over time. It is often argued that the developing countries adopt capital-intensive techniques that are particularly appropriate for capital-abundant developed countries. Such techniques hamper a developing country's ability to generate the required employment opportunities of over-rising labour force. A test of successful employment policy is to consider change in measure of capital intensity and labour intensity economy of sectors of it. As Mehta rightly observes, "in modern

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[47] see C.R. Frank, "Unemployment and Economic Growth in Africa" Oxford Economic Papers July 1968

economic literature several terms have been applied to indicate labour intensity and capital intensity".[48] These include the capital labour ratio, the capital wage ratio, the capital output ratio, the employment output ratio and the retio of annual costs to initial cost. Cierch a description of these concepts in his "Stages and Spurts of Economic Development". Robinson and Kendrick suggest capital per man employment Hardtrey and Harrod prefer capital output ratio, while Kaldor favours ratio between the initial cost and the annual cost.[49] Since the object of this manuscript is to explore the employment prospects of the manufacturing industry, capital labour ratio appears to be the most appropriate yard stick for measuring labour and capital intensity. The two concepts, labour and capital intensity are in fact each other's reciprocal. In the Table 29 we have provided both employment output ratio and capital labour ratio. But it must be understood that employment output ratio used more as an indicator of labour productivity than of labour intensity.

The employment output ratio shows a declining trend and could be interpreted to mean the adoption of more capital-intensive techniques. But what it really implies is an increase in productivity which could be due to a number of factors including admittedly the adoption of more capital-intensive techniques.

The capital-labour ratio also shows an increasing trend for most of the period under consideration. It is only in 1969 and 1970 that the ratio falls below its level in 1962. This implies that capital intensity was higher for most of the period under consideration. The changes in the employment/output ratio and the capital-labour ratio would seem to contradict our argument that employment generation was satisfactory. First it must be noted that the 1960's was a time when most new industries were established and when even old industries operated at less than full capacity. This under-utilization of capital would necessarily imply higher capital-labour ratios. While we accept that some capital deepening might have occurred, we believe that this involved capital spreading and thus did not necessarily displace labour. All in all we will rely on the previous capital comparisons to conclude that employment in the medium and large scale manufacturing firms in the period under consideration was not sluggish.

Indeed the relationship between growth of output and growth of employment in manufacturing has been a matter of critical concern for some time. As regard previously, there should not be a 1:1 correspondence between output and employment. And yet most authors commit the fallacy of complaining that growth in employment is not keeping pace with growth

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[48] M.M. Mehta: Employment Aspects of Industrialization Bangkok 1970 p. 4.

[49] Cited by Mehta op cit p. 24

in capital. Arthur Okun was the first to examine critically this relationship between growth in output and growth in employment. In a study of the United States economy Okun found what has become known as Okun's law that there is a rate of 3:1 between changes in national product and employment.[50] Norman Uphoff has attempted to test the validity of Okun's law for other countries, developing as well as developed.[51] He estimates what he calls the elasticity of employment changes with respect to change in national product, E, by regressing employment on capital. For the countries included in his study there is a marked central tendency of E around 0.3. However, for the African countries the values of E were mostly negative except for Rhodesia and Ghana.

The elasticity for Ghana was estimated at 0.66 but Uphoff suggested after the necessary adjustment the figure for Ghana would be around 0.5. Even though Okun's law indicate an elasticity of 0.3, generally the developing countries, where pdoductivity is lower and where labour is the more abundant factor of production will have higher elasticities; and in fact an elasticity of 0.3 should mark the lower limit.

Our immediate interest is to apply Uphoff's analysis to the manufacturing industries to determine the relationship between output and employment. The data for this analysis are from the Industrial Statistics and cover the period 1962 to 1972. The Industrial Statistics provided both value and gross output in real terms for the total manufacturing industries, i.e. at the 1-digit level and therefore our analysis is with real output. Uphoff assumed a linear relationship between employm and Gross National Product (Employment = a + b Product) and then calculat the elasticity by multiplying the coefficient b by the ratio of product to employment. In our analysis we have assumed a double logarithmic relationship between employment and gross output (log Emp = a + b log Gross Output). This implies that the real production coefficient gives us the estimate of elasticity. The results of the ordinary least squares, regress are given below:

$$\text{Log } E_t = \underset{(0.2873)}{-0.4985} + \underset{(0.0356)}{0.6327} \log Q_t$$

$$= \underline{1.7348} \qquad \underline{17.7511}$$

$$R^2 = 0.9783$$

The figures in the brackets are standard errors and the underlined value are the T - values. While the T - value for the constant is not significa at the 10% probability level, the T - value for the output variant is highl significant even at the 1% probability level. The adjusted coefficient of

[50] Arthur Okun: "The Cap Between Actual and Potential Output" in The Battle Against Unemployment. 1965

[51] Norman Uphoff: The expansion of employment associated with Growth of GNP: A Projective Model and Its Implication for Ghana", Economic Bulletin of Ghana 1972, Vol. 2, No. 4.

determination is a high 0.9783 implying that the 97.8% of the changes in employment are explained by changes in output. What is important for the purposes of our analysis is the regression coefficient of the output variable which is also the estimate of employment output elasticity. We obtain an elasticity of 0.63 which is statistically significant. Our estimate is slightly below what Uphoff obtained for total economy, i.e. 0.66. But it must be noted that Uphoff's analysis was for the total economy and covered a different period, i.e. 1955-1969. Our estimate implies that the marginal output to employment ratio is 1.59 : 1 and falls within the range estimated by Uphoff.

There is however a differential between employment output, the elasticities for the private and public sectors. The regression of employment on output, yields an elasticity of 0.7 for the public sector and an elasticity of 0.1 for the private sector. In Section 4 we indicated the predominant role played by the private sector in manufacturing activity. But the public sector plays a more important role in employment than its share in output would seem to indicate. Between 1962 and 1969, the public sector's share in employment averaged 29.8% versus its share of 17.7% in gross output. During the same period public sector's share in employment rose from 24.3% to 30.3%, an increase of six percentage points. Table 30 showing employment per establishment sheds further light on this argument.

Employment per establishment in the public sector was always higher than that of the private sector; and in fact since 1967 it has always been more than double what prevailed in the private sector. This is due to the fact that while the private sector laid off some workers during the post 1967 recession, the public sector could not easily dismiss its employees. Indeed it appears that the public sector played a more important role in employment, only at the sacrifice of efficiency.

According to Table 31, the level of productivity was highest in the joint state/private enterprise, followed by the private sector. For the first three years, that is, 1962-1964, productivity was higher even in the co-operatives and thus lowest in the public sector. The abrupt decline in the productivity of the co-operatives after 1965 may have been due to the fact that the government did not encourage the co-operative sector after that date. If we ignore the abnormally low productivity of the co-operative sector for 1965-1967, then it could be inferred that the public sector registered the lowest productivity level. It is tempting and to some extent permissible to interpret the higher level of value added per worker in the private sector as an index of higher efficiency. Indeed it is often argued that government enterprises are less efficient. But another possible explanation for the lower productivity levels in the public sector is "padding" that is, the government enterprises might have employed more labour than was needed for their operations.

Section 9: Effect ofIndustrialization in Income Distribution

9.1 : Distribution of Total Earnings in Manufacturing Firms

Our purpose in this section will be to make intersectoral as well as intrasectoral comparisons of earnings to factors of production within the manufacturing sector. We will examine changes in functional and size distribution of income. To put our discussion in a proper perspective we will compare employment, output, value added of the manufacturing sector with the respective parameters of the total economy. As shown in Table 32, manufacturing is a small but growing sector in the economy of Ghana.

The share of total manufacturing sector in both output and employment has increased over time; but the increase in employment of almost three percentage points was not as much as the 10 percentage points increase in output. The ratios in Table 32 represents output and employment in the manufacturing sector as a whole. More detailed information are available for medium and large scale manufacturing enterprises and these data are available only from 1962. A comparison of the 1970 census figures and the Industrial Statistics figures indicate that medium and large scale manufacturing provided a total of 56,000 out of the total 376,000 employment in the manufacturing sector. Thus, medium and large scale enterprises accounted for 14.8% of employment within the manufacturing sector and 1.8% of employment of the economy as a whole. The share of large and medium scale enterprises in Gross Domestic Product is more important than their share in employment. Using current figures the share of their value added in GDP in 1970 was 6.3% compared to a share of 1.8% in total employment. When we consider wage employment or more specifically registered employment in the wage sector, then the medium and large scale enterprises fare far better. Their share in recorded employment rose from 8.2% in 1962 to 12.6% in 1969.

9.2 : Distribution of Income in Manufacturing Sector Vrs. Rest of the Economy.

With regard to income distribution the logical point to start is a comparison of the manufacturing sector with the total economy. Table 33 compares real output and real value added of medium and large scale manufacturing enterprises with real Gross Domestic Product expressed in 1962 constant prices.

First it appears that both gross output and value added in manufacturing increased at a faster rate than Gross Domestic Product. Compared to 1.7% of growth in GDP, real output in medium and large scale enterprises increased at an annual rate of 10.2%. As should be expected the share of output and value added in Gross Domestic Product increased over the time we are considering. But the increase in the share of value added in GDP (rising from 3.8% in 1962 to 6.0% in 1969 should not be interpreted as an improvement in income distribution. The more of a nation's resources expended in one sector, the more income should be generated from that sector. A more plausible yo

for income redistribution is the ratio of value added of thesector to the gross output of the same sector. This ratio measures the proportion the income generated by the sector that is retained in that sector. Shown in the last column of Table 33, this ratio wobbled around an aver ge of 56.1% between 1962 and 1969. The ratio first declined for two years in 1963 and 1964 and then rose to almost 60% in 1966 but has since dropped to 52.2% in 1969. If we take 1962 and 1969 as our bench mark years, the conclusion is that income distribution between the factors in the manufacturing sector and the rest of the economy has deteriorated.

9.3 Distribution of Income Within the Manufacturing Sector

Within the manufacturing sector itself several comparisons are possible. We will have a discussion of functional discussion i.e. between labourers and other factors; comparisons between unskilled labourers and other labourers and finally, but for the greater part of our analysis, we will discuss the size distribution of income among workers in the manufacturing sector. With the manufacturing sector labourers labourers suffered a decline in their share of the sectors income as shown in Table 34 which compares total wage with value added of the sector.

The share of labourers in the income retained within the manufacturing industry declined steadily from 28.9% in 1962 to 19.4% in 1969. Another index of the worsening position of the worker is the trend in real wages. While in 1962 the average worker earned ¢404 by 1969 his real wage had fallen to ¢327 at 1962 prices. As indicated by the last column there was an absolute decline of 19%. Part of the decline may have been due to the inflationary pressures of the time; but this still indicates a worsening of their position. We have demonstrated that workers on the whole suffered a deterioration in their income position. But even among the workers some were worse off. Unfortunately it is the lower income, unskilled or what is euphemistically called production workers whose position worsened. Table 35 gives the share of production workers wages in total wages for the various two digit level manufacturing industries.

According to Table 35 only four out of the 16 industries registered an increase in the share of production workers' wages in total wages. These four industries included the textiles, the printing and publishing, the leather and fur products and petroleum and coal industries. The worsening of the position of the production workers was especially noticeable in the capital-intensive like the transport equipment industry where their share fell from 71.9% in 1962 to 48.1% in 1969, a decline of 23 percentage points. The non-metallic and mineral industries registered a decline of nine percentage points, which was the same as the decline in the tobacco industry. It appears also that the increase in the share of non-production workers was less marked in the older established industries of food, beverages and wood and cork. In the furniture and fixtures

industry, which is relatively new, the share of production workers in total wages declined by 20 percentage points. The most meaningful way to compare the position of the rich and poor is by the size distribution of income. In what follows our attention will be focused on size distribution of income within the manufacturing industry.

The source for the analysis in the Labour Statistics, the main limitations of which have been detailed elsewhere.[52] The major limitations, which should bear a repetition here include incomplete coverage reasonality in the earnings. The coverage of the Labour Statistics particularly poor for the private sector. The C.B.S. aims at covering all establishment employing five or more persons but the coverage is complete even for medium and large scale industries. The Central Bureau of Statistics sometimes fails to get returns for all the firms. In event, it is assumed that the firms which have not returned their forms are still operating and employing the same number of persons. The seasonal bias is caused by the fact that the estimates are based on monthly earnings for December.

An initial frequency table was constructed using the class intervals of the Labour Statistics. There are two limitations in using these classes. First the class sometimes contain very large concentration of income units. Secondly, the income classes in nominal cedis are comparable over time. To standardise the class intervals, we applied log linear graph and thus extrapolated the lower income classes to the lowest decile.

