THE INDUSTRIALIZATION OF ZAMBIA 1964-1982

by

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TO:

My Father, Nteema; Mother, Moseni; Wife, Ruby;
Sons, Kaampwe, Nteema, Namaundu and Shimbolwa Jr.,
and Daughter, Moseni.

a Muzandu

DECLARATION

No portion of this Thesis has been submitted
in support of an application for another degree
or qualification of this or any other University
or Institution of Learning.

CONTENTS

CHAPTER X - Summary and Conclusion

BIBLIOGRAPHY

LIST OF TABLES

LIST OF APPENDICES

LIST OF FIGURES

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ACADEMIC AND INDUSTRIAL EXPERIENCE

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                     3. "Sources of Industrial Growth in Zambia since
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NOTES ON THE ZAMBIAN CURRENCY CONVERSION

During the Colonial and Federal eras, Zambia used pounds, shillings, and pence which were always equal to the British currency. These units were retained after Independence until January, 1968, when Zambia decimalized its currency on the basis of 10 Zambian shillings = 1 Kwacha (K) = 100 ngwee (n). Zambia did not devalue when the British pound was devalued in 1967. Up to December 1971, the Zambian Kwacha was linked with the British pound sterling at K1 = £0.50. Between that date and July 1976, when it was devalued by 20%, the Kwacha was linked with the US$ at K1 = US$ 1.5556. After the latter date it was pegged to the IMF Special Drawing Right (SDR) at a mid-point of K1 = SDR 1.08489, then equal to US$ 1.2429. In March, 1978, it was devalued by 10% to K1 = SDR 0.9763, then equal to US$ 1.2016. It was again devalued by 20% in January 1983 to K1 = SDR 0.7810, then equal to US$ 0.8475 and British sterling £0.5556.

It has been difficult to use one currency throughout the study. Generally, Chapters on the modern Zambian economy have used Kwacha, with sterling or dollar equivalents quoted wherever appropriate. Zambian statistics prior to the 1968 decimalisation have been converted to Kwacha for comparability, on the basis of £1 Zambia = 2 Kwacha.

REPUBLIC OF ZAMBIA
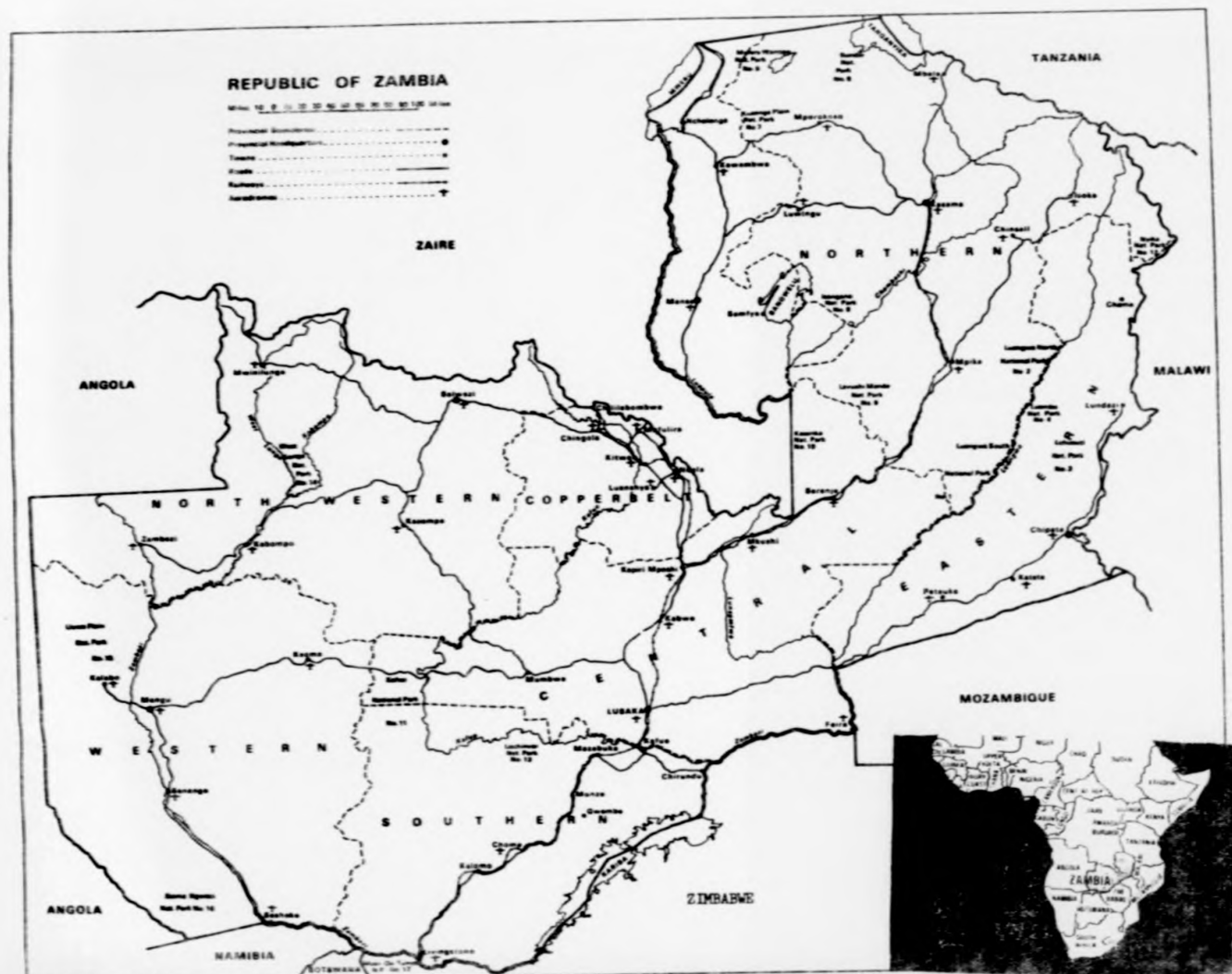
ABSTRACT

At Independence, Zambia was a classic example of a dual economy, dominated by copper and dependent on foreign capital, skills, technology, inputs and markets. It was characterized by imbalances between African and European workers, urban and rural areas, and copper and other sectors of the economy. Its manufacturing sector was under-developed in the sense that it was smaller than might have been expected, even given the limited size of the market. This distortion in the economy was largely due to the political and economic institutions of the colonial and federal regimes.

Zambia's immediate priorities at Independence included economic diversification within the framework of an import-substituting industrialization strategy, employment-generation, rural diversification, export promotion, and the creation of inter-industry linkages. The government was to create a favourable climate for manufacturing investment.

Independence was followed by almost a decade of very rapid expansion in manufacturing industry, which slowed down after the mid 1970s. The initial spur was largely due to the ending of colonialism, the economic boom consequent upon the rise in the price of copper, and deliberate state interventionist policies in industry implemented after the 1968 economic reforms. On the other hand, the loss of momentum could largely be attributed to inherent structural imbalances, external macroeconomic conditions (the impact of world recession on copper prices and demand, the rise in oil prices, and the dislocations and disruptions of transport caused by the liberation struggle in Zimbabwe), and the government's own development policies (particularly

the characteristics and nature of the ISI strategy adopted).
Nevertheless, the manufacturing sector increased by threefold its
contributions to total GDP between 1964 and 1982, though mining and
agriculture declined in both absolute and relative terms.

This analysis was confirmed by empirical studies, examining
the Zambian pattern of industrialization in relation to the 'normal'
pattern of development derived from a cross-sectional study of
manufacturing in over eighty countries at varying stages of economic
growth and analyzing the 'sources' of industrial growth. The first
established that, while at Independence manufacturing development was
very much below the 'normal' pattern, by 1974 it was even slightly
'over-developed'. However, by 1980 the degree of industrialization
had been reduced below the level of 1974, although some recovery was
anticipated in 1983. Import substitution was the dominant 'source'
of growth during the entire period 1965-80, but between 1975 and 1980
final domestic demand was predominant. Throughout the period studied
both intermediate and export demand, though steady, remained
insignificant.

Despite its overall growth, a close examination suggests
that the manufacturing sector contributed less than satisfactorily
towards achieving the government's industrialization policy objectives
of restructuring the country's inherited dual economy. The explanation
appears to lie mainly in the consequences of the 'market-based'
import-substituting industrialization strategy adopted by the authorities
which allowed the inherited price mechanism to influence which manufac-
turing industries to establish, where, and how. Therefore, it is concluded
that future industrialization policies in Zambia should give greater
emphasis to the need to implement basic needs priorities.

CHAPTER I

INTRODUCTION

1.1   General Background to the Zambian Economy

Zambia, deriving its name from the Zambezi River, is a large country with an area of about 752,620 square kilometres, lying at an attitude of over 1,067 metres, making the climate more temperate than is normal in a tropical country.[1] As shown in the map, it is a landlocked country, bordered by eight countries.

Much of Zambia is sparsely populated, with a national density of 6.25 persons per square kilometre. In 1983, the population was estimated at 6.2 million.[2] Although in 1963 only about 20% of the population was urban, to-day Zambia is one of the most highly urbanized countries in Africa, with about 43% (1980 Census) of the population being urban and concentrated mainly along the line of rail between Livingstone, in the south, and the Copperbelt, in the north. The rapid growth of urban population over the years is partly due to the high rural-urban exodus in search of employment opportunities and better living conditions,[3] and partly due to the general growth in the total population. For instance, over the period 1969-80 while rural population grew at an average rate of 1.1% per annum, urban population grew at a rate of 6.7%, which was even higher during the period 1963-69, at 8.9%. Total population grew much higher than rural population too, though half that of urban population during the period 1969-80. Lusaka, the largest and capital city, has now a population of over 540,000 (1980 Census), as compared with only 123,000 at Independence (1963 Census).

Zambia, formerly known as Northern Rhodesia, became an Independent State from Britain and a member of the Commonwealth on October, 24th, 1964,

just nine months after internal self-government had been achieved,
following the break-up of the Federation of Rhodesia and Nyasaland at
the end of 1963, of which it had been a member with Zimbabwe (formerly
Southern Rhodesia and later simply Rhodesia) and Malawi (formerly
Nyasaland). Malawi achieved its Independence earlier than Zambia, in
June, 1964. Zimbabwe did not gain its Independence until April, 1980
because of the European Settlers' Unilateral Declaration of Independence
(UDI) from Britain in that country in November, 1965. As it will be
seen here and in the Chapters that follow, UDI had serious implications
for the development of the Zambian economy as a whole, and the manufactur-
ing sector, in particular.

The British contact with Central Africa dates from the early
recordings of, first, David Livingstone and, then, the missionary
societies who penetrated the region in the first half of the 19th Century
and helped to open it up and advance the spread of western ideas.[4]
However, it was not until the last quarter of the century that European
powers really became seriously involved in the region, because until
then they had regarded the areas as of no real commercial value, but
rather only as a financial and administrative liability. The discovery
of diamond deposits at Kimberley in the late 1860s and later, even more
importantly, gold deposits at Witwatersrand after 1886, spurred Cecil
John Rhodes (then Prime Minister of the Cape Colony) to explore the
territories north of the Limpopo and Zambezi Rivers for gold and diamonds.
On October, 29th, 1889, the British Government granted a Royal Charter
of Incorporation for Rhodes's British South Africa Company (BSA) over the
territory now known as Zambia.[5] Under this Charter, the BSA Company
was given the power to obtain the territory by making treaties with its
native rulers; to administer the areas it obtained; and to conduct any

economic activity it desired (mineral rights included),[6] subject to the British Government approval. By 1891 the principle of British rule over much of Zambia had been established, though no detailed boundaries were drawn until some years later.

At first, the hope for the discovery of gold and diamond deposits in the area was frustrated. Only limited gold deposits had been discovered in Zimbabwe, though other minerals were developed later. Zambia seemed to be a virtually worthless venture, and thus the Charter rule proved unlucrative. Thus, on April 1st, 1924, when the British Government took over the administrative responsibilities of the territory on account that the Charter Company was mainly interested in exploiting the territory's human and physical resources, the BSA Company was glad to hand over, though it retained the mineral rights.

Throughout colonial rule, politics had played a major role in shaping the economy in Zambia. From the 1920s onwards European settlers in both Zambia and Zimbabwe wanted to amalgamate the two countries. Those in Zambia felt that Zimbabwe would offer the security of greater numbers, a firm tradition of locally based rule, and, most important of all, escape from the Passfield doctrine of the 'primacy' of the African interest.[7] Those in Zimbabwe wanted an expanded sphere of their economic operations and, later, access to the substantial wealth of Zambia. However, this amalgamation was unacceptable to the British Government. Instead, the latter opted for a federation, with Malawi as a 'rider', and so on October 23rd, 1953, the Federation of Rhodesia and Nyasaland was established.

Under the terms of the Federation, 'native policy' was to remain the responsibility of the three territorial governments, while commercial, economic, financial and most fiscal matters were the

responsibility of the Federal Government based in Salisbury (now Harare). This set up also left 'native' agricultural and educational development in the hands of the territorial governments, while that of Europeans became the responsibility of the Federal Pool. Thus, financially and economically, Zimbabwe greatly benefited from the Federation; and so probably, to a lesser degree, did Malawi. Zambia probably suffered   mainly from £97 million of fiscal revenues from copper which were transferred to and spent in the other two territories during the ten years of the Federation, also from the concentration of manufacturing, commercial and real estate investment around tne Federal capital and elsewhere in Zimbabwe. (Faber and Potter, 1971, pp. 1-13).

However, because of the strong opposition by the nationalist movements in these countries, the Federation was finally dissolved at the end of 1963, following the Victoria Falls Conference chaired by Lord Butler. Both Malawi and Zambia prepared themselves for a future as Independent states under majority governments. Prior to this date, the new constitution in 1962 enabled African Parties in Zambia to win a narrow majority in the Legislative Council.

Dr. Kenneth David Kaunda became President and Head of State of Zambia on October 24th, 1964, and has been in this position since then. Important constitutional changes in 1973 made the United National Independence Party (UNIP) the only authorised political party in the country, under a one-party participatory democracy, and the Central Committee of the Party became the supreme policy-making body. The post of Vice-President was replaced by that of Party Secretary-General and a new post of Prime Minister was created.

Until the 1920s, when the development of copper deposits began in earnest, there was no economic activity of real substance in Zambia.

The main activity was lead and zinc mining at Kabwe (formerly Broken Hill), where deposits had been discovered in 1902, though exploitation did not start until the Rhodesian railway reached them in 1906. Copper deposits were also discovered in the same year at Ndola, but exploitation could not start because of the poor quality of the initial oxide ores. The commercially attractive sulphide ores were discovered only in the 1920s. In the early years, the Charter Company, which had administered the territory and claimed ownership of all mineral rights, posed a problem to investment in mining development because it used to insist upon taking a 50% interest in all new mining enterprises as its price for allowing minerals to be worked, thus discouraging new investments. It is no surprise that, the main activity of the copperbelt during this time was agriculture, even when the railway reached Ndola and the Katanga (Shaba) Mines of Zaire in 1909.

However, in the 1920s, when the BSA Company changed its policy and granted exclusive prospecting licences over large areas to adequately financed companies, major deposits, that are still worked today, were identified. By this time the two giant groups that were to dominate the operations on the Copperbelt for the next forty years emerged: Anglo-American Corporation (AAC) and Rhodesian Selection Trust (RST).[8] The development of Zambia's copper resources was further encouraged by the growth of demand in the industrial countries in new industries like electrical engineering and automobiles in the inter war years.[9] Bwana Mkubwa mine near Ndola, which had temporarily closed, was reopened in 1926, though to be closed again in 1931. Several other major new mines were opened during the period 1931 and 1957: Roan Antelope and Rhokana (1931); Mufulira (1933); Nchanga (1936); Chibuluma (1955); and Bancroft (1957). During the great depression of the 1930s no new mines were opened, and

this resulted in widespread unemployment and emigration.[10] After Independence, Chambeshi and Mimbula-Fitula mines were added in 1965 and 1968 respectively.

Production of copper increased from 6,370 metric tonnes in 1930, to 145,811 metric tonnes in 1935, to 266,619 metric tonnes in 1940, but fell after the war to 197,118 metric tonnes in 1945. However, in spite of speculation about the possibility of a postwar depression, production expanded again at a steady rate (metric tonnes): 281,150 in 1950, 348,684 in 1955, 568,431 in 1960 and 634,000 in 1964, the year of Independence.[11]

The fortunes of the economy as a whole also followed the fortunes of the copper industry, which was, in turn, influenced by the copper price.[12] For instance, between 1946 and 1953, the African population and non-African (Europeans, Asians, coloureds) population increased from 1.7 to 2.0 million and from 23.8 to 55.0 thousand, respectively; between 1945 and 1953 their respective incomes from employment and unincorporated enterprise increased from £3.3 to £22.1 million and from £6.1 to £28.6 million. Over the same period, company income and net national income in the money economy increased from $4.1 to £56.1 million and from £11.4 to £83.7 million, respectively. (Young, 1973, Table 1.1).

1.2   The Structure of the Zambian Economy at Independence

At Independence Zambia stood as a classic example of a dualistic economy dominated by a single export product, copper, and dependent on foreign capital and skills. Copper mining accounted for about 50% of gross domestic product (GDP), 53% of government revenue, 92% of domestic exports, and 19% of wage employment.[13] The contributions of the other sectors of the economy were relatively insignificant. For instance, the manufacturing sector contributed only about 6% of the total GDP and 8% of

the total wage employment. Its contribution to GDP was half the average for other countries with the similar per capita incomes.[14] As a whole, domestic manufacturing production satisfied only 31% of the national domestic market (Young, 1973, p. 28), which was even less than in 1961, when it was estimated at 35%.[15] Local producers were dominant in only four of the ten categories listed by Young: food, beverages and tobacco, wood and furniture, and non-metallic minerals. (Young, 1973, Table 1.7).

In the early stages of development all countries tend to import most of their requirements of manufactured goods. Import substitution, however, tends to begin with the establishment of the simpler manufacturing industries mostly in the consumer goods group, where economies of scale are less significant and no important technical skills are required; for instance, textiles, leather products, food and beverages, wood products, printing, and non-metallic minerals.[16] However, in the case of Zambia, local production in clothing, leather products, and printing was still less than 50% of total national requirements in 1964. (Young, 1973, Table 1.7). For a country with Zambia's levels of income and population at Independence, there seems to have been an unusual retardation in the development of manufacturing.

Apart from imbalances between copper mining and other sectors of the economy, there were also other disparities. For instance, away from the urban centres, along the line of rail, over 80% of the population remained thinly and unevenly scattered over the vast extent of rural Zambia, where the main occupation was subsistence peasant farming. The disparity in economic importance and levels of development between rural and urban areas was reflected in wide differences in incomes and living standards, as well as economic infrastructure (like transport). The

rapid increase in real and money wages of the urban population,
especially in the mines, aggravated the disparity, and increasingly
encouraged migration into the towns, where employment earnings were
generally over ten times higher than in the rural areas. Furthermore,
the rural areas remained inaccessible due to the lack of transport
and communications development. Also the local industries that existed
tended to be located in the urban areas because of the market and
marketing opportunities that existed in these areas, relative to the
rural areas.

However, within the urban areas there were large imbalances
as between the Copperbelt and other towns in the country, and between
Africans and non-Africans in terms of incomes, occupations, and living
conditions. For instance, while the Africans, generally uneducated and
unskilled, performed the most rudimentary industrial tasks; the non-
Africans, educated and skilled, and often expatriates, were employed in
technical and managerial jobs. As a result there was a big differential
in wages and salaries and living conditions. For instance, over half
the total earnings in employment went to the non-Africans, who accounted
for only about 12% of Zambia's total work-force of 268,700 in 1964.[17]

The following section attempts to explain the above characteristics
in terms of the colonial and federal heritage. Briefly, the economic
development of Zambia before Independence was inhibited by the following
factors. First, the access to the sea, though relatively easy, was
lengthy and highly costly,[18] with serious implications for the
development of manufacturing industry in particular, since it depended
on imported raw materials, spares, and machinery equipment which, apart
from timber, copper, tobacco and maize, were not available locally.
Secondly, the productivity of the local labour force was very low, mainly

as a result of the long neglect of African education.[19] Thirdly,
perhaps even more important than the above two constraints, Zambia
had a very limited and fragmented domestic market: European urban
and rural, and African urban and rural, the great majority of Africans
living in the subsistence sector far removed from the money economy.
Apart from those working for the mines, of the very few that were
gainfully employed,[20] their earnings were very low, though high by
African standards, to ensure that effective demand was limited to a
very narrow range of essentials, while the very highly paid Europeans
went for more luxury imports designed to make their dream of home a
reality. Fourthly, an important natural resource, the abundant water
power suitable for conversion into hydro-electricity, did not become
developed until the 1950s, though plans had been laid down for a large
scheme on the Kafue River. Thus, for the most part, power supply came
from the relatively expensive thermal stations,[21] and these depended
on coal from Zimbabwe. Fifthly, Zambia's economic backwardness was also
in part due to the country's geographical situation, at the periphery of
Southern Africa, which was easily the most advanced part of Africa.
The 'backwash' effects of industrialization in Zimbabwe and South Africa
had a detrimental effect on the prospects for the development of domestic
industries in Zambia. (Young, 1973, Ch. 1). Sixthly, during the
Federation, Zambia was responsible both to Britain and the Federation,
with the consequent loss of its constitutional rights and major legislative
powers, mainly in the fiscal arena.[22] Seventhly, there existed sets
of working rules and institutions which left the investment in manufacturing
industries, in particular, in the hands of private, mainly foreign,
investors. Finally, most of the strategic common services were concentrated
in Zimbabwe.

However, as will be elaborated fully in the chapters that follow, several factors emerged at Independence which created great opportunities for the development of the Zambian economy as a whole, and manufacturing sector in particular. First, the dissolution of the Federation, meant also an end to the system of interterritorial transfers of revenue, and the Zambian Government recovered both the right to formulate its own industrial policy and the power to impose tariffs upon imports from Zimbabwe. Secondly, the country recovered its main mineral rights from the BSA Company. Thirdly, there was the return of buoyancy to the world demand for copper. Fourthly, the government formulated a new and more active industrial policy manifested by a change in the role and charmanship of the Industrial Development Corporation (INDECO). Fifthly, the UDI in Zimbabwe both added urgency to the programme of import substitution and to the effective degree of protection through import licencing, against Zimbabwean imports. Finally, there was also "the greatly increased sum in African wages paid out by the copper companies as the power of the old European Mine Workers Union was broken, the industrial colour bar abolished, Zambianization programmes introduced, and all-round general wage increases awarded. Other industries too tended to increase their wages, particularly African wages." [23]

1.3   Objectives of the Study

For the majority of LDCs the desire for rapid promotion of industrialization remains a fundamental objective of economic development for a variety of reasons. [24] Economically, industrialization is viewed as a principle means to increased levels of productivity and national incomes; alleviation of the balance of payments constraint; diversification of the economy and reduction of excessive dependence on primary exports whose prices are allegedly subject to a long-run secular deterioration and

substantial short-run fluctuations around the trend; and ensuring the transfer to, and the anchorage and assimilation of modern technology within the LDCs. Socially, it is regarded as a major means to transform the rural population from subsistence to a commercial economy and to create job opportunities for the many unemployed and underemployed, and thus raise output per head and living standards throughout the economy. Psychologically, it is thought "to include necessary and desirable changes in social and cultural attitudes and institutions through the 'modernising' impact of imported organizational methods and technologies". (Colman and Nixson, 1978, p. 180). Politically, it is regarded as a means to promote national unity and security since, for instance, most of these countries are culturally diversified and historically disunited, and also militarily weak and vulnerable. In short, industrialization is thought of as synonymous with economic development. Zambia is no exception to these generalizations.

The main objects of this study are three fold: first, to record the development of manufacturing industry in Zambia during the period 1964-82, for which data were available, in an unsystematic manner more recent data will be included as appropriate; secondly, to analyze this record in terms of macro-economic conditions, 'normal' patterns and 'sources' of industrial growth mainly based on the Chenery-type models, and to analyze the impact of the government's industrial policy and strategies; and finally, to examine briefly some of the issues raised for future industrial policies in Zambia.

The main hypothesis is that, while the development of manufacturing sector has been rapid since Independence, relative to the other sectors of the economy (mining and agriculture), this sector has not contributed enough towards the restructuring of Zambia's inherited economic structure.

The explanation for this mainly lies in the constraints principally inherited from both the colonial and federal eras, political developments in the south, external macroeconomic conditions towards and after the mid 1970s, and the adopted government development policies and their implementation.

The term 'industry' is used in a variety of different ways in the economic literature.[25] In order to avoid subsequent confusion, in this study it is used to cover the major division 3 alone of the United Nations' International Standard Industrial Classification (ISIC), that is manufacturing. For international trade, the United Nations' Standard International Trade Classification (SITC) is used, whereby manufactures is normally defined as SITC Sections 5-8 (in some cases SITC 68, non-ferrous metals, is excluded), though certain sub-sections of 0-4 are also included in this study. Finally, the concept of industrialization is also used in a narrow sense - "the development of manufacturing enterprises producing commonly accepted industrial goods, within the so-called 'modern' sector of the economy." (Colman and Nixson, 1978, p. 179).

1.4   Method of Study

The following methods were used in the course of writing this study. First, a survey of the available literature both on economic theory and on the Zambian economy was undertaken. Secondly, a research trip to Zambia was made during the course of the study for nearly six months, mainly to collect the most recent data available on the Zambian economy from the relevant ministerial departments and parastatals. Both the Central Statistical Office and the Industrial Development Corporation of Zambia (INDECO) were consulted extensively. The University of Zambia was another source of material. Verbal and written information was collected in all cases. Finally, detailed studies were made with respect

to the estimation of the 'normal' patterns and 'sources' of industrial
growth in Zambia. A comparison of the Zambian patterns of industriali-
zation was made with estimates of the 'normal' patterns of development
derived from a cross-sectional study of manufacturing in over 80 countries
at varying stages of economic development, based on the United Nations
Model of 1963,[26] itself an adaptation of the 1960 Chenery Model.[27]
An estimation of the sources of industrial growth was also made using
the Chenery-type measures. Several shortcomings in the collection of
data are noted in various sections and chapters of the study, as appropriate.

1.5   Organisation of the Study

The structure of the remainder of this study is as follows.
Chapter II gives the historical background to the development of manufac-
turing industry during the colonial and federal eras, laying emphasis on
both the state of industry at Independence and constraints on the
establishment of local industries during these periods.

Chapter III looks at the process of industrialization in economic
theory and the attitudes towards it in LDCs in general. Chapter IV
outlines both the Zambian government's industrial policy objectives and
strategies since Independence. Chapter V looks at the supply and demand
conditions determining the development of manufacturing industry in
Zambia since Independence Chapter VI records both the growth and structural
change of manufacturing industry in Zambia since Independence and tries
to explain this record in terms of macroeconomic conditions. Chapter VII
analyzes the development of manufacturing industry in Zambia in terms of
the 'normal' patterns of industrial growth based on a cross-sectional
regression analysis of manufacturing in over 80 countries at varying
stages of economic growth. Chapter VIII accounts for the development of
manufacturing in Zambia by estimating its 'sources' of growth using

Chenery-type measures. Chapter IX is an evaluation of manufacturing development in Zambia in terms of the objectives and strategies of industrial policy outlined in Chapter IV. Chapter X presents a summary and conclusion and also endeavours to examine some of the issues raised in the earlier Chapters for future industrial policies in Zambia.

  - 15 -

NOTES AND REFERENCES

1. See Zambia Information Services (1979), "Zambia in Brief",
    Government Printer, Lusaka, p. 10.

2. See Office of the President, National Commission for Development
    Planning (1984), Economic Report 1983, Government Printer, Lusaka,
    January, p. 50; and Central Statistical Office (CSO)(1983), Monthly
    Digest of Statistics, Government Printer, Lusaka, Vol. XIX, Nos. 1
    to 3, January/March, p. 3.

3. See ILO (1981), Zambia: Basic Needs in an Economy Under Pressure,
    Findings and Recommendations of an ILO/JASPA Basic Needs Mission
    to Zambia, ILO, Addis Ababa, Ch. 3.

4. See Hall, R. (1965), Zambia, Pall Mall, London, pp. 34-40; and
    Rotberg, R. (1965), Introduction to Christian Missionaries and
    the Creation of Northern Rhodesia, New Jersey, Princeton University
    Press, pp. vii-viii.

5. See Hall, 1965, op. cit.; Gann, L. H. (1964), A History of Northern
    Rhodesia, Chatto and Windus, London; and Hanna, A. J. (1956), The
    Beginnings of Nyasaland and North Eastern Rhodesia, for detailed
    accounts of the BSA Company's initial penetration of Zambia.

6. For instance, in 1890 Lewanika, the Litunga of Barotseland (now
    Western Province), granted the first concession to BSA Company
    agents and in 1900 a principal concession, "Lewanika Concession",
    on which BSA Company's claims to ownership of mineral rights in
    Zambia was based, was granted. See Bostock, M. and Harvey, C.
    (eds.)(1972), Economic Independence and Zambian Copper: A Case
    Study of Foreign Investment, Praeger Publishers, New York.

7. See Faber, M. L. O. and Potter, J. G. (1971), Towards Economic
    Independence, Papers on the Nationalization of the Copper Industry
    in Zambia, Cambridge University Press, pp. 1-13.

8. AAC based in Johannesburg, was the creation of Ernest Oppenheimer
    building on the work of Rhodes, while RST was the creation of the
    work of Chester Beatly and increasingly controlled by American
    interests. (See Faber and Potter, 1971, op. cit.).

9. See Gann, L. H. (1955), "The Northern Rhodesian Copper Industry and
    the World of Copper: 1923-1952," Rhodes-Livingstone Journal, Vol.
    XVIII, pp. 1-18.

10. For effects of the Great Depression on Central Africa see Hulec, O.
    (1969), "The 1930s Depression in Rhodesia", Journal of Modern African
    Studies, Vol. 7, No. 1, pp. 95-105.

11. See Mining Yearbooks of Zambia and Annual Reports of the Government
    and Mining Engineer.

12. Young, A. (1973), Industrial Diversification in Zambia, Praeger Publishers, New York, p. 3.

13. See Copperbelt of Zambia Mining Industry Yearbook 1964, Kitwe.

14. Chenery, H. B. (1960), "Patterns of Industrial Growth", American Economic Review, September, p. 646.

15. UN/ECA/FAO (1964), Report of the Economic Survey Mission on the Economic Development of Zambia (Seers Report), Falcon Press, Ndola, p. 76.

16. See Chenery, 1960, op. cit., pp. 624-54.

17. See CSO (1970), Monthly Digest of Statistics.

18. The shortest route was 1,249 miles between Lusaka and Beira, while by rail to Cape Town was very nearly 2,000 miles. (Young, 1973, p. 8).

19. Studies on the history of education in Zambia are given in Mwanakatwe, J. (1968), The Growth of Education in Zambia since Independence, Oxford University Press, Lusaka, Chs. I - IV; and Coombe, T. (1967), "The Origins of Secondary Education in Zambia", African Social Research, Nos. 3 and 4.

20. Average money income of Africans in paid employment totalled £24.2 in 1946 and £82.2 in 1953 per year. (Young, 1973, op. cit., p. 8).

21. This was true of the Copperbelt. However, the Broken Hill mine was supplied by a hydroelectric plant drawing power from the Mulungushi and Lunsemfwa Rivers. See Baldwin, R. E. (1966), Economic Development and Export Growth, University of California Press, Berkeley and Los Angeles, pp. 177-78.

22. For instance, the British Government guaranteed to see that the terms of the 1950 Agreement (revising that of 1923), which provided for continued enjoyment of the royalties (free of discriminatory taxation) until 1986, would be honoured by the Government of Northern Rhodesia. (Seers Report, 1964, op. cit., p. 9).

23. See Faber, M. (1971), "The Development of the Manufacturing Sector", in Elliott, C. ed. (1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi, pp. 303 and 304.

24. See Colman, D. and Nixson, F. I. (1978), Economics of Change in Less Developed Countries, Philip Allan, Oxford, p. 180.

25. Kirkpatrick, C. H., Lee, N., and Nixson, F. I. (1984), Industrial Structure and Policy in Less Developed Countries, George Allen and Unwin, London, Ch. 1.

26. United Nations (1963), A Study of Industrial Growth, New York.

27. Chenery, H. B. (1960), "Patterns of Industrial Growth", American Economic Review, Vol. L, No. 4.

CHAPTER II

INDUSTRIAL DEVELOPMENT IN ZAMBIA BEFORE INDEPENDENCE

The manufacturing sector has been one of the most rapidly
growing sectors in Zambia since Independence. Between 1964 and 1982,
gross domestic product (GDP) attributable to manufacturing increased by
threefold at current producers' values, from 6% to 18%.[1] During
the same period the manufacturing sector grew at an average annual rate
of 19% at current producers' values, the highest in the economy.
However, as will be seen in the Chapters that follow, although the
growth of this sector has not always been so rapid since Independence,
especially after the mid 1970s, the development of this sector was
unusually retarded during the Colonial and Federal periods. The main
object of this Chapter is to try to give a historical explanation for
the retarded development of this sector, and to endeavour to quantify
the extent of this underdevelopment.[2]

2.1 Manufacturing Developments Before Federation (1924-53)

The timber industry, dating as far back as 1912, was the first
manufacturing industrial activity in Zambia, and up until 1935, the
only manufacturing establishment appearing in the annual Blue Books
was a sawmill belonging to Zambezi Sawmills at Livingstone, drawing
timber from nearby, at Mulobezi. However, in 1935 another establishment
was added to the record; also a sawmill.[3] The timber industry was
initially established to supply both the Rhodesia Railways and the Union
of South Africa Railways with railway sleepers. Later, however, parquet
flooring blocks and wooden furniture were also manufactured. By 1935,
the annual Blue Book of that year shows that this industry was providing
employment for one hundred Europeans and 3,795 Africans. (Blue Book, 1935,
Section 22).

However, because of the classification system used, it should be noted that, both the Annual Blue Books and official estimates of manufacturing certainly understated the true extent of manufacturing in Zambia at this time. The main reason arises from lack of proper accountability for the manufacturing activities of the mining companies, such as smelting and refining and other activities performed in the mining companies own workshops which were lumped together under mining. For instance, Young points out that:

> "It is clear from the 1931 Census of
> Population, for example, that sawmilling
> was not in fact the only 'manufacturing'
> in the territory (Zambia); the census
> lists as many as one gainfully occuped
> European in five as being engaged in the
> 'manufacturing industry'. The majority
> of these, however, were employed by the
> mining companies; over half were listed
> under the 'metalwork' industry. Most of
> those who were not directly connected
> with mining or sawmilling appear to have
> been producing on a very small scale; for
> example, as bakers or dressmakers".(4)(Young, 1973, p. 5)

To demonstrate the seriousness of the understatement, for instance, the Central Statistical Office tried for one industrial-census year, 1956-57, to split up the manufacturing processes within the mining sector, and Baldwin assesses:

> "In that year gross output of manufacturing
> in Northern Rhodesia (Zambia) was listed as
> £182 million, or 75% of the combined output
> of mining, manufacturing, construction,
> electricity, and water. When the 1956-57
> figures were reworked the next year without
> isolating the manufacturing functions of the
> mining companies, the manufacturing share
> dropped to 9%." (Baldwin, 1966, p. 181)

On the other hand, Baldwin argues that, the failure to classify separately as manufacturing some of the productive activities of the mines also tended to overstate the growth of manufacturing at

that time, since the miners had deliberately attempted to turn over these manufacturing functions to outside firms so as to stimulate local manufacturing and cut down on costs. The result of this policy was that some new lines appearing as manufactures in the industrial census merely represented a classification change, for instance, the mill-ball industry formerly in Mufulira and later located elsewhere on the Copperbelt.

The demands of the war years encouraged the growth of local manufacturing industries in Zambia. For instance, efforts were made to produce munitions in the workshops of the mines and railways, whilst at the same time some concerns were established to carry on simpler manufacturing processes with a view to replacing imports. (Young (1973) p. 5) Further, through their policy of gradually shifting from performing many manufacturing activities themselves to purchasing the commodities and services produced by such activities from outside firms, the mining companies provided the training ground for managerial and labour skills necessary to carry on certain manufacturing operations independently. As a result, though some skilled workers and entrepreneurs voluntarily migrated from other countries to the Copperbelt area to establish firms in response to the above policy, many of the small industrial firms on the Copperbelt became organized by former European employees of the mines, who had acquired specialized knowledge and training at the mines. (Baldwin, 1966, p. 183) However, once the firms were established, they started branching out into other manufacturing activities beyond the require-ments of the mines, thereby stimulating further growth in the economy. Finally, and a similar point with respect to European labour, the mines also became a great training school for African labour in the

manufacturing sector. This is because, although they were prevented from obtaining training in skilled activities, Africans acquired simple skills and industrial work habits that greatly increased their labour efficiency compared to its level in the early 1920s. (Baldwin, 1966, p. 183). Thus, entrepreneurs starting small manufacturing firms could hire from this relatively large pool of trained labour at prevailing rates paid by the mines. In this way, they could avoid the "not inconsiderable costs of familiarizing rural recruits with even the simplest tasks of modern mechanized industry",[5] As a result, small manufacturing firms, which would otherwise not have been profitable, were established in the economy. However, against this most important and favourable development repercussion offered by the labour training provided by the mines, the monopolistic wage structure established in the industrial sector and the failure to undertake a substantial African training programme undoubtedly prevented more domestic industry in Zambia as we shall see later in this Chapter.

As a result of the above favourable circumstances, by 1947, the year of the first Census of Industrial Production in Zambia, seventy-nine establishments had been revealed as being engaged in "factory and workshop industries", five of which were in the mining industry.[6] The results for the remainder are summarized in Table 2.1. By far the most important sector at this time was food processing, followed by the industries based on Zambia's plentiful timber resources. The clothing sector was relatively insignificant; even much less important than engineering or printing and publishing. This is quite surprising and unusual, because normally, as we shall see later, the industrialization process is expected to start with simpler manufacturing

TABLE 2.1

MANUFACTURING INDUSTRIES IN ZAMBIA, 1947			
SECTOR	Number of Establishments	Net Output (£)	Numbers Employed
Food, drink and tobacco			
Baking and confectionery	9	69,845	286
Grain milling	6	58,079	394
Brewing and mineral waters	7	40,913	257
Other	4	36,376	389
Textiles and wearing apparel	5	19,245	163
Metal engineering and repairs	22	82,634	413
Wood and furniture	7	210,890	3,473
Building materials	6	10,794	440
Printing and publishing	4	110,467	178
Miscellaneous	4	71,410	341
TOTAL	74	710,653	6,334

SOURCE: Young, A. (1973), Industrial Diversification in Zambia, Praeger
Publishers, New York, Table 1.2.

activities mainly involving consumer goods and then proceed onto
intermediate goods and finally investment and related goods activities.

However, in spite of the progress indicated above, manufac-
turing production supplied only a very small part of the local market
in Zambia, compared with imports. For instance, as a very rough
estimate of the relative proportions involved, Young compared the
1947 trade statistics with the Census of Production, taking 'gross
output' as a measure of the sales from local industry. (Young, 1973,
p. 5)[7] Gross output was £1,498,111 for total manufacturing industry,
and manufactured exports (of mainly timber) totaled £239,444, suggesting
an estimated production for/domestic market of £1,258,667. Imports
totaled £9,928,272. In the 'food, drink and tobacco' industry, gross
output less exports accounted for £705,759 as compared with imports of
£1,499,044. Even in the case of 'wood and furniture' the local market
was dominated by imports. For instance, gross output for this industry
was £330,256 out of which exports accounted for £202,389, leaving
£127,867 for the domestic market as compared with imports of £168,608.

At a glance, one may jump to the conclusion that the above
figures suggest considerable scope for import substituting industrial-
ization (ISI) since, for instance, total domestic production supplied
only 11.3% of the local market, and on the individual manufacturing
sectoral level, 'food, drink, and tobacco industry' and 'wood and
furniture' industries supplied only 32.2% and 43.1% respectively.
However, in fact, the growth of local manufacturing industries proceeded
only slowly, in spite of the rapid growth in the economy as a whole
at that time. Nevertheless, some progress was made in the simpler
processing industries. Apart from Zambezi sawmills mentioned earlier,
other notable establishments were a large new wheat-flour mill,

established in Lusaka in 1950; a brewery established at Ndola in 1951; and the biggest of them all, a cement factory established at Chilanga near Lusaka in 1951. This cement factory was financed jointly by the Colonial Development Corporation and the Northern Rhodesia Government (Barber, 1961, p. 140). Other developments included small establishments producing bricks and tiles, pipes and steel windows and doors, foods and beverages, weaving apparel, and furniture, mostly located also along the line-of-rail from Livingstone in the south, via Lusaka and Kabwe (formerly Broken Hill), to the Copperbelt towns (mainly Ndola and Kitwe). Some of these establishments were financed through the Industrial Loans Board created by the government in 1951, a subject we shall come back to later in the Chapter.

However, in spite of the above developments, industrial diversification in Zambia was still limited. For instance, in 1954 the contribution of manufacturing to GDP was only 4% as compared with mining's and agriculture's 52% and 13% respectively. (Baldwin, 1966, Table 2-3). Of course, we should again note the understatement arising from the fact already noted above that, copper refining and smelting as well as other numerous manufacturing processes carried out by the mines themselves were excluded. Otherwise, the manufacturing contribution would undoubtedly have been very much larger, as indicated earlier. But even then, excluding activities that were closely integrated with the mining industry, the manufacturing sector responded only slowly to the post-war boom mentioned earlier, as it will be explained later.

2.2 Manufacturing Developments During the Federation (1953-63)

Table 2.2 gives Census of Production figures for numbers of establishments, gross output, net output, numbers of people employed,

and net capital expenditure in various individual manufacturing
sectors in Zambia over most of the Federal period. However, as many
would agree, it would be misleading to try to read too much into these
figures for several reasons. (Young, 1973, p. 19) First, the coverage
of the censuses was constantly improving over time to the extent that
improved coverage in 1960 was, for instance, estimated to have accounted
for an increase of between 6 and 10 per cent over the estimates for 1959.
Secondly, during the Federation the mining companies began to farm out
manufacturing processes to other firms, as outlined earlier, so that
the later figures for manufacturing were less seriously underestimated
than the earlier ones, though even after Independence Zambia's most important
manufacturing activity, the processing of copper, was still being
wrongly classified under mining industry. This means that official
figures underestimated the expansion of manufacturing industry in Zambia
during the Federation, especially in the metal industry, though we do
not know exactly by how much. (Baldwin, 1966, pp. 180-181).

However, in spite of the above statistical shortcomings, certain
valid conclusions do come out from the data presented in Table 2.2.
The food, beverages and tobacco sector became increasingly important
over the period; it was predominant in all the indicators of growth
given in the Table. For instance, between 1955 and 1963 this sector's
contribution to gross output in total manufacturing increased from 39%
to over 52%. The basic metals and fabricated metal products sector
accounted for only 11%, transport equipment only 10%, non-metallic
mineral products only 8% and wood industries and furniture only 4% in
1963.

The non-metallic mineral products sector had an initial rapid
expansion partly because of the demand for cement from the Chilanga Cement

TABLE 2.2

	1955					1963				
SECTOR	No. of Units	Gross Out-put (£m)	Net Out-put (£m)	No. of empl-oyees (1000s)	Net capital expendi-ture (£m)	No. of Units	Gross Out-put (£m) (e)	Net Out-put (£m) (e)	No. of empl-oyees (1000s)	Net capital expendi-ture (£m)
Food, beverages & tobacco:	52	4.9	1.6	1,650	0.6	60	31.5	9.4	4,470	0.9
Grain mill products	13	2.4	0.5	660	0.1	13	11.3	1.0	1,230	0.1
Bakery products	17	1.2	0.3	650	0.2	18	2.3	0.6	720	0.2
Other food products	6	0.2	0.1	190	-	9	8.4	2.7	1,300	0.2
Brewing & mineral waters	16	1.1	0.7	150	0.3	20	9.5	5.1	1,220	0.4
Textiles & wearing apparel	9	0.4	0.1	420	-	17	2.4	0.9	950	-
Wood industries & furniture	16	1.0	0.6	2,420	0.1	20	2.7	1.7	2,130	-
Wood industries	11	0.8	0.5	2,240	0.1	9	1.7	1.2	1,680	-
Furniture	5	0.2	0.1	180	-	11	1.2	0.5	450	-
Printing & publishing	13	0.5	0.4	610	-	19	2.0	1.3	890	0.1
Rubber Products	a	a	a	a	a	7	1.2	0.6	220	-
Non-metallic mineral products	39	1.7	1.3	4,400	0.2	33	4.5	3.1	2,340	0.1
Structural clay products	29	0.5	0.4	2,780	0.1	19	0.6	0.5	1,150	-
Cement and other products	10	1.2	0.9	1,620	0.1	14	3.9	2.6	1,190	0.1
Basic metals & fabricated metal products	28	1.5	0.9	1,730	0.2	43	6.8	3.4	2,120	0.2
Electrical machinery	a	a	a	a	a	6	0.4	0.2	90	-
Transport equipment (b)	50	2.4	1.4	2,470	0.1	16	6.2	3.2	2,950	0.1
Other manufacturing (c)	9	0.4	0.2	580	0.1	13	1.2	0.7	190	-
Total Manufacturing (d)	219	12.7	6.4	14,780	1.4	234	60.2	25.3	16,360	1.4

see next page for Notes and source.

NOTES TO TABLE 2.2

a. No figures given for less than five firms

b. Excluding all repair workshops in retail outlets in 1963

c. Excluding firms mainly in distribution in 1963

d. Excluding firms engaged mainly in distribution in 1963

e. Plus goods not made on premises in 1963

N.B. Columns do not add to totals because of rounding errors.

SOURCE: Central Statistical Office, (1965), Census of Production
in 1963, Government Printer, Lusaka, May.

Plant, arising from the Kariba Hydro-Electric Scheme. However, a slump
in this sector occurred when the dam was completed, and also when the
demand from the construction industry fell as a result of the political
uncertainty in the final years of the Federation.[8] The clothing
sector's contribution to gross output in manufacturing as a whole also
continued to be insignificant, though some expansion did occur, largely
due to the effects of the Federation, as it will be explained later.
However, as time went by, there was growing disenchantment in Zambia
with respect to the distribution of the benefits of the Federation,
particularly in respect of location of industry. It was observed that
most of the new industries were being established in Zimbabwe. As a
result, although the rate of growth of net output was roughly the same,
the absolute increase was much greater in Zimbabwe, which had a much
larger manufacturing base at the beginning of the period; for instance,
while net output in Zambia rose from £6.4 million to £11.9 million
between 1955 and 1961, that of Zimbabwe increased from £31.4 million to
£60.7 million over the same period (Young, 1973, p. 39).[9] These
misgivings were expressed and accepted in various Northern Rhodesia
legislative Council debates,[10] and officially appointed commissions of
inquiry.[11] For instance, at the end of the 1959 budget debate, the
misgivings were expressed and a 'Committee for Industrial Development'
at ministerial level was set up to encourage the growth of local industry
and to look into the question of interterritorial co-operation. (Legislative
Council Debate, 1959, No. 98). The Gibb Report of 1960 examined in detail
the problem of industrial location within the Federation and accepted
that uneven growth had taken place, though arguing that this was "from
natural causes and not as a result of government policy of action." (Gibb
Report, 1960, Ch. 5). It therefore concluded that the government should

do its best to encourage promising industrial centres to develop by
providing basic infrastructural services, by transferring some
government offices to such areas, and by establishing industrial
estates for light industry. It even suggested an electrochemical
complex to be set up in the Lusaka-Kafue region,[12] apart from
advocating the expansion of a wide range of light and heavy industry
on the Copperbelt.

2.3 The Manufacturing Sector at Independence

It will be recalled from the previous Chapter, that, at
Independence in 1964 Zambia represented one of the typical examples
of a dualistic economy, dominated by a single export product, copper,
and dependent on foreign capital, inputs and skills. Its manufacturing
sector, mainly concentrated along the line of rail from Livingstone
through Lusaka to the Copperbelt, was backward in the sense that, first,
it accounted for only about 6% of the total GDP, about half as much as
was typical of other countries with the same income per capita and
population,[13] and also as compared with the copper industry's contri-
bution of nearly 50%. Secondly, as illustrated in Table 2.3, domestic
manufacturing production supplied only about a third of the local market
and the rest of the local requirements were imported mainly from Zimbabwe,
South Africa and the U.K., in spite of the limited size of the Zambian
market. Domestic producers were only dominant in four categories in the
Table: food, beverages and tobacco, wood and furniture, and non-metallic
minerals. In fact, the share of local production in the total market
declined since 1961 when it was estimated at 35%, though the dominant
sectors remained the same.[14]

TABLE 2.3

RETAINED IMPORTS AND DOMESTIC PRODUCTION IN 1964 (£million)				
Sector	Imports (c.i.f.)	Local Production for domestic use (a)	Total Market	Local Production as % of Total Market
Food	5.0	11.1	16.1	69
Beverages & Tobacco	1.5	6.1	7.6	80
Textiles and clothing	11.9	1.4	13.3	11
Wood & Furniture	1.6	1.9	3.5	54
Paper & Printing	2.3	1.3	3.6	36
Rubber & Chemicals	11.3	1.5	12.8	12
Petroleum	4.4	-	4.4	-
Non-metallic minerals	2.4	3.1	5.5	56
Metals & Machinery	29.6	5.7	35.3	16
Other	2.5	0.1	2.6	4
Total	72.5	32.2	104.7	31

(a) After deducting exports, which amounted to 5% of total domestic production.

SOURCE: Young, 1973, Table 1.7, p. 28.

This is quite unusual underdevelopment of the manufacturing sector for a country with Zambia's levels of income and population at the time of Independence. Generally, industrialization is expected to begin with the establishment of the simpler consumer goods industries for which economies of scale are insignificant and no important technical skills are required, and then proceed on, through the intermediate goods industries to the investment and related goods industries (Chenery, 1960, pp. 624-54). In the case of Zambia, local production was still less than 50% of the total national requirements in the relatively simpler industries like clothing, leather, and printing. This unusual retardation is further confirmed by Table 2.4 which gives a comparison between the structure of the manufacturing industry in Zambia and the pattern predicted in 1965 by ourselves from a cross-sectional linear regression analysis of manufacturing in over eighty countries at varying stages of economic growth.[15]

The general conclusion on the patterns of industrial growth at the time of Independence in Zambia is that, apart from basic metals, the most advanced sectors were non-metallic minerals and rubber products, followed by wood products and metal products.[16] Leather, chemicals, paper and paper products, textiles, 'other' manufacturing, and food, beverages and tobacco lagged furthest behind the 'normal' pattern; the next least advanced group included printing and publishing and clothing and footwear. The main reason for the very high degree of industrialization in basic metals and metal products was the inclusion of an estimate of value added in copper refining and smelting in manufacturing under 'basic'metals and fabricated metals (as explained in Chapter VII). The high ranking of, say, wood products and non-metallic minerals, as well as rubber products, was largely due to the fact that Zambian producers

TABLE 2.4

ACTUAL AND NORMAL PATTERNS OF INDUSTRIAL GROWTH IN ZAMBIA, 1965			
(1974 Prices)			
Sector	Actual (US$m)	Normal (US$m)	Actual Normal (%)
Food, beverages and tobacco	24.40	66.28	36.8
Textiles	2.60	9.83	26.5
Clothing and footwear	5.20	6.48	80.2
Wood products, including furniture	5.20	4.02	129.3
Paper and paper products	0.40	1.71	23.4
Printing and publishing	3.90	4.20	92.8
Leather products	-	1.10	-
Rubber products	2.40	1.39	172.2
Chemicals, excluding rubber	3.10	14.27	21.7
Non-metallic mineral products	13.10	6.41	204.2
Basic Metals	58.40	2.64	2212.2
Metal products	9.60	9.03	106.3
Other manufacturing	0.40	1.32	30.3
Total	128.70	128.70	-

SOURCE: See Chapter VII for details of sources and notes on computations.

were already dominant in the local market by 1964. In fact the rubber products sector enjoyed backward linkages from the copper industry in the form of supplies of hose and sheeting for the mining companies. In all other respects, however, the unusual degree of underdevelopment of the Zambian manufacturing industry is hardly unexpected, in the light of the historical analysis presented above, and the sections that follow immediately. We return to the issues on patterns of industrial growth at and since Independence in much more detail in Chapter VII.

2.4 Constraints on Manufacturing Developments Before Federation (1924-1953)

During the period before the establishment of the Federation in 1953, several factors conjoined to prevent rapid growth of manufacturing industry. Firstly, the neglect of African education during this time meant exceedingly low productivity of the local labour force, a fact well covered elsewhere.[17] With the exception of the Barotse National School, all African educational facilities until 1924 were operated and financed by various missionary societies, which were, naturally, primarily concerned with religious education. However, in 1925 the government spent funds on African education, for the first time, by contributing £348 to the missionary schools, and by 1929 the figure had risen to £8,493. (Baldwin, 1966, pp. 23-24). Barotseland was the only province in the country where a certain proportion, of about 10%, of the native tax was ploughed back to the Paramount Chief of the area, and it was from such funds that the Barotse School was established and maintained.[18] Throughout the rest of the country African education was being advanced by the six missionary societies with 207 European teachers. (Baldwin, 1966, p. 24).

In 1925, a sub department of the Department of Native Affairs was formed to look after the affairs of 'Native Education', and this

became a fully independent department in 1930, though it had to function with very limited financial resources during the great depression of the 1930s. After 1937 and during World War II, however, some expansion, particularly in primary education, did occur. For instance, between 1937 and 1944, government recurrent expenditure on African education increased from £28,680 to £125,450 (Young, 1973, p. 7). Under the Ten-Year Development Plan, 1947-56, this increased still further to £642,337 in 1953.[19]

However, in spite of the above expenditures on African education, very few children ever got beyond primary education, as clearly shown in Table 2.5, though, of course, great expansion had taken place. This was largely due to the government's long-standing primary objective of providing only four years of education (through Standard II) for all Africans, mainly on egalitarian grounds or political considerations, that is, to educate the Africans beyond that level might bring them in direct competition with European workers. On economic grounds, the educators might have considered that, simple, mass education was a highly productive form of investment in people. Thus, we find in Table 2.5 that the structure of African primary and secondary education shows an educational pyramid that is very heavily weighted towards the lower levels.

Technical education was equally retarded in scope, largely confined to the building trades. For instance, in 1952-53 two hundred and six students were undergoing training in the government-operated Hodgson Training College in Lusaka, and 496 were enrolled in other trade schools. (Young, 1973, p. 7). The spread of technical skills among Africans in Zambia was retarded by the operation of an industrial colour-bar which discouraged the employment of Africans at skilled levels, in case they might compete with European workers, as pointed out above. However, it is

TABLE 2.5

ENROLMENT OF AFRICANS IN PRIMARY AND SECONDARY SCHOOLS, NORTHERN RHODESIA,
1937, 1944 and 1960

Class	1937		1944		1960	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Primary:						
Substandard A	15,113	50.92	52,776	51.64	69,234	23.86
B	6,525	21.99	19,527	19.11	60,001	20.68
Standard I	3,773	12.71	13,527	13.24	53.115	18.31
II	2,168	7.30	8,099	7.92	51,317	17.69
III	1,223	4.12	4,342	4.25	19,943	6.87
IV	611	2.06	2,425	2.37	17,491	6.03
V	154	0.52	830	0.81	8,679	2.99
VI	110	0.37	620	0.61	7,756	2.67
Subtotal	**29,677**	**99.99**	**102,146**	**99.94**	**287,536**	**99.10**
Secondary:						
Form I	nil	nil	) 30	0.03	1,311	0.45
II	"	"	)		747	0.26
Remove (a)	"	"	)		235	0.08
III	"	"	)		139	0.05
IV	"	"	) 19	0.02	111	0.04
VI (1st Year)	"	"	)		28	0.01
VI (2nd Year)	"	"	)		28	0.01
Subtotal	**"**	**"**	**49**		**2,599**	**0.90**
Grand Total	**29,677**	**99.99**	**102,195**	**99.99**	**290,135**	**100.00**

(a) This class is in session for 6 months and links the Northern Rhodesia school year ending in June with the Cambridge year ending in December.

SOURCE: Baldwin, R.E. (1966) Economic Development and Export Growth - A Study of Northern Rhodesia, 1920-1960, University of California Press, Berkeley and Los Angeles, Table 2-10, p. 50.

quite difficult to quantify the extent of the effect of colour-bar
since it was more a result of social attitudes than of legislation.[20]
Nonetheless, whatever the cause of the colour-bar, by the early 1950s
very few Africans had been able to acquire more than a low level of
technical expertise, and industrialists setting up firms in Zambia were
left with no other alternative but to hire expatriates. This undoubtedly,
was rather expensive because of the very high salaries that had to be paid
to them in order to attract and retain them in the country.

The second major constraint on development of manufacturing
was Zambia's landlocked situation in the heart of Central Africa, surroun-
ded by eight neighbours, some of them friendly, some potential enemies
and others completely hostile, as they turned out to be after Independence.
As such, it was almost exclusively dependent on extended external trade
routes to the sea for the import of the necessary manufacturing raw
materials, spare parts, and equipment.[21] Like the manpower constraints,
this was highly expensive. Apart from timber, copper, and maize, there
were no other very obvious local raw materials on which manufacturing
industry could be based. The most important access route was through
Zimbabwe to the Portuguese ports of Beira and Lourenco Marques (Maputo)
in Mozambique. The other comparatively less important routes were either
through Zimbabwe to the South African ports or through Zaire to the
Portuguese port of Lobito in Angola. The present northern route to the
Tanzanian port of Dar-es-Salaam and the eastern route through Malawi to
Nacala or Beira in Mozambique were little, if at all, developed and
very lengthy.[22]

During the depression in the 1930s and the war years in the 1940s,
the whole external trade route system was allowed to deteriorate, and in
the postwar boom the railways proved inadequate to cope with the ever-

increasing demands upon them due to insufficient carrying capacity at the time.[22] However, during the whole of this period, the landlocked situation was not such a constraint as after Independence, since Zambia's colonial master, Britain, and her oldest ally, Portugal, controlled the territories through which Zambia's most important transit routes passed.

The third constraint concerns energy supplies for manufacturing industry. Although Zambia was fortunate to have had a river system that could be developed on a large scale to provide hydro-electricity to industries, this natural resource was still relatively underdeveloped in the early 1950s, though plans were on paper to set up a large hydro-electric scheme on the Kafue River. In the meanwhile, electricity was supplied largely by means of relatively expensive thermal stations, particularly on the Copperbelt. The Broken Hill mine at Kabwe was, however, supplied by a hydro-electric plant drawing power from the Mulungushi and Lunsemfwa Rivers (Baldwin, 1966, pp. 177-78). The thermal stations depended on coal from the Wankie Colliery in Zambabwe, whose supply was usually uncertain due to inadequacies of the railway system, as pointed out above. Zambia's own coal reserves lay unexploited in Choma District of Southern Province.

The fourth, and probably the most important, constraint was the very limited extent of the market. Looking, first, at the population figures in Table 2.6 one gets the impression that there was a substantial market for manufactured goods in Zambia before the Federation. However, these figures are quite misleading since the same table shows that only about 9% and 10% of the total population in 1946 and 1954, respectively, lived within the money economy, while the great majority, mostly made up of Africans, lived in the subsistence economy. Further, only about 1.4% and 2.2% of the total population in 1946 and 1954, respectively was non-

African, yet these people constituted about 6.4% and 9.3% of the entire
labour force engaged in the money economy in the respective years. As
explained earlier, most of the employees in this group were engaged in
skilled and semi-skilled labour jobs. Consequently, there existed
a definite racial division of the labour force into two, largely uncom-
peting groups. For instance, while the wage levels of non-Africans
remained substantially high, those of Africans remained incredibly low;
the Table shows that the African - non-African wage ratio in 1946 was
1 : 23.9, although it had substantially improved in 1954 to 1 : 15.8.
Baldwin explains the great wage differentials as follows:

> "The wage level for European workers was
> determined initially by the prevailing level
> in the countries where they were recruited,
> and by the sum needed to induce them to forego
> the social and economic facilities of more
> developed countries. The African wage rate,
> on the other hand, was related to the much
> lower alternative income that could be earned
> in the subsistence sector. The great wage
> differential that these considerations brought
> about in the twenties and thirties would not
> have continued in the forties and fifties, if
> free and open markets had existed. By means of
> government policies and union actions, however,
> the European population managed to maintain its
> income level far above that for Africans." (Baldwin,
> 1966, p. 42 and Ch. 4).

Although one might argue that they were quite high by African
standards at the time, the average earnings of Africans in Zambia shown
in Table 2.6 were still low enough to ensure that the effective demand
of this group was limited to a very narrow range of essential requirements.
For instance, the results for the middle ranges of income in the African
Budget Survey which was held in the eight major Zambian towns in 1953-54
revealed that the spending patterns of non-Africans were quite different
from those of Africans.[24] While non-Africans mostly spent their money
on far more luxury manufactured imported items such as books, papers,

TABLE 2.6

POPULATION, EMPLOYMENT AND EARNINGS IN ZAMBIA, 1946 AND 1954				
Category	1946		1954	
		Per cent of Total		Per cent of Total
POPULATION ('000):				
1. Africans	1,660	98.6	2,660	97.8
2. Non-Africans(1)	24	1.4	60	2.2
3. Total	1,684	100.0	2,720	100.0
PAID EMPLOYMENT:				
1. Africans	140,776	93.6	240,400	90.7
2. Non-Africans	9,680	6.4	24,770	9.3
3. Total	150,456	100.0	265,170	100.0
EARNINGS (£ million)				
1. Africans	3.4	38.0	18.8	38.1
2. Non-Africans	5.6	62.0	30.6	61.9
3. Total	9.0	100.0	49.4	100.0
AVERAGE EARNINGS(£)(2				
1. Africans	24.2	40.5	78.2	42.0
2. Non-Africans	579.0	968.2	1235.4	663.1
3. Total employees	59.8	-	186.3	-

(1)   Non-Africans include the largest group, Europeans, Asians, and
      coloureds.
(2)   Percentage distributions of average earnings of Africans and
      non-Africans are based on average earnings of total all employees.

SOURCES: 1.   Northern Rhodesia; (1949), Report on the Census of
Population of Northern Rhodesia held on 15th October, 1946, Government
Printer, Lusaka.

2.   UNESCO, (1963), Education in Northern Rhodesia, A Report and
Recommendations prepared by the UNESCO Planning Mission, Government
Printer, Lusaka, September 28th.

3.   Republic of Zambia, Ministry of Finance, (1966), Economic Report 1966,
Government Printer, Lusaka.

4.   Central African Statistical Office (1954), The National Income and
Social Accounts of Northern Rhodesia 1945-1953, Salisbury; reprinted
Central Statistical Office (1964), Government Printer, Lusaka.

toys, cars, refrigerators, washing machines, radios, carpets and garden
tools, the African workers spent their money on food and clothing and
footwear.[25] Even within the same categories of expenditure, the
individual items bought by one group were different from those purchased by
the other group; for instance, the African expenditure on food was strictly
limited to a range of staple items mainly such as mealie meal, dried fish,
and meat, while the non-African diet was much more varied. Thus, this
stratification due to income inequalities still further effectively
reduced the already limited market for consumer goods, resulting in two
very small markets in the territory rather than one small one.

On the other hand, due to the backward linkage effects offered
by the mines, the demand for intermediate goods was quite substantial,
in absolute terms; although, as already pointed out earlier, the lack
of a proper statistical accountability of the mining industry activities
belonging to manufacturing makes it impossible to be exact on this.
(Baldwin, 1966, pp. 180-181). However, in spite of this demand, most
of the mining requirements could most cheaply be met by importing them,
mainly from South Africa and Zimbabwe, both of which were already well-
advanced in mining industry development. Thus, Zambia could not effectively
take advantage of the buoyancy in the market for intermediate products
for its mines, and this brings us to the next major constraint on
development of manufacturing during this period.

Zambia's location at the periphery of the most industrialized
part of Africa was also one of the major constraints on the development
of manufacturing industry in the country during this period. This
was because the 'backwash' effects of industrialization in South
Africa and Zimbabwe had adverse effects on the prospects of industrial
development in Zambia. To throw some light on

these we first briefly look at the state of development of manufacturing
industries in both South Africa and Zimbabwe during this time.

Large-scale development of manufacturing in South Africa got
under way in the late 1920's, only to be briefly checked during the
Great Depression of the early 1930's. By 1950, manufacturing was the
largest sector in the economy, contributing about 22.1% of the national
income, followed by mining with 13.6% and agriculture with 13.1%.[26]
The major factors behind this remarkable expansion included the gold-
mining boom of the 1930's, the World War II, the post war growth in
demand for both gold and uranium, and the increasingly comprehensive
tariff protection during the inter-war years, despite massive protests.[27]
Although manufacturing was quite well-diversified, the four major
manufacturing groups included food and drink, textiles and clothing,
metal products and engineering, and chemicals, which accounted for 66%
of net manufacturing output in 1949/50. (Young, 1973, p. 10). Due to
the usually less significant economies of scale involved with respect
to the market size, the first two groups of industries were commonly
well-developed in emergent economies. However, the development of the
latter two groups, particularly explosives, were largely connected with
the linkage effects from the South African mining industry.

In Zimbabwe, economic diversification, though less significant,
was also quite impressive. Manufacturing development got under way during
the war years and continued to grow rapidly thereafter, with an index
of production rising from 100 in 1938, through 253 in 1946, to 484 in 1953;
the value added in manufacturing accounted for about 20% of the total
net domestic output; and the employment force reached about 70,000, in
the same year. (Young, 1973, p. 10). However, unlike South Africa, the
industries that grew fastest were of a more rudimentary type, that is,

food, beverages, and tobacco, and textiles and clothing, accounting

for 30.4% and 11.8% of the total value added in manufacturing in 1953,

respectively. Most of the rapid expansion that occurred in the metal

industries was mainly concerned with repairs of transport equipment.

        In contrast to its southern neighbours' well-advanced industries,

Zambia's industries remained relatively backward and underdeveloped.