To estimate the average earnings of each decline group, we assume that the mathematically expected earnings of each worker will be the point value of the class to which he belongs. The product of the mean income and number of workers gives estimates of total earnings given in Table 36.

Table 36 clearly indicates a worsening of income distribution. The share of the first six decile declined between 1956 and 1965. The share of the first quintile fell from 11.8% in 1956 to 10.1% in 1965, while the upper quartile increased its share from 36.2% to 39.5% between 1956 and 1965.

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[52] see Kodwo Ewusi, The Size of the Labour Force and Structure of Employment in Ghana, Accra, 1975.

PART III : EXTERNAL EFFECTS OF INDUSTRIALIZATION

Grayson has applied the Seers model of development[53] to the historical development of industries in Ghana and has identified five phases. According to Grayson "it is fairly clear that Ghana around the early 1970s is in the stage of a 'closed Economy' Difficulty Import Substitution". The "closedness" applies only to the manufacturing sector..... Most of domestic demand can be satisfied by local manufacturers; new opportunities for standard import substitution.... are fast disappearing. The crucial question for Ghana's economic policy makers is whether or not they will be able to move from the second "closed economy" stage of Export Diversification".[54]

In the Seers/Grayson model, export expansion has been implied to be a sequel to import substitution. Most discussions of industrial strategy also see export expansion as a sequel to import substitution either because import substitution has been so successful as to pre-empt the possibilities for further substitution, or because import substitution has failed and must be replaced by a new strategy-export expansion. Furthermore the Government's own policies seem to have given emphasis first to import substitution in the Second Five Year Plan and the Seven Year Plan and only later in the One Year Plan is priority given to export expansion. In our discussion of the external effects of industrialization, we will first consider the success of import substitution programme, and then reflect on the prospects of export expansion especially under ECOWAS.

Section 10 : Industrialization and Import Substitution

The programme for import substitution was not successful. The objectives of import substitution is not merely to replace import goods by domestic ones but rather to save foreign exchange. Thus Article 5 Section D of the Capital Investment Act 1963 noted that "the saving on imports, the increase of exports and the improvement of services which will assist the strengthening of the payments position of the country" is one of the criteria to be used by the Capital Investment Board in approving projects. However, Steel has noted that in the import substitution programme for Ghana, it was only after 1962 that the need to conserve foreign exchange was felt.[55]

We will therefore evaluate the import substitution aspect of industrialization by two criteria. First of all to what extent have we

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[53] L.E. Grayson: "Ghanaian Industrial Strategy: Some Problems for the 1970's" The Economic Bulletin of Ghana Vol. 1, No. 3, 1971

[54] Ibid p. 5

[55] William F. Steel "Import Substitution and Excess Capacity in Ghana", Oxford Economic Papers Vol. 24, No.2, July 1972, p.226.

substituted foreign goods with domestic goods, and secondly at what the strategy of import substitution carried out? An analysis of the composition of import, as shown in Table 37 indicates that there has been a shift from manufactured goods

Much of the increase in the value of exports was inflationary. The more to guage the extent of import substitution, we have to consider the more of the various commodities in total imports. In this respect to share of manufactured goods declined from 39.6% to 24.1% between 1955 and 1970. The share of miscellaneous manufactured articles also dropped from 8.4% in 1955 to 3.9% in 1970. A detailed analysis of the figures indicate that import substitution occurred mostly in the textile and shoe industry Steel provides a summary table of imports which shows the shifts from consumer goods more clearly. According to Table 38.

The share of the consumer goods industries declined by 23 percentage points between 1957 and 1968. But this was largely taken up by the import of machinery and equipment whose share in imports rose by 11 percentage points, and industrial raw materials whose share rose by 10 percentage points between 1957 and 1968.

It must be noted also that the decline of imports of manufactured consumer goods does not per se mark the success of the import substitution programme. There was direct limitation of imports and protection and encouragement of local industries after 1962. The decline in import does not necessarily indicate the extent to which the industries had satisfied the effective demand for their products.

Now we will consider whether the import substitution programme was efficiently executed. The yardstick here will be net savings on foreign exchange. Bruno has introduced a concept, the domestic resource only by which the economic efficiency of import substituting firms can be evaluated.[56] This concept which compares the costs of domestic resources in producing a commodity with the net foreign exchange gained per of production may be formulated as follows:-

$$DRC = \frac{\sum_{i=1}^{m} \bar{f}_{ij} \; P_i}{P'_j \; \bar{f}_{m+\,ij}}$$

where

$\bar{f}_{ij}$ = total input of factor i per unit of output j, for all domestic primary factor inputs 1 ... m .

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[56] M. Bruno: "The Optimal Selection of Export - Promoting and Import Substitution Projects" in Planning the External - Sector: Techniques, Problems and Policies (New York, 1967)

P_i = domestic price of input i

P_j = c i f price of the final good.

$\bar{f}_{m+i,j}$ = total foreign exchange input cost (including imported materials, capital and labour) per unit of output j

The numerator in the equation represents the cost of all domestic resources involved in producing j. The denominator is net foreign exchange gained per unit of production, taken as the difference between gross foreign exchange earnings and foreign exchange costs involved in the production of j. The DRC ratio represents the rate at which domestic resources can be transformed into foreign exchange through activity j and must be equal to or below the prevailing foreign exchange or the marginal value of it for the production of j to be considered efficient. Production activities whose ratios exceed the foreign exchange are considered inefficient because the opportunity cost of domestic resources involved exceeds the value of the foreign exchange saved or earned.

Steel has applied this concept to some forty firms of large-scale manufacturing in Ghana for the 1967-68 financial year and has found that "three-quarters of the firms surveyed were inefficient savers of foreign exchange in 1967-68. That is their costs per dollar of foreign exchange saved would have been too high to allow them to compete against imports"[57] Steel further noted that "even worse 24% of output was produced at a net loss in foreign exchange. These firms represent a waste of investment funds and a failure of import substitution. It must be noted that 1967-68 were the years of economic recession and difficult external payments position. Still even the scanty available evidence for the other years lends support to Steel's findings that import substitution is being inefficiently carried out when measured in terms of foreign exchange costs. Most private firms depend largely on not only imported raw materials and machinery, but also expatriate management staff whose salaries, internationally determined, constitute a drain on the source foreign resources of the nation. The multi-national corporations resort to transfer - pricing, over-invoicing imported inputs from their branches in other countries. Car assembly plants are now being established and it is useful to apply the domestic resource cost criterion to evaluate their efficiency in import substitution. According to the findings of Steel the firms in 1967/68 were now efficient.

Section 11: Industrialization and Export Expansion

The Lewis Report of 1953 gave indication of industries that could produce for exports. The Seven Year Development Plan was also not completely silent over the possibility of future exports of manufactures from

[57] William F. Steel, op cit

Ghana. In 1965 the Ministry of Trade created an Export Promotion Division and opened a Trade Mission in New York to supply economic and commercial information on Ghanaian goods to prospective American Importers. It was however the balance of payment problems of the late sixties that directed attention to the need to explor export markets for non-traditional exports including manufactures. The One Year Development Plan of 1970-71 was therefore the first plan in which explicit expressions was given to export promotion as part of industrial strategy. The primary consideration for industrial policy under that plan was to be: "For the industries with export potential and those based on substantial use of local resources and yielding high net earnings in foreign exchange reasonable inducements such as special foreign exchange bonuses will be given. The customs duty drawback arrangement for exporters will be simplified."[58] Several incentives were subsequently provided for exporting manufecturing firms. These included:

i) The abolition of the Export Licensing System: In 1960 which required licenses for all exports from Ghana. This was replaced by the new Exchange Control Form A.2 which is to ensure that remittances in foreign exchange are made to the Bank of Ghana.

ii) Corporate Tax Rebate on Total Tax Liability for manufacturing firms that engage in export. This was introduced by the Progress Party Government in its first Budget Proposal to the National Assembly in August, 1971. This rebate, with only slight changes by the NRC is in the following orders:

   a) for those exporting between 5% and 15% of output 25% rebate (originally 10%);
   b) for those exporting between 15% and 25% of output 33% rebate;
   c) for those above 25% of output 50% rebate.

iii) Drawback of Customs Duty on Imported Raw Materials: This stipulates a refund of 95% of theduty paid on imported raw materials which has been used in producing on manufacturing for export. This refund is made upon certification by Customs officials that raw materials actually went into producing for export.

iv) Restitution of Import License occurs for all previous licenses for raw materials, the final product of which has been exported. To qualify for this facility, the manufacturer has to establish that

   a) he actually exported the goods for which the raw materials were used;

[58] Ghana, One Year Development Plan 1970-71, Accra, 1970 p. 15.

b) The foreign exchange earned from the exported goods are more than the value of foreign exchange utilised in importing raw materials and

c) the repatriation of the foreign exchange into the country has been affected.

v) Waiver of Taxes on Goods which have been Exported

Since 1970, the government of the Progress Party initiated a policy whereby all Ghanaian enterprises would obtain a refund of all indirect taxes whatsoever in the proportion of their production, including taxes on raw material used which goes into exports.

vi) An Export Bonus of 20%

This was on the gross value of export proceeds repatriated to Ghana. This bonus, which was introduced by the Ministry of Trade in 1970 was abolished in December, 1971, following the devaluation of the cedi by the P.P. Government. It was, however, reintroduced by the NRC in 1973. Under this Scheme, the exporter receives a bonus, equal to 20% of the cedi equivalent of the foreign exchange proceeds surrended to the Bank of Ghana. The bonus is paid on all export except:

a) Cocoa and cocoa products; and

b) Timber, including sawn timber;

c) All minerals and primary metals other than diamonds bought from African minners.

Timber and its derivatives exported to African countries qualify for bonus if payment is received in convertible currency. The main objective of this scheme, among others is to make Ghanaian products price competitive on the World Market, while encouraging domestic producers to export more of their products; a partial devaluation.

vii) Provision of Bonded Warehouse for the storage of raw materials intended for production of export goods either in factories or outside the factories of manufacturers without payment of import duties and taxes unless the goods are finally sold domestically. This system has the advantage inter alia of allowing deferred payments of import duties and taxes on goods until a latter date for importation, thus saving the importer-exporter the inconvenience of locking up part of his working capital during the period of bonded warehousing

viii) An Export Production Guarantee System[59] has been instituted by the Bank of Ghana whereby exporters can obtain working capital quickly to enable them fulfil export orders. This guarantee is available to a domestic bank and provides an indemnity to the extent of 90% of any loss incurred by a bank as a result of the default of the manufacturer on the repayment of the advanced guaranteed.

[59] Ghana Commercial Bank, Monthly Economic Bulletin, Vol. 6, No. 6 August 1975, p. 2

ix) A Special Import Financing Facility[60] also exists under which exporters with pending export orders are given special import licenses for the full amount of the import content of their export orders.

To what extent these incentives have promoted manufacturing export we next consider. Table 39 gives the percentage distribution of exports and indicates that the "other exports" including manufactured exports increased their share from 2.1% in 1962 to 13.6% in 1969 but were declined to 9.3% in 1970 and by 1974 was only 8.9%. The role played by aluminium in the export trade since 1970 deserve careful interpretation. Aluminium is produced by Volta Aluminium Company (VALCO) a subsidiary of Kaiser Aluminium and Chemical Corporation. The Bank of Ghana considers VALCO as a non-resident company and excludes imports of raw materials and exports of finished goods by VALCO from the Balance of payments estimates. The Central Bureau of Statistics on the other hand included these in the External Trade Statistics. For our purposes we will follow the Central Bureau of Statistics and include expert of finished products of VALCO in total exports. As shown in the last row since VALCO started in 1967, most of the non-traditional exports or manufacturing exports have been aluminium products. In 1972, it accounted for 75.2% of the "other exports".

Ghana's exports as shown in Table 40 rose from ₵222.8 million to 840.9 million cedis between 1960 and 1974. Export of manufactured goods also rose from ₵1.1 million to ₵144.5 million. The share of manufactured goods in total domestic exports, rose from 0.46% in 1960 to 17.18% in as shown in the last column of Table 40, a greater proportion of the other of the manufacturing sector is being exported. In 1962 the manufacturing exports represented 3.84% of gross output, by 1969 the ratio had risen to 48.40%. Table 41 gives the distribution of manufactured exports at the ratio-digit level.

In 1960, most of the manufactured exports were from the wood and cork industry which accounted for ₵842,000 i.e. 79.3% of total manufactured products. By 1970 the commodity mix of manufactured exports had changed aluminium now dominated the scene; accounting for 91.4% of the sector's exports. Aluminium exports which rose to ₵57 million in 1972 have fallen to ₵33 million in 1974, Its share in manufacturing exports correspondence fell to 23% in 1974. Thus by 1974 the wood and cork industry had once again become the most important source for manufactured exports. Apart from non-ferrous metals and the wood and cork industries, the other manufacturing industries which had featured in the export trade including textiles, petroleum products and chemical products. Other products which exports did not quite come up to the one million cedi mark but may have potential in the future are rubber and leather products.

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Section 12 : Industrial Expansion Under ECOWAS

The year 1975 saw the signing of the Lome Convention, a treaty of co-operation between 46 African, Carribean and Pacific (ACP) countries and the European Economic Community(EEC) as well as the creation of the Economic Community of West African States (ECOWAS). These new developments offer potentials for preferential treatment to Ghanaian exports as well as expanded market for her products. The objectives of ECOWAS was defined in Article 2 of the Chapter of the European Economic Community's treaty. "It shall be the aim of the community to promote co-operation and development in all fields of economic activity". The Treaty stipulates that measures towards the achievement of this aim include elimination of tariff and non-tariff barriers to ensure free movements of goods within the community, the establishment of a common custom tarrif and a common commercial policy towards third countries.

It is logical in conclusion to speculate about the potential for increasing exports in general and manufactured exports in particular to the West African countries and the prospects for the establishments of ECOWAS to stimulate further industrialization in Ghana.

Table 42 indicate that Ghana has an overall trade deficit with the other ECOWAS countries. In 1974, it imported ₡93.6 million but exported only ₡6.5 million, which was less than onepercent of total exports of Ghana. The resulting trade deficit with ECOWAS countries of ₡87.1 million represented 84.8% of Ghana's total trade deficit for that year. The huge trade deficits with ECOWAS countries are mainly due to imports of crude oil from Nigeria, which in 1974 amounted to ₡58.1 million, representing 41.5% of crude oil imports and 6.2% of total imports for Ghana.

Since Ghana's t tal exports to ECOWAS is less than one percent, the proportion of exports to the individual countries, as shown in Table 43, are in most cases negligible. Nigeria rec ives the highest volume of exports, followed by Liberia, the Ivory Coast and Togo, but none of these countries buys up to one-fifth of one percent of Ghana's total exports.

Table 44 gives the details of the commodities exported to individual ECOWAS countries, according to the Standard International Trade Classification. It must be noted that the Standard International Trade Classification (SITC) does not necessarily correspond to the International Standard Industrial Classification (ISIC). Therefore it is not necessarily only those items listed under manufactured goods which are manufactured. Indeed the commodity classification under SITC may be considered as the 2-digit classification under ISIC.

Table 43 indicates that Ghana in 1974 exported mainly raw materials such as hides and skins especially to Nigeria, the Canary Island and Togoland and leather and rubber products to the Ivory Coast, Liberia and Sierra Leone. In our previous analysis we identified the manufacturing industries that have exported potential to include non-ferrous metals, wood and cork, textiles, petroleum products, chemical products, rubber and leather products. Considering the present commodities exported to ECOWAS countries and the import demand of most ECOWAS countries, the products from Ghana that may find ready market in an export market under ECOWAS include rubber products, textiles, and wood and cork products.

Buatsi has noted that the problems that face Ghanaian manufacturers as they move from import substitution to the even more difficult stage of export expansion may be ditchotemized into domestic problems and external constraints. Among the external constraints he cites transit charges, taxes imposed by neighbouring countries, and tarrif and non-tarrif duties. It is noted, for example, that in 1972 Dahomey (New Benin) levied as much as 37% tax of c.i.f. value on aluminium products from Ghana whereas similar goods originating from EEC source and affiliated countries attracted 25% tax and those from UNDEAO (French Union) countries attracted 12.5% tax. With the formation of ECOWAS it is expected that the external contraints will be largely reduced. The extent to which Ghanaian manufacturing industries can expand out and benefit from ECOWAS will depend critically on their ability to overcome their own domestic problems. More than a decade ago Tony Killick noted initial difficulties facing Ghanaians industries. These include:

1) inadequate prior investigation
2) inadequate technical personnel and poor management
3) unsuitable or erratic supplies of local raw materials, and
4) a deficiency of capital.

The available evidence ssems to indicate that erratic supplies of raw materials seems to be the most thorny problem facing the manufacturing enterprises in Ghana and this problem will be fully discussed below. It appears the government has taken concrete steps to meet the problems of inadequate prior investigation and inadequate technical personnel, even though the problem of poor management persists not because the management is not qualified but because of undue political inteference and the failure of management to pursue out and dry business policies.

That the problem of poor prior investigation has been solved to some extent is evidenced by the fact that both the Capital Investment Board and the Ministry of Industries require sound feasibility reports before approving any projects which seek government tax holiday. The government organizations such as the Nati nal Investment Bank, Capital Investment Board and the Minis of Industries have their own qualified economic and project evaluation offic If a public enterprise is to be established sometimes two different feasibil reports are commissioned. Thus, a decade after Killick's observations, it can be said that steps have been taken to remedy the problem of poor prior

It is the view of the present writer that the problem of inadequate technical personnel has also been solved to some extent or at least it is not as acute as before. Following the recommendations of the Report on the Survey of High Level Manpower in Ghana (1960) the government expanded the activities of the then Institute of Public Administration and established Workers' Colleges in the large towns. These offered part-time courses to workers and prepared them to take various examination including the external degrees of the University of Ghana. The Institute of Public Administration was transferred to the University of Ghana in 1962 and offered courses in Accountancy, Secretaryship and other courses in business and public administration to the degree level. A National Productivity Centre was opened in 1964 and was charged with the duty of providing periodic residential and non-residential training in the field of management for workers, foremen, supervisory and top executives. The Ghana Institute of Management and Public Administration was also established to offer management courses to Senior Civil Servants and Business executives. In a survey we concluded among firms about their main problems, only one out of 14 cited lack of competent management as a bottleneck to their operations.

While the problem of personnel may be solved to some extent, poor management may still be persisting. This is not due to lack of qualifications for the top executives but rather due to other extraneous factors discussed below.

Even though most of the top executives have the requisite qualifications and experience, they are appointed as political favourites and are thus subjected to undue political influence. Thus in their day to day activities decisions such as employment, undue pressure is exerted upon them. The public corporations have been placed under Board of Directors which was to monitor the operations of the respective corpporations. In practice there has been a blurring of responsibility due to inadequate delimitation of the activities of the Managing Director, the Boards of Directors, the Ministries and the Holding Corporation. Usually the Boards of Directors are not as effective as they should be. Most members are saddled with several other responsibilities including membership on two or more other Boards. Other Board members not as busy are usually political appointees who tend to represent vested interests. Once the Board is weak, the Chief Executive or Managing Director is always able to rail road certain policies through Board meetings without any difficulty. But even when the Boards are effective, their decisions are sometimes over-ruled or at least held in abeyance by Ministerial orders. In this welter of confusion as to where management decision should finally roat, Chief Executives abrogate to themselves more powers than they should.

Inefficient management is not checked. It is the view of the writer that in fact the Managing Directors should hold office only upon continued satisfactory performance. Moreover, changes in management and membership Boards of Directors are effected only when there are political changes. This gives the impression that even inefficient managers are being victimised. There should be a system whereby top management can readily be changed if a corporation is being run inefficiently. We agree with Dorm Adzobu who has observed that "some industries can only be established by the State. With good management and freedom from political influence most state enterprises are capable of making profits".[61]

Capital shortage was cited by Killick as one of the problems. It appears that a distinction should be made between working capital and capital for investment in plant and machinery. Working capital seems to have been a constraint for some of the Divisions of GIHOC in 1974. Five of the divisions actually cited inadequate working capital as one of the factors for unsatisfactory performance.

It appears that there exists institutions which should help provide the sufficient working capital and that capital shortage need not be such a dire problem. Indeed whenever a loan is granted for the purchase of machinery adequate provision should be made for working capital. We have discussed the initial problems pointed out by Killick just to evaluate how far the problems have been coped with over the decade. As part of an ongoing research on industrialization in Ghana we have conducted a survey of textile and chemical industries to investigate the problems that affect their levels of production.

Our survey was confined to the Accra/Tema metropolitan area because of the concentration of industrial establishments in this area. According to the Ministry of Industries "Director of Approved Industrial Enterprises" 34 out of 53 textile firms in Ghana are located in this area, while 10 of the 11 pharmaceutical firms in the country could be found in the area. A personal interview with a pre-coded questionnaire was used for the survey. An attempt was made to cover all the medium and large scale firms, which included the approvedfirms. Because of considerable non-response, only 14 out of the 43 textile firms responded six out of 11 pharmaceutical firms responded, caution should therefore be exercised in trying to generalize from our results. Our results are definitely not conclusive but perhaps suggestive of what is happening in the respective industries. Table 43 indicates the variables which influenced the level of production in the textile industry. These are arranged according to the importance the firm attaches to each constraint.

[61] Dorm Adzobu "The State and Industrial Development" Ghana Social Science Journal, Vol. 1, No. 1, May, 1971, p. 8

The table clearly indicates that there was a greater emphasis of raw materials as a major constraint in the firms. The table is derived from the subjective responses of the executives of the firms. We therefore attempt a more rigorous measure of the relationship between lack of raw materials and production levels. This involved first the measurement of capacity utilization of the firms involved. There are several concepts and measures of capity utilization, but we have adopted the concept of budgeted capacity utilization, that is, the maximum output that the firm itself planned to produce at the beginning of the financial year. The actual output of the year isthen expressed as a ratio to the planned output to get capacity utilization for the period. Table 46 gives the "budgeted" capacity utilization for the 14 firms under consideration.

Generally, it can be said that the degree of utilization of the installed capacity in the textile industry is very low. For the fourteen establishments, the average level of capacity utilization was as low as 47.72 per cent. We next sought to relate availability of raw materials to capacity utilization. We measured available raw materials by the amount of import license that was granted for the purchase of raw materials. This was expressed as a ratio to the total amount of import license that each firm applied for the purchase of raw materials. Table 47 compares this ratio to the rate of capacity utilization.

The very close relationship between the ratio of capacity utilization and the ratio of import license granted for raw materials is obvious from the Table 47. A Spearman rank correlation analysis gave a coefficient of 0.24 which had the expected positive sign. Other evidence which supports the claim that raw materials are a constraint to production levels has been gathered from the annual report of GIHOC. The main factors which some divisions cited as affecting their profit level are tabulated in Table 48. Again raw materials were cited as the most important constraint. This was followed by machine breakdown. From all the foregoing analysis it appears that the reliance on foreign resources for raw materials which has been made difficult by foreign exchange restrictions in the recent past is the main problem that faced the manufacturing industry. The government's efforts to develop loval resources of raw materials are worthwhile. But another problem is the poor management stemming from undue political inteference in the operations of public corporations, plus a system of management which does not clearly define the powers of Boards of Directors and the supervising Ministries. All these problems must be resolved if Ghana is to move from the first phase of industrialization to the second stage where there will be expansion of consumer durable for export and production of intermediate products for the domestic market.

TABLE 1

COMPARATIVE INDICATORS FOR MEDIUM AND LARGE SCALE MANUFACTURING ACTIVITY IN SELECTED AFRICAN COUNTRIES IN 1972

	A	B	C	D	E	F	G	H	I
Countries	Gross Output US$ million	Value Added US$ million	Value Added As % of Gross Output	Share of Manufacturing in G.D.P.	Persons Engaged	Value Added Per Person Engaged US$	Wages and Salaries US$ million	Wages of % of Value Added	Wages per Person Engage US $
Nigeria a.	1605.8	752.7	46.9	6.3	171,960	4377.0	162.4	21.6	944.2
Tunisia d.	667.3	180.1	27.0	8.1	58,412	3083.4	78.2	43.4	1338.2
Tanzania a.	351.8	112.9	32.1	7.2	62,427	1808.3	44.6	39.5	7144.7
Kenya c.	735.6	210.1	28.6	10.5	95,442	2225.1	101.9	48.5	1078.7
Zaire c.	386.5	168.2	43.5	7.7	64,510	2607.3	64.7	38.5	1003.3
Zambia d.	614.0	254.5	41.4	13.6	45,077	5646.1	82.9	32.6	1839.7
Egypt a.	3210.6	894.9	27.9	11.4	651,400	1373.9	451.0	50.4	692.4
Ghana b.	4497.8	256.2	51.5	10.4	60,725	4218.3	49.2	19.2	810.1

SOURCE: IMF, International Financial Statistics
UN, Year Book of Industrial Statistics.