For instance, in 1954 the manufacturing sector's contribution to total

GDP was only a mere 3.4% and the sector employed only about 17,800

(Economic Report, 1966, p. 27). Apart from the food, beverages and

tobacco industries and wood and wood products, most of the manufacturing

industries classified under the consumer goods industrial group, such

as clothing, printing and publishing, and leather products, were relatively

underdeveloped. The high contribution of the investment and related goods

industries was largely due to manufacturing processes under mining

activities (refining and smelting). Therefore, the location of Zambia

at the periphery of both South Africa and Zimbabwe constituted a major

threat, as it became inevitably realized, to the development of industries

in Zambia. In the earlier discussions we expressed concern over constraints

posed by extended external trade routes to the coast to a landlocked

country's development, like Zambia's. However, this factor can also work

in an opposite but advantageous direction, by providing 'natural

protection' to local industries because of high transportation costs that

can be involved in bringing in industrial inputs for local industries

from manufacturing centres in developed countries. On the contrary,

however, from the brief account of the relative state of industrialization

in both South Africa and Zimbabwe at this time, Zambia had, if any at all,

very limited natural protection for her infant industries because of the

convenient proximity of her local market to the exploitation by the very

rapidly growing industrial centres in the neighbourhood. Thus, the
postwar boom in Zambia, due to the rising demand for copper, had very
limited effect on the development of manufacturing industries in the
country, let alone the soaring import bills of manufactures mainly
from the two relatively more advanced neighbours. For instance, between
1945 and 1953, the total import bill increased from £6.9 million to
£51.8 million, out of which imports from the U.K. increased from £2.2
million to £18.9 million, South Africa from £1.9 million to £15.1 million,
Zimbabwe from £1.4 million to K7.7 million, and other import sources
from £1.5 million to £10.1 million.[28] In absolute terms the total
import bill increased by more than seven-fold over the period. Further,
it should be noted that, although the share of Southern Africa as a
whole fell as compared with the U.K.'s, the 44% figure in 1953 was still
substantial. By 1953, South Africa and Zimbabwe supplied more than 50%
of Zambia's requirements of tobacco, non-portable spirits, non-metallic
minerals, chemicals and petroleum, leather and rubber, and paper and
stationery (Young, 1973, Appendix A). While South Africa supplied Zambia
mainly products of the more advanced industries (such as mining equipment
(50%) and explosives '78%), Zimbabwe was Zambia's largest single supplier
of the simpler manufactured goods of consumer type, such as processed
food, cigarettes and non-metallic mineral products.

The above factors, of course, presented a great obstacle to the
development of local manufacturing industries in Zambia, and there was
no large scale import substituting industrialization (ISI) in the country
during the postwar years. To some, the convenient proximity of the
Zambian market to the expanding industries in the south could suggest
that such a location could principally have provided Zambia's industries
with lucrative 'spread' effects, apart from the adverse 'backwash' effects

just described above. However, such circumstances could only have
arisen if at all, there existed a reasonable degree of complementarity
between the economies of the developed region (Southern Africa) and
the less developed region (Zambia).[29] But this was not the case
here; instead, the economies of the two southern neighbours were rather
more competitive than complementary. Besides, either in the primary or
in the secondary sector, there was nothing that Zambia could offer the
other two countries, with the exception of timber noted earlier, that
they themselves could not produce.

Thus, the only alternative solution to the encouragement of
industries to become established was government intervention which would
have been designed to create an attractive situation, at least artifi-
cially, for new industries. However, as it will be seen, this action
was, in fact, not forthcoming.

2.5 Government Industrial and Commercial Policies Before Federation (1920-1953)

Traditionally, throughout the pre-Federal era, the government
in Zambia followed a capitalist, 'laissez-faire' attitude towards the
development of local manufacturing industries in the country. In other
words, the development of industries was left in the hands of private
enterprise, with no attempt to provide official artificial stimulation
to the private entrepreneurs to set up industries in the country.

To begin with, the commercial policy, in the name of tariffs,
was intended merely to create revenue for the government rather than to
protect the local infant industries against competing superior but
cheaper manufactured imports from outside the country, mainly from
South Africa and Zimbabwe, as already pointed out in the preceding
section. The Zambian tariff structure was almost identical in nomenclature

with that of Zimbabwe and, like it, was based on the South African two-column tariff; one column being the general rates, and the other the preferential rates. (Thompson and Woodruff, 1953, pp. 86-92). Generally, the level of duties was lower than that in Zimbabwe, and an industrial rebate system also operated in Zambia.

However, the tariff structure in Zambia was a complicated one; in fact, there were two completely different systems, since the northern part of the country came within the provisions of the Congo Basin Treaty (Young, 1973, p. 13). By these provisions the country was divided into two areas for customs purposes. On the one hand, there was the Zambezi Basin Area, south of a line drawn from the south-east corner of the Katanga pedicle to Fife on the Tanzanian border, which contained all the important industries in the country, and on the other hand, there was the area north of this line which was included in the conventional Congo Basin area but which was of negligible commercial importance. [30] In the latter area no preference could be granted, and customs duty was charged at the Empire rate on all goods whatever the country of origin. It covered about one-third of Zambia (the north-eastern portion). However, the former area, covering about two-thirds of Zambia, and the most economically important part of the country, was not affected by the provisions in the Congo Basin Treaty; and, instead, it was linked with Southern Africa by the Customs Agreements of the early 1930's. The main objective of these Agreements was to endeavour to ensure free trade between South Africa, Zimbabwe and Zambia, while establishing a uniform tariff for outsiders. However, this objective was never fully realized since Zimbabwe in particular soon opted out by adopting a relatively independent line.[31] The Agreements did, however, ensure virtually free trade between South Africa and Zambia (1930) and

Zimbabwe and Zambia (1933) by providing for inter-governmental transfers
of customs duties on goods imported into one country and subsequently
removed to the other. (Thompson and Woodruff, 1953, p. 91). Goods
of local production with the exception of certain articles liable to
duty at specially rebated rates, were interchanged freely, inter-
governmental payments on an ad valorem basis being made in respect of
them. However, the 'exporting' government made compensatory payments
to the 'importing' government in lieu of the customs revenue which would
have accrued to the latter in the absence of the Agreements.

From the above exposition of the commercial policy, it is
apparent that the only kind of loss for which provision was made by
the Agreements, was the loss of government revenue. There was no
provision made to compensate for the loss resulting from the 'backwash'
effects discussed in the preceding section, which were likely to result
from free trade. Further, there was also no provision made to ensure
the equitable regional distribution of any new industries attracted to
the wider market, which the Agreements made possible. Instead, the
Agreements tended to aggravate the regional economic imbalances and
the 'backwash' effects that existed then, all at the expense of the
Zambian efforts to industrialize since the other two countries in the
Agreements were already relatively more advanced than Zambia. (Young,
1973, Ch. 1). Whatever its economic merits, it was for such shortcomings
of the Agreements that the laissez-faire policy based on free trade was
from time to time attacked by local businessmen and politicians in Zambia,
even before the Great Depression, on the grounds that the creation and
existence of customs Agreements within the southern region of Africa
were a significant constraint on the development of secondary industries
in Zambia. In its recommendations, one committee set up by the government

during the early 1930's recommended that the government ought to
encourage the establishment of local industries, for instance to
absorb the unemployed and, also, that the government ought to be
prepared to "examine sympathetically representations for protective
duties." [32] One committee called for the revision or even cancella-
tion of the Customs Agreements. [33] Towards the late 1930's, the
Pim Report expounded the logic of the above recommendations. [34]

However, in spite of such strong attacks on free trade agree-
ments and recommendations for government intervention, no government
action was forthcoming. The main fears of the colonial government
were that the adoption of a policy of government intervention in industry
would exacerbate its administrative responsibilities for the country
beyond certain proportions, and, besides, it was also suspicious that
the support of industry through tariffs would be likely to encourage
demands for more direct and expensive forms of assistance. Therefore,
on this matter, and, indeed, on others, the interests of the colonial
administration were increasingly becoming at variance with those of the
European settlers, who wanted government intervention in industry in
Zambia; after all, their future was directly bound up with this country.
As a result, most of the debates in the Legislative Council at this time
were madly in support of the settlers' views; and, an exhaustive account
of such debates has already been given elsewhere so that only the bare
facts will be dealt with here. [35] For instance, most of the local
businessmen and politicians feared that the buoyancy in the copper price
would prove to be only temporary, which would slump   with the end of the
Second World War. The rapid expansion of industries in South Africa and
Zimbabwe during the Second World War under the umbrella of government
policy of intervention provided a demonstration effect, and, therefore,

implied that, without government intervention, Zambia was getting
left behind in the race to industrialize. It was, therefore, during
such debates that the formation of an 'Industrial Development Board'
was first proposed in 1943 by Sir Roy Welensky, a European settler
politician, on the lines of similar organizations in the southern
countries. (Young, 1973, p. 14).

By this time, the government had already taken some positive
steps to get expert advice on the question of the development of
secondary industries in Zambia. In May 1944, Busschau, a South African
economist, arrived in Zambia, and his report on the subject was published
the following year. [36]

From the above Report, it was quite apparent that Busschau was
not keen on schemes of economic development based on government inter-
vention, since his approach was based strongly on a strict adherence
to the classical theory of international trade, and the rejection of
government interference with the pattern of international specialization
brought about by the free market. (Busschau Report, Pars. 56 & 116).
Further, government aid to industry through loans was to be allowed only
in exceptional cases, and tariff protection was to be regarded as an
unsuitable instrument with which to encourage the development of secondary
industries in Zambia, though protection against dumping was permissable.
(Busschau Report, Pars. 112 & 133). However, Busschau was prepared to
accept the principle of free entry of manufacturers' imputs which was
permitted by the existing Customs and Excise Agreements, despite this
principle's discriminatory procedure, in favour of the local manufacturers.
The Report justified the discriminatory procedure on the grounds that:

> "In a world whose productive activity is so
> constricted by tariffs, the opportunity to
> remove any would appear a happy prospect". (Busschau Report,
> Par. 138).

However, the extension of the list of rebates was to be subject to careful evaluation of revenue and employment effects. The Report dismissed the case of South Africa, where secondary industry had grown rapidly under the umbrella of protective barriers on the grounds that such an expansion merely represented the processing of imported materials, with little local value added; and that the war had only led to an artificial boom, and as such, many problems were to be envisaged after the war. (Busschau Report, Pars. 123-125).

However, in spite of the above belief on the development of industries in Southern Africa, Busschau placed some emphasis on the 'natural' protection enjoyed by the Zambian market, and he favoured the reduction in the level of tariffs between Southern Africa and the rest of the world. He further urged Zambia to consider pulling out of the Agreements, in favour of free trade, if too vigorous a policy of protection were to be applied by the other partners in the Agreements. (Busschau, Pars. 120 & 129-130).

On the grounds of the small size of the market, the industrial colour bar and the low level of skills, and the difficulties of importing essential industrial requirements, discussed earlier, Busschau was pessimistic about the prospects of establishing most of the industries that had been suggested to him by the local businessmen and politicians, such as copper fabrication, processing of agricultural materials, and glass manufacture. He even advised against the establishment of a local cement factory. Indeed, with the exception of the latter industry, none of the above industries got under way during the period under analysis. However, Busschau accepted the development of such industries as wood and wood products including furniture (based on local timber), clothing, heavy engineering, and the milling of cereals, most of which, as we saw

earlier, became established.

In addition to recommendations related to industrial research work to be carried out by the government and to the establishment of a Department of Statistics, one major positive recommendation of the Report was the establishment of an 'Advisory Committee on Industrial Development' (ACID) (Busschau Report, Recommendations 2-12). ACID was to operate on a part-time basis, with its membership drawn from a wide spectrum of professions, and its function was to be strictly limited to offering advice, thus rejecting the earlier proposal for the establishment of an 'Industrial Development Board'. (Busschau Report, Par. 70).

Although the Busschau Report was rather unenthusiastically received by those who favoured a vigorous policy of government intervention, who, for instance, attacked it for its emphasis on commercial profitability as a sole criterion for project evaluation, ACID's establishment was generally accepted (Young, 1973. pp. 16-17). ACID's first committee of six members was appointed on 3rd December, 1945, [37] and, between March, 1946 and May, 1948, it produced three reports. The reports followed fairly closely the principles laid down in the Busschau Report, except for one deviation. The Committee decided, while agreeing with the Report that a cement factory was a marginal commercial proposition, that the social benefits arising from the cement industry would justify its establishment by the government. for instance, on the grounds of direct employment generation of 29 Europeans and 76 Africans, foreign exchange savings on imports of cement, and creation of inter-industry effects, (e.g. establishment of an asbestos-cement roofing industry) (ACID, Third Report, 1948, p. 5). This recommendation was accepted by the government. Accordingly, Zambia's first enterprise in state capitalism, Chilanga Cement Limited, was established in 1949, with a share capital of £1 million,

£750,000 being made up by the Colonial Development Corporation (Central Africa) Limited and the remainder by the Zambian government, [38] and it came into operation as already noted, in 1951.

However, in its final Report, after an exhaustive survey of all investment projects which were likely to be possible in the immediate future, ACID recommended its cwn dissolution:

> "The general conclusion is that until the
> European population in Northern Rhodesia
> has increased to over 35,000 and the
> standard of living of the African popula-
> tion is raised above present level, the
> internal market will remain too small to
> support manufacturing industries of a size
> to require financial assistance from
> government." (ACID, Third Report, 1948, p. 7).

Undoubtedly, the above conclusion was an understatement of the changes that were taking place at the time as a result of the post-Second World War boom; for instance, by 1950, due to immigration, the European population had already passed the mark set in the conclusion above by 1,000 (Young, 1973, p. 17). Moreover, ACID's pessimism was not shared by the local businessmen and politicians in the Legislative Council, who, in 1956, achieved a major breakthrough when the Legislative Council accepted a motion from Roy Welensky requesting the government to establish a finance development corporation "for the purpose of assisting and establishing industry and business in Northern Rhodesia". (Young, 1973, p. 18). This corporation was to operate on a commercial basis so that it would attract private entreprencurs, and its purpose was to provide industrial finance, especially in the field of long-term credit for smaller concerns, which was not being provided by any existing inter mediaries. [39] The outcome of this motion was the establishment of the Northern Rhodesian Industrial Loans Board on 19th January, 1951, with initial funds totalling £250,000, which were raised by £500,000 in 1952,

by a further £100,000 in 1953, and totalling £511,200 by the end
of 1953.[40]

        Finally, throughout the above presentation, it has seemed
as if the adoption by the Zambian government of a vigorous policy of
protection and assistance to industry, as advocated by the local business-
men and politicians during the period under analysis, would have succeeded
in creating a broad industrial base in Zambia in the pre-federal era.
However, as many would agree, given the numerous 'natural' constraints
on the development of secondary industries in the country, even such a
vigorous development programme would not have succeeded. (Young, 1973,
p. 18). For instance, such an objective would have required an attack
on the 'dualism' of the Zambian economy. This would, naturally, have
involved massive investments in infrastructure and in human resources
development which, as we have seen above, would not have been permissable
in the colonial administration.[41] Without this approach, industriali-
zation in Zambia was doomed to remain limited by the growth of European
population, as noted in the ACID's Third Report, quoted earlier. Because
of government conservatism towards promotion of local industry, even
such limited opportunities as did exist could not be exploited to the
maximum. Thus, it is not surprising that Zambia entered the Federation
with a smaller industrial base than would otherwise have been the case
if a more radical approach had been adopted.

2.6 Constraints on Manufacturing Developments During Federation (1953-63)

        The preceding two sections endeavoured to explain some of the
major constraints on the development of secondary industries in Zambia
in the period before Federation. The object of this section, however,
is to examine main constraints on the development of manufacturing
industries in Zambia, during the Federation.

2.61 Commercial Policy

In the section dealing with manufacturing developments in
Zambia during the Federation, we stressed the growing concern in the
country, as time went by, that the major benefits of the Federation,
in the form of new industries, were not being realized by Zambia, but
by Zimbabwe. This concern was also echoed in the Gibb Report of 1960,
referred to earlier, which came up with several positive recommendations.
(Gibb Report, Ch. 5). But, as one economist summed it up, the
implications of such positive recommendations for the development of
secondary industries in Zambia remained questionable.

> "However worthy the positive recommendations
> of the Report for industrial location policy
> may have been, it is unlikely that they would
> have been adequate to redress the industrial
> imbalance between the territories if the
> Federation had continued in existence beyond
> 1963. The degree of economic integration
> achieved under the Federation was not close
> enough to prevent the polarization of
> industrial development in the already advanced
> areas, which, it has been noted, was also a
> feature of the Customs Agreements which
> preceeded Federation." (Young, 1973, p. 21).

One of the immediate arguments for the establishment of
Federation was "the unification of the market" (Thompson and Woodruff,
1953, pp. 182-83). Before Federation, the three territories that made
up the Federation later were separate markets, though in the case of
Zimbabwe and Zambia (excluding the Congo Basin area) all goods, with
the exception of beer, wines and spirits, produced or manufactured in
one country entered the other free of duty (of course, after some minor
formalities such as customs declarations and clearances). The relations
which existed between Zimbabwe and the Congo Basin area of Zambia and
with Malawi were governed by the Congo Basin Treaties, mentioned earlier,

which prohibited the granting of preferential treatment to the goods
of any particular country. However, under Federation, it was argued
that, goods produced or manufactured within the Federal area would
circulate freely within that area, including the Congo Basin area, and
a new Federal tariff would replace the three territorial tariffs.
Indeed, to that extent there was some truth, though not much, from
Zambia's viewpoint that the Federal customs union established was to
be an improvement on the Customs Agreements, outlined earlier, since
for the first time her manufacturers would be given access to a new
and large free market, a market which, dependent on Federal Government
Policy, might well be a protected one.

Shortly after the establishment of the Federation, the newly
formed Federal Government became responsible for customs and excise
matters in the three territories and, as a first step, removed the
existing tariff and other restrictions on the movement of local products
over the territorial boundaries within the Federation, a Federal
Tariff Commission was appointed to prepare a draft Federal tariff
(Thompson and Woodruff, 1953, p. 92). Consequently, in 1955 the draft
Federal tariff was accepted and a Federal Trade Agreement was concluded
for the three territorial partners.[42]

The Federal Tariff Policy was, however, a logical continuation
of that of the Zimbabwean settler government which was more protectionist,
or at least less anti-protectionist, than the tariff policy of the
colonial government in Zambia (Young, 1973, p. 21). The preferential
trade agreement between Zimbabwe and South Africa in 1935 had given the
former's industry a small margin of protection. Before Federation
negotiations were going on to establish a full customs union between
Zimbabwe and South Africa, similar to the one that existed between Zambia

and South Africa. However, such a move was always opposed in Zimbabwe
because the latter's economy was not at a 'balancing level' with that
of South Africa, and it was envisaged that, such a situation was going
to take a long time to materialize. Thus, with the success of the
scheme for Federation, such an idea was completely dropped, and by the
Trade Agreement of 1955, South Africa was excluded from the customs
union of the Federation.

However, it should be mentioned here that, although South
Africa was excluded from the Federal Customs Union, the tariff barriers
that were imposed against South African imports were very low. (Young,
1973, p. 22). For instance, most South African manufacturers were given
preferential treatment based on Column D of the Federal Tariff, thus
placing them on a similar footing with those of the U.K. and colonies,
rather than those of 'Independent Commonwealth Countries' (Column C) as
would otherwise have been the case. Column D rates were, for that
matter, the lowest in the tariff, less than 10% for the great majority
of imports. Thus, many South African goods were admitted at the Column D
duty less one-tenth, though for a smaller minority of cases the Column C
rates were applied, thus giving preference to the U.K. and colonies. In
reciprocation, Federal exports of manufactures were admitted into South
Africa at the 'most favoured nation' rates of the South African tariff,
though such items like clothing were given special concessionary rates
(depending on local value added).

Thus, from the above exposition, it is quite correct to say
that the 1955 Trade Agreement gave, at most, a marginal protection
against South African manufactured goods. However, under a new agreement
in 1960, South African manufactures were charged at the Column C rates,
which were generally, at least, 20%, though rarely exceeding 25%. But

this additional protection did not become operational immediately,
since for an initial period the new duties were suspended on basic
essential consumer goods like food and clothing, though the majority
of the suspensions had been lifted by the end of 1960.[43]

Finally, although they were too low to provide adequate pro-
tection to the new industries in Zambia, the Federal tariff barriers
were nevertheless sufficiently effective to markedly divert trade from
South Africa and the U.K. to Zimbabwe, whose industries, as already
noted earlier, were already relatively much more developed than those
of either of the other two federal members. Thus, although no territorial
trade statistics were published during Federation, it was quite apparent
that Zimbabwe had become the most important source of all Zambian imports
by the end of Federation in 1963, with the exception of machinery and
transport equipment where South Africa and the U.K. were still dominant,
accounting respectively for 23% and 31%, while Zimbabwe supplied only 18%.[44]
Therefore, the 'backwash' effects of industrialization in Zimbabwe became
stronger and continued to have a detrimental effect on the prospects for
manufacturing expansion in Zambia during the Federation. The Federal
customs union was, therefore, of much benefit to the Zimbabwean industries
which now enjoyed the larger protected markets of Zambia and Malawi against
competing South African and U.K. manufactures.

2.62 Industrial Policy

In spite of the growing concern in the country for government
intervention in the development of industry in Zambia, this role still
largely belonged to private initiative throughout the Federal period.
Official attempts to encourage the development of new industries were
halfhearted. The Industrial Loans Board set up during the pre-Federal
period in 1951 continued to function until 1960 when it was taken over

by the Northern Rhodesian Industrial Development Corporation.   By this
date the old Industrial Loans Board had lent out a little under £1 million;
of this, rather more than half had been repaid.[45]   Although most
industrial sectors were represented, the most important customers of the
Board were the metal engineering industries, followed by building
materials suppliers. As we have seen above, the activities of the Board
were strictly limited in scope; the staff were appointed on a part-time
basis and its major purpose was not to promote new industry, but to await
approaches by demonstrably credit-worthy entrepreneurs; and thus, "it
existed to lend money only to those who could prove that they did not need
it." (Young, 1973, p. 23).[46]

The new Industrial Development Corporation was expected to
engage in promotional activities as well as to provide capital (and where
necessary managerial services) for new enterprises. It was established
with an authorized share capital of £2.25 million; of this £850,000 was
provided by the government grant which was originally intended for the
Industrial Loans Board. Private investors were encouraged to participate
in the new enterprise, and in 1962, control of the Corporation was handed
over from the government to private hands.

By the end of 1963, however, the Corporation had only approved
46 investments, involving a total of £658,087, although it did, however,
carry out a number of surveys of potential new industries, some of which
were to materialize after Independence as will be seen in the later
Chapters.[47] The slow start of the Corporation can largely be explained
by the political unrest in the country of the early 1960's.

In 1959, it was decided to set up an Industrial Promotion
Corporation (IPCORN), mainly on the initiative of the Federal Central
Bank, Bank of Rhodesia and Nyasaland. IPCORN began operations in February,

1960, with an initial capital of £1 million provided for privately,
and, thus, it was independent of government control.[48] (Young, 1973,
p. 24).   However, although it was intended to serve the Federation
as a whole, IPCORN's activities were almost entirely restricted to
Zimbabwe.[49]

Finally, the banking system was also originally established to
facilitate the expansion of the foreign-dominated export-import trade
and associated activities and was never designed to finance the balanced
growth of manufacturing industries. Moreover, the banks that existed
in Zambia during this time, like Barclays Bank and Standard Bank, were
subsidiaries of major international banks. There was no indigenous
banking institution at the time. Even the central banking system
depended on the Federal Central Bank, based in Salisbury, Zimbabwe.
As such, from the theories of the international firm, the ultimate aim
of such/foreign-dominated banking system was naturally bent on maximizing
profits of assets and marketing networks, on a global basis, without due
regard to the national interests of the host country, Zambia.[50] Thus,
the banking system was more interested in offering financial assistance
to private enterprises, most of which were also foreign-owned since
there was no official encouragement to set up local industries in Zambia,
let alone the industrial corporations mentioned above.

2.63 Federal Constitution

From Zambia's point of view, the Federal Constitution presented
other obstacles to the development of local industries in the country,
apart from the ones already outlined above. First, it prevented the
territorial government in Zambia from making full use of the revenues
that could have been derived from the copper mining companies.[51]
During the ten years, 1953-1963, prior to Independence, Zambia was not

only responsible to one master, as a colony of the U.K., but another
master, as a member of the Federation. As a colony of the U.K. it lost
its constitutional rights, while as a member of the Federation it lost
its major legislative powers, mainly in the fiscal arena. Because of
this situation, the investible surpluses from copper were also lost. For
instance, as a colony Zambia continued to be obliged to pay large copper
royalties to the U.K. free of discriminatory taxation, as it did before
Federation.[52] Because of the over-riding powers of the Federal
Government in the fiscal field, Zambia could not also raise the rate of
income tax on copper companies as it wished, while at the same time,
because of the Federal fiscal system of inter-territorial transfers of
revenue, it was committed to transfer public funds to the other two
territorial members.

>"During the ten years of Federation, it has been
estimated that the net transfer of public revenues
from Northern Rhodesia to the other two territories
totalled K194 m., in the sense that revenue
collected from Northern Rhodesia exceeded expen-
diture within (or for the benefit of) Northern
Rhodesia by that amount. Consequently, the demise
of the Federal arrangements for inter-territorial
transfers might have been expected by itself to
have benefited the Zambian treasury by an average
of K19.4 m. a year." (Elliott, 1971, p. 301). (53)

Table 2.7 shows the Federal government surpluses of revenues from
Zambia over current expenditure in the territory during the period of
Federation, a point that brings us to the second limitation imposed by
the Federal Constitution, the structure of expenditure on education,
which had the most serious effects. There existed a 'separate but
unequal' system of expenditure on education since the educational system
of the Federation was based on the principle of a separate education
for Africans and Europeans. Accordingly, while African education up to and
including high school was left to the meagre sums of the territorial

TABLE 2.7

FEDERAL GOVERNMENT REVENUE AND EXPENDITURE IN ZAMBIA 1954-63 (£ million)			
Year	Revenue	Current Expenditure	Current Surplus
1954	9.5	2.5	7.0
1956	22.7	6.2	16.5
1957	24.8	8.3	16.5
1958	16.5	9.7	6.8
1959	12.1	11.5	0.6
1960	19.2	12.1	7.1
1961	25.0	14.9	10.1
1962	25.2	16.0	9.2
1963	25.0	15.2	9.8

N.B. The estimates are described as "very approximate, being based on incomplete and unsatisfactory data."

SOURCE: Young, 1973, Table 1.6, extracted from Republic of Zambia (1964) National Accounts and Balance of Payments 1954-1964, Government Printer, Lusaka, Table B.

government, European education was the responsibility of the enormous Federal Pool. This meant, of course, that, because of the Federal fiscal system, Zambian revenues were being used to subsidize European education, especially in Zimbabwe, since most of the European school-children lived in that country.[54]

Though, in absolute terms, some expansion in African education took place, this expansion almost entirely took the form of primary education which did not reflect truly the needs of the community or the resources that could have been applied to meet these needs, but were instead used for other needs or simply left unused.[55] By the year of Independence, in 1964, Zambia had only about 1,000 African Secondary School Certificate graduates, the same number as there had been in Ghana in 1943, Uganda in 1955, Kenya in 1957, and Tanzania in 1960.[56]

Throughout most of the Federation, technical education continued to be weak, training for Africans outside the mines being confined to the building trades as before Federation. A few technical colleges that were established were mostly confined to Europeans, since employers were unwilling to accept even the very limited supply of qualified Africans as apprentices.[57] However, towards the end of Federation, partly as a result of private initiative and partly through the recommendations of the Keir Report, several efforts were made to extend the facilities for technical education. [58]

University education was also neglected. Although the multi-racial University College of Rhodesia and Nyasaland had been opened in 1957, very few Zambians succeeded in getting any higher education, mainly because of the Federal system of educational expenditure described above. Thus, by the end of Federation in 1963, Zambia had been estimated to have had only 74 graduates, and this number increased to about 100 in the year

of Independence in 1964, including all foreign-trained.[59] Thus, at
Independence, Zambia was placed in a very awkward position of relying
on expensive expatriate manpower for managerial and administrative
posts, even for those requiring anything more than a rudimentary
technical education. This serious shortage of skilled manpower had
significant implications for the development of manufacturing industry
during the Federation, as it did before.

A final effect of the Federal constitution was on infrastructure.
Although some useful infrastructural improvements did occur during
Federation, partly as a result of Federal public investment programmes
which were largely aimed at meeting the requirements of the copper mining
industry on which the whole Federal economy was heavily dependent, more
was spent in Zimbabwe than in Zambia.[60] Infrastructural improvements
in Zambia included the railway system, the road following the line-of-
rail from Livingstone in the South to Lusaka and the Copperbelt, and the
Great East Road from Lusaka to Chipata (formerly known as Fort Jameson).
However, the major achievement was the construction of the Kariba Hydro-
electric scheme which came into operation in late 1959. This scheme
laid the basis for the cheap power supply that was one of the few locational
attractions to new industries in Zambia during this time.

2.7 Summary Remarks and Conclusions

The principal object of this Chapter has been to give a
historical framework for the Chapters that follow later, mainly concerned
with the development of Zambia's manufacturing sector during the period
since Independence, in as far as is statistically feasible. In this, we
were concerned with both the period prior to and during the Federation.
In both periods the development of manufacturing sector in Zambia was
unusually retarded, largely due to Colonial and Federal policies.

During the period before Federation, the following factors were particularly significant in detering development of new industries in Zambia. First, the discriminatory colonial system of expenditure on education resulted in the neglect of African education, in favour of European education. Very few Africans ever got beyond primary education, and technical education was almost entirely denied to them, while their European counterparts were given higher education, and acquired high technical skills because of the technical facilities accorded to them. Thus, the neglect of African education meant exceedingly low productivity of the local labour force. Secondly, and probably most important, Zambia's industrial development was also constrained by the very limited extent of the market, since only a small proportion of the entire population actually lived in the money economy, while the great proportion lived in subsistence circumstances. Further, the African wage levels were very low to command effective demand, and, moreover, those wage levels were also limited to a very narrow range of essential requirements, as compared with European wage levels and spending patterns.

Thirdly, the geographical location of Zambia at the periphery of the much more well-developed economies of Zimbabwe and South Africa also presented further obstacles in terms of 'backwash' effects of industrialization in these countries at the detriment of prospects for manufacturing development in Zambia. Fourthly, the laisser-faire attitude of government industrial policy left the development of industry in the hands of private enterprise, and there was no serious attempt to provide 'artificial' encouragement to setting up of new industries in Zambia. Finally, and as a corollary to the above, Zambia's commercial policy, based on free trade under the umbrella of Customs Agreements, meant that no protection was accorded to infant industries in the country,

and, moreover, the policy was only intended for revenue rather than protecting new industries against the 'backwash' effects of industrialization in the south. Finally, it did not ensure an equitable regional distribution of any new industries attracted to the larger market which the Agreements made available.

During the Federation, although clearly more encouraging than that of the colonial government, the positive effects of the Federal Government's industrial policy were felt mainly in Zimbabwe rather than in Zambia, where most of the new industries were established. The 1955 Trade Agreement, in which South Africa was excluded, merely diverted Zambia's sources of imports without offering very much encouragement to establishment of local industries in Zambia. In fact, it strengthened the 'backwash' effects of industrialization in Zimbabwe which, therefore, continued to have the same detrimental effect on the prospects for manufacturing development in Zambia as in the period before Federation. Further, with the exception of the establishment of a few local finance bodies and industries, there was really no serious attempt made either by Federal or local authorities to encourage the location of industry in Zambia. Moreover, the existing sets of working rules and institutions left all the investment in the manufacturing sector in the hands of private, mainly foreign, investors. The few local finance bodies and banking institutions that existed were mainly interested in giving financial assistance to private businesses. Finally, the Federal system of expenditure on infrastructure and education left so much to be desired. For instance, although some infrastructural improvements did take place, those were merely to serve as a useful basis for future development along the line-of-rail, thus aggravating the dualistic

economic structure that existed.

Finally, manpower shortages, resulting from the Federal Constitution, were probably the most important single constraint on industrialization in Zambia before Independence.

- 65 -

NOTES AND REFERENCES

1.   Figures calculated from Central Statistical Office (CSO), Monthly
      Digests of Statistics, Government Printer, Lusaka. For further
      details see Chapter VI.

2.   See detailed works by Baldwin, R. E. (1966), Economic Development
      and Export Growth - A Study of Northern Rhodesia, 1920-1960,
      University of California Press, Berkeley and Los Angeles; Barber,
      W. J. (1961), The Economy of British Central Africa, Oxford
      University Press, London; Bostock, M. and Harvey, C. eds., (1972),
      Economic Independence and Zambian Copper - A Case Study of Foreign
      Investment, Praeger Publishers, New York; Elliott. C., ed., (1971),
      Constraints on the Economic Development of Zambia, Oxford University
      Press, Nairobi, East Africa; Thompson, C. H. and Woodruff, H. W.,
      (1953), Economic Development in Rhodesia and Nyasaland, Dennis
      Dobson Limited, London; and Young, A. (1973), Industrial Diversi-
      fication in Zambia, Praeger Publishers, New York.

3.   See Northern Rhodesia, Central Statistical Office (1936), Blue Book
      for the Year Ended 31st December 1935, Government Printer, Lusaka,
      Section 22.

4.   See also Northern Rhodesia, Central Statistical Office (1931),
      Report of the Director of Census regarding the Census taken on
      5th May, 1931, Crown Agents for Colonies, London.

5.   "The labour-supply curve for these trained workers was perfectly
      elastic for small producers but (until recently) not for the copper
      mines. Consequently, it did not pay the mines to bid these workers
      back since it also would necessitate increasing wage rates for the
      large numbers of the trained workers already employed. Instead, it
      paid the mines to hire and train additional workers directly from
      the villages, since this labour-supply curve was highly elastic
      for the mines." (Baldwin, 1966, op. cit. p. 184).

6.   Central African Statistical Office, First Report on the Census of
      Industrial Production, Northern Rhodesia, 1947, Salisbury. As the
      Census Report, however, noted, "owing to the integration of the
      mining and refining operations it has not been possible to separate
      the two processes". Thus, the activities of the mining companies
      have been completely excluded from Table 2.1, thereby giving an
      underestimate of manufacturing output.

7.   However, he pointed out that, like the census figures, import
      figures were likely to have been an underestimate, since they
      were given in 'f.o.b.' terms rather than in 'c.i.f.' terms, which
      would have been more appropriate for comparison. (Young, 1973,
      op. cit. p. 33, Note 19).

8.   "In its first full year of operation Chilanga Cement's sales from
      own production totaled 61,918 tons. By 1957 this figure had risen
      to 187,262 tons, 45% of which went to Kariba, and by the following

year to a peak figure of 209,198 tons. As the dam reached completion, and as political uncertainty affected the con- struction industry, sales fell rapidly, reaching 127,788 tons in 1962". (Young, 1973, op. cit, Note 82, p. 39).

9.   For reasons already mentioned, largely due to understatement of the rate of growth in official statistics, it was not easy to make a precise comparison of the development of the manufacturing sector in the two countries at that time.

10. See, for instance, Northern Rhodesia Legislative Council, (1959), Debates 23rd June-7th August, 1959, Lusaka, No. 98.

11. See Industrial and Process Engineering Consultants (Great Britain) in association with Sir Alexander Gibb and Partners, (1960), Report on the Development of Manufacturing Industry within the Federation of Rhodesia and Nyasaland, Government Printer, Salisbury, July, Ch. 5.

12. This partly explains the reason for the construction of a nitrogen chemical ammonium nitrate plant at Kafue near Lusaka, which was begun in 1968, after Independence. See Indeco, (1968), Eighth Annual Report 1967, Falcon Press, Ndola, July 4, pp. 23 and 25.

13. See Chenery, H. B. (1960), "Patterns of Industrial Growth", American Economic Review, p. 646.

14. UN/ECA/FAD (1964), Report of the Economic Mission on the Economic Development of Zambia (Seers Report), Falcon Press, Ndola, p. 76.

15. Our study is based on the United Nations Model, itself an adaptation of the Chenery Study cited in Note 13 above. See United Nations (1963), A Study of Industrial Growth, UN, New York.

16. The results of the UN study cited above have been directly applied by Young to the manufacturing sector of Zambia in 1966 and a similar conclusion has more or less been reached. (Young, 1973, op. cit. pp. 28-31).

17. See Mwanakatwe, J. (1968), The Growth of Education in Zambia since Independence, Oxford University Press, Lusaka; and Coombe, T. (1967), "The Origins of Secondary Education in Zambia", African Social Research, Nos. 3 and 4.

18. In 1926 the average number of students in attendance in the Barotse National School and its outschools was about 360 boys with only 9 of these in Stand IV (the equivalent in England of the fifth and sixth grades). See National Archives of Rhodesia and Nyasaland (1926), Annual Report on Native Education 1926, Salisbury, Appendix III.

19. See details from Department of African Education, Annual Reports.

20. For instance in the mining industry between 1938 and 1954 a de facto colour bar operated as a result of agreements between the companies

and the Northern Rhodesia Mine Workers Union (See Young, op. cit.
p. 33); Baldwin, op. cit., pp. 100-105; and Barber, op. cit.,
pp. 30-32.

21. For instance, the shortest route, that is, between Lusaka and
    Beira was 1,249 miles long, whereas by rail to the South African
    port of Cape Town was about 2,000 miles long.

22. By 1964, the sources of Zambian imports by route were as follows:
    Beira (18.2%), Lourenco Marques (72.7%), Lobito Bay (2.4%), South
    African Ports (6.7%), and others (nil). The total tonnage conveyed
    was 283,300. See Zambia: Ministry of Finance (1966), Economic
    Report 1965, Government Printer, Lusaka, p. 107.

23. See Northern Rhodesia: Department of Trade, Transport and Industry
    (1953), Annual Report 1952, Government Printer, Lusaka, pp. 3-4.

24. See Central African Statistical Office, (1955), Report on the
    African Budget Survey in Northern Rhodesia 1953-54, Government
    Printer, Salisbury.

25. "One quarter of expenditure (on consumers' durables) was on furniture
    and furnishings, one fifth on refrigerators, one eighth on radios
    and one eighth on mats and carpets." (Federation of Rhodesia and
    Nyasaland, (1953), Report on Northern Rhodesia Family Expenditure
    Survey, 1951, Central Statistical Office, Salisbury, p. 26). While
    Africans spent about 52.2% of their incomes on food and 19.1% on
    clothing and footwear in 1953, Europeans spent 25.2% on food and
    36.5% on miscellaneous items. (Young, 1973, op. cit. Table 1.3,
    p. 9).

26. See Hobart Houghton, D. (1967), The South African Economy, Oxford
    University Press, Cape Town, 2nd Edition, p. 243.

27. For a detailed debate or discussion see Horwitz, R. (1967), The
    Political Economy of South Africa, Wesdenfield and Nicolson, London,
    Ch. 15.

28. See Northern Rhodesia, Central Statistical Office, (1953), Annual
    Statement of the Trade of Northern Rhodesia, Government Printer,
    Lusaka.

29. See Hirschman, A. O. (1958), The Strategy of Economic Development,
    Yale University Press, New Haven and London, pp. 187-189.

30. See Colonial Office, (1938), Report of the Commission Appointed to
    Enquire into the Financial and Economic Position of Northern
    Rhodesia (The Pim Report), H.M.S.O., London, Colonial No. 145,
    Para. 202.

31. For instance, the Customs Agreement between South Africa and
    Zimbabwe was replaced by a Trade Agreement in 1935, and by this
    new Agreement South African imports were subject to a preferential
    system of tariffs that were in many cases less than the low
    'United Kingdom and Colonies' rates. (Pim Report, 1938, op. cit.
    Para. 203).

32. For instance, Northern Rhodesia, (1933), Report of the Government
     Unemployment Committee, 1932, Government Printer, Livingstone,
     Par. 62.

33. For instance, Northern Rhodesia, (1932), Report of the Finance
     Commission, Government Printer, Livingstone, Par. 36. The
     Finance Commission recommendations were based on a consideration
     of the effects of the Agreements on primary rather than secondary
     industry.

34. "It has been suggested that the customs agreements operate to the
     detriment of the commercial community, in that they make it
     difficult to develop secondary industries......It is impossible
     to see......how a policy of customs autonomy could lead to any other
     result but a rise in the cost of living......Northern Rhodesia
     is bound to the south by natural commercial ties, and a system of
     free exchange of products, subject to reasonable regulation, must
     be to the general advantage. The creation of artificial tariff
     barriers is a policy to be avoided." (Pim Report, 1938, op. cit.
     Par. 207).

35. See Young, 1973, op. cit., pp. 14-18.

36. See Busschau, W. J. (1945), Report on the Development of Secondary
     Industries in Northern Rhodesia, Government Printer, Lusaka.

37. The objectives of ACID were "to examine the range of existing and
     potential industries in Northern Rhodesia and to advise government
     as to be those possibilities of industrial development which show
     the best promise of economic success and to recommend what steps
     Government should take to encourage the initiation or development
     of such industries and to report upon such matters as are referred
     to it by government." (Northern Rhodesia, General Notice, No. 791
     of 1945). The Busschau Report had, however, recommended 23 members.

38. See Northern Rhodesia, (1950), Report of the Development Authority,
     January, 1948 - December 1949, Government Printer, Lusaka, Par. 38.
     The authorized capital was shortly afterwards increased to £2 million
     (see Colonial Report, 1951).

39. For instance, it was pointed out in the debate that, existing
     finance houses, based on Salisbury, were unwilling to invest in
     the North, while the local banks were over-cautious and concerned
     only with short-term credit. (See Legislative Council Debates, No.
     69, 31st August-16th September, 1950, Pars. 193-207).

40. See Northern Rhodesia, General Notice No. 46 of 1951; and Northern
     Rhodesian Industrial Loans Board, Annual Reports, 1951-1953,
     Government Printer, Lusaka.

41. See Northern Rhodesia (1951), Ten Year Development Plan for Northern
     Rhodesia 1947-56 as Approved by Legislative Council on 11th February,
     1947, Government Printer, Lusaka, p. 8. A major objective was

"assisting the African population to develop itself with all
possible speed", but as time went by, the emphasis changed in
the direction of development of the line-of-rail economy. The
crucial rural development sector was allocated £1.5 million out
of £13 million (12% of total expenditure) in the first version
of the plan; but in the 1953 version, this figure fell both
absolutely and relatively to £1 million out of £54.2 million (2%).
(Baldwin, 1966, op. cit., pp. 193-97).

42. See Federation of Rhodesia and Nyasaland, (1955), Customs and
Excise Tariff, Government Printer, Salisbury.

43. Federation of Rhodesia and Nyasaland, (1962), Economic Report 1961,
Government Printer, Salisbury, p. 96.

44. In 1953, while the U.K. was the most important source of Zambia's
imports by accounting for over 37% of the total imports, Zimbabwe
was the least important with 15%, South Africa accounted for 29%.
However, by 1964, the year after Federation, Zimbabwe had become
the most important source of all Zambia's imports by accounting for
40% of them, while South Africa and U.K. dropped their share to
21% and 17% respectively. (See Young, 1973, op. cit., pp. 12 and 22).

45. See Northern Rhodesian Industrial Loans Board, Annual Reports, 1951-
1960, Government Printer, Lusaka.

46. See also Legislative Council, Debates, No. 99, 24th November, 1959 -
3rd February, 1960, Col. 1023.

47. See Northern Rhodesia Industrial Development Corporation, Annual
Report, 1963, Lusaka.

48. See also Federation of Rhodesia and Nyasaland, Economic Report,
1960, Government Printer, Salisbury.

49. "It is disappointing to record that we still only have one in
investment in Nyasaland and none in Northern Rhodesia", quoted
from Industrial Promotion Corporation, Annual Report, 1962, Salisbury.

50. See, for instance, Behrman, J. N. (1970), National Interests and the
Multinational Enterprise, Prentice-Hall Inc., New Jersey.

51. For much more detail see Young, 1973, op. cit., Ch. 1; UN/ECA/FAO
(1964) Report of the Economic Survey Mission on the Economic
Development of Zambia (Seers Report), Falcon Press, Ndola, Ch. 1;
and Hazelwood, A. and Henderson, P.D. (1960) Nyasaland: the
Economics of Federation, Basil Blackwood, Oxford, Ch. III.

52. The U.K. Government guaranteed to see that the terms of the 1950
Agreement (revising that of 1923), which provided for continued
enjoyment of the royalties (free of discriminatory taxation) until
1986, would be honoured by the Government of Northern Rhodesia,
(Seers Report, op. cit., p. 9).

53. The steady increase in the price of copper and therefore of the taxable income of the copper companies, which was the main source of Federal Government revenues, in fact meant that the loss to Zambia as a result of the transfer arrangements was substantially greater than this.

54. For instance, "the Federal Ministry of Education estimated its expenditure upon its (non-African) primary and secondary schools in Northern Rhodesia in 1962 as £1.9 million or about £90 a year per child at school, a high figure by international standards.... Recurrent expenditure by the Ministry of African Education.... was estimated to be £3.9 million in 1963/64 or about £11 a head per annum". (Seers Report, op. cit., pp. 99 and 101).

55. Enrollments at primary level increased from 183,627 in the session 1954-55 to 348,342 in 1963, while secondary enrollments went up from 722 to 7,050 over the same period. See Northern Rhodesia: Department of African Education, Annual Report 1954; and Ministry of African Education, Triennial Survey 1961-1963, Government Printer, Lusaka.

56. See Republic of Zambia: Ministry of Education, (1966), Manpower Report 1965-1966, Government Printer, Lusaka, p. 1 and Table 1.1.

57. Given the provisions of the Apprenticeship Ordinance at first excluded Africans benefiting, for instance, from the technical educational facilities at the newly formed Copperbelt Technical Foundation in 1956, so that by 1961 only two Africans had succeeded in having themselves apprenticed (See Manpower Report, 1955-66 op. cit., No. 26; and Northern Rhodesia Department of Labour, Annual Reports, 1959-1961.)

58. A Survey of Technical and Commercial Education in Northern Rhodesia (Keir Committee Report). These efforts resulted in the opening of the Ndola Technical College in 1960, and the College for Further Education in Lusaka, in 1963.

59. See Republic of Zambia, (1974), Zambia 1964-1974, Zambia Information Services, Lusaka; and Manpower Report 1965-66, Table 1.1.

60. For instance, whole £9.9 million was spent on roads in Zimbabwe, only £3.9 million was spent in Zambia, "though it can fairly be argued that Zambia benefited from the improved communications through Zimbabwe". (Young, 1973, op. cit., p. 24).

CHAPTER III

ECONOMIC THEORY AND INDUSTRIALIZATION IN LDCs

Soon after the Second World War the majority of the less
developed countries (LDCs), particularly the larger Latin American
countries (Argentina, Brazil and Mexico) and a number of important
countries in the south and South-East Asia (India, Pakistan and the
Philippines), embarked on implementation of conscious large-scale
programmes of industrialization.[1] They were followed by several
of the more important sub-Saharan African countries (Nigeria, Ghana
and Zambia) and the smaller Latin American and South-East Asian
countries soon after attaining their political independence in the
early to mid 1960's. Although the views of what industrialization
could or should achieve have varied significantly over this period,
industrialization was generally regarded as synonymous with economic
and social development. As such, it was seen as a means of breaking
the chains of dependence on the basically agricultural, export-oriented
economies inherited from the colonial period and matching political
independence with economic independence. Economically, it was argued
that industrialization would contribute significantly to increased
levels of productivity and national incomes; alleviation of the balance
of payments constraint; diversification of their economies and reduction
of excessive dependence on primary exports whose prices were allegedly
subject to a long-run secular deterioration and substantial short-run
fluctuations around the trend; and ensuring the transfer to, and the
anchorage and assimilation of modern technology within the LDCs.

Socially, industrialization was regarded as a major means to

transform the rural population from a subsistence to a commercial

economy and to create job opportunities for the many unemployed and

underemployed, and thus raise output per head and living standards

throughout their economies. Psychologically too, it would also:

> "Induce necessary and desirable changes
> in social and cultural attitudes and
> institutions through the 'modernizing'
> impact of imported organizational methods
> and technologies". (Colman and Nixson, 1978, p. 180).

Politically, it was regarded as a means to promote national unity and

security since, for instance, most African states are culturally

diversified and historically disunited, and also military weak and

vulnerable.

In short, industrialization was viewed as a principal vehicle

to 'catch up' with the developed market economies. We shall return to

some of the arguments raised above later in this Chapter. Undoubtedly,

the majority of LDCs, especially in Latin America and the Far East,

have made an impressive progress in the development of their domestic

manufacturing industries during the last three decades or so, which

compares extremely favourably with the one hundred years of industriali-

zation, beginning in the mid-nineteenth century, in the now developed

countries (DCs) of Europe and North America.[2] For instance, between

1960 and 1980, the LDC's share of world manufacturing value added rose

steadily from 8 to 11% (UNIDO, 1981a, Table 1.1). However, a contin-

uation of the past rate of increase would not be sufficient to achieve

the LDCs' target of 25% of world manufacturing value added by the year

2,000 - the so called 'Lima Target'.[3] The share of LDCs in world

exports of manufactures (SITC 5-8 less 68) increased from 3.9% in 1960

to 9.0% in 1980. (UNIDO, 1981a, Fig. III). The share of imports of

manufactures from LDCs' as a percentage of DCs' total imports of

manufactures increased from 6.8% in 1970 to 13.1% in 1980, while
the share of imports of manufactures from LDCs as a percentage of
DCs' total consumption of manufactures increased from 1.7% to 3.4%
over the same period. (World Development Report, 1982, Table 2.4
and World Bank , 1983, Table 2.7). However, the highest increases
of imports of manufactures from LDCs as a percentage of DCs' total
consumption were in the light industries as compared with the heavy
industries.[4]

The post World War II's rapid and sustained economic growth has
also witnessed the declining share of agriculture in gross domestic
product (GDP) in the LDCs, while manufacturing has made a substantial
increase together with the industrial sector as a whole, as Table 3.1
reveals.

Table 3.2 shows the sectoral division of the labour force.[5]
A rather different picture of structural composition and changes has
emerged from using this alternative measure of each sector's relative
importance, most evident in the much lower share of the agriculture
sector in total production (Table 3.1) than in the total labour force
(Table 3.2). This reflects the concentration of underemployed, low-
productivity labour in this sector. (Kirkpatrick et al, 1984, p. 15).

The distribution of total manufacturing activity between LDCs
has been very uneven. For instance, countries in the intermediate
middle-income and upper middle-income range ($521-$2,000) account for
much of LDCs' total manufacturing value added, their share having
increased from 63% in 1960 to 67% in 1975. (Kirkpatrick et. al, 1984,
Table 2.3, p. 14). In contrast, in the low-income countries, within
which 57% of total LDC population is concentrated, the manufacturing
sector has grown at a rate below that achieved by the LDCs as a whole,
and their share of LDCs' total manufacturing value added fell from 21%

TABLE 3.1

DISTRIBUTION OF GDP BY SECTOR[a] IN LDCs, 1960 AND 1981[b]								
	Agriculture		Industry		Manufacturing		Services	
Income Group/Sector	1960 %	1981 %	1960 %	1981 %	1960 %	1981 %	1960 %	1981 %
Low-income economies	48	37	25	34	11	16	27	29
(a) China and India	48	33	28	39	-	-	24	28
(b) Other low-income	48	45	12	17	9	10	40	38
Middle-income economies	24	14	30	38	20	22	46	48
(a) Oil exporters	27	13	26	40	15	17	47	47
(b) Oil importers	23	14	33	36	22	25	44	50
Lower middle-income economies	11	22	63	32	4	18	26	50
Upper middle-income economies	18	10	33	39	23	24	49	51

(a) Agriculture includes agriculture, forestry, hunting and fishing. Industry includes mining, manufacturing, construction and electricity. All economic sectors fall under services.

(b) All figures are weighted averages.

SOURCE: World Bank, 1983, op. cit., Annex, Table 3, pp. 152 and 153.

TABLE 3.2

DISTRIBUTION OF LABOUR FORCE BY SECTOR IN LDCs, 1960 AND 1980						
	Agriculture		Industry		Services	
Income Group/Sector	1960 %	1980 %	1960 %	1980 %	1960 %	1980 %
Low-income economies	77	70	9	15	14	15
(a) China and India	74	69	11	17	15	14
(b) Other low-income	82	73	7	11	11	16
Middle-income economies	62	45	15	21	23	34
(a) Oil exporters	66	47	13	21	22	32
(b) Oil importers	60	44	16	21	24	35
Lower middle-income economies	71	55	11	17	18	28
Upper middle-income economies	49	30	20	28	31	42

Notes: As for Table 3.1

SOURCE: World Bank, 1983, op. cit., Annex, Table 21, pp. 188 and 189.

in 1960 to 16% in 1975.[6]

In addition to the above concentrations, however, industrial growth has also been marked by regional variations between LDCs, with Africa being the least developed region and Latin America being the most industrialized region though West Asia and South and East Asia had the largest relative gains over the period 1960-75.[7]

However, before we examine the various industrial strategies that have been open to LDCs, we shall now look at the techniques of state intervention that have been involved in the rapid promotion of industrialization in these countries.

3.2 State Intervention and Economic Planning in LDCs

The process of industrialization in the majority of less developed countries during the post World War II period has partly been a product of, and has been accompanied by massive and widespread state intervention, taking a number of forms and manifesting itself in various ways in different LDCs. For instance, five types of intervention can be distinguished. First, through a variety of economic, political and historical considerations, state intervention has taken the form of creating public enterprises for the production of goods and services, involving the ownership or control of both 'natural' monopolies (public utilities) and the 'commanding heights' of the economy (steel, copper, fertilizers, petro-chemicals) as has been the case in LDCs like Turkey, India, Brazil, Zambia, and the Republic of Korea.

Secondly, there has been intervention through direct indus-trial controls which are administrative in nature, for instance, industrial licensing and price controls. Thirdly, it has also been through formulation of policies which have a direct bearing on the

expansion of industrial capacity and output and which work through
the market, for instance, tax remissions or low rates of profits
taxation on 'pioneer' enterprises, accelerated depreciation allowances,
liberal and subsidized credit provision through state agencies,
subsidization of industrial inputs, and so on. Fourthly, as a sub-
set of the first to third forms, but of sufficient importance in
themselves to merit separate attention, there has been intervention
through policies that exert their influence through the channel of
external trade, both indirect controls (tariffs, subsidies, multiple
exchange rate systems) and direct controls (quotas and other quantita-
tive restrictions); and also the establishment of state trading
organizations has some significant influence on both the volume and
direction of external trade. Finally, intervention has been through
economic planning which lies in the realm of development planning.
Since planning has virtually been universally accepted in LDCs,
including Zambia, as the principal organ for achieving faster economic
growth and broader developmental objectives, this section is mainly
concerned with the planning experience of LDCs.

3.21 Nature of Economic Planning in LDCs

The past three or so decades have witnessed the emergence
of LDCs as a growing political and economic force in international
circles, mainly due to the rising aspiration of these countries to
'catch up' economically with the developed countries as rapidly as
possible. These rising aspirations have, undoubtedly, been reflected
almost universally in the acceptance of economic planning as the
principal organ of action.

Although there is no one agreed definition of economic
planning, for our purposes, we shall adopt here Professor Todaro's

definition:

> ".....a deliberate governmental attempt to
> co-ordinate economic decision making over
> the long run and to influence, direct, and
> in some cases even control the level and
> growth of a nation's principal economic
> variables (income, consumption, employment,
> investment, saving, exports, imports, etc.)
> in order to achieve a pre-determined set of
> development objectives." (8)

There are various aspects and characteristics of economic

planning as it is practised in different situations and at different

stages of economic maturity of LDCs. For instance, Turner and Collis

have distinguished between two polar characteristics or types of

planning - the 'French type' indicative planning system operating in a

'state-guided, market directed and largely private enterprise economy'

and the 'Soviet type' state-administered, centrally directed socialist

economy. [9] The former is what pertains in capitalist economies where,

according to Todaro:

> ".....the instruments of policy are active but
> indirect.....active to the extent that they
> push the economy in a desired direction.....
> indirect in the sense that they are intended
> merely to create favourable conditions in
> which private decision makers will be influenced
> to behave in a manner conducive to the contin-
> uous realization of stable economic growth." (10)

The latter type of economic planning is what pertains in

collectivist economies associated mainly with the Soviet Union and those

Soviet-type economies of Eastern Europe and Asia, where the government

actively and directly controls the movements of the economy through a

centralized decision-making process. (Todaro, 1971, p. 3). The

essential difference between planning in capitalist and collectivist

economies is, thus, one of 'inducement' versus 'control', respectively.

Finally, there is economic planning within the framework of the 'mixed' economies of the African variety, and, indeed, of most LDCs:

> "These economies are characterized by the existence of an institutional setting in which part of the productive resources are privately owned and operated while the other part belongs to the public sector. The actual proportionate division of public and private ownership varies from country to country". (Todaro, 1971, p. 4)

In other words, planning in 'mixed' economies allegedly involves a mixture of 'capitalist inducement and collectivist control'. However, unlike market economies where usually only a small degree of public ownership exists, 'mixed' economic planning in LDCs involves a substantial amount of government ownership and control.

In the context of such an institutional setting, Todaro goes on to identify two principal components of development planning in mixed economies (Todaro, 1981, pp. 431). First, there is the government's deliberate utilization of domestic saving and foreign finance to carry out public investment projects and to mobilize and channel scarce resources into areas that can be expected to make the greatest contribution towards the realization of long-term economic objectives. Secondly, there is government economic policy to stimulate, direct, and in some cases even control private economic activity in order to ensure a harmonious relationship between the desires of private businessmen and the social objectives of the central government.

3.22 The Rationale for Planning in LDCs

A number of fundamental economic and socio-political arguments have been advanced for the widespread acceptance of planning as a development tool in LDCs, and since most of these have already been dealt

with extensively elsewhere only a brief summary of the most commonly advanced will be made here.[11]

First, there has been the market-failure argument by which it has been observed that both commodity and factor markets in LDCs are not only poorly organized but are also full of imperfections both of structure and operation. Prices are so distorted that they fail to provide the necessary signals to permit consumers and producers to act in a way that is conducive to efficient production and distribution. Further, well organized capital markets based on the existence of specialized financial institutions performing a great variety of monetary functions are either non-existent or poorly developed in LDCs. Moreover, the 'distorted prices' of factors of production are further assumed to lead to gross disparities between social and private valuations of alternative investment projects.[12] Thus, in the absence of state intervention it has been argued that the market may lead to a misallocation of present and future resources, or, at least, to one that may not be in the best long-run social interests.[13]

The second rationale for planning in LDCs concerns the resource mobilization and allocation argument. It has been argued that LDCs cannot afford to waste their limited financial and skilled manpower resources on unproductive ventures. Thus, the choice of investment projects should not only be based on a partial productivity analysis dictated by individual capital/output ratios but rather on an overall development programme which takes account of externalities, indirect repercussions, and long-term objectives. Skilled manpower must be deployed where its contribution will be most widely felt. Economic

planning can help in allocating scarce resources into the most pro-
ductive channels by recognizing the existence of particular constraints
and by choosing and co-ordinating investment projects so as to channel
these limited resources into their most productive outlets. On the
other hand, it is argued that the competitive markets will tend to go
in the opposite direction - generating less investment, directing
that investment into socially low-priority areas, and disregarding the
extra benefits to be derived from a planned and co-ordinated long-term
investment. (Todaro, 1981, p. 433).

The third rationale concerns the attitudinal or psychological
argument. It is generally held that a specific development plan,
containing a detailed statement of national economic and social objectives,
can have an important attitudinal or psychological impact on a diverse
and often fragmented population. It may succeed in rallying the masses
behind the government in a national campaign to eliminate poverty,
ignorance and disease. By mobilizing popular support and cutting across
social barriers with the plea to all citizens to 'work together', the
government, through its economic plan, can provide the needed incentive
to overcome the inhibiting forces of traditionalism or tribalism in the
quest for widespread material progress and social progress.[14]

Fourthly, there is the rationale concerning the need for rapid
institutional transformation. Economic development is an essential
prerequisite for self-sustaining material growth, and in many LDCs
it is associated with the notion of structural and institutional change
that is, with the total transformation of an entire country from a
'traditional, subsistence, hoe-agricultural society' to a 'modern,
monetary, industrially self-sufficient economy.' Thus, the economic

plan serves as a blueprint for action in the pursuit of economic growth, institutional reconstruction, and the attainment of the ideals of a certain political system. (Todaro, 1971, p. 5).

Finally, there has been the foreign aid argument. The formulation of detailed development plans with specific sectoral output targets and carefully designed investment projects has often been a necessary condition for the receipt of bilateral and multilateral foreign aid in the majority of LDCs. Such detailed plans have acted as assurances to donors that their money will be applied as an essential ingredient in a well-conceived and internally consistent plan of action (Todaro, 1981, p. 434).

3.23 Problems of Plan Implementation

Recent literature has cast doubts on the rationale for planning in LDCs discussed in the previous sub-section because, after more than three and a half decades of planning in LDCs, the results seem to be generally disappointing.[15] This disappointment has come about mainly from the observed widening gap between theoretical and practical economic benefits of economic planning in LDCs. (Waterston, 1965, p. 293; Healey, 1973, p. 761; and Killick, 1976, pp. 161-184). For instance, according to Todaro there are four crucial problem areas where private and social valuations have tended to diverge and where the impact of government policy has often tended to exacerbate rather than reconcile these divergences in many LDCs, which we briefly summarize here. (Todaro, 1981, pp. 458-461) First, there has been a conflict between the two major planning objectives, rapid industrial growth and expanded employment opportunities, in which the latter has tended to be neglected to the advantage of the former. This has mainly been due to some government

policies which have aggravated factor-price distortions. For instance,
on the one hand, the raising of wage levels above labour's shadow price
or scarcity value has tended to over-value labour. On the other hand,
policy instruments, like investment depreciation and tax allowances,
overvalued exchange rates, low effective rates of protection, etc.,
have all tended to under-value the private cost of capital. The net
effect of all these distortions has been the encouragement rather than
discouragement of both private and public enterprises to adopt more
capital-intensive techniques of production as opposed to labour-intensive
techniques.

Secondly, the divergence between private and social valuations
has taken the form of rural-urban imbalances and migration, mostly due
to the existence of sizeable urban-rural income differentials and dis-
parities as well as locational economic opportunities. The net effect
of this has been the loss of agricultural output and higher social costs
in urban accommodation.

Thirdly, educational planning has also tended to contribute
little to reconciling the divergences between social and private
valuations of investment in schooling in most LDCs. For instance,
economic signals and incentives in many LDCs have tended to exaggerate
the private valuations of the returns to education to a point where the
private demand for even more years of schooling is greatly in excess of
the social payoff.

Finally, a wide range of external and internal pricing policies,
such as those mentioned above, have all often contributed to the
maintenance or exaggeration of socially incorrect signals and incentives,
thus all serving to provide an artificial stimulus to industrial expansion.

For instance, overvalued exchange rates intended to lower industrial
input import prices will raise export prices in terms of foreign
currencies. For a nation dependent on rural primary product export
earnings, such exchange rate policies can make agricultural exports
less competitive and be a drain on agricultural expansion.

3.24 Problems of Plan Failures

Poor performance of planning can also be attributed to the
problems of plan failures themselves. Killick, Todaro and Waterston,
for example, present useful summaries of the reasons arising from the
failures of the planning process itself as follows. (Killick, 1976, p. 164;
Todaro, 1981, pp. 462 and 463; and Waterston, 1965, p. 367). First,
plans and their implementation are deficient in the sense that they are
overambitious. They try to achieve too many objectives at once without
due regard to conflicting and competing objectives. They are often
grandiose in design but vague in specific policies needed to achieve
stated objectives and, finally, the gap between plan formulation and its
implementation is often enormous, so much so that many plans are never
implemented.

Secondly,   often statistical data, on which development
plans are based, are insufficient and unreliable or simply non-existent,
thus normally resulting in greatly diminished accuracy and inconsistency.
Moreover, comprehensive and detailed development plans have been
frustrated at all levels by an inadequate supply of qualified economists,
statisticians, and the like.

Thirdly, unanticipated external and internal economic dis-
turbances make it exceedingly difficult for most LDCs to engage in even
short-term forecasting, let alone long-range planning in the face of such
manifest uncertainty.

Fourthly, there are institutional weaknesses of the planning processes in most LDCs, such as the separation of the planning agency from the day to day decision-making machinery of government; the failure of planners, administrators, and political leaders to engage in a continuous dialogue and internal communication about goals and strategies; and the international transfer of institutional planning practices and organizational arrangements that may be inappropriate to local conditions.

Finally, LDC planning failures can be attributed to a lack of commitment and 'political will' on the part of many LDC leaders and high-level decision makers.[16]

From the above arguments, therefore, many would tend to agree with Roemer and Stern that:

> ".....there remains a prima facie case to
> utilise the market mechanism as much as
> possible and to reserve for direct govern-
> ment management only those activities whose
> characteristics make private implementation
> infeasible or disadvantageous". (Roemer & Stern, 1981, p.8)

However, as Killick argues, we must enter the realm of politics for a fuller understanding as to why planning has in general failed to deliver the necessary goods to most LDCs. (Killick, 1976, p. 177). Undoubtedly, Killick's conclusions are valid for the great majority of LDCs, but they do not give us a complete solution. (Nixson, 1981, p. 7). Therefore, in order to understand fully the real factors which motivate and direct all forms of planning in LDCs we need a theory of the post-colonial state, although at the same time accepting much of the neo-classical critique of the consequences of planning as outlined above. According to Alavi, the post-colonial state is not the instrument of a single class but rather can pursue an autonomous economic role and mediate between the interests of foreign capital (the metropolitan bourgeoisie), domestic capital (the

indigenous bourgeoisie) and the land classes.[17] Thus, although such a definition has met some criticisms,[18] it helps us to understand why planning or industrial strategies have produced the results that they have - "not merely because of 'too much' state intervention, but because intervention was of the 'wrong kind' and was directed towards objectives inconsistent with the generally accepted normative definition of economic development." (Nixson, 1981, pp. 8 and 9). However, these broader issues are beyond the scope of this Chapter. In the following section we shall look at various alternative industrial strategies in LDCs that have evolved mainly from the above described economic planning structures and experiences.

3.3 Alternative Industrial Strategies

A number of different strategies have been open to LDCs in their drive to industrialize. However, in principle, the choice has been between two broad trade-related strategies; production for the domestic market of previously imported manufactured goods (inward-looking or import-substituting industrialization - ISI), and (outward-looking or export-oriented industrialization - EOI). Both of them are not mutually exclusive, as in practice both will be present in any industrialization drive, although in widely varying degrees. Furthermore, some countries may move from one strategy to the other, as was the case with the Republic of Korea which moved from ISI to EOI in the 1960s. (Kirkpatrick and Nixson, 1983, p. 10). In others, a transition may be rendered impossible by great economic, social and political factors. Within the two broad trade-related strategies further classification may be possible, depending on whether the industries to be set are large or small scale, urban or rural based, capital or labour intensive, and financed from internal or external resources. However, in practice such

characteristics tend to be influenced by the overall strategy pursued.
For instance, in general the ISI strategy will involve large scale, urban
based and capital intensive industries, heavily dependent on foreign
financial and technical resources. This has been the case in the
majority of LDCs that have pursued an ISI strategy based simply on the
domestic production of manufactured goods previously imported, taking
as given the existing (usually highly unequal) distribution of income
and its related features (high demand for non-essential consumer
durables and personal services by the middle and upper income groups;
depressed demand for essential, mass consumption goods, and being
heavily reliant on a variety of foreign inputs (product specifications,
production technology, etc.) Nixson, 1981, p. 3; and Kirkpatrick and
Nixson, 1983, p. 10). To avoid confusion with the ISI that might form
part of a centrally planned strategy aimed at restructuring an economy,
this kind of ISI will be referred to throughout this study as 'market-
based' ISI or 'import reproduction' or 'import replication' (the domestic
product being an exact replica of the goods previously imported).