NOTES

a. Covers establishments with 10 or more persons engaged.
b. Covers establishments with 30 or more persons engaged.
c. Covers establishments with 50 or more persons engaged.
d. Covers all establishments except handicrafts and one-man enterprises
e. Covers all establishments operating on the basis of modern accounting syst

x Converted at official Exchange Rate.

TABLE 2

FEATURES OF THE MANUFACTURING INDUSTRY, 1962

Persons Engaged	Number of Employment In the Manufacturing Sector		Persons Engaged		Paid Employees	
	Total	%	Total	%	Total	%
1	49,902	52.4	49,902	19.6	552	0.9
2 - 4	36,521	38.4	95,283	37.5	5,884	9.8
5 - 9	6,787	7.1	41,112	16.2	6,074	10.1
10 - 19	1,364	1.4	17,023	6.7	4,802	8.0
20 - 29	246	0.3	5,909	2.3	2,628	4.4
30 - 49	132	0.1	4,921	1.9	3,352	5.6
50 - 99	105	0.1	7,212	2.8	5,644	9.4
100 - 199	58	0.1	7,840	3.1	7,016	11.6
300 - 499	38	i	11,000	4.3	10,680	17.7
500 or more	14	i	14,045	5.5	13,627	22.6
Total	95,168	100.0	254,247	100.0	60,269	100.0

SOURCE: C.B.S. Industrial Census, 1962. (Accra, 1965).

Note : i = insignificant.

TABLE 3

CHARACTERISTIC OF MEDIUM AND LARGE SCALE MANUFACTURING ESTABLISHMENTS IN GHANA

	No. of Establishment	Value Added ¢ million 1962 Prices	Gross Output ¢ million 1962 Prices	Persons Engaged	Value Added per Est. ¢m at 1962 Prices	Gross Output Per Est. ¢m at 1962 Prices	Persons Engaged Per Est.
962	167	43.3	71.4	29,298	0.26	0.43	176
963	176	49.3	87.8	31,886	0.28	0.50	182
964	186	52.0	94.8	35,849	0.28	0.51	193
965	201	24.9	95.4	37,264	0.27	0.47	186
966	230	64.4	107.4	39,482	0.28	0.47	172
967	248	69.0	102.4	40,219	0.28	0.41	163
968	346	78.8	145.6	46,234	0.23	0.42	134
969	356	86.0	164.1	50,885	0.24	0.46	143
970	347	96.1	195.6	57,627	0.28	0.56	167
971	363	94.9	209.1	58,913	0.26	0.58	163
972	362	86.7	207.1	60,698	0.24	0.57	168
973	353	109.1	245.8	66,493	0.31	0.70	189
974	382	105.0	254.0	71,980	0.27	0.66	189

Source : (1) Statistical Year Book several issues

(2) Economic Survey 1969 - 1971; 1972 - 1974.

TABLE 4

REGRESSION ANALYSIS OF GROWTH OF SELECTED VARIABLES OF MANUFACTURING SECTOR 1962-1974

Variables	A_1	9_o	Computed rates (%
Medium and Large-Scale Establishment 1962-1974			
Number of Establishments	20.368	143.346	7.1
Value added at 1962 prices (¢ m)	5.54065	37.33078	7.3
Gross output at 1962 prices (¢ m)	16.01098	40.269	26.4
Persons engaged 1	3518.82	23885.77	7.3
Value added per Establishment	-0.00010	0.26846	(n.s)
Gross output per Establishment	0.01747	0.39615	3.4
Persons engaged per Establishment	-0.49230	74.55384	-0.7
Total Manufacturing Sector 1965-1974			
Gross output at 1968 prices (¢ m)	44.60181	244.7995	9.1
Value Added at 1968 prices	12.31756	155.87332	5.5

$$gt = \frac{a_1}{ac + a_1 \bar{t}}$$

Notes : n.s. = not significant.

TABLE 5

THE GROWTH (IN NUMBER OF ESTABLISHMENTS EMPLOYING 30 OR MORE PERSONS: 1962 - 1970

INDUSTRY	1962	1963	1964	1965	1966	1967	1968	1969	1970
Food	18	19	20	22	23	26	42	41	43
Beverage	8	8	8	8	10	10	10	8	4
Tobacco	2	2	4	4	4	4	5	4	4
Textiles	3	3	3	3	5	6	9	13	27
Footwear/Wearing Apparel	8	8	8	12	16	30	53	53	51
Wood/Cork	43	44	46	48	52	48	63	62	66
Furniture/Fixtures	24	24	24	25	27	23	21	22	21
Paper/Paper Products	2	3	3	4	5	5	7	6	6
Printing/Publishing	9	9	10	10	11	10	17	24	23
Leather/Fur Products	3	3	3	3	3	4	7	7	11
Rubber Products	5	5	6	7	6	4	4	5	9
Chemical/Chemical Products	14	17	18	18	23	29	32	32	34
Petroleum/Coal	-	1	1	1	1	1	1	1	1
Non-Metalic Products	13	15	15	17	19	19	21	21	25
Basic Metal	3	3	4	2	2	2	1	2	2
Metal Products	7	7	8	9	9	12	19	19	23
Transport Equipment	4	4	4	5	5	6	11	9	9
TOTAL[*]	167	176	187	210	230	248	346	354	386

[*]This includes industries producing miscellaneous articles.

TABLE 7

GROSS OUTPUT IN MANUFACTURING INDUSTRIES AT 1968 CONSTANT PRICES

(Thousand Cedis)

Type of Industry	1962	1963	1964	1965	1966	1967	1968	1969	1970
Food	10,119	9,228	8,811	11,945	14,397	22,262	25,015	31,845	39,603
Beverage	14,309	18,250	17,841	20,370	25,540	20,615	24,421	25,287	36,288
Tobacco	15,591	17,318	19,242	22,057	21,186	21,864	25,900	25,917	26,529
Textitles	159	2,263	3,166	5,479	7,386	15,402	25,891	47,927	57,559
Footwear/Wearing Apparel	3,308	5,706	6,661	7,729	10,873	14,618	21,627	18,057	7,114
Wood & Cork	38,996	32,610	30,612	25,947	22,904	25,968	24,110	28,028	19,448
Furniture & Fixtures	4,516	4,354	4,807	3,317	3,234	2,408	2,437	2,400	2,753
Paper & Paper Products	346	1,103	1,193	808	2,998	5,258	6,168	8,892	7,351
Printing/Publishing	3,391	5,312	3,806	3,737	5,809	5,916	6,707	6,576	7,341
Leather & Fur Products	1,051	762	694	544	545	537	655	733	988
Rubber Products	1,052	913	2,199	2,618	416	285	243	1,306	7,695
Chemical Products	10,645	16,320	18,708	12,832	16,435	18,055	19,760	24,879	4,010
Petroleum & Coal	-	2,382	5,571	5,427	5,596	6,405	6,377	6,540	44,670
Non-Metalic Mineral	1,789	2,195	1,651	1,973	4,098	3,950	9,751	13,093	13,073
Basic Metal	-	-	-	-	-	1,484	1,077	1,170	54,791
Metal Products	10,453	13,575	14,055	4,997	9,013	9,144	9,854	13,033	25,893
Transport Equipment	4,111	8,627	6,369	6,113	6,400	6,455	7,594	5,521	10,704

TABLE 8

GROSS OUTPUT IN CONSTANT PRICES (1968)

PERCENTAGES BY MAIN GROUPS IN MANUFACTURING INDUSTRIES

		1962	1963	1964	1965	1966	1967	1968	1969	1970
Food	01	8.4	6.5	6.1	8.8	9.2	12.3	11.5	12.2	10.8
Beverage	02	11.9	13.0	12.3	15.0	16.3	11.4	11.2	9.7	9.9
Tobacco	03	13.0	12.3	13.2	16.2	13.5	12.1	11.9	9.9	7.3
Textiles	04	.4	1.6	2.2	4.0	4.7	8.5	11.9	18.3	15.7
Footwear/Wearing Apparel	05	2.7	4.0	4.6	5.7	6.9	8.1	9.9	6.9	1.9
Wood and Cork	06	32.5	23.1	21.0	19.1	11.6	14.4	11.1	10.7	5.3
Furniture & Fixtures	07	3.7	3.1	3.3	2.4	2.1	1.3	1.1	0.9	0.8
Paper and its products	08	.3	0.8	0.8	0.6	1.9	2.9	2.8	3.4	2.0
Printing and Publishing	09	2.8	3.8	2.6	2.7	3.7	3.3	3.1	2.5	2.0
Leather and Fur Products	10	0.9	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3
Rubber Products	11	0.9	0.6	1.5	1.9	0.3	0.2	0.1	0.5	2.1
Chemical and its products	12	8.9	11.6	12.9	9.4	10.5	10.0	9.1	9.5	1.1
Petroluem and Coal	13	-	1.7	3.8	4.0	3.6	3.5	2.9	2.5	12.2
Non-Metalic Minerlas	14	1.5	1.6	1.1	1.5	2.6	2.2	4.5	5.0	3.6
Basic Metal	15	-	-	-	-	-	0.8	0.5	0.4	1.5
Metal Products	16	8.7	9.6	9.7	3.7	5.7	5.1	4.5	5.0	7.1
Transport Equipment	17	3.4	6.1	4.4	4.5	4.1	3.6	3.5	2.1	2.9
TOTAL		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 9

VALUE ADDED IN MANUFACTURING INDUSTRIES AT 1968 CONSTANT PRICES

(Thousand Cedis)

Type of Industry	1962	1963	1964	1965	1966	1967	1968	1969	1970
Food	3,127	2,806	3,112	3,730	2,999	4,222	6,591	11,203	12,884
Beverage	9,005	10,964	10,888	12,817	18,239	15,260	18,069	17,899	23,022
Tobacco	12,174	13,937	15,307	17,890	18,619	18,440	21,552	22,055	21,398
Textiles	3,392	1,135	747	2,812	3,983	9,093	11,933	13,029	24,892
Footwear/Wearing Apparel	1,042	2,429	3,086	2,521	3,417	7,137	10,732	8,538	5,360
Wood abd Cork	23,476	19,551	18,385	16,586	14,818	14,268	8,864	14,184	13,321
Furniture and Fixtures	2,818	2,519	1,256	1,860	1,917	1,288	1,278	1,259	1,342
Paper & Paper Products	183	677	745	781	1,519	2,824	3,265	4,589	4,551
Printing/Publishing	2,144	3,677	2,627	2,259	4,269	4,621	5,168	3,945	4,363
Leather and Fur Products	446	306	278	221	222	222	283	362	488
Rubber Products	670	716	928	1,594	1,064	687	164	339	4,539
Chemical Products	6,373	7,679	8,544	6,783	8,574	8,718	8,103	10,830	10,935
Petroleum and Coal	-	2,191	5,126	4,393	4,568	5,730	5,268	6,008	6,263
Non-Metalic Minerals	907	1,637	761	1,141	2,030	1,980	3,750	5,655	5,464
Basic Metal	-	-	-	-	-	852	456	409	1,161
Metal Products	2,776	3,153	4,169	3,273	3,826	3,826	4,228	4,956	4,186
Transport Equipment	1,694	2,381	1,862	3,472	2,892	4,701	3,193	2,439	2,302

TABLE 10

SHARE OF INDUSTRIES IN VALUE ADDED OF MEDIUM AND LARGE SCALE MANUFACTURING INDUSTRIES

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Food	4.5	3.7	4.0	4.5	3.2	4.1	5.8	8.8	8.8
Beverage	12.8	14.6	14.0	15.6	19.6	14.7	16.0	14.0	15.7
Tobacco	17.3	18.5	19.6	21.8	20.0	17.8	19.1	17.3	14.6
Textiles	4.8	1.5	1.0	3.4	4.3	8.8	10.6	10.2	17.0
Footwear/Wearing Apparel	1.4	3.2	4.0	3.1	3.8	6.9	9.5	6.7	3.7
Wood and Cork	33.4	26.0	28.6	20.2	15.9	13.7	7.8	11.1	9.1
Furniture and Fixtures	4.0	3.4	1.6	2.3	2.1	1.2	1.0	1.1	0.9
Paper and Paper Products	0.3	0.9	0.9	0.9	1.6	2.7	2.9	3.6	3.1
Printing and Publishing	3.1	4.9	3.4	2.7	4.6	4.4	4.6	3.0	3.0
Leather and Fur Products	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3
Rubber Products	1.0	1.0	1.2	1.9	1.1	0.7	0.1	0.2	3.1
Chemical and Chemical Products	9.1	10.2	11.0	8,3	9.2	8.4	7.2	8.5	7.5
Petroleum and Coal	-	2.9	6.6	5.3	4.9	5.5	4.7	4.7	4.3
Non-Metalic Minerals	1.3	1.4	1.0	1.1	2.2	1.9	3.6	4.4	3.7
Basic Metal	-	-	-	-	-	0.8	8.4	0.3	0.8
Metal Products	4.0	4.2	5.3	4.0	4.1	3.7	3.7	3.9	2.8
Transport Equipment	2.4	3.2	2.5	4.2	3.1	4.5	2.8	1.9	1.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 11