3.4 Export-Oriented Industrialization (EOI) in LDCs

An EOI strategy is largely concerned with the generation and
strengthening of the foreign exchange earning capacity of an LDC economy
through the domestic production of manufactured goods for export. Although
in theory both EOI and ISI are not mutually exclusive, in practice the
two strategies have generally been treated as alternatives, with ISI
assumed to be the easier one, for while it may be easier to offer pro-
tection to domestic industries against competing imports, it is relatively
difficult to promote exports efficiently, cheaply and acceptably because
of competition and other imperfections in the overseas markets. But the

widespread 'failure' of ISI, in the late 1960s and early 1970s , as an industrialization strategy and the apparent success of those LDCs vigorously pursuing EOI strategy, has led many development economists, consultants and international bodies to radically re-appraise ISI's actual and potential role in both the industrialization effort in particular and economic development in general.[19] As such many have come to recognize the actual and potential possibilities of exported industrialization.[20]

One of the major arguments for EOI strategy has been the apparent success story of the export-led industrializers like Hong Kong, Taiwan, Korea, Singapore, India, Brazil, Mexico, Argentina, Malaysia and Pakistan, which, in order of importance, in 1976 accounted together for more than 87% of the total LDC manufactured exports. (Kirkpatrick and Nixson, 1983, p. 27). However, we should not read too much in these figures because countries like India, Mexico and Pakistan must be regarded primarily as ISI economies even though, in absolute terms they are among the largest LDC exporters of manufactured goods. (Colman and Nixson, 1978, p. 203). Further, manufactured exports represent a small proportion of total manufactured output of LDCs, and their growth has been concentrated among a limited number of countries, mostly in east Asia.[21] Finally, in many low-income economies, non-manufactures still account for a high proportion of total exports.[22]

A further argument for EOI arises from the law of comparative advantage considerations. For instance, it is argued that over 80% of total manufactured exports at the end of the 1960s were labour-intensive commodities like clothing, non-cotton fabrics, plywood, cotton fabrics, leather and carpets, the six of which accounted for 54.9%. (Colman and

Nixson, 1978, p. 203). Thus, this suggests support for the argument
that LDCs should specialize according to comparative advantage and
in this case, produce and export labour-intensive commodities whilst
importing their capital-intensive requirements.

Finally, as a corollary to the above argument, and ceteris
paribus, it has been pointed out also that labour-intensive economies
could create more employment by adopting the EOI strategy. Indeed, as
Morawetz noted, some of those countries whose exports of manufactured
goods grew most rapidly during the 1960s also had high rates of growth
of industrial employment.[23]

However, without going into the issues concerning the relation-
ship between international trade and development, there have been a few
reservations expressed with respect to the EOI strategy. First, although
income and price elasticities of international demand for manufactured
goods in the aggregate are higher than for primary commodities, it is
highly unlikely that the majority of LDCs would be able to realize any
greater benefits from such a strategy, given the barriers to their
exports of manufactures imposed by the developed countries, such as
escalating tariff structures, quota restrictions, administrative controls,
'voluntary' agreements, and so on. Protective barriers are largely
"the direct result of the successful penetration of low-cost labour-
intensive manufactures from countries like Taiwan, Hong Kong and Korea
during the 1960's and 1970's". (Todaro, 1981, p. 373). This point is
also expressed by Helleiner:

> "The tariff structures of the rich nations
> are such as to offer the greatest degree of
> effective protection to their producers in the
> very industries in which poor countries are

> most likely to be competitive - light
> industries relatively intensive in the use
> of unskilled labour such as textiles, foot-
> wear, rugs, sporting goods, handbags,
> processed foodstuffs." (24)

Another major argument, and probably more important, has come

from Stewart. (25)   She argues that, although the comparative advantage

of LDCs lies in the production of labour-intensive commodities, as

long as the developed countries will mainly remain responsible for

technological innovation, production techniques will continually move

in a capital-intensive direction, and LDCs will, thus, always be forced

to adapt both products and processes to keep up with these developments

if they are to remain competitive in export markets. Technological

dependence on developed countries is inevitable if the LDCs are to

compete successfully in international trade.

Other arguments against EOI are: first, the net foreign

exchange benefits may not be as significant as the advocates argue since

items like raw materials, equipment, and parts may all have to be imported

and there may also be large outflows of profits, royalties and so on,

besides, the incentives given, especially to TNCs, are often so generous

that the amount of revenue generated for host LDC governments is often

insignificant. (Colman and Nixson, 1978, Ch. 9). Secondly, against the

view that competition in overseas markets engenders beneficial learning

effects, there is little evidence to suggest that such a strategy has a

more than significant effect on the quality of human resources within

LDCs. Finally, dependence on foreign markets may subject LDCs to cyclical

instabilities in developed economies and, in addition, free trade may

even encourage both the wrong pattern of production and consumption in

LDCs. (Stewart, 1973, p. 256).

In view of the above discussions, whilst recognizing the desirability of EOI, at the present stage of their development, there is great scope for mutually beneficial trade in manufactures among LDCs themselves within the framework of the gradual economic integration of their national economies. Too much emphasis has been placed on encouraging trade between LDCs and developed countries in the past and not enough amongst the LDCs themselves.

3.5 Import Substituting Industrialization (ISI) in LDCs

3.51 The Concept of ISI

In most of the major studies of ISI in LDCs much attention has been focused on the measurement rather than on the critical analysis of the ISI concept itself. Particularly, there has been some confusion regarding the distinction between ISI as a historical concept and ISI as a development concept. This confusion has had some adverse effects on the planning of industrialization strategies in many LDCs.

On the one hand, the advocates of the development concept of ISI, like Chenery, assume that ISI is the 'cause' of economic growth and thus recommends itself as a development strategy.[26] On the other hand, the advocates of the historical concept of ISI, like Maizels, assume that ISI has always accompanied economic growth, and, for instance, have shown that the import content of supplies declines with the progress of industrialization, at least up to the point where a fairly mature level has been reached.[27] It is quite apparent that ISI, defined thus, could equally be a cause or a consequence of economic growth. In using it as the basis for the formulation of development policies for LDCs, conclusions drawn from studies based on historical data should be used with great caution since they "do not tell us whether a deliberate ISI strategy is of relevance to today's LDCs and will provide the basis of

a long-run development strategy". (Colman and Nixson, 1978, p. 190).

In his influential study referred to above, Chenery defined ISI as the "difference between growth in output with no change in the import ratio and the growth that actually took place." However, there has been great controversy surrounding this 'broad' concept of ISI, the literature of which cannot be adequately covered here, and so will have to be deferred until the later Chapters dealing with the measurement of patterns and sources of industrialization.[28] Nonetheless, one important critic, Sutcliffe, has argued that by defining ISI in a 'broad' sense as he did, Chenery exaggerated the displacement of imports engendered by domestic production.[29] Therefore, he maintained that the phenomenon actually defined by Chenery should preferably be referred to as "the reduction in the import content of manufactured supplies", and suggested that the term ISI should be used to cover "only the direct substitution of domestic production for the import of the same product". (Sutcliffe, 1971, p. 255). Thus, he went on to suggest that, defined in this narrow sense the concept is "more appropriately applied to immediate economic policy than to broad economic analysis", since it relates to the identification of import substitution opportunities. Our analysis of ISI takes Sutcliffe's definition, which Nixson has referred to as "market-based" ISI (Nixson, 1981, p. 3).[30]

The significance of Sutcliffe's arguments is that import substitution has generally been considered as a planning instrument. For instance,

> "Under the ISI regime, the development planner
> will usually consider a product suitable for
> domestic production if the domestic market, as
> given by the value or volume of imports of that
> product, is equal to or greater than the minimum
> economic output of a manufacturing unit."
> (Colman and Nixson, 1978, pp. 191 and 192).

Protection will be given to the domestic producer in order that the
price of the imported product is equal to or greater than the price of
the domestic product (assuming that imports are permitted after domestic
production has begun). The estimation of ISI potential using this
approach is made by Maitra and Van Arkadie with respect to East Africa.[31]

However, a number of criticisms have been made of the above
approach.[32] First, the imported product chosen for domestication may
not be representative of the demands of the entire population but rather
only urban dwellers in general and the middle and upper income groups
in particular, because ISI accepts as given the pattern of demand and
the underlying distribution, whereas it might be both appealing and
desirable to change both the consumption pattern and distribution profiles,
the social and economic structures industrialization seeks to radically
change. Secondly, usually trade data is so aggregated that it is
almost impossible to identify specific products, especially the highly
differentiated ones; furthermore, tariff protection if required, will
reduce the demand because of the higher price of the domestic product,
unless the relevant price elasticity of demand is zero. Thirdly, generally
it is not always the case that the products which are not imported (or
imported only in small amounts) are not worth considering for domestica-
tion, nor does it mean that because certain products are imported in
large amounts domestication is necessary; industrialization may well
require domestication of goods previously neither imported nor consumed,
if necessary. Fourthly, ISI and tariff structure that accompanies it
encourage production of consumer goods, which may lead to a 'timid'
industrialization strategy which, though generating rapid growth in the
short run, may be unable to sustain this momentum in the medium and long

run. Finally, measures of ISI based on trade data tell us very little, if at all, about the suitability of the product to be domesticated because of the lack of appraisal in terms of, say, factor endowments and the development objectives of the country concerned and the technological characteristics and demands of the project in question.

Most of the above short comings call for a comprehensive industrial planning which can give rise to an industrial sector very different from the one generated by the market-based ISI, in terms of both composition and structure.[33] In the next paragraphs, however, we shall look at various alternative strategies within the ISI strategy itself.

Within the overall ISI strategy outlined above, a number of options are principally open to the industrializing LDC. For instance, Raj and Sen have identified the following.[34] First, it can use its foreign exchange to import investment goods (for instance, looms), raw materials, fuels, and so on, to manufacture consumer goods (for instance cloth). Secondly, it can use its foreign exchange to import capital goods (for instance machine tools) to make both investment goods (for instance, looms) which in turn produce consumer goods (for instance, cloth), and to make intermediate goods and develop domestic raw material supplies. Finally, it can use its foreign exchange to import capital goods to make capital goods which in turn make other capital goods, investment goods, and so on.

According to Hirschman's concept of "industrialization by tightly separated stages", the ISI process was seen as a sequential process whereby countries would begin with the domestic production of consumer goods (Option 1) and then progress through intermediate goods

(Option 2) up to capital goods production (Option 3).[35] However, in practice, as shall be seen later, such a smooth sequence is hardly realized. In reality, the great majority of LDCs, irrespective of their economic size or natural resource endowment, have pursued Option 1 and more often have tended to 'get stuck' at this stage. The more advanced, semi-industrialized LDCs, like India, Mexico, Brazil, Argentina, Pakistan and the Philippines, have moved on to Option 2 and some of them have even established a growing domestic capital goods sector, and still others, as already pointed out earlier, are becoming increasingly important exporters of manufactures, whilst maintaining their classification in the ISI process. However, exceptions to these options have come from the 'outward looking' industrializers like Hong Kong, Singapore, South Korea, and Taiwan, mentioned earlier.

3.52 The Origins of ISI in LDCs

In the majority of LDCs, ISI has been stimulated by a combination of inter-related impulses associated with both the historical processes of economic development and deliberate government development policy. For instance, Hirschman has distinguished between four distinct impulses of ISI which are briefly discussed below. (Hirschman, 1968).

3.521 Wars and Depressions

According to Hirschman, ISI has come about in part through natural market forces reacting to 'cataclysmic events' such as wars and depressions, and the government responding by promoting domestic import-replacing industries. Indeed, this has been supported by the historical experiences of many LDCs. For instance, in many Latin American countries ISI was first initiated as a response to the disruptions caused by both World Wars and the Great Depression of the 1930s, when either

there was insufficient foreign exchange to pay for imports or the
imported goods themselves were not generally available. The Zimbabwean
UDI in 1965 also helped to spur Zambia's ISI in the initial years after
Independence because it could no longer easily obtain its requirements
from Zimbabwe, its traditional supplier, as a result of international
sanctions against that country. Thus, under such circumstances there
was no other alternative but to substitute domestically produced goods
for those previously imported.

3.522 Balance of Payments

ISI became more widespread in the post-World War II era. In
many cases it was stimulated by the balance of payments difficulties,
allegedly brought about by the secular deterioration of the terms of
trade and cyclical export instabilities of LDCs, a subject we shall come
back to later. Generally, it was argued that the saving of foreign
exchange through ISI was an easier option than the earning of foreign
exchange through 'outward looking' industrialization. For instance,
on the one hand, the domestic market was seen as relatively easy to
protect and that the market for a particular product was a known and
established one; on the other hand, exports required breaking into new
markets and devising and implementing successful export promotion
policies to fight stiff competition not only with manufacturers in the
host country but also with manufacturers from other countries trying
to break into the same market. Although not impossible as demonstrated
by Hong Kong, Taiwan and others, the EOI Option 3 undoubtedly was more
difficult than ISI. Thus, ISI was opted for and   implemented under
the umbrella of protective controls.

3.523 Growth of Domestic Market

The increased productivity in primary product exports during
the Second World War led to an increase in the purchasing power of the

local population in the LDCs, and, correspondingly this led to diver-
sification in overall demand, which meant a more than average increase
in the demand for manufacturers.

In addition, Hirschman has pointed to the process of 'import
swallowing' that takes place as a result of the gradual expansion of an
economy that grows along the export-propelled path. (Hirschman, 1968,
Ch. 7). As the domestic market expands in such an economy and some
thresholds at which domestic production becomes viable are crossed,
certain industries with substantial locational advantages become
established because of the weight   of the products (for instance,
cement and beer which are heavy and bulky and, therefore, very costly
to transport over long distances) and, because of those whose market
is large even at low per capita incomes (for instance, textiles). All
these characteristics of the products produced give such industries a
high degree of natural protection against foreign imports. This process
of ISI has also been more appropriately referred to as industrialization
through 'final demand linkage', being distinct from
Hirschman's 'backward and forward linkage effects' process, which we
discuss later.

3.524 Deliberate Development Policy

In the majority of LDCs, especially in Latin America and many
newly independent African states after the Second World War, ISI was
carried out largely as a matter of conscious or deliberate national
development strategy by means of various government techniques of
intervention discussed earlier. However, we wish to stress here the
importance of foreign private investment in the ISI process in most
LDCs. Private direct foreign investment may be described as part cause

and part consequence of the ISI process. TNCs have been largely
responsible for the establishment of manufacturing industries in many
LDCs during the post-war period, and since the war direct investment
has become increasingly important as a proportion of the total net
private capital flow to LDCs and manufacturing investment accounts
for nearly 50% of total direct investment. (Colman and Nixson, 1978,
p. 189). Because of the 'market protection' policies of most LDCs,
most operations of the TNCs have been centred around ISI strategy.
For instance, LDCs wishing to stimulate industrialization would impose
protective tariffs on imports of manufactured goods and force TNCs
(or local enterprises previously engaged in the import of the goods)
to establish domestic production facilities if they wished to protect
their market position, as has been the case in Nigeria and elsewhere in
the Third World.[36]

3.53 The Rationale for ISI in LDCs

Several arguments were advanced, especially after World War II,
for the rapid promotion of ISI, some of which have already been touched
upon at various points in the preceding discussions, and below we
briefly examine the theoretical arguments.

3.531 Terms of Trade Argument

The strongest theoretical justification for ISI in LDCs came
from the Prebisch hypothesis of a secular deterioration in the terms of
trade of LDCs, based on an empirical evidence for the period 1870-1938,
in which it was observed that the prices for manufactures rose relative
to those of primary commodities. This hypothesis has also been supported
by recent studies.[37] However, any positive conclusions from such a
hypothesis should be interpreted with some amount of caution. For instance,

Bairoch has also shown that during the period analyzed by Prebisch,
"in fact a real secular improvement occurred in the terms of trade of
primary products vis-a-vis manufactures". (Bairoch, 1975, pp. 112 and
113).

Thus, it could also be quite representative to analyze the
trading position of LDCs, for it has been argued that, while trade
exists between LDCs and developed countries, and amongst the latter
themselves, there has been virtually very little or no comparable
trade amongst the LDCs themselves.[38]

However, further arguments have been advanced to explain the
secular decline of the terms of trade of LDCs. First, an extension of
Engels law, as incomes rise the income elasticities of demand for
agricultural commodities tend to fall so that demand for them also tends
to increase more slowly than for manufactures. Thus, any tendency for
the productivity-demand growth ratio to rise in agriculture than in
manufacturing will result in a relative decline in agricultural product
prices. The general decline in agricultural terms of trade for LDCs
tends to be exacerbated by the developed countries incentive policies
to their farmers. For instance, the higher than world prices offered to
farmers have resulted in expanded output, thereby increasing these
countries exportable surpluses of some agricultural commodities and
reducing their import demand for others.

Secondly, technological advances have had their own adverse
effects on the demand for primary commodities. For instance, synthetic
substitutes (nylon and polyester for natural fibres, and plastics for
rubber) are being continuously developed to compete with natural raw
materials. Their prices are comparatively lower because of reduced
real production costs together with the ability of the developed countries

to control their quantity and quality. Further, there have been effects of 'material saving' whereby the weight of metal and other minerals required to produce a unit of manufactured goods is reduced, hence the rate of growth of demand for the minerals tends to be slower than that of the end product. Finally, there has been the tendency for structural change away from such industries like textiles, ship-building and iron casting towards those like electronics and aircraft manufacture, which are much less dependent upon raw materials.

However, although there are controversies surrounding the above hypotheses, one thing must be clear that, LDCs are especially vulnerable to adverse effects of secular deterioration in terms of trade because of their exclusive dependence upon the export of one or a few primary commodities, for their economic welfare and future growth prospects, unlike developed countries' economies.

3.532 Export Instability Argument

International specialization was again criticized on the grounds that the prices of primary commodities fluctuate rather more violently than those of manufactures, at least in the short periods of, say, a month or a year. Thus, by specializing on exports of primary commodities, it was argued that LDCs were exposing their economies to severe fluctuations in export earnings which, in turn, was damaging to their growth and development prospects. This is because it was assumed that such fluc-tuations in export earnings cause fluctuations in the ability to import both intermediate and investment goods on which growth and development depend, but were not available locally. It was argued that prices of primary commodities fluctuate more widely and frequently than those of manufactures because of the former's comparatively low elasticities of

supply and demand to price changes. For instance, price elasticity
of supply of, say, minerals and agricultural products like cocoa,
coffee and natural rubber, may be very low because of the long gestation
periods involved in bringing about significant changes in production.
The impact of price fluctuations are even greater on the demand side
than the supply side because of the very low comparative price elastici-
ties. For instance, the national customs may be the major influences
on demand rather than price so that consumption may depend on whether
commodities are staple foods or not. Further, many products depend on
derived demand, like raw cotton in a shirt or wool in a suit, so that
the cost of such products may only form a small part of the cost of a
final product and, hence, even a substantial change in the price of a
raw material is hardly shown in the prices of finished goods. Though
both LDCs and developed countries may experience price fluctuations,
it is argued that the impact on the former is greater than the latter
because LDCs depend almost exclusively, for their foreign exchange and
national incomes, upon one or a few primary product exports, and the
export of such a product(s) may be concentrated in a particular regional
market. Finally, they also lack the necessary facilities to effectively
deal with the cyclical monetary and fiscal policies. Such fluctuations
may manifest themselves in development of substitutes by developed
countries, damage to individual LDC's markets, and discouragement of
investment by both government and individuals and companies in LDCs,
and other adverse effects.

However, the impact of export instability on primary producers
has been challenged by empirical evidence on the grounds that it has
been exaggerated. For instance, MacBean's analysis for the period

1946-1958 showed that, on average LDCs have neither a higher proportion
of national product in exports nor a greater vulnerability to export
instability than developed countries.[39] MacBean's analysis also
failed to find much empirical support for the hypotheses that export
instability tends to increase if primary commodities constitute a high
proportion of total exports- if a smaller number of commodities dominate
the primary export fraction- and if exports are mainly destined for one
geographic market. Further, MacBean's analysis also failed to support
the hypothesis that export earnings instability reduces economic growth in
the poorer countries partly due to compensation commodity tax policies
and TNC's character of operations in LDCs. However, MacBean did show
that some commodities such as rubber, cocoa and cotton have experienced
much higher earnings instability than others like bananas, sugar and
petroleum. (MacBean, 1966, p. 51). MacBean's analysis has, however,
been criticized by other writers. For instance, Ady argues that his
methods of analysis have systematic biases which play down the extent
of instability in LDCs.[40] Erb and Schiavo-Campo found evidence that
export earning instability in LDCs during 1954-1966 was significantly
higher than in developed countries, although allowing that the general
problem of instability in their period was less than in MacBean's.[41]

However, in spite of the above negative quality of the empirical
analysis there still is a strong case for export instability in LDCs,
since the analysis does not rule out the possibilities that certain
countries are severely handicapped by export fluctuations.

3.533 Employment Argument

The ISI strategy was also justified as a means to expand
employment opportunities in LDCs, (Prebisch, 1959, p. 255). This view

drew heavily from the 'law of diminishing returns' that, as more and more variable inputs are added to a fixed input sooner or later the marginal returns to the variable inputs will start diminishing. Thus, in LDCs that are experiencing population explosions, as more pressure is added to the fixed supply of land, the marginal productivity of labour also tends to diminish resulting in further massive unemployment and decline in the rate of growth. In LDCs, like in many African countries, where population explosion is not yet a problem, institutional barriers prevent full utilization of the land so that agricultural labour normally remains unemployed for most of the year. The law of diminishing returns also applies to mineral production where due to economical grounds a mine can be closed, thereby resulting in massive unemployment. Finally, since agriculture in LDCs is moving towards commercialization and greater efficiency, it was also argued that a great majority of agricultural workers in the traditional sector would become unemployed. Therefore, the proponents of ISI looked forward to industrialization as the only obvious means to create extensive employment opportunities in LDCs to absorb the massive rural-urban migrant labour. In this way, output per head and living standards throughout the economy would be raised, and industrialization would also induce necessary and desirable changes in social and cultural attitudes and institutions through the 'modernizing' impact of imported organizational methods and technologies. However, we shall come back to the employment implications of ISI later.

3.534 The Linkage Effects Argument

Another theoretical rationale for ISI was to do with the concept of inter-industry effects or linkages in industry associated with Hirschman.[42] Hirschman argued that most primary production has little

or no inter-industry effects in terms of 'backward and forward linkages',
as do manufacturing activities.

In his analysis, Hirschman measured backward linkage as the
"ratio of inter-industry purchases to total production" and forward
linkage as the "ratio of inter-industry sales to total demand". (Hirschman,
1958, pp. 104-108). He found that, while manufacturing tends to have
both high forward and high backward linkages, primary production has low
backward and high forward linkage effects. The primary activities tend
to have high forward linkages because their products are normally raw
materials which require some physical processing, e.g. minerals, cocoa,
tea, tobacco, and so on. On the other hand, backward linkages are low
because, especially at primitive levels, primary activities do not require
the use of materials in their raw state a form from other primary factors.
However, as economies get sophisticated this argument lends little support
because agriculture tends to provide the market for other industries,
e.g. fertilizers, farm implements, and machinery.

The direct inter-industry effects offered by manufacturing help
to stimulate the growth of output within the sector and the economy as
a whole. Therefore, this provided a strong case for ISI.

3.535 The Income Argument

The weakest of the commonly advanced theoretical arguments for
ISI has come from the historical statistical observation that primary
producers have had very low incomes per capita and that, as incomes per
capita rose, the proportion of labour force in primary production decreases.[43]
Such an observation has been loosely interpreted to suggest that LDCs are
poor because they are producers of primary products and that, ISI was
the only solution to this problem judging from the experience of the rich

countries.

However, others have argued that agriculture should not
necessarily be associated with low incomes.[44] Viner cites New Zealand,
Australia, Denmark, and certain regions of the U.S.A. as examples of
rich countries which have a strong agricultural export base and yet are
industrialized, and, thus, suggesting that industrialization may not be
the cause but rather the consequence of economic development. (Viner,
1953, pp. 43 and 44).

Though there is some grain of truth in Viner's contentions,
it should also be noted that in such rich countries he cites, primary
production (though rapidly raising productivity) usually contributes
only a small proportion of the total labour force because agriculture
is highly capital-intensive. The majority of the labour force is absorbed
in industry and services.

Thus, the income per capita argument only provides a 'naive
correlation' case for industrialization in LDCs (Pearson, 1969, p. 42).
It has not been proved empirically that rich countries are rich because
they are industrialized. One could as well argue that countries are
industrialized because they are rich. The real problem of underdevelopment
lies, however, not in agriculture nor is it due to lack of industry.
Poverty is associated here with backwardness due to poor agriculture
or poor industry or even both, themselves probably being the result of
the preceding arguments, and the solution may depend on the choice of
appropriate analytical tools.

3.54 Critique of ISI Experience in LDCs

Despite its achievements pointed out earlier, the widespread
disillusion with ISI, characteristic of the late 1960s-early 1970s,

has led to a radical re-appraisal of its actual and potential role
in both the industrialization effort in particular, and economic
development in general, in the recent years. The disillusion mainly
arises from the performance of the type of ISI process, 'market-based',
pursued in most LDCs since the Second World War.

In the following sub-sections, we shall attempt to examine
criticisms of some of the major aspects of ISI process in LDCs in
general.

3.541 ISI and Dualism in the Economy

The process and pattern of ISI is influenced by, and in turn
influences, the dualistic nature and characteristics of the economies
of LDCs. Four dualistic characteristics have been identified by ECLA
on the Brazilian economy; sectoral, regional, financial and social
disequilibra,[45] which many would agree   are quite representa-
tive of many LDCs' experiences, including Zambia.

First, sectorally, ISI aggravates the imbalances between
industry and other sectors of the economy, for instance, agriculture,
where it has been observed that, while the former expands rapidly during
the ISI process because of massive investment and modern technology,
the latter remains backward and neglected. Further, it also aggravates
the imbalances within the industrial sector itself, between consumer goods
industries on the one hand and intermediate and investment goods industries
on the other hand and because of the protective policies which tend to
bias domestic production in favour of consumer goods against intermediate
and investment goods. Consequently, there is a shift of unemployment from
rural to urban areas in search of better opportunities, resulting in large
expanding urban centres together with a parallel increasingly marginal

population group in which disguised unemployment is rife.

Secondly, regionally, during the ISI process, there is a natural tendency for economic activities to concentrate round the regions that represent the nuclei of the system, and this tendency is aggravated by an economic policy of industrial incentives, inherent in the ISI strategy, which tends to transfer resources, incomes and economic development from the less developed to the more developed areas.

Thirdly, ISI exacerbates financial imbalances reflected in the generation of inflationary pressures which derive either from the external bottlenecks or from maladjustments in the structure of local production.

Finally, and perhaps the most important of the disequilibria ISI promotes social imbalances, reflected in the unequal distribution of income and social inequalities, resulting from the sectoral dis-equilibra mentioned above. One of the major arguments for ISI discussed earlier has been its scope and potential to create extensive employment opportunities so as to raise the output and income per head as well as the living standards throughout an LDC economy. However, the ISI experience in most LDCs has been disappointing in this regard because of its nature and characteristics, as will be revealed from time to time in this sub-section. For instance, during the period 1954-58 while manufacturing output in Brazil grew at an average annual rate of 9.7%, employment grew at only 0.2% during the same period, and the ratio of wages to value added in manufacturing decreased from 32 to 30 during the period 1953-58, despite an increase in real wages. (ECLA, 1964, p. 54).

The above observations point to the conclusion that the

experience of ISI process in most LDCs has had the effect of transforming
these economies into perfect examples of dualistic economies and has
been summed up by ECLA:

> "This duality can be described, from the
> structural standpoint, as involving the
> existence of a dynamic capitalist sector,
> that expands rapidly, absorbs relatively little
> manpower, and has a comparatively high level of
> productivity, side by side with an under-
> developed sector in which is found the bulk
> of the population and which is to all intents
> and purposes excluded from the development process.
> The seriousness of this problem lies in the fact
> that not only do absolute differences in produc-
> tivity between the two sectors exist, but that
> these differences have tended to increase as
> development proceeds.
> From the standpoint of the personal distribution
> of income this system has given rise to a pyramid
> in which, on the assumption that the structure of
> distribution is similar to the average for Latin
> America, 5 or 6% of the population receive about
> 35% of the national income, nearly 50% of the
> population receive only 17% of the total, and the
> remaining 45% receive an income close to the
> general average." (ECLA, 1964, p. 54)

The apex of the pyramid represents the capitalist sector (the
upper income group), representing purchasing power sufficient enough for
the durable consumer goods market. The intermediate layer (the middle
income group) represents the average income group, and since this average
is very low, it does not exert any considerable purchasing power, except
for industrial products for mass consumption. The base (the under-
developed or lower income group) represents half the population, which
is more or less excluded from the capitalist money economy.

The above observations based on Latin America are, however,
also common to most African countries, and indeed, many LDCs. During
the initial phase of the ISI process, usually the apex is gradually enlarged
as a result of production of both necessary mass consumption goods

(textiles and clothing) and a range of less essential commodities
(perfumes and cosmetics), so that the population groups at the base
of the triangle have some measure of access to the dynamic sector,
whose production functions initially absorb the migrant rural labour.
However, as ISI progresses, and given that the distribution of income
in most LDCs is highly unequal, the demand for mass consumption goods
becomes exhausted and remains almost stagnant. As the incomes of the
middle and upper income groups grow, particularly due to the disequilibria
mechanisms mentioned above, their demand will more than averagely bias ISI
towards increasingly sophisticated, advanced technology durable consumer
goods and personal services. Although the latter are labour intensive,
the former generally require the use of capital-intensive production
techniques which create little or no employment opportunities at all.
Moreover, the little labour that might be absorbed is usually highly
skilled, expatriate, and demands, accordingly, high wages and, thus,
perpetuates the inequalities in income distribution. Also given that,
in general, the ISI process in LDCs is one of 'import reproduction' or
'import replication', involving usually only one method of production,
leads to the conclusion that it is the choice of production that, in
many cases, determines the production technologies selected (Stewart,
1972, p. 111). Income distribution, through its influence on the
composition of market demand, is a significant determinant of the overall
capital/labour ratio in manufacturing at the macroeconomic level.

Therefore, from the above discussion we can probably make three
general remarks, and since these have already been covered in detail
elsewhere, only brief outlines will be made.[46] First, TNCs, play an
obviously significant role in determining the nature and characteristics

of the ISI process through either direct foreign investment package
or licensing of their technologies or making available, at a price,
their brand names and trade marks, and also through the creation or
transfer of tastes.[47] As a result of such influences "consumers
in underdeveloped countries have become accustomed to obtaining
manufactured goods virtually identical with those available in the
industrialized countries and these tastes may be very resistant to
change". (Sutcliffe, 1971, p. 269).

Secondly, practically, the ISI process is related to discrim-
inatory protective measures, like tariffs, which bias the structure of
domestic manufacturing production in favour of final consumer goods
previously imported, against the production of intermediate and capital
goods, and also promote the continual existence of market demand patterns
as influenced by income distribution. As such, these measures give rise
to the domestic production of less essential goods since imports of
these goods are controlled purely because they are non-essential. This
also aggravates the tendency towards what Felix has called the "premature
widening" of the productive structure (the production of sophisticated,
high income durable consumer goods), rather than the development of
backward linkages towards intermediate and capital goods industries.
(Felix, 1964). Furthermore, the sectoral variations in the rates of
protection between consumer goods and intermediate and capital goods
mean that ISI opportunities would quickly be exhausted as the final
consumer goods "easy stage" of substitution is over, since by its nature
and characteristics ISI discriminates against the development of
intermediate and capital goods industries.

Finally, the criteria adopted for selecting products for

domestic production (import data) normally have no regard to full
project appraisal with respect to factor endowments and development
objectives of the LDCs and the engineering and technological charac-
teristics and demands of the projects in question. (Nixson, 1981,
p. 43). Under the ISI strategy we are given no indication at all of
the suitability of the products for domestic production, although, in
the initial stages of industrialization, ISI is an obvious step to
follow because of its comparative straight-forwardness, since technology
is generally less complicated and less capital-intensive, and the market
is readily assured through protection. However, as pointed out earlier,
it is not necessarily the case that products that do not enter the
country (or enter in small amounts) do not merit investment, nor conversely
that, certain products that are imported in large quantities should be
replaced by domestic production. Industrialization may as well require
the domestic production of goods previously neither imported nor (of
necessity) consumed.

As regards the problem of income distribution, instead of
taking the distribution of income and the associated patterns as given,
there is need for different distributional profiles and consumption and
production structures as the economy rapidly industrializes. Clearly,
different income distributions will generate very different development
patterns and, therefore, a necessary, though not a sufficient, condition
for achieving many of the development goals of LDCs is to create the
'right' distribution profiles. (Colman and Nixson, 1978, Ch. 3).

3.542 ISI and Balance of Payments

One of the major arguments for ISI in LDCs was the alleged
saving of foreign exchange and, thus, lessening the balance of payments

constraint to which most of them are being subjected. Unfortunately, however, it has not yet been proved that ISI actually saves foreign exchange and, thus, alleviates the balance of payments problems. Instead, most LDCs attempting to promote economic development have been finding themselves with growth problems brought about by inadequate supply of foreign exchange for the following brief explanations.

First, the changing composition of imports under the ISI regime together with the likely existence of a minimum limit on imports below which the import coefficient (the ratio of total imports to GDP) cannot fall will initially put a strain on the balance of payments. Under ISI regime the domestic production of consumer goods, under the umbrella of very high tariffs, takes place on the onset, meaning that the less essential imports are given the greatest incentive for domestic production. As the process proceeds, the composition of imports changes from consumer goods to intermediate and capital goods. Thus, the 'non-essential' consumer goods imports now become 'essential' goods to maintain domestic production and employment. However, due to the rising pro-portion of domestic production supported by imports of intermediate and capital goods, any fall in export proceeds not counterbalanced by a net inflow of foreign capital will lead to forced in imports and industrial recession. At this stage, therefore, the economy has become more dependent on foreign trade and more vulnerable to fluctuations in foreign exchange earnings. Thus, the ISI process originally conceived of as lessening external dependency is more likely to have the opposite effect, and Baer has noted with the Latin American experience, that ISI places LDC "in a new and more dangerous dependency relationship with the more advanced countries than ever before". [48]

Secondly, the effects of ISI on the balance of payments have
been negative mainly due to the dynamic income-creating effects of ISI
process together with a high marginal propensity to import. Leff and
Netto, in their sequential model on Brazil, found out that massive ISI
policies and foreign capital inflows did not eliminate the balance of
payments deficit but instead aggravated it at the end of the sequence.[49]
This was largely due to a high marginal propensity to spend, an inelastic
demand for exports, a low marginal propensity to import (due to limited
foreign exchange available) and an import coefficient which no longer
declines, once a country has passed a certain stage of ISI. Doherty,
in his study of the Rhodesian experiences (Zambia included) reached
similar conclusions.[50]

Thirdly, at least in the long run, the continuing or worsening
balance of payments deficits can be aggravated by the import intensity
(or content) of different IS industries because each one of them will have
a different import content.[51] Thus, the choice of products and
industries, themselves partially determined by the distribution of income
and associated patterns of market demand, has a great role in influencing
the balance of payments impact of ISI process.

Fourthly, while some empirical evidence has shown that profit
remittances by private foreign investors have only a negligible effect
on the balance of payments (Leff and Netto, 1966, p. 223), we cannot
generalize for all LDCs because certainly where TNCs are heavily involved
in the ISI process, profit remittances, royalty payments, effects of
transfer pricing and so on, are likely to have significant effects on
the balance of payments of LDCs (Colman and Nixson, 1978, Ch. 9).

Fifthly, one common cause of disillusion with ISI strategy is

that it has been pursued as an alternative to promotion of exports,

and Little et. al. have noted:

> "Not only have governments placed far more
> emphasis on saving than earning foreign
> exchange, but the policies pursued have
> made the task of exporting much more
> difficult. The discouragement of exports
> is inherent in the policy of protection,
> quite apart from actual inefficiencies in
> its operation, or from any excessive dis-
> crimination against agriculture. This is,
> first, because inputs whose importation
> is restricted are more expensive, or un-
> obtainable, and costs of production are
> therefore higher. Secondly, and more
> important, the existence of import res-
> trictions enables the exchange rate to be
> higher than it would be under free trade,
> and the exporter therefore receives less
> domestic currency for a given quantity of
> exports than he would under free trade."
> (little, et. al., 1970, p. 10).

Sixthly, experiences of many Latin American countries have

shown that the effective rate of protection can be so high that domestic

value added, measured by world prices, is sometimes negative. This

means that the value of the industry's inputs at world prices is higher

than that of its output and therefore the activity costs the country

foreign exchange.[52] Although not without criticisms in computations,

such findings highlight the extreme inefficiency that exists in the

manufacturing sectors of many LDCs pursuing the ISI strategy.

Finally, the redistribution of income effects of ISI also leads

to further deterioration in the balance of payments. As argued earlier,

ISI leads to a redistribution of income from agriculture to manufacturing

and within the latter itself from wages to profits, as manifested in the

capital-intensity of techniques of production. Thus, all this results

in the redistribution of income from those groups (lower income and rural

sector) with a lower marginal propensity to consume imported goods
and services or domestically produced import-intensive goods, to those
groups (urban sector, middle and upper income) with a higher marginal
propensity to consume such goods and services. This, therefore, tends
to aggravate the balance of payments problems.

3.543 ISI and Industrial Structural Change

Theoretically, as already pointed out, the ISI process is
expected to progress, in sequence, from substitution of consumer goods
through intermediate up to investment and related goods. This sequential
progression means that as consumer goods imports become substituted for
by domestic production, the composition of imports changes with intermediate
goods replacing consumer goods. In the next stage imports of intermediate
goods become substituted through the importation of capital goods.
Finally, capital goods imports become substituted for by domestic
production of such goods. (Nixson, 1981, p. 16).

However, in reality, it is difficult to conform to such a smooth
sequence of substitution because ISI tends to generate a high rate of
growth of national product (GNP) in its initial stages, but such growth
is not sustained in the longer run and the economy experiences stagnat-
ionist tendencies at a low level of development once ISI opportunities
run out and the foreign exchange constraint once again becomes dominant.
For instance, ECLA explains:

> "Substitution usually begins in the easiest
> area, the production of finished consumer
> goods, partly because the technology is
> generally less complicated and less capital-
> intensive, but mainly because there is a
> larger untapped market for goods of this
> kind, either already existing, or brought
> into being as a result of the foreign trade
> policy adopted as a defensive measure."
> (ECLA, 1964, p. 5)

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Broadly, two areas of explanations as to why the ISI process tends to lose momentum in the longer run are usually identified. On the one hand, neo-classical writers argue that poor planning and implementation of the ISI strategy are the cause of stagnationist tendencies, and point to three general features: the distortion of the economy, the creation of activities contrary to the economic and social interests, and the lack of incentives for raising productivity resulting from state intervention in factor and product markets. Emphasizing comparative advantage and laissez faire doctrine they contend that government policies should concentrate on these issues, and recommend promotion, rather than protection of industries, through uniform tariffs, currency realignments, subsidies to firms doing research, tax advantages or subsidies aimed at correcting market imperfections, provision of market information, and so on. (Little, et. al., 1970).

On the other hand, structuralist/marxist models of stagnation argue that stagnationist tendencies, apart from inefficient implementation, are inherent within the ISI strategy itself. Such tendencies, therefore, inhibit the smooth progression of ISI from one stage to another, because of the following characteristics. First, the ISI process generates structural disequilibria of the type already discussed above. Secondly, as explained above, the ISI process fails to alleviate the balance of payments constraint because of its inability to reduce the import coefficient as it progresses, and Felix argues that, only by assuming a persistent import bias toward changes in the final demand mix can a levelling off in the import coefficient be adequately explained.[53] As explained earlier, the rising incomes shift demand towards products with high income elasticities of demand and higher import intensities

than products with lower growing demand. However, such import-biased

demand shifts also occur independently of income shifts as a result of

the international demonstration effect, for instance:

> "The rate of product innovation in advanced
> countries, to factors reducing information
> lags concerning such products in borrowing
> countries, and the trend towards greater
> technological complexity of these products
> and their components." (Felix, 1968, p. 67)

Felix's model is supported by Argentina's experience whereby intermediate

import requirements per composite unit of Argentine output were higher

in 1960 than in 1953, in spite of considerable ISI in the intervening

years.

Thirdly, using a short-run income determination model, Baer and

Maneschi have shown that, without government counter-measures, the

stagnationist tendencies of ISI process arise from insufficiency of

domestic market demand which the ISI process itself generates as it proceeds,[54]

and they contend:

> "The basic argument of the stagnationist school
> is that import-substitutive industrialization,
> which occurs in a setting where there are no
> other basic structural changes, results in the
> establishment of an industrial productive
> capacity for which eventually there is no adequate
> demand. In other words, the process is self-
> terminating, since it neither generates sufficient
> income nor distributes it adequately enough to
> occupy the new capacity fully and keep it
> expanding." (Baer and Maneschi, 1971, p. 183).

The insufficiency of domestic demand derives from the fact that the

initial ISI process is based on existing skewed income structures and

the fact that the distribution of the increment in income generated by

ISI increases the concentration of income in favour of the high income

minority, largely due to the nature of technology which is such that the

'marginal labour/capital ratio' may be very low, compared with the one

previously existing. This may preclude the large-scale absorbtion of

labour per unit of IS investment and thus, ceteris paribus, result in

increasing inequality in income distribution, especially if industry contributes the largest proportion of the increment in the GDP but has a low labour/capital ratio.

Finally, the stagnationist tendencies of the ISI process also derive from technological dependence. Practically, it has become virtually impossible for the ISI process "to proceed from the base to the apex of the production pyramid". (ECLA, 1964, pp. 6 and 7). As a result, many LDCs have become technologically dependent upon imports of capital goods from industrialized countries through the TNCs, for a number of reasons. First, Merhav argues that the limited domestic market for capital goods provides little incentive for domestic manufacture, implying that the diseconomies of scale for the equipment and materials may be large enough to discourage their domestic production.[55]

Secondly, the discouragement of domestic production of capital goods is enhanced by the capital-intensive techniques of producing the final goods promoted by the ISI policies. The fact that these techniques favour the use of specialized machinery in the production process means a restraint on the growth of demand for capital goods that could be produced in LDCs. The lack of investment opportunities in the capital goods sector, in turn, precludes the development of capital goods embodying modern labour-intensive technology. (Colman and Nixson, 1978, p. 335).

Thirdly, as a corollary to the above point, the development of capital goods industries is discouraged by the resistence of domestic producers of final goods against import substitution for their imputs in general and capital goods in particular because of fear of escalating costs,

lower quality and reduced reliability, learnt from their own experience
as import substituters. But, as Merhav argues, even if they could pass
fully on to consumers the additional costs, "they are reluctant to serve
as guinea-pigs for untried domestic equipment, the purchase of which is
a long-run commitment of resources." (Merhav, 1969, p. 134).

Finally, the inability of ISI process to move to the capital
goods sector derives from the unwillingness or inability of TNCs to
establish capital goods industries in LDCs, partly due to the fact that the
risks attached to such investment may be too great given the uncertainties
(both economic and political) which characterize LDCs. (Colman and Nixson,
1978, p. 235). Further, the oligopolistic nature of TNCs requires that,
before any such investment is undertaken, they should take into account,
inter alia, the effect of their decision on their own export interests,
if any (assuming that the new plant will not compete in the national market
from which the investment originated).[56] A TNC dealing in consumer
goods will take into account only the first two considerations, but one
dealing in capital goods will also consider the third one because it may
be impinged upon by the growth of a competing industry engendered by the
domestic production of capital goods in LDCs. The result of these con-
siderations is that TNCs are reluctant to extend the ISI process beyond
the consumer goods sector for the reasons already given above.

3.55 Alternative Critiques of ISI in LDCs

The manifestations of the impact of ISI process on economic
development of LDCs described in the preceding sections can be interpreted
in two theoretical alternative critiques of the overall impact of ISI
process: the neo-classical and the structuralist/marxist critiques. Of
the two critiques, however, only the former can strictly be referred to

as a 'school of thought' because it presents a coherent and logically
consistent (though not necessarily correct) theoretical critique of
the ISI process.

Descriptively, both critiques exhibit certain similarities,
although their analyses of the causes of the problems identified, of
course, differ. Broadly, there is a general understanding that most
LDCs have relatively small, highly protected, inefficient, over-
diversified industrial sectors; oligopolistic or monopolistic in structure,
utilizing complex capital-intensive techniques, with low levels of pro-
ductivity and low employment-creation potential. Further, the government's
pre-occupation with ISI has led to sectoral disequilibria discussed
earlier on, especially between manufacturing and agriculture. Furthermore,
ISI has also given rise to an excessive dependence on foreign capital
and technology with a consequent diminution of domestic ownership and
control. Overall, it has injected into the LDC economy bias against
exports of both primary and secondary goods. The balance of payments
problem has not been eased; a rigid, inelastic import structure has been
introduced; and bottlenecks and distortions within the economy originating
from the ISI process have aggravated the already existing inflationary
pressures.[57] The 1972 ILO Report on Kenya presents both a critique
of the ISI process and proposals for reform very much based on these
lines, i.e. a mixture of both neo-classical and structuralist/Marxist
dependency ideas, although most attention is on elaboration of a
"redistribution through growth" strategy.[58] However, the proposals
suggested have not been adopted by the Kenyan Government since politically
they have not been acceptable, and there is no indication in the current
development efforts that they will ever be adopted.[59]

3.551 The Neo-classical Critique

The neo-classical interpretation of the impact of ISI process
on the economic development of LDCs is based on the assumption that the
massive state intervention in the economy aimed at rapid promotion of
ISI, through excessive protection has created distorted and inefficient
domestic factor and product markets in the LDCs. The adherents to this
school of thought argue for the promotion of an efficient allocation and
utilization of resources within the free market framework.[60] Little,
Scitovsky, and Scott's 1970 study (already cited earlier on) argues that
excessive protection, permitting or encouraging the overdevelopment of
ISI, violates the principle of comparative advantage and creates new and
aggravates existing distortions in the domestic factor and products.
Since they have been dealt with in detail elsewhere in this Chapter,
these distortions will be only summarily covered here.

(a) Inequalities of Income Distribution

Little et. al. argue that the indiscriminate and high pro-
tectionist policies of ISI create new and aggravates existing, inequalities
in the distribution of income. First, these policies bias the domestic
terms of trade in favour of industry in relation to other sectors of the
economy, especially agriculture, because high protection raises the prices
of manufactured goods relative to those of, say, agricultural goods in
the domestic market, and by supporting the exchange rate reduces the domestic
currency receipts from a given quantity of agricultural exports. For
example, Little et. al. have shown that the prices of manufactures relative
to farm prices in Pakistan have, over much of the 1950s, been twice as
high on the average as world-market prices would be, and that the actual
redistribution of income from farming to manufacturing due to this

distortion of domestic prices has been estimated at 11 to 13% per
annum of what farm incomes would be if world-market prices were allowed
to obtain. (Little, et. al., 1970, p. 42). Similar empirical evidence
from Argentina has also shown that during the period 1947-55 the redis-
tribution of income from agriculture to industry due to high protection
was equivalent to a tax on farmers of between 30 and 40% of what their
income might have been.[61]

     Further, high protection has also been responsible for the
distortion in income distribution within the manufacturing sector itself.
The excessive protectionist policies of ISI encourage the development of
oligopolistic or monopolistic structures which favour profits over wages
within the manufacturing sector itself, since they give impetus to
increased marginal productivity of capital and to increased intensity
with which capital is utilized in production processes relative to
labour. This means a functional distribution of income in favour of
capital relative to labour.

(b) The Rate of Savings

     The bias towards the establishment of consumer goods industries
domestically relative to capital goods industries and the consequent
development of an ISI based business community leads to what Khan has
termed 'consumption liberalization', especially if excess capacity exists
as might be the case.[62] This situation, of course, is bound to reduce
the rate of saving below that which could have been achieved. Khan
argues that during the ISI process the effective constraint imposed on
domestic consumption of imported consumables by the scarcity of foreign
exchange becomes eliminated as domestic production of consumer goods
increases. This implies 'consumption liberalization' and likewise
savings do not increase as quickly as expected and the development effort
is reduced. Khan's empirical evidence from Pakistan has shown that
during the period 1955/56 to 1959/60, 46% of increased production of

cotton cloth was due to 'consumption liberalization'; and 49-51% of increased production of sugar was due to the same cause. The actual consumption exceeded 'normal'consumption (determined by the aggregate consumption constraint necessary to achieve the planned rate of saving and consumer preference as to the distribution of expenditure between different commodities within the overall constraint), because, first, high levels of protection led to excessive investment in ISI industries which in turn led to attempts to utilize excess capacity through, say, sales campaigns aimed at raising consumption. Secondly, 'consumer liberalization' automatically occurs as ISI takes place especially if the only control consisted of import licences. Thirdly, the shift in income distribution towards the urban sector creates upward pressures on the consumption function. Hence, a reduction in saving takes place as consumption becomes 'liberated' generally as well.

(c) Labour Allocation and Utilization

The high protectionist policies of ISI have also created and aggravated the problem of unemployment and thus further contributed to the inequalities in income distribution in many LDCs. First, "the growing discrepancy between the levels of social well-being typical of country and town life", especially the very much higher wage of urban than of rural unskilled labour, has helped to stimulate rural-urban migration thereby accentuating urban unemployment and under-employment since the growth of employment has not kept pace with the increase in the urban population. (Little et. al., 1970, p. 82).[63]

Secondly, the methods used to encourage ISI, particularly the protectionist policies, have tended to favour profits over wages within the industrial sector itself, and to create a bias against the employment of labour. Many factors have contributed to the bias against employment

of labour. First, the shift away from traditional export labour-intensive industries, e.g. textiles, towards modern, highly automatic and labour-saving industries, e.g. chemicals and metal-working, has been the cause of urban unemployment in many LDCs.

Secondly, the protective and exchange rate overvaluation policies have discouraged labour utilization in the production processes by making it possible to allow capital equipment to be imported cheaply, either by having low duties on such imports, or by remitting them, as in Latin America.[64]

Thirdly, large-scale industry often pays low or even negative rates of interest, enabling capital to be obtained cheaply. Besides, the fact that capital depreciates fast for tax purposes encourages capital-intensive investment.

Fourthly, the foreign aid that is usually tied to the procurement of capital equipment from the donor countries obviously results in the adoption of more capital-intensive and labour-saving equipment and methods of production than would be desirable.

Fifthly, on the one hand, the difficulty in many LDCs of finding skilled and trained personnel, and, on the other hand, the existence of social legislation aimed at assuring job security and improving working conditions, also contribute to the bias against labour utilization, e.g. in India.

Sixthly, the power of the trade unions and political pressures for higher wages have tended to increase the bias against the use of labour.

Finally, the bias against agriculture has meant that opportunities for increasing employment in agriculture have been neglected.

(d) Capital Allocation and Utilization

Parallel to the under-utilization of labour is the creation
of excess industrial capacity by the ISI regime. Just as the rapid
rural-urban migration of labour creates urban unemployment, the diversion
of investment funds from other sectors of the economy into the
manufacturing sector, brought about by the excessive protectionist
policies of ISI, creates more industrial capacity than can be used. There
are two possible explanations for under-employment or unemployment of
capital in LDCs.

First, the under-utilization of industrial capacity arises from
the fact that general industrial investment has often been planned for
one-shift working unlike in advanced countries. This has been the result
of either a shortage of managerial and supervisory staff or their un-
willingness to work at night because of their high social prestige and
high standing in the income scale, e.g. in India and Pakistan.[65]

Secondly, under-utilization of industrial capacity is a reflection
of the use of foreign exchange which is biased towards imports of equipment
relative to components and materials, thereby resulting in the insufficiency
of the latter. (Little, et. al., 1970, Ch. 3). The explanations for
this are: first, import controls have made it easier to import equipment
than materials; secondly, credit for installing equipment, especially in
large-scale industry has been relatively cheap; thirdly, tariffs have been
biased in favour of capital goods; and finally, very high levels of
protection have made it possible to earn good profits even with a very
low output from the installed capacity.

One final consideration concerns the neglect of agriculture
and other sectors in the allocation of investment. For example, it has

generally been argued that although subsidies are sometimes provided for agriculture, such subsidies are certainly a very low proportion of value added in agriculture and do not significantly affect the bias against agriculture brought about by the protection of industry, and its concomitant, and overvalued exchange rate. Thus, food production has not kept up with the growth of population, e.g. in Pakistan, and Philippines, and agricultural production for export has equally been affected by the neglect of investment in agriculture. This bias has also affected investment in infrastructure which provide essential services to all sectors of the economy, including manufacturing.

(e) Foreign Exchange Shortage

As we have already seen, attempts to industrialize rapidly through the ISI process inevitably aggravate rather than alleviate the balance of payments constraint. This is because, first, while the establishment of ISI industries producing final consumer goods initially displaces imports of such goods, it at the same time creates a demand for new and different types of imports, e.g. materials, parts and components to be used in the new industries, brought about by the redistribution of income mechanism.

Secondly, the high foreign exchange cost of ISI is reinforced also, on the one hand, by the capital charges where foreign capital is involved, and, on the other hand, by the fact that profit receivers have a high propensity to import.

Thirdly, that many individual ventures lose foreign exchange is essentially reflected in poor selection of projects and industries to develop mainly because of indiscriminate and high protection.

Finally, the high foreign exchange constraint is also reinforced

by the fact that high tariffs or low quotas create a bias against both agricultural and manufactured exports. Thus, the emphasis on saving foreign exchange tends to unnecessarily render the task of exporting from LDCs much more difficult. For example, as we have already seen, import restrictions make them more expensive or unobtainable and thus aggravates the cost of production. Further, import restrictions enable the exchange rate to be overvalued and therefore the exporter receives less domestic currency for his exports than he would receive under free trade.

(f) The Neglect of Comparative Advantage

One final consideration of distortions in the economy caused by the ISI process concerns the law of comparative advantage. Little et. al. argue that too much ISI results in the neglect of comparative advantage since many enterprises and industries are set up by governments, and encouraged by heavy protection, without or with little regard to costs, or to alternatives. They contend that the bad effects of ISI concerning size, scale, and structure of industry stem from this neglect of comparative advantage. Too much ISI results in capital intensive processes for limited industrial output, implying less investment in other sectors, and therefore less employment there. Furthermore, although the ISI process begins with a vigorous momentum, eventually, say, fifteen years, its bound to grind to a halt as has already been witnessed in many Latin American countries. At this point the only solution to the puzzle is the growth of exports. However, this may not be feasible at this time because by then the country will have an industrial structure unsuited to export markets; in fact, the domestic market for manufactures will have been relatively restricted by the high prices and inequalities associated with excessive ISI.

Therefore, at this stage of development or even before, neo-classical economists argue the case for the promotion, rather than the protection of industry (subsidization of labour costs, provision of training facilities, etc.) in general, policies designed to eliminate the above disadvantages under which industry suffers, rather than offsetting them by policies with allegedly undesirable side-effects. They argue for lowering and rationalization of protection, removing import controls, devaluation of exchange rate, encouragement of free play of market forces, and the like. Consequently, domestic industries would either have to face foreign competition or perish, exports would be encouraged, industry would not be over-encouraged at the expense of other sectors and more intensive employment opportunities would be triggered through the use of labour-intensive or appropriate technologies. To all this they point to the apparent success of the export-led industrializers, e.g. Taiwan, South Korea, Hong Kong and Singapore, as evidence of the need for an 'outward' orientation to the development effort.

However, others like Sutcliffe have noted that the neo-classical approach only emphasizes on the question of efficient allocation of resources in the short-run and pays little attention to the economic determinants of long-run growth and none at all to the socio-political aspects, which are the main objects of LDCs themselves.[66] At this point, therefore, we turn onto the other school of thought, the structuralist/Marxist critique.

3.552 The Structuralist/Marxist Critique

The structuralist/Marxist theorists present a different analytical approach to the problems of the relationship between ISI and

economic development as highlighted by the neo-classical interpretation in the preceding section.[67] Unlike the neo-classical theorists they argue that ISI has failed because there is something wrong with itself and therefore ought to be replaced by a new rapid economic, social and political order. They, therefore, focus attention to differing degrees on the question of the ownership and control of productive resources and the social and political relations arising out of differing ownership and control patterns. They are broadly concerned with the ISI problem arising from the distorted structure of production inherited from the colonial period, the contemporary foreign penetration of the economy, the importation and use of an 'alien technology', operating of TNCs, the distribution of income and the balance of socio-political forces within the economy. Despite some variations within the structuralist/ Marxist school of thought (involving non-Marxists, neo-Marxists and Marxists), at least, in general terms the above set-up is widely manifested by this school of thought.

However, at a more general level, Marxists focus attention on the nature and characteristics of the development process and doubt whether capitalism can be considered in the contemporary LDCs as a progressive force and thus be expected to lead to independent capitalist industrialization, a point to be further analysed later. As regards policy implications, structuralists are greatly concerned with the need for radical changes in the economic structure of the LDCs economy (land redistribution, agricultural reform, a more equal income distribution, etc.) while Marxists emphasize the need for radical socio-political changes that must take place before genuine economic restructuring is possible. Our preceeding critiques of the ISI process have largely been within the

structuralist/Marxist framework of analysis embracing, as well, much
of the neo-classical analysis, though excluding the latter's policy
prescriptions.

In the recent years, however, there have been controversial
developments taking place within the structuralist/Marxist schools of
thought regarding the nature of the industrialization process in the
LDCs. On the one hand, the dependent theorists, both Marxist and non-
Marxists, argue that a process of dependent economic development or
dependent industrialization is taking place within the LDCs, dominated
by TNCs and foreign interests through their control of capital,
technology and markets, a point we shall now develop further. The
dependency theorists try to explain this dependence concept by assuming
an equivalent concept of independence which should originate with and be
maintained by the economic and socio-political forces within the
industrializing country.

Sutcliffe clarifies the concept of independent industrialization
by pre-supposing its four principal characteristics. (68) These are:
the country's domestic market should be paramount; the country should
encompass within its borders a wide range of industries (including
economically strategic capital goods industries); the country should not
be reliant on foreign finance except where the LDC can control the use
of foreign funds- and that analogously to having a diversified industrial
structure the country should have 'independent technological progress',
consisting of the ability and opportunity to copy, develop and adapt, or
at least to choose, a technology suitable to the country's resources
(historically a condition of development since the English industrial
revolution). These are economic elements which have their social and

political counterparts.   Therefore, in an independent industrialized
country there should also be an industrial bourgeois social class which
is both willing and able to use the economic surplus that it appropriates
to finance industrial investment.   To do this effectively, this class
requires the support of political power through the state, which in turn
must be largely independent both of those local social interests opposed to
industrialization (landowners or commercial interests, etc.) and also of
foreign interests (capitalists, etc.).   It is as a result of this that
the promotion of industrialization has been advocated for in LDCs.

However, for a variety of reasons already referred to in the
preceeding sections, capitalist development based on the 'market-based'
ISI strategy has not led to independent industrialization in many LDCs
because none or very few elements of independent industrialization have
been fulfilled.   To strengthen this point Sutcliffe concludes:

> "In recent decades while rapid industrial growth
> seems to have taken place only, or at least mainly,
> in those capitalist countries most obviously
> satellised by the advanced countries, this is not
> necessarily a permanent situation. Capitalism
> has not freed itself from crisis; and we cannot
> be sure that the renewed intensive competition
> within the capitalist system......will not at some
> point erupt into war." (Sutcliffe, 1972, p. 192).

For Sutcliffe and many of his kind the postulated dependency
tendencies are fundamentally associated with the existing pattern of
demand, the industrial structural change, the ownership and monopoly of
industrial investment, and the technological dependence implication
of the ISI regime.   The dominance of the advanced countries has always
been reflected in the monopoly of technology (embodied in certain capital
goods) and this has prevented many LDCs from establishing complete
industrial structures because of their inability to establish industries

possessing the most advanced and complex technology of that period of
time.

On the other hand of the spectrum, however, are independence
structuralist/Marxist theorists, like Warren, who have vigorously
challenged the above analysis.[69] Warren's main points are that:
prospects for successful capitalist economic development (implying
industrialization) of many LDCs are quite good; substantial progress in cap-
italist industrialization has already been achieved; the post-World War
Two has been marked by a major upsurge in capitalist social relations
and productive forces (especially industrialization) in the LDCs; any
obstacles to development have originated not in current imperialist-
Third World relationships, but almost entirely from the internal contra-
dictions of the Third World itself; the imperialist countries policies
and their overall impact on the Third World actually favour its
industrialization; and ties of dependence are being loosened with the
consequence that the distribution of power within the capitalist world
is becoming less uneven.

Warren argues further that the attainment of political
independence by many LDCs after World War II has permitted their industrial
development and that, industrialization has been encouraged by inter-
national rivalry between capitalist economies, between the western and
eastern blocs and by the rise of new ruling groups within the LDCs
themselves. LDCs have, since independence, increasingly improved their
bargaining position and their ability to control resource-based TNCs,
and although they have yet to achieve similar results with manufacturing
TNCs, conflicts over foreign investment in manufacturing occur within a
long-term framework of eventual accommodation, mutually acceptable and
mutually advantageous. Warren further maintains that the setting up of

capital goods industries in LDCs leads to 'automatic' technological progress and obstacles to technology transfer lie in the ability or inability of the LDCs themselves to assimilate technology, rather than in imperialist monopoly or domination. Western technological superiority is based on conditions that are losing their force and the technology that is actually transferred is more important than that which is 'blocked'. Therefore, Warren argues that independent industrialization, based on Sutcliffe's four elements, is in fact taking place rapidly within LDCs.

Warren also argues that in general, private investment in LDCs is creating the conditions for the disappearance of imperialism as a system of economic inequality between nations: "imperialism declines as capitalism grows" (Warren, 1973, p. 41). He further argues that it is no longer necessary to associate industrialization with a particular ruling class, and in most LDCs the role of the state is of particular significance as it assumes the role of a bourgeois ruling class before the full emergence of that class.

Therefore, from the above brief analysis, we are led to conclude that whilst we recognize that development is occurring in many LDCs, the kind of development that is taking place is not necessarily desirable or beneficial to the interests of the vast majority of the populations in these countries, and thus reaffirming Sutcliffe's four elements of independent industrialization which we say that they are at the moment difficult (not impossible) to obtain in LDCs. This situation has, therefore, subjected many LDCs to dependent industrialization.

3.6 Summary and Conclusion

In this final section we attempt both to highlight some of the

lessons that can be learnt from the ISI experience in the LDCs and also to give a brief reappraisal of the alternative development strategies, and finally outline briefly some possible policy prescriptions which LDCs can adopt to solve some of the problems confronting them in their industrialization drive.

As pointed out at the beginning of this Chapter, the post-World War II has been characterized by massive economic development programmes in the majority of LDCs, based mainly on 'market-based' ISI strategy. On the one hand, arguments for industrialization have been based on theoretical economic, social and political considerations. On the other hand, the industrialization process has practically been the product of a combination of complex interrelated impulses such as the historical processes of economic development, growth of the domestic market, balance of payments constraint, deliberate national development policies, and the changing investment strategies of TNCs.

Indeed, the majority of LDCs have made substantial progress in the post-World War II era in the establishment of domestic manufacturing industries.

However, despite rapid growth rates, there has been widespread disillusion with the achievements of ISI in many LDCs. A notable experience of the ISI process has been an initial rapid growth of manufacturing output and, eventually, loss of momentum, thereby giving rise to stagnation of the economy especially after the exhaustion of the first and 'easy' stage of substitution. A number of explanations have been given for this stagnationist tendency of the ISI process: limited domestic market, the balance of payments constraint, and the inability of ISI to proceed from the consumer goods sector to the intermediate and capital goods sector.

The general theoretical interpretation of the impact of the
ISI process on the economic development of LDCs has been undertaken in
the context of two alternative critiques, the neo-classical approach and the
structuralist/Marxist approach.

On the one hand, the neo-classical writers argue that the
'inward-looking' ISI process has failed because of poor implementation
as inherent in excessive protectionist trade and commercial policies,
permitting or encouraging the overdevelopment of ISI without due regard
to the principle of comparative advantage, and thereby giving rise to
distorted and inefficient domestic factor and product markets. They
thus point to 'outward-looking', export-led industrialization strategy
as the alternative, but to be based on promotion rather than protection
of industries.

On the other hand, structuralist/Marxist writers argue that
'inward-looking' development strategies in general, and ISI in particular,
have failed because there is something apparently wrong in themselves.
They focus attention to differing degrees on the question of the ownership
and control of productive resources and social relations arising out of
differing ownership patterns. Dependency theorists, within the broad
school of thought, even argue that capitalist development in LDCs has
not led to independent industrialization but instead to dependent
industrialization whereby LDCs have become more or less permanently
dependent on advanced countries for capital, technology and expertise,
markets, etc. Of course, others within the school have vigorously
challenged this analysis arguing that prospects for successful capitalist
industrialization in many LDCs are quite good and that any obstacles
to such development are inherent in the internal contradictions of the
LDCs themselves not in their relationship with the imperialist countries.

However, on the policy prescriptions, this school of thought is agreed on a meaningful inward-looking policy involving rapid establishment of economic, social and political objectives consistent with the resources, aspirations and commitment to development of the LDCs themselves.

From the above exposition of the experience of ISI process in the majority of LDCs, especially in Latin America, we are able to make the following summary conclusions. First, in the majority of LDCs, industrialization cannot be divorced from, or pursued at the expense of, agricultural development, since the latter is a necessary condition for the creation of larger markets for both intermediate and final manufactured goods in the rural areas. (Streeten, 1973). Further, agro-industrialization spanning the two sectors and often with good export prospects needs to be given greater emphasis.

Secondly, without advocating an orthodox export-led industrialization strategy, any reformulated inward-looking strategy still requires the full exploitation of existing, and the energetic development of new, export opportunities.

Thirdly, since the majority of LDCs, especially in Africa, are small in terms of both population size and per capita income, prospects for development based solely on the home markets of these economies are inevitably limited and, therefore, there is a great need for a re-examination of the role and potential of regional economic integration.

Fourthly, as a corollary to the above, economic co-operation on a selective basis is required to ensure the rational and equitable establishment of heavy intermediate investment and capital goods industries as well as report and maintenance facilities and the need to train skilled labour in these areas, without which indigenous technological development is not possible.

Fifthly, there is an obvious need for a radical re-appraisal of the role of the TNCs in the industrialization process both in terms of the cost and the appropriateness of the products and production technologies that it provides. [70]

Sixthly, since government intervention has generally been erratic and inconsistent, there is need for a rational, planned allocation of resources in order to attain development goals as rapidly and efficiently as possible. This implies more emphasis on planning and plan implementation in future than before.

Finally, ISI will, of course, continue to be of vital importance in the reformulated strategy, though in association with further pro-cessing and manufacture of primary products within the LDCs and the promotion of a wider range of exports.

The implementation of the strategy of industrialization such as outlined above would naturally require, as a necessary precondition, (though not sufficient and not without controversy), radical social and political change within the LDCs themselves. However, our major emphasis here is on analysis rather than policy prescription.

NOTES AND REFERENCES

1. For detailed discussions on this subject see Colman, D. and Nixson, F. I., (1978), Economics of Change in Less Developed Countries, Philip Allan Publishers Limited, Oxford; Nixson, F. I. (1981), "State Intervention, Economic Planning and Import-substituting Industrialization: The Experience of the Less Developed Countries", Manchester Discussion Papers in Development Studies, No. 8202; Nixson, F. I. (1982), "Import Substituting Industrialization", in Fransman, M. (ed) (1982), Industry and Accumulation in Africa, Heinemann, London; Kirkpatrick, C. H. and Nixson, F. I. (eds) (1983), The Industrialization of Less Developed Countries, Manchester University Press, Manchester; and Kirkpatrick, C. H.,Lee, N., and Nixson, F. I. (1984), Industrial Structure and Policy in Less Developed Countries, George Allen and Unwin, London.

2. See World Bank, World Development Reports 1978-83, World Bank Publication, Washington D.C.; Warren, B. (1980), Imperialism: Pioneer of Capitalism, verso, New Left Books, London, p. 243; UN (1975), "Industrialization and Development: Progress and Problems in Developing Countries", Journal of Development Planning 8, pp. 1-60, UN, New York: Centre for Development Planning Projections and Policies; UNIDO (1979), World Industry Since 1960: Progress and Prospects, UN, New York; UNIDO (1981a), World Industry in 1980, UN, New York; and UNIDO (1981b), Structural Changes in Industry, UN, New York.

3. The Lima Target is discussed in Singer, H. W. (1979), "Policy Implications of the Lima Target", Industry and Development, No. 3, Special Issue for the Third General Conference of the United Nations Industrial Development Organization, UN, New York.

4. For instance, footwear (2.6 to 16.3%); clothing (4 to 16.3%); leather products (6.2 to 17.3%); and metal furniture (0.6 to 1.6%) (World Bank, 1982, op. cit. and World Bank, 1983, op. cit).

5. Some caution should be exercised in reading the data because most of the 1980 figures are based on geometric extrapolations of earlier estimates by ILO for 1960, though they do illustrate the point we are trying to make here.

6. Further evidence of the concentration in LDC manufactured production within a small number of LDCs is given by Kirkpatrick, et. al, 1984, op. cit., Table 2.4, p. 15. The ten LDCs with the largest manufacturing value added listed in the Table between them accounted for 72% of all LDC manufacturing value added in 1980.

7. For instance, while Africa accounted for 0.7% in 1960 and 0.8% in 1975 of world manufacturing value added, Latin America correspondingly accounted for 4.1 and 4.8%; West Asia and South and East Asia, respectively, had average annual growth rates of manufacturing value added of 9.2 and 7.5%. (UNIDO, 1979, op. cit., p. 38)

8. Todaro, M. (1981), Economic Development in the Third World, Longman, Second Edition, p. 430.

9. Turner, R. K. and Collis, C. (1977), The Economics of Planning, The MacMillan Press Limited, London, p. 13.

10. Todaro, M. P. (1971), Development Planning: Models and Methods, Oxford University Press, Nairobi, pp. 3 and 4.

11. See for instance Todaro (1971 and 1981) op.cit. & Killick, T. (1976), "The Possibilities of Development Planning", Oxford Economic Papers, Vol. 28, No. 2, July, pp. 161-184.

12. "It is an integral task of planning to achieve the best possible use of scarce resources for economic development. The need for using appropriate criteria for selecting projects arose because of the failure of the market mechanism to provide a proper guideline. In less developed economies, market prices of such factors of production as labour, capital and foreign exchange deviated substantially from their social opportunity costs and were not, therefore, a correct measure of the relative scarcity or abundance of the factor in question". (UN, (1965), Planning the External Sector: Techniques, Problems and Policies, New York, Sept., p. 12).

13. See also Helfgoth, R. and Schiavo-Campo, S., (1970), "An Introduction to Development Planning", UNIDO, Industrialization and Productivity Bulletin, No. 16, p. 11.

14. For instance, the socio-political slogans of Zambia ("Philosophy of Humanism"; "One Zambia, One Nation", etc.) Tanzania ("Ujamaa").

15. See for example Todaro (1981); Killick (1976); Waterson, A. (1965), Development Planning: Lessons of Experience, John Hopkins University Press, Baltimore; Healey, D. T. (1973), "Development Policy: New Thinking about an Interpretation", Journal of Economic Literature, Vol. 10, No. 3; Roemer, M. and Stern, J. J. (1981), Cases in Economic Development: Projects, Policies and Strategies, Butterworths, London.

16. See Waterson, (1965), op. cit., p. 367.

17. Alavi, H. (1972), "The State in Post Colonial Societies: Pakistan and Bangladesh", New Left Review, No. 74, July-August, pp. 59-81.

18. See Leys, C. (1976), "The 'Overdeveloped' Post Colonial States: A Re-evaluation", Review of African Political Economy, No. 5, January-April, pp. 39-48; Saul, J. S. (1974), "The State in Post-Colonial Societies: Tanzania" in Miliband, R. and Saville, J. (eds), The Socialist Register 1974, The Merlin Press, London, pp. 349-372; and Ziemann, W. and Lanzendorfer, M. (1977), "The State in Peripheral Societies" in Miliband and Saville, pp. 143-177.

19. See Leys, C. (1977), "Underdevelopment and Dependency: Critical Notes", Journal of Contemporary Asia, Vol. 7, No. 1, pp. 92-107; and Colman and Nixson, 1978, Ch. 8.

20. See Little, I., Scitovsky, T. and Scott, M. (1970), Industry and Trade in Some Developing Countries: A Comparative Study, Oxford University Press, London; and Keesing, D. B. (1967), 'Outward Looking Policies and Economic Development', The Economic Journal, June.

21. For instance, the average share of manufactured exports in total manufactured output for LDCs as a whole was 10% in 1973 and was no more than a third even in highly export-oriented economies; and the share of the East Asia region (mainly South Korea, Hong Kong and Taiwan) in total LDC manufactured exports has risen steadily from 42% in 1965 to 65% in 1976, mainly at the expense of South Asia (mainly Pakistan and India) whose share fell from 26 to 9%. See Keesing, D. (1979), World Trade and Output of Manufactures: Structural Trends and Developing Countries's Exports, World Bank Staff Working Paper No. 316, January.

22. For instance, using a large sample of low-income LDCs, Hughes found that exports of manufactures accounted on average for less than 10% of total exports. See Hughes, H. (1978) "Industrialization and Development: A Stocktaking", Industry and Development, 1, 2, pp. 1-27.

23. Morawetz, D. (1974), Employment Implications of Industrialization in Developing Countries: A Survey, The Economic Journal, September.

24. Helleiner, G. K. (1972), International Trade and Economic Development, Penguin Books, London, pp. 69-70, quoted in Todaro, 1981, pp. 373-374.

25. Stewart, F. (1973), "Trade and Technology", in Streeten, P. (ed) Trade Strategies for Development, MacMillan.

26. Maizels, A. (1963), Industrial Growth and World Trade, Cambridge University Press.

27. See Chenery, H. B. (1960), "Patterns of Industrial Growth", American Economic Review, Papers and Proceedings, September, pp. 624-654.

28. See, for instance, Morley, S.A. and Smith, S. W. (1971), "Import Substitution and Foreign Investment in Brazil", Oxford Economic Papers, Vol. 23, No. 1, March; Steur, M. D. and Voivodas, C. (1965), "Import Substitution and Chenery's Patterns of Industrial Growth - A Further Study", Economica Internazionale; Fane, G. (1973), " Consistent Measures of Import Substitution", Oxford Economic Papers, Vol. 25, No. 2, July; and Guillaumont, P. (1979) "More on Consistent Measures of Import Substitution", Oxford Economic Papers, Vol. 31, No. 2, July.

29. Sutcliffe, R. B. (1971), Industry and Underdevelopment, Addison-Wesley Publishing Company, London.

30. Sometimes the term 'import reproduction' has been used to indicate that the product is an exact replication of the goods previously imported. (See Stewart, F. (1976), "Kenya: Strategies for Development", in Damachi, et. al. (eds.), Development Paths in Africa and China, MacMillan, London.

31. Maitra, P. (1967), Import Substitution in East Africa, Oxford University Press, Nairobi; and Van Arkadie, B. (1964), "Import Substitution and Export Promotion as Aids to Industrialization in East Africa", East African Economic Review, Vol. 1, New Series.

32. See, for instance, Seidman, A. (1979), "The Distorted Growth of Import Substitution Industry: the Zambian Case", in Turok, B. (ed) (1979), Development in Zambia, Zed Press, pp. 100-127; Helleiner, G. K. (1972), International Trade and Economic Development, Penguin, Harmondsworth, Ch. 6; Stoutjesdijk, E. J. (1967), Uganda's Manufacturing Sector, East African Publishing House, Nairobi, Ch. 1; and Nixson, 1981, op. cit., pp. 42 and 43.

33. For detailed discussions on the experience of industrial planning in LDCs see Killick, T. (1976), "The Possibilities of Development Planning", Oxford Economic Papers, Vol. 28, No. 2, July, pp. 161-184; Killick, T. (1983), "Development Planning in Africa: Experiences, Weaknesses and Prescriptions", Development Policy Review, Vol. 1, No. 1, pp. 47-76; UNIDO (1979), Industrial Priorities in Developing Countries: The Selection Process in Brazil, India, Mexico, Republic of Korea and Turkey, UN, New York; and Kirkpatrick, Lee and Nixson, 1984, op. cit., pp. 200-205.

34. Raj, K. N. and Sen, A. K. (1961), "Alternative Patterns of Growth under Conditions of Stagnant Export Earnings", Oxford Economic Papers, 13, 1, February.

35. Hirschman, A. D. (1968), "The Political Economy of Import Substituting Industrialization in Latin America", Quarterly Journal of Economics, February.

36. See Kilby, P. (1969), Industrialization in an Open Economy: Nigeria 1945-1966, Cambridge University Press.

37. See Colman and Nixson, 1978, Table 4.2, p. 92; Bairoch, 1975, pp. 112 and 113; UN, IBRD and IDA (1975), Price Forecasts for Major Primary Commodities, Report No. 814; and Spraos (1980), "The Statistical Debate on the Net Barter Terms of Trade between Primary Commodities and Manufactures", Economic Journal.

38. See Pearson, D. S., 1969, Industrial Development in East Africa, Oxford University Press, Nairobi, No. 12, Ch. 3.

39. MacBean, A. L. (1966), Export Instability and Economic Development University of Glasgow Social and Economic Studies, New Series, No. 9; in Robertson D. S. (ed.), George Allen and Unwin Ltd., London.

40. Ady, P. (1969), "International Commodity Policy", in Stewart, I. G. (ed), Economic Development and Structural Change, Edinburgh University Press.

41. Schiavo-Campo S. and Singer, H. W. (1970), Perspectives of Economic Development, Houghton Mifflin.

42. Hirschman, A. O. (1958), The Strategy of Economic Development, Ch. 6.

43. Kuznets, S. (1966), Modern Economic Growth, New Haven, Table 2.2.

44. Viner, J. (1953), International Trade and Economic Development, Ch. III.

45. ECLA, (1964), "The Growth and Decline of Import Substitution in Brazil", Economic Bulletin for Latin America, Vol. IX, March, pp. 1-59.

46. See Nixson, 1981, pp. 10-12; Sutcliffe, 1971, p. 269; and Felix, D. (1964), "Monetarists, Structuralists and Import Substituting Industrialization: A Critical Appraisal" in Baer, W.A. & Kerstenetzky, I. (eds). Inflation and Growth in Latin America, Richard D. Irwin, Inc., Illinois.

47. See Langdon, S. (1975), "Multinational Corporations, Taste Transfer and Underdevelopment: A Case Study from Kenya", Review of African Political Economy, No. 2, January-April, pp. 12-35.

48. Baer, W. (1972), "Import Substitution and Industrialization in Latin America: Experiences and Interpretations", Latin American Research Review, Spring, p. 106.

49. Leff, N. H. and Netto, A. D. (1966), "Import Substitution, Foreign Investment and International Disequilibrium in Brazil", Journal of Development Studies, April.

50. Doherty, N. (1970), "Import Substitution and the Balance of Payments", Eastern African Economic Review, Vol. 2, No. 2, December.

51. For instance, citing the results of the ILO 1970 Study on Columbia, Colman and Nixson have pointed out that basic industrial consumer goods (clothing, furniture, footwear, etc.) have an import content of less than 5% while others (electrical consumer durables) have an import content of about 30% (Colman and Nixson, 1978, p. 197).

52. Empirical evidence has it that such investments can either be pre-mature or over extended, primarily in consumer goods IS industries and that, generally, such investment based on ISI potential can too often ignore comparative advantage implications. See Soligo, R. and Stern, J. J. (1965), "Tariff Protection, Import Substitution and Investment Efficiency", Pakistan Development Review, Vol. 5, Summer.

53. Felix, D. (1968), "The Dilema of Import Substitution - Argentina", in Papanek, G. F. (ed), Development Policy - Theory and Practice, Harvard.

54. Baer, W. and Maneschi, A. (1971), "Import Substitution, Stagnation and Structural Change: An Interpretation of the Brazilian Case", The Journal of Development Areas, January, pp. 177-192.

55. Merhav, G. (1973), Technological Dependence, Monopoly and Growth, Pergamon Press.

56. Arrighi, G. (1973), "International Corporations, Labour Aristocracies and Economic Development in Tropical Africa", in Arrighi and Saul, J. S. (eds), Essays on the Political Economy of Africa, Monthly Review Press, New York.

57. For a discussion of the relationship between ISI and inflation see Kirkpatrick, C. H. and Nixson, F. I. (1976) "The Origins of Inflation in Less Developed Countries: A Selective Review", in Parkin, M. and Zis, G. (eds), Inflation in Open Economies, Manchester University Press.

58. ILO (1972), Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya, Geneva.

59. See papers by Leys and Kaplinsky in ILO Report, 1972, op. cit.

60. Little, et. al. (1970) op. cit., Little, I. and Mirrlees, J. A., (1974), Project Appraisal and Planning for Developing Countries, Heineman, London; Lall, S. (1976) "Conflicts of Concepts: Welfare Economics and Developing Countries", World Development, Vol. 3, No. 3, March, pp. 181 to 195; and Stewart, F. (1976b), "Capital Goods in Developing Countries", in Cairncross, A. and Puri, M. (eds), Employment, Income Distribution and Development Strategy: Problems of the Developing Countries, MacMillan Press Limited, London.

61. Diaz-Alejandro, C. F., Essays on the Economic History of the Argentine Republic, Yale University Press, Ch. 7.

62. Khan, A. R. (1963), "Import Substitution, Export Expansion and Consumption Liberalization: A Preliminary Report", Pakistan Development Review, Vol. 3.

63. Harris, J. R. and Todaro, M. P. (1970), "Migration, Unemployment and Development: A Two Sector Analysis", American Economic Review, Papers and Proceedings, Vol. 60, No. 1, March.

64. See Morawetz, 1974, op. cit.

65. Winston, G. C., (1971), "Capital Utilization in Economic Development", The Economic Journal, Vol. 81, March, pp. 36-60.

- 144 -

66. Sutcliffe, R. B. (1973), Introduction to Penguin Edition of Baran, P. A., The Political Economy of Growth, Penguin.

67. Sutcliffe, 1973, op. cit.; Arrighi and Saul, 1973, op. cit.; Sutcliffe, R. B. (1972), "Imperialism and Industrialism in the Third World", in Owen, R. and Sutcliffe, R. B. (eds), Studies in the Theory of Imperialism, Longman, London; and Leys, C. (1975), Underdevelopment in Kenya: The Political Economy of Neo-Colonialism, 1964-1971, Heineman, London.

68. Sutcliffe, (1972), op. cit., pp. 174-176.

69. Warren, B. (1973), "Imperialism and Capitalist Industrialization, New Left Review, No. 81, September-October.

70. Langdon, 1975, op. cit.

CHAPTER IV

ZAMBIAN ECONOMIC STRATEGY AND STATE INTERVENTION IN
INDUSTRIAL DEVELOPMENT SINCE INDEPENDENCE

The main object of this Chapter is to relate the general theo-
retical considerations discussed in the preceding one to the Zambian
industrialization experience since Independence. Thus, we shall look
first, at the role the Zambian Government itself envisaged for the rapid
promotion of industry, secondly, the main theoretical arguments for
the Zambian Government's promotion of industry, and, finally, some of
the major techniques or tactics of the Zambian Government's intervention
in the promotion of industry.

4.1 The Objectives of the Zambian Industrialization Policy

The role of industrialization in the Zambian economy became clear
in October, 1964, when the new government issued the nearest thing to
a coherent statement in a White Paper, "Outline of the Government's
Industrial Policy" (OGIP), which was revised and re-issued in January,
1966, and continued, as late as 1969, to be quoted in the Ministry of
Trade, Industry and Mines as the official statement of government policy.[1]
Though mainly concerned with policy instruments, the OGIP's opening
paragraphs give us some indication of the aims and objectives of the
industrialization policy that the government wished the manufacturing
industry to pursue:

> "The basic principle of government policy is
> to support selected industries which can make
> a net contribution to the development and
> diversification of the economy. It will en-
> courage, where practicable, industries that
> will contribute towards making the country

> self-supporting in consumer goods which are
> in more general demand, thereby reducing
> imports and saving foreign exchange.
> Special emphasis will be placed on those
> industries which are labour-intensive: a
> corner-stone of the government's policy is
> to support those ventures which contribute
> significantly to the reduction of unemployment
> and to the development of the skills of the people....
> Government will encourage especially those
> industries which have a potential likely to lead
> to the establishment of other related industries,
> and will be prepared to consider special assist-
> ance where the product not only will meet the
> requirements of the local market but also provide
> a surplus for export at competitive prices.
> It is government policy actively to encourage,
> where practicable, the setting up of industries
> outside the main centres, so that the benefits
> of development may spread throughout the country."
> (OGIP, 1966, p. 1)

It is quite apparent from the above exposition that, in

formulating the aims and objectives of the industrialization policy,

the Zambian authorities were almost entirely following the general

theoretical arguments for rapid promotion of industry in the majority

of less developed countries (LDCs) discussed in the preceding Chapter.

They were motivated not only by economic considerations but also by

socio-political considerations, although all these considerations are

not mutually exclusive. For instance, the only purely economic objective

was the saving of foreign exchange through import substitution and export

promotion, since this was strictly directed towards optimum allocation

of a scarce resource: foreign exchange. The interindustry effects

objective also falls under this category. Otherwise all the other

objectives are intermingled. For instance, while the self-sufficiency

goal seems merely economic in the sense of saving foreign exchange, it

also seemed to have a political connotation in the sense that it affected

national security, for it was not only to be in consumer goods but in

intermediate goods as well.[2] Further, the labour-intensive industries objective had, on the one hand, an economic rationale in the sense of making use of a plentiful resource (unskilled labour), while at the same time transforming this resource by improving its quality through "training effects" into one (skilled labour) that is in scarcer supply. On the other hand, it had a social justification in the sense that such an objective was conditioned by the need to achieve a relatively equal distribution of income in the country. Similarly, the objective of rural diversification could economically be justified in the sense of bringing unused resources (land and labour) into the development process, while at the same time achieving a social objective of spreading the benefits of economic development equitably. Finally, and probably the most important single argument, was the realization of the vulnerability of the Zambian economy's heavy reliance on the copper mining industry, and thus the need for economic diversification.[3] Of course, the realization of the possible consequences of dependence was not new at Independence,[4] although its solution was inhibited by the faith in the powers of the free market system to achieve society's economic goals. We shall return to this issue in the next section.

Since the publication of the OGIP, the aims and objectives of the industrialization policy have been stated time and again by both the Party,[5] and the government in several documents.[6] A number of common themes have kept on appearing constantly and with strong emphasis throughout the documents. For instance, according to the Party's "National Policies for the Next Decade 1974-84", industrialization policy was to give great emphasis on the encouragement of industries which were import-substituting, employment generating, export promoting, and which utilized local raw materials as well as processing local produce. (UNIP,

1973, p. 26). The role of the government lay in the provision of a favourable climate to attract manufacturers to invest in Zambia as well as to encourage the establishment of industries in the depressed areas. These were basically also the objectives of the three national development plans cited above, although the SNDP further included the objectives of promoting the development of capital and intermediate goods industries and the need to ensure fuller utilization of existing productive capacities, [7] while the TNDP concentrated mainly on the objectives of self-reliance and socialism within the national philosophy of 'Humanism'. (1967, Part I; and 1974, Part II)[8]

4.2 The Rationale for Government Promotion of Industrialization

4.21 The Vulnerability of the Zambian Economy

It will be recalled from Chapter II that, at the time of Independence, Zambia stood as a typical example of a dualistic economy. One of the major economic disequilibria was between the mining sector and the other sectors of the economy. The extent of Zambia's dependence upon the mining industry, particularly copper, is shown in Table 4.1. Apart from the picture painted in this Table, with 13.7% of the world copper production, Zambia was the third largest producer, after the U.S.A. and U.S.S.R., in order of importance.[9] The vulnerability of the Zambian economy consequent upon this high dependence is explained below.

4.211 Copper Export Instability

Copper is generally considered as one of the more unstable primary products in the world.[10] Table 4.2 shows the history of the copper price in the Federal period.[11] It should be noted, however, that since this Table gives only yearly averages it conceals the violence of some of the short-term fluctuations in the market.

TABLE 4.1

CONTRIBUTION OF THE MINING INDUSTRY TO GDP, REVENUE, EXPORTS,

AND EMPLOYMENT IN ZAMBIA, 1964

Total GDP at Factor Cost (K, million)	464.9
Contribution: (a) K, million	220.8
(b) Per cent of Total	47.5
Total Government Revenue (K, million)	108.0
Contribution: (a) K, million	57.0
(b) Per cent of Total	52.8
Total Domestic Exports (K, million)	326.9
Contribution: (a) K, million	315.1
(b) Per cent of Total	96.4
Total Paid Employment (thousands)	268.7
Contribution: (a) Thousands	50.8
(b) Per cent of Total	18.9

SOURCES: 1. ILO (1981), Basic Needs in an Economy Under Pressure,
Findings and Recommendations of an ILO/JASPA Basic
Needs Mission to Zambia, Addis Ababa, Table A 16.6,
p. 201.

2. FNDP, 1966, Table 1, p. 73.

3. Republic of Zambia, Central Statistical Office (1967)
Monthly Digest of Statistics, Government Printer, Lusaka,
Volume V, No. 5, May.

TABLE 4.2

YEARLY AVERAGE CASH PRICE PER LONG TONNE OF COPPER.

1952-1963

Year	Price (UK£)	Year	Price (UK£)
1952	259	1958	198
1953	256	1959	238
1954	249	1960	246
1955	352	1961	230
1956	329	1962	234
1957	219	1963	234

SOURCE: Copperbelt of Zambia Mining Yearbook, 1964, Kitwe, p. 63.

The main explanations for fluctuations in the market for
this product are wars, industrial disputes in the major producing and
export countries, and economic recession in the traditional consuming
industrial nations.[12] For instance, the very high prices up to 1955
were largely due to the Korean war boom, while thereafter there was a
sharp slump up to 1958. Furthermore, for reasons fully discussed in
Chapter VI, during the mid 1970s the price of copper fell because of
the fall in demand in the traditional consuming countries as a result
of economic recession.

However, while there has been ample evidence of price instab-
ility of copper, this fact alone may not necessarily mean that Zambia
was worse off during the period before and after Independence, as a
result of its reliance on this product. For reasons considered in the
preceding Chapter, even quite substantial fluctuations in export prices
and revenues may often have insignificant effects upon national incomes.[13]
However, such observations should be treated with some caution because
of criticisms that have already been identified. For instance, Maizels
criticized MacBean's procedure on account that, first, comparisons that
took account of the direction of change alone were inadequate because
not all changes were of equal magnitude; and secondly, his analysis of
'sharp declines' in export earnings were based on periods that were too
short to provide meaningful support.[14]

The above conclusions seem to be supported by our own findings
in Table 4.3 covering the period 1964-81. Using MacBean's techniques
for the Zambian economy during this period we found that, only in five
cases out of seventeen years was the direction of change of export
earnings of copper different from that of national income, using trend-

TABLE 4.3

COPPER EXPORT EARNINGS, NATIONAL INCOME, AND GROSS FIXED CAPITAL

FORMATION IN ZAMBIA, 1964-81 (K million)

Year	X	Y	I	x	y	i
1964	296.8	404.6	76.2	-	-	-
1965	343.2	565.8	120.4	16.9	42.0	9.0
1966	460.6	683.7	175.8	87.9	-1.4	20.2
1967	434.0	790.7	225.3	-56.1	-12.1	14.3
1968	516.1	877.5	264.7	52.6	-32.7	4.2
1969	724.5	1116.3	253.6	178.9	119.5	-46.3
1970	681.4	1012.2	312.1	-72.5	-223.3	23.3
1971	450.2	974.1	393.4	-260.7	-187.4	46.1
1972	490.9	1069.1	445.0	11.2	-24.3	16.4
1973	698.3	1293.5	413.0	177.9	105.1	-67.2
1974	838.5	1587.1	502.0	110.7	174.7	53.8
1975	472.0	1268.8	602.0	-396.0	-437.6	64.8
1976	688.6	1498.4	445.0	187.1	110.3	-192.2
1977	644.9	1558.4	483.0	-73.2	-59.3	2.8
1978	597.7	1766.4	437.0	-76.7	88.7	-81.2
1979	897.2	2101.0	450.0	270.0	215.3	-22.2
1980	872.4	2432.7	646.0	-54.3	212.4	160.8
1981	835.6	2433.0	660.0	-66.3	-119.0	-21.2

SOURCES: Republic of Zambia, Central Statistic Office, Monthly Digest
of Statistics 1972, 1978, and 1983, Government Printer, Lusaka.

N.B. Y, X, and I give, respectively, gross national income at current
market prices; net copper domestic exports (free on rail); and
gross fixed capital formation. y, x, and i give changes in these
variables over the previous year, adjusted for trend by subtracting
the average annual increase in the variable from the actual change
recorded in each year. (See MacBean, 1966, p. 102, note a).

corrected figures. However, the relationship between changes in invest-
ment and changes in copper export earnings was very weak, since in ten
years out of seventeen the direction of change of export earnings of
copper was different from that of investment. When the adjusted increases
in national income were regressed on the corresponding values for copper
export earnings, the following relationship was obtained:

$$y = -3.534 + 0.828x \qquad R^2 = 0.636$$
$$ (-1.14) \; (5.379) \qquad DW = 2.38$$

The above results indicate that nearly two-thirds the variation in income
could in fact be attributed to variations in export proceeds of copper.
However, when the adjusted increases in investment were regressed on the
corresponding values for copper export earnings, there was a negative
relationship, thus:

$$i = 21.873 + -0.544x \qquad R^2 = -0.490$$
$$ (1.25) \quad (-0.50) \qquad DW = 2.12$$

The implications of such copper export instability for the Zambian economy
are considered in more detail in Chapter VI.

However, in spite of the above controversies we wish to point
out that the major bottleneck of export instability may not necessarily
be so much on its direct and immediate repercussions on the domestic
income and investment, but rather upon the demand for the product, as
discussed below.

Long periods of high copper prices might encourage manufacturers
in the consuming countries to seek alternative inputs. For copper;
aluminium, plastics and stainless steel may provide the major substitutes.
However, it should be noted that a switch from copper may not be an easy
job since it would require alterations in design specifications and in
manufacturing processes which could be quite costly, especially if the

substitution involved scrapping existing equipment. Thus, the length of time for which a high average price is maintained and the strength of the belief that a new average level has now been attained are obviously significant factors that could influence a substitution decision, as might have happened in the mid-sixties when the price of copper remained at a level that was unprecedentedly high.[15] The other factors that could stimulate substitution are violence and un-predictability of price movements, and sudden shortages and interruptions to normal sources. For instance, the Zambian copper companies have had serious interruptions in production and supplies ever since the Unilateral Declaration of Independence   and the severity of the American strike took the market by surprise in 1967.

Apart from the substitution factors mentioned above, certain long term factors may affect the demand for copper in the traditional markets. For instance, in the past copper has been particularly required for infrastructural works like electrical transmission and construction mostly in the industrial nations. However, due to economic recession in these countries, any replacement demand could easily be partly satisfied from scrap.[17] Further, the demand could also be affected by the constant search for innovations in the fabricating processes that will reduce the raw material input requirements. This stimulus to innovate will always be there whether or not the price of copper is exceptionally high, although it will be greater during periods of high copper prices. However, it should be pointed out that not all innovations are 'copper saving' since, for instance, the widespread installation of small-bore central heating systems in the construction industry and the water desalinization plants have always had the opposite effects. Thus,

because of its versatility, copper will always find new uses due to technological advance, and likewise it is likely to retain a highly important role on world commodity markets for the foreseeable future. (Young, 1973, p. 80).

4.22 The Price Mechanism Failure in the Zambian Economy

The vulnerability of the Zambian economy discussed above alone would not have necessarily justified government intervention in the pattern of resource mobilization and allocation had there not been serious distortions in the market mechanism.[18] However, from the neo-classical arguments raised in the previous Chapter and the Zambian experience during colonialism presented in Chapter II, government intervention seems to have been justified.

4.221 Imperfections in the Capital Market

During colonialism the government policy toward industry was the laissez faire economic approach, whereby the development of manufacturing industries was left almost entirely in the hands of private investors, mainly foreign, and there was no attempt made to provide 'artificial' encouragement to the private investors to set up manufacturing enterprises in Zambia. As it will be recalled from the previous Chapter, decisions of private investors are not necessarily optimal, since they often ignore socially acceptable investment opportunities. First, the private rate of time preference normally exceeds the social rate. Secondly, the future prospects of a given investment are normally uncertain. Finally, the return to private investors may appear less assured than that of society as a whole, especially where the bulk of private investment is foreign dominated.

In the case of Zambia, one good example of the above distortion
is the inadequacy   of the private capital market during colonialism
to develop 'the skills of the people', as shown in the almost total non-
existence of Zambian entrepreneurs who might have taken advantage of the
opportunities for manufacturing expansion after Independence. The
institutions of private capital market were interested mainly in
facilitating production rather than educating, as reflected in their
total commitment to providing financial resources for people who could
offer commercial security and some evidence of business competence, but
not providing training for inexperienced Zambians who could offer neither.
Thus, in the absence of government intervention the learning process in
the field of entrepreneurship would have been closed to all except the
very lucky few in a position to finance themselves. However, we shall
look at the supply of capital in more detail in the next Chapter.

4.222 Imperfections in the Foreign Exchange Market

Government intervention to create new import competing or export
industries so as to conserve a limited supply of foreign exchange seems
justifiable in the sense that the price of foreign exchange to private
entrepreneurs did not reflect its equilibrium value, largely due to
Zambia's endeavour to adhere to a system of fixed exchange rates, like
most LDCs. However, this system broke down first in 1971 when the
Kwacha became pegged to the US dollar rather than the sterling as before,
thus implying a devaluation in relation to the latter by about 7% of the
original sterling value.[19] In July, 1976, the Kwacha was devalued
by 20% against the US dollar and was delinked from it and became pegged
to the Special Drawing Right (SDR)[20]. It was again devalued in March,
1978, by 10%, and finally by 20% in January, 1983, against the SDR.[21]

Given the slump in the copper market as a result of oil crisis and recession in the industrial nations, and the consequent drain on the foreign reserves in Zambia during the 1970s and early 1980s, the above devaluations, doubtless, were trying to move the price of foreign exchange in the right direction. For a country like Zambia with a negligible non-mineral export sector, such devaluations tend "to increase the domestic currency profitability of its export industry, thus diverting resources to the export sector and to reduce the propensity to import."[22] This subject of inflexibility of exchange rates is further discussed in Chapter VI.

In general, however, it is doubtful if a policy of complete exchange flexibility would have been feasible in a highly dependent economy like Zambia's.[23] For instance, in encouraging the production of exports or import substitutes, a devaluation will generally have a direct impact on prices and income distribution.[24] The fall in export prices and the rise in import prices will, respectively, raise the foreign demand for exports and the domestic demand for import substitutes, thus initially likely to increase the profits of the entrepreneurs, while reducing the real incomes of wage and salary earners due to the rise in import prices. These cost increases consequent upon a substantial devaluation and the strength of trade union pressures in response to these increases would be likely to cause social and political unrest and sharp inflationary pressures in the country. (Young, 1973, p. 84).

It is argued, further that, even if the market price of foreign exchange fully reflected its scarcity to the economy at all points of time, it would be unlikely that private decision-makers would adequately take this scarcity into consideration because of their short time-horizons, which would imply that they would be concerned only with the current relative prices of tradable and non-tradable goods and not of their future scarcities. Under these circumstances, the government would be

justified for its "import substituting and export promoting industries"
objectives. However, even so it would still be difficult to determine,
practically, which industries would generally save foreign exchange in
the long run.

4.223 Imperfections in the Labour Market

According to the neo-classical schools of thought, one of the
major causes of distortion in the labour market is the possible divergence
between the wage of the marginal unskilled worker in manufacturing
industry and the social opportunity cost of employing him there; if the
former exceeds the latter, employment in manufacturing will be less than
optimal. One explanation for such an allocative distortion is the payment
of an industrial wage equal to the 'constant institutional wage' paid in
agriculture, and since the latter is based on the average product of
labour, it will exceed the marginal product in agriculture.[25]

The other explanation is the payment of a wage in industry
substantially greater than the cost of transfer from agriculture, that
is, greater even than the institutional wage.

The above distortions in the labour market could all arise either
'autonomously", through the free market imperfections, or through
'policy induced' actions by the government itself, whereby it may
formulate minimum wage legislation for the benefit of employees in the
urban sector, thus discriminating against the rural sector and promoting
distortions of the second kind.

The Zambian experience seems to fit well with the above theoretical
exposition of labour market distortions, with some variations. A major
cause of allocative distortion was of the second kind, that is, the
payment of a wage in industry in excess of the opportunity cost of

unskilled labour. For instance, Young has noted that:

> "Between 1954 and 1964 the average annual
> earnings of all African employees in the
> money sector rose by about 145%, from £78
> to £191; the increase in manufacturing alone
> was as high as 267%, from £76 to £203. The
> number of Africans in paid employment fell
> over this period from 240,400 to 237,000".
> (Young, 1973, p. 84)

Although data on unemployment and rural urban migration during these

years of rising wages and stagnant demand for labour are unfortunately

very inadequate, Young estimates that in 1963 more than one in seven

males of working age in urban areas was unemployed, and 4% of the total

male population in African rural areas was unemployed, representing,

however, about 59% of the total in this employment category. This

group could perhaps be regarded as a rural 'reserve army' which could

reinvade the urban areas once the prospects for employment significantly

improved.

Although there are no quantitative estimates, so far, of the

marginal product of the subsistence production, many studies have

suggested that the marginal product of labour in the rural areas of

Zambia is positive, although it varied from area to area.[26] This,

therefore, implies that the unsuccessful job seekers in the urban areas

could easily become productively occupied if they were prepared to

return to the subsistence sector, since land, though of poor quality

in some areas, was plentiful and, in consequence, the main constraint

on output was the amount of labour available for clearing, planting and

cultivating the land. The absence of males from the subsistence

economy, thus, led to a significant fall in production, though it has

not been possible to estimate the resulting internal terms of trade

against industry.

In conclusion, from the point of view of the static theory of resource allocation, the existence of a large number of unemployed workers in urban areas who are prepared to offer their services at the current wage implies the failure of the market price of labour to reflect its opportunity cost, in the sense that the employment of an idle worker would not directly reduce current output, although it would add to the costs of the employer. At first sight, the government policy of creating industries in urban areas to absorb the unemployed rural urban migrants seems to be justified in view of the above outline. However, in dynamic terms, such a policy would exacerbate the rural-urban exodus at the expense of subsistence output and innovation in the rural areas. Thus, the objective of "combined increase in economic activity of both the rural and the urban sector which will contribute to providing balanced growth of employment" seems to be justified in the above regard.

4.224 Interindustry Effects

The government policy of encouraging "those industries which have a potential likely to lead to the establishment of other related industries" could be justified either in terms of Fleming's "balanced growth" model (vertical relationships between industries)[27] or Hirschman's "linkages" model (horizontal relationship between industries)[28]

Fleming's model seems to be the one relevant to Zambia, and that which Zambia had in mind in formulating the above objective. By Independence, Zambia already had a large and rapidly growing market for consumer goods, mostly satisfied by imports, as we saw in Chapter II. Thus, there was not much need for developing industries which would provide for complementarity in final demand, as would be the case under Hirschman's model. Rather the problem was to progress upwards, through

intermediate, to investment and related goods industries as the more obvious but ultimately limited avenues for import substitution in the consumer goods industries were exhausted.

However, both models of achieving diversification are not mutually exclusive, but rather complementary, especially in the case of Zambia. For instance, while it could have been relatively easy at Independence to devise and implement programmes of industrial complexes that would realise interindustry economies of scale and lay the foundation for a modern industrial sector, it should be noted that not all modern industry is made of large scale projects. A lot of smaller firms were to be expected to mushroom as a consequence of the larger ones. However, given the acute shortage of skilled manpower at the time, as outlined in Chapter II, it would clearly have been virtually impracticable to provide a detailed central supervision for all the smaller 'satellite' firms that could be called in as a consequence of the larger complexes. Thus, the consideration of pursuing "an integrated approach towards industrialization by establishing industries which are closely linked with each other" in the TNDP seems to have been justified in view of the above.

In Zambia, the selection of manufacturing projects with backward linkage effects to the agricultural sector would be justified, first, because the greater proportion of the population were in the agricultural sector and, thus, there was great scope for entrepreneurs there; and secondly, because subsistence agriculture was one area where innovation may not take place unless a ready market was assured for the sale of surplus produce. Thus the objective of rural diversification based on processing of agricultural products was justified. Due to reasons advanced earlier it is doubtful whether private investors would

have been willing to undertake such programmes.

4.23 Social and Political Arguments

This section considers the role of the objectives of national security and equity in the distribution of income in the shaping of government's industrialization policy in Zambia.

4.231 National Security and Economic Independence

When Zambia and Malawi gained their Independence in 1964, it will be recalled from Chapter I that, Zimbabwe's sovereignty remained formally vested in the hands of Britain. However, the minority European settlers were determined to retain this power, but Britain was very reluctant to grant Independence to Zimbabwe before majority rule was obtained. It is, therefore, during this time that hostile relations between Zambia and Zimbabwe started building up, largely because of President Kaunda's open opposition and condemnation of racist regimes of the south. However, partly because of certain common strategic services, including trade, that still existed between the two countries, a substantial measure of co-operation was initially inevitable. [29]

The decisive break with Zimbabwe, however, came in November, 1965, following the Zimbabwean settlers' UDI from Britain. As a consequence of Zambia's decision to co-operate in the international economic sanctions programme against Zimbabwe for the above action, the policy of economic disengagement from the south became a matter of considerable urgency. However, this objective was to be achieved over a long, expensive and painful operation because of Zambia's deep dependence upon Zimbabwe for supplies and trade routes to the sea, as it will be recalled from Chapter II. It involved restructuring Zambia's trading relationships as well as trade routes. These problems were exacerbated later by the Zambian border closure with Zimbabwe in 1973, an action

which required an even greater structural exercise. The effects on the development of the country's economy in general, and the manufacturing sector in particular, will be discussed in the subsequent Chapters.

The relations with the south were further worsened by Zambia's support of African revolutionary movements seeking Independence also in the Portuguese colonies of Mozambique and Angola, and in the South African administered Namibia. However, because of Zambia's extreme vulnerability to military and economic reprisals, open support was limited to allowing the banned political organizations to set up their headquarters in Lusaka, and to serving as a base for active guerilla operations. Even so, this action led to increasingly serious incursions and attacks, for instance, by Zimbabwe on Zambia during 1978 and 1979, including bombing raids on the transportation network, possibly in an attempt to increase reliance on the southern route itself.[30] These are some of the most tangible results of the conflict with Zimbabwe, and by the time the UN lifted the sanctions, it is estimated that the conflict may have cost Zambia about one billion US dollars, spent on restructuring the economy.[31]

In view of the foregoing, it is quite easy to understand Zambia's urgency for a greater measure of economic self-reliance, without which the security of its political Independence was seriously threatened.

4.232 Income Distribution

One of the objectives of the government's industrialization policy was reflected in the notion of egalitarianism based on President Kaunda's philosophy of 'humanism' - the concept of the traditional village economy as a 'mutual aid' society, similar to President Nyerere

of Tanzania's Ujamaa or 'family-hood' socialism, and like it humanism emphasizes the distributional aspect of economic development among the entire population. (Kaunda, 1967; and Kaunda, 1974). President Kaunda's ambition was to see the values of such a society carried over into modernising the Zambian economy.

However, the above objective required the support of all the politicians and administrators in the country who belonged to different social classes within Zambia's 73 tribal groupings. Within this social structure one finds the urban workers (who formed one highly important organized group); the powerful trade union movement (which was especially important because of the economy's dependence on industrial rather than agricultural activities); and the rural population (which was relatively powerless in the sense that it was not organized as a pressure group). However, the interests of the latter group could not be ignored because of the need to foster a common sense of national identity, contrary to the 'divide and rule' of the colonial administration. (Young, 1973, p. 91).

Therefore, the most relevant objectives of the government's industrialization policy towards income distribution goal were employment generation and rural diversification. The careful choice of projects with relatively high labour requirements has the effect of distributing income more widely amongst the present generation, since it will encourage consumption today as compared with consumption tomorrow, the reverse of the trade unions pressure. The trade unions' high wage demands tend to encourage industrialists to adopt the use of more capital intensive than labour intensive techniques of production, thereby aggravating not only the rural urban imbalances but also creating further unemployment in the country. (32)

4.3 The Techniques of Government Intervention in Industry

Since Independence the role of the government in the

industrialization process in Zambia has become increasingly remarkable. The main object of this section is to examine the major policy instruments or tactics chosen by the government in order to achieve its industrial objectives, within the realm of ISI strategy which it had adopted. Briefly, however, we shall first look at the theory of optimal intervention in LDCs in general.

4.31 State Intervention and Economic Theory

According to the neo-classical arguments state intervention in the industrialization process in LDCs arises from the observed distortions in the price mechanism.[33] The principle for 'first-best' intervention is that, policy should be geared at correcting the distortions in the market in which they take place. For instance, a tariff may be justified if there is monopoly power in the foreign trade sector, so that if there is a divergence between domestic and foreign rates of transformation a tariff can be used to equalize them. Further, if there are distortions in the commodity market due to production externalities in industry a tax on primary production and a subsidy on industry would be necessary. The imposition of a tariff, though less than ideal solution, would be better in this case than laissez-faire. Similarly, if there are distortions in the factor market the ideal policy would be a subsidy on the overpriced factor or a tax on the underpriced factor; the next best solution would be commodity taxes or subsidies, followed by tariffs on export subsidies.

Such a generalization of the theory of intervention is, of course, impressive. However, in reality, in many LDCs it has many shortfalls, arising from the multiplicity of both government policy objectives and distortions, most of which are irremovable. For instance, the tax system may have been designed not merely to achieve optimal

resource allocation, but also to conform to bottlenecks brought about by administrative convenience, social equity, and the realities of political power. Furthermore, a tariff may have been used not only to promote industrial development, but also both to collect government revenue and to redistribute income, as would seem to be the case with tariffs on luxury manufactured goods.

In a situation where some distortions are irremovable the best policy would not necessarily be to try to remove those which are not, since such a situation would exacerbate the divergence from the 'second-best optimum'.[34] Most LDCs are faced with such a situation, whereby theoretically it might be possible to work out the correct second-best policies that would take care of all distortions. However, practically, such an exercise may not be feasible because of the inadequacy of skilled manpower available to carry out the necessary computations and implementation. Therefore, in such a situation of uncertainty crude but simple 'rules of thumb' may be used to guide decision-making.[35] For instance, rules of thumb may recommend that intervention should be used to correct distortions in the sector in which they arise. This would be justified in the sense that in an LDC the absence or weakness of interindustry dependence may limit the relevance of the second-best problem.[36] However, like all rules of thumb, this one would have to be used with caution, since there may be times where the theory of resource allocation in an open economy yields no obvious guidelines for policy, as in the case of Zambia.

4.32 The Commercial Policy

Before 1966, Zambia was using the Federal four column tariff system mentioned in Chapter II, with preferential treatment accorded to the U.K. and dependencies and ex-dependencies under Column D and to

the older Commonwealth countries under Column C. GATT countries were charged under Column B and the 'least favoured nation' treatment under Column A. However, a new single column tariff system was introduced in 1966 to replace the one inherited from Federation.[37]

4.321 Protection

Protection has been granted to local industries in Zambia through both tariffs and import duties since Independence. As outlined in Chapter II, first before Federation, a major constraint on the development of local industries in Zambia was the free access of manufactured goods into the Zambian market from both South Africa and Zimbabwe as provided for under the separate customs agreements of the 1930s between Zambia and these two countries, whose industries were relatively much more developed than Zambia's. During the Federation, though offering limited amount of protection against South African goods, the Federal Customs Union had the same effect on the development of local industries in Zambia since it ensured free access of Zimbabwean goods into the Zambian market. The Zimbabwean goods continued to be admitted free of duty until March, 1965, when Zimbabwe, as a 'colony' of the U.K., was accorded preferences under Column D of the old tariff; though less favourable to Zimbabwe than the previous one, the rates of duty were still low, (with some exceptions).[38] After UDI in Zimbabwe, all preferential treatment to Zimbabwe was withdrawn, in early 1966, and the latter was placed under Column A of the 'least favoured' nations. A single column tariff was introduced, whereby all imports attracted the same rate of duty, irrespective of the country of origin, though both Zimbabwean and South African goods remained subject to strict import controls. This step was largely aimed at diversifying Zambia's foreign sources of supply as a result of the elimination of discriminatory

preferences; while the policy on both Zimbabwean and South African goods was purely dictated by the government's policy of economic disengagement from the South. Capital goods, materials and other essential items were, however, allowed free, regardless of the country of origin, with the exception of Zimbabwe.

The government policy was, however, to protect any new or developing industry only "to the extent necessary to enable the industry to capture a fair share of the local market". (OGIP, 1966, p. 2). In certain cases where economic efficiency would make it desirable for the local industry to supply the whole market, 'shut-out' protection was granted for a limited period provided certain rules were satisfied.[39] In fact, judging from official statements, this attitude towards protection would hardly seem to be much different from that of the colonial and federal governments; for instance, according to the 1967 Ministerial Report:

> "A local industry will not generally be
> supported unless the ex-factory price of
> its production is not higher than the
> landed cost, exclusive of duty, of the
> corresponding imported article". (OGIP, 1966, p. 2)

However, this principle was generally ignored in practice as more and more industries that had previously supplied the Zambian market from the south became established in Zambia itself. These industries, even under Column D of the old tariff, enjoyed a substantial measure of protection; for instance, clothing about 30% and wooden furniture about 20%. These tariff rates, admittedly, were based on the free-on-board (f.o.b.) price which was usually substantially less than the landed cost, and, thus, overstated the 'nominal' rate of protection. Against this, however, the system of rebates, mentioned below, often meant that the 'effective' rate of protection was much higher than the

nominal rate. By 'effective' rate of protection is meant the extent
to which activities, rather than commodities, are protected.[40]

Unfortunately, at the time of writing, it was not possible
to calculate the effective rates of protection for various industries
in Zambia in the recent years due to lack of statistical data, especially
on the f.o.b./c.i.f. (cost, freight, insurance) values and value added
in manufacturing activities. However, according to Young's study
involving data for 1967, it is quite safe to conclude that, even
though the nominal rates of the Zambian tariff were low in years just
after Independence the factors of production enjoyed substantially
higher rates of remuneration than would otherwise be the case under
free trade. (Young, 1973, p. 191).[41] For instance, according to
Young's results, inputs in the chemicals, clothing and furniture industries,
enjoyed 50, 93 and 134% of effective protection, respectively. These
estimates show a similar order of magnitude to calculations made by other
studies of various LDCs.[42] But since most agricultural processes were
not protected, the tariff must have helped to aggravate the imbalance
between remuneration in the rural and urban sectors, a subject we shall
come back to in Chapter IX. Young's findings and conclusions could
equally apply in the later periods as well, given the objectives of the
government's industrialization policy, as well as the industrial
incentives offered in both the OGIP and the Industrial Development Act
(IDA) of 1977, such as "favourable adjustment to export tariff rates";
"relief from import tariff in respect of raw materials"; and "preferential
treatment with respect to the granting and processing of import licences."
(IDA, 1977, p. 10).

In the 1969 Budget a more simple tariff was introduced involving
increases in duties for more than a hundred items, involving three basic

rates of duty: 15% for imported goods widely used in the lower income group but not essential; 30% for non-essential consumer goods; and 50% for luxury goods usually consumed by the higher income group.[43] Essential goods continued to be imported exempted from duty. In the 1970 Budget further changes took place; for instance, the 50% rate introduced in 1969 for luxury goods was raised to 75% for many goods in that category, and protection was extended to new companies in the metal and plastic piping, refrigeration, clothing and printing industries. Furthermore, in 1971 and 1972 more measures were introduced in order mainly to discourage luxury imports. Also in 1972, a customs surtax on imports of 5% was introduced as a temporary measure to prevent the outflow of foreign reserves, and it was raised to 10% in the 1973 Budget. Throughout the late 1970's and early 1980's further measures were being introduced to increase the nominal tariff and effective tariff, since local manufacturers continued to receive rebates on imported inputs. However, the role of import controls somewhat started changing in the mid 1970's, more towards conserving of foreign exchange than protecting new industries, due to the foreign exchange constraint which had started biting the Zambian economy around this time, largely originating from the falling copper prices on the world market.

However, the applications for tariff protection were initially not impressive; for instance, while in 1965 15 applications were processed and 13 approved, only one application was processed and approved in 1968. This was partly due to the great protection offered by the strict import controls introduced after 1965 against Zimbabwean and South African goods and later, after the Zimbabwean border closure in 1973. It was partly because industrialization was increasingly coming to involve the creation of large-scale monopolies, often with

direct state participation. Protection thus   came through granting

of sole importing rights to various organizations, rather than through

tariffs.[44] As new state enterprises were created, especially after

the economic reforms of 1968, it was to be expected that they would

be protected by this much more flexible and simple method than other

types of quota restrictions. However, as in any other type of monopoly,

the danger lay in the likely abuse of the system, though in this case

the state control and supervision may normally override such possibilities.

4.322 Rebates and Suspensions

By and large, the new tariff system mentioned above also

allowed for the importation of capital goods, raw materials and parts

used in manufacturing free of duty, through a system of manufacturers'

rebates or suspensions. This was also in line with the industrial

incentives accorded to priority enterprises in the IDA of 1977, in

which it was stipulated that rebates on customs duty payable would

apply where:[45]

> "(i) in the case of capital equipment,
> labour intensive techniques of production
> are not a viable alternative,
>
> (ii) in the case of raw materials, they are
> not available from domestic sources of supply;
>
> (iii) in the case of intermediate goods, they
> do not inhibit the creation of domestic value-
> added." (IDA, 1977, p. 9)

Basically, the duty free criterion did not include raw

materials or other imputs that were being produced locally or that

might be produced locally in the near future nor did it apply to raw

materials that were not confined to intermediate uses, but might be

sold to final consumers. Because of the likely abuses in the whole

system through manufacturers importing exempt goods that were in fact

intended for sale to final consumers, the rebates to registered
manufacturers were the more common method of exemption than general
suspension of duty.

However, even then, the rebates were not just granted
but only after a careful and sometimes lengthy investigation into
each case involved. For instance, besides the above considerations,
the manufacturer applying for rebate was considered on whether or not
he had made a significant contribution to value added. But even so,
there was a risk of duty evasion through items being brought in
under rebate at the last stage of production and assembled locally
"without any genuine process of manufacture" being involved.[46]

Though the system of rebates and suspensions provided a
valuable new incentive to manufacturers in that it enabled them to
obtain their raw materials from the cheapest and most competitive
world sources of supply, this system also ran into conflict with the
government industrial objectives of income distribution and employment
creation in the sense that, by its nature, one of the side effects of
such a policy was to increase the attractiveness of capital intensive
methods of production rather than labour intensive techniques.

4.323   Tender Preferences

Local industries were also protected by the purchasing
policy of the government through the Central Supply and Tender Board.
Overseas suppliers were faced with a further handicap to the duty payable
on their products: the Central Supply and Tender Board deducted an
initial figure of 10% from the price offered by the local manufacturers,
for purposes of comparison with the foreign offer. A further 2.5% was
deducted if the local supplier undertook immediate delivery.[47]

In the 1977 Industrial Development Act a further incentive for priority enterprises was provided for:

> "Preferential treatment with respect to
> Government purchasing, unless the tender
> price submitted by such enterprise exceeds
> the lowest bid by ten per centum". (IDA, 1977, p. 9)

The system of tender preferences applied to all purchases of K200 and over, and to all ministries and government departments. However, parastatal bodies, like the National Import and Export Corporation (NIEC) and the Industrial Development Corporation (INDECO), were under no obligation to give preference to local enterprises. Thus, it is quite possible, as had been in some cases in the past, that such parastatal bodies may have had discrimination against local purchasing.

4.33   The Fiscal Policy

Prior to the 1970 Income Tax (Amendment) Act, there existed in Zambia two tax rates for non-mining companies: 37½% on the first K200,000 of taxable profits and 45% on the rest of the taxable profits. In the 1970 Budget a single rate of company tax of 45% was introduced.[48] The reasons for introducing it were given as inefficiency and abuses that the previous system tended to encourage (Budget Address, 1970, p. 19). The new system, however, was very much in line with other rates in the neighbouring countries.[49]   The 1972 Budget saw the beginning of measures to diversify the tax structure by the introduction of a sales tax on some selected domestically produced commodities, the list extending to more commodities in the 1973 and 1974 Budgets. In 1975 the Sales Tax Act was passed, since before that the tax was levied under the Customs and Excise Act. This tax applied to both imported goods subject to customs duty and selected locally produced goods.   The tax on imported goods was at a flat rate of 10%.   The rate of tax on locally produced goods varied from 10% to 20% ad valorem. [50]

In the 1977 Budget the nominal rate of Company Tax went up to 50%.

But, whatever the effects of the fiscal policy measures introduced since 1970, they were to some extent offset by various tax incentives that the government was offering. For instance, in the IDA of 1977 the following incentives were provided for priority enterprises: relief from sales tax in respect of capital equipment, raw materials and intermediate goods imports; relief from selective employment tax; relief from income tax; and relief from tax on any expenditure made on research and development conducted by or for an enterprise; of course all subject to the Minister responsible's approval. (IDA, 1977, pp. 9-11).

Further, in the 1979 Budget the nominal company tax rate was reduced from 50 to 48% to ease the companies' "severe liquidity problems" and their restraint on "expansion programmes because of the limited resources which they can retain for investment". (Budget Address, 1979, p. 24). Furthermore, the same Budget reduced the concessional rate of tax of companies establishing operations in the rural areas from 35 to 30% during the first five years of their operations, thus estimating a loss of revenue of K2 million in a full year.[51] As a major export drive, particularly in the case of agricultural products, an exemption from income tax was to be given to any profits earned from the export of goods manufactured from locally produced agricultural raw materials. In order to increase the availability of new employment opportunities, a system of incentives for manufacturing firms which create new jobs was introduced. (Budget Address, 1979, p. 24). However, the sales tax was reduced on three categories of goods which form an essential part of every household's budget in order to "ease the burden of inflation on Zambian families who are

subject to personal income tax" as well as on "the rest of the population". (Budget Address, 1979, p. 25). Below we examine, however, other tax incentives introduced in Zambia since Independence, in some detail.

4.331 Pioneer Industries

According to the Pioneer Industries (Relief from Income Tax) Act of 1965, any company granted a pioneer status by the government was entitled to exemption from tax for a minimum of two years from the start of production. A one year extension of the period was granted if, by the end of the initial period, the company had incurred capital expenditure of not less than K50,000; and if such expenditure was more than K100,000 a three year extension was granted, making five in all. However, to be granted a pioneer status a company had to prove that expansion on initial development was in the public interest; that the industry was currently not big enough or not in existence at all; and that some encouragement was desirable.

In addition to the above exemptions, however, the 1965 Act considered all capital expenditure during the period of the relief to have been incurred on the day after relief ended. This meant that relief from tax could extend well beyond the found relief period. In fact, total tax relief could even extend over the sixth year and probably even into the subsequent years. (Young, 1973, p. 184).

At first sight, the tax incentives for the pioneer industries seem to be very generous. For instance, the pioneer industries legislation granted the qualifying industries a tax holiday of five years for even a moderate sized investment, and the effects of the capital allowances would be to extend this to, at least, the sixth year since about two-thirds of the total investment

in plant and equipment, together with about a third of the investment in buildings, could be offset against profits in the year following the tax holiday. However, in the initial years all did not go well as expected. There was a considerable delay in implementing the provisions of the Act, probably due to administrative difficulties.[52] This delay could, however, be commended for having prevented the passing or granting of pioneer status to industries that would have been set up, anyway, whether with or without pioneer status. But even then, as will be seen later in this Chapter, during the 1965-70 period many enterprises were set up in Zambia without any pioneering privileges. This weakened the need for the Pioneer Industries Act and, therefore, led to its final abolition eventually.

4.332 The Investment Allowances and Depreciation Allowances

Prior to the 1966 Budget, a 10% allowance on plant and machinery had been in force, as well as the initial wear-and-tear allowances, but this provision was omitted from the Income Tax Act of that year. (Young, 1973, p. 184). However, in the 1969 Budget the investment allowances were re-introduced with the intention to ultimately replace the Pioneer Industries Act for the following reasons. (Budget Address, 1969, p. 10). First, that the new system was administratively simpler than the tax holiday, and therefore avoided unnecessary delays and uncertainties. Secondly, that it was more effective with established firms since it gave them extra incentive to expand their business. Finally, that it was already used in the East African countries and, therefore, "its introduction would bring Zambia into line with those countries."

Nevertheless, though important the above reasons were, the investment allowance has got its own defects, which make it a

less favourable alternative than, say, the depreciation allowance
or the initial allowance or even both. It permits the company to
write-off eventually more than 100% of the investment. Although it
allows the company to internally generate funds for re-investment,
this method ultimately involves a loss of revenue to the government
during the time when the company is paying low taxes. Further, due
to political and economic uncertainties in Zambia in the years after
Independence, businesses had very short time-horizons, so that in
such situations they normally chose the other alternatives that could
yield quick profits at low cost.

In general economic theory, however, tax incentives tend to
encourage the use of capital intensive techniques of production rather
than labour intensive techniques. Like the commercial policy discussed
earlier, these tax incentives, therefore, ran at variance with the
government's industrial policy objectives of equity and employment
creation. For instance, capital intensive techniques tend to aggravate
the unemployment problem since very little labour is directly absorbed
in industry. Furthermore, the rural diversification goal tends to be
defeated since capital intensive industries tend to be located in
urban centres where they can quickly realize economies of scale, and
thus benefit quickly from the tax incentives. Therefore, in essence
the objective of equity is defeated by the exacerbation of the rural-
urban disparities, as a consequence. These implications will be looked
at, in some detail, in Chapter IX.

However, tax incentives are desirable in a country like
Zambia where there are great distortions in both the labour and capital
markets. For instance, due to its geographical setting and other
allied factors discussed in Chapter VI, it had been very expensive to

bring into Zambia the necessary capital goods, raw materials and parts as well as skilled labour, required by industry that were not locally available. Thus, in order to diversify the economy, one alternative would have been the provision of a tax subsidy to encourage the importation of such essential inputs. In another sense, capital intensive techniques tend to have distributional effects that are favourable to re-investment, as mentioned above. However, this would depend on whether the government wants consumption now or in the future, of course, not forgetting the trade union pressure which might encourage the former; and also on how far profits can in fact be ploughed back into the economy rather than be repatriated as dividends to foreign shareholders, as will be seen later in this Chapter.

4.34 The Exchange and Credit Control Policy

Prior to the Mulungushi economic reforms of 1965, the government followed a liberal exchange policy as a principal means of attracting direct foreign investment. While the borrowing rights were restricted, foreign controlled businesses were exempted from exchange control, further, they were at liberty to remit abroad all profits, dividends and interest, and could "also repatriate capital brought into Zambia, together with increases in the capital arising from their operations". (OGIP, 1966, p. 7). Companies held by non-Zambians who were domiciled in Zambia were subject to exchange control, but not to borrowing restrictions. Undoubtedly such a 'liberal' exchange and credit control policy partly explains the root cause of Zambia's foreign reserve constraint in the 1970s and, thus, the main reason for the economic reforms first announced in 1968 and continued into the early 1970s.

The 'liberal' regulations were first amended in the economic

reforms of 1968, affecting all expatriate companies which were now allowed to remit abroad only up to 30% of the equity capital or one-half of the net profits, whichever was the lower. (Kaunda, 1968, p. 50). But these restrictions were relaxed in the 1969 reforms, when a company which held more than 51% Zambian participation was treated as a Zambian company for exchange control purposes. (Kaunda, 1969, p. 12). This implied that there would be no restrictions on local borrowings and on remission of dividends abroad with such a company, aimed at encouraging joint ventures between expatriates and Zambians, especially in agricultural, industrial and all other productive activities where Zambians could not easily establish themselves.

Though there are no figures showing the effects of these measures, it appears from the successive Bank of Zambia annual reports that they only partially achieved their goals in the early years of their implementation[53]. Many expatriate companies were encouraged to increase their equity capital as a consequence of foreign remittance restrictions. One major consequence of the restrictions was clearly to assist the Central Bank's policy of credit restraint. But even then the restrictions still did not achieve its role of encouraging joint ventures between individual Zambian and expatriates, since the companies that chiefly benefited from the Matero concessions were in fact the Indeco subsidiaries. (Bank Report, 1970, pp. 25 and 26).

Throughout the 1970s into the early 1980s there were revisions in the exchange control and credit control regulations, aimed at encouraging ISI and exports, as well as controlling the utility of foreign exchange in view of the low copper prices and transport problems.[54] Some of the most important measures undertaken

included the devaluations of the Kwacha noted earlier, import
licensing, reductions of business travel allowances and of
remittance portions of dividends and profits abroad, restrictions on
foreign exchange allocations, and the banning of mail order house
purchases abroad.

The Industrial Development Act of 1977 offered the
following incentives for enterprises utilizing foreign investment.
First, there was the right to remit, on cessation of business interest,
the value of such foreign capital or such investment, subject to the
law relating to exchange control at the time of application for
remittance. Secondly, the industries were offered, on making
application, an election to remit any accrued profits or dividends
during the twelve month period immediately following the end of the
financial year to which the application refers, subject to any law
relating to exchange control at the time of such application. Thirdly,
any remittable profit which was reinvested in Zambia would be credited
to any amount which may be remitted on cessation of business. Finally,
there was also immunity from nationalization offered to enterprises,
unless the highest considerations of public interest so require.
(IDA, 1977, p. 11).

The implications of such exchange control measures and
incentives, aimed at conservation of foreign exchange and at encourage-
ment of investment in and development of manufacturing, will be
brought up at various points in the subsequent Chapters.

4.35 Intervention Through the Industrial Development Corporation of Zambia Limited (INDECO)

The growth of Indeco has been one of the most spectacular
features of economic development in Zambia since Independence. It will

be recalled from Chapter II that Indeco came into being in 1951 as the Industrial Loans Board and reorganized in 1960 as the Northern Rhodesia Industrial Corporation.[55] It became known as the Industrial Development Corporation of Zambia in 1964.[56] In that year, while its net assets merely stood at K2 million, by March 1969, after the 1968 Economic Reforms, they had risen to K108.1 million, reaching K592.3 million by March 1983. (Indeco Reports, 1968-82).

This impressive growth in investments was partly due to the absorption of existing enterprises consequent upon the economic reforms; partly due to investment in the development of new projects; and partly due to the fact that Indeco did not initially represent only manufacturing activities, but also other economic and social activities.

The object of this section, however, is to examine the role of Indeco as a manufacturing enterprise, particularly the change in the nature of this role, from merely providing loans for private industry to spearheading the direct state participation in the productive process. However, the activities of Indeco companies within the manufacturing sector will be covered in Chapter VI.

4.351 Indeco as a Financial Institution

Prior to August, 1964, Indeco was largely privately controlled and financed, as outlined in Chapter II. The major objective then was to finance mostly businesses of the expatriates who dominated the industrial scene at the time. It had very minimal direct control over the projects it financed. The government took full ownership and control only in August 1964 after buying all the shares in the Corporation.[57] During the few years after Independence Indeco continued to act as a small scale development bank, giving

loans to existing or new enterprises, just like its predecessors
before Independence. However, from September, 1969, this "mere
provision of finance" to private enterprise was passed over to one
of its wholly owned subsidiaries, Indeco Industrial Finance Company,
which became responsible for provision of working capital and of plant
and machinery on installment purchase to other Indeco subsidiaries
and to Zambian entrepreneurs.[58] Thus, as was foreshadowed in the
1964 Report, the "mere provision of finance" became less and less
significant as part of Indeco's major functions. In April, 1971, the
Industrial Finance Company was transferred to the State Finance and
Development Corporation (FINDECO) a directly wholly owned subsidiary
of the Zambia Industrial and Mining Corporation (ZIMCO), like Indeco
itself. Thus, this marked the end of Indeco as a financial institution
in the original sense.

Table 4.4 shows details of loans provided by Indeco after
1964, up to the time that the financial aspect of the Corporation was
transferred to Findeco. The divergence between 'applications received'
and 'loans granted' was largely due to firms diverted to other sources
of funds, more appropriate to their requirements, and partly due to
fairly strict conditions demanded by Indeco. It should also be noted
that while loans to expatriates were strictly for manufacturing
ventures, Zambians were given loans for a wider range of activities,
though they had also to provide security, which normally they did not
have. Two major objectives of the Development Finance Section of Indeco
were to encourage Zambian businesses and to establish industries in
the provincial centres. However, while it was noted in the 1967
Report that, more than half of the approved loans went to Zambians,
and that, an increasing number of loans had gone to the rural centres

TABLE 4.4

LOAN FINANCE PROVIDED BY INDECO, 1964-70/71							
Item	1964	1965	1966	1967	1968/69	1969/70	1970/71
Number of applications received	272	310	157	146	N/A	N/A	N/A
Number of loans granted	24	27	16	18	N/A	139	244
Value of loans granted (X'000)	803	3081	387	356	179	796	886

SOURCE: Young, 1973, op. cit., Table 6.4, p. 196

rather than the line of rail, at the same time it was admitted that 'loan finance' alone was not sufficient to encourage the growth of successful small-scale enterprises, even when backed up by constant advice and 'after-care', which all too often could not be given.[59]

In a further effort to the encouragement of prospective Zambian entrepreneurs, a 'nursery industrial estate' was established in Lusaka in 1967, through Rucom Industries Limited, an agency of an Indeco subsidiary, originally set up in 1961 to encourage small-scale enterprises, but which had remained idle since that time. This estate was intended to serve as a model for subsequent developments in the rural areas. However, this venture proved unsuccessful largely because of lack of interest to utilize it in the urban centres due to little demand for simple 'service-type' industries it had been designed to serve. (Indeco Report, 1967). Thus, in the same Report, it was felt that the establishment of similar workshop facilities in the provincial centres would be most appropriate for the need.