VALUE ADDED FROM MANUFACTURING SECTOR AT CONSTANT (1968) PRICES

Industry Group	1965			1968			1970			1972			1974	
	Medium & Large Scale	Small Scale	Total	Medium & Large Scale	Small Scale	Total	Medium & Large Scale	Small Scale	Total	Medium & Large Scale	Small Scale	Total	Medium & Large Scale	Small Scale
ood & Manufacturing														
Except Cocoa Products	2,705	9,049	11,754	4,806	9,524	13,610	10,476	8,987	19,463	15,261	16,056	31,317	18,236	18,088
Cocoa Products	2,371	-	2,371	2,964	-	2,964	2,799	-	2,799	4,381	-	4,381	15,658	-
Beverage Industries	11,987	5,440	17,427	15,143	7,082	22,225	26,479	7,446	33,925	22,323	9,859	32,182	24,819	9,[illegible]1
Tobacco	19,261	83	19,344	21,265	104	21,369	22,064	114	22,178	19,635	20	19,655	28,985	20
Textiles	2,720	11,123	13,843	12,667	9,352	22,019	26,621	10,831	37,452	16,160	6,354	22,514	20,727	5,9[illegible]6
Footwear and other wearing apparel	4,759	9,031	13,790	9,809	8,126	17,935	8,048	8,809	16,857	6,033	5,883	11,916	11,117	6,[illegible]94
Sawmill	12,035	-	12,035	10,236	-	10,236	8,073	-	8,073	13,166	-	13,166	17,929	-
Furniture and Fixtures	1,673	9,995	12,701	1,468	6,762	8,230	1,445	7,304	8,749	1,290	8,470	14,697	1,531	9,911
Paper Products	1,033	9,995	12,701	3,473	4,896	8,369	9,270	5,281	14,551	4,937	8,470	14,697	9,835	9,911
Chemicals	3,730	1,801	5,531	6,958	1,767	8,725	9,698	1,779	11,447	5,058	2,129	7,187	7,032	2,951
Petroleum	26,479	-	26,479	25,530	-	25,530	28,187	-	28,187	25,821	-	25,821	6,525	-
Cement Block, Tiles, etc.	639	-	639	3,794	-	3,794	4,851	-	4,851	1,134	-	1,134	1,196	-
Aluminium Basic Industry	-	-	-	24,695	-	24,695	23,286	-	23,286	20,562	-	20,562	20,269	-
Iron & Steel	2,728	5,812	8,540	2,580	4,763	7,343	641	3,918	4,559	3,546	2,024	5,570	6,283	2,866
Tran. Equip.	4,295	-	4,295	4,527	-	4,527	5,096	-	5,096	1,706	-	1,706	4,815	-
Miscellaneous	3,729	5,256	8,985	7,059	5,171	12,230	19,578	3,746	23,324	10,869	3,131	13,994	13,374	3,616

TABLE 12

PERCENTAGE VALUE ADDED FROM THE MANUFACTURING SECTOR

Percentage

Industry Group	1965	1968	1970	1972	1974
Food and Manufacturing					
1. Except Cocoa Products	7.45	6.37	7.35	13.87	13.55
2. Cocoa Products	1.50	1.39	1.06	1.94	5.84
3. Beverage Industries	11.05	10.40	12.81	14.25	12.97
4. Tobacco	12.26	9.99	8.37	8.70	10.82
5. Textiles	8.77	10.30	14.14	9.97	9.95
6. Footwear & Other Wearing Apparel	8.74	8.39	6.37	5.28	6.50
7. Sawmills	7.63	4.79	3.05	5.83	6.69
8. Furniture and Fixtures	8.05	3.85	3.30	6.51	7.94
9. Paper Products	8.05	3.91	5.49	6.51	7.94
10. Chemicals	3.51	4.08	4.32	3.18	3.73
11. Petroleum	16.79	11.94	10.64	11.44	2.43
12. Cement, Block, Tiles, etc.	0.41	1.77	1.83	0.50	0.45
13. Aluminium Basic Industry	-	11.55	8.79	9.12	7.56
14. Iron and Steel	5.42	3.43	1.72	2.47	3.41
15. Transport Equipment	2.72	2.12	1.92	0.76	1.80
16. Miscellaneous	5.70	5.72	8.81	6.20	6.30
TOTAL	100.0	100.0	100.0	100.0	100.0

TABLE 13

Number of Establishments (Percentages)				Gross Output (Percentages)				Value Added (Percentages)				Total Number of Persons Engaged (Percentages)				Total Pai	Wages & Salaries (Percentages)		
Ghana-ian	Non-Ghana-ian	Mixed	Total	Ghana-ian	Non-Ghana-ian	Mixed	Total	Ghana-ian	Non-Ghana-ian	Mixed	Total	Ghana-ian	Non-Ghana-ian	Mixed	Total	Ghana-ian	Non-Ghana-ian	Mixed	Total
40.1	49.1	10.8	100.0	24.8	63.2	11.9	100.0	20.0	67.8	12.2	100.0	34.0	64.3	1.7	100.0	35.0	57.2	7.8	100.0
38.1	49.1	12.5	100.0	24.8	61.0	14.2	100.0	21.2	63.5	15.3	100.0	41.7	56.3	2.0	100.0	33.6	55.9	10.4	100.0
39.0	51.3	9.6	99.9	23.2	62.7	11.1	100.0	23.1	62.8	14.1	100.0	37.0	61.2	1.8	100.0	35.7	54.8	9.6	100.0
n.a	n.a	n.a	-	29.2	49.3	21.1	100.0	n.a	n.a	n.a	-	n.a	n.a	n.a	-	n.a	n.a	n.a	-
42.6	44.8	12.6	100.0	30.3	45.4	24.3	100.0	22.7	55.3	22.0	100.0	48.5	47.2	4.3	100.0	35.9	48.4	15.7	100.0
38.3	49.2	12.5	100.0	28.4	41.3	30.3	100.0	24.0	53.4	22.6	100.0	43.5	52.2	4.3	100.0	34.0	49.4	17.0	100.0
38.2	46.8	15.0	100.0	24.1	40.1	35.8	100.0	24.6	46.0	29.4	100.0	46.3	47.2	6.5	100.0	36.9	40.2	22.9	100.0
38.8	43.8	17.4	100.0	n.a	n.a	n.a	-	23.0	43.4	33.6	100.0	39.9	48.2	11.2	100.0	30.9	38.4	30.7	100.0

TABLE 14

VALUE OF INVESTMENTS IN FIXED ASSETS BY NATIONALITY OF ESTABLISHMENTS WITH 30 OR MORE EMPLOYEES (AT ORIGINAL BOOK VALUE) IN 1966

Nationality	Investment ¢'000	% of Total Investment
Ghanaian		
Private Indigenous	8,628	7.9
State	34,868	31.9
Total Ghanaian	43,496	39.8
Non-Ghanaian		
U.K.	19,835	18.2
Lebanon	6,067	5.6
India	817	0.7
France	591	0.5
Italy	18,451	16.9
Denmark	1,377	1.3
Swatzerland	3,290	3.0
Others	4,410	4.0
Total Non-Ghanaian	54,838	50.2
Mixed	10,875	10.0
TOTAL	109,209	100.0[(a)]

Source : A.N. Hakam: Impediments to the Growth of Indifenous Industrial Enterpreneuraship in Ghana 1946-1968. The Economic Bulletin of Ghana, 1972, Vol.2, No.2.

(a) : A.N. Hakam gave the Total as 110,209,000 which does not tally so the necessary corrections were made.

TABLE 15

TOTAL VALUE OF INVESTMENTS GRANTED CIB CONCESSIONS BY INDUSTRY AND OWNERSHIP - 1969/70 - 1972/73

(Million ¢)

Industry/Ownership	Private Ghanaian	Foreign	State or Public	Joint State/Foreign	Joint Ghanaian/Foreign	Total
Agriculture, Food & Food Products	7.5	3.7	-	5.6	6.4	23.2
Textiles and Garments	2.6	6.7	-	18.8	11.8	39.9
Footwear and Leather Products	0.1	0.4	1.0	-	-	1.5
Wood and Furniture	0.8	1.5	-	2.4	9.4	14.1
Printing	1.2	-	-	1.7	-	2.9
Chemical, Pharmaceutical and Petroleum Products	0.1	0.2	1.5	-	3.1	4.9
Non-metalic products (glass and plastic	-	-	2.6	-	1.0	3.6
Metal	0.5	-	3.4	5.4	1.0	10.3
Electrical	-	-	-	-	0.5	0.5
Transport Equipment	-	-	-	-	2.1	2.1
TOTAL	12.8	12.5	8.5	33.9	35.3	103.0

Source : Data provided by C.I.B.

TABLE 16

Establishments Employing 30 or More Persons Classified by Type of Ownership (Percentages)					Value Added Classified by Type of Ownership (Percentages)				
State Owned	Joint State/ Private	Cooperative	Private	Total	State Owned	Joint State/ Private	Cooperative	Private	Total
16.2	3.5	1.2	79.0	100.0	12.1	8.3	0.1	76.6	100.0
17.6	3.4	1.7	77.3	100.0	14.4	8.8	0.2	76.6	100.0
18.7	3.7	1.6	75.9	100.0	13.0	7.8	0.3	78.8	100.0
18.9	4.0	1.5	75.6	100.0	11.3	10.1	0.1	48.5	100.0
20.0	3.0	1.3	75.7	100.0	14.7	13.5	0.2	71.6	100.0
16.1	4.4	0.8	78.6	100.0	17.6	14.5	0.1	67.8	100.0
11.6	3.5	0.3	84.6	100.0	17.6	17.9	n.f	64.5	100.0
11.3	3.4	0.3	85.0	100.0	16.0	18.7	0.7	64.5	100.0
9.6	3.6	-	86.8	100.0	15.4	16.5	-	68.1	100.0

Source : Industrial Statistics. Several issues.

Gross Output by Type of Ownership (Percentages)					Employment in Manufacturing Classified by type of Ownership (Percentages)				
State Owned	Joint State/ Private	Cooperative	Private	Total	State Owned	Joint State/ Private	Cooperative	Private	Total
11.8	7.1	0.1	80.9	100.0	24.3	2.9	0.3	72.5	100.0
14.3	7.4	0.3	78.1	100.0	28.4	2.7	0.4	68.3	100.0
13.9	7.3	0.6	78.2	100.0	29.4	2.8	0.4	67.4	100.0
17.2	10.0	0.2	72.5	100.0	27.9	4.2	0.5	67.1	100.0
19.5	12.7	0.3	67.5	100.0	31.4	4.1	0.8	63.7	100.0
24.1	17.5	0.2	58.2	100.0	32.6	6.9	0.7	59.8	100.0
21.3	18.5	0.1	60.1	100.0	30.3	6.2	n.f	68.1	100.0
17.1	19.5	0.5	62.9	100.0	30.3	6.2	n.f	63.4	100.0
n.a	n.a	n.a	n.a	100.0	19.4	10.9	-	69.7	100.0

TABLE 17a

REGIONAL DISTRIBUTION OF PERCENTAGE SHARES OF NUMBER OF INDUSTRIAL ESTABLISHMENTS EMPLOYING 30 OR MORE PERSONS

Name of Region	1962	1963	1964	1965	1966	1967	1968	1969	1970
Western	16.2	15.3	15.0	13.9	13.0	11.3	10.7	10.7	9.8
Central	3.6	3.4	2.7	2.5	2.2	2.0	2.6	2.5	2.6
Accra C.D.	48.1	48.3	48.7	50.2	50.4	58.5	59.2	57.3	60.9
Eastern	6.6	5.7	4.8	6.3	7.4	6.9	4.9	5.1	4.4
Volta	0.6	0.6	0.5	0.5	0.5	0.4	-	-	-
Ashanti	22.6	22.2	23.0	20.9	20.4	17.3	18.8	20.3	18.1
Brong Ahafo	3.0	2.8	3.7	3.0	3.0	2.0	2.3	2.0	2.1
Northern	1.2	1.7	1.6	1.5	1.3	0.8	0.9	8.7	1.6
Upper	-	-	-	1.0	1.3	0.8	0.6	0.6	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 17b