The real constraint on the encouragement of potential
entrepreneurs in any sector of the economy was, however, the ambiguity
of government attitudes towards the private sector. For instance,
while the major objective of the economic reforms of 1968 and 1969
was to promote the development of Zambian businesses, the government
also wanted to protect its socialistic goals which would be threatened
by the realization of the above objective, thus:

> "Let me emphasise that I want Zambian
> businesses to expand and to prosper.
> But for goodness sake, I do not propose
> to create Zambian capitalism here. This
> is incompatible with my conception of
> humanism." (Kaunda, 1968, pp. 36 and 37).

In the above speech, he emphasized that if private businesses became
too big beyond certain limits they would be nationalized. In another
speech President Kaunda asked himself categorically:

> "How can we control this group while at
> the same time allowing them the freedom
> to exercise their initiative?" (Kaunda, 1969, pp.60-62)

To the "prevention of incipient capitalism" as he referred/it, he
proposed two measures: one to increase the progressiveness of the
personal tax system; and the other, a further propagation of the
national philosophy of humanism in order to "condition people's
thinking." Both of these measures were implemented. For instance,
the former resulted in the company tax reforms analyzed earlier, while
the latter resulted in the publication of "Humanism in Zambia and a
Guide to its Implementation Part II" in 1974. (Kaunda, 1974).

However, it still remains to be seen in the later Chapters,
whether the effects of such measures in the long run, were successful
in achieving the authorities' objectives of encouraging Zambian enterprise
while at the same time discouraging Zambian capitalism. In the years
immediately after Independence, however, the only practical measure of

controlling the manufacturing sector by Zambians was nationalization of expatriate businesses, and this is exactly what happened, as we shall see in the following sub-section.

4.352 Development of Manufacturing Industry in Zambia and Direct State Participation

By far the most significant aspect of economic development since Independence has been the introduction of a series of measures with the objective of ensuring government's participation in industry, extending its control over a widening sector of the economy and involving Zambians in the economic development of their own country.

On the eve of Independence and soon after, almost the entire sector of the economy was in the ownership and control of expatriates. These expatriate companies, taking advantage of the post-Independence buoyancy in the economy, derived substantial profits from their business, most of which was repatriated abroad. This was the environment under which Indeco first operated when the government bought all its shares in 1964, and which continued a few years later.

The rapid expansion of Indeco, through direct state control, began in 1965 when the state radically shifted its policy towards industrialization through the enactment of a new law governing investments. (OGIP, 1966). Indeco was given the role of establishing large-scale industries through promotion, financing and management of the state interest in these industries. Thus, by the beginning of 1966, Indeco had two investments on behalf of the state, Chilanga Cement (40%) and Zambia Clay Industries (56%)(Indeco Report, 1966, pp. 15-21). Within that year Zambia Sugar Company (12%) and the proposed Kafue Textiles Mill at Kafue (50%) were added. Further, Indeco also partici- pated in the establishment of companies in the wholesaling and road

haulage sectors, construction of Intercontinental Hotels and of the oil pipeline to Dar es Salaam. In 1967, Indeco acquired further interests in the manufacture of grain bags, ammonium nitrate, explosives, and rubber tyres. Indeco Milling was also established to operate small maize roller mills in the rural areas. (Indeco Report, 1967, pp. 17-33).

The first real economic reforms came in April 1968 at Mulungushi when President Kaunda announced, amongst other measures, the state takeover, through Indeco, of 26 companies on a 51% controlling interest.[60] Indeco's role was to see that these companies were welded into a coherent group and that they followed policies in line with the national interest. Indeco's interests now included retailing, brewing, hotels, and timber industry. The pace of new development, however, was rather less rapid than before, since only one major new company was formed in that year, Metal Fabricators of Zambia (ZAMEFA), producer of metal wire and cable. On a smaller scale, companies were set up to process fish, bottle spirits, and manufacture fishing nets. Rucom Industries acquired responsibility for establishing a rural fruit and vegetable canning factory, in addition to its provincial workshops. Indeco, hitherto a small-scale development organization, was now completely transformed and was charged with the task of expanding and diversifying the country's interest in commerce and industry.

The second round of economic reforms came in August 1969 at Matero when the President announced the 51% take-over of the two giant copper mining companies in the country. Roan Selection Trust (RST) and Anglo-American Corporation (AAC), under the responsibility of the Mining Development Corporation (MINDECO), a second state corporation created for the purpose. (Kaunda, 1969). Though mainly concerned with the takeover of the mines, the Matero Speech also announced a further

take-over of new manufacturing industries by Indeco, which included
an oil refinery, an assembly plant for small cars, an agricultural
implements factory, a glass factory, and an integrated iron and steel
industry. (Kaunda, 1969, pp. 17-19). A state-owned commercial bank
was also established in 1969.

A third round of economic reforms came in November, 1970,
mainly to extend state control to the financial sector. (Kaunda, 1970,
pp. 10-12). These reforms, therefore, saw the birth of a third state
corporation, FINDECO, mentioned earlier, charged with the responsibility
of implementing the above objective, through the management of state
investments in banks, insurance companies, and building societies.
Two more state corporations were also established in 1971, to cover
the fields of transport and hotels; the National Transport Corporation
(NTC) and National Hotels Corporation (NHC). These two were both
offsprings of Indeco. During the period 1970-71, the 1970 reforms,
which were clarified in 1971, also announced a further extension of
Indeco's interests in manufacturing sector. At the same time, Indeco
was also negotiating for the take-over of a number of companies in the
private sector. (Indeco Report, 1972, p. 8).

In August, 1973, the President redeemed in full the out-
standing Zambia Industrial and Mining Corporation (ZIMCO)'s mining
bonds, as a result of which Zambia gained full ownership of the
mining industry, and the mining companies became subject to normal
exchange control regulations like any other company in the country.
Appropriate changes were also introduced in the laws governing the
taxation of mining companies. Management contracts were terminated,
though with compensation, which were valid up to 1979; and Zambians
were appointed Managing Directors for the first time. The two giant

mining companies were finally amalgamated in 1982, as the Zambia Consolidated Copper Mines Limited. (ZCCM).

In early 1974 two more state corporations were formed, National Import and Export Corporation (NIEC), taking over the trading functions of Indeco, and Zambia National Energy Corporation (ZNEC), taking over the petroleum activities of Indeco.

Therefore, with the extension of state ownership over a widening sector of the economy, it was necessary to create an organizational structure which could ensure the smooth administration of the various undertakings as viable and profitable concerns. With this end in view, the government established ZIMCO, as the holding company of all the state corporations mentioned above. Over the years many reorganizations have taken place within the ZIMCO structure and new organizations have also been added to it. Appendix 4.1 shows both the ZIMCO and Indeco structures at the time of writing.

As a result of the various economic reforms mentioned above, Indeco had by early 1970's experienced the most dramatic and exciting expansion in its history and had quickly established itself as the foremost industrial group in Zambia, outside the mining industry. A rough measure of the relative importance of Indeco's manufacturing activities is given in Table 4.5.

The Table shows the impressive growth with respect to employment creation as well as turnover and net assets over the period since the Mulungushi reforms. By 1982 Indeco's manufacturing companies were already accountable to over 75% of the total industrial activity in the Zambian economy. (Bank Report, 1982, p. 43). However, for reasons given in detail in Chapter VI, looking at the profit/loss account in the same Table, the picture is very much a less happy one for the Indeco Group in general, and even much worse for individual

TABLE 4.5

INDECO GROUP: SELECTED GROWTH INDICATORS, 1968-82														
Indicator	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Turnover (K,m)	1.9	61.0	123.8	183.1	247.1	286.0	329.7	292.4	308.0	347.6	397.9	406.0	465.7	526.9	604.9
Profit before tax (K,m)	N/A	N/A	N/A	N/A	23.5	27.0	28.9	8.7	3.2	8.8	9.2	(12.1)	(7.4)	3.5	32.3
Profit after tax (K,m)	N/A	N/A	N/A	N/A	14.3	15.3	17.8	2.8	(3.1)	3.9	1.2	(20.7)	(15.8)	(6.6)	13.0
Net Assets (X,m)	35.6	108.1	119.9	145.9	167.9	223.2	247.8	189.6	201.1	233.2	358.4	378.7	435.8	492.4	592.3
Employment ('000)	5.6	13.0	14.0	26.0	21.5	21.9	22.2	22.6	22.6	24.5	25.0	24.7	23.2	24.3	24.0
Employment as a proportion of total employment in manufacturing sector (%)	16.9	37.6	36.6	66.6	49.7	50.2	50.3	51.0	52.4	53.5	54.3	56.0	49.6	50.1	49.6

SOURCES: Indeco Reports 1975-80; op. cit., Indeco Review (1982), Vol. 1, Issue No. 5, September/October, p. 11; and Office of the President, National Commission for Development Planning, Economic Reports 1981-83, Government Printer, Lusaka.

Indeco subsidiaries in particular, as shown in various Indeco Reports.[61]

Several reasons might be suggested to justify the above direct state participation in industry over the years. First, like all newly independent countries at the time, Zambia wished to acquire the 'commanding heights' of the economy, and the object of the economic reforms had been "to reorganize the Zambian economy so as to increase the capacity of Zambians to control their own economic destiny". (Kaunda, 1969, p. 2). The pace of Zambianization had been unusually slow since most senior employees in industry and elsewhere in the economy were expatriates, even when suitable Zambians were available. Besides, there was a great desire for nationalism in the form of socialism, partly reinforced by the Tanzanian Arusha Reforms of 1967.

Secondly, for reasons mentioned earlier in this Chapter, private enterprise in a newly independent state may rationally exhibit a socially undesirable preference for projects with a quick payoff, so that even a generous system of incentives, discussed earlier, may not achieve the desired development. (Young, 1973, Ch. 6).

In support of criticisms against expatriate enterprises in Zambia, President Kaunda gave a number of illustrations of "practices intrinsically injurous to the state". These included repatriation of a high proportion of profits, gross under-capitalization, very heavy local borrowing, high rates of expenditure on invisibles, and the payment by resident expatriate enterprises of inflated loans for merchandize bought from parent companies, as a means of avoiding exchange control.[62]

Nevertheless, whether or not the above illustrations are justified, such examples could be expected in a country like Zambia where, as we saw in Chapter II, most of the businesses were foreign owned and controlled. Thus, as a result of the uncertain economic environment

in which they were placed after political independence in Zambia,
such expatriate businesses were merely interested in quick profits
that could easily and quickly be repatriated.

Thus, taking the historical context of Zambia's political
and economic development it was a wise decision not to continue
relying on private enterprise. For this reason, the reforms meant
that Zambia had more money now to carry on with its desired development.
Besides, the companies themselves enjoyed unquestionable support from
the government to some extent - chances of going into liquidation were
slim. The takeover negotiations were also generally completed rapidly.
It seemed also not too difficult to find foreign partners for new
Indeco projects. (Young, 1973, p. 202). The early financial success
of the Indeco group is shown in Table 4.5, though for some individual
companies, management difficulties acted as a major constraint, for
instance, Kafue Textiles.

On the other hand, the decision for direct state intervention
also involved great risks such as deterrent of prospective investors
and the danger of losing the management skills associated with foreign
investment. However, the method of participation chosen had the effect
of lessening the latter problem since while the state took a controlling
interest (for which payment was to be made out of future profits), a
substantial minority share, often 49%, was left to the private sector,
with whom a management consultancy agreement was also negotiated.

Besides such potential risks, Indeco's role has been
uncertain because of the ambiguity of government policy. On the one
hand, the government expects Indeco subsidiaries to be run "in a
proper commercial and businesslike way", and on the other hand, they
were expected "to keep the national interests in mind at all times."

which were rather more social oriented (Kaunda, 1968, p. 46). Thus, while the commercial objective represented the need to attract foreign investors, the social objective deterred them.[63]

Thus, as stated earlier, the business environment was often less than ruthlessly competitive for many of the Indeco companies, and indeed for many private ones. Due to the size of their operations, the more important new industrial ventures were usually in a monopolistic position in the domestic market, while being protected against foreign competition through the tariff or grants of sole importing rights, noted earlier. The extension of these incentives to private enterprises also simply meant that commercial profitability in manufacturing sector as a whole overstated social profitability. However, in 1971 the exemption from income tax enjoyed by Indeco was withdrawn, and the policy of subsidizing infrastructural expenditure incurred by Indeco promised in the Matero reforms was reversed. However, the rationale for the latter decision is open to question given the equity and employment objectives of the government policy.

4.4 Summary and Conclusion

Zambia entered Independence with an economy full of imbalances, both socially and economically. More than three-quarters of her entire population lived in the rural subsistence sector, far removed from the money economy, while the remaining minority lived in the urban sector, enjoying the largest share of the nations wealth. The economy was almost exclusively dependent upon the export proceeds of one primary commodity, copper, which has been proved to be subject to export instability, and thus, placing the economy in a very vulnerable position with respect to development. Further, the system of free capitalist enterprise inherited from colonialism seemed unlikely

adequate to redress such social and economic imbalance toward
mobilization of resources so as to ensure rapid social and economic
diversification. This is because investment decisions reflected the
interests of foreign businessmen and their associates who had no moral
obligation to work towards the achievement of such an objective.
Besides, decisions taken in response to market prices would be unlikely
to lead to the full exploitation of the inter-industry effects, and
usually market prices did not reflect the true scarcity values, for
reasons discussed also in the previous Chapter. Even a perfectly
functioning price mechanism would not take into account certain national
objectives such as Zambia's economic independence goal from the south,
in the interest of national security, and also its goal of equity in
the distribution of economic opportunities. Thus, there seemed a prima
facie case for government intervention in the development process to
achieve such objectives that would not be adequately covered under a
free market system. However, whether or not an encouragement other
than the development of manufacturing industry would have been more
appropriate could not be discussed here, but rather deferred until the
subsequent Chapters, particularly Chapter IX.

In pursuit of its strategy of industrialization, the
government however, adopted a series of measures either taken over
from its predecessors or copied from other LDCs and adapted for domestic
use. In appraising these measures, however, it would not really be
appropriate to judge them against the specifications of the theory of
intervention mentioned in this Chapter, given the kind of social and
political environment in which the development administrators have to
work, in practice. Perhaps of interest is to find out how effective
are the techniques of intervention chosen by the government to achieve

its different, and sometimes conflicting, objectives. This will, in fact, be dealt with in Chapter IX. However, what we are certain of here is the direction in which the measures were moving the economy, which is the promotion of manufacturing sector at the expense of other sectors of the economy.

The period prior to the Mulungushi economic reforms of 1968 saw the continuation, more or less, of the Federal approach to industrial development, though Zimbabwe was rigorously excluded from the Zambian market. Further, the manufacturing sector was being subsidized through the fiscal system, largely out of the mining sector's proceeds. Moreover, the price mechanism was also distorted toward manufacturing in the sense that it offered businessmen in manufacturing substantial effective rates of protection.

However, the economic reforms of 1968 marked the turning point of government policy toward industrialization. The government made its decision, at last, to choose public enterprise against private enterprise, and it also demonstrated that where the interests of private expatriate business and those of the Zambian economy conflicted each other, the latter would be chosen. In essence, direct intervention proved a quicker and cheaper way of securing industrialization than the policy of incentives alone. Evidence of this has been given by the remarkable metamorphosis of the Indeco group of companies over the years. However, again, the appropriateness of this strategy will be discussed in the subsequent Chapters.

NOTES AND REFERENCES

1. Ministry of Commerce and Industry (1966), "Outline of the Government's Industrial Policy", Government Printer, Lusaka.

2. See Office of National Development and Planning (1966), First National Development Plan 1966-70, Government Printer, Lusaka, July, p. 35.

3. For instance, the following quotation from the First National Development Plan tries to justify this objective thus:

    "To diversify the economy so that the copper industry is not the only main employer in the economy, and so that a greater proportion of domestic demand is satisfied by the domestic production from a large industrial base." (FNDP, 1966, p. 35).

4. See Young, A. (1973), Industrial Diversification in Zambia, Praeger Publishers, New York, p. 92, Note 5; and Busschau, W. J. (1945), "Report on the Development of Secondary Industries in Northern Rhodesia", Government Printer, Lusaka, p. 19.

5. The 'Party' refers to the United National Independence Party (UNIP), the ruling political party since Independence and the only political party since 1973.

6. These include: FNDP, 1966, op. cit.; Kaunda, K. D. (1967), Humanism in Zambia and a Guide to its Implementation, Part I, Government Printer, Lusaka; Kaunda, K. D. (1968), Zambia's Economic Revolution (Mulungushi Declaration), Zambia Information Services, Government Printer, Lusaka; Kaunda, K. D. (1969), Towards Complete Independence (Matero Speech), Government Printer, Lusaka; Kaunda, K. D. (1970), This Completes Economic Reform: 'Now Zambia is Ours', Zambia Information Services, Government Printer, Lusaka; Ministry of Development Planning and National Guidance, (1971), Second National Development Plan, January 1972-December, 1976 (SNDP), Government Printer, Lusaka, December; United National Independence Party (UNIP) (1973), National Policies for the Next Decade 1974-84, Zambia Informational Services, Government Printer, Lusaka, August; Kaunda, K. D. (1974), Humanism in Zambia and a Guide to its Implementation Part II, Division of National Guidance, Government Printer, Lusaka, September; Kaunda, K. D. (1975), The "Watershed" Speech, 30th June-3rd July, 1975, Zambia Information Services, Government Printer, Lusaka; Republic of Zambia (1977), Industrial Development Act Chapter 674 of the Laws of Zambia (IDA), Government Printer, Lusaka, October; and Office of the President, National Commission for Development Planning (1979), Third National Development Plan 1979-83 (TNDP), Government Printer, Lusaka, October.

7. See also ILO (1977), Narrowing the Gaps: Planning for Basic Needs and Productive Employment in Zambia, Jobs and Skills Programme for Africa, Addis Ababa, January, p. 114.

8. Emphasis was more on rural development and employment generation. (See TNDP, 1979, pp. 29 and 30.)

9. Metal statistics (1971), Metallgesellshaft AG, Frankfurt and Main, pp. 21 and 22.

10. See Young, A. (1973), Industrial Diversification in Zambia, Praeger Publishers, New York, p.73.

11. The history of the copper price in the post-Independence is shown in Table 6.9 of Chapter VI.

12. Other reasons include the current position of copper stocks on the London Metal Exchange and the existence of strong speculative elements in the precious metal market which have spillover effect on the copper market. For details of market trends of copper see Bank of Zambia Annual Reports 1966-1982 and the Mining Industry Yearbooks covering the same period.

13. For instance, according to MacBean's study, covering the Federation of Rhodesia and Nyasaland as well over the period 1950-60, in only five out of ten years did the direction of change in export revenues, adjusted for trend, coincide with the direction of GNP. Moreover, even during the 1956-58 slump, when export earnings fell by 17% (from £231 million to £178 million), GNP actually rose by 4% (from £425 million to £442 million). When an adjustment is made for trend the two variables move in the same direction but the fall in GNP is less than three quarters of the change in export earnings. (See MacBean, A. I., 1966, Export Instability and Economic Development, University of Glasgow Social and Economic Development, New Series No. 9, in Robertson, D. J. (ed.)(1966), George Allen and Unwin Ltd., London, p. 67).

14. For details on his findings see Maizels, A. (1968), Exports and Economic Growth of Developing Countries, Cambridge University Press; also in American Economic Review, Vol. 58, No. 3, Part I, June, pp. 575-580; and also Young, 1973, op. cit., pp. 76-78.

15. During this period efforts were made by the copper industry to estimate the effects of high prices on copper fabricators although great caution has to be taken with such estimates and their results cannot easily be summarized. (See International Copper Development Council (1966), Market Studies on Copper Consumption in Great Britain, London).

16. For instance, the UDI in Zimbabwe in 1965 and the Zambia-Zimbabwe border closure in 1973 brought in unprecedented transport bottle-necks on Zambian copper exports; the Mufulira mine disaster in 1970 caused a substantial cutback in production; the two Zambian copper mining companies were obliged to declare a 'force majeure' in February, 1968, involving cuts of 20% in deliveries; in 1977 Zambia, Zaire and Peru decided to reduce their production in 1978 by 15% and in the same year the unrest in Zaire's Shaba Province obliged the mining company Sogacom to reduce its deliveries by 50% between July and September, and there was also a social unrest in both Peru and Chile (See Bank Reports, 1966-82).

17. Over 40% of total consumption of copper consists of scrap, which is especially important in the more highly industrialized nations.

(See International Wrought Copper Council (1967), Copper Scrap (Interim Report), London, p. 7, and Young, 1973, op. cit., Appendix 3, p. 19.

18. See Johnson, H. G. (1971), Aspects of the Theory of Tariffs, George Allen and Unwin, London, pp. 88 and 89. Johnston argues that the 'terms of trade' and 'instability' arguments are 'non-arguments' for protection.

19. In January, 1971, the Kwacha was equal to 0.58 pound sterling; in January, 1972 this figure had fallen to 0.54 (See Indeco Ltd. (1972), Enterprise First Quarter 1972, Lusaka, p. 2.

20. The Kwacha was pegged to the SDR at a fixed rate of K1 = SDR 1.08479 on 9th July, 1976. Prior to this date the exchange rate of the Kwacha was determined through its fixed relationship with the US dollar at K1 = US$ 1.5556. Following the devaluation, the value of Kwacha in terms of the US$ came down to $1.2445. It was depreciated against the Deutsche Mark by 7.1% and appreciated in terms of the pound sterling by 6.3%. (See Bank of Zambia, 1976. Report and Statement of Accounts 1976, Lusaka, p. 5).

21. See Bank of Zambia, Reports and Statements of Accounts 1978 and 1982, Lusaka.

22. See also Bell, M. W. (1981) "Primary Production in an Unstable Economic Order: The Zambian Economy 1965 to 1978", The University of Aston Management Centre, Working Paper Series No. 197, February, pp. 6-9.

23. For detailed discussions of the reasons for this doubt see Young, 1973, op. cit., Ch. 2.

24. See Little, I. M. D., Scitovsky, T. and Scott, M. (1970), Industry and Trade in Some Developing Countries, Oxford University Press, pp. 324-326. These writers argue, therefore, that currency adjustments should be small and frequent rather than occasional and drastic.

25. This first type of model was first analyzed in detail by Lewis and further elaborated by Fei and Ranis (See Lewis, W. A. (1954), "Economic Development with Unlimited Supplies of Labour", The Manchester School of Economic and Social Studies, Vol. XXII, No. 2, May, pp. 131-191; Fei, J. C. H. and Ranis, G. (1964), Development of the Labour Surplus Economy, Economic Growth Centre, Yale University, Homewood III, Richard D. Irwin; and Johnson, 1971, op. cit., pp. 88 and 89.

26. See Richards, A. I. (1939), Land, Labour and Diet in Northern Rhodesia, Oxford University Press, London; Gluckman, M. (1941), "The Economy of the Central Barotse Plain", Rhodes-Livingstone Institute, Lusaka, Paper No. 7; and Colson, E. (1960), "Social Organisational of the Gwembe Tonga", Kariba Studies, Manchester University Press, Manchester, Vol. 1; and Scudder, T. (1962), "The Ecology of the Gwembe Tonga", Kariba Studies, Manchester University Press, Manchester, Vol. II.

(See International Wrought Copper Council (1967), Copper Scrap (Interim Report), London, p. 7, and Young, 1973, op. cit., Appendix 3, p. 19.

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22. See also Bell, M. W. (1981) "Primary Production in an Unstable Economic Order: The Zambian Economy 1965 to 1978", The University of Aston Management Centre, Working Paper Series No. 197, February, pp. 6-9.

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26. See Richards, A. I. (1939), Land, Labour and Diet in Northern Rhodesia, Oxford University Press, London; Gluckman, M. (1941), "The Economy of the Central Barotse Plain", Rhodes-Livingstone Institute, Lusaka, Paper No. 7; and Colson, E. (1960), "Social Organisational of the Gwembe Tonga", Kariba Studies, Manchester University Press, Manchester, Vol. 1; and Scudder, T. (1962), "The Ecology of the Gwembe Tonga", Kariba Studies, Manchester University Press, Manchester, Vol. II.

27. Fleming, J. M. (1955), "External Economies and the Doctrine of Balanced Growth", Economic Journal, Vol. LXV, No. 258, June, pp. 241-256; and also Scitovsky, T. (1954), "Two Concepts of External Economies", Journal of Political Economy, Vol. 62, No. 2, April, pp. 143-151.

28. Hirschman, A. O. (1958), The Strategy of Economic Development, Yale University Press, New Haven, Chs. 3 and 4.

29. Common services included the Central African Power Corporation, Central African Airways, Rhodesia Railways, the Federal Bank of Rhodesia and Nyasaland, University College of Salisbury, and Central African Road Services. Besides, about 40% of Zambia's total imports in 1964, mainly consumables, came from Zimbabwe. (See Monthly Digests of Statistics).

30. In October, 1978, faced with an inability to import badly needed fertilizer in sufficient time and bulk because of congestion in the new alternative port of Dar-es-Salaam, Zambia was forced to re-open her border with Rhodesia to goods only. (Bank Report, 1978, op. cit.).

31. Sir Robert Jackson, Co-ordinator of UN assistance to Zambia, estimated that between 1965 and 1968 the cost to Zambia of sanctions and the conflict was about $100 million, and at least the same in 1969 to 1972. Between 1972 and 1977 the cost was put at $744 million by Doxey, M. P. (1980), Economic Sanctions and International Enforcement, MacMillan, London, Second Edition. In the two years, 1978 and 1979, the cost must have been much higher than the average for the preceding years because of the intensified military conflict. (See Bell, M. W. (1982), "Government in a Declining Economy: Zambia Since Independence", The University of Aston Management Centre, Working Paper Series, No. 232, March, p. 24).

32. See Young, 1973, op. cit. p. 91; and Little, I. M. D. and Mirrless, J. A. (1969), Social Cost Benefit Analysis, Manual of Industrial Project Analysis in Developing Countries, OECD, Paris, Vol. II, Ch. XIII.

33. See Young, 1973, op. cit., Ch. 6; and Bhagwati, J. N. (1971), "The Generalized Theory of Distortions and Welfare", in Bhagwati, J. N., Jones, R. W., Mundell, R. A.; and Vanek, J., eds. (1971), Trade, Balance of Payments and Growth: Papers in International Economics in Honour of Charles P. Kindleberger, North Holland Publishing Company, London and Amsterdam, pp. 69-90.

34. See Young, 1973, op. cit., p. 182; and Lipsey, R. G. and Lancaster, K. (1956-57), "The General Theory of the Second Best", Review of Economic Studies, Vol. XXIV, No. 63, pp. 11-32.

35. See Baumol, W. J. (1965), "Models of Economic Competition", in Langhof, P., ed. (1965), Models, Measurement and Marketing, Englewood Cliffs, Prentice-Hall, New Jersey, pp. 143-68.

36. See Dasgupta, A. K. and Pearce, D. W. (1972), Cost-Benefit Analysis: Theory and Practice, MacMillan and Co., London and Basingstoke, pp. 109-112.

37. See Ministry of Finance (1966), Budget Address, Government Printer, Lusaka, July, p. 13.

38. "In the case of the majority of items, duty was either free or, at the most, 10%" (Young, 1973, p. 189).

39. "Applicants must be able to supply the whole of the market requirements of the products concerned; the products must be of a range and quality suitable to the needs of the market and, for this purpose, the Ministry may require that the products be manufactured according to an acceptable international standard specification; the price of the products will be strictly controlled, in terms of the agreement by the Ministry......; the 'shut-out' protection will be granted for a limited number of years only, after which it will be withdrawn or reduced...." (OGIP, 1966, pp. 2 and 3).

40. For the historical development of the concept, see Corden, W. M. (1971), The Theory of Protection, Oxford University Press, London, pp. 245-49; and Basevi, G. (1966), "The United States Tariff Structure: Estimates of Effective Rates of Protection of United States Industries and Industrial Labour", Review of Economics and Statistics, Vol. 48, May, pp. 147-160.

41. Young summarizes Basevi's approach and tries to fit it on the Zambian economy (See Young, 1973, op. cit., Note 21, pp. 208 and 209.

42. See Little, et. al., 1970, op. cit. p. 174, giving estimates of the average rates of effective protection for seven LDCs, ranging from 27% (Mexico) to 313% (India) for 'all manufactures', although estimates for different sectors varied widely. (See also Young, 1973, op. cit., p. 209).

43. See Ministry of Finance, Budget Addresses 1969-77, Government Printer, Lusaka.

44. For instance, through Chilanga Cement, National Milling, African Match, Zambia Sugar, Zamefa, ROP, Zambia Steel and Building Supplies, NIEC Overseas, ZCBC, NIEC Stores, Mwaiseni Stores, NIEC Agencies, and Zambia National Wholesale and Marketing Company (ZNWMC).

45. Emphasis was placed on industrial development which is labour intensive, which uses local raw materials, which promotes exports and which is based in rural areas.

46. For instance, in 1967 watch components were rejected for rebate on these grounds (See Ministry of Commerce, Industry and Foreign Trade (1968), Annual Report 1967, Government Printer, Lusaka, p. 19.)

47. See Ministry of Commerce and Industry (1965), Annual Report 1964, Government Printer, Lusaka, p. 7.

48. All statistical information in this section have been obtained from various Budget Addresses, unless otherwise stated. Thus see Republic of Zambia, Budget Addresses by the Minister of Finance, 1965-83, Government Printer, Lusaka.

49. See Harvey, C. R. M. (1971), "The Fiscal System", in Elliott, C. (ed.) (1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi, pp. 166 and 167.

50. See Republic of Zambia (1979), Zambia in Brief: HGM' 79, A Souvenir Booklet, Government Printer, Lusaka, p. 32.

51. Under the 1976 Budget speech any manufacturing company that was established outside the urban towns, after April, 1976, would, for the first five years of its coming into operation, pay Company Tax at the reduced rate of 35%. (Budget Address, 1976).

52. For instance, in 1966 only eight of the thirteen applications were approved, none at all declared in 1967, and in 1968 only the rubber products industry and textile industry were approved. As for individual companies, only Dunlop, Kafue Textiles and Zamefa were approved, and a further four in 1970. (See Ministry of Commerce, Industry and Foreign Trade (1967). Annual Report, 1966, op. cit. p. 10; and Statutory Instruments Nos. 249 and 352 of 1968, and 392 of 1969, Government Printer, Lusaka.)

53. See Bank of Zambia, Annual Reports and Statements of Accounts, 1968-82.

54. Details are contained in successive Bank of Zambia Annual Reports cited in note 53 above.

55. For much detail in the early years of Independence we are greatly indebted to Young, 1973, op. cit., Ch. 6.

56. Most of the information in this section, unless otherwise stated, has been gathered from successive Indeco Annual Reports since 1967.

57. Indeco, Annual Report 1964, Chairman's Statement, Lusaka.

58. Most of the information and figures in this and the next sub-section are extracted from Indeco Annual Reports, unless otherwise specified.

59. See Indeco Report, 1966, p. 22, from September 1965 to December 1967 Indeco also operated a Commercial Department, with funds provided directly by government, which made small but unsecured loans to Zambian businessmen. However, from 1968 onward this function was transferred to the Credit Organization of Zambia. (See Indeco Report, 1967, p. 36.)

60. See Kaunda, 1968, op. cit., pp. 36 and 37.

61. For instance, out of all the Indeco companies shown in Appendix 4.2 only seventeen of them made a profit before tax of K26.2 million in 1981, the rest made a loss of K22.7 million, resulting on average a profit before tax of only K3.5 million. (Indeco Report 1980/81, p. 7).

62. For instance, one large foreign concern whose figures were quoted showed that this concern had distributed between 75 and 80% of its profits as dividends in every year from 1962 onward; and "a foreign company with £200,000 paid up capital acquired £2 million overdraft rights of which it promptly used £1 million". (Kaunda, 1968, op. cit. pp. iv and v).

63. See also Zimco, Chairman's Statement for the Period 31st March, 1970 to 30th June, 1971, Lusaka.

APPENDIX 4.1

THE STRUCTURE OF ZAMBIA'S STATE PARTICIPATION AS AT 1ST APRIL 1983

A. ZAMBIA INDUSTRIAL AND MINING CORPORATION (ZIMCO)

1. Rural Development Corporation Limited. (100%)
2. A.F.E. Limited. (98%)
3. Posts and Telecommunications Corporation. (100%)
4. Lublend Limited. (60%)
5. Tazama Pipelines Limited. (67%)
6. Zambia Electricity Supply Corporation Limited. (100%)
7. Zambia National Energy Limited. (100%)
8. Zambia National Building Society. (Administered)
9. The Zambia State Insurance Corporation Limited. (100%)
10. National Hotels Development Corporation Limited. (100%)
11. Indeco Limited. (100%)
12. Maamba Collieries Limited. (100%)
13. Metal Marketing Corporation of Zambia Limited. (100%)
14. Mindeco Lumwana Limited. (60%)
15. Mindeco Noranda Limited. (51%)
16. Mindeco Small Mines Limited. (100%)
17. Mokambo Development Company Limited. (51%)
18. Zambia Consolidated Copper Mines Limited. (60.3%)
19. Zimco Properties Limited. (100%)
20. Zimco Services Limited. (100%)
21. National Import and Export Corporation Limited.
22. Contract Haulage Limited. (100%)
23. United Bus Company of Zambia Limited. (100%)
24. Zambia Airways Corporation. (100%)
25. Zambia Railways. (100%)

B. INDECO LIMITED

1. Anros Industries Limited. (80%)
2. Chilanga Cement Limited. (60%)   M
3. Consolidated Tyre Services Limited. (100%)
4. Choma Milling Company Limited. (100%)   M
5. Crushed Stone Sales Limited. (100%)
6. General Pharmaceuticals Limited. (100%)   M

7. Indeco Milling Limited. (100%)   M

8. Indeco Properties Limited. (100%)

9. Kabwe Industrial Fabrics Limited. (100%)   M

10. Kafironda Limited. (54%)   M

11. Kafue Estates Limited. (100%)

12. Kafue Textiles of Zambia Limited. (55%)   M

13. Kapiri Glass Products Limited. (89%)   M

14. Livingstone Motor Assemblers Limited. (70%)   M

15. Luangwa Industries Limited. (100%)   M

16. Lusaka Engineering Company Limited. (60%)   M

17. Mansa Batteries Limited. (91%)   M

18. Metal Fabricators of Zambia Limited. (51%)   M
        (a) Zamefa Sales Limited (51%)

19. Monarch Zambia Limited. (100%)   M

20. Motor Parts Distributors Limited. (100%)

21. Mwaiseni Properties Limited. (100%)

22. National Breweries Limited. (51%)   M

23. National Milling Company Limited. (74%)   M

24. Nitrogen Chemicals of Zambia Limited. (100%)   M

25. Norgroup Plastics Limited. (100%)   M

26. ROP (1975) Limited. (100%)   M

27. Rucom Industries Limited. (100%)   M

28. Supa Baking Limited. (100%)   M

29. Zambezi Saw Mills (1968) Limited. (100%)   M

30. Zambia Breweries Limited. (55%)   M

31. Zambia Ceramics Limited. (100%)   M

32. Zambia Clay Industries Limited. (100%)   M

33. Zambia Oxygen Limited. (51%)   M
        (a) Welding Electrodes Limited (51%)   M

34. Zambia Steel and Building Supplies Limited. (100%)

35. Zambia Sugar Company Limited. (78%)   M
        (a) Nakambala Estate Limited (78%)

    (Associate Companies)

36. Duncan, Gilbey and Matheson (Zambia) Limited. (40%)   M

37. Dunlop Zambia Limited. (23%)   M

38. Nkwazi Manufacturing Company Limited. (5%)   M

39. Scaw Limited. (2%)   M

NOTES: 1. All companies appearing under Zimco are direct

subsidiaries of this Corporation. Subsidiaries

of these companies as well as associate companies

of Zimco are omitted for lack of space.

2. Figures in parentheses indicate voting shareholding

of either Zimco in A Category or Indeco in B Category.

3. The letter M on the right hand indicates concerns

with predominantly manufacturing interests, as far

as can be gathered from Indeco Annual Reports and

publicity material as well as the writer's own

personal experience with Indeco companies, having

been once an employee of this Corporation.

SOURCE: ZIMCO (1983), "Zambia Industrial and Mining Corporation

Limited Subsidiary and Associate Companies", Zimco

Information and Publicity Unit, Lusaka, April.

CHAPTER V

THE SUPPLY AND DEMAND CONDITIONS FOR INDUSTRIALIZATION IN ZAMBIA
SINCE INDEPENDENCE

This Chapter examines, in turn, the major physical and
human resources and the market available for the development of
manufacturing industry in Zambia both at the time of Independence
and thereafter, in as far as statistically feasible.[1]

5.1   Natural Resources

It will be recalled from the earlier Chapters that, in the
early days of colonialism, Zambia was an unattractive site for European
settlement because it was believed to have had a relatively narrower
resource base than either South Africa or Zimbabwe. However, the 1964
Seers Report pointed out that Zambia's resource endowment was diverse
enough to support a whole range of manufacturing industries.[2]

In the early years of industrialization very little use of
local or imported raw materials was made since manufacturing was largely
based on processing at the final stage of production so that consumer
goods production especially implied importation of intermediate inputs.
(Young, 1973, p. 97). Table 5.1 indicates that, apart from food pro-
cessing, non-metallic minerals, and rubber products, there was a very
limited scope for backward linkages from the manufacturing to the
primary sector. Moreover, even in the above named sectors the greater
part of the primary inputs were imported. However, since Independence,
as it will be recalled from the previous Chapter, the major emphasis
had been increasingly on the use of local raw materials.[3] In any case,
due to the lack of recent input-output matrix of Zambia, it had not
been possible to indicate quantitatively whether and how far this
objective has been achieved since Independence.

TABLE 5.1

Producing Sector / Using Sector (Man.)	Agriculture, Forestry & Fishing			Mining and Quarrying			Total Inputs of Primary Products (A)	Total Non-Factor Inputs (B)	A/B %
	Domestic	Imports	Total	Domestic	Imports	Total			
Food processing	9,723	3,585	13,308	-	24	24	13,332	29,209	45.6
Breweries & Tobacco	622	188	810	-	-	-	810	15,527	5.2
Textiles & Wearing Apparel	-	61	61	-	-	-	61	9,521	0.6
Sawmills, Joineries	-	79	79	-	-	-	79	4,111	1.9
Paper products, etc.	-	-	-	-	-	-	-	4,307	-
Rubber Products	-	160	160	-	16	16	176	1,177	15.0
Chemicals & Petroleum	617	21	638	-	-	-	638	10,660	6.0
Nonmetallic minerals	6	-	6	431	606	1,037	1,043	5,242	19.9
Metal industries	6	-	6	-	282	282	282	28,018	1.0
Other Manufacturing	-	20	20	-	10	10	30	962	3.1
Total Manufacturing	10,974	4,114	15,088	431	938	1,369	16,457	108,734	15.1

SOURCE: Compiled from Republic of Zambia: Central Statistical Office (CSO) (1970), Input-Output Table 1967, Government Printer, Lusaka, by Young, 1973, op. cit. Table 4.1, p. 99.

5.11   Minerals

Zambia has been fortunate in that it is endowed with a
great abundance of valuable mineral resources,[5] some of which were
already being exploited at the time of Independence and others were
as yet to be exploited after Independence, and still others are as
yet to be exploited. Table 5.2 and Appendix 5.1 show the major mineral
production in Zambia, in value and quantity, respectively, over the
years since Independence.

Undoubtedly, copper has always been the most important mineral
in Zambia. However, by 1982 the share of copper had substantially
declined, though still dominant, largely due to production problems
and the fall of its price after the mid 1970s. Throughout this period,
however, the shares of both coal and cobalt had been increasing steadily,
whilst those of the rest of the minerals had been fluctuating, especially
those that are determined by world demand.

The importance of mineral production to the development of
manufacturing industry in Zambia, apart from the provision of foreign
exchange, lies largely in its provision of both backward and forward
linkages to this sector. For instance, after Independence the copper
mining industry was the basis for the establishment of a metal fabricating
industry in Luanshya in 1971, Metal Fabricators of Zambia Limited (ZAMEFA),
now producing the bulk of Zambia's requirements of electric wire and
cable, with a modest export surplus.[5] The plant also fabricates alumi-
nium products, though the raw materials are imported.

Zambia's coal deposits are located mostly in the Zambezi valley
of Southern Province, though inferior ones are also found in the Luangwa
valley of Eastern Province. Before Independence none of these deposits
were exploited and Zambia had to get all its requirements from Zimbabwe.

TABLE 5.2

VALUE OF MAJOR MINERAL PRODUCTION IN ZAMBIA IN SELECTED YEARS								
	1966		1970		1975		1982	
Mineral	Million Kwacha	Per Cent of Total	Million Kwacha	Per Cent of Total	Million Kwacha	Per Cent of Total	Million Kwacha	Per Cent of Total
Copper	439.4	96.1	648.0	96.2	455.3	90.3	710.6	82.6
Zinc	8.0	1.7	10.3	1.5	19.6	3.9	27.6	3.2
Lead	3.1	0.7	5.2	0.7	3.6	0.7	6.1	0.7
Coal	0.2	0.1	1.2	0.2	9.6	1.9	22.3	2.6
Cobalt	3.3	0.7	4.5	0.7	9.7	1.9	45.3	5.3
Other	3.2	0.7	4.3	0.6	6.7	1.3	43.2	5.0
Total	457.3	100.0	673.5	100.0	504.4	100.0	860.7	100.0

SOURCES: Bank of Zambia, Annual Reports and Statements of Accounts for the years ended
December 31st, 1971, 1974 and 1982, Printpak Zambia Limited, Ndola.

However, the passing of UDI in Zimbabwe in 1965 hastened Zambia's need to exploit its own deposits in Southern Province, first at Nkandabwe in 1966 and, later, at Maamba in 1967, the latter deposits being of better quality than the former, though still inferior to Zimbabwe's. From 1969 all local coal was produced by the Maamba Colliery. In spite of its low quality, it was thought that local coal would be suitable for the proposed iron and steel plant which has now been abandoned.[7] Currently, it is being used as a feed-stock for the ammonium nitrate fertilizer factory, Nitrogen Chemicals of Zambia (NCZ), at Kafue.

Other non-metallic minerals included the lime deposits near Lusaka and Ndola which were the basis for the establishment of Chilanga Cement factory before Independence and Ndola Lime Company after Independence.[8] The clay deposits near Kitwe and at Mazabuka were, respectively, responsible for the setting up after Independence of Zambia Clay Industries (for salt-glazed pipes and face bricks) and Kalulushi Brickworks and Nega Nega Brickworks; while the glass sand deposits in the Kapiri Mposhi area were the basis for the setting up of Kapiri Glass Products (KGP).

However, with the exception of the cement factory, mineral production before Independence did not provide many linkage effects in the manufacturing industry because of the set of working rules and institutions of colonialism discussed in the previous Chapters. Most of the inputs for the mines were imported; in the case of copper most of the refining was done overseas, particularly in the U.K.

5.12   Agricultural Raw Materials

Zambia is also endowed with ample resources of land and water, most of which are suitable for agricultural development, though unevenly

distributed throughout the country.[9]

However, in spite of such natural endowments, at Independence, agriculture was too much outside the money economy to form a basis for the setting up or expansion of local manufacturing industries. For instance, of the total production by African farmers in 1964, 87% was consumed within the subsistence sector, leaving only a small proportion for commercial purposes. (The E.I.U., 1966, p. 20). Furthermore, as shown in Table 5.1, only the 'food, beverages and tobacco' sector made use of local agricultural inputs in 1967. However, although this might not be hardly surprising in a less developed country, for Zambia it was an unusual underdevelopment because the agricultural sector made a less significant contribution to manufacturing inputs than it did in many LDCs at a similar stage of development and with similar resource endowments.[10] Furthermore, the nation imported large quantities of foodstuffs.[11] Finally, the country relied heavily on a relatively small number of commercial farmers, mostly expatriates, along the line of rail, while the rest of the country remained at a subsistent level.

Like manufacturing development before Independence, the under-development of agriculture was largely due to the set of working rules and institutions that existed then.[12] Undoubtedly, most of the inherited constraints continued to affect adversely the development of this sector even after Independence, particularly in the periods covered by the first two national development plans for several reasons.

First, up to early 1970s, the price of copper remained at unprecedented high levels as before Independence, and this made it possible to continue substituting food imports for local produce, [13] and consequently there was no spur of necessity to develop local agriculture. Secondly, following UDI, agriculture took second place to

the more urgent problems of restructuring the economy away from the

hostile south. Thirdly, the political uncertainties associated with

attainment of Independence and the economic reforms of 1968 discouraged

long-term direct foreign investment in immovable assets, including

land development, and instead most of the expatriate farmers who

stayed behind concentrated on maximizing short-term profits by intensive

use of existing assets. (Young, 1973, p. 101). Fourthly, the absence

of adequate market incentives, and communications infrastructure

necessary to allow production for the market, coupled with the rapid

increases in wages after Independence, continued to lead to the deter-

ioration in the terms of trade of the rural sector, a point to be covered

further in Chapter IX. Sixthly, and finally, the process of Zambianizing

commercial agriculture and of commercializing the subsistence sector

proceeded only too slowly, partly due to the conflicting government

policy towards agriculture. For instance, in contrast with its vigorous

direct interventionist policy in manufacturing and mining, the state

showed considerable uncertainty over its role in encouraging agricultural

expansion. On the one hand, it did not favour development through

direct intervention because it felt that "the centrality of man and the

rediscovery of traditional values do not easily co-exist with the

massive state farms, which necessarily imply the perpetuation of the master-

servant relationship". (Elliott, 1969, p. 120). On the other hand, it

feared that the encouragement of private enterprise through the promotion

of individual peasant farming would possibly lead to the growth of a

'kulak' class, (Young, 1973, p. 101), and, besides, the creation of

Zambian capitalism itself was inconsistent with the philosophy of

humanism. Thus, the only option left and adopted at Independence was the

transformation of subsistence agriculture through producer co-operatives,

which had failed miserably by the end of the 1960s.[14]

As a consequence of the constraints outlined above,
agriculture failed to make any significant contribution to the overall
increase in output, especially during the first plan, although rapid
growth did take place in a few sectors; but this was offset by declining
production in others.[15]

Appendix 5.2 gives trends in sales of those major agricultural
products that could be used as basic inputs by manufacturing industries.
During the period of the first plan, only in a few exceptional cases
(like cotton, sugar cane, and fruit and vegetables) did local production
show a satisfactory upward trend, mainly as a result of establishment of
industries that utilized such raw materials (such as Kafue Textiles of
Zambia (KTZ), Nakambala Sugar Estate supplying the Zambia Sugar Company,
and Mwinilunga pineapple canning factory). However, fluctuations in the
output of local products were not necessarily reflected in the output
of the manufacturing industries that utilized them in the early years of
Independence, since imported raw materials could easily be used to
supplement local supplies, as foreign exchange was not yet a major
constraint due to the exceptionally high copper prices.

For instance, the decline in maize production in the late 1960s
(due to poor harvests, increased input costs, and misconceived pricing
policies) did not prevent the setting up of new maize roller mills in the
rural areas, though the import bill shot up.[16]

However, in some sectors, the prospects for industrialization
were seriously inhibited by the failure to ensure a steady supply of
local agricultural inputs, as in the case of the vegetable oil expressing
industry which suffered enormously from competition with the export
market for groundnuts (peanuts). The export market offered higher prices
for confectionery nuts. However, as shown in Appendix 5.2, with the

growing importance of cotton seed, sunflower and soya beans the future looks promising for adequate local supplies.

The inadequacies of local supplies also hindered the establishment of such local industries as leather-tanning (commercial slaughterings declined after Independence due to expatriate uncertainties about their future, while subsistence farmers did not consider their herds in purely commercial terms).[17] Furthermore, the newly formed Lakes Fisheries Limited, a subsidiary of Indeco, only confined its operations to the northern lakes, neglecting the Kafue River and Kariba Lake Fisheries in the South. (Economic Report, 1971).

However, the future generally seems to be promising. Already, as shown in Appendix 5.2, the base of agricultural inputs has expanded remarkably over the years since Independence, since of late the government has become actively involved in the promotion of agriculture.[18] For instance, under the third plan, agriculture is allotted 15% of capital spending (more than twice as much as in the earlier plans), and significant price increases, income tax cuts, and other financial and marketing incentives have been introduced. The parastatal organizations involved in agriculture have been reorganized, with the aim of increasing their efficiency. However, the problems of droughts and foreign exchange for the procurement of agricultural inputs and implements have continued to adversely affect agricultural production over the recent years.[19]

5.13   Forestry

Zambia is again fortunate to have a plentiful supply of timber which earned her the reputation during colonialism of being the best naturally wooded country in British Southern Africa. [20] Its timber is mainly of the valuable hardwoods (the Zambezi teak and 'mukwa' found in Western and Southern Provinces). This formed the basis for the

establishment of Zambia's oldest manufacturing industry, founded near Livingstone in 1948, the Zambezi Sawmills, which supplied the other territories in the region with railway sleepers; and because of its hardness the teak was later also used to manufacture parquet flooring. However, because it is too heavy and too difficult to work, the teak had limited use in the furniture industry, though the local 'mukwa' timber is suitable for at least the more utilitarian types of furniture like doors, door frames and window frames. Generally, however, Zambia suffers from lack of local softwoods necessary for higher quality furniture, and in the past these had to be imported from overseas, mainly Canada.

When Zambia's mining industry began to develop on a large scale, its timber requirements of pit-props, fuel and charcoal, were chiefly satisfied from the Brachystegia hardwood forests, which cover three quarters of the country, though only the Copperbelt Province reserves have so far been exploited. Most of the timber requirements of the copper industry are the responsibility of Indeco, through its subsidiary, Mining Timbers Limited. The Forest Department, through the Industrial Plantation Corporation, has established large-scale commercial plantations on the Copperbelt to replace the timber that is being used up as well as to provide for the rapid expansion that is anticipated in forest-based industries. These plantations are of tropical pine and eucalyptus, rather than of the local Brachystegia which takes about 100 years to mature. In contrast, pines and eucalyptus mature in only 35-40 years and 6-7 years, respectively. It is envisaged that, by 1992 a target of 120,000 acres will be met, with an annual yield by that year of 40 million cubic feet of roundwoods, which would be in excess of the present requirements, even allowing for a rapid

rate of growth.

Zambia's timber resources have a very important role to play as a basis for small-scale rural industries, emphasized strongly in the TNDP. Most of the provinces have large supplies of local timber, with most surplus coming from Northwestern Province, which is the wettest part of Zambia. However, one drawback is that they are not always well located for the local market; for instance, the Western Province teak forests are far away from the population concentration in the Upper Zambezi Valley.[21] However, this problem is being solved by the establishment of 'regional' and 'local' supply plantations in all provinces.[22]

Finally, in addition to the provision of raw materials directly for industry, Zambian forests have also been used in the past as environments for the establishment of a beeswax and honey industry, especially in Northwestern Province, though this industry still requires a lot of promotion.[23]

5.2   Infrastructure

5.21   Electricity

Zambia is also fortunate to have a river system capable of being harnessed on a large scale for hydro-electricity. Since the opening of the Kariba South Bank Hydro-electric Scheme during the Federation both Lusaka and the Copperbelt have had access to an abundant supply of cheap electricity.[24] However, it is worth noting that though the low unit price of electricity is of little significance in increasing Zambia's locational attractiveness for potential investors because power in this country forms only a small proportion to the costs of manufacturing processes,[25] the supply of power is an essential pre-condition of the very success of any industrial process. This is because without an

assurance of an adequate and regular supply of power, investors would
be reluctant to establish new industries in the country.

Until UDI in Zimbabwe in 1965, nearly all of Zambia's energy
requirements came from, or were transported through, Zimbabwe.[26]
However, since UDI, Zambia has made impressive progress in the
development of her energy potential. Since coal has already been
covered in an earlier section, our main concern here is electricity.

During the FNDP and SNDP several electricity projects were
established.[27] The major ones included the commissioning of the
100 mw Victoria Falls Hydro-electric Scheme in 1971 and the 600 mw
Kafue Hydro-electric Scheme Stage I in 1972. During the same period
a decision was undertaken also by the government to construct the 600 mw
Kariba North Bank Hydro-electric scheme which was fully commissioned
by mid-1977, at the same time as the Kafue Hydro-electric Scheme II,
giving the latter an increase of 300 mw, from 600 mw to 900 mw. Thus,
by 1974, Zambia was not only self-sufficient in electricity as a result
of all these developments, but had also become a net exporter of the
product, particularly to Zimbabwe and Zaire.[28]

The major developments at Kafue and Kariba North Bank were
bound, however, to benefit those manufacturing industries that were
situated on the line of rail, that is those served by the interconnected
system, comprising several public electricity corporations and certain
municipal undertakings, prior to the establishment of the Zambia Electricity
Supply Corporation (ZESCO) in 1970, which absorbed most of them
thereafter. The system connected Kariba with Livingstone, Lusaka, and
the Copperbelt, and, in turn, the latter was connected with Le Marinel
Hydro-electric scheme in Shaba Province in Zaire. However, electricity
to the Broken Hill lead and zinc mine at Kabwe was supplied by the

Mulungushi and Lunsenfwa Hydro-electric Schemes, and this has
continued to be the case even today, though in bad years it gets
supplements from ZESCO.

Initially the supply position in the rural areas was, and
continued for many years after Independence, less satisfactory. The
rural centres were directly supplied by the Northern Electricity
Supply Corporation (NESCO), though some organizations had their own
generators. Between 1965 and 1970, however, NESCO's installed capacity
more than doubled, from 4.8 mw to 14.4 mw, though it still could not
satisfy the rapidly expanding demand. (Economic Report, 1969, p. 170;
and Economic Report, 1970, p. 179). During the FNDP period many rural
projects were either initiated or expanded by NESCO in all the rural
provinces. (FNDP, 1966).

Since the SNDP, however, ZESCO took over from NESCO and a lot
of projects were planned and established, as well. Vigorous developments
were envisaged in the TNDP whose major objective was rural development,
and rural electrification was seen as a major means to "create a strong
rural economy". (TNDP, 1979, p. 22).

Initially, power supply in the rural areas was also more
expensive than on the line of rail. This was because of the inherited
multiplicity of tariffs from the public corporations and municipal
undertakings, which varied from area to area, but the average unit cost
being about 5 ngwee, as compared with one ngwee on the line of rail.
(Young, 1973, p. 109). However, in 1973 ZESCO introduced a unified
tariff structure for the whole of Zambia, on cost-based principles
(Economic Report, 1973, p. 243). This meant that a small rise in price
to the line-of-rail consumers helped to cross-subsidize a large fall in
price to the rural users.

5.22   Transport

In this section we shall look at the transport sector as it affected the manufacturing industry with regard to the procurement of the cheapest input requirements, both externally and internally.[29]

5.221   External Routes

Transport is particularly important for a landlocked country, like Zambia.[30] The most important trade route to the sea ran through Zimbabwe to the Mozambican ports and to the South African ports. Another possible route ran through Zaire to Angola, by means of the Lobito-Benguela-Shaba Railway. Very little use was made of the routes to the north, through Tanzania, or to the east, through Malawi.

However, at Independence, Zambia adopted a policy of disengagement from the south (FNDP, 1966, p. 39). Economically, the traditional routes to the south were already proving inadequate to handle both the greatly increased traffic resulting from Zambia's rapid economic growth, and Zaire's external trade. Politically, as we saw in the previous Chapter, the policy of disengagement from the minority regimes in the south was compatible with its goal of national security.

The above considerations were heightened, first, by the UDI in Zimbabwe in 1965, and, in particular, by Zambia's decision to comply with the international economic sanctions against that country. In the 1970s other developments took place to aggravate the situation: first, the border closure with Zimbabwe in January, 1973, as a result of the escalating civil war in Zimbabwe; secondly, the closure of the alternative Lobito route in 1975 at the outbreak of civil war in Angola; thirdly, the managerial, financial and operational problems coupled with congestion and delays on the new alternative routes and ports, particularly the newly constructed Tanzania-Zambia Railway (TAZARA)[31] and Dar-es-Salaam;

and finally, the blowing up of rail and road bridges on the
Chambeshi River, on the Dar-es-Salaam route, by the Zimbabwean
Commandos in 1979.

Undoubtedly, the re-routing exercise had been the root
cause of the transport crisis which faced Zambia for many years after
Independence. (Economic Report, 1968, p. 166). Not only were there
stresses and strains on the available administrative and managerial
capacity, but also a massive re-allocation of resources, which had led
to a re-ordering of the priorities implicit in the FNDP. (Bostock,
1971, p. 325).

Under the Control of Goods Order of 1965, the Ministry of
Commerce and Industry, was empowered to make orders "prohibiting,
restricting or otherwise controlling" the export or import of any goods,
as well as to "prescribe terms and conditions" under which controlled
goods might be imported or exported.[32] At first, these controls
were mainly directed at Zimbabwean goods but later they were also used
to restrict the routes over which goods from any source might be imported,
thus affecting the South African imports, as well.

Table 5.3 illustrates the effects of various measures taken to
control imports from the south, particularly Zimbabwe, since UDI. Imports
from Zimbabwe had been completely wiped out by 1973, partly because of
economic sanctions against that country, but mainly because of the
border closure in 1973; moreover, by 1974 Zambia had become self-sufficient
in coal and electricity which were formerly supplied from Zimbabwe. The
minor recovery in 1980 was due to the attainment of its Independence
in that year and the consequent lifting of international economic
sanctions against it; as well as the re-opening of the southern route
in 1978 by Zambia, following serious transport disruptions.

TABLE 5.3

ZAMBIA'S IMPORTS FROM SOUTHERN AFRICA, 1964-1980								
Year	ZIMBABWE		SOUTH AFRICA		OTHER		TOTAL IMPORTS	
	K'million	Per Cent of Total	K'million	Per Cent of Total	K'million	Per Cent of Total	K'million	Per Cent of Total
1964	61.7	39	32.4	21	62.3	40	156.4	100
1965	71.1	34	41.4	20	98.2	46	210.7	100
1966	46.4	19	58.5	24	141.2	57	246.1	100
1967	32.2	11	72.2	24	202.0	65	306.4	100
1968	22.6	7	76.1	23	226.5	70	325.2	100
1969	21.8	7	69.9	22	219.5	71	311.2	100
1970	20.6	6	59.1	17	261.0	77	340.7	100
1971	21.1	5	60.9	15	317.3	80	399.3	100
1972	11.6	3	59.3	15	331.6	82	402.5	100
1973	7.5	2	41.9	12	297.5	86	346.9	100
1974	-	-	38.7	8	497.9	92	506.6	100
1975	-	-	40.4	7	557.2	93	597.6	100
1976	-	-	34.9	7	433.7	93	468.7	100
1977	-	-	38.5	7	490.8	93	529.3	100
1978	-	-	31.5	6	461.1	94	492.6	100
1979	-	-	64.7	11	533.1	89	597.8	100
1980	3.9*	-	139.5	16	733.3	84	876.7	100

* Preliminary and for first eight months.

SOURCES: Monthly Digest of Statistics, Bank of Zambia Annual Report, 1980, and Economic Report, 1973.

Undoubtedly, the import control measures had serious impli-
cations for the procurement of vital industrial inputs from overseas.
Initially, the effects were less marked than might have been the case
because the progressive restrictions on imports from Zimbabwe mainly
affected consumers rather than manufacturers, since Zimbabwe, as it
will be recalled from Chapter II, was itself at a relatively consumer
goods stage of development. Besides, essential inputs, like coal and
electricity, from Zimbabwe were free of restrictions. Furthermore, it
was still possible to switch over to South African suppliers for raw
materials without too much inconvenience. However, as the political
tension increased the problem of procuring supplies, even from South
Africa, became more acute. For instance, in 1968, the government
introduced routing restrictions which effectively prevented the use of
the southern route. Although some goods could have come through Dar-
es-Salaam, the Port authorities there were not allowed to handle any
re-routed South African goods for political reasons. The Lobito route,
another alternative, was too expensive relative to the southern route,
by as much as 20 to 80% higher. (Young, 1973, p. 114). However, in
spite of these short-comings, the new alternative routes by 1969 assumed
some great importance.[33]

Table 5.4, however, illustrates the relative importance of
Zambia's main routes during the period 1972-82. It shows the declining
importance of the southern routes in favour of the new alternative routes,
especially the Dar-es-Salaam route. The most important alternative
route after the border closure was Lobito-Zaire before the civil war in
Angola; thereafter, Dar-es-Salaam assumed greatest importance, only to
lose it back to Zimbabwe in 1980, following the re-opening of the southern
route in 1978 and Zimbabwe's Independence in that year.

TABLE 5.4

PERCENTAGE DISTRIBUTION OF IMPORTS IN ZAMBIA BY VARIOUS ROUTES (METRIC TONNES) 1972-82											
Route	1972[1]	1973[1]	1974[1]	1975[1]	1976[1]	1977[1]	1978[1]	1979[1]	1980[1]	1981[2]	1982
Lobito-Zaire	11.2	48.7	44.6	29.3	0.5	0.1	0.1	-	-	-	-
Dar-es-Salaam	19.1	23.3	29.4	43.2	75.5	84.7	68.2	46.3	46.9	45.7	47.9
Mombasa	-	7.9	8.8	2.5	2.9	0.4	-	-	-	-	-
Malawi	3.0	12.7	12.7	14.7	9.4	3.8	2.4	3.9	0.4	0.5	-
Mozambique	-	-	-	3.4	7.6	1.3	8.8	2.7	-	1.9	1.0
Botswana	-	0.4	1.5	4.7	1.2	7.0	5.1	0.2	-	-	-
Zimbabwe	66.1	4.1	-	-	-	-	12.9	43.9	50.5	50.2	49.4
Air freight	0.6	2.9	2.9	2.2	2.9	2.7	2.5	3.0	2.2	1.7	1.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NOTE: 1.   General cargo excluding petroleum.

2.   General cargo including lube oil.

SOURCE: Bank of Zambia, Annual Reports and Statements of Accounts, 1974-82, Printipak Zambia Ltd., Ndola.

During the period 1965-72, the effects of the import restrictions were, first, to increase the transport costs of inputs, as illustrated in Table 5.5. Another effect was that, the imports were subject to serious delays on the new routes and ports, which made it very difficult to achieve smooth production runs in manufacturing. (Young, 1973, p. 116).

However, as time went by the situation began to improve due to several extremely significant developments that took place within the transport sector especially during the FNDP period. For instance, Zambia-Tanzania Road Services Ltd. (ZAM-TAN) was established in 1966 as an emergency measure after UDI to move goods between Zambia Railway system and Dar-es-Salaam; Zambia Railways and Zambia Airways were established in 1967, following the break-up of Rhodesia Railways and Central African Airways; Zambia Air Cargoes Ltd., was also established in 1967 to air freight goods mainly from Dar-es-Salaam to Ndola; the K32 million Tazama (Tanzania-Zambia) oil pipeline was established in 1968, initially to transport refined petroleum products and, later, crude oil for INDENI Oil Refinery from Dar-es-Salaam to Ndola; the K23 million Great East Road was bitumenized between Lusaka and Chipata to Salima in Malawi in 1969, and so was the Great North Road in 1970 from Kapiri Mposhi to Tunduma and Dar-es-Salaam. In 1975 a road/rail link to the sea from Katete to Tete in Mozambique through Beira, was opened and so was the 1860 Kilometre railway, TAZARA.

However, in spite of such developments the Zambian economy in general, and manufacturing sector in particular, continued to suffer from a number of problems related to transport: delays and congestion on the new routes and ports; high transport costs due to the re-routing exercise, port surcharges, and highly inflated oil prices after 1973, restrictions

TABLE 5.5

FREIGHT TARIFFS TO LUSAKA BY VARIOUS ROUTES, 1968-1970			
Place of Loading	Means of Transport	Class of Goods	Rate per Short Tonne
1. Beira or Johannesburg	Rhodesia Railways	(a) Machinery	(a) K44
		(b) Most other items	(b) K8 to K18
2. Johannesburg	Road Haulage	Most items	K54
3. Salisbury (Harare)	Road Haulage	Most items	K26-60
4. Lobito Bay	Benguela Railway	Most items	K44
5. Dar-es-Salaam	Zam-Tan Road Services	Most items	K36 to K42

NOTES: 1. 1 and 4 are for circa 1968; 2, 3 and 5 are for 1970.

2. Road haulage was mainly done by Smith and Youngson Ltd., now known as Contract Haulage Ltd. since the take over in 1968.

SOURCES: 1. Fortman, B. de Gaay, (1971), "Zambia's Markets", in Elliott, C. ed., 1971, op. cit., p. 203; and Young, 1973, op. cit., p. 116.

on the use of heavy vehicles on some routes (between Dar-es-Salaam and Kenyan border); and deterioration in the operations of TAZARA due to inadequate skilled manpower, after the departure of Chinese technicians, and insufficient foreign exchange for maintenance, spare parts and equipment.[34] The road haulage companies, like ZAM-TAN and Contract Haulage (CH) also suffered from similar problems.

However, the re-opening of the Southern route in 1978, together with the attainment of Independence in Zimbabwe and the lifting of economic sanctions against that country, meant both the alleviation of further deterioration in Zambia's trade routes to the sea and also the resumption of easily accessible supplies of raw materials and parts from Zimbabwe and South Africa. A further prospect, however, lies with the activities of the Southern Africa Development Co-ordination Conference (SADCC) established in 1980, amongst other things, to co-ordinate the restructuring and rehabilitation of the transport infrastructure of Southern and Eastern Africa. (Bank of Zambia Report, 1982, pp. 41 and 42). The current plans are to link Zambia's traditional rail system with that of Malawi and to improve road connections with Botswana.

5.222   Internal Transport Routes

While the transport infrastructure connecting the main urban centres was already fairly well developed at Independence, both by rail and by road, that of the provincial centres remained backward. Thus, any manufacturers in the rural areas who had to procure their supplies from the urban centres were much less adequately served. Table 5.6 shows road transport rates between different urban centres and provincial centres in Zambia. From the Table it can be seen that, for some inputs the effects of transport charges could be to double or more than double costs. For instance, in 1970, relatively a few years after Independence, the wholesale

TABLE 5.6

ROAD HAULAGE RATES IN ZAMBIA BETWEEN THE LINE OF RAIL AND PROVINCIAL CENTRES, 1970			
Route	Distance	Freight Rate	Main Carrier
Lusaka to Kasama	537 miles	K1-40 to K2-30 per 100 lbs.	Zambia Freight Services
Lusaka to Chipata	381 miles	K1-90 to K2-30 per 100 lbs.	Contract Haulage*
Lusaka to Mongu	408 miles	K1-50 to K2-20 per 100 lbs.	Zambia Freight Services
Lusaka to Mansa	190 miles	K10-00 to K23-00 per tonne per 100 lbs.	Zambia Freight Services
Ndola to Mansa	131 miles	K14-00 to K22-00 per tonne	Zambia Freight Services
Ndola to Zambezi	493 miles	K3-05 to K3-50 per 100 lbs.	Contract Haulage*

* formerly Smith and Youngson

SOURCE: Young, 1973, op. cit., p. 119.

price of cement in Lusaka was about 86 ngwee per 100 lbs., while in Mongu, a rural centre, the same quantity cost over K2-20. However, for higher value items in relation to weight the transport differential could be very much less significant. For instance, a bag of wheat flour cost K56-80 on the line of rail, while its transportation to Mongu cost only about 3% more. The problems in this latter category, however, were the delay and uncertainty of supplies due to the lengthy and poor transport infrastructure at the time between urban and rural centres.