VALUE OF GROSS OUTPUT CLASSIFIED BY RELATIVE WEIGHT OF EACH REGION, 1962-1969

Region	Relative weight of each region							
	1962	1963	1964	1965	1966	1967	1968	1969
Western	35.6	30.7	30.7	29.8	32.1	27.1	20.2	
Central	0.8	1.2	0.7	1.7	0.8	0.6	4.5	
Accra Capital District	38.3	47.7	50.9	49.7	54.1	56.1	51.8	
Eastern	1.4	1.0	0.9	1.6	1.7	1.1	7.1	
Volta	-	-	-	-	-	-	1.2	
Ashanti	17.9	15.3	14.4	15.5	12.5	13.3	13.1	
Brong Ahafo	5.9	3.5	2.9	1.5	1.2	1.5	1.8	
Northern	0.1	0.1	0.1	-	0.1	0.1	0.1	
Upper	-	-	-	0.1	0.4	0.2	0.2	
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

TABLE 17c

VALUE ADDED CLASSIFIED BY REGION, 1962-1969 (PERCENTAGES)

Name of Region	Value Added in Percentages						
	1962	1963	1964	1966	1967	1968	1969
Western	42.3	38.2	29.9	33.2	30.8	25.9	27.5
Central	0.6	1.3	0.7	0.7	0.9	1.7	1.0
Accra Capital District	31.0	37.7	51.1	45.8	51.5	53.3	49.5
Eastern	1.7	1.1	0.9	1.4	1.8	1.1	3.6
Volta	-	-	-	-	-	-	1.0
Ashanti	17.1	16.8	14.4	17.6	13.5	16.9	15.1
Brong Ahafo	7.2	4.7	2.9	1.2	1.2	0.9	2.0
Northern	0.1	0.2	0.1	-	0.1	-	.1
Upper	-	-	-	0.1	0.3	0.2	.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 17d

PERCENTAGE DISTRIBUTION OF EMPLOYED PERSONS IN THE MANUFACTURING SECTOR BY REGIONS (1962-1970)

Region	1962	1963	1964	1965	1966	1967	1968	1969	1970
Western	36.54	35.96	31.98	32.51	33.59	32.50	26.51	20.24	17.99
Central	1.07	1.05	1.04	0.90	1.00	0.93	1.36	2.29	2.89
Accra C.D.	26.16	24.11	34.65	34.09	40.39	45.11	46.77	45.45	51.47
Eastern	4.37	3.72	3.87	4.81	3.57	4.02	2.74	8.38	5.66
Volta	0.09	0.09	0.06	0.06	0.01	0.08	-	1.83	2.09
Ashanti	19.19	28.57	22.07	20.05	17.41	13.63	18.49	17.18	16.35
Brong Ahafo	12.17	5.61	6.29	4.84	3.15	2.97	3.24	3.27	3.38
Northern	0.36	0.40	0.48	0.51	0.34	0.24	0.26	0.30	0.43
Upper	-	-	-	0.17	0.50	0.48	0.96	0.40	0.90
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 18

REGIONAL PATTERN OF MANUFACTURING INDUSTRIES LOCATION QUANTITY BY EMPLOYMENT INDICATOR, 1962 - 1972

Name of Region	1962	1965	1968	1972
Western	1.56	1.35	0.99	0.97
Central	0.59	0.48	0.53	0.28
Eastern	0.90	1.07	1.19	1.43
Volta	0.04	0.07	0.08	0.05
Ashanti	1.47	1.43	1.27	1.04
Brong Ahafo	0.08	0.07	0.21	0.08
Northern	0.21	0.17	0.13	0.21
Upper	-	0.11	0.01	0.15

TABLE 19

CLASSIFICATION BY ECONOMIC FACTORS

No.	Name of Establishment	Power	Market	Raw Material	Economic Because of Port or Harbour
1	Ghana Sugar Estates	-	-	1	-
2	Kumasi Breweries Ltd.	-	1	-	-
3	Overseas Breweries Ltd.	-	1	-	1
4	Pioneer Tobacco Co. Ltd.	-	-	-	1
5	Akosombo Textiles (Ltd.)	1	-	-	-
6	Freedom Textiles Ltd.	-	1	-	1
7	Ghana Textiles Printing Co. Ltd.	-	1	-	1
8	GIHOC (Tema Textiles Ltd.)	-	1	-	1
9	Ghana Textiles Manuf. Co. Ltd.	-	1	-	1
10	Juapong Textiles	1	-	-	-
11	GIHOC (Footwear Div.) Kumasi	-	1	-	-
12	Glamour Garment Factory	-	1	-	1
13	GIHOC (Fibre Bag. Div.) Kumasi	-	1	1	-
14	Bibiani Logging & Lumber Co. Ltd.	-	-	1	-
15	Gliksten West African Co. Ltd.	-	-	1	-
16	Anderson & Sons Ltd.	-	1	-	-
17	African Timber & Plywood Co. Ltd.	-	-	1	-
18	Ghana Publishing Corp. (Printing)	-	1	-	1
19	Ghana Graphic Co. Ltd.	-	1	-	1
20	Lever Brothers (Ghana) Ltd.	-	1	-	1
21	Ghana Cement Works Ltd.	-	1	-	1
22	GIHOC (Steel Works Div.) Tema	1	1	1	1
23	Volta Aluminium Co. Ltd.	1	-	-	1
24	Ghana Household Utensils Manuf. Co.	-	-	-	1
25	Metal Construction Co.	-	1	-	1
26	Ghana Railways (C & M.)	-	1	-	-
	TOTAL	4	17	6	15

TABLE 20

CLASSIFICATION BY GEOGRAPHICAL FACTORS

No.	Name of Establishment	Rooted	Linked	Swarming	Foot Loose
1	Ghana Sugar Estates	1			
2	Kumasi Breweries Ltd.			1	
3	Overseas Breweries Ltd.			1	
4	Pioneer Tobacco Co.				1
5	Akosombo Textiles Ltd.			1	
6	Freedom Textiles Ltd.			1	
7	Ghana Textiles Printing Co. Ltd.			1	
8	Tema Textiles Ltd.			1	
9	Ghana Textiles Manuf. Co. Ltd.			1	
10	Juapong Textiles Ltd.			1	
11	GIHOC (Footwear Div.)Kumasi			1	
12	Glahour Garment Factory			1	
13	GIHOC (Fibre Bag Div.) Kumasi			1	
14	Bibiani Logging & Lumber Co. Ltd.	1			
15	Glisksten West African Co. Ltd.	1			
16	Anderson & Sons Ltd.				1
17	African Timber & Plywood Co. Ltd.	1			
18	Ghana Publishing Corp. (Printing)				1
19	Ghana Graphic Co. Ltd.				1
20	Lever Brothers (Ghana) Ltd.			1	
21	Ghana Cement Works Ltd.			1	
22	GIHOC (Steel Works Div.) Tema			1	
23	Volta Aluminium Co. Ltd.			1	
24	Ghana Household Utensils Manuf. Co.			1	
25	Metal Construction Co.			1	
26	Ghana Railways (C & W.)	1			

TABLE 21

INPUT FROM OTHER SECTORS OF MANUFACTURING IN MILLION CEDIS (1960)

Sector	Input	%
Agriculture	0.6	1.13
Forestry	11.2	21.21
Cocoa	4.2	7.95
Mining and Quarrying	-	-
Electricity	0.4	0.75
Construction	-	-
Fuel	1.0	1.89
Public Utilities	0.6	1.13
Services	4.0	7.57
Imports	12.0	22.72
Indirect Taxation	2.4	4.54
Subsidies	-	-
Gross Value Added	16.4	13.06
Manufacturing	-	-
All Sectors	52.8	100.0

TABLE 22

OUTPUT OF MANUFACTURING TO OTHER SECTORS BY MILLION CEDIS (1960)

Sector	Output	%
Agriculture	-	-
Forestry	0.2	0.37
Cocoa	1.4	2.65
Mining and Quarrying	0.8	1.51
Electricity	-	-
Construction	8.2	15.53
Fuel	-	-
Public Utilities	0.4	0.75
Services	2.2	4.16
Export	14.2	26.89
Consumption	19.8	37.50
Investment	5.6	10.60
Manufacturing	-	-
All Sectors	52.8	100.0

TABLE 23

INPUTS FROM OTHER SECTORS TO THE MANUFACTURING SECTOR (1968) IN MILLION CEDIS

Sectors	Input	%
Agriculture	14.8	3.40
Cocoa	24.6	5.52
Forestry	9.0	1.84
Fishing	7.5	1.73
Mining & Quarrying	17.7	4.07
Electricity	7,7	1.77
Construction	1.3	0.3
Commerce	17.3	4.0
Services	10.1	2.32
Gross Value Added	221.5	50.95
Manufacturing	104.3	23.99
All Sectors	434.9	100.0

TABLE 24

OUTPUT OF MANUFACTURING TO OTHER SECTORS IN MILLION CEDIS (1968)

Sectors	Output	%
Agriculture	14.4	3.31
Cocoa	5.6	1.29
Forestry	1.8	0.41
Mining and Quarrying	8.5	1.96
Electricity	1.6	0.39
Construction	40.0	9.2
Commerce	5.4	1.24
Services	45.9	10.56
Final Demand	222.2	46.51
Manufacturing	104.3	23.99
All Sectors	434.9	98.84

TABLE 25

GROWTH RATES OF OUTPUT PRODUCTIVITY AND EMPLOYMENT 1955-1964

Country	Growth of Output	Growth Productivity	Growth of Employment
Ceylon	7	10	- 3
Kenya	6	10	- 3
Panama	18	10	6
Pakistan	15	8	7
Argentina	1	6	- 5
Israel	13	4	8
Colombia	6	4	2
India	8	4	4
Philippines	7	4	3
Guatemala	4	3	1
Mexico	7	3	4

Source : Maths. op. cit.

TABLE 26

EMPLOYMENT IN GHANAIAN INDUSTRIES 1960 AND 1970

Industry	Number Employed 1960	% of Total	Number Employed 1970	% of Total	Growth Rate 1960-70
Agriculture	1,581,331	61.8	1,790,713	57.2	1.3
Mining	48,221	1.9	30,687	1.0	- 4.5
Primary Sector	1,629,552	63.7	1,821,700	58.2	1.1
Manufacturing	233,947	9.1	376.377	12.0	4.8
Construction	88,653	3.5	73,579	2.3	- 2.1
Utilities	14,189	0.6	12,243	0.4	- 1.5
Secondary Sector	236,789	13.2	462,199	14.7	3.2
Commerce	371,131	14.5	435,967	13.9	1.8
Transport & Communications	67,823	2.6	84,327	2.7	2.2
Services	154,088	6.0	328,849	10.5	7.9
Tertiary Sector	593,042	23.1	849,143	27.1	3.7
Total Employment	2,459,383	100.0	3,133,043	100.0	2.3

Source : Population Census, 1960 and 1970.

TABLE 27

CHANGES IN OUTPUT AND EMPLOYMENT OF MANUFACTURING INDUSTRIES IN SELECTED COUNTRIES

Country	Annual % Change in Gross Output 1963-1970	Annual % Change in Employment 1963-1970
Ghana	19.3	9.3
Ethiopia[(a)]	19.6	6.6
Kenya	12.4	6.0
Nigeria[(a)]	15.1	7.7
Uganda[(a)]	6.2	4.6

Source: International Labour Yearbook, several issues

Notes: (a) For these countries the growth rates are for 1963 - 1969.

TABLE 28

TOTAL EMPLOYMENT AND WAGE EMPLOYMENT IN MEDIUM AND LARGE-SCALE MANUFACTURING INDUSTRIES IN GHANA, 1962 - 1970

Year	Total Employment	Index of Total Employment 1962 - 100	Percentage Change Over Previous Year	No. of Paid Employees	Index of Paid Employees 1961 - 100	Percentage Change Over Previous Year
1962	29,298	100.0	-	26,455	100.0	-
1963	31,886	108.8	8.8	30,008	113.4	13.4
1964	35,849	122.4	13.5	34,171	129.2	13.8
1965	37,264	127.2	3.9	35,903	135.7	5.1
1966	39,482	134.8	6.0	37,973	143.5	5.8
1967	40,219	137.3	1.9	38,579	145.8	1.6
1968	46,234	157.8	14.9	45,616	172.4	18.2
1969	50,501	172.4	9.3	50,885	192.3	11.6
1970	55,643	189.9	10.2	-	-	-

Source : C.B.S. Industrial Statistics, several issues.