During the Federation, Chipata was the only exception to the above problems since it was the most developed of the rural centres, and has remained so since Independence, because of the anxiety during colonialism to improve the Great East Road as the only means of linking Zambia and Zimbabwe with Malawi. As already noted, this route was further developed after Independence for strategic reasons, following UDI. Similarly, the bitumenization of the Great North Road greatly improved communications between the traditional line of rail and Northern Province, and so did the construction of TAZARA serve the same purpose.

Unfortunately, all the other provincial centres remained separated from the rest of the country, and urban centres in particular, for some years after Independence. However, since the early 1970s all the major rural provincial centres had become linked by tarred roads. Rehabilitation of some roads within the provinces had mostly been hampered by the lack of foreign exchange, and local funds to purchase the necessary raw materials and machinery. The underdevelopment of the rural transport infrastructure relative to that of the line of rail, mainly explains the locational attractiveness of industries towards the latter.

5.3   Labour Supply

Typical of most LDCs, at Independence, Zambia's labour force
was characterized by a large number of unskilled workers and a critical
shortage of trained technical and managerial workers, for reasons
discussed in Chapter II. Traditionally, Zambia had been dependent
upon supplies of skilled labour from Zimbabwe and South Africa for its
industry; besides, a good majority of manufacturing industries set up
in Zambia during this time were branches of transnational corporations
(TNCs), for instance, Dunlop, Rothmans, Lever Brothers, etc., which made
recruitment much easier.

However, strict controls were enforced after Independence,
especially after UDI, against recruitment of staff from the south.[35]
Thus, the alternative was either to import from Europe, on short-term
permits, or to Zambianize as quickly as possible. However, the former
option proved expensive and also unsatisfactory and inconveniencing, as
well as incompatible with Zambia's goal of 'self-reliance'. Thus, to a
large extent, the second option was adopted and implemented.

5.31   The Local Labour Supply

During colonialism, local labour was believed to be unsuited
for performing any but the most rudimentary industrial tasks. The
urban indigenous worker was regarded as a temporary worker who would
return to the traditional economy after earning enough cash to meet his
tax obligations and to purchase some consumer goods for his limited use.
(Young, 1973, p. 121). Of course, such beliefs are no longer valid to
exclude him from performing more than the rudimentary industrial tasks.[36]
In the early years of economic development of Southern Africa evidence
suggested that the African worker was not responsive to the same set of
motivations as the European, mainly because African labour supply was

marked by seasonal fluctuations - most African workers in the mines
returned to their villages during planting and harvesting times.[37]
However, these phenomena are now of only historical interest due to
the expansion of the money economy in the country. Urban wages have
grown much higher than the returns from the rural economy and
institutional barriers to labour mobility have also been removed. Thus,
what has become a permanent feature of the Zambian economy is large-scale
rural-urban migration.

However, the quality of such labour to meet manufacturing
requirements has remained the major bottleneck, especially in the
parastatal organizations, for the reasons explained in the next two
sub-sections.

5.311   The Zambianization of Skilled Jobs

Table 5.7 gives the growth of employment in the manufacturing
sector in Zambia by 'Zambians' and 'non-Zambians' during the period
1964-83. The rapid expansion of manufacturing employment after
Independence shows that, in absolute terms there were more non-Zambians
employed in 1974 and 1975 than in 1964, though the increase was most
marked in 1965. However, the growth rate of the Zambian labour force
was fairly rapid after 1964, causing a rise in the proportion of Zambian
employees in total manufacturing, though this proportion was already
very high at Independence as a result of the lower-skilled occupations
which had always been filled by indigenous labour since colonialism.

In the earlier presentation of manpower statistics prior to
1972, some of the workers classified as 'non-African' were in fact
Zambians while some classified as 'Africans' were non-Zambians. The
former category would include only those with a high level of skill,
since generally, non-skilled people would not have been granted citizenship.

TABLE 5.7

ZAMBIAN AND NON-ZAMBIAN EMPLOYEES IN MANUFACTURING SECTOR, 1964-1983				
Year	Zambians	Non-Zambians	Total	Zambians (Per Cent of Total)
1964	18,000	2,940	20,940	86.0
1965	24,730	4,330	29,060	85.1
1966	26,310	2,900	29,210	90.1
1967	28,500	2,690	31,190	91.4
1968	31,390	2,730	34,120	92.0
1969	32,730	2,950	35,680	91.7
1970	33,920	2,890	36,810	92.1
1971	37,680	2,960	40,640	92.7
1972	40,020	3,280	43,300	92.4
1973	40,460	3,140	43,600	92.8
1974	40,970	3,100	44,070	93.0
1975	41,230	3,100	44,330	93.0
1976	40,380	2,700	43,080	93.7
1977	43,300	2,470	45,770	94.6
1978	43,670	2,310	45,980	95.0
1979	42,960	2,000	44,960	95.6
1980	44,960	1,840	46,800	96.1
1981	46,620	1,840	48,460	96.2
1982	46,760	1,640	48,400	96.6
1983	47,210	1,580	48,790	96.8

NOTE: Before 1972 Data were classified by 'African' and 'non-African' in official statistics.

SOURCES: Central Statistical Office, Monthly Digests of Statistics; and Economic Reports 1981-83, Government Printer, Lusaka.

In the latter category, also, the level of skill of the workers
involved was almost certainly higher than the average African Zambian.
(Young, 1973, p. 123). However, the numbers involved here were unlikely
to be very large, although it is likely that the increased proportion
of 'Zambians' in Table 5.7 prior to 1972 overstated the extent to which
it had been possible to train local Zambians to fill the more highly
skilled positions. By 1970, however, Zambianization depended almost
exclusively upon the training programmes, rather than merely on granting
of citizenship to non-Zambians with the appropriate skills partly because
by that year most non-Zambians who wished to take up citizenship had
already done so, and partly because the government had become increasingly
strict in granting new citizenship.

Table 5.8 illustrates the degree of Zambianization that had
taken place in Zambia in terms of major skilled occupations in
manufacturing. Indeed, some significant progress had taken place since
Independence, both in absolute and relative terms.[38] This progress cannot
only be explained by a programme of simply replacing expatriates in
existing posts by Zambians, but also by the massive programme undertaken
by the government to increase the supply of new Zambian workers at a
rate sufficient to sustain economic growth, through the expansion of
the necessary educational infrastructure. Initially this programme met
with a number of problems, such as lack of teaching staff and inadequate
schools and training colleges. However, by 1979, quite a remarkable
achievement had taken place, the details of which are summarized in
Appendices 5.3 and 5.4. Nonetheless, it is worth noting that, in the
early years of the University of Zambia, the government bursary system
ensured that a substantial proportion of graduates were channeled into
the teaching profession, meaning that only a small number was available

TABLE 5.8

WAGE EMPLOYMENT IN MANUFACTURING IN ZAMBIA BY MAJOR OCCUPATIONAL SKILLS, 1965 AND 1977

Major Occupations	Zambians		Non-Zambians		Total		Zambians (Per Cent of Total)	
	1965	1977	1965	1977	1965	1977	1965	1977
1. Professional, technical and related workers	44	525	237	187	281	712	15.7	73.7
2. Administrative, managerial and clerical workers	497	4,132	1,818	926	2,315	5,058	21.5	81.7
3. Sales workers	128	1,172	448	85	576	1,257	22.2	93.2
4. Service workers	8	1,903	-	61	8	1,964	100.0	96.9
5. Agricultural, forestry, fishery & wildlife workers	-	102	7	2	7	104	-	98.1
6. Production, manufacturing, construction & maintenance workers	603	17,676	1,779	959	2,382	18,635	25.3	94.9
7. Packaging, storage and transport workers	51	3,757	18	58	69	3,815	73.9	98.5
8. Total with and requiring secondary education (1-7)	1,331	29,267	4,307	2,278	5,638	31,545	23.6	92.8
9. General labourers	25,572	14,513	26	392	25,598	14,905	99.9	97.4
10. Total (8 + 9)	26,903	43,780	4,333	2,670	31,236	46,450	86.1	94.3

NOTES: 1. Workers in 5 and 6 are engaged in manufacturing, but with special skills in these sectors.
2. Data for 1965 were classified by 'African' and 'non-African' in official statistics.
3. Workers in 6 include craftsmen as well.

SOURCES: Cabinet Office Manpower Reports, 1965-6 and 1977.

for employment in industry. Undoubtedly, therefore, the Zambian industry continued to rely on expatriates for a long time to fill the highest level occupations throughout the late 1960s and early 1970s.

Finally, one of the major problems that faced the Zambianization programme, initially, at all levels was the fact that most of it was left in the hands of existing expatriate-dominated enterprises themselves. As such, conflicts normally arose when the expatriates found themselves with no posts left to Zambianize but their own. Furthermore, the shortage of skilled personnel made it difficult for existing staff to spare time to train others to take over.

5.312 The Productivity of the Zambian Labour Force

The suspicion has always been that the efficiency of the average worker in the majority of LDCs, including Zambia, is substantially less than that of his counterpart in the developed countries. (Young 1973. Ch 4) This is partly due to the disadvantages of the physical environment in which he lives, first, as a child, and, secondly, as an industrial worker; partly due to the lengthy distance he has to travel to and from place of work, without adequate public transport; and partly due to the lack of knowledge of working in a factory.

Indeed, in the years following Independence it was generally believed that the Zambian labour force was not only simply low in productivity by world standards, but that the ending of colonial rule had had its own toll as well, partly because of the hasty Zambianization programme of simply replacing experienced and trained expatriates with inexperienced and hardly educated and trained Zambians. It was also blamed on 'job fragmentation', whereby a piece of work previously done by a single expatriate had now been broken into simpler components, each of which was now performed by a less-skilled indegenous worker. Finally,

it was due to a disturbing deterioration in the attitude towards work of the Zambian worker.[39]

According to the Turner Report, the output per head index declined to 87 in 1968 against the 1965 base year, "despite the very high rate of investment in Zambia (averaging nearly a quarter of the gross national product), which by providing the workers with more equipment ought to have raised output per head." (Turner Report, 1969, paras. 26 and 27). The reasons given for the decline were the breakdown of the colonial system of labour discipline as a result of "labour regulations or action by trade unions" and nepotism and political interference; inadequacy of management at the supervisory level; and lack of positive incentives-automatic awarding of pay on length of service basis rather than on work effort.

However, the above inferences and conclusions of the Turner Report conflict with, first, the Zambian Manpower Report Conclusions and Young's study in the early years of Independence which show an upward tendency in labour productivity per head. (Zambian Manpower, 1969, op. cit., Table 4; and Young, 1973, op. cit., Table 4.9, page 128.).

Our own study tends to confirm both the Zambian Manpower Report and Young's results of an upward trend in labour productivity since Independence as shown in both Table 5.9 and Appendix 5.5, of course, with exceptions in both the 'non-metallic mineral products' and 'basic metals, metal products, and other' sectors. The explanation for the upward trend especially during the first two plans, was largely the rapid pace of capital formation, especially after the economic reforms, boosted by the rising copper prices. Another possible explanation for the upward trend might be given by the increased capital-intensity of most Indeco companies over the period, as will be seen in Chapter IX. However, the decline in

TABLE 5.9

OUTPUT PER HEAD IN ZAMBIAN MANUFACTURING INDUSTRY, 1965-80				
Industry Sector	1965	1970	1975	1980
Food, beverages and tobacco	5.1	11.8	12.9	9.6
Textiles, clothing, footwear and leather	3.2	3.0	4.8	5.0
Wood and wood products, including furniture	1.7	1.4	3.9	4.8
Paper and paper products, printing and publishing	2.5	4.0	9.2	8.2
Chemicals and rubber	8.5	4.7	13.2	12.2
Non-metallic mineral products	5.1	6.3	4.3	4.0
Basic metals, metal products, and other	3.6	10.1	6.8	1.4
TOTAL MANUFACTURING	4.1	6.5	8.7	8.1

NOTES: 1.   Figures are in thousand kwacha.

2.   Table obtained by dividing the figures for employment into those for GDP deflated by the Index of GDP 1980 prices.

SOURCES: Central Statistical Office; Censuses of Industrial Production and Monthly Digests of Statistics; and IMF (1984), International Financial Statistics Yearbook 1984, Washington, for 1980 GDP Deflation.

some sectors, especially after 1975, was largely due to the world economic recession, as we shall see in Chapter VI.

5.32   Labour Costs

Table 5.10 shows the rapid rise in wages over the period 1964-80. Because of the 'triple' nature of the economy at Independence,[40] Zambia was immediately faced with two problems: on the one hand, whether to accept the demands of the middle group for an improvement of incomes vis-a-vis the first group; and, on the other hand, whether to ensure that the fruits of industrialization were equitably distributed to involve the third group, as well. Of course, before the 1968 economic reforms the first option was taken, though not as a deliberate policy, which resulted in the narrowing of the gap between Zambian industrial workers and expatriates, while exacerbating the one between the rural and urban economies. For instance, the 1966 Brown Commission awarded a 22% increase in wages to all Zambian or African miners, and this was shortly followed by a similar increase in the civil service (Labour Annual Report, 1966, p. 8). The effects of the wage increases in the mines and civil service affected the other sectors of the economy as well, as shown in Table 5.10.

Of course, earnings by Zambians were only one component of total labour costs; for instance, the 'expatriate' or non-Zambian component rose much more slowly, as shown in the Table. Furthermore, Appendix 5.5 shows that labour costs per unit of output in the manufacturing sector, though rising by 26% by 1976, actually fell in the period 1964-79. The decline in costs is largely explained by the rapid rise in output per head over these years, particularly due to the high capital-intensity of parastatal undertakings.

However, the initial wage increases had two major effects.

TABLE 5.10

AVERAGE EARNINGS IN ZAMBIAN INDUSTRY SINCE INDEPENDENCE
BY NATIONALITY AT CONSTANT 1980 PRICES

| | Industrial Economy as a Whole | | | | Manufacturing Sector | | | |
| | Zambian | | Non-Zambian | | Zambian | | Non-Zambian | |
	Kwacha	Index of average earnings (1964=100)	Kwacha	Index of average earnings (1964=100)	Kwacha	Index of average earnings (1964=100)	Kwacha	Index of average earnings (1964=100)
1964	1,232	100	10,626	100	1,310	100	9,548	100
1965	1,154	94	9,429	89	1,310	100	8,431	88
1966	1,228	100	10,460	98	1,223	93	9,095	95
1967	1,703	138	11,471	108	1,708	130	11,437	120
1968	1,958	159	12,097	113	1,598	122	12,313	129
1969	1,791	145	11,565	109	1,767	135	12,242	128
1970	1,847	150	10,535	99	1,703	130	11,361	119
1971	2,233	181	12,865	121	2,160	165	15,514	162
1972	2,229	181	9,996	94	1,875	143	13,468	141
1973	2,094	170	9,131	86	2,170*	166	7,293*	76
1974	1,858	151	8,922	84	1,970*	150	6,689*	70
1975	2,201	179	10,757	101	2,276	174	10,921	114
1976	2,518	204	11,683	110	2,889	221	14,736	154
1977	2,435	198	11,020	104	-	-	-	-
1978	2,451	199	9,700	91	-	-	-	-
1979	2,311	188	8,427	79	2,163	165	13,303	139
1980	-	-	-	-	2,139	163	14,787	155

* Based on 4th quarter only.
SOURCES: Central Statistical Office (CSO): Censuses of Industrial Production; Report on Employment and Earnings 1979; and Monthly Digests of Statistics; and IMF (1984) International Financial Statistics Yearbook 1984, Washington, for 1980 GDP Deflator.

First, they tended to limit the contribution of new industry to employment and to encourage the adoption of capital intensive techniques of production. Secondly, they presented Zambia with a potential risk of being a less attractive location for new industrial development than might otherwise be the case. Therefore, it is under these circumstances that, Kaunda appointed a 'team of experts' in 1969, led by Professor Turner, to work on a fully-fledged prices and incomes policy.[41] The Turner Report made a number of recommendations, including the establishment of a wages, prices, and productivity board, (Turner Report, 1969, pp. 43 and 44), and in June 1970 the government announced its intention to set up a board to "advise on the relationship of wage rates and productivity in various sectors of the economy." [42]

In spite of the President's personal authority, the wage freeze and embargo on strikes he imposed in his reforms speech in 1969 were of very limited effectiveness, since they never had the force of law and came to be increasingly ignored, largely due to the immense bargaining power of industrial workers, especially the Mineworkers' Union of Zambia (MUZ), through the Zambia Congress of Trade Unions (ZCTU) (Kaunda, 1969, pp. 52-58). However, the control of prices of most essential commodities, primarily produced by Indeco companies, seemed to have been successful as it affected the operations of most such companies like Refined Oil Products, National Milling, Zambia Breweries, and was, in fact, supported fully by ZCTU and the general public.

5.4   Capital and Foreign Exchange Resources

Unlike most LDCs, at Independence, Zambia was unusual in the sense that it had large resources of its own to finance development, almost exclusively derived from copper.[43] In the early years of Independence, especially during the FNDP period, its capital resources

were reinforced by the influence of strong and rising copper prices.
It is not surprising, therefore, that its balance of payments during
this period carried a large surplus on current account.

However, the economic reality meant that such a surplus
might have been less favourable than what the figures showed because,
first, the surplus depended almost exclusively on the very high copper
prices. Secondly, the development expenditure during the early years
led to an increase in the demand for imports of not only intermediate
and capital goods, but also of consumer goods. Furthermore, the
transport constraint, discussed earlier, led to considerable increases
in the costs of importing such commodities and, thus, although the
copper price rose again in some years deficits were nevertheless still
recorded.

The transformation of a financial surplus into a deficit as
development proceeded is also shown both in the accounts of the
government in Appendix 5.6 and and Appendix 6.10 of Chapter VI, and in
the liquidity position of the commercial banks in Appendix 5.7. Initially,
the advances deposits ratio was very low, at about 34% in 1965. However,
by 1981, this ratio had reached an all time record of 83% and, though
fluctuating, it never fell below the 1970 level throughout the 1970s up
to 1982. Table 5.11 shows the share of manufacturing in this expansion
of commercial banks credit during the early years of Independence, the
period for which data were available industry by industry. However,
although the rate of growth of advances to this sector was much more
rapid than for the other sectors in the economy most of the advances
went to expatriate businesses in the absence of suitable credit-worthy
Zambian-controlled businesses; official attempts to encourage lending
to Zambians were considered in the previous Chapter.

TABLE 5.11

ADVANCES BY ZAMBIAN COMMERCIAL BANKS TO MANUFACTURERS, 1964-71 (Million Kwacha)								
Advances	1964	1965	1966	1967	1968	1969	1970	1971
Total Advances	16.6	30.8	36.6	66.0	71.5	77.9	92.4	139.5
Advances to Manufacturing	4.1	6.5	7.8	11.2	20.2	22.6	24.8	27.8
Manufacturing as Per Cent of Total	25	20	21	17	28	29	27	20

SOURCE: Ministry of Planning and Finance (1974), Economic Report 1973, Government Printer, Lusaka, Table 29. p. 88.

After the economic reforms, there is every reason to believe that this situation changed considering that the state now controlled more than 75% of manufacturing activity in Zambia through Indeco. (Bank of Zambia Report, 1982, p. 42).

It will be seen in Chapter VI that, although there were central government surpluses on current account in the early years, 1964/5 to 1970, most of the remaining period under analysis in this study was characterized by deficits.[44] The main reason for this was the ever-increasing expenditure on current account. Moreover, although the current account surplus rose from K56.3 million in 1964/5 to K182.2 million in 1970, current expenditure rose from K70.3 million to K275 million over the same period, with over 50% in the final year accounted for by capital expenditure. However, the financial restrictions introduced in the 1969 budget, helped to restore the balance by reducing capital expenditure for some years, but shot up again after mid 1970s, partly due to some relaxations and partly due to the downturn in the copper industry. (Budget Address 1969 and Bank of Zambia Reports, 1975-82).

In addition to the above reasons, the expenditure during the earlier national plans was largely on social infrastructure relative to productive sectors, like manufacturing (Bell, 1981b, p. 16). The introduction of direct state participation in industry from 1968 came at a time when the available resources for the purpose were already much less than what they had been at Independence. With the low copper prices toward and after the mid 1970s, the shortage of government revenue for such investment in manufacturing became more and more acute, as will be seen in the next Chapter.

The government made attempts to raise revenue, by increasing

both 'forced' savings, through the expansion of the tax base, and
'voluntary' savings, through a savings campaign, though the latter
was less successful. (Harvey, 1971, pp. 121-51 and 152-189). However,
the scope for such measures was doomed to failure partly due to the
wage increases discussed earlier, which tended to bias the re-distribution
of income towards the higher-spending groups, and consequently, at least
offsetting the government's initiatives to increase the community's
propensity to save, at large.

In the initial years, private foreign capital was attractive
mainly because of the skilled manpower component included in the package.
From the foregoing exposition, later, it seems finance and foreign
exchange provided by expatriate investors had become very important as
an end in themselves, as Appendix 5.6 shows, though at a long-term
cost as reflected in the accumulation of foreign interest payments arrears
after 1975, discussed in the next Chapter; as well as repatriation of
capital and profits by foreign-owned companies during the 'liberal'
period discussed in Chapter IV.

5.5. Enterprise

It is generally agreed that, during the early days of the
industrial revolution in Europe, the private entrepreneur played a very
important role, though the precise nature of his contribution is in
dispute.[45] At Independence, Zambia was faced with two options: on the
one hand, to create a Zambian entrepreneurial class through the laissez-
faire social and economic forces, on the other hand, to create this class
through direct government intervention so that the uncertainties associated
with any initiation to innovate would be shared by the community at
large. (Schumpeter, 1961). It is thus not surprising that during the
early years of Independence, the government took a somewhat ambiguous

attitude towards its role in encouraging enterprise.

Prior to the 1968 economic reforms, relatively large scale industries involving advanced technologies and heavy initial investment continued to be initiated by foreign companies just like before Independence; even in the field of small-scale industry local enterprise was apparently lacking. The lucky ones who were able to obtain some education did so in the hope of being employed in the lower ranks of government administration. This attitude continued for many years after Independence because government administration still provided attractive opportunities for many who might otherwise have tried to start up businesses of their own.

One final explanation for the lack of indigenous entrepreneurs was the fact that many of the most obvious fields in industry were already occupied by Asians, especially in retailing and clothing, which might have provided useful training grounds and capital for many would-be small-scale industrialists. The predominance of Asians in such areas was partly due to family structure, whereby while the Asian 'joint family' was more production-orientated, the African 'extended family' existed not to pool productive resources, nor to accumulate capital, but to provide a "distributive mutual insurance." [46]

In addition, the Asians generally came to Africa from a business community, while the Africans came from the subsistence farming community.

However, as pointed out earlier, the government has made progress in both education and Zambianization programmes, especially since the 1968 economic reforms when it took a positive step to intervene directly in the social and economic development of the country. For the first time in that year it attempted and succeeded in excluding expatriates

(mainly Asians) from increasingly wide areas of business life, especially in the retail trade in the rural areas.

5.6   The Market for Manufactured Products

In addition to the productive resources discussed above, the development of industry depends to a large extent on the existence and extent of well-established markets. The market is dependent upon both demand (itself dependent upon income, preferences, prices, income distribution, etc.) and the possibility of supply reaching demand at a profitable price. In most African countries, the market is limited either by low population densities and low incomes in the case of domestic market or by tariff barriers in the neighbouring countries and DCs in the case of export markets. In terms of trade among neighbouring countries and within the country itself, the market is also limited by poor transport and communications. Trade between African countries and the DCs is not so much affected by the latter factor, since from colonial days they were designed not to facilitate intra-African trade, but to permit the export of primary products to the DCs. Zambia was, indeed. no exception to this generalization. Its history of local trade had been short, probably no earlier than 1930.[47] Since this history has already been adequately covered elsewhere, as well, we shall not dwell on it here, but rather concentrate on the period after Independence. (Fortman, 1971, Ch. 7).

Table 5.12 gives an estimate of the total Zambian market with respect to gross domestic and import expenditure upon manufactured goods. According to the original figures, of a total expenditure of K524 million in 1967, K195 million (37%) was spent on domestic manufacturing production, while K329 million (63%) was spent on imports and re-exports. (Young, 1973, p. 146). Exports contributed only about 1.4% of domestic production, as

TABLE 5.12

USE OF MANUFACTURING PRODUCTION AND IMPORTS IN ZAMBIA, 1967 (thousand Kwacha)

Producing Sector \ Using Sector	Agriculture Forestry and Fishing	Mining and Quarrying	Manufac-turing	Constr-uction	Services	Exports	Gross Fixed Capital Formation	Consumption (Private plus Government)	Stocks	Total (Gross Expenditure)
Food	336	180	10,079	-	1,318	382	32	41,622	-79	53,870
Beverages and tobacco	-	-	2,696	-	210	16	15	42,540	1,309	46,786
Textiles & wearing apparel	594	566	8,546	91	1,717	199	408	37,655	2,518	52,284
Wood & wood products	42	783	1,258	3,521	847	604	2,352	4,445	39	13,891
Paper, printing & publishing	45	793	5,321	115	4,234	165	91	7,215	219	18,200
Rubber Products	594	287	404	45	2,158	28	55	5,992	86	10,249
Chemicals and petroleum	6,768	10,060	11,349	4,597	7,338	213	37	24,927	2,414	67,703
Non-metallic mineral products	210	2,111	2,115	12,200	1,174	137	1,235	2,017	624	21,823
Foundries	593	18,581	8,244	13,382	1,217	354	3,130	3,919	2,895	52,215
Machinery	371	10,783	5,867	1,597	2,514	1,481	31,999	2,129	1,306	58,047
Electrical equipment	40	5,048	1,506	5,565	2,298	1,387	9,270	4,922	1,767	31,803
Transport equipment	1,311	2,990	5,235	825	11,458	485	44,605	16,565	2,856	86,330
Other manufactures	78	689	725	343	2,518	131	1,365	4,334	266	10,449
GROSS TOTAL	10,982	53,371	63,345	42,271	39,001	5,582	94,594	198,284	16,220	523,650

SOURCE: Central Statistical Office (1970), Input-Output Table 1967, Government Printer, Lusaka.

- 245 -

compared with about 5% in 1964, as shown in Chapter II. Re-exports amounted to nearly 1% of imports of manufactures.

By a very substantial margin, the most important single market, shown in Table 5.12, was that for final consumer goods (38%), followed by gross fixed capital formation (18%). Manufacturing accounted for 12%, in third place. With respect to intermediate goods, manufacturing was its own best market, even more important than mining despite the latter's heavy weighting in the country's GDP. On the contrary, however, inputs to the agricultural sector were relatively small. There were significant backward linkages from construction to the 'non-metallic mineral products' and 'foundries' sectors and from mining to the latter sector. Below we shall briefly look at both the domestic and export markets.

5.61   The Domestic Market

At Independence, Zambia had a large domestic market for industrial products in relation to its population, size, and stage of development, as was pointed out in Chapter II. Both its population and income grew steadily in the relatively prosperous few years after Independence between 1964 and 1970, though income grew at a faster rate mainly due to the buoyancy in the copper price.[48] However, due to the oil crisis and world economic recession which depressed the copper prices towards the mid 1970s, the growth of income declined throughout the period after 1975 to 1982.

The buoyancy in the copper price in the early years of Independence greatly helped to expand the market for manufactures which, in turn, led to significant changes in the structure of both manufactured imports and domestic manufacturing production. The mines not only used manufactures as inputs, but the income generated by copper production

stimulated demand for intermediate products, especially those associated with construction and consumer goods.

In this section, however, manufactured imports will be examined at some length, since trends in imports help to indicate the growth of that part of the market which had not yet been exploited by local producers, although imports can only give us a preliminary indication of possible industrialization opportunities, in the absence of detailed data on the 'minimum economic size of plant' in Zambia. Considerations on the import substitution opportunities will be covered in Chapters VI, VIII and IX.

Appendix 5.8 gives details of trends of imports mainly falling within the 'manufactured' or 'processed' categories of the Standard Industrial Trade Classification (SITC) in selected years during the period 1965-80, for which data were available. During the entire period imports grew by 255%, while between 1965 and 1970 expansion was only 73%, which was even less between 1975 and 1980 (37%), for reasons given above.

As can be expected in an economy undergoing the early stages of industrialization, Table 5.13 shows that imports of consumers' non-durables (food, beverages and tobacco) and wearing apparel (except foot-wear) grew relatively slowly (55%) during the period 1965-70, as compared with durable consumer goods (74%), intermediate goods (76%) and investment and related goods (81%). This is partly because of the fact that the demand for non-durables may be relatively income-inelastic and partly because import substitution (IS) is fairly easy in these industries. However, for consumer durables, demand is highly income-elastic, and domestic production is not always easy to initiate for many products. In the case of intermediate and investment and related goods, local

TABLE 5.13

IMPORTS (f.o.b.) OF MANUFACTURED AND PROCESSED GOODS IN ZAMBIA BY MAJOR INDUSTRIAL GROUPS IN SELECTED YEARS 1965-80

Industry Group	1965			1970			1975			1980		
	Km	Per cent of total national imports	Per cent of total manufactured imports	Km	Per cent of total national imports	Per cent of total manufactured imports	Km	Per cent of total national imports	Per cent of total manufactured imports	Km	Per cent of total national imports	Per cent of total manufactured imports
Consumer goods:												
(a) Non-durable	29.2	13.9	15.0	15.2	13.3	13.5	50.6	8.5	10.0	49.8	5.6	7.2
(b) Durable	8.5	4.0	4.4	14.8	4.3	4.4	11.0	1.8	2.2	11.7	1.3	1.7
Total	37.7	17.9	19.4	60.0	17.6	17.9	61.6	10.3	12.2	61.5	7.0	8.9
Intermediate goods	55.0	26.1	28.3	97.0	28.5	28.9	139.4	23.3	27.6	209.2	23.7	30.3
Investment & related goods	101.8	48.3	52.3	183.7	53.9	54.7	303.3	50.8	60.1	419.7	47.6	60.8
Total Manufactured Imports	194.5	92.3	100.0	335.8	98.6	100.0	504.3	84.4	100.0	690.4	78.2	100.0
Total National Imports	210.7	100.0	-	340.7	100.0	-	597.6	100.0	-	882.5	100.0	-

SOURCES: See Appendix 5.9

production may still be more difficult to initiate in the early stages because of significant economies of scale and important technical skills involved. Thus, instead of importing final consumer goods, the local producers in Zambia might normally have chosen to import the latter categories of goods. During the entire period, 1965-80, while all consumer goods together grew by 63%, intermediate goods and investment and related goods grew by 280% and 312% respectively. Although all the goods categories experienced the low expansion of imports between 1975-80, the consumer category was the least.

The above points, however, need some qualification. The first explanation for the slow growth was particularly the case with the high-income market (mainly expatriates). In the case of the low-income market (mainly Zambians), due to the very rapid increases in earnings after Independence, it is especially likely to be true that many of the products in the non-durables and wearing apparel categories were behaving as 'superior' goods in that, expenditure on them tended to increase more than in proportion to income, as might have been the case of processed foodstuffs (other than 'staples') and wearing apparel.[49] Thus one may argue that with this reasoning, the relatively slow growth in imports can be attributed to IS, rather than to stagnating imports for the products in question. (Young, 1973, Ch. 5). Another explanation arises from the consequences of the transport and distribution obstacles discussed earlier in this Chapter, especially in the short run. On the longer term, the supply of imports of manufactures was affected by the foreign exchange constraint, also pointed out earlier. Below we briefly look at the regional structure of the domestic market.

5.611   The Regional Segmentation of the Domestic Market

Every prospective manufacturer is concerned not only with the

size of the national market, but also with the ease with which it can be served. Appendix 5.9 gives the population of Zambia during the period 1963-80, by provinces as well as by urban and rural areas. In 1968 the UN estimated the population density at 5 persons per square kilometre, which was quite low even in the African context.[50] The average annual growth rates were quite high in the periods indicated.

However, in spite of the relatively small population, from the marketing point of view, the country had been fortunate in that it had been relatively heavily concentrated in a fairly narrow geographical area along the main line of rail, where about half the entire population lived in 1980.

However, the urban market itself was segmented by distance, with the copperbelt as the most important single sub-market, serving not only final consumer goods, but also both intermediate and investment goods markets. Next in importance was Lusaka, though mainly an administrative rather than a proper industrial centre. However, in the recent years it has developed as an important industrial centre, especially with the establishment of industrial complexes in the nearby Kafue town (Kafue Textiles and Nitrogen Chemicals). Southern Province's population is less heavily urbanized and this raises the cost of distributing consumer goods in the area. Central Province mainly serves the industrial centre of Kabwe. However, in spite of the distances separating them from each other and the resulting transportation costs, the adequate communication both by rail and road, even air, makes it possible to regard the urban centres as a single market area. Besides, by far the greater proportion of cash income in Zambia is earned and spent in these line-of-rail centres.[51]

In the five off-line-of-rail provinces, the degree of urbanization

had remained less marked. However, one should note that there are high
degrees of strategic concentration of population around the major centres.
For instance, in Eastern Province in 1980 about 73% of the total population
of 656,381 was located in Chipata, Petauke and Lundazi Districts and is
served by the Great East Road (1980 census).

The demand for intermediate goods in the rural areas is on
agricultural inputs and building materials, while demand from metal
industries is less significant despite its rating in the national market.
Because of the low-income earning and relatively few very wealthy people,
the consumer market is dominated by the simplest and least expensive
items. However, from the point of view of industries that are located
in urban centres, the costs of distribution throughout rural Zambia
tended to limit the extent of the rural market. On the other hand, this
factor also tended to offer 'natural' protection to the rural industries,
like building materials and furniture as well as bakeries and dairies.
However, the development of transport and communications infrastructure in
the rural areas over the recent years tends to weaken this protection
though at the same time offering the rural industries easy access to the
rapidly expanding and wealthier urban market.

5.62   The Export Market

At Independence, the main destination for Zambian exports was
Europe, particularly the U.K. and the European Economic Community (EEC). For
instance, in 1965 41% of the domestic exports went to the U.K. and 32% to
the EEC (Monthly Digests of Statistics, 1972-83). About 98% of the total
exports was copper. Thus, the contribution of real 'manufactures' was
really very insignificant. However, partly due to the rising importance
of other markets (Japan, U.S.A. and China), outside the EEC, the share
of the U.K. market declined substantially in 1979, to only 13%. The share

of copper in the total exports also declined to 81%, indicating that
some amount of diversification had taken place. For instance,
'manufactures' contributed about 12% in 1980.

Zambia's export market for manufactures declined during the
1960s, partly due to the decline of the sawmilling market in the south
as a result of UDI. Thus, at Independence, with its stage of development,
Zambia could not easily become a major exporter of manufactures. First,
this was because of its land-locked situation and the lengthy distances
to the world markets. This factor offered 'natural' protection to both
domestic industries and foreign markets against potential Zambian exports.
Secondly, Zambia had no obvious advantages that could have made exports
become feasible, since its resource-based industries were either under-
developed or non-existent. This situation had hardly improved over the
years because of the type of import-substituting industrialization
strategy adopted which had made industries more dependent on foreign
inputs and components. Thirdly, exports were also made difficult by the
overvalued kwacha exchange rate which made them very uncompetitive in
the world markets, although over the recent years there had been some
significant devaluations.

Finally, the system of tariffs and quotas in the DCs tendeu
to hinder the prospects of Zambian exports.[52]

However, in the medium term, Zambia has export potential in
the markets of other LDCs, especially its neighbours, rather than in the
DCs. Prior to the 1968 economic reforms, Zambia had applied to join in
defunct East African Economic Community but later withdrew because of the
internal differences within the Community. Since early 1980s, Zambia's
prospects had been through its membership to the Preferential Trade
Area (PTA) for Eastern and Southern Africa, for mutual co-operation in

trade, as a move to reduce the traditional dependency ties of these regions on the DCs. SADCC, mentioned earlier, was also formed for a similar purpose in 1980, to develop the regions' resources and attain economic development both at the national and regional levels.

5.7   Summary and Conclusion

In our survey of productive resources we were concerned with the implications of the following constraints for the development of manufacturing in Zambia: the slow growth of supply of raw materials from agriculture; the dislocation caused by the re-routing exercise; the rapid rate of growth in earnings; the government budget deficit and foreign exchange constraint; and the apparent lack of indigenous enterprise. On the other hand, we discussed the locational advantages the country enjoyed: a wide range of minerals and a plentiful supply of electricity.

In the short term, difficulties were often exacerbated by the government's hasty programme of economic disengagement from the south. However, over the longer term, the transport constraint had somewhat been eased by the massive development of new facilities, both internally and externally, and there is also a great scope for the exploitation of agricultural and forest resources on a much larger scale in the future, given the very positive attitude of the government in the TNDP.

The dominance of the copper industry had two significant effects: the level of demand/per capita terms was unusually high in the initial years and the structure of demand was biased toward the metal industries at Independence. The market grew very rapidly, however, after Independence, at least up to/mid 1970s when the copper market was depressed in the DCs. This rapid expansion had two effects: the level and the structure of demand. The changes in the latter were mainly linked with the redistribution of incomes, which inflated the urban market, and also the rapid

growth of backward linkages from construction and services industries within manufacturing, on the one hand, and the relative stagnation of mining and agriculture on the other. The geographical structure of demand, however, had not changed much: narrowly concentrated in urban centres.

The export market had also not changed much, partly due to the country's backwardness in the raw materials field. Other problems had included foreign exchange, transport, over-valued currency and, to some extent, trade barriers in the DCs. However, Zambia's membership to PTA and SADCC holds much hope for the future exports development in the neighbouring countries.

NOTES AND REFERENCES

1. See earlier works like Young, A. (1973), Industrial Diversification
    in Zambia, Praeger Publishers, New York; and Elliott, C. (ed.)(1971),
    Constraints on the Economic Development of Zambia, Oxford University
    Press, Nairobi.

2. UN/ECA/FAO (1964), Report on the Economic Survey Mission on the
    Economic Development of Zambia (Seers Report), Falcon Press, Ndola,
    p. 88.

3. See, for instance, Ministry of Development Planning and National
    Guidance (1971), Second National Development Plan January 1972-
    December 1976 (SNDP) and Office of the President, National Commission
    for Development Planning (1979), Third National Development Plan
    1979-83 (TNDP), both Government Printer, Lusaka.

4. For instance, declared reserves for copper ore in June 1962 were 700
    million short tonnes with 2.92 to 5.17 per cent purity. (See The
    Economist Intelligence Unit (EIU) (1966), "Annual Supplement to the
    Quarterly Economic Review: Rhodesia, Zambia, Malawi, 1966", p. 21).

5. See Young, 1973, op. cit., Ch. 4.

6. For instance, export sales increased from K262,000 on a turnover of
    K6.6 million in the first year of operation, 1970, to K1.4 million on
    a turnover of K14.9 million in 1982. (See Indeco Reports 1972, p. 31
    and 1982 p. 12).

7. See Bank of Zambia Report, 1974, p. 34.

8. See details of Cement and Clay Industries in Indeco Report, 1968-83.

9. See Schutz, J. (1976), "Land Use in Zambia, Part I: The Basically
    Traditional Land Use Systems and Their Regions", Munich.

10 In 1967 GDP originating from the agricultural sector was for Zambia
    8.8%, Kenya 36.0%, Tanzania 51.3%, and Uganda 63.2% of the total
    (though mining and quarrying contributions were included in the latter).
    See Young, 1973, op. cit., Table 8.2).

11. For instance, in 1965 food imports amounted to K16.5 million while
    exports were only K4.7 million. (See CSO (1966): Annual Statement
    of External Trade, 1965, Government Printer, Lusaka, Table 2, p. 1.

12. For details see Elliott, C. (1969), "Humanism and the Agricultural
    Revolution", in Fortman, B.de Gaay (ed) (1969), After Mulnngushi,
    East African Publishing House, Nairobi, p. 115-43; Klepper, R. (1979)
    "Zambian Agricultural Structure and Performance", in Turok, B. (ed)
    (1979), Development in Zambia, Zed Press, London, pp. 137-148; ILO
    (1977) Narrowing the Gaps: Planning for Basic Needs and Productive
    Employment in Zambia, ILA/JASPA, Addis Ababa, January; and ILO(1981)
    Basic Needs in an Economy Under Pressure: Findings and Recommendations
    of the Basic Needs Mission to Zambia, ILO/JASPA, Addis Ababa.

13. Between 1965 and 1970 food imports increased from K16.6 million to K30.4 million and as a proportion of total national imports increased from 8 to 10%. However, after 1970 to 1976 these imports fell to K25.7 million and to 6% as a proportion of total imports. (See CSO, Annual Statements of External Trade, 1965, 1970, and 1979).

14. See Quick, S. A. (1975), "Bureaucracy and Rural Socialism: The Zambian Experience", Stanford University, Ph.D Dissertation.

15. For instance, the share of agriculture in the total GDP declined from 11% in 1964 to 7% in 1970, though rising to 15% in 1982. (Monthly Digest of Statistics, 1964-83, op. cit.)

16. The problems of maize production will be discussed in Chapter IX. (See also Indeco Enterprise, 4th Quarter, 1972, p. 4).

17. However, by early 1970s traditional cattle began to be brought forward for slaughter, especially in Western Province at Mongu. (See Economic Report 1969, p. 134; and Economic Report 1971, pp. 169-71).

18. See Lloyds Bank Group (1982 and 1983), Economic Reports: Zambia, Lloyds Bank International, London.

19. Marketed maize fell from 693.3 thousand tonnes in 1981 to 504.0 thousand tonnes in 1982, 144.0 thousand tonnes below the annual national requirement. (See Appendix 5.3).

20. See Northern Rhodesia (1961), Report of the Rural Economic Development Working Party, Government Printer, Lusaka, p. 41.

21. In 1972, the accessible supplies of Western Province teak became exhausted, and Zambezi sawmills had to cease operations. (See Indeco Annual Report, 1972, p. 34.)

22. See Office of National Development and Planning (1966), First National Development Plan (FNDP) 1966-1970, Government Printer, Lusaka, July, p. 35.

23. See Rural Economic Development Working Party 1961, op. cit., Ch. 6.

24. Kariba South Scheme was jointly owned by both governments of Zambia and Zimbabwe, although the generating facilities and control centres were located in the latter.

25. For instance, the value of electricity consumed as a proportion of "consumption of materials, payments for services, and indirect taxes" averaged a little over 1.0% in 1965, 1.5% in 1975, and 5.2% in 1980 for the manufacturing sector as a whole, as compared with 5.1, 11.3 and 18.1% for mining, respectively. (See Censuses of Production for the respective years).

26. For instance, in 1971, 73% of all Zambia's power requirements mainly came from Kariba. (See Economic Report, 1971, p. 218.)

27. See Annual Economic Reports and Bank of Zambia Reports, op. cit.

28. For instance, in 1982 about 37% and 3% were exported to Zimbabwe and Zaire, respectively. (Bank Report, 1982, op. cit. p. 55).

29. For details see also Bostock, 1971, in Elliott, 1971, op. cit., pp. 323-376.

30. All statistics relating to transport in Zambia, unless otherwise stated, are in, or calculated from Monthly Digests of Statistics and Bank of Zambia Reports, op. cit.

31. A joint venture with the governments of Tanzania and Zambia built by the Chinese in 1976.

32. For details see Control of Goods (Import and Export)(Commerce) Regulations (1965), Statutory Instrument No. 383 of 1965, Government Printer, Lusaka.

33. For instance, in 1967 the percentage Zambian import tonnages via Zimbabwe, Lobito, and other routes (mainly Dar-es-Salaam) were 77.6, 4.3 and 18.2 respectively. By 1969, the respective percentages were 60.6, 6.2 and 33.2. (Economic Report, 1969, op. cit., p. 174).

34. See Bank of Zambia Annual Reports 1974-82 for details.

35. See Statement by the Ministry of Home Affairs, December 1968, reprinted in the Zambian Industrial Directory (1970), Associated Reviews, Ndola, p. 53.

36. Kilby, P. (1969), Industrialization in an Open Economy: Nigeria 1945-66, Cambridge University Press.

37. See Baldwin, R. E. (1966), Economic Development and Export Growth, University of California Press, Berkeley and Los Angeles, Ch. 5, and Barber, W. J. (1961), The Economy of British Central Africa, Oxford University Press, London, Ch. 4.

38. See details in Cabinet Office (1966), Manpower Report: A Report and Statistical Handbook on Manpower, Education, Training and Zambianization 1965-66, Government Printer, Lusaka; Office of the Vice-President, Development Division (1969), Zambian Manpower, Government Printer, Lusaka; and CSO (1980), Manpower Survey Second Quarter 1977, Government Printer, Lusaka.

39. See ILO, UNDP Technical Assistance Sector (1969), Report to the Government of Zambia on Incomes, Wages and Prices in Zambia: Policy and Machinery (Turner Report), Geneva, Cabinet Office, Lusaka. Government Printer, Lusaka, for figures relating to accidents reported. For instance, to date there are Works Councils at most places of work which have representatives in Management Committee Meetings.

40. Quinn, K. P. (1969) Labour and Zambian Humanism, in Fortman, B. de Gaay (1969) op. cit. p. 147.

41. Kaunda, K. D. (1969), Towards Complete Independence (Matero Speech), Government Printer, Lusaka, pp. 52-58.

42. Statement by Mr. Humphrey Mulemba, Minister of Trade, in the Times of Zambia on June 17th, 1970, Lusaka.

43. For more details see Harvey, C. B. M. (1971), "Financial Constraints on Zambian Development, pp. 121-152 and "The Fiscal System", pp. 153-189; Goodman, S. (1971), "The Foreign Exchange Constraint", pp. 233-254, and Faber, M. (1971), "The Development of the Manufacturing Sector", pp. 299-322, all in Elliott, C. ed. (1971), op. cit.; Bell, M. W. (1981), "Primary Production in an unstable Economic Order: The Zambian Economy 1965-1978", The University of Aston Management Centre, Working Paper Series No. 197, February.

44. See Monthly Digests of Statistics 1967-83, op. cit.; and Bank of Zambia Reports 1971-82, op. cit.

45. A major problem is whether or not the entrepreneurial role includes risk-taking (See Schumpeter, J. A. (1961), The Theory of Economic Development, Oxford University Press, London, Ch. 4.; and Marris, P. and Somerset, A. (1971), African Businessmen, Routledge and Kegan Paul, London, pp. 1 and 2.

46. See Bosa, G. R. (1969), The Financing of Small-Scale Enterprises in Uganda, Published for the Makerere Institute of Social Research by Oxford University Press, Nairobi, MISR Occasional Paper 3, p. 93.

47. See Kotberg, R. I. (1962), "Rural Rhodesian Markets", in Bohannan, P. and Dalton, G. (eds)(1962), Markets in Africa, Evanston, New York, p. 582.

48. Based on mid-year estimates, between 1964 and 1970 the population grew by over 14%, from 3.6 to 4.12 million, while GDP at 1980 prices grew by 93%, from K1,618 to K3,123 million. However, during the period 1970-83 the former grew by almost 51.5%, to reach 6.24 million by the end of the period, while the latter barely grew by 0.6%, to reach K3,143 million; moreover between 1970 and 1980 there was a drop by almost 3.5%. GDP per capita at 1980 prices also behaved in the same manner, although still ranking as one of the highest in Africa. (See IMF (1984), International Financial Statistics Yearbook 1984, Washington, pp. 626-29).

49. For instance, although no recent information has yet been available, according to the Urban African Budget Survey of 1960, the majority of processed or manufactured non-durable goods purchased by lower income earners in 1960 had income-elasticities of unity or greater.

50. Compare its neighbours: Botswana 1, Namibia 1, Angola 4, Democratic Republic of Congo 7, Mozambique 9, Tanzania 13, Zimbabwe 13, and Malawi 18. (See Young, 1973, op. cit., Note 14, p. 179).

51. According to the 1976 Household Budget Survey, while about 1.9 million people in the urban areas were responsible for a total income of K678.0 million (82% from wages, salaries and allowances), about 3.2 million rural dwellers accounted for only K336.1 million (33% from wages, salaries and allowances).(See ILO/JASPA, 1981, op. cit. Table A2.4 p.27).

42. Statement by Mr. Humphrey Mulemba, Minister of Trade, in the Times of Zambia on June 17th, 1970, Lusaka.

43. For more details see Harvey, C. B. M. (1971), "Financial Constraints on Zambian Development, pp. 121-152 and "The Fiscal System", pp. 153-189; Goodman, S. (1971), "The Foreign Exchange Constraint", pp. 233-254, and Faber, M. (1971), "The Development of the Manufacturing Sector", pp. 299-322, all in Elliott, C. ed. (1971), op. cit.; Bell, M. W. (1981), "Primary Production in an unstable Economic Order: The Zambian Economy 1965-1978", The University of Aston Management Centre, Working Paper Series No. 197, February.

44. See Monthly Digests of Statistics 1967-83, op. cit.; and Bank of Zambia Reports 1971-82, op. cit.

45. A major problem is whether or not the entrepreneurial role includes risk-taking (See Schumpeter, J. A. (1961), The Theory of Economic Development, Oxford University Press, London, Ch. 4.; and Marris, P. and Somerset, A. (1971), African Businessmen, Routledge and Kegan Paul, London, pp. 1 and 2.

46. See Bosa, G. R. (1969), The Financing of Small-Scale Enterprises in Uganda, Published for the Makerere Institute of Social Research by Oxford University Press, Nairobi, MISR Occasional Paper 3, p. 93.

47. See Kotberg, R. I. (1962), "Rural Rhodesian Markets", in Bohannan, P. and Dalton, G. (eds)(1962), Markets in Africa, Evanston, New York, p. 582.

48. Based on mid-year estimates, between 1964 and 1970 the population grew by over 14%, from 3.6 to 4.12 million, while GDP at 1980 prices grew by 93%, from K1,618 to K3,123 million. However, during the period 1970-83 the former grew by almost 51.5%, to reach 6.24 million by the end of the period, while the latter barely grew by 0.6%, to reach K3,143 million; moreover between 1970 and 1980 there was a drop by almost 3.5%. GDP per capita at 1980 prices also behaved in the same manner, although still ranking as one of the highest in Africa. (See IMF (1984), International Financial Statistics Yearbook 1984, Washington, pp. 626-29).

49. For instance, although no recent information has yet been available, according to the Urban African Budget Survey of 1960, the majority of processed or manufactured non-durable goods purchased by lower income earners in 1960 had income-elasticities of unity or greater.

50. Compare its neighbours: Botswana 1, Namibia 1, Angola 4, Democratic Republic of Congo 7, Mozambique 9, Tanzania 13, Zimbabwe 13, and Malawi 38. (See Young, 1973, op. cit., Note 14, p. 179).

51. According to the 1976 Household Budget Survey, while about 1.9 million people in the urban areas were responsible for a total income of K678.0 million (82% from wages, salaries and allowances), about 3.2 million rural dwellers accounted for only K336.1 million (33% from wages, salaries and allowances).(See ILO/JASPA, 1981, op. cit. Table A2.4 p.27).

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PRODUCTION OF MAJOR MINERALS IN ZAMBIA (IN THOUSAND METRIC TONNES), 1964-82

Year	Total Copper	(a) Copper Blister	(b) Copper Electrolytic	Zinc	Lead	Coal	Cobalt
1964	642.2	145.3	496.9	46.8	13.2	-	1.4
1965	684.8	163.6	521.2	47.5	21.3	-	1.5
1966	586.0	88.4	497.6	42.4	18.8	118.0	1.5
1967	616.3	82.1	534.2	45.2	19.5	399.4	1.5
1968	665.0	93.1	571.9	53.2	21.8	573.3	1.2
1969	747.5	104.9	642.6	50.2	23.0	397.4	1.8
1970	683.3	103.1	580.2	53.5	27.3	623.2	2.1
1971	633.4	98.8	534.6	57.0	27.7	812.1	2.1
1972	698.0	83.6	614.4	55.9	25.9	936.5	2.1
1973	681.2	42.8	638.4	53.5	25.0	940.1	1.9
1974	702.1	33.5	668.6	58.3	24.5	809.5	2.0
1975	640.3	21.1	619.2	46.8	19.1	813.9	1.8
1976	712.9	18.3	694.6	37.1	13.5	762.0	1.6
1977	659.8	10.8	649.0	40.0	13.3	708.1	1.7
1978	655.6	26.6	629.0	42.5	12.7	615.1	1.6
1979	584.8	20.3	564.4	38.2	12.8	598.5	3.3
1980	609.5	2.3	607.2	32.7	10.0	579.1	3.3
1981	560.1	0.1	560.0	33.3	9.9	507.3	2.6
1982	584.5	-	584.5	38.5	14.9	603.9	2.4

SOURCES: Bank of Zambia Annual Reports 1971-82 and Monthly Digests of Statistics 1975 and 1983.

APPENDIX 5.2

MARKETED PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES IN ZAMBIA, 1964-82

Commodity	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Maize ('000 tonnes)	204.3	263.0	384.7	383.1	263.8	274.0	135.2	400.0	616.6	460.5	495.0	558.9	746.4	693.0	657.0	331.3	383.0	693.3	508.3
Tobacco ('000 tonnes)	13.0	9.3	7.6	5.4	6.7	5.3	5.0	6.3	6.7	6.6	7.0	7.5	6.5	5.9	4.0	5.0	4.7	3.0	2.6
Sugar cane ('000 tonnes)	-	-	-	-	183.0	257.0	322.0	331.0	397.4	488.0	570.2	768.2	860.0	690.2	774.6	887.7	919.7	893.2	1010.5
Groundnuts ('000 tonnes)	3.6	6.7	11.5	14.8	5.4	7.8	3.3	6.0	6.5	3.0	3.4	6.4	8.4	7.2	2.2	2.7	2.0	1.3	0.8
Sunflower ('000 tonnes)	-	-	-	-	-	-	-	-	0.2	1.1	3.5	9.7	13.1	13.3	11.4	12.9	28.3	19.2	20.4
Soya beans ('000 tonnes)	-	-	-	-	-	-	-	-	-	0.2	0.4	0.7	0.9	1.3	2.8	1.3	2.0	3.7	5.1
Cotton seed ('000 tonnes)	1.6	2.3	2.8	1.8	4.3	6.9	5.6	11.9	8.5	8.4	3.9	3.1	3.9	8.9	10.2	15.1	28.3	17.2	13.2
Sorghum ('000 tonnes)	-	-	-	1.7	3.5	1.2	0.5	0.1	0.2	-	0.4	0.1	-	0.1	-	-	-	-	-
Wheat ('000 tonnes)	-	-	-	-	-	-	-	-	-	-	-	0.9	3.5	4.7	6.4	4.3	6.7	11.5	12.5
Paddy rice ('000 tonnes)	-	-	-	0.1	0.1	0.2	0.2	0.3	0.3	0.5	0.7	0.1	2.2	2.1	3.0	1.7	2.5	2.7	2.8
Tea (green Leaf) ('000 tonnes)	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	-	0.3	0.4	0.4
Coffee (tonnes)	-	-	-	-	-	-	22.5	22.3	16.3	24.6	21.1	23.8	33.1	24.0	55.0	-	28.0	46.0	-
Fruit and veg. ('000 tonnes)	16.1	15.4	16.6	17.8	17.7	20.3	25.8	29.7	33.6	25.0	30.7	33.4	34.9	-	-	-	-	-	-
Cattle ('000 head)	71.0	69.0	63.0	55.0	47.0	49.0	68.0	68.0	72.4	90.0	80.7	84.0	77.0	79.7	80.0	84.0	92.4	100.1	105.0
Pigs ('000 head)	16.0	17.0	20.0	22.0	25.0	27.0	35.0	34.0	32.0	35.7	44.3	52.8	50.2	35.8	42.4	48.4	47.9	44.0	40.0
Milk (Million litres)	20.5	19.8	19.0	18.3	18.4	16.3	14.9	15.2	15.9	15.7	13.2	11.2	10.5	10.4	9.5	9.3	10.2	11.7	15.0
Meat Birds and Day old chicks (Million birds)	0.7	0.9	1.4	2.1	3.3	4.3	4.7	5.4	6.6	7.4	10.8	10.9	13.0	14.4	13.8	12.6	14.5	10.0	13.3
Eggs (million units)	17.0	22.0	27.0	36.0	54.0	53.0	99.0	108.0	115.0	123.0	140.0	156.0	178.0	173.0	90.0	155.0	137.0	113.0	144.0

SOURCES: Bank of Zambia Annual Reports 1972-82; Monthly Digest of Statistics 1972-83, Economic Reports 1973-83.

APPENDIX 5.3

	STUDENT ENROLLMENTS IN ZAMBIA, 1964-79 (Thousands)							
Year	Primary Schools			Secondary Schools				University of Zambia
	Grade I	Grade VII	Total Primary	Form I	Form II	Form V	Total Secondary	
1964	74.6	14.8	378.4	4.2	4.1	0.8	13.9	-
1965	84.9	18.1	410.1	6.6	4.5	1.0	17.2	-
1966	103.7	36.1	473.4	11.0	6.3	1.0	24.0	0.3
1967	115.9	42.0	539.4	15.0	10.7	1.6	34.1	0.5
1968	122.9	59.2	608.9	14.9	14.8	2.1	42.4	0.7
1969	127.2	64.7	661.3	15.7	14.6	3.3	48.2	1.0
1970	127.4	67.2	694.7	15.2	15.4	5.5	52.5	1.2
1971	124.3	73.9	720.8	15.8	15.4	7.0	56.0	1.6
1972	142.5	80.5	777.9	15.7	15.4	7.3	60.1	1.8
1973	142.3	85.2	810.2	17.6	15.4	6.4	61.4	2.2
1974	146.6	93.9	858.2	19.3	19.2	6.5	65.8	2.6
1975	146.7	99.7	872.4	21.5	19.1	7.3	73.0	2.4
1976	150.7	103.7	907.9	22.2	21.3	7.7	78.0	2.6
1977	155.4	107.1	936.8	22.7	22.3	8.3	83.9	3.1
1978	158.8	114.4	964.5	23.2	23.1	9.1	89.0	3.3
1979	162.6	121.1	997.8	23.3	23.6	10.4	91.7	-

see overleaf for notes and sources.

APPENDIX 5.3

NOTES: 1. "Total primary" and "total secondary" include both grades and forms that are not shown in the table.

2. The University of Zambia calendar was changed in 1974. Thus, instead of running from January to December of the same year, it now runs from after mid-year one year to the mid-year of the next year.

SOURCES: 1. Ministry of Education Planning Unit (1980), Educational Statistics, 1978, Government Printer, Lusaka, February; and

2. Ministry of Education and Culture (1981), Annual Report for the year 1979, Printing Services, Department of Technical Education and Vocational Training, Lusaka.

UNIVERSITY OF ZAMBIA GRADUATES, 1969-79

Degree	1969	1970	1971	1972	1974	1975	1976	1977	1978	1979	Total
Master of Arts	-	1	-	2	-	2	1	1	-	-	7
Master of Education	-	-	-	-	-	-	2	-	-	-	2
Master of Law	-	-	-	-	-	1	2	-	2	-	5
Master of Science	-	-	2	-	-	-	1	1	-	1	5
Bachelor of Arts	44	49	35	59	46	93	81	111	120	118	756
Bachelor of Arts with Education	11	10	45	35	69	103	102	112	113	119	719
Bachelor of Arts (Library Studies)	-	-	-	-	6	7	6	13	8	10	50
Bachelor of Social Work	19	3	1	2	8	9	1	5	6	5	59
Bachelor of Law	23	12	14	13	26	52	42	50	54	52	338
Bachelor of Science	3	13	11	18	37	28	33	-	57	21	221
Bachelor of Science with Education	-	-	8	14	22	40	30	134	17	35	300
Bachelor of Science with Engineering	-	5	6	-	-	-	-	-	22	-	11
Bachelor of Engineering	-	-	-	13	26	29	23	28	22	31	172
Bachelor of Science (Human Biology)	6	20	14	20	23	42	28	38	44	26	261
Bachelor of Agricultural Science	-	-	-	4	3	27	27	25	24	11	121
Bachelor of Medicine/Surgery	-	-	-	15	18	11	19	24	38	32	157
Bachelor of Mineral Science	-	-	-	-	-	5	9	10	11	13	48
Bachelor of Science (Library Studies)	-	-	-	-	-	1	1	-	-	-	2
Total	106	113	136	195	284	450	408	552	538	474	3234

NOTE: The University of Zambia calendar was changed in 1974, hence there were no graduates in 1973.

SOURCES: As for Appendix 5.3

ZAMBIAN LABOUR EFFICIENCY AND COSTS PER WORKER IN MANUFACTURING INDUSTRY, 1964-82

Year	GDP at 1980 Prices (Km)	Employment (thousand)	Output per Head at 1980 prices (K'000)	Wages & Salaries at 1980 Prices (Km)	Average Earnings at 1980 Prices (Kwacha)	Labour Costs per Unit of Output	Index of Output per head (1964=100)	Index of Average Earnings (1964=100)	Index of Labour Costs per unit of output (1964=100)
1964	91.0	21.4	4.3	28.1	1,313	0.31	100	100	100
1965	107.8	26.9	4.0	35.3	1,313	0.33	93	100	106
1966	154.0	30.8	5.0	48.8	1,586	0.32	116	121	103
1967	220.2	33.4	6.6	82.6	2,473	0.38	153	188	123
1968	263.8	33.1	8.0	84.4	3,549	0.32	186	194	103
1969	270.5	34.6	7.8	82.9	2,396	0.31	181	182	100
1970	230.5	38.2	7.1	98.7	2,323	0.33	165	177	106
1971	341.8	42.0	8.1	125.6	2,990	0.37	188	228	119
1972	398.7	43.3	9.2	110.3	2,548	0.28	214	194	80
1973	360.3	43.6	8.3	114.9	2,636	0.32	193	201	103
1974	394.9	44.1	9.0	102.8	2,331	0.26	209	178	84
1975	483.2	44.3	10.9	123.6	2,789	0.26	253	212	84
1976	321.6	43.1	7.5	126.7	2,941	0.39	175	224	126
1977	488.3	45.8	10.7	"	"	"	249	"	"
1978	540.7	46.0	11.8	"	"	"	274	"	"
1979	437.7	45.0	9.7	97.3	2,163	0.22	226	165	71
1980	477.7	46.8	10.2	100.1	2,139	0.21	237	198	81
1981	503.8	48.8	10.4	"	"	"	242	"	"
1982	510.3	48.4	10.5	"	"	"	244	"	"

NOTES: 1. Figures were not available for wages and salaries in some later years, thereby affecting also the calculations of average earnings, labour costs per unit of output and their indexes in those years.
2. Employment figures may differ from those found in Monthly Digests of Statistics since they are based on a Report on Employment and Earnings 1979 (Compare Table 5.8)
SOURCES: As for Table 5.9.

				Financing		
Year	Revenue	Expenditure	Deficit(-)/ Surplus	Net Borrowing (Domestic)	Net Borrowing (Foreign)	Use of Cash Balances
1964	151.0	116.6	28.8	-	-	-45.8
1965	209.4	175.0	24.2	-	-	-41.6
1966	212.2	174.6	30.2	-	-	-34.9
1967	269.6	269.3	-39.3	-	-	27.8
1968	296.9	391.5	-105.4	68.4	68.4	27.7
1969	403.1	334.1	35.4	10.5	20.7	-66.6
1970	457.2	360.3	23.4	3.0	13.4	-39.8
1971	312.5	482.4	-194.1	8.1	35.9	150.2
1972	298.9	433.8	-178.0	121.1	15.3	41.6
1973	385.2	462.8	-271.6	124.7	147.0	0.1
1974	649.3	516.9	83.0	-122.3	36.7	2.6
1975	449.2	646.9	-298.4	266.7	69.1	-37.3
1976	456.7	664.1	-238.6	240.6	-35.3	-16.4
1977	500.2	709.8	-248.4	260.5	51.7	-63.6
1978	551.9	636.9	-118.7	293.3	19.1	-171.2
1979	596.9	770.9	-233.2	31.5	159.2	42.5
1980	762.6	1070.4	-558.5	138.8	127.7	292.0
1981	819.5	1342.1	-532.4	79.5	278.6	174.3
1982	857.1	1301.1	-557.8	-42.1	98.8	501.1

GOVERNMENT FINANCE 1964-82 (Million Kwacha)

SOURCES: IMF (1984) International Financial Statistics Yearbook 1984, Washington, D.C., pp. 628-29; Ministry of Finance, Financial Reports; and Bank of Zambia Annual Reports and Statements of Accounts 1971-82.

	OPERATING RATIOS OF COMMERCIAL BANKS IN ZAMBIA, 1965-82(d)			
End of Period	Liquid Assets (b) as Percentage Liabilities to the Public (c)	Advances as Percentage of Total Deposits	Advances Plus Bills of Exchange as Percentage of Total Deposits	Investments (d) as Percentage of Total Deposits
1965	53.5	33.9	42.3	11.4
1966	50.8	33.6	47.8	9.1
1967	40.8	40.6	64.6	7.3
1968	34.1	51.0	65.4	5.7
1969	39.8	42.9	54.5	7.5
1970	43.8	38.9	53.1	11.0
1971	37.4	50.1	64.1	9.8
1972	47.1	51.4	54.3	9.7
1973	53.4	43.7	47.4	11.6
1974	35.2	65.9	81.8	9.2
1975	52.6	76.3	80.2	8.4
1975	77.8	62.4	68.1	8.7
1977	107.8	52.5	57.1	10.4
1978	53.5	53.2	55.0	9.9
1979	61.4	50.6	52.7	6.5
1980	58.2	53.3	54.8	5.2
1981	47.4	83.0	84.1	4.4
1982	53.8	64.5	64.8	3.1

NOTES: (a) Including Merchant Bank up to December, 1971.
        (b) Liquid Assets include Zambian notes and coin, balances at the Bank of Zambia,
            Zambia Government Treasury Bills, Bills of Exchange and Promissory notes eligible
            for discount at the Bank of Zambia, Local Registered Government Stocks of maturity
            not exceeding 6 years and Balances in U.K., call deposits in U.K. and U.K. Treasury Bills.
        (c) Liabilities to the public include all deposits liabilities plus Bills Payable.
        (d) Includes investments in Government Securities and Government Corporations, but excludes
            Treasury Bills.
SOURCES: Bank of Zambia Annual Reports and Monthly Digests of Statistics.