TABLE 29

MEASURES OF CAPITAL INTENSITY IN GHANAIAN MANUFACTURING INDUSTRY

Year	Total Employment	Index of Employment 1962 = 100	Gross Output at 1962	Index of Output 1962=100	Capital Stock in Manufacturing at 1962 Prices Million Cedis	Index of Capital Capital Stock 1962 = 100	Employment/ Output Ratio	Capital Labour Ratio
1962	29,298	100.0	71.4	100.0	22.9	100.0	100.0	100.0
1963	31,886	108.8	87.8	122.9	28.8	125.6	88.5	115.4
1964	35,849	122.4	94.0	132.6	39.1	170.9	92.4	139.6
1965	37,264	127.2	95.4	133.6	38.0	166.2	95.5	130.6
1966	39,482	134.8	107.4	150.4	41.0	179.1	89.6	132.8
1967	40,219	137.3	120.3	168.5	51.8	226.3	81.5	134.8
1968	46,234	157.8	148.0	207.4	44.8	195.5	76.1	123.9
1969	50,501	172.4	164.7	230.7	37.7	164.9	74.7	95.6
1970	55,643	189.9	195.6	273.9	38.0	166.2	69.3	87.5

TABLE 30

AVERAGE NUMBER OF PERSONS EMPLOYED FOR ESTABLISHMENT TYPE OF OWNERSHIP

YEAR	STATE	JOINT STATE/ PRIVATE	CO-OPERATIVE	PRIVATE	TOTAL
1962	263	144	39	160	175
1963	291	141	40	160	181
1964	301	143	44	170	191
1965	273	194	63	165	183
1966	269	233	89	144	171
1967	328	251	133	123	162
1968	350	240	61	100	133
1969	382	262	16	106	142

Source: Computed from several issues of Industrial Statistics, and Statistical Yearbooks.

TABLE 30

AVERAGE NUMBER OF PERSONS EMPLOYED FOR ESTABLISHMENT TYPE OF OWNERSHIP

YEAR	STATE	JOINT STATE/ PRIVATE	CO-OPERATIVE	PRIVATE	TOTAL
1962	263	144	39	160	173
1963	291	141	40	160	181
1964	301	143	44	170	191
1965	273	194	63	165	185
1966	269	233	89	144	171
1967	328	251	133	123	162
1968	350	240	61	100	133
1969	382	262	16	106	142

Source: Computed from several issues of
Industrial Statistics, and
Statistical Yearbooks.

TABLE 32

STRUCTURE OF TOTAL OUTPUT AND EMPLOYMENT, 1960 AND 1970

A Sector	Share in Output 1960	Share in Employment 1960	Share in Output 1970	Share in Employment 1970
Agriculture	51.8	61.8	41.7	57.2
Mining	4.5	1.9	2.5	1.0
Manufacturing	2.0	9.1	12.6	12.0
Construction	10.1	3.5	4.3	2.3
Utilities	1.1	0.6	1.4	0.4
Tertiary Sector	30.5	23.1	37.5	27.1
TOTAL	100.0	100.0	100.0	100.0

TABLE 33

SHARES OF MANUFACTURING GROSS OUTPUT AND VALUE ADDED IN GNP

Year	(1) Real GNP	(2) Real Gross Output	(3) Real Value Added	(4) (2) As % of (1)	(5) (3) As % of (1)	(6) (3) As % of (2)
1962	1084	71.37	40.99	6.58	3.78	57.43
1963	1113	87.05	49.06	7.82	4.41	56.36
1964	1144	90.99	50.23	7.95	4.39	55.20
1965	1155	87.29	50.52	7.55	4.37	57.88
1966	1158	92.45	55.41	7.98	4.78	59.94
1967	1177	114.34	65.54	9.71	5.57	57.32
1968	1180	129.73	66.98	10.99	5.68	51.63
1969	1221	140.44	73.35	11.50	6.01	52.23

Source: Economic Survey Industrial Statistics.

TABLE 34

BASIC DATA FOR MEDIUM AND LARGE-SCALE MANUFACTURING

Year	Value Added (₵1,000)	Total Employ-ment	Total Real Wages (₵1,000)	Total Wages Value Added	Wages for Worker	Indexed Wages Per Worker
1962	40,988	29,298	11,840	0.2889	404.12	100
1963	49,300	51,886	11,638	0.638	364.99	0.90
1964	51,986	35,849	13,748	0.2645	383.50	0.95
1966	64,350	59,480	14,982	0.2328	379.48	0.94
1967	68,963	40,219	13,664	0.1981	339.74	0.84
1968	76,407	47,000	14,214	0.1860	302.44	0.75
1969	85,958	50,885	16,657	0.1938	327.34	0.81

Source : Industrial Statistics.

TABLE 35

RATIO OF PRODUCTION WORKER'S WAGES TO TOTAL WAGES (REAL)

Type of Industry	1962	1963	1964	1965	1966	1967	1968	1969
Food	64.6	67.0	69.0	69.8	62.9	64.5	60.0	58.1
Beverage	41.6	31.8	47.9	43.5	13.0	39.5	35.1	38.4
Tobacco	49.4	49.3	44.8	44.6	37.7	35.8	36.7	34.9
Textiles	62.0	63.1	63.2	56.3	70.7	86.4	72.1	84.5
Footwear/Wearing	69.7	66.4	72.3	68.3	64.3	64.6	68.6	62.8
Wood and Cork	65.2	65.7	62.6	62.7	63.0	61.7	61.3	62.5
Furniture and Fixtures	84.5	88.5	81.0	77.5	77.3	65.2	66.0	60.4
Paper & Its Products	59.1	61.9	57.5	55.0	48.4	49.5	44.9	39.8
Printing and Publishing	43.0	42.6	51.6	45.1	47.7	52.1	56.7	63.1
Leather and Fur Prodocuts	71.47	67.6	57.3	61.0	62.3	58.2	72.3	73.1
Rubber Products	62.7	62.4	72.4	58.8	63.7	59.2	59.1	35.4
Chemical/Chemical Products	41.5	43.2	37.6	39.2	37.0	42.5	38.6	38.2
Petroleum and Coal	-	9.6	19.1	17.4	17.8	15.6	16.6	24.3
Non-metallic Mineral	59.1	63.9	62.7	62.8	72.8	64.1	54.3	50.5
Metal Products	59.5	62.1	63.7	63.6	63.8	61.0	53.5	46.9
Transport Equipment	71.9	86.7	74.2	58.5	72.8	77.6	64.3	48.1

Source: Industrial Statistics.

TABLE 36

TOTAL ESTIMATED EARNINGS FOR WAGE AND SALARY EMPLOYEES IN DECILE GROUPS CONSTANT (1956) PRICES

Decile Group	1956		1959		1965	
	Abs.	%	Abs.	%	Abs.	%
First	215,490	5.78	295,755	4.60	302,615	4.79
Second	221,110	6.00	298,380	5.37	334,465	5.29
Third	249,965	6.70	330,250	5.94	382,250	6.05
Fourth	267,205	7.16	262,320	6.52	430,030	6.80
Fifth	293,065	7.85	383,365	6.90	477,810	7.56
Sixth	318,920	8.54	582,230	10.47	541,520	8.57
Seventh	370,640	9.93	554,140	9.97	621,155	9.82
Eighth	439,595	1.78	660,705	11.89	732,640	11.56
Ninth	551,650	14.78	799,240	14.38	1,019,300	16.12
Tenth	801,615	21.48	1,332,060	23.96	1,481,210	23.43

TABLE 37

GHANA COMMODITY COMPOSITION OF IMPORT TRADE 1959, 1960, 1965, 1969-74
(In ₵ million)

Section	1955		1960		1965		1969		1970		1971		1972		1973		19
	Value ₵M	%	Value ₵M	%	Value ₵M	%	Value ₵M	%	Value ₵M	%	Value ₵M	%	Value ₵M	%	Value ₵M	%	Value ₵M
Food & Live Animals	13.3	15.1	42.0	16.2	35.3	11.0	55.2	15.6	79.5	19.0	62.6	14.1	72.2	18.4	111.7	21.2	140.6
Beverages & Tobacco	4.4	5.0	7.6	2.9	2.3	0.7	1.6	0.4	3.9	0.9	4.6	1.1	2.3	0.6	4.9	0.9	7.1
Raw Materials (Inedible) Except Fuels	0.4	0.4	0.7	0.3	3.1	1.0	5.4	1.5	9.4	2.2	12.4	2.8	13.2	3.4	22.8	4.3	28.7
Mineral, Fuel, Lubricants & related material	5.5	6.2	13.6	5.2	13.2	4.1	22.9	6.5	24.4	5.8	27.0	6.1	45.3	11.5	46.8	8.9	156.5
Animal & Vegetable oil & fats	0.1	0.2	0.4	0.2	3.0	0.9	5.9	1.7	3.8	0.9	5.2	1.2	5.2	1.3	6.0	1.1	15.4
Chemicals	5.5	6.3	20.2	7.8	20.1	6.3	55.1	15.5	66.9	16.0	71.6	16.2	63.9	16.3	91.1	17.3	123.3
Manufactured goods classified chiefly by materials	34.8	39.6	78.7	30.3	108.4	33.9	97.4	27.5	100.8	24.1	99.4	22.4	68.2	17.4	105.8	20.1	221.0
Machinery & Transport Equipment	15.0	17.1	67.4	26.0	105.9	33.1	94.5	26.7	108.1	25.8	131.5	29.7	104.3	26.5	111.3	21.2	212.4
Miscellaneous Manufactured articles	7.4	8.3	25.2	9.3	23.3	7.3	14.6	4.1	16.4	3.9	19.2	4.4	11.3	2.9	14.9	2.9	27.7
Miscellaneous Commodities & Transactions	1.5	1.8	4.6	1.8	5.4	1.7	1.8	0.5	5.8	1.4	9.6	2.0	7.3	1.7	10.6	2.0	10.9
TOTAL	87.9	100.0	259.2	100.0	320.0	100.0	354.4	100.0	419.0	100.0	445.1	100;0	393.2	100.0	525.9	100.0	943.7

TABLE 38

PERCENTAGE DISTRIBUTION OF IMPORTS BY MAJOR END USE 1957-1968

End Use	1957-59	1963-65	1966-68
Consumer Goods	53.9	35.7	30.9
Raw Materials for Food, Drink and Tobacco	5.8	5.2	6.7
Agricultural Production	2.3	1.7	3.0
Mining and Industry	6.1	9.6	15.7
Capital Goods Construction Materials	10.9	15.5	12.0
Machinery Equipment	15.2	27.2	26.2
Fuels and Lubricants	5.9	5.1	5.6
Total	100.0	100.0	100.0

Source: William F. Steel, "Import Substitution and Excess Capacity in Ghana," Oxford Economic Papers Vol. 24, No. 2, July 1972, p. 226.

TABLE 39

PERCENTAGE DISTRIBUTION OF VALUE OF EXPORTS OF DOMESTIC PRODUCE
1962-1974

Commodity	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Cocoa Beans	60.0	63.3	60.7	61.1	55.5	54.5	55.0	55.0	65.3	57.6	52.6	49.4	54.0
Cocoa Paste (Including Cocoa Cake)	0.8	0.2	0.2	0.4	0.6	1.0	1.3	0.9	0.8	1.0	1.8	1.1	1.3
Cocoa Butter	2.5	3.2	3.9	5.1	6.2	9.4	7.1	6.1	5.9	6.7	5.3	6.3	7.7
Timber (Logs)	5.2	6.7	7.1	5.9	5.9	5.3	4.8	6.2	4.3	5.7	7.7	12.7	7.9
Timber (Sawn)	5.8	5.4	5.9	5.1	5.4	4.0	3.7	3.8	3.7	3.4	3.9	6.0	4.9
Bauxite	0.6	0.5	0.6	0.6	0.8	0.7	0.4	0.4	0.3	0.6	0.5	0.4	0.4
Maganese	4.1	3.7	3.8	4.3	6.5	3.9	3.2	1.8	1.6	1.8	1.8	1.0	1.3
Diamond	6.7	3.1	5.4	6.1	5.8	5.3	5.2	3.5	3.1	3.2	3.4	1.9	1.8
Gold	10.1	10.7	9.1	8.5	9.2	8.7	8.6	7.6	5.6	7.8	9.2	10.1	11.7
Kola Nuts	1.3	0.8	0.3	0.3	0.7	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1
Others	2.1	2.0	3.5	2.6	3.4	7.0	10.6	13.6	9.3	12.1	13.7	10.9	8.9
(Of which Aluminium)						(3.5)	(7.9)	(11.2)	(6.9)	(8.2)	(10.3)	(6.6)	(4.1)
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 40

EXPORTS OF DOMESTIC MANUFACTURES AS PERCENTAGE OF TOTAL EXPORT OF DOMESTIC PRODUCE IN GHANA 1960-1974

Year	A	B	C	D
	Total Export of Domestic Produce ¢'000	Export of Domestic Manufactures ¢'000	B as a Percentage of A	Percentage of Gross Output Exported
1960	222,832	1,062	0.46	n.a
1961	228,981	1,165	0.51	n.a
1962	230,097	2,738	1.19	3.84
1963	217,619	3,560	1.64	3.83
1964	229,279	2,241	0.98	2.09
1965	226,382	4,588	2.02	3.82
1966	191,394	2,697	1.41	1.90
1967	245,122	11,937	4.87	7.60
1968	338,	29,736	8.78	13.34
1969	335,264	48,369	14.51	18.40
1970	467,378	34,891	7.47	7.95
1971	557,484	36,581	10.23	7.40
1972	564,412	63,238	11.20	11.02
1973	730,440	65,788	9.01	n.a
1974	840,933	144,463	17.18	n.a

n.a - not available

Compiled from External Trade Statistics of Ghana, December (1960 - 1974)

TABLE 41

EXPORTS OF DOMESTIC MANUFACTURING INDUSTRIES AS PERCENTAGES OF TOTAL EXPORTS OF MANUFACTURING SECTOR, 1960, 1965, 1976 - 1974

¢'000

	1960		1965		1970		1971		1972		1973		1974	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
Food	0.01	-	8	0.17	267	0.77	133	0.36	145	0.23	146	0.22	0.08	-
Beverage	0.03	-	-	-	0.15	-	0.04	-	0.07	-	7	0.01	0.25	-
Tobacco	1.4	0.14	-	-	11	0.03	54	.15	16	0.03	80	0.12	299	0.21
Textiles	0.8	0.08	27	1.20	10	0.03	636	.74	1,407	2.22	909	1.28	7,548	5.22
Footwear Wearing Apparel, etc.	0.64	0.06	14	0.62	1	-	186	0.51	17	0.03	2	-	51	0.04
Wood and Cork	842	79.28	888	39.63	1,159	3.32	2,080	.69	3,142	4.97	12,270	18.65	84,997	58.84
Furniture & Fix.	14	1.32	5	0.22	6	0.02	7	.02	24	0.04	352	0.54	1,087	0.75
Paper & Paper Products	0.87	0.08	0.21	0.01	0.52	-	10	0.03	59	0.09	4	0.01	2	-
Travel Goods, Handbags, etc.	16	1.51	4	0.09	0.10	-	9	0.02	1	-	4	0.01	13	0.01
Leather & Leather Products	-	-	0.03	-	0.03	-	-	-	0.01	-	2	-	758	0.52
Rubber Products	-	-	2	0.04	25	0.07	17	0.05	199	0.31	224	0.34	55	0.04
Chemical & Chemical Products	18	1.69	366	7.98	402	1.47	629	1.72	570	0.90	723	1.10	979	0.68
Petroleum & Petroleum Products	-	-	2,526	55.06	668	1.91	2,735	7.48	404	0.64	4,281	6.51	14,252	9.87
Non-Metallic Mineral Products	-	-	3	0.07	0.18	-	3	.01	18	0.03	27	0.04	17	0.01

TABLE 41 (Continued)

EXPORTS OF DOMESTIC MANUFACTURING INDUSTRIES AS PERCENTAGES OF TOTAL EXPORTS OF MANUFACTURING SECTOR: 1960, 1965, 1970 - 1974

¢'000

facturing roup	1960		1965		1970		1971		1972		1973		1974	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
Metal cts	-	-	-	-	81	0.23	84	0.23	74	0.12	22	0.23	-	-
Produ cts	9	0.85	13	0.28	24	.07	25	0.07	13	0.02	68	0.10	164	0.11
rrous s (Mainly nium	5	0.47	6	0.13	31,906	91.44	29,729	81.27	56,864	89.92	46,155	70.16	33.375	23.10
ery Except ricity	-	-	0.83	0.02	8	0.02	1	-	2	-	78	0.12	67	0.05
ical Machi- Appliances etc.	-	-	1	0.02	114	0.33	112	0.31	134	0.21	168	0.26	415	0.26
ort Equip.	34	3.20	8	0.17	118	0.34	3	0.01	13	0.02	11	0.02	181	0.13
laneous actures	119	11.21	27	0.59	87	0.25	128	0.35	133	0.21	254	0.37	203	0.14
TAL	1,062	100.00	4,588	100.00	34.891	100.00	36,581	100.00	63,238	100.00	65,788	100.00	144,463	100.00

TABLE 42

GHANA'S TRADE BALANCE WITH ECOWAS COUNTRIES, 1974

Country	Exports from Ghana	Imports to Ghana	Trade Balance
Gambia	378,032	210,570	167,462
Nigeria	1,500,226	64,317,546	- 62,817,320
Sierra Leone	553,345	117,524	435,821
Canary Islands	335,720	494,135	158,415
Togo	977,300	3,679,480	- 2,702,180
Benin	32,087	795,868	- 763,781
Guinea	830	8,304	- 7,474
Mali	185,687	2,371,477	- 2,185,790
Mauritania	11,653	-	11,653
Niger	201,933	2,604,149	- 2,402,216
Seneral	68,122	827,444	- 759,022
Ivory Coast	882,207	12,414,870	- 11,532,663
Liberia	987,450	1,602,383	- 614,933
Upper Volta	356,892	4,137,624	- 3,780,732
Total from ECOWAS Countries	6,471,484	93,581,074	87,109,590
Total for the World	840,993,463	943,706,351	102,712,888
ECOWAS as % of Total	0.77%	9.9%	84.8%

TABLE 43

SHARES OF ECOWAS COUNTRIES IN GHANA'S TOTAL EXPORTS

Country	Value	% of Total Exports
Gambia	378,032	0.04
Nigeria	1,500,226	0.18
Sierra Leone	553,345	0.06
Canary Islands	335,720	0.04
Togo	977,300	0.12
Benin	32,087	t
Guinea	830	t
Mali	185,687	0.02
Mauritania	11,653	t
Niger	201,033	0.02
Senegal	68,122	0.01
Ivory Coast	882,207	0.10
Liberia	987,450	0.12
Upper Volta	356,892	0.04
Total ECOWAS	6,471,484	0.77
Total Exports to the World	840,993,463	100.0

TABLE 44

ANALYSIS OF VALUE OF EXPORTS BY SECTION AND COUNTRY OF CONSIGNMENT, WEST AFRICA, 1974

(Cedis)

SECTION	GAMBIA	NIGERIA	SIERRA LEONE	CANARY ISLANDS	TOGO	BENIN	GUINEA	MALI	MAURI-TANIA	NIGER	SENEGAL	IVORY COAST	LIBERIA	UPPER VOLTA	TOTAL
i & Live Animals	1,042	-	3,260	-	6,339	810	-	-	-	1,500	510	-	9,946	176,287	199,694
erages & Toba-	-	-	26,109	-	122,571	-	-	-	-	-	-	-	-	-	148,680
Materials (e.g. les & Skins, od & Cork	276,889	853,219	87,192	328,335	731,758	6,810	-	28,953	-	172,257	-	60	23,965	86,712	2,596,150
ral Fuels, Lu- cants & rela- material	-	311	-	-	1,308	13,570	-	-	-	-	-	-	80	-	15,269
icals	-	31,565	2,060	-	4,353	-	-	-	-	893	1,050	23,338	518	963	64,740
her & Rubber erials	2,957	-	5,990	-	3,451	-	-	-	-	-	-	754,415	41,841	-	808,654
ood & Paper ufacture	59,725	1,961	100,437	-	17,018	-	-	15,194	-	240	-	-	470,839	1,309	666,723
inium	-	-	6,889	-	1,027	-	-	-	-	-	-	-	11,479	-	19,395
l Products	-	14,074	22,543	-	250	-	-	-	-	5,500	-	-	82,064	-	124,431
r Manufactur- Classified efly by mate- l n.e.s.	113	33,098	9,185	-	27,690	-	-	4,600	-	-	50	259	54,959	11,800	141,754
inery, Trans- Equipment	18,054	317,495	17,931	500	5,882	10,697	-	108,503	6,653	15,393	-	41,216	34,898	12,308	589,530
ellaneous Manu- ured article g. furniture)	9,614	15,423	11,715	830	24,179	200	-	16,627	-	5,550	4,262	8,184	19,140	67,513	183,237
editles & tran-															

TABLE 45

FACTORS AFFECTINV UTILIZATION OF CAPACITY

F I R M	Factors Affecting Production
1	a c d
2	a b
3	a
4	a
5	a g
6	a b e f
7	g a c d
8	a c
9	a
10	e
11	a
12	a b g
13	g a b

a = Lack of raw materials

b = Lack of spare parts

c = Lack of semi-skilled technical workers

d = Lack of technical, professional and managerial workers

e = Lack of demand

f = Machine breakdown

g = Inadequate financial capital

Source: KODWO EWUSI : "The Development of Manufacturing Industries in Ghana and the Government's Role in it." ILO WP 38. (January 1976), Table 15.

TABLE 46

ACTUAL, FULL CAPACITY OUTPUT AND UTILIZATION (PERCENTAGE)
TEXTILE, 1973

FIRM	ACTUAL OUTPUT ¢	FULL CAPACITY OUTPUT ¢	PERCENTAGE UTILIZATION
1	445,244.00	2,340,000.00	19.03
2	3,302,427.03	6,897,957.00	48.00
3	100,000.00	600,000.00	16.67
4	7,529,000.00	14,496,000.00	51.93
5	1,048,260.50	1,500,000.00	69.88
6	15,838,096.72	27,407,750.00	57.78
7	33,530.00	146,175.00	22.94
8	320,000.00	475,000.00	40.44
9	558,945.00	748,427.00	74.68
10	880,095.29	1,500,000.00	58.67
11	619,487.40	824,491.92	75.14
12	1,868,666.27	6,000,000.00	31.14
13	500,000.00	1,000,000.00	50.00
14	228,004.02	445,000.00	51.23

Source : KODWO EWUSI : "The Development of Manufacturing Industries in Ghana and the Government's Role in it." ILO WP. 38 (January, 1976), Table 16.

TABLE 47

CAPACITY UTILIZATION AND RAW MATERIALS CONSTRAINT IN TEXTILE FIRMS

F I R M	CAPACITY UTILIZATION	IMPORT LICENCE RECEIVED / IMPORT LICENCE APPLIED
1	19.93	20.00
2	48.00	20.00
3	16.67	50.00
4	51.93	98.20
5	69.88	100.00
6	57.78	62.80
7	22.24	100.00
8	40.44	56.00
9	74.68	70.44
10	58.67	31.56
11	75.14	23.33
12	31.14	28.68
13	50.00	44.00
14	51.23	50.00

Source : KODWO EWUSI : "The Development of Manufacturing Industries in Ghana and the Government's Role in it." ILO WP 38 (January, 1976), Table 17.

TABLE 48

CAUSES OF CAPACITY UTILIZATION IN VARIOUS DIVISIONS OF G.I.H.O.C., 1974

DIVISION / OF CAPACITY UNDER-UTILIZATION	BOATYARDS	BRICK AND TILE	CANNERY	DISTILLERIES	ELECTRONICS	FABRE BAG	FOOTWEAR	GLASS	MARBLE	MEAT PRODUCTS	MEAT INDUSTRIES	PAINT	PAPER CONVENSION	PHARMACEUTICAL	STEEL WORKS	VEGETABLE OIL MILLS
late delivery of raw mate-			1	1		1				1		1				1
Spares						1										
Modern Equipment							1	1						1		
Demand	1						1		1							
Breakdown		1				1		1							1	
ıate financial capacity	1	1														1
Proper production planning							1			1						
						1		1	1					1		1

ese includes Limited production space or warehouse, poor management/worker relationship and lack of facilities for research and development,

ırce: KODWO EWUSI: "The Development of Manufacturing Industries in Ghana and the Government's Role in it." ILO WP 38 (January, 1976),

Table 48.