APPENDIX 5.8

IMPORTS (f.o.b.) OF MANUFACTURED AND PROCESSED GOODS IN ZAMBIA IN SELECTED YEARS, 1965-80

Industry Sector	1965		1970		1975		1980	
	Km	Per Cent of total national imports	Km	Per cent of total national imports	Km	Per cent of total national imports	Km	Per cent of total national imports
Slaughtering	1.7	0.8	7.0	2.1	7.5	1.3	6.4	0.7
Edible oils and fats	1.9	0.9	4.5	1.3	9.1	1.5	7.4	0.8
Grain mill products	2.7	1.3	7.9	2.3	13.7	2.3	18.2	20.6
Bakery products	1.0	0.5	2.9	0.9	4.7	0.8	3.9	0.4
Other food products	8.0	3.8	11.0	3.2	7.3	1.2	9.1	1.0
TOTAL FOOD PRODUCTS	15.3	7.3	33.3	9.8	42.3	7.1	45.0	5.1
Spirits, malt, liquors & tobacco	2.7	1.3	1.2	0.4	1.0	0.2	0.7	0.1
Soft drinks	0.1	-	-	-	-	-	-	-
TOTAL BEVERAGES & TOBACCO	2.8	1.3	1.2	0.4	1.0	0.2	0.7	0.1
Wood products, including furniture	2.9	1.4	3.0	0.9	2.7	0.6	2.5	0.3
Wearing apparel, except footwear	11.1	5.3	10.7	3.1	7.3	1.2	4.1	0.5
Leather products & footwear	3.5	1.7	4.9	1.4	4.7	0.8	3.9	0.4
Printing and publishing	2.1	1.0	2.0	0.6	3.6	0.6	5.3	0.6
Paper & paper products	3.9	1.9	7.3	2.1	16.1	2.7	15.8	1.8
Chemicals, except rubber	31.9	15.1	63.1	18.5	79.1	13.2	134.6	15.3
Rubber products	4.0	1.9	5.7	1.7	10.6	1.8	17.2	1.9
Textiles	15.2	7.2	20.9	6.1	33.6	5.6	41.6	4.7
Structural clay products	1.4	0.7	1.3	0.4	6.0	1.0	9.3	1.1
Other non-metallic minerals	2.9	1.4	4.6	1.4	3.2	0.5	7.2	0.8
TOTAL NON-METALLIC MINERALS	4.3	2.0	5.9	1.7	9.2	1.5	16.5	1.9
Basic metals & fabricated metal products	21.1	10.0	34.5	10.1	68.2	11.4	87.8	9.9
Machinery	30.0	14.2	64.7	19.0	94.8	15.9	152.1	17.2
Electrical products	15.3	7.3	24.2	7.1	39.0	6.5	45.4	5.1
Transport equipment	24.7	11.7	42.8	12.6	77.6	13.0	106.0	12.0
Other manufactured products	6.4	3.0	11.6	3.4	14.5	2.4	11.9	1.3
TOTAL MANUFACTURED IMPORTS	194.5	92.3	335.8	98.6	504.3	84.4	690.4	78.2
TOTAL NATIONAL IMPORTS	210.7	100.0	340.7	100.0	597.6	100.0	882.5	100.0

NOTE: Columns may not add to totals because of rounding errors.

SOURCES: CSO Annual Statements of External Trade 1965, 1970, 1975 and 1980, Government Printer, Lusaka.

APPENDIX 5.9

POPULATION DISTRIBUTIONS IN ZAMBIA BY PROVINCES. URBAN AND RURAL AREAS 1963-80 (Thousands)

Category	1963 Census	1969 Census	1974 Sample Census Final Results	1980 Census	1963-69 Average Annual Growth Rate (%)	1969-74 Average Annual Growth Rate (%)	1969-80 Average Annual Growth Rate (%)
PROVINCES:							
Central	309.4	358.7	397.0	513.8	2.5	2.1	3.3
Copperbelt	543.5	816.3	1046.0	1248.9	7.0	5.1	3.9
Eastern	479.9	509.5	570.0	656.4	1.0	2.3	2.3
Luapula	357.0	335.6	321.0	412.8	-1.0	-0.9	1.9
Lusaka	195.8	354.0	522.0	693.9	10.4	8.1	6.3
Northern	564.0	545.1	584.0	677.9	-0.6	1.4	2.0
North-Western	211.2	231.7	242.0	301.7	1.6	0.8	2.4
Southern	466.3	496.0	534.0	686.5	1.0	1.5	3.0
Western	362.5	410.1	460.0	488.0	2.1	2.3	1.6
LARGE URBAN AREAS:							
Chililabombwe	34.2	44.9	56.0	61.9	4.6	4.7	3.0
Chingola	59.5	103.3	134.0	145.9	9.6	5.3	3.2
Kabwe	39.5	66.0	99.0	143.6	8.9	8.4	7.3
Kalulushi	21.3	32.3	41.0	59.2	7.2	4.7	5.7
Kitwe	123.0	199.8	251.0	314.8	8.4	4.6	4.2
Livingstone	33.0	45.2	58.0	72.0	5.4	5.0	4.3
Luanshya	75.3	96.3	121.0	132.2	4.2	4.6	2.9
Lusaka	123.1	262.4	401.0	538.5	13.4	8.9	6.8
Mufulira	80.6	107.8	136.0	149.8	5.0	4.7	3.0
Ndola	92.7	159.8	229.0	282.4	9.5	7.4	5.3
TOTAL URBAN (INCLUDING SMALL URBAN AREAS):	715.0	1192.1	1663.0	2440.4	8.9	6.9	6.7
TOTAL RURAL:	2774.5	2864.9	3014.0	3239.4	0.5	0.1	1.1
TOTAL ZAMBIA	3490.2	4057.0	4677.0	5679.8	2.5	2.9	3.1
PERCENTAGE URBAN:	20.5	29.4	35.6	43.0	-	-	-

NOTE: Totals may not add up due to rounding.

SOURCE: CSO (1983) Monthly Digest of Statistics, Government Printer, Lusaka, Vol. XIX, Nos. 1 to 3, January/March, Table 3, p. 3.

CHAPTER VI

INDUSTRIALIZATION AND ZAMBIA'S POST-INDEPENDENCE EXPERIENCE

The previous Chapters have outlined the framework for
industrial development in Zambia since Independence. The principal
aim of this Chapter is twofold: first, to summarize the record of
industrialization in Zambia during the period 1964-82, though
unsystematically more recent data will be included as appropriate;
and, secondly, to explain this record mainly in terms of macroeconomic
conditions. An evaluation in terms of both general economic development
models and the avowed ends of Zambia's industrialization policy will be
deferred until the subsequent Chapters.

6.1   Manufacturing Expansion and the Zambian Economic Structure

It will be recalled from the previous Chapters that, at the
time of Independence the structure of the Zambian economy was almost
exclusively dominated by one sector, mining industry (mainly copper).
Thus, one of Zambia's immediate top priorities, was to diversify the
economy as rapidly as possible:

> "so that the copper industry is not the
> only main employer in the economy, and so
> that a greater proportion of domestic
> demand is satisfied by domestic production
> from a large industrial base." (1)

Indeed, Table 6.1 shows that a substantial measure of economic
diversification was in fact achieved over the period 1964-82, since the
share of the mining industry in the total gross domestic product showed
a marked decline of almost eightfold, while that of manufacturing sector
made an impressive increase of threefold. The decline of the relative
importance of the mining industry is not surprising given the fact that
it had the lowest average annual growth rate of GDP in the economy,

TABLE 6.1

GROSS DOMESTIC PRODUCT IN ZAMBIA BY SECTOR AT CURRENT PRODUCERS' VALUES

Sector	1964		1970		1975		1982*		Average Annual Growth Rates (%)		
	Km	% of total	Km	% of total	Km	% of total	Km	% of total	1965 to 1975	1975 to 1982	1965 to 1982
Agriculture, forestry and fishing	53.3	11.5	85.4	7.2	206.4	13.0	488.0	15.1	14.7	12.6	14.8
Mining & quarrying	220.8	47.5	436.6	36.8	215.2	13.6	191.5	5.9	8.2	1.8	7.9
Manufacturing	28.2	6.1	127.4	10.7	250.3	15.8	588.9	18.3	22.8	12.2	19.1
Construction	20.0	4.3	82.3	6.9	151.2	9.5	140.0	4.3	22.3	2.7	13.8
Trade	45.8	9.9	119.3	10.1	132.8	8.4	353.0	11.0	12.5	10.6	13.6
Transport and Communications	20.6	4.4	52.0	4.4	88.5	5.6	210.0	6.5	15.9	13.8	15.0
Other services	76.7	16.5	282.3	23.8	539.0	34.0	1250.0	38.8	19.8	11.7	17.2
Total	464.9	100.0	1185.3	100.0	1583.4	100.0	3221.4	100.0	12.7	7.5	12.0

SOURCE: Central Statistical Office, Monthly Digests of Statistics, 1967-83, Government Printer, Lusaka
*Provisional.

moreover a negative one during the period 1975-82, while manufacturing had the highest growth rate over the same period. (For details see Appendix 6.1). In the period 1964-75 one important explanation for the apparent decline of the relative importance of the mining industry was also the rapid increase in construction and social infrastructural activities (power, education, government, administration - including 'other services'), which were the main focus of the first two national development plans.[2]

However, many analyses have argued that the decline of the mining industry was not due to any deliberate measure taken by the government to decrease dependence on this 'monoculture', since one of the top priorities at Independence was in fact the rapid growth of copper mining industry as the main source of government revenue and foreign exchange for its ambitious development programmes. (FNDP, 1966, p. 1). Moreover, President Kaunda publicly deplored the lack of growth in the copper mining industry, which was one of the main reasons for the takeover of the mining companies in 1969.[3] They, thus, frequently stress the factors principally originating from external forces which we shall discuss in some detail later.[4]

The increase in gross fixed capital formation in the manufacturing sector relative to other sectors is shown in Table 6.2, for the period over which these figures were available at the time of writing.[5] Over the whole period, gross fixed capital formation in manufacturing grew at almost twice the rate of that of the economy's average annual growth rate. In 1973, the figure for this sector was about ten times as high as it had been in 1964. This was largely due to the very high rate of capital formation since the 1968 economic reforms, which marked the start of the massive programme of direct state investment

TABLE 6.2

GROSS FIXED CAPITAL FORMATION IN ZAMBIA BY INDUSTRIAL USE AT CURRENT PRICES

Sector	1964		1967		1970		1973		Average Annual Growth Rates 1965-73
	Km	% of total	Km	% of total	Km	% of total	Km	% of total	
Agriculture, forestry and fishing	5.0	8.5	10.3	6.8	4.0	1.4	14.0	3.9	33.4
Mining & quarrying	27.0	45.9	34.3	22.6	87.0	30.3	112.0	31.0	20.4
Manufacturing	5.0	9.2	18.0	11.8	44.0	15.3	48.0	13.3	41.0
Construction	1.0	1.7	16.1	10.6	26.0	9.1	6.0	1.7	88.4
Trade	2.8	4.8	10.5	6.9	12.0	4.2	14.0	3.9	46.6
Transport and communications	6.0	10.2	20.9	13.8	19.0	6.6	69.0	19.1	40.2
Other services	11.6	19.7	41.8	27.5	95.0	33.1	98.0	27.1	38.6
Total	58.8	100.0	151.9	100.0	287.0	100.0	361.0	100.0	24.3

NB Figures may not add up due to rounding.

SOURCES: 1. Central Statistical Office, Monthly Digest of Statistics, 1964-78, Government Printer, Lusaka.

2. United Nations (1982) Yearbook of National Accounts Statistics 1980, New York, Vol. 1 Part 2, and 1971 Vol. II.

TABLE 6.3

Sector	1964		1970		1975		1983*		Average Annual Growth Rates (%)		
	1000	% of total	1000	% of total	1000	% of total	1000	% of total	1965 to 1975	1975 to 1983	1965 to 1983
Agriculture, forestry and fishing	35.2	13.1	34.6	10.1	36.1	9.2	35.2	9.7	0.7	0.7	0.3
Mining and quarrying	50.8	18.9	57.6	16.8	64.8	16.5	57.7	15.9	2.2	-0.9	0.9
Manufacturing	20.9	7.8	38.2	11.1	44.3	11.3	48.8	13.4	7.4	1.3	4.9
Construction	31.1	11.6	68.7	20.0	71.8	18.2	32.1	8.8	9.6	-7.4	2.1
Trade	20.9	7.8	32.6	9.5	33.0	8.4	30.3	8.3	4.7	-0.1	3.0
Transport and communications	11.4	4.2	22.3	6.5	22.1	5.6	23.9	6.6	7.7	1.0	4.9
Other services	98.4	36.6	89.0	25.9	121.4	30.9	135.8	37.3	2.4	2.1	2.0
Total	268.7	100.0	343.0	100.0	393.5	100.0	363.8	100.0	3.6	-1.0	1.5

Caption: PAID EMPLOYMENT IN ZAMBIA BY SECTOR

* Provisional

SOURCES: 1. As for Table 6.1

2. Office of the President, National Commission for Development Planning, Economic Reports 1982 and 1983, Government Printer, Lusaka.

in manufacturing. Throughout the period, investment in agriculture and mining stagnated, while the greater part of investment took place in construction, trade, transport, and 'other sectors', as provided for in the course of implementing the national development plans. The increase in transport can largely be attributed to the development of new communications infrastructure after UDI in Zimbabwe.

Table 6.3 shows changes in the structure of paid employment over the period 1964-83. The growth of employment in manufacturing was slower than the growth of both GDP and investment in this sector, especially more in the latter, the details of which are shown in Appendix 6.2. However, manufacturing accounted for a substantially higher proportion of total paid employment in 1983 than it did in 1964, and together with transport and communications recorded the highest average annual growth rates during the period 1965-83. It should be noted, however, that for all sectors the highest average annual rates of growth were recorded during the first decade of Independence, and thereafter they were depressed even to the extent that mining, construction, trade, and the economy as a whole recorded negative rates of growth.

6.2   Developments Within the Manufacturing Industry

6.21   Production in the Manufacturing Industry

Table 6.4 shows both the growth and structural change of individual sectors within the manufacturing industry over the period 1965-82. This Table shows that, by 1982 food, beverages and tobacco had become increasingly predominant, accounting for over 41% of total manufacturing GDP, joined in the top group by 'rubber and chemicals' and 'textiles and clothing', at the expense of both non-metallic mineral products and basic metals which were reduced to the very least dominant positions.

TABLE 6.4

GDP OF MANUFACTURING IN ZAMBIA BY SECTOR AT CURRENT PRODUCERS' VALUES

Sector	1965		1970		1975		1982*		Average Annual Growth Rates (%)		
	Km	% of total	Km	% of total	Km	% of total	Km	% of total	1966 to 1975	1975 to 1982	1966 to 1982
Food, beverages & tobacco	12.4	31.0	69.1	54.2	107.8	43.1	242.4	41.2	26.5	12.2	21.1
Textiles & clothing	3.8	9.5	10.7	8.4	26.6	10.6	77.8	13.2	24.3	17.0	21.7
Wood & wood products	2.3	5.8	5.0	3.9	8.0	3.2	23.9	4.1	20.1	15.8	20.4
Paper, printing & publishing	2.0	5.0	4.5	3.5	13.8	5.5	23.2	3.9	23.1	11.9	17.3
Rubber & chemicals	3.5	8.8	9.5	7.5	43.6	17.4	108.0	18.3	32.2	14.5	25.0
Non-metallic minerals	6.1	15.3	10.6	8.3	8.7	3.5	22.2	3.8	4.5	15.3	10.7
Basic metals	5.7	14.3	2.5	2.0	4.2	1.7	11.5	2.0	2.0	15.4	8.5
Metal products	4.1	10.3	15.2	11.9	36.4	14.5	76.2	12.9	21.9	9.0	18.0
Other manufacturing	0.1	0.3	0.3	0.2	1.2	0.5	3.7	0.6	39.2	18.0	30.5
Total	40.0	100.0	127.4	100.0	250.3	100.0	588.9	100.0	21.0	12.2	17.8

*Provisional

SOURCE: As for Table 6.1

The above structural changes were partly the result of
the trends in the growth of the individual manufacturing sectors.
For instance, Table 6.4 also shows that, during the period 1966-82
average annual growth rates were highest in rubber and chemicals,
textiles and clothing, and food, beverages and tobacco sectors,
including 'other manufacturing', while basic metals and non-metallic
mineral products sectors grew at average annual rates far below average
for total manufacturing.

However, these aggregated figures tend to obscure certain
interesting developments within the industrial sectors over time. For
instance, in 1970 the food, beverages and tobacco sector was more
dominant than it came to be in 1982. Further, with the exception of
non-metallic mineral products and basic metals, all the individual
sectors had the highest rates of growth during the first decade of
Independence, and thereafter, their drive to industrialize started
faltering. These trends are the result of special opportunities and
obstacles, partly discussed in the previous Chapter, which we shall
discuss in some detail later in this Chapter. Detailed data on both
the growth and structural changes within the manufacturing industry
over the period under analysis are given in Appendices 6.3 - 6.7. In
the following paragraphs we shall, however, concern ourselves with
analyzing the actual developments in the individual sectors.

It will be recalled from Chapter II, and elsewhere as well,[6]
that, with a country of Zambia's national income and population at
Independence, the majority of industrial sectors within manufacturing
industry seem to have been unusually underdeveloped. Therefore, the
initial rapid expansion of many industries after Independence, especially
after UDI, was to be expected, first, as a consequence of the removal

of competition from Zimbabwe's relatively more advanced industries,
and, secondly, as a consequence of the fairly high rates of effective
protection enjoyed by manufacturing processes within the sectors, in
even the more 'liberal' period of industrialization policy before the
economic reforms of 1968. Response to such factors initially involved
the establishment of consumer goods industries and simpler intermediate
goods industries. For instance, by 1967 over 70% of value added in
the census category 'textiles, clothing, footwear and canvas goods'
was attributable to the sub-group 'manufacture of wearing apparel,
except footwear' and 95 establishments were engaged in this activity as
compared with 54 in 1965 and 76 in 1966.[7] In addition, the Bata
Shoe Company began commercial production in 1966 (Young, 1973, p. 218).
In the chemicals sector, major expansion was in the area of edible oils
and fats, powder and soap detergents, cosmetics, toiletries, paints,
polishes, insecticides, disinfectants, matches and medical supplies.

The metal products, paper, printing and publishing, and food,
beverages and tobacco sectors also responded favourably. Like the
textiles and clothing sector, most of the newly established firms in
the metal products sector were fairly small-scale private concerns,
mainly engaged in structural engineering, supplying the construction
industries, in particular. Further, in addition to firms engaged in the
printing and publishing activity, a number of firms had been set up by
1970 to manufacture articles of paper and paper-board.[8] Finally, the
pace of expansion in the food, beverages and tobacco sector was also
fairly rapid.

However, after a few years of 'liberal' or 'laissez faire'
industrialization experience, the government opted for a socialist path

of development, as manifested in the economic reforms which began in 1968. Thus the state became the most important influence on the pace of industrialization, through the principal organ of the Industrial Development Corporation of Zambia (Indeco), which brought into operation a number of massive state-sponsored projects within manufacturing.

For instance, in the chemicals sector, the construction of the K18.0 million nitrogen chemicals ammonium nitrate plant at Kafue and the first phase of the K5.5 million Kafironda explosives works at Mufulira began in 1968 and were both commissioned in 1970.[9] In the same year, work began on the K24.0 million Indeni petroleum refinery near Ndola and was completed in 1973. All these projects have involved large expansion investments over the years.[10]

In the textiles sector, large investments included the K8.0 million Kafue Textiles of Zambia (KTZ) and the K2.5 million Kabwe Industrial Fabrics which were opened in 1970. However, in contrast to the chemicals sector, in the private sector, the textiles and clothing group failed to sustain its promising start, mainly due to the adverse effects on retail outlets of the 1968 economic reforms, noted in Chapter IV. The state-sponsored industries also initially ran into difficulties. For instance, the new Kafue Textiles mill experienced damages to machinery; local clothing manufacturers shunned its products and instead built up large stockpiles of imported cloth; and there was a delay in imposing a quota system to prevent this.[11] However, to date Kafue Textiles is one of the profit-making companies of Indeco.[12] Kabwe Industrial Fabrics experienced problems of raw material shortage and these problems have continued to affect its

performance over the years. For instance, in 1981, out of a turnover
of K6.1 million, it made a loss of nearly a million kwacha, though
this was reduced to nearly a quarter of a million kwacha in 1982.
(Indeco Report, 1982, p. 10). The initial constraints help to explain
the declining tendency and large negative growth rates between 1968
and 1971 in the textiles and clothing sector shown in the Appendices
6.3 - 6.7. However, in the recent years, a few more large textiles
industries have been opened in Kabwe and Chingola.

In the metals and engineering industries, the state-sponsored
projects included the K2.4 million Metal Fabricators of Zambia (ZAMEFA)
at Luanshya, mentioned in the previous Chapter; Lusaka Engineering
Company (LENCO), which opened a new factory in Lusaka in 1972 for the
manufacture of bus bodies in addition to the previous range of fabrica-
tions; Monarch Zambia which commissioned a welded wire mesh plant in
1973; and the K2.5 million Livingstone Motor Assemblers (LMA), which
began production in 1972. (Indeco Reports, 1968-1982). However, like
textiles and clothing, initially this sector generally experienced a
recession in 1968, partly due to the downturn in construction activity.
After the mid 1970s the main problems were in the nature of insufficient
foreign exchange to procure machinery and components. (Indeco Reports,
1968-1982).

The pace of expansion in the food, beverages and tobacco
group was fairly rapid at first, up to 1968. Thereafter problems arose
mainly as a result of shortages of agricultural raw materials due to
the economic reforms, as outlined in the previous Chapter.[13] There
were even negative growth rates in 1973 and 1974 as shown in Appendix 6.4.
However, certain individual food-processing industries experienced a

steady rate of expansion throughout the period under analysis,
notably the Zambia Sugar Company, which began commercial production
of raw sugar in 1969 as a result of the establishment of the K14.0
million Nakambala Sugar Estate at Mazabuka. As a consequence, it also
increased its output of refined sugar, though initially it still could
not meet the ever-growing national demand for sugar. To date there is
enough for export.[14] Another notable establishment in the food
sector was Mwinilunga pineapple canning factory in North-Western Province.

In the beverages sector, a large-scale expansion of productive
capacity occurred in the bottled-beer industry with the opening of a
new K2.4 million Brewery at Lusaka in October, 1968, which increased
the capacity of the industry by half, and a further expansion of a
similar magnitude was undertaken over the period 1968-70.[15] However,
this expansion seems to have occurred at the expense of the traditional
opaque beer ('chibuku'), mainly brewed by the National Breweries of
Zambia in Kitwe.[16] The Lusaka distillery of Duncan, Gilbey and
Matheson started operations in April, 1968, although value added in
this industry was relatively insignificant because of a high raw
materials import content.[17]

In the tobacco industry, expansion was mainly championed by
a single firm, Rothmans of Pall Mall (Zambia), which had entered the
market as an importer in 1960 and opened its first manufacturing plant
in Lusaka in 1963, though the period of expansion was after Independence.

The wood and wood products sector could not initially benefit
from the favourable factors mentioned earlier because, for instance,
the sawmills and joineries industries had lost the export markets as
pointed out in Chapter V; and the supply of the raw material also became

a problem. However, due to the direct state participation in industry in 1968, a number of developments were expected later in the period under analysis, some of which took off.[18]

The performance of the non-metallic mineral products sector depended heavily upon the progress of the construction industry. The dominant firm in this sector was the Chilanga Cement Company which had an early history before Independence, as outlined in Chapter II. After Independence, the ability of this firm to meet the growing demands for the construction industry was hindered at first by shortages of plant capacity and of coal supplies.[19] However, in 1968 a new cement kiln at Chilanga was commissioned, thereby raising local capacity by about one-third,[20] and in 1969 a K12.4 million factory was opened at Ndola, giving Zambia a total capacity of over half a million tons.[21] This latest development was much in excess of requirements, particularly after the slowing down in the construction activity in 1969, and this resulted in production below capacity.[22] Another major enterprise in the non-metallic mineral products sector sponsored by the state, through Indeco, was the Zambia Clay Industries plant in Kitwe which began production in 1967, but had initial problems partly again due to the inadequacies of coal supplies,[23] and it was not until 1969 that output began to approach its target level.

Finally, the major activities in the basic metals sector were copper refining and smelting. The nationalization of the two giant copper mining companies during the Matero Speech in 1969 meant that such activities were now under the direct responsibility of the state.[24] In the initial years after Independence these activities had a steady growth rate because of the high copper prices. However, due to various

problems discussed in the next section, the basic metals sector
generally experienced a marked slowing down in growth throughout
the period under analysis, especially after the mid 1970s.

In sum, in spite of the shortcomings in some particular
industrial sectors, the period 1965-75 can, generally, be regarded
as one of apparent industrial success since most of the major industrial
projects of the government were undertaken this time, benefiting from
the favourable economic climate that we discuss below. On the contrary,
the period that followed immediately, 1975-82, was one of marked decline
for the majority of the sectors, again for the reasons we give in the
next section. On the whole, the manufacturing industry made impressive
progress in the period after Independence.

6.22   Special Opportunities for the Development of Manufacturing
        Industry in Zambia since Independence

6.221   At Independence, 1964

Several factors conjoined, immediately at Independence to
create a situation extremely favourable to the expansion of manufacturing
in Zambia. Two of these arose directly from the dissolution of the
Federation: the system of interterritorial transfers of revenue came to
an end;[26] and Zambia recovered both the right to formulate its own
industrialization policy objectives and instruments, the latter manifested
in the power to impose effective protective tariffs upon cheaper and
superior imports from Zimbabwe and South Africa. A third factor was
the return of buoyancy to the world demand for copper, and the fourth
was the recovery of the main mineral rights in the country from the
British South Africa Company at Independence.[27] Together, the cessation
of the interterritorial transfers, the recovery of the mineral rights,

and the increase in the price of copper accounted for the rapidly
increasing level of government revenue and expenditure. For instance,
they accounted over a period of scarcely more than three years for
an increase of government revenue of about K170 million, and even
without the higher revenue from customs duties and other side-effects,
these factors taken alone explain how it was made possible for the
government in the four years of Independence to quadruple its total
spending, and to multiply eight-fold its spending upon capital account,
and to do so - up to that point - without incurring a budget deficit
or running down foreign exchange reserves. (Faber, 1971, p. 303).

6.222   1965-75 Period

Between 1965 and 1975 several other factors were to account
for the rapid expansion of manufacturing. The UDI in Zimbabwe in 1965
added urgency to the programme of import substitution and also to the
effective degree of protection that the local manufacturers obtained
as import licensing, introduced as part of the sanctions effort,
progressively prevented the purchase of goods from Zimbabwe and South
Africa. Secondly, there were also other contributory causes, although
secondary. These included the greatly increased sum in African wages
paid out by the copper companies, which was followed by all-round general
increases awarded in the economy.[28]

Therefore, the shift in the national income distribution
towards African wages and salaries accentuated the demand for locally
manufactured goods since the proportion of household expenditures
directed towards the purchase of locally produced goods was higher
amongst African households than among expatriate households. (Faber,
1971, p. 304). This point is particularly important because one of the

fundamental limitations on the country's development had been stressed as its small market based on a small population, in many analyses.[29] Similarly, government capital formation, mainly in construction, also resulted in a higher direct demand for local manufactures than either government recurrent expenditure or, for that matter, private sector capital formation. Thus, the increase in government investment again accentuated the demand for local manufactures.

Finally, throughout the remainder of the 1960s and the early 1970s, other factors emerged to spur the expansion of manufacturing sector. Paramount to these factors, however, was the direct state intervention in manufacturing since the Mulungushi economic reforms of 1968 spearheaded by Indeco, which initiated and promoted the development of several projects which would either have taken longer to develop or never at all developed. (Kaunda, 1968).

6.223   1976-1982 Period

Although this was particularly a period of economic hardships to the Zambian economy in general and manufacturing industry in particular, there also emerged some particular favourable factors which precluded the complete collapse of the manufacturing industry. These included, first, the relaxation, after the mid 1970s, of strict exchange control regulations and import licensing, first introduced in 1972, and this contributed to the steady inflow of raw materials, parts and equipment for use not only in manufacturing, but also in the allied industries.[30] Secondly, after the mid 1970s, Indeco laid more emphasis on the policy of rationalization of its operations so as to improve efficiency. Thirdly, the International Monetary Fund's (IMF) two-year stabilization programme for Zambia over the period 1978-80 and involving a K325 million facility in foreign exchange assisted both the provision

of foreign exchange to the local manufacturers for importation of foreign inputs, and in shortening the payments arrears pipeline of most parastatal companies. Finally, the attainment of political independence of Angola and Mozambique in the mid 1970s and of Zimbabwe in 1980 and the re-opening of Zambia's southern route with Zimbabwe in 1978 brightened the future for the manufacturing industry and allied industries, especially in terms of easy and cheaper access to and from the coasts, and of procurement of relatively easily accessible industrial inputs, from Zimbabwe and South Africa.

However, the above favourable factors which emerged in the 1970s, seemed to be a drop in the ocean given the gravity of the economic crisis in the country during this time, as we shall see in the next section.[31] Appendix 6.11 shows the production performance of the Indeco Group of Companies in the 1981/82 financial year.

6.23   Constraints on the Development of Manufacturing Industry

Our principal objective in this section is to try to explain why the drive to industrialize started faltering after the mid 1970s, after having such a promising start in the first decade of Independence. As such, several explanations are given below.

6.231   Copper Price Instability

It will be recalled from Chapter IV that, for a long time now it has been recognized that Zambia is highly vulnerable to externally induced fluctuations in the price of copper because of its heavy reliance on this one primary product for both government revenue and foreign exchange. Besides, since Independence, Zambia's major industries (mining, manufacturing and agriculture) had developed with a crucial dependence on both foreign inputs and expatriate skills, all requiring some substantial allocations of foreign exchange which had been hard to

comeby   since the mid 1970s.

The recessionary trends in the industrial nations which began in the mid 1970s triggered a much more unprecedented severe and prolonged economic hardship for Zambia (Bell, 1981, p. 6). Due to economic recession in these countries the demand for copper shrunk. The movements of the copper prices, both in constant and current terms, are shown in Table 6.5, and together lend support to the argument that Zambia's problems resulted from low copper prices during the period being considered.

The secular decline of copper prices was exacerbated by the inflexibility of the kwacha foreign exchange rate. For instance, the London Metal Exchange (LME) copper price indices in the table show that the sterling price of copper rose more rapidly than the kwacha price during the 1970s and early 1980s, suggesting that Zambia's exchange rate policy was insufficiently flexible. From 1973 onwards there was a widening divergence between the two indices, a trend reversed only by the strengthening of sterling after 1976 and the two kwacha devaluations in 1976 and 1978.[32] Undoubtedly, such evidence points to the decline in kwacha export earnings or purchasing power more than would otherwise have been the case. However, the subject of appropriateness of exchange policy is beyond the scope of this analysis. Instead, we shall now briefly look at the effects of the copper price crisis on some major aspects of the Zambian economy that influence the development of manufacturing and, indeed, other sectors of the economy.

(a)   Mining Profitability

Because of its strategic position in the Zambian economy, a brief look at the effects of the mineral price crisis on the mining industry itself is necessary. From the mid 1970s, the secular decline

TABLE 6.5

Year	Kwacha per Tonne		Sterling per Tonne		Index of kwacha Prices (1980=100)	Index of Sterling Prices (1980=100)
	Current Prices	1980 Prices	Current Prices	1980 Prices		
1964	693	1109	404	646	40	43
1965	925	1351	540	846	54	57
1966	1091	1495	636	869	63	67
1967	811	1241	473	723	47	50
1968	887	1322	517	768	51	55
1969	1048	1457	611	851	61	65
1970	1011	1426	590	834	59	62
1971	767	1189	447	694	44	47
1972	765	1193	428	666	44	45
1973	1156	1537	724	966	67	77
1974	1328	1632	873	1092	77	92
1975	794	1223	557	803	46	59
1976	1007	1420	782	1105	58	83
1977	1052	1473	751	1052	61	79
1978	1091	1484	709	963	63	75
1979	1572	1713	936	1019	91	99
1980	1725	1725	945	945	100	100
1981	1514	1332	864	778	88	91
1982	1370	1096	842	700	79	89

LONDON METAL EXCHANGE COPPER CASH SETTLEMENT PRICES

NOTES: 1. Cash settlement prices are based on annual averages.

2. Constant prices are deflated by index of world copper export prices.

SOURCES: 1. IMF, (1983), International Financial Statistics Yearbook, 1983, Washington, D.C.

2. Bank of Zambia, Reports and Statements of Accounts 1971-82, Printpak, Ndola.

3. Republic of Zambia: Central Statistical Office, Monthly Digests of Statistics 1967-83, Government Printer, Lusaka.

of real mineral prices combined with inflexibility of the kwacha foreign exchange rate, a fall in copper production, and increase of real production costs to undermine the profitability of the Zambian mining companies. The increase of production costs was mainly due to such factors as the increasing depth of mine shafts, the reductions in mineral ore content, shortage of skilled manpower, the disruptions in external transport routes, congestion at the new ports, and financial costs as reflected in the longer delivery times of imported inputs and finished product, and delayed or inadequate allocations of foreign exchange.[33] The real unit costs roughly rose between 2 and 3% through the 1970s (Bell, 1981, p. 11). Thus, while net returns on assets of over 20% had been common in the 1960s, very low returns persisted from the mid 1970s and, in fact, the mining companies registered losses during the financial years 1975/6 and 1977/8.[34]

Such unfavourable conditions, therefore, together created a serious financial crisis in the Zambian mining industry, which was to create severe distortions in the monetary and credit system in Zambia, and the consequent rising inflation in the domestic market. The mining companies' cash flow was so poor that they exhausted all their credit facilities in the domestic commercial banks, and were unable also to raise enough foreign financing. Thus, the only resort was to borrow substantially from the Central Bank (Bank of Zambia), and this was sometimes done in such a manner that they were behaving, in the monetary sense, very similarly to the government, and, in fact, in 1978 they even borrowed more than the government itself. (Bell, 1982, pp. 6 and 7).

(b)   Balance of Payments Constraint

Under the influence of strong and rising copper prices in the late 1960s and early 1970s, Zambia was never at all constrained by

shortages of financial resources to carry out its ambitious development programmes, unlike most of the less developed countries. The Balance of Payments position was sufficiently strong to allow a substantial accumulation of foreign reserves, and there was only limited recourse to external borrowing, and throughout the period since Independence Zambia ran a balance of trade surplus, except in 1975. Appendix 6.8 summarizes the Balance of Payments in Zambia for the period 1966-82.

However, as shown in the Appendix, the above favourable economic climate changed to one of extremely high current account deficits in the Balance of Payments after 1970, with only a few exceptional years when the copper prices were very high. This was largely because of a fairly rapid secular deterioration in the terms of trade which commenced around 1971, as shown in Appendix 6.9. The major influences on the terms of trade were the fluctuations caused by erratic export earnings as a result of the copper price crisis, and the inflexible import requirements.

However, the inelasticity of import requirements to the secular behaviour of export earnings seems to have been the dominant constraint on the Balance of Payments more than the erratic export earnings themselves. As shown also in Appendix 6.8, while export earnings continued to fluctuate to the dictates of the copper price, the level of imports seems to have had little responsiveness to export earnings. Instead, largely because of the steady progress of the domestic absorptive capacity, that is, government and private final consumption and gross domestic fixed capital formation in the major industrial sectors, imports continued to show a steady rise throughout the period under analysis; though from 1976 onwards the imposition of import controls of increasing severity seemed to have checked this steady rise.[35]

Another influence on the Balance of Payments was the rapidly growing invisible payments portrayed by Appendix 6.8, which had been rising at a rate higher than either exports or imports. The main components were transportation charges, company profit externalization, remittances by foreign contract workers, emigrants' transfers, and interest charges on external debts.

The major effects on the Balance of Payments of all the above constraints had normally been reflected in, first, rapid depletion of Zambia's foreign reserves mainly due to the inability of imports to respond to the secular behaviour of export earnings and the rapidly growing net invisible payments (Bank Reports, 1971-82). Secondly, the foreign exchange crisis became so acute that arrears on external payments began to accumulate in 1975 from K102.1 million to K983.1 million in 1982, more than one year's imports f.o.b. valuation at that time, as shown in Appendix 6.8. That the arrears were temporarily interrupted between 1978 and 1981 was mainly because of the IMF's stabilization programmes. Finally, the Balance of Payments difficulties are shown in Appendix 6.9 which shows the country's terms of trade and purchasing power of its export earnings, mainly from copper, for the period 1964-81. Between 1964 and 1969 both items showed a rapidly increasing trend, and thereafter, went into a fairly steady decline, because of the secular deterioration in the terms of trade.

(c)   The Government Budget

A discussion of the government budget here is quite relevant in view of the fact that over 75% of manufacturing activity in Zambia is accounted for by state industries, and, therefore, the behaviour of the government budget determines to a large extent their development finance. Appendix 6.10 shows the evolution of government finance and

its vulnerability to the mineral price fluctuations during the period 196 -82. Although the government was fairly successful in increasing the non-mineral tax base (Bell, 1981 and 1982), the decline in the financial position of the mining companies inevitably caused a severe loss of revenue after 1974. During the period 1965-70 on the average, mineral revenue accounted for nearly 60% of all current revenue due to the fairly high copper prices and profits at the time. In 1974, mineral revenue accounted for only 54.4%, and this proportion fell to 13.2% in 1975. Between 1977 and 1979 receipts from mineral taxation had ceased altogether and this was the same story for 1981 and 1982. Non-mineral tax receipts, on the other hand, grew much faster between 1965 and 1982, but this was insufficient to prevent the decline in the value of total recurrent revenue in real terms over the period.[36]

Apart from the factors already mentioned earlier, the reduction in mineral tax revenue was also due to, first, the Mufulira Mine disaster in 1970 which claimed 89 lives and caused a substantial fall in production and sales throughout 1971 and 1972. Secondly, the switch from royalties to a profit-based 'mineral tax' helped the collapse of the companies' profitability.[37]

The growing financial constraint was reflected in three ways: first, a decline in the real value of both recurrent and capital expenditure; secondly, a substantial recourse to short term borrowing from the banking system, thereby creating further inflationary pressure potential; and finally, the government had become an increasingly significant sector relative to the rest of the economy, since its borrowing requirements as a proportion of GDP averaged more than 16% during the late 1970s, as compared with less than 1% in the period before (Bell, 1982, p. 9). This constituted a heavy burden on domestic savings,

since only limited use was made of net foreign borrowing.

6.232   Transport Constraint

This constraint, principally originating from both Zambia's
landlocked situation and several political developments since UDI that
were discussed in the previous Chapter, affected the procurement of
the vital industrial inputs from overseas. That the transport constraint
was not a major obstacle to manufacturing development during the first
few years of Independence was largely due to the buoyant economy as a
result of the high copper prices.

The opening of the TAZARA in 1976 eased the transport problem
to Dar-es-Salaam, but only temporarily, since operational and management
problems, together with chronic congestion at Dar-es-Salaam and the
blowing up of bridges on the Chambeshi River by the Zimbabwean commandos
severely reduced the efficiency of the system. (Bank of Zambia Report,
1979, p. 32). These problems, eventually forced Zambia to re-open the
Southern route in 1978 through Zimbabwe, thus alleviating further
deterioration in the country's trade routes to the sea. The granting
of Independence to Zimbabwe in 1980 and the lifting of economic sanctions
against that country also meant the resumption of easily accessible
supplies of industrial inputs from Zimbabwe, as well as South Africa.
Further prospects for transport development lie with the activities of
SADCC, mentioned in Chapter V.

6.233   Other Constraints

These included, first, the introduction of strict exchange
control regulations in 1972 in the name of import licensing, though
relaxed in the late 1970s, further aggravated the procurement of the
vital industrial inputs (Bank of Zambia Report, 1972). It was now no
longer easy to import such requirements, even when foreign exchange was

temporarily available, since to get an import licence was not an easy process due to the usual red tape in government.

Secondly, the philosophical concept behind the building up of a large parastatal sector through direct state participation also had adverse effects on manufacturing expansion. It implied, not only the gaining of some measures of control on industry, but also that such control was essential in order to achieve given economic and socio-political objectives of the government, which as we saw in Chapter IV, normally conflicted with each other. For instance, for socio-political reasons certain parastatals, even private companies, producing essential commodities had to produce and sell their commodities at rigidly controlled prices, thus adversely affecting their profitability. Moreover, the controlled price adjustment mechanism tended to operate with a considerable time lag of, say, two or more years, thus lagging far behind production cost adjustments in view of the rapid import price inflation. However, in December 1982, obliged by the IMF Stabilization Conditions, the government 'liberalized' all pricing of essential commodities to reflect the true costs to industries producing them. (Bank of Zambia Report, 1982, p. 10).

Thirdly, the poor performance of many industries, especially those of Indeco, was generally tne direct consequence of the downward rigidities of the excise tax system. (Bank of Zambia Report, 1979, p. 30). For instance, in 1978/79 out of the K110.6 million sales revenue by Zambia Breweries, K84 million (76%) was payable to the government as excise duty. Such high excise taxes and other indirect taxes forced the prices up, thereby adversely affecting consumer demand, and thus con-sequently squeezing the operating margins of the companies producing such commodities.

Fourthly, there was also the problem of inadequate capital gearing of most of the companies, particularly those of Indeco. Most companies had disproportionately low capital in relation to their volumes of transactions. Consequently, they relied on high level borrowing which resulted in the deterioration in the debt/equity ratios, making it difficult for commercial banks to extend more credit to them.[38] These high ratios adversely affected their operations because of the implicit heavy interest payments. (Bank of Zambia Report, 1980, p. 28).

Finally, the tight credit policy implemented since the adoption of the IMF adjustment programme over the period 1978-80, aimed at controlling inflation through the restraining of growth in aggregate demand, also further affected the operations of Indeco companies in particular. (Bank of Zambia Report, 1979, pp. 30 and 31). The IMF called for implementation of restrictive monetary and credit facilities over the programme period in order to curb the high rate of credit expansion mentioned above which led to excessive liquidity in the economy, contrary to the demands of strict exchange control regulations and price controls mentioned earlier. Specific IMF measures included the devaluation of the kwacha in 1978 which made imports of industrial inputs expensive and also worsened the external debt servicing; increased domestic lending rate which implied higher financing costs for industry; and strict ceilings imposed on the lending of each commercial bank kept growth in the non-mining private sector constrained. (Bank of Zambia Report, 1979, p. 30).

As a result of all the constraints discussed above, most of the industries were faced with the problems of declining output and under-capacity utilization, as shown in Appendix 6.11 for Indeco Companies alone.

6.23   Investment in Manufacturing Industry

Another major feature of manufacturing expansion was in
relation to the actual investments that were made in the individual
sectors. Table 6.6 shows the gross fixed capital formation in individual
manufacturing sectors over the period 1965-80, but in selected years
over which data were available at the time of writing. Throughout this
period, rubber and chemicals remained the most and increasingly predominant
sector in terms of investments, partly because of massive investment
projects undertaken by the government, such as the Nitrogen Chemicals,
Indeni Oil Refinery, and Kafiranda Explosives; and was followed at a
considerable margin, and in alternation, by food, beverages and tobacco
and textiles and clothing sectors. The lowest investments were made in
non-metallic minerals and wood and wood products. This partly explains
the structural change in manufacturing over this period, discussed earlier.

However, although it was not possible to obtain all the annual
figures over the period 1965-80, Table 6.6 also indicates that, the first
decade of Independence was one of rapid and massive investments in almost
all sectors, whereas the period thereafter witnessed a decline in
investments in most sectors.

The behaviour of investments observed above, therefore, fits
well with our analysis in the previous section. For instance, the initial
successes were largely due to the high copper prices of the late 1960s and
early 1970s which were responsible for the basically sound government
budget; and, as a corollary to this, it was also largely due to the
massive direct state participation in industry which began in 1968. On
the other hand, the decline in investments expenditure, especially after
the mid 1970s, was mainly due to the falling copper prices, which resulted
in enormous government budget deficits over time.

TABLE 6.5

GROSS FIXED CAPITAL FORMATION IN MANUFACTURING IN ZAMBIA BY SECTOR

Sector	1965		1970		1975		1980	
	Km	% of total	Km	% of total	Km	% of total	Km	% of total
Food, beverages & tobacco	2.2	19.6	8.1	20.1	17.5	28.8	21.8	26.6
Textiles & clothing	1.1	9.9	3.8	9.4	7.6	12.5	8.9	10.9
Wood & wood products	0.8	7.1	0.9	2.2	3.1	5.1	1.9	2.3
Paper, printing and publishing	0.5	4.5	1.2	2.9	1.0	1.6	3.9	4.7
Rubber and chemicals	2.7	24.1	21.0	52.1	20.1	33.1	35.3	43.1
Non-metallic mineral products	1.1	9.8	0.7	1.7	3.9	6.4	1.4	1.7
Basic metals and fabricated metals	2.1	18.8	1.9	4.7	4.9	8.1	4.9	6.0
Machinery, transport equipment & others	0.7	6.3	2.7	6.7	2.7	4.4	3.8	4.6
Total Manufacturing	11.2	100.0	40.3	100.0	60.8	100.0	81.9	100.0

SOURCES: Central Statistical Office, Censuses of Industrial Production 1965/66, 1970, 1975 and 1980
(unpublished and provisional, Government Printer, Lusaka).

6.24   Import Substitution

The third aspect of our analysis of manufacturing development concerns the progress made by domestic production to satisfy the domestic market since Independence. Table 6.7 gives a break-down of the Zambian market for manufactures, both imported and local, at various points in time during the period 1965-80. By 1980, domestic production as a whole supplied 64% of the local market, a substantial progress when compared with only 34% at the beginning of the period. Further, local producers were dominant in all sectors, with the exception of 'basic and fabricated metals' and 'machinery, transport and other' sectors, again an achievement when compared with the dominance in only three of the sectors listed in the Table at the beginning of the period.

As with production and investment aspects discussed earlier, import substitution seems to have been more successful in the first decade of Independence than in the period that followed. For instance, the change in local production as a proportion of the total market for manufacturing as a whole was greater during the period 1965-74 than in the period 1974-80. Further, local producers in 1980 remained dominant in almost the same number of sectors listed in the Table, just as they were in 1974. Furthermore, though still accounting for over 50% of the local market, domestic production in rubber and chemicals declined between 1974 and 1980. Again the reasons for this behaviour in import substitution are those that have already been given in the preceeding sections.

It should be noted, however, that although a substantial measure of import substitution seems to have taken place in all sectors, generally the volume of imports multiplied more than threefold over the same period, mostly in the intermediate and investment and related goods sectors. This indicates that manufacturing had become increasingly dependent upon

TABLE 6.7

RETAINED IMPORTS AND DOMESTIC PRODUCTION BY MANUFACTURING SECTORS IN ZAMBIA

	Imports (c.i.f.) Km			Local Production for domestic use *a (Km)			Total Market Km			Local Production as % of total Market (%)		
	1965	1974	1980[b]	1965	1974	1980[b]	1965	1974	1980[b]	1965	1974	1980[b]
Food, beverages & tobacco	18.0	47.9	45.8	49.7	223.5	504.5	67.7	271.4	550.3	73	82	92
Textiles & clothing	29.8	55.2	49.6	8.9	72.5	184.2	38.7	127.7	233.8	23	57	79
Wood and wood products	2.9	5.6	2.5	4.6	33.8	29.2	7.5	39.4	31.7	61	86	92
Paper, printing & publishing	6.0	13.1	21.1	4.1	27.7	54.6	10.1	40.8	75.7	41	68	72
Rubber and chemicals	35.9	58.7	151.7	3.6	110.6	218.9	39.5	169.3	370.6	9	65	59
Non-metallic mineral products	4.2	4.4	16.5	8.8	3.8	65.2	13.0	8.2	81.7	68	46	80
Basic metals & fabricated metals	21.1	7.2	87.8	9.8	54.7	6.3	30.9	61.9	94.1	32	88	7
Machinery, transport equipment & others	76.4	231.5	315.4	11.2	58.5	138.9	87.6	290.0	454.3	13	20	31
Total Manufacturing	194.3	423.6	690.4	100.7	585.1	1201.8	295.0	1008.1	1892.2	34	58	64

(a) excludes exports, (b) Unpublished and provisional data, (c) Since the census of industrial production in Zambia does not include 'refining' and 'smeling' under 'basic metals' in manufacturing sector, 10% of the gross value of mining sector was added to the basic metals using Young's method. (Young, 1973, Appendix B, p. 302.

SOURCES: Central Statistical Office, Censuses of Production 1965/66, 1974 and 1980 (unpublished and provisional), Government Printer, Lusaka; and CSO, Annual Statements of External Trade, 1965, 1974 and 1980, (unpublished and provisional) Government Printer, Lusaka.

TABLE 6.8

PAID EMPLOYMENT IN MANUFACTURING IN ZAMBIA BY SECTORS

Sector	1965		1970		1975		1980	
	1000	% of total	1000	% of total	1000	% of total	1000	% of total
Food beverages & tobacco	6.3	24.1	12.4	29.9	16.1	28.9	20.4	34.8
Textiles & clothing	3.2	12.3	7.5	18.0	10.6	19.0	11.2	19.1
Wood & wood products	3.7	14.2	7.5	18.1	4.0	7.2	3.4	5.8
Paper, printing & publishing	2.2	4.6	2.4	5.7	2.9	5.2	2.7	4.6
Rubber & chemicals	1.1	4.2	4.3	10.4	6.4	11.5	7.3	12.4
Non-metallic mineral products	3.2	12.3	3.6	8.7	3.9	7.0	3.5	6.0
Basic and fabricated metals	3.2	12.3	1.5	3.6	7.8	14.0	6.3	10.7
Machinery, transport equipment & other	4.2	16.1	2.3	5.5	4.1	7.3	3.9	6.6
Total Manufacturing	26.1	100.0	41.5	100.0	55.8	100.0	58.7	100.0

SOURCE: As for Table 6.7

certain imported inputs, as was pointed out in the earlier sections.
However, a more detailed analysis of import substitution will be
deferred until Chapter VIII.

6.25   Employment

The final aspect of our analysis of manufacturing developments
concerns employment-generation. Table 6.8 shows the growth of
employment in individual manufacturing sectors in selected years, over
the period 1965-80, again with respect to availability of data.

Although food, beverages and tobacco became increasingly the
dominant sector during this period, rapid employment occurred also in
rubber and chemicals, and textiles and clothing with paper, printing
and publishing remaining constant. All the other sectors reduced their
shares in employment, particularly wood and wood products, non-metallic
minerals, and machinery, transport and other sectors. With the exception
of the latter two, all sectors witnessed higher employment during the
period 1965-70 (especially 1965-70) than during the period 1975-80.
These observed trends were mainly the result of rises and falls in
output and investment discussed above, themselves consequent upon many
factors also discussed in the earlier sections. The implications of
the government policy for employment-creation will be discussed in
Chapter IX.

6.3   Summary and Conclusion

The major object of this Chapter was to summarize and account
for the record of industrialization in Zambia in terms of macroeconomic
conditions during the period 1964-82.

Undoubtedly, manufacturing industry in Zambia is one of the
country's most rapidly growing sectors, for instance, in terms of GDP,
gross fixed capital formation, and wage employment. This is, indeed,

very impressive considering the fact that, at the time of Independence, this sector was seriously 'backward' in the sense that it was smaller than might have been expected even with respect to the limited size of the domestic market. This was due to the country's geographical situation at the periphery of Southern Africa, the most developed part of Africa, as well as to the political and economic institutions of the colonial and federal periods.

Thus, immediately following Independence, several factors conjoined to stimulate the development of the manufacturing industry in the country. First, the break-up of the Federation and the achievement of Independence itself, and subsequently the political and economic confrontation with the South after UDI, gave a powerful spur to the manufacturing development within Zambia, although at the same time these events had undesirable side effects with respect to the procurement of industrial inputs and skilled manpower that could not readily be supplied locally. Initially, industries which had suffered from the 'backwash' effects of the south gained most, such as clothing and simple chemicals. Secondly, the general economic boom, consequent upon a sharp and sustained rise in the copper price, made it possible for the government to undertake ambitious development programmes, especially designed to improve or create infrastructural facilities. Finally, the direct assistance provided by the government was another stimulus to local manufacturers, initially given through commercial and fiscal incentives, and later, through direct participation in the creation of large-scale industries in the intermediate sector, under the umbrella of Indeco. However, the question whether such deliberate policies were really the appropriate ones to achieve the social objectives the government claimed to be pursuing cannot be answered here, but an evaluation will be attempted in Chapter IX.

In spite of a promising start, however, especially during
the first decade of Independence, the drive to industrialize started
faltering from the mid 1970s. Indeed the structural disparities which
caused the crisis had always been present, the buoyancy in the economy
during the late 1960s and early 1970s merely postponed the inevitable.
The 1974-75 recession in the industrial countries triggered the crisis.
Consequent upon it, copper prices remained depressed for an abnormally
long period, domestic and imported inflation rose, real mining costs
escalated, and the Balance of Payments and government budget moved into
severe and prolonged deficit positions which the government could do
nothing about, but resort to external assistance, mainly from IMF. All
these problems had serious implications for the development manufacturing
because it had developed with a crucial dependence on both imported
inputs and skilled manpower. Besides, there were also internal constraints
such as strict exchange control regulations, the price control mechanism,
the excise tax system, inadequate capital gearing of most companies, and
the tight credit policy implemented since the adoption of the IMF
Stabilization Programme.

NOTES AND REFERENCES

1.   Office of National Development and Planning (1966), First
     National Development Plan 1966-1970 (FNDP), Government Printer,
     Lusaka, July, p. 5.

2.   Kaunda, K. D. (1968), Zambia's Economic Revolution, Mulungushi
     Conference, Zambia Information Services, Lusaka, pp. 49-50.

3.   See FNDP, 1966, op. cit., and Ministry of Development Planning
     and National Guidance (1971), Second National Development Plan,
     January 1972-December 1976 (SNDP), Government Printer, Lusaka.

4.   See Bhagavan, M. R. (1978), Zambia: Impact of Industrial Strategy
     on Regional Imbalance and Social Inequality, Scandinavian Institute
     of African Studies, Uppsala, Research Report No. 44, p. 24.

5.   It is worth noting here the very long time lags which exist in
     publishing economic data, as well as the inconsistence in the
     presentation of data. Such deficiencies make accurate appraisal
     and policy formulation extremely difficult.

6.   Young, A. (1973), Industrial Diversification in Zambia, Praeger
     Publishers, New York, Ch. 1.

7.   Central Statistical Office (CSO)(1968), Census of Production 1965
     and 1966; and Census of Production 1967, Government Printer, Lusaka.

8.   See Indeco (1970), A Survey of Zambian Industry, pp. 24-26.

9.   See Indeco, Eighth Annual Report 1967, pp. 23-25.

10. For instance, the cost of the fertilizer expansion project at
     Nitrogen Chemicals of Zambia (NCZ) as at 31st March, 1982, was
     K285.6 million. (See Indeco (1983) Annual Report 1982, p. 10).

11. See Indeco Annual Report 1970-71, p. 101 and Annual Report 1972, p. 31.

12. For instance, out of a turnover of K31.2 million in 1982, about
     11.3% higher than the previous, KTZ recorded a profit of K5.2
     million, though slightly lower than the previous year's K5.4 million.
     (See Indeco Report 1982, p. 10).

13. See also Ollawa, P. (1977), "Rural Development Policies Performance
     in Zambia: A Critical Inventory", Institute of Social Studies,
     The Hague, Occasional Paper No. 59, January; and Young, 1973, op.
     cit., Ch. 9.

14. For instance, in 1982 its exports were worth K1.5 million and its
     profit on a turnover of K56.0 million was K4.8 million. (Indeco
     Report 1982, op. cit., pp. 8 and 9).

15. Indeco, A Survey of Zambian Industry 1970, op. cit.; and Indeco
     Report 1972, op. cit.

16. Indeco Annual Report 1968-9, p. 12.

17. Mainly the ethyl alcohol and the concentrates used in the blending operation which had to be imported. (See Indeco Enterprise, 1st Quarter, 1969, p. 22).

18. For instance, a Forest Industries Feasibility Survey was set up jointly by the Government and the UN Special Fund to examine the prospects for new timber-based industries involving the production of plywood, blockboard, particle board, fibre board, and eventually a pulp and paper mill, and, in fact, a blockboard factory was completed in Kitwe in 1972. (Young, 1973, op. cit., p. 222).

19. See Chilanga Cement Limited, 18th Annual Report, 1967, Chilanga.

20. See Republic of Zambia: Ministry of Commerce and Industry, (1966), Annual Report 1965, Government Printer, Lusaka, p. 8.

21. Indeco Annual Report 1968-69, op. cit., p. 22.

22. Indeco Annual Report 1969-70, p. 20.

23. Indeco, Eighth Annual Report 1969, p. 29.

24. Kaunda, K. D. (1969), Towards Complete Independence, Matero Speech, Zambia Information Services, Lusaka.

25. See Faber, M. (1971), "The Development of the Manufacturing Sector", in Elliott, C. (ed.)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi, pp. 299-322.

26. For instance, during the Federation the net transfers of public revenues from Zambia to the other two territories amounted to almost K194 million, in the sense that revenue collected from Zambia exceeded expenditure within (or for the benefit of) Zambia by that amount. (Faber, 1971, op. cit., p. 301.)

27. By Agreement before Zambia's Independence, the BSA Company was paid K4 million by the Zambian Government and a further K4 million by the British Government, both sums being paid annually in a manner that allowed them to be treated as free of tax. (Faber, 1971, op. cit., pp. 301-302).

28. See Faber, 1971, op. cit., pp. 114-117 for a quantitative discussion of the effects of increases in wages on the domestic market.

29. See Elliott, op. cit.; and Fincham, R. (1980), "Economic Dependence and the Development of Industry in Zambia", The Journal of Modern African Studies, Vol. 18, No. 2, pp. 297-313.

30. See Bank of Zambia Reports 1971-82 for the whole of the paragraph.

31. See Bell, M. W. (1981), Primary Production in an unstable Economic Order: The Zambian Economy 1965 to 1978, The University of Aston Management Centre, Working Paper Series No. 197, February, p. 6.

32. Similar evidence has been provided by Bell. (Bell, 1981, op. cit. pp. 7-9.

33. It should be pointed out that, although they are the major foreign exchange earners in Zambia, the mining companies are not permitted by existing exchange control regulations to retain any significant part of their foreign currency revenue, and so have to compete with all other applicants for allocations of limited foreign exchange.

34. See Bell, M. W. (1982), Government in a Declining Economy: Zambia Since Independence, The University of Aston Management Centre, Working Paper Series No. 232, March, p. 6.

35. For instance, application for establishment of Letters of Credit for imports payments had to be submitted for Exchange Control approval with a view to allowing only essential items, and all foreign exchange proceeds from exports had to be received by authorised dealers in Zambia through irrevocable Letters of Credit. (See Bank of Zambia, Annual Report and Statement of Accounts, 1976).

36. That is at an average annual rate of 8.9% between 1965 and 1978, far in excess of the average real growth rate of non-mineral GDP of 2.7%. (Bell, 1982, p. 7).

37. See Bell, M. W. (1983), "Government Revenue Stabilization in Primary Producing Countries: A Model for Zambia", The Journal of Modern African Studies, Vol. 21, No. 1, pp. 55-76.

38. For instance, in the financial years 1977-78 and 1978-79 the Indeco Group's short-term and long-term debts totalled K361.4 million and K419.4 million, respectively, making the respective debt/equity ratios of about 4:1 and 5:1. (Bank of Zambia Report, 1979, p. 28).

Sector	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
PERCENTAGE ANNUAL GROWTH RATES OF GDP IN ZAMBIA BY SECTOR AT CURRENT PRODUCERS' VALUES																		
Agriculture, forestry & fishing	2.3	10.4	6.8	-0.5	6.7	24.5	80.3	11.8	4.3	11.0	3.5	32.4	17.6	11.3	4.8	15.7	27.5	-11.8
Mining & quarrying	-5.6	14.9	49.9	8.4	57.9	-29.1	-37.0	17.9	58.8	19.6	-65.0	58.8	-31.6	22.7	63.6	3.2	-51.0	-15.0
Manufacturing	41.6	50.5	43.0	22.9	7.7	11.9	17.5	21.2	7.7	22.1	4.9	10.1	13.9	22.3	3.8	19.8	15.6	6.8
Construction	97.0	37.1	5.4	9.5	8.3	21.9	19.3	1.6	2.9	23.7	19.1	-23.0	-6.9	-2.9	-9.9	32.6	-4.8	16.7
Trade	55.7	9.8	32.2	20.3	-25.8	29.1	-5.8	13.8	9.1	20.6	-21.0	16.3	18.4	14.5	21.1	19.0	1.0	15.7
Transport and communications	57.3	-	54.3	-3.2	-8.9	17.9	19.8	1.9	2.2	17.6	16.0	33.9	13.4	5.7	14.0	18.6	1.6	7.1
Other sectors	32.9	16.8	43.0	14.1	22.5	18.7	16.6	15.1	4.6	18.0	15.3	9.8	10.9	9.2	13.9	17.8	13.3	16.0
TOTAL	16.0	17.5	38.3	11.0	25.3	-4.4	-0.4	14.2	18.2	18.8	-16.3	18.2	4.2	12.9	16.7	15.9	2.1	6.0

SOURCE: Central Statistical Office, Monthly Digest of Statistics 1967-83, Government Printer, Lusaka.

PERCENTAGE ANNUAL GROWTH RATES OF PAID EMPLOYMENT IN ZAMBIA BY SECTOR

Sector	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Agriculture, forestry and fishing	1.7	1.1	3.1	-5.2	6.6	-6.2	10.4	-6.5	-11.2	6.0	7.4	-10.0	-5.2	1.9	13.2	-5.8	4.9	2.9	-
Mining & quarrying	3.3	4.4	-0.2	0.2	2.0	3.0	1.0	-	6.0	5.5	-0.5	-0.6	0.6	-3.2	-16.7	21.3	-3.2	-2.9	-3.0
Manufacturing	28.7	14.5	8.4	2.7	0.9	10.4	9.9	-2.8	6.9	1.1	0.5	-2.7	6.3	0.2	10.5	-7.7	3.6	-	0.8
Construction	66.6	37.5	-9.4	-2.5	-3.0	10.6	-4.1	6.8	0.1	0.1	1.7	-29.9	-1.0	-9.6	-13.1	7.7	4.6	-27.2	-2.4
Trade	27.8	6.7	6.7	3.9	3.8	-0.6	16.3	-1.6	-6.4	2.0	-7.3	3.6	-2.6	1.2	-0.9	35.9	-1.0	-35.4	1.7
Transport and communications	7.9	68.3	-1.9	3.2	7.7	-0.9	1.3	14.2	-6.2	-8.3	-0.5	-7.2	1.5	6.3	-0.9	10.5	-5.8	5.7	-1.0
Other sectors	-6.1	14.4	1.5	-1.5	-21.2	6.6	12.2	-0.5	7.4	6.5	6.8	2.0	1.1	2.6	8.2	-4.7	1.0	2.8	-1.3
TOTAL	11.1	12.9	3.1	-0.5	-5.1	4.5	6.3	0.8	1.6	3.1	2.2	-6.3	0.5	-0.3	0.7	4.6	0.7	-10.0	-1.0

SOURCES: 1. Central Statistical Office, Monthly Digest of Statistics 1967-83, Government Printer, Lusaka.

2. Office of the President, National Commission for Development Planning, Economic Reports 1982 and 1983, Government Printer, Lusaka.

- 308 -

APPENDIX 6.3

GDP IN ZAMBIA BY MANUFACTURING SECTORS AT CURRENT PRODUCERS' VALUES
(Million Kwacha)

Sector	1965	1967	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979*	1980*	1981*	1982*
Food, beverages & tobacco	12.4	20.2	33.2	53.4	57.7	69.1	75.7	96.7	92.8	98.5	107.8	123.7	135.?	163.4	157.0	196.6	217.5	242.4
Textiles and clothing	3.8	4.5	8.3	7.0	9.7	10.7	10.0	14.0	17.4	23.9	26.6	29.5	29.0	46.3	49.3	56.3	69.0	77.8
Wood and wood products	2.3	3.5	2.8	2.3	5.0	5.0	5.4	5.0	6.4	10.5	8.0	6.4	10.4	13.1	15.3	16.4	28.4	23.9
Paper, printing and publishing	2.0	2.5	3.6	5.3	4.1	4.5	5.7	6.5	7.6	10.2	13.8	13.0	15.1	19.2	17.6	22.1	22.4	23.2
Rubber and chemicals	3.5	4.3	7.4	7.9	11.7	9.5	17.3	19.6	27.7	38.2	43.6	49.6	65.2	66.7	79.2	98.7	115.9	108.0
Non-metallic mineral products	6.1	6.2	7.0	7.7	7.5	10.6	10.0	10.4	9.4	10.0	8.7	8.7	8.9	17.5	17.4	14.1	21.3	22.2
Basic metals	5.7	8.0	5.4	5.2	2.4	2.5	2.2	3.1	2.9	4.2	4.2	5.0	7.6	10.4	12.5	14.0	14.6	11.5
Metal products	4.1	10.7	17.9	16.6	15.4	15.2	23.0	26.7	30.5	42.0	36.4	38.4	40.4	45.2	47.0	65.9	59.1	76.2
Other manufacturing	0.1	0.3	0.5	0.4	0.4	0.3	0.4	0.4	0.6	1.0	1.2	1.3	1.7	2.1	2.4	2.7	3.1	3.7
Total Manufacturing	40.0	60.2	86.1	105.8	113.9	127.4	149.7	181.4	195.3	238.5	250.3	275.6	314.0	383.3	398.3	477.0	551.2	588.3

*Provisional

SOURCES: Central Statistical Office, Monthly Digest of Statistics 1967-83, Government Printer, Lusaka.

APPENDIX 6.4

PERCENTAGE ANNUAL GROWTH RATES OF MANUFACTURING SECTORS IN ZAMBIA AT CURRENT PRODUCERS' VALUES

Sector	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979*	1980*	1981*	1982*
Food, beverages & tobacco	62.9	64.4	60.8	8.1	19.8	9.6	27.7	-4.0	6.1	9.4	14.7	9.7	20.4	-3.9	25.4	10.5	11.4
Textiles & clothing	18.4	84.4	-15.7	38.6	10.3	-6.5	40.0	24.3	37.4	11.3	10.9	-1.7	59.7	7.8	12.8	22.5	12.8
Wood & wood products	52.2	80.0	-17.9	17.4	–	8.0	-7.4	28.0	64.1	-23.8	-20.0	62.5	26.0	16.8	7.2	73.2	-15.8
Paper, printing and publishing	25.0	44.0	47.2	-22.6	9.8	26.7	14.0	16.9	34.2	35.3	-5.8	16.2	27.2	-8.3	25.6	1.4	3.6
Rubber & chemicals	22.9	72.1	6.8	48.1	-18.8	82.1	7.5	48.9	37.9	14.1	13.8	31.5	2.3	18.7	12.0	30.7	-6.8
Non-metallic mineral products	1.6	12.9	10.0	-2.8	41.3	-5.7	4.0	-9.6	6.4	-13.0	–	2.3	96.6	-0.1	-19.0	51.1	4.2
Basic metals	40.4	-32.5	-3.7	-55.8	4.2	-12.0	40.9	-6.5	44.8	–	19.0	52.0	36.8	20.2	12.0	4.3	-21.2
Metal products	61.0	67.3	-7.3	-7.2	-1.3	51.3	16.1	14.2	37.7	-13.3	5.5	5.2	11.9	4.0	40.2	-10.3	28.9
Other manufacturing	200.0	66.7	-20.0	–	-25.0	33.3	–	50.0	66.7	20.0	8.3	30.8	23.5	14.3	12.5	14.8	19.4
Total Manufacturing	50.5	43.0	22.9	7.7	11.9	17.9	21.2	7.7	22.1	4.9	10.1	13.9	22.3	3.8	19.8	15.6	6.8

*Provisional

SOURCES: Central Statistical Office, Monthly Digest of Statistics 1967-83, Government Printer, Lusaka-

GDP IN ZAMBIA BY MANUFACTURING SECTORS AT 1966 PRICES, 1965-82 (Million Kwacha)

Sector	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979*	1980*	1981*	1982*
Food, beverages & tobacco	13.0	20.2	29.9	39.1	41.7	48.9	52.1	59.1	52.9	51.8	48.4	49.1	45.3	46.1	42.3	43.9	46.7	44.3
Textiles & clothing	3.9	4.5	8.3	6.6	8.9	9.5	8.3	10.8	12.6	14.8	14.2	14.7	12.6	17.4	18.1	21.2	23.5	24.8
Wood & wood products	2.3	3.5	2.8	2.3	4.1	3.9	4.1	3.8	4.8	7.3	4.9	3.3	3.9	3.5	3.5	3.8	5.1	3.9
Paper, printing & publishing	2.1	2.5	3.5	5.2	4.0	5.5	5.5	5.5	5.1	4.9	5.4	4.4	4.8	5.8	4.5	4.0	3.8	4.2
Rubber & chemicals	3.5	4.3	7.2	7.8	11.3	9.2	16.4	16.5	22.6	24.4	23.6	24.2	25.0	23.4	24.2	22.5	27.0	22.2
Non-metallic mineral products	6.4	6.2	6.4	7.1	6.5	8.4	7.8	8.1	7.3	7.5	5.6	4.9	4.7	6.3	5.8	4.0	4.6	3.9
Basic metals	5.3	8.0	5.3	4.8	2.1	2.2	1.8	2.2	2.9	2.1	1.8	1.8	1.9	2.1	2.0	2.0	1.7	1.5
Metal products	4.2	10.7	17.3	15.5	14.3	13.6	18.8	20.1	22.3	25.6	18.8	15.6	12.5	12.0	9.6	12.6	10.2	11.3
Other manufacturing	0.1	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total manufacturing	41.8	60.2	81.2	88.8	93.3	101.5	115.1	126.4	130.4	139.0	123.3	118.6	111.3	117.2	110.6	114.6	123.2	116.7

*Provisional

NOTE: Current price figures in Appendix 6.3 were deflated using the official index numbers of wholesale prices 1966=100. Since the price indexes used to deflate the current price series given in the official statistics are far from perfect, it would be unwise to read too much into small changes in these figures, though certain fairly obvious trends emerge from this Table, as explained in the text.

SOURCE: As for Appendix 6.3

PERCENTAGE ANNUAL GROWTH RATES OF MANUFACTURING SECTORS IN ZAMBIA AT 1966 PRICES, 1966-82

Sector	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Food, beverages & tobacco	55.4	48.0	30.8	6.6	17.3	6.5	13.4	-10.5	-2.1	-6.6	1.4	-7.7	1.8	-8.2	3.8	6.4	-5.5
Textiles and clothing	15.4	84.4	-20.0	34.8	6.7	-12.6	30.1	16.7	17.5	-4.1	3.5	-14.3	38.1	4.0	17.1	10.8	5.5
Wood & wood products	52.2	-20.0	-17.9	78.3	-4.9	5.1	-7.3	26.3	52.1	-32.9	-32.7	18.2	-10.3	-	8.6	34.2	-23.5
Paper, printing and publishing	19.0	40.0	48.6	-23.1	37.5	-	-	-7.3	-3.9	10.2	-18.5	9.9	20.8	-22.4	-11.1	-5.0	10.5
Rubber and chemicals	22.9	67.4	8.3	44.9	-18.6	78.3	0.6	37.0	8.0	-3.3	2.5	3.3	-6.4	3.4	-7.0	20.0	-17.8
Non-metallic mineral products	-10.1	3.2	10.9	-8.5	29.2	-7.1	3.8	-9.9	2.7	-25.3	-12.5	-4.1	34.0	-7.9	-31.0	15.0	-15.2
Basic metals	37.9	-33.7	-9.4	-56.2	4.8	-18.2	22.2	31.8	-27.6	-14.3	-	5.6	10.5	-4.8	-	-15.0	-11.8
Metal products	154.8	61.7	-10.4	-7.7	-4.9	38.2	6.9	10.9	14.8	-26.6	-17.0	-19.9	-4.0	-20.0	31.3	-19.0	10.8
Other manufacturing	200.0	66.7	-20.0	-	-25.0	-	-	33.3	50.0	-	-	-	-	-	-	-	-
Total manufacturing	44.0	34.9	9.4	5.1	8.8	13.4	9.8	3.6	6.1	-11.3	-3.8	-6.2	5.3	-5.6	3.6	7.6	-5.3

NOTES AND SOURCE: As for Appendix 6.3 and 6.5

APPENDIX 6.7

INDEX OF MANUFACTURING PRODUCTION IN ZAMBIA BY SECTOR (1969=100)

Sector	Weights (b)	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980 (a)	1981 (a)	1982 (a)	Average Annual Indices (%) 1970-75	1975-82	1970-82
Food, beverages & tobacco	54	117.0	123.6	128.8	137.1	141.1	136.1	132.7	122.4	117.7	122.8	124.4	132.0	126.0	130.6	126.8	127.8
Textiles & clothing	18	116.6	113.3	148.3	141.9	162.3	160.0	158.7	132.6	144.6	130.6	156.9	169.1	181.5	140.4	154.3	147.4
Wood & wood products	10	96.2	86.2	83.8	84.2	85.4	92.6	67.7	88.7	87.8	96.6	123.6	123.5	98.7	88.1	97.4	93.5
Paper, printing and publishing	10	118.6	158.1	169.3	167.1	170.4	190.5	155.4	174.4	216.2	210.3	123.6	117.4	115.3	162.3	162.9	162.5
Rubber and chemicals	24	109.5	115.9	123.3	131.3	145.2	133.7	130.6	134.7	131.1	134.0	120.6	123.9	101.4	126.5	126.3	125.8
Non-metallic mineral products	15	120.9	128.1	133.4	124.4	147.3	145.9	129.5	144.5	136.3	144.4	111.7	112.4	110.2	133.3	129.4	129.9
Basic metals (c)	5	101.9	100.6	93.5	99.2	131.3	97.3	100.3	109.9	119.9	115.9	115.2	98.9	84.7	104.0	105.3	105.3
Metal products & other	31	99.3	123.9	128.6	130.8	133.0	123.3	122.9	110.5	96.6	84.4	109.9	91.3	94.0	123.2	104.1	111.4
Total manufacturing	167	111.3	121.0	129.2	132.0	141.1	136.3	129.6	125.8	124.5	123.6	122.5	123.2	117.6	128.5	125.4	126.0

(a) Provisional
(b) Total weights in industrial production is 1000 of which mining = 804, manufacturing = 167 and electricity = 29.
(c) Excluding copper refineries which falls under mining industry.

SOURCE: Central Statistical Office (1983), Monthly Digest of Statistics January/March 1983, Government Printer, Lusaka, Vol. XIX, Nos. 1 to 3, Table 17(a). Average Annual Indices have been calculated using data in Table 17(a) presented above.

APPENDIX 6.8

BALANCE OF PAYMENTS IN ZAMBIA (Million Kwacha)

Category	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978[*]	1979[*]	1980[*]	1981[*]	1982[*]
1. Exports (f.o.b.)	431.4	450.4	517.7	852.6	673.2	479.2	543.2	733.5	898.2	516.2	741.4	707.6	675.0	1117.6	1048.1	927.2	960.4
of which copper	(460.6)	(434.0)	(516.1)	(810.7)	(639.8)	(444.2)	(492.6)	(699.6)	(838.5)	(471.1)	(688.6)	(645.9)	(598.0)	(900.7)	(885.8)	(807.8)	(856.1)
2. Imports (f.o.b.)	250.6	315.8	353.0	313.3	347.7	401.3	404.5	349.4	509.1	609.6	432.2	538.7	505.0	599.8	884.5	911.3	909.6
3. Trade Balance (1-2)	180.9	134.5	164.7	539.3	325.5	77.9	138.7	384.1	389.1	-93.4	310.2	168.9	170.0	517.8	163.6	15.9	50.8
4. Non-factor services (net)	-60.6	-75.7	-90.6	-102.5	-110.6	-103.0	-117.3	-132.6	-210.7	-215.4	-166.7	-170.2	-178.0	-228.0	-287.9	-315.7	-298.1
5. Investment income (net)	-58.0	-50.6	-52.1	-47.5	-33.4	-43.6	-74.1	-77.3	-86.9	-75.1	-108.9	-104.8	-105.0	-99.0	-166.8	-182.4	-231.9
6. Unrequited transfers (net)	-9.6	0.1	-24.9	-51.0	-104.5	-107.8	-96.1	-80.2	-81.2	-79.9	-79.7	-64.6	-71.0	-60.0	-91.3	-79.1	-69.8
7. Current a/c balance (3+4+5+6)	52.7	8.3	-2.9	338.3	77.0	-176.5	-148.8	93.4	10.3	-463.8	-45.1	-170.7	-184.0	130.8	-382.4	-561.3	-549.0
8. Capital a/c net plus errors and omissions	-	-32.1	9.3	-218.9	23.3	-32.0	33.8	-101.5	8.3	213.8	-91.1	-52.8	-74.8	13.0	177.3	205.3	261.2
9. SDR allocations	-	-	-	-	6.0	5.8	7.3	-	-	-	-	-	-	14.6	14.6	14.6	-
10. Overall balance (7+8+9)	52.7	-23.8	6.4	119.4	106.3	-202.7	-107.7	-8.1	18.6	-250.0	-136.2	-223.5	-258.8	158.4	-219.7	-341.4	-287.8
11. Money movements (12+13+14+15)	-52.7	23.8	-6.4	-119.4	-106.3	202.7	107.7	8.1	18.6	250.0	136.2	223.5	258.8	-158.4	219.7	341.4	287.8
12. Monetary authorities	-	21.6	-13.5	-115.3	-98.4	180.4	97.1	9.2	-8.2	144.1	39.7	53.9	141.6	29.8	49.7	337.3	21.4
13. Commercial banks	-	2.1	7.1	-4.1	-7.9	9.0	10.5	2.1	-1.2	7.5	0.1	15.0	-13.6	-58.2	55.1	-42.9	95.4
14. Payment arrears	-	-	-	-	-	-	-	-	-	102.1	103.6	156.9	145.3	148.8	107.0	46.6	172.8
15. Currency realignment	-	-	-	-	-	-	-	-3.2	-9.2	-3.7	-7.2	-2.3	-14.5	18.8	2.3	0.5	-1.8

* Preliminary

SOURCES: (1) Bank of Zambia, Reports and Statements of Accounts 1971-82, Printpak Zambia Ltd., Ndola.

(2) Republic of Zambia, Central Statistical Office, Monthly Digests of Statistics 1967-83, Government Printer, Lusaka.

APPENDIX 6.9

TERMS OF TRADE AND PURCHASING POWER OF EXPORT EARNINGS IN ZAMBIA (1980=100)

Category	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1. Index of volume of all exports	107	107	95	88	87	165	106	98	111	104	106	147	173	104	92	-	100	-
2. Index of volume of copper exports	122	122	107	108	115	131	123	114	128	120	121	115	134	120	106	117	100	99
3. Index of unit value of all exports	38	41	61	57	63	78	78	56	55	83	99	63	76	81	86	116	100	-
4. Index of unit value of copper exports	40	53	63	47	51	61	59	45	44	67	77	46	59	60	64	91	100	98
5. Index of unit value of imports	10	13	15	19	20	20	22	23	24	27	34	42	47	54	67	80	100	103
6. Index of terms of trade (all products) =[(3÷5)(100)]	380	315	407	300	315	390	355	243	229	307	291	150	162	150	128	145	100	-
7. Index of terms of trade (copper) = [(4÷5)(100)]	400	408	420	247	255	305	268	196	183	248	226	110	126	111	96	114	100	85
8. Purchasing power index of all exports = [(6x1)/(100)]	407	337	387	264	274	644	376	238	254	319	308	221	280	156	118	-	100	-
9. Purchasing power index of copper exports = [(7x2)/(100)]	488	498	449	267	293	400	330	223	234	298	273	126	169	133	102	132	100	84

NOTES: 1. All figures have been rounded off to the nearest number.
2. Terms of Trade are also known as Net Terms of Trade and are equal to export unit value indices divided by import unit value indices multiplied by a hundred for expression into percentages.
3. Index of Purchasing Power of Exports is also known as Income Terms of Trade and is equal to net terms of trade multiplied by volume index of exports divided by a hundred for expression into percentages.

SOURCES: 1. IMF (1983), International Financial Statistics Yearbook 1983, Washington, D.C., 20431.
2. UN (1983), Statistical Yearbook 1981, New York.

GOVERNMENT BUDGET OF ZAMBIA AT CURRENT PRICES (Million Kwacha)

Category	1966/7	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1. Revenue	416.3	305.0	403.1	437.2	307.3	298.9	386.3	628.2	449.2	455.6	500.1	556.2	592.8	767.7	811.6	857.1
of which minerals	(245.7)	(176.2)	(235.1)	(251.1)	(114.1)	(55.7)	(110.3)	(341.5)	(59.4)	(11.6)	(-1.2)	(-)	(-9.8)	(41.7)	(1.0)	(-)
2. Current expenditure	-280.5	-225.7	-233.2	-275.0	-327.2	-330.6	-362.8	-408.3	-546.0	-562.4	-595.4	-647.1	-791.0	-1082.0	-1153.8	-1118.3
3. Current surplus (+)/ Deficit (-) (1+2)	135.8	79.3	169.9	182.2	-19.9	-31.7	23.5	219.9	-96.8	-106.8	-95.3	-90.9	-198.4	-314.3	-342.2	-261.2
4. Capital expenditure	-133.9	-175.4	-134.5	-138.8	-127.4	-124.4	-109.5	-103.3	-211.4	-106.8	-119.1	-168.3	-165.4	-558.5	-130.3	-296.6
of which: Capital outlay	(-69.5)	(-102.5)	(-100.9)	(-85.13)	(-103.1)	(-81.3)	(-64.2)	(-53.9)	(-110.6)	(-101.9)	(-80.3)	(-91.8)	(-88.7)	(-121.3)	(-120.5)	(-182.7)
Net lending	(-64.4)	(-72.9)	(-33.6)	(-53.5)	(-24.3)	(-43.1)	(-45.3)	(-49.4)	(-100.8)	(-29.9)	(-38.8)	(-76.5)	(-76.7)	(-437.2)	(-9.8)	(-113.8)
5. Total expenditure (2+4)	-414.4	-401.1	-367.7	-413.8	-454.6	-455.0	-472.3	-511.6	-757.4	-695.4	-714.4	-815.4	-956.4	-1640.5	-1284.1	-1414.9
6. Overall Surplus (+)/ Deficit (-) (1+5)	1.9	-96.1	35.4	23.4	-147.3	-156.1	-86.0	116.6	-308.2	-238.6	-214.4	-259.0	-363.6	-872.8	-472.5	-557.8
7. Transfer From (-) or to (+) Government	-	-	-	-	-34.3	41.6	-153.0	-	-	-	-	-	-	-	-	-
8. Overall Surplus (+)/ Deficit (-) with Transfers	1.9	-96.1	35.4	23.4	-181.6	-114.5	-239.0	116.6	-308.2	-238.6	-214.4	-259.0	-363.6	-872.8	-472.5	-557.8
9. Financing (10+11)	-1.9	96.1	-35.4	-23.4	181.6	114.5	239.0	-116.6	308.2	238.6	214.4	259.0	363.6	872.8	472.5	557.8
10. Net Borrowing	23.7	68.4	31.2	16.4	25.4	79.9	238.8	-121.3	318.7	255.0	278.0	412.4	221.3	365.1	367.6	56.7
of which Foreign	(9.9)	-	(20.7)	(13.4)	(17.3)	(-6.6)	(114.6)	(0.4)	(51.4)	(14.3)	(17.5)	(19.2)	(180.3)	(300.1)	(278.6)	(98.8)
Domestic	(13.8)	-	(10.5)	(3.0)	(8.1)	(86.5)	(124.2)	(-121.7)	(267.3)	(240.7)	(260.5)	(293.2)	(41.0)	(65.0)	(79.5)	(-42.1)
11. Use of cash balances	-25.6	27.7	-66.6	-39.8	156.2	34.6	0.2	4.7	-10.5	-16.4	-63.6	-153.2	142.3	507.7	104.9	501.1

NOTES: (1) 1982 figures are provisional
(2) The financial years 1966/7 ran for 18 months from July 1966. Thereafter financial years run concurrently with the calendar year.
(3) Mineral revenue includes all income taxes, royalties, mineral tax, dividends, withholding taxes. Doesn't include sales tax, customs and excise duties paid by mining companies.

SOURCES: As for Appendix 6.8.

PRODUCTION PERFORMANCE OF INDECO GROUP OF COMPANIES 1981/82

Company	Product	Unit	1981-82	Annual Rated Capacity	Capacity Utilization (%)
			PRODUCTION		
Chilanga Cement	Cement	Tonnes	316,199	460,000	69
Crushed stone sales	Stones	"	122,000	204,000	60
	Lime & lime products	"	17,000	21,600	79
Consolidated Tyres	Retreads	Units	31,410	151,440	21
Choma Milling	Maize	Tonnes	39,129	86,400	45
Indeco Milling	Maize	"	113,985	209,160	54
	Stockfeeds	"	16,071	33,600	48
General Pharmaceuticals	Intravenous fluids	Bags	692,952	1000,000	69
Kabue Industrial Fabs.	Polypropylene bags	Tonnes	1,447	2,640	55
Kafue Textiles	Cloth	'000 Metres	13,918	18,000	77
Kafironda Explosives	NG based explosives	Tonnes	12,257	18,300	67
	Anfex	"	14,068	18,300	77
Kapri Glass Products	Glass	"	11,316	35,776	32
Lenco	Windows, door frames	'000 Units	84	135	62
Livingstone Motors	Cars	Units	263	4,500	6
Mansa Batteries	Batteries	'000 Units	9,174	44,216	21
Monarch	Door frames	Units	67,947	132,000	51
	Water Heaters	"	3,541	4,000	89
	Cans	'000 Units	935	5,040	19
National Breweries	Opaque beer (Chibuku)	'000 HL	2,209	4,465	49
National Milling	Maize	Tonnes	87,014	172,140	51
	Wheat	"	89,876	122,976	73
	Stockfeeds	"	71,438	124,800	57
Nitrogen Chemicals	Fertilizer AN	"	12,198	92,000	13
	Explosives AN	"	21,246	22,000	97
	Fertilizer Compound	"	-	141,000	-
Norgroup Plastics	Container, crates, etc.	'000 Units	2,041	-	-
ROP (1975) Ltd.	Edible oils & fats	Tonnes	12,933	52,200	25
	Soap & NSDs	"	8,974	33,500	27
	Seed cakes & hulls	"	10,421	-	-
	Toothpaste & shampoos	"	72	360	20

Rucom Industries	Pineapple products	Cases of 24 cans	11,423	24,000	48
	Coffee	Kg	40,526	200,000	20
	Crates	Units	28,374	50,000	57
Supa Baking	Buns	'000 Units	4,571	5,784	79
	Super white bread	"	3,932	4,828	81
	Cup cakes	"	1,431	5,784	25
Zambia Breweries	Lager beer	'000 HL	1,101	1,450	76
Zambia Sugar	Raw Sugar	Tonnes	102,318	150,000	68
	Refined Sugar	"	95,144	124,000	77
Zambezi Sawmills	Sleepers	Units	49,242	114,000	43
	Sawn timber	M³	2,668	8,400	32
Zamefa	Cables	Tones	903	2,064	44
	Other copper products	"	1,069	4,056	26
Zamox	Oxygen	'000 M³	1,667	2,460	68
	Acetylene	"	262	480	55
Z.S.B.S.	Block board, plywood	'000 sheets	93	175	53
	Doors	'000 Units	62	136	46
	Parquet tiles	M²	8	92	9

NOTE: Percentages are rounded off.

SOURCE: Office of the President, National Commission for Development Planning, (1983), Economic Report, 1982, Government Printer, Lusaka, Table VIII.7, pp. 228-32.

CHAPTER VII

PATTERNS OF INDUSTRIALIZATION IN ZAMBIA SINCE INDEPENDENCE

7.1 Introduction

All countries in the early stages of development tend to have a high propensity to import almost all their requirements of manufactured goods, mainly because of their backward economic and institutional background with respect to productive resources. As such, industrialization is generally expected to begin with the establishment of the simpler manufacturing industries, mainly in the consumer goods group.[1] Gradually, as the possibilities for further growth in these directions become extremely limited or as more favourable conditions set in, the structure tends to become more diversified through the development of other branches, from inter-mediate to investment and related goods industries.

It is because of the above conventional picture of the sequence of industrialization in less developed countries that attempts began after World War II to investigate to what extent such a development conforms to some pattern, in the sense that the level and composition of manufacturing industry in a given country could be related in some quantitative way to a certain number of general economic characteristics of that country. The first major work was that of Chenery, principally concerned with cross-section regression analysis of the output of total manufacturing and its separate individual sectors as a function of a number of independent variables, for a large number of countries at varying stages of economic growth. (Chenery, 1960). Since that time, a number of studies have been conducted, almost all being adaptations of the Chenery model.[2]

The present study, however, is based on the United Nations (UN) model, itself also an adaptation of the Chenery Model. (UN, 1963). Our principal object is to evaluate the development of manufacturing industry in Zambia since Independence with respect to the 'normal' patterns of industrialization. Immediately, however, we shall give a brief exposition of the model used.

7.2   Statistical Methods and the Model

The working hypothesis is that the development of a given country conforms to some pattern which can be quantified in terms of the relationships between the levels and changes of manufacturing output on the one hand, and some general economic characteristics in the country on the other hand. Basically, it is assumed that development processes occur with sufficient uniformity among countries to produce a consistent pattern of change in value added in manufacturing as the level of per capita income and population, and, indeed, any other measurable variables, rise. If proved valid, the relationships obtained could provide a highly useful analytical tool in the evaluation of a country's state of industrialization, for policy making and planning purposes.

In the present study, manufacturing industry is taken to consist of divisions two and three of the old International Standard Industrial Classification System (ISIC), and it is divided both into thirteen industrial sectors based on the ISIC 2-digit classification and into three broad industrial groups: consumer, intermediate, and investment and related industries. The objective of this analysis is to express the quantitative relations in the form of a set of equations in which the levels of value added in total manufacturing output and in outputs of each of the thirteen sectors and three broad industrial

groups are explained in terms of a few selected macro-economic variables.

The UN study began by employing multiple correlation techniques, comparing the level of value added in the manufacturing sector with a number of potential explanatory variables.[3] However, in the final regressions, with the exception of per capita income and population, all the variables were rejected on the grounds that they were highly correlated, in any case with the level of per capita income. It should be noted, however, that a set of preliminary equations which were derived using the two selected variables did not prove to be sufficiently satisfactory for any practical use. This was because an examination of the residuals from these preliminary equations,[4] computed for the sample countries, showed a noticeable degree of positive correlation among the different sectors within each country; in other words, when actual total industrial output in a given country was, for whatever reason, higher or lower than would have corresponded to the country's position as regards per capita income and population, the output levels in most of the industrial sectors also tended to show residuals of the same sign, though at varying degrees.

Therefore, for the above reason, an additional explanatory variable, D, ("the relative degree of industrialization") was introduced. The quantitative expression of this variable was assumed to be represented by the actual position of a country's total manufacturing output in relation to the value of the latter as derived from the preliminary regression equations using the per capita income and population alone; in other words, the value of D was obtained for each country as the residual from that regression equation.[5] Obviously, the new variable, D, could be introduced only in the equations for the thirteen industrial

sectors (and the three broad industrial groups in our study) and
not in the equation for total manufacturing. The value of D proved
to be relatively stable for each country over time, at least in the
short run, and its introduction in the sector/group equations resulted
in a substantially better "fit" of equations. It was, therefore,
interesting to observe that the introduction of D as a third independent
variable left unchanged the values of the regression coefficients on
the other two explanatory variables and also of the constant terms in
the equation, on condition that the regressions for different sectors
were carried out with the same sample countries: it could thus be
regarded as providing for a correlation term that served to distribute
the overall residual of total manufacturing output over the thirteen
composite sectors (and including the three broad industrial groups in
our study).

A preliminary investigation suggested that the linear equations
in the logarithmic value of the variables provided for a better fit
than any other more complicated form. Therefore, as in the UN study,
the final regression equations in our study were as follows.[6]

For total manufacturing:

$$\log V_0 = a_0 + b_0 \log y + c_0 \log P \qquad\qquad 1.$$

and for the individual sectors and broad industrial groups:

$$\log V_i = a_i + b_i \log y + c_i \log P + d_i \log D \qquad\qquad 2.$$

$$(i = 1, 2 \ldots\ldots\ldots 16)^{[7]}$$

in which:

V = Value added in millions of US$

y = Per capita income in US$

P = Size of population in millions

D = The ratio between the observed (actual) value added (V_0)
and the calculated or predicted (normal) value added $(\overset{*}{V}_0)$.
In other words the value of D for country j was obtained

with the formula:

$$\log D_j = \log V_{oj} - \log \overset{*}{V}_{oj} \qquad\qquad 3.$$

$$= \log V_{oj} - (\overset{*}{a}_o + \overset{*}{b}_o \log y_j + \overset{*}{c}_o \log P_j) \qquad 4.$$

in which:

$\overset{*}{a}_o$, $\overset{*}{b}_o$ and $\overset{*}{c}_o$ = the least squares estimates of the parameters

in equation 1.

a's = constants

b's, c's and d's = the partial elasticity coefficients on
the respective explanatory variables. [8]

As in the UN study, the equations above were estimated on
the basis of cross-section data on value added, per capita income and
population for the standard sample which included all the non-centrally-
planned countries for which sufficient data were available on a
comparable basis. [9] The sample thus covered countries with a wide
range of levels of economic development. The centrally-planned
economies were not included in the standard sample since a mixture of
data derived from two institutionally different types of economy would
increase the heterogeneity of the sample and "give analytically
inefficient results". (10)

Initially, however, two separate cross-section regressions
were carried out: one on a 1953 sample comprising 53 countries and the
other on a 1958 sample of 42 countries. [11] Since differences between
the two regressions proved to be negligible in almost all important
aspects, and that the five-year interval between them did not appear
to be long enough to justify a meaningful isolation of the between-
sample (over-time) variation of industrial output as against the
within-sample (cross-country) variation, a standard cross-section
pattern was derived by combining the data of the two years. Details of

the regression analyses and growth interpretation of the cross-section
results are, however, given in the UN study itself (see also Appendix
7.3 for the results of the 1953 and 1958 combined sample). Finally,
it should be noted that the linear form of logarithmic equations
precluded consistent compliance with the additivity condition which
requires that the sum of the predicted values for the individual
sectors (or broad industrial groups in our study) of manufacturing in
a given country should equal the predicted value added of the total
manufacturing in the same country. This, however, did not materially
affect the practical usefulness of the equations.

The 'normal' value added by sectors and broad industrial
groups in a given country were obtained in two consecutive steps:
first, an unadjusted set of value added figures, V_i, was calculated by
applying the standard sector/group equations resulting from the cross-
section regressions to the same given levels of per capita income,
population, and relative degree of industrialization.[12] Secondly,
these figures had then to be adjusted to satisfy the adding-up condition
which requires that the sum of the 'normal' value-added levels by
sectors/groups should equal the observed value-added, V_o, level of
total manufacturing. The UN study proposed two methods for this
adjustment: first, the simplest method - the K-method - was to use
one and the same adjustment factor which was equal to the ratio of the
observed level of total manufacturing output ($V_o = \overset{\bullet}{V}_o D$) to the sum of
computed sector/group outputs ($\Sigma_{i=1} \overset{\bullet}{V}_i$). In the second method - the
D'-method - the gap 'K' was re-introduced in the sector equations as
if it were an additional value of D. This latter procedure resulted
in a considerable narrowing down, although not an elimination of the
gap in its first application; by reiterating the procedure a few times

(in practice, at most twice) a quite satisfactory approximation of
the identity was obtained. In a sense, this D'-method could be said
to take advantage of the conceptual complexity of the D variable
discussed earlier, and to tend to reduce the magnitude of the
residuals from 'normal' for those sectors/groups with regression
coefficients on log D significantly different from unity (UN, 1963,
pp. 29 and 30). However, in our study the simplest and more straight
forward method - the K'-method - was used for adjustments. Before we
discuss our own results we would like first to look at the strengths
and weaknesses of the model, in brief.

7.3   An Evaluation of the Model

Many arguments have been advanced over the years, either
for or against 'normal' patterns analyses.[13] The supporters argue
that these analyses more clearly highlight the important features of
historical patterns of development and, thus, provide useful guidelines
for policy makers and planners in LDCs. For instance, according to UNIDO:

> "....studies of industrial growth have
> produced an impressive body of evidence
> revealing important similarities in the
> development patterns of most countries.
> However, the evidence suggests that some
> key economic measures....grow in a similar
> fashion during the process of transition
> from a developing to a developed country".
> (UNIDO, 1979, p. 43)

In view of the above, it has been argued that the idea of a strong
demarcation between developed countries (DCs) and LDCs can be replaced
by the concept of a transition from one stage of development to another
(Chenery and Syrquin, 1975, p. 135). Chenery has defined, in general
terms, the transition "as the set of changes in the economic structure
required to sustain a continued increase in income and social welfare".[14]

The supporters go on to suggest that, the identification of

the 'normal' patterns makes it possible to see the types of economic changes that could be expected to result from industrialization, and also to suggest some of the causes and consequences of deviations from them.[15] Undoubtedly, such an analysis could, in principal, have significant implications for economic policy making and planning in LDCs. (Kirkpatrick, et. al., 1984, p. 37). Indeed, it has been argued that development policy should increasingly be geared towards the management of structural change and "the development of feasible combinations of market forces and government intervention that make this task possible." (Chenery, 1979, p. 2).

However, many critics of the 'normal' patterns analyses have tended to pay attention to the assumptions underlying these analyses, and more especially to the data limitations and the statistical problems associated with them. They argue that, the results are obtained from cross-section data representing the relative position of a large number of countries at one point in time, but not necessarily the trend that will be followed by one country over a long period of time. For instance, there may be distortions in the results of the analysis arising from price changes. Even Chenery himself recognized in his 1960 study that there may be biases in the statistical estimates arising from systematic errors of measurement, conceptual differences between the statistical measures available and those desired, and the estimation procedures used.[16] These criticisms are listed and briefly discussed below.

First, one of the most formidable criticisms has come from Steuer and Voivodas, who also re-run Chenery's 1960 model using time series data and obtain results inconsistent with the 'normal' pattern.[17] Although accepting that Chenery's cross-section coefficients are good,

they do not agree with his conclusions, especially with the validity
of patterns of import substitution (IS), a subject covered in the
next Chapter. They argue that "neither the world nor the sub-sectors
of it follow the Chenery pattern of import substitution in the post-war
years". However, although their results produce a clear refutation
of the Chenery pattern, some of their own conclusions remain under
question, for their sample of twenty-nine countries was much smaller
than Chenery's fifty-one, and, moreover, most of the countries they
omitted were LDCs. Nevertheless, their analysis of time-series patterns
of IS, and its failure to support the Chenery patterns, more than
justifies their assertion that "quite persuasive cross-section evidence
of the existence of a fairly uniform pattern of industrialization of the
kind found by Chenery is consistent with a lack of temporal stability
of the pattern".

Secondly, critics also argue that the 'normal' patterns
analyses tend to promote excessive confidence in the similarity of the
conditions which face countries on the eve of industrialization. For
instance, Chenery identified five 'universal' factors: "(1) Common
technological knowledge; (2) similar human wants; (3) access to the
same markets for imports and exports; (4) the accumulation of capital
as the level of income increases; (5) the increase of skills, broadly
defined, as income increases." (Chenery, 1960, p. 626). He assumes that,
these elements are much the same for all countries on the eve of
industrialization.

However, as many would agree, it is quite unlikely that such
'universal' factors are always or will ever be fulfilled in the real
world situations, full of imperfections (Sutcliffe, 1971). Even
Chenery himself seems to have been aware of some of the reservations on

his 'universal' factors, when he stated that "ideally, they may be thought of as indicating the path a typical country would follow if its income increased so rapidly that conditions of trade and technology were relatively constant." (Chenery, 1960, p. 633)

Finally, as regards the relevance of the 'normal' patterns analyses to policy making and planning in LDCs, the critics point to the following. (Kirkpatrick, et. al., 1984, pp. 38 and 39). First, the distribution of income within the individual LDCs is likely to influence both the rate and characteristics of the process of economic growth and development, which Chenery himself explicitly discussed but could not formally incorporate in the statistical models of his 1960 study. Secondly, active government intervention, which varies between LDCs and over-time for individual LDCs, may cause deviations from the standard pattern, especially in the planned economies. Such intervention may raise the relative share of industry in total output in general and raise the share of heavy industry in particular, and, thus any cross-section data, especially that exclude planned economies, may be of little value to economic planners. (Sutcliffe, 1971, p. 54). Thirdly, the 'normal' pattern all too often assumes a normative value or significance that it does not deserve, since it is neither necessarily desirable nor even possible for all LDCs, and deviations from the standard pattern in themselves are neither good nor bad, neither a sign of success nor failure. It is argued, for instance, that a 'normal' pattern analysis may be an important tool of description, that is, "a producer of useful yardsticks for classification", rather than "a guide to policy and planning, and that 'typical patterns are neither necessary patterns nor predictable patterns'". (Sutcliffe, 1971, p. 62).

However, whatever the weaknesses of the inter-temporal or cross-sectional analyses of patterns of industrial growth are, the fact that they are a mixture of both a 'normal' growth and a growth strategy suggests that they form a useful basis for a further search for different agents and patterns of industrialization when planning for industrial development in LDCs. The establishment of statistically 'normal' patterns and the observation and attempts to account for the exceptions to them do, indeed, provide us with hints of some of the major aspects of sources or patterns of industrial growth, which can be useful to policy-makers and planners in LDCs, "not in the sense that they provide rigid guidelines about what 'should' be done, but rather in the sense that they raise important issues relating to the nature and consequences of structural change and permit a more informed discussion of those issues". (Kirkpatrick, et. al., 1984, p. 39) It is, therefore, on the strength of this assessment that we have decided to use the UN version of the Chenery model to analyze the patterns of industrial growth in Zambia at various points in time since Independence. For a balanced assessment of the above discussions it is also worth noting Batchelor et. al.'s work (Batchelor, et. al., 1980, pp. 55-58).

7.4   Results of the Present Study

In the present study two separate cross-section regressions were carried out on the basis of data, collected from countries at varying stages of economic growth, on value added in manufacturing, per capita income, and population: one on a sample comprising 80 countries, both LDCs and DCs; and the other on a sample comprising 60 LDCs only, as shown in Appendices 7.1 and 7.2.

In both samples, Zambian data were included. The main object

for carrying out two such regressions was to establish Zambia's patterns of industrialization in relation to both the world economies as a whole and the LDCs in particular. As with the UN study, our sample countries excluded the centrally-planned countries because of the lack of sufficient data on a comparable basis, and moreover data were not even available at all. However, our samples being larger than those of the UN study for the individual years of 1953 and 1958, they represented a wider range of levels of economic development.

For aggregation of country data, values in national currencies were converted to US$ based on the 1974 prices, for purposes of international comparisons. All conversions into current or constant US$ were made in accordance with the more recently refined methodology, first introduced and used in the World Bank Atlas 1975 edition.[18] A technical note on the computation method is presented in Appendix 7.4.

The regression results from our two samples are presented in Appendices 7.1 and 7.2. The former represents results from the sample of 80 both DCs and LDCs, and the latter represents the sample from 60 LDCs only.

Both Appendices show that, per capita income, as in the UN study, was the most important explanatory variable for the variation in total manufacturing output between countries. For instance, the income elasticities of output (b) for total manufacturing were 1.39 and 1.29 in Appendix 7.1 and Appendix 7.2, respectively. Ceteris paribus, this meant that the value added in total manufacturing increased about one-third more than proportionately with increases in per capita income in both sample results. Further, in both results, all individual sectors increased proportionately or more than proportionately with per capita income. However, food, beverages and tobacco products, textiles, leather

products, rubber products, chemicals and non-metallic mineral products
in Appendix 7.1 and food, beverages and tobacco products, textiles and
leather products in Appendix 7.2 showed responses to per capita income
smaller than in total manufacturing. This meant that although pro-
duction in these sectors tended to rise more than proportionately with
increases in per capita income, their shares in total manufacturing
tended to decline. For all other sectors the responses were higher
than for total manufacturing, meaning that not only did production in
these sectors tend to rise more than proportionately with increases
in per capita income but also their shares in total manufacturing
tended to rise. These results confirmed Chenery's earlier results
about the change in composition of output between consumer goods and
investment and related goods industries. (Chenery, 1960). For instance,
the income elasticities ranged from 1.1 in consumer-oriented industries,
through 1.3 in intermediate industries up to 1.6 in investment and
related goods industries, in both sample results. The same trend was
observed also in the UN study.

The population elasticities (c) for total manufacturing in
the two results were 0.75 (Appendix 7.1) and 0.93 (Appendix 7.2),
meaning that, ceteris paribus, between countries total manufacturing
value-added varied approximately one-quarter and one-fifth less than
proportionately to the size of the population respectively. These
results were, however, much lower than those in the UN study although
showing a similar trend with respect to the roles of explanatory
variables in determining value added in manufacturing. The highest
size elasticities were in textiles, rubber products, metal products,
and basic metals in Appendix 7.1 and rubber products, textiles and
basic metals in Appendix 7.2. In Appendix 7.1 all the sectors showed

responses to population sizes smaller than unity, whereas in Appendix

7.2 seven sectors had responses smaller than unity. This meant that,

ceteris paribus, the capita outputs in all these sectors in larger

countries tended to be slightly lower than in smaller countries. For

the sectors whose elasticities were approximately equal to unity, the

aggregate levels of value added varied roughly in proportion to the

size of population. Similar to income elasticities population elasticity

followed the following trend: consumer industries had 0.7 elasticity,

intermediate industries 1.0, and investment and related industries 1.0,

on the average. However, individual sectors ranged for consumer goods

from 0.6 to 0.8, intermediate industries from 0.8 to 1.3, and investment

and related goods industries from 0.7 to 1.1. Again, this trend, although

slightly different in magnitude, was similar to that of the UN study and

in support of Chenery's results.

As regards elasticities of output in response to the degree

of industrialization (d), a given deviation from the 'normal' for total

manufacturing tended to have an almost proportionate impact on textiles,

wood products, paper and paper products, printing and publishing, and

'other' manufacturing in Appendix 7.2. Five sectors in Appendix 7.2

tended to respond more than proportionately, whereas all the sectors in

Appendix 7.1 tended to respond less than proportionately to the degree

of industrialization. The greatest deviations were more or less as in

the UN study, in leather products, food, beverages and tobacco

products, metal products, and chemicals in Appendix 7.1 and in leather,

food, beverages and tobacco products, clothing and footwear, metal

products, basic metals, and chemicals in Appendix 7.2.

The magnitude of the constant terms in both equations followed,

in general, a reverse pattern of that of the elasticities discussed above.

For instance, a relatively high constant term in a sector/group
equation tended to be associated with relatively low values of
elasticities, and vice versa, in both our results and those of the
UN study. The most pronounced examples of the first case were found
in the consumer-oriented industries, followed to some extent by some
intermediate industries, reflecting generally that at very early
stages of industrialization, these are the only manufacturing industries
which exist often in the form of cottage industries. The progress of
industrialization tends to impart to these industries only moderate
rates of growth so that their relative importance gradually declines.
The most pronounced case of the reverse pattern was found, again as
might be expected, in the investment and related industries and to
some extent in some intermediate industries. Here the value of output
will be negligible at earlier stages of development, but will rise
steeply as industrialization proceeds.

Therefore, from our results and the interpretations given
above we have been able to confirm some of the theoretical assumptions
made earlier in this Chapter about the conventional sequential
industrial development through which most countries are expected to
pass. Such analysis should help us to understand the Zambian experience
as we apply the results of our cross-section regressions on its
manufacturing development at and after Independence.

7.5   Application of the Results to Zambian Industrial Experience

In determining the 'normal' levels and patterns of Zambia's
manufacturing industry, an attempt was made to adapt the Zambian data
in the practical application of the cross-section regression results
of both our study and the UN study. The UN results are tabulated in
Appendix 7.3. The results were all applied for four different years:

1965, 1974, 1980 and 1983, on varying assumptions regarding per capita income, population, and the relative degree of industrialization. 1965 was chosen so as to show the pattern of industrialization inherited at the beginning of the planning period in Zambia following immediately after Independence. 1974 was chosen because it was the year on which our cross-section regressions were based due to lack of sufficient data for many countries thereafter. 1980 was chosen because it was the latest year for which the Zambian data on value added in manufacturing by individual sectors were available. Finally, 1983 was chosen because it was the final year scheduled for the Third National Development Plan (TNDP) which began in 1979.[19]

The 'normal' value added by sectors and industrial groups was obtained in the two consecutive steps mentioned earlier, and the K-method was used to adjust the set of value added figures. All conversions of the Zambian currency into current or constant US$ for the four years mentioned above were made in accordance with the World Bank Atlas methodology (World Bank Atlas, 1976).

However, we had to overcome two major technical problems that were encountered in adapting the Zambian data in the practical application of the equations used in the analysis. First, there was the problem of obtaining an estimate for value added in copper 'refining' and 'smelting' since the censuses of industrial production publications in Zambia included them under 'mining' rather than under 'basic metals' industries in manufacturing sector. However, for this we adopted Young's methodology detailed in Table 7.2.[20]

Secondly, there was the technical problem of expressing figures for national income and value added in manufacturing in 1953 US$ since the original UN study results were based on the 1953 US$.

However, this problem was overcome by the deflation method used in
the World Bank Atlas which also helped in deflating the Zambian
national income and value added in manufacturing.

Given the above statistical shortcomings and the fact that
the 'normal' pattern derived from a cross-sectional study of a large
number of countries should not necessarily be taken as an 'ideal'
pattern to which any individual country should aspire to conform, a
fair amount of caution has to be exercised when considering the
implications of the results. However, what is important at this stage
is to recognize that the results and their application to Zambia
provide us with a reference pattern enabling us to identify developments
within the Zambian manufacturing sector which have been peculiar
compared with what has been observed.[21] Further, the degree of
industrialization in each year of analysis has been a useful analytical
tool for establishing the state of industrial development in Zambia
since Independence which could also be used to compare Zambia's
industrialization with other countries, especially those with similar
conditions and opportunities for development. Finally, the cross-
section regression results have also been used to provide us with a
rough indication of the direction or path of industrialization in
Zambia in the near future based on projected data in the TNDP.

7.51   Patterns of Industrialization in Zambia in 1965

Tables 7.1 and 7.2 show actual and 'normal' patterns of
industrialization in Zambia for both total manufacturing industry and
manufacturing sectors/groups, respectively. The 'normal' patterns
were derived from the cross-section regression results based on both
our own study and that of the UN. The results are presented in
Appendices 7.1 to 7.3, the first two representing our own study and the

TABLE 7.1

ACTUAL AND NORMAL PATTERNS OF TOTAL MANUFACTURING INDUSTRY
IN ZAMBIA (Million US$)

Sample Data	1965			1974			1980			1983		
	A	N	$\frac{A}{N}$ (%)	A	N	$\frac{A}{N}$ (%)	A	N	$\frac{A}{N}$ (%)	A	N	$\frac{A}{N}$ (%)
All countries - UN (1953 prices)	80.2	217.7	37	240.8	335.8	72	313.0	513.4	61	313.1	465.2	67
All countries - our own (1974 prices)	128.7	261.2	49	362.1	338.0	107	473.7	487.5	97	471.7	420.5	112
LDCs - our own (1974 prices)	128.7	208.5	62	362.1	281.0	129	473.7	412.2	115	471.7	367.7	128

NOTES: 1. 'Normal' pattern is unadjusted.
2. 1983 computations are based on projected data.
3. A = 'Actual' and N = 'Normal'
4. See Notes in Table 2.

SOURCES: As for Table 7.2

last one representing the UN study. The estimates from the results
in Appendices 7.1 and 7.2 were expressed in 1974 US$ prices, while
those from Appendix 7.3 were in 1953 US$ prices.

The estimates of 'normal' patterns of industrialization did,
indeed, confirm our impressions in Chapter II that, for a country like
Zambia with a high level of per capita income (US$ 280) and a modest
population (3.6 million) at Independence, local manufacturing seems
to have been unusually retarded since as can be seen in Table 7.1
the actual value added in total manufacturing industry was much below
the 'normal' pattern in all the three estimates, especially in the
UN measure. Accordingly, the degrees of industrialization were also
quite low: 0.368 (UN), 0.493 (our own for both DCs and LDCs) and 0.617
(our own for LDCs only). Such a situation is, indeed, puzzling because
higher degrees of industrialization could normally have been expected
since Zambia is a major mineral-producing country and, moreover, as
pointed out in the notes to Table 7.2, an estimate of value added in
copper 'refining' and 'smelting' had been made and included in the
manufacturing industry under the 'basic metals' sector, since such
processes fell under the mining sector in the Zambian censuses of
industrial production.

Table 7.2 shows a detailed account of the 'normal' patterns
of both the broad industrial groups and the individual sectors of
manufacturing industry. On the industrial group level, the investment
and related goods group was by far the most dominant group in terms
of actual value added in total manufacturing on the average, followed
by the consumer goods group, and the intermediate goods group being
the least dominant. Further, the first group was also the most highly
developed group, followed again in the same order of magnitude by the

TABLE ...

ACTUAL AND NORMAL PATTERNS OF INDUSTRIALIZATION IN ZAMBIA, 1980
(Million US Dollars)

Sector/Group	Actual			Normal (4)			Absolute Deviations From Normal			Actual Normal (Per Cent)		
	(1) All Countries (1953 Prices)	(2) All Countries (1974 Prices)	(3) LDCs (1974 Prices)	(1) All Countries (1953 Prices)	(2) All Countries (1974 Prices)	(3) LDCs (1974 Prices)	(1) All Countries (1953 Prices)	(2) All Countries (1974 Prices)	(3) LDCs (1974 Prices)	(1) All Countries (1953 Prices)	(2) All Countries (1974 Prices)	(3) LDCs (1974 Prices)
0. Total manufacturing	80.4	128.7	128.7	80.4	128.7	128.7	-	-	-	-	-	-
1. Food, beverages & tobacco	15.3	24.4	24.4	33.9	52.6	58.8	-18.6	-28.2	-34.4	45	46	42
2. Textiles	1.6	2.6	2.6	6.3	10.4	9.3	-4.7	-7.8	-6.7	25	25	28
3. Clothing & footwear	3.3	5.2	5.2	7.2	5.2	4.0	-3.9	-	1.2	46	99	129
4. Wool products	3.3	5.2	5.2	4.7	4.8	5.2	-1.4	0.4	-	70	109	100
5. Paper & paper products	0.3	0.4	0.4	0.9	2.9	3.5	-0.6	-2.5	-3.1	35	14	11
6. Printing & publishing	2.5	3.9	3.9	3.6	4.6	3.2	-1.1	-0.7	0.7	69	84	122
7. Leather products	-	-	-	1.1	1.5	1.5	-1.1	-1.5	-1.5	-	-	-
8. Rubber products	1.1	2.4	2.4	2.1	1.7	1.8	-1.0	0.7	0.6	53	144	136
9. Chemicals	1.9	3.1	3.1	7.2	17.9	17.2	-5.3	-14.8	-14.1	27	17	18
10. Non-metallic mineral products	8.2	13.1	13.1	5.4	7.5	7.6	2.8	5.6	5.5	152	175	173
11. Basic metals (5)	36.6	58.4	58.4	0.6	5.4	3.5	36.0	53.0	54.9	6221	1076	1667
12. Metal products	6.0	9.6	9.6	6.5	12.2	11.2	-0.5	-2.6	-1.6	93	79	86
13. Other manufacturing	0.3	0.4	0.4	1.0	2.1	2.0	-0.7	-1.7	-1.6	29	19	25
14. Consumer goods industries (1 + 3 + 4 + 6 + 7)	24.4	38.7	38.7	50.5	68.8	76.4	-26.1	-30.1	-37.7	48	56	51
15. Intermediate goods industries (2 + 5 + 8 + 9)	4.9	8.5	8.5	16.5	33.6	30.6	-11.6	-25.1	-22.1	30	25	28
16. Investment and related industries (10 + 11 + 12 + 13)	51.1	81.5	81.5	13.5	26.3	21.7	37.6	55.2	59.8	379	309	376

N.B. Figures may not add up due to rounding.

See next page for Notes.

NOTES ON TABLE 7.2

(1) Calculations are based on the 1963 UN standard equations shown in Appendix 7.3.

(2) Calculations are based on our own 1974 standard equations for eighty countries both LDCs and DCs (See Appendix 7.1).

(3) Calculations are based on our own 1974 standard equations for sixty LDCs only (See Appendix 7.2).

(4) The 'normal' level of value added was adjusted by the K'-method.

(5) Fabricated metals were included here since they could not be disaggregated from basic metals sector. However, since the censuses of industrial production in Zambia do not include 'refining' and 'smelting' under 'basic metal industries' in manufacturing industry but rather include them under 'mining industry', on the basis of details of factor payments in smelting and refining supplied to Alistair Young by the Anglo-American group of companies, it was decided to take in our study as well, value added in these sectors as 10 of output in the mining sector, and then include the 10 value in the 'basic metals' sector   (See Young, 1973, op. cit., p. 302).

SOURCES: 1. Central Statistical Office, Censuses of Industrial Production, Government Printer, Lusaka.

   2. Republic of Zambia, National Development Plans, Government Printer, Lusaka.

   3. Appendices 7.1, 7.2 and 7.3.

consumer goods and intermediate goods industries.

Thus, from the foregoing we were able to conclude that, while the investment and related goods group was generally 'over-developed' at the time of Independence, both the consumer goods and intermediate goods groups remained 'under-developed'. The 'over-development' in the first group was mainly attributed to the basic metals sector, which in 1965 included the fabricated metals as well. On the other hand, low development in the consumer goods groups was attributed mainly to the leather products and food, beverages and tobacco sectors, while textiles, paper and paper products, and chemicals were mainly responsible for the lag in the intermediate goods group. However, it should be pointed out that, while the consumer goods group had the widest negative deviations, the investment and related goods group had the widest positive deviations in all the three categories, and in between lay the intermediate goods group, though with negative deviations.

On the sectoral level, the great majority of sectors were under-developed on the average, though some were worse than others. Leather products, paper and paper products, chemicals, 'other manufacturing', textiles, and food, beverages and tobacco lagged farthest behind the 'normal' patterns; the next were the metal products (excluding fabricated metals), clothing and footwear, followed by printing and publishing, and wood products, in increasing order of magnitude of industrialization. The most advanced sectors, and the ones with positive deviations, were basic metals (including fabricated metals), non-metallic minerals, and rubber products. The lowly ranked sectors included those that may have suffered the 'backwash' effects from the south, such as food, beverages and tobacco, clothing and footwear, leather products, textiles and

chemicals. On the other hand, apart from basic metals, the highly ranked sectors included those in which Zambian producers were already dominant in the local market by the time of Independence especially those that enjoyed backward linkage effects from the mines, such as wood products, rubber products and non-metallic minerals.

Therefore, the state of development of the broad manufacturing groups in general and the individual sectors in particular at the time of Independence was unusual, in that industrialization generally is expected, ceteris paribus, to follow a certain sequence of development outlined at the beginning of this Chapter. In the case of Zambia the reverse took place. The major explanation for this serious distortion lies mainly in the economic and socio-political institutions of the colonial and federal periods discussed in Chapter II.

7.52   Patterns of Industrialization in Zambia in 1974

Again the three estimates confirmed our impressions in Chapter VI that, the first and relatively prosperous decade after Independence witnessed a particularly rapid expansion of the manufacturing industry vis-a-vis other sectors of the economy, as shown in Table 7.1 which gives the actual and 'normal' patterns of total manufacturing industry in 1974. The actual value added was significantly greater than the 'normal' pattern, on the average, whereas the reverse was the case in 1965. Accordingly, the resulting degree of industrialization was more than proportionate with the 'normal' pattern, on the average of the three estimates. This initial relatively rapid growth of manufacturing sector as a whole may be supported by a number of favourable factors that emerged at and a few years immediately after Independence. which were discussed at length in Chapter VI.

On the industrial group level, some measures of diversification

seem to have taken place. For instance, although the investment and related goods group was still predominant, its share of actual value added in total manufacturing dropped in 1974 by a significant margin as shown in Table 7.3. This was mainly due to the expansion of both the intermediate goods and consumer goods groups between 1965 and 1974. Further, although the first group was also still the most highly developed in all the three estimates, its proportional share of actual over 'normal' value added declined significantly. This decline was again mainly due to the expansion of the intermediate goods group, which had even overtaken the consumer goods group. Finally, while the consumer goods and investment and related goods groups widened their negative and positive absolute deviations from the 'normal' patterns, the intermediate goods group narrowed its negative deviations.

Sectorally, again, on the average, there were signs of remarkable achievements. For instance, the number of sectors with positive deviations had increased between 1965 and 1974 in all the three estimates. On the average of the three estimates, the most highly ranked individual sectors above the 'normal' patterns were basic metals (excluding fabricated metals), rubber products, metal products (including fabricated metals), leather products, clothing and footwear, and chemicals. The next group, below the 'normal' patterns, included wood products, non-metallic minerals, paper and paper products, printing and publishing, and food, beverages and tobacco, followed by textiles and 'other manufacturing', in that descending order.

The relative achievements of both the three broad industrial groups and the individual sectors can be associated again with the favourable conditions at and a few years following Independence. However, the poor achievements of some individual sectors and the consumer goods

TABLE 7.3

ACTUAL AND NORMAL PATTERNS OF INDUSTRIALIZATION IN ZAMBIA, 1974

(Million US Dollars)

Sector/Group	Actual			Normal			Absolute Deviations From Normal			Actual Normal Per Cent		
	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)
0. Total Manufacturing	240.8	362.1	362.1	240.8	362.1	362.1	-	-	-	-	-	-
1. Food, beverages & tobacco	47.3	71.1	71.1	86.9	133.1	140.3	-39.6	-62.0	-69.2	54	53	51
2. Textiles	6.9	10.4	10.4	19.8	32.8	30.0	-12.9	-22.4	-19.6	35	32	35
3. Clothing and footwear	12.8	19.2	19.2	19.6	14.3	13.7	- 6.8	+ 4.9	+ 5.5	66	134	140
4. Wood products	10.1	15.2	15.2	14.5	12.7	14.2	- 4.4	+ 2.5	+ 1.0	70	119	107
5. Paper and paper products	4.7	7.0	7.0	4.5	9.0	9.4	+ 0.2	- 2.0	- 2.4	104	78	75
6. Printing and publishing	6.3	9.5	9.5	10.4	12.6	9.4	- 4.1	- 3.1	+ 0.1	61	75	101
7. Leather products	3.3	4.9	4.9	3.6	3.5	3.1	- 0.3	+ 1.5	+ 1.8	93	142	156
8. Rubber Products	9.2	13.8	13.8	4.2	5.1	4.7	+ 5.0	+ 8.7	+ 9.1	220	270	296
9. Chemicals	32.4	48.7	48.7	20.0	56.6	63.4	+12.4	- 7.9	-14.7	162	86	77
10. Non-metallic mineral products	13.0	19.6	19.6	17.1	20.5	18.6	- 4.1	- 0.9	+ 1.1	76	96	106
11. Basic metals	51.9	78.1	78.1	4.1	16.3	11.0	+47.8	+61.8	+67.1	1272	478	707
12. Metal products	41.7	62.8	62.8	32.5	40.0	38.7	+ 9.2	+22.8	+24.1	128	157	162
13. Other manufacturing	1.2	1.8	1.8	3.7	5.6	5.6	- 3.7	- 3.8	- 3.8	33	32	32
14. Consumer goods industries (1 + 3 + 4 + 6 + 7)	79.8	119.9	119.9	135.0	173.6	186.2	-55.2	-53.7	-66.3	59	69	64
15. Intermediate goods industries (2 + 5 + 8 + 9)	53.4	79.9	79.9	48.5	105.7	103.1	+ 4.9	-25.8	-23.2	110	76	78
16. Investment and related industries (10 + 11 + 12 + 13)	107.8	162.3	162.3	57.4	82.8	72.8	+50.4	+79.5	+89.6	188	196	223

NB. Notes and sources as for Table 7.2, except that fabricated metals are now included under metal products.

group in general, apart from the colonial and federal heritage, can
be traced through the general economic crisis in the country which
had set in as early as 1971, although it did not become acute until
1975. The structural imbalances which caused this crisis, that is the
colonial and federal heritage, had always been present and the high
copper prices of late 1960s and early 1970s merely deferred the inevitable
and socially difficult adjustment, an observation also shared by others.[22]
Moreover, the year 1974, on which our analysis is based, marks the
beginning of economic recession in the industrial nations which was to
have profound effects on Zambia's industrialization drive as we shall
see later.

7.53   Patterns of Industrialization in Zambia in 1980

The estimates in both Tables 7.1 and 7.4 confirmed our
observation in the previous Chapter that, after a promising start during
the first decade after Independence, Zambia's drive to industrialize
began faltering, especially after the mid 1970s and into the early 1980s.[23]
Again, the major explanation for this downturn was given in the previous
Chapter.

The estimates in Table 7.1 show that Zambia's total manufacturing
industry, though relatively much better than it was at Independence, was
less developed in 1980 than it was in 1974 in relative terms, an
observation well supported by deviations of actual from 'normal' patterns
and the resultant decline in the relative degrees of industrialization.
The latter were not only substantially lower than those of 1974 on the
average, but were also actually below the 'normal patterns for 1980 itself.

On the industrial group level, as shown in Table 7.4, although
the investment and related goods group was still predominant, its share
in value added of total manufacturing fell between 1974 and 1980 on the

TABLE 7.3

ACTUAL AND NORMAL PATTERNS OF INDUSTRIALIZATION IN ZAMBIA, 1980
(Million US Dollars)

Sector/Group	Actual			Normal			Absolute Deviations From Normal			Actual Normal Per Cent		
	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1953 Prices)	LDCs (1974 Prices)
0. Total Manufacturing	313.0	473.7	473.7	313.0	473.7	473.7	-	-	-	-	-	-
1. Food, beverages & tobacco	56.9	86.2	86.2	104.5	164.9	175.0	-47.6	-78.7	-88.8	55	52	49
2. Textiles	23.7	35.9	35.9	26.6	42.3	40.5	- 2.9	- 6.4	- 4.6	89	85	89
3. Clothing and footwear	15.5	23.4	23.4	25.4	18.5	16.2	- 9.9	+ 4.9	17.2	61	127	145
4. Wood products	10.9	16.6	16.6	19.2	17.1	17.7	- 8.3	- 0.5	- 1.1	57	97	94
5. Paper and paper products	6.9	10.5	10.5	5.9	12.6	13.2	+ 1.0	- 2.1	- 2.7	117	83	80
6. Printing and publishing	7.9	11.9	11.9	14.5	16.8	11.6	- 6.6	- 4.9	+ 0.3	55	71	103
7. Leather products	8.5	12.8	12.8	4.0	4.4	3.9	+ 4.5	+ 8.4	+ 8.9	214	291	331
8. Rubber products	9.2	14.0	14.0	6.5	6.9	6.6	+ 2.7	+ 7.1	+ 7.5	142	202	214
9. Chemicals	40.1	60.6	60.6	29.9	74.8	83.4	+10.2	-14.2	-22.8	134	81	73
10. Non-metallic mineral products	17.1	25.9	25.9	21.0	27.1	25.5	- 3.9	- 1.2	+ 0.4	81	96	102
11. Basic metals	59.2	89.5	89.5	5.6	23.2	16.2	+53.6	+66.4	+73.3	1050	387	552
12. Metal products	56.0	84.8	84.8	44.5	57.7	57.4	+11.5	+27.1	+27.4	126	147	148
13. Other manufacturing	1.1	1.6	1.6	5.3	7.5	6.7	- 4.5	- 5.9	- 5.1	21	21	24
14. Consumer goods industries (1 + 3 + 4 + 6 + 7)	99.7	150.9	150.9	167.6	219.0	231.9	-67.9	-68.1	-81.0	59	69	65
15. Intermediate goods industries (2 + 5 + 8 + 9)	79.9	121.0	121.0	68.9	139.0	137.4	+11.0	-18.0	-16.4	116	87	88
16. Investment and related industries (10 + 11 + 12 + 13)	133.4	201.8	201.8	76.4	115.7	104.4	+57.0	+86.1	+97.4	175	174	193

NB Notes and sources as for Table 7.2, except that fabricated metals are now included under metal products.

- 343 -

average, while the intermediate goods group had a modest rise. The
consumer goods group also declined over the same period. Further,
although the first group was still also the most highly ranked in
development its proportionate share of actual over 'normal' value
added declined whereas that of the intermediate goods group continued
to rise and that of consumer goods group remained constant, over the
same period, again on the average of the three estimates.

As regards deviations of actual value added from 'normal'
patterns, the consumer goods group had the widest negative deviations
in 1980, while the investment and related goods group had the widest
positive deviations in the same year, and, in fact, both groups had
widened further their deviations in 1980 from what they were in either
1965 or 1974. The intermediate goods group, however, continued to lie
in the middle and to narrow its deviations, and, moreover, the estimate
based on the UN results registered a further positive deviation in 1980.

Sectorally, based also on the averages of the three estimates,
the majority of the sectors were less developed in 1980 than they had
been in 1974, notably the food, beverages and tobacco, clothing and
footwear, wood products, printing and publishing, rubber products,
chemicals, basic metals, metal products, and 'other manufacturing'.
The only major advances were in the textiles sector, probably because
of the new Kafue Textile Mill, and in leather products. However, in
ascending order, clothing and footwear, metal products, rubber products,
leather products, and basic metals remained the most highly ranked
sectors, all well beyond the 'normal' patterns, on the average. On the
other hand, in descending order, 'other manufacturing', food, beverages
and tobacco, printing and publishing, wood products, textiles, chemicals,
paper and paper products, and non-metallic minerals remained lowly ranked

and below the 'normal' patterns. However, the most dominant sectors in terms of actual value added, continued to be the basic metals, metal products and food, beverages and tobacco, while the least included the 'other manufacturing', paper and paper products, printing and publishing, leather products, and rubber products. Thus, the composition changed very little from what it was in either 1965 or 1974, except that by 1980, textiles, chemicals, leather products, and clothing and footwear had assumed great importance in the manufacturing sector as a whole. As regards deviations of actual from 'normal' patterns, food, beverages and tobacco, chemicals, and textiles had the widest negative deviations, while basic metals, metal products, rubber products, leather products, and clothing and footwear had the widest positive deviations in 1980 in all the three estimates which were even wider than they were in 1974.

7.54 Projected Patterns of Industrialization in Zambia in 1983

Tables 7.1 and 7.5 show the projected patterns of industrial growth in Zambia for 1983. Based on macro-economic projections in the TNDP, estimates of projected 'actual' patterns in total manufacturing industry and its three broad groups and the thirteen sectors were made for 1983. The estimates of projected 'normal' patterns were also made for 1983 using the results in the three Appendices mentioned earlier.

The results of the estimated projections, apart from those listed in the Tables, were as follows: population 6.2 million; national income US$ 2,044.8 million (1953 prices) and US$ 3,124.0 million (1974 prices); per capita income US$ 310 (1953 prices) and US$ 470 (1974 prices); and the relative degrees of industrialization were 0.673 (UN), 1.122 (All countries), and 1.283 (LDCs only).

However, although the estimates in Table 7.1 show that the

TABLE 7.3
PROJECTED ACTUAL AND NORMAL PATTERNS OF INDUSTRIALIZATION IN ZAMBIA, 1983
(Million US Dollars)

Sector/Group	Planned Actual			Normal			Absolute Deviations From Normal			Planned Actual Normal Per Cent		
	All Countries (1953 Prices)	All Countries (1974 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1974 Prices)	LDCs (1974 Prices)	All Countries (1953 Prices)	All Countries (1974 Prices)	LDCs (1974 prices)	All Countries (1953 Prices)	All Countries (1974 Prices)	LDCs (1974 prices)
0. Total Manufacturing	313.1	471.7	471.7	313.1	471.7	471.7	-	-	-	-	-	-
1. Food, beverages and tobacco	57.6	86.8	86.8	106.9	167.3	174.4	-49.3	-80.5	-87.6	54	52	50
2. Textiles	20.6	31.0	31.0	27.7	45.0	43.3	- 7.1	-14.0	-12.3	74	69	72
3. Clothing and footwear	15.7	23.6	23.6	24.8	18.0	16.4	- 9.1	+ 5.6	+ 7.2	63	131	144
4. Wood products	11.1	16.7	16.7	18.7	16.1	17.1	- 7.6	+ 0.6	- 0.4	60	104	98
5. Paper and paper products	7.0	10.6	10.6	5.7	12.2	12.6	+ 1.3	- 1.6	- 2.0	123	87	84
6. Printing and publishing	7.8	11.8	11.8	13.5	16.1	11.8	- 5.7	- 4.3	-	58	73	100
7. Leather products	8.6	12.9	12.9	4.3	4.3	3.8	+ 4.3	+ 8.6	+ 9.1	202	299	337
8. Rubber products	9.3	14.1	14.1	5.9	7.0	6.5	+ 3.4	+ 7.1	+ 7.6	158	202	217
9. Chemicals	40.5	61.0	61.0	29.1	75.3	84.6	-11.4	-14.3	-23.6	139	81	72
10. Non-metallic mineral products	17.3	26.1	26.1	21.8	26.6	24.6	- 4.5	- 0.5	+ 1.5	80	98	106
11. Basic metals	59.8	90.1	90.1	5.9	22.1	16.0	+53.9	+68.0	+74.1	1010	407	564
12. Metal products	56.7	85.4	85.4	43.7	54.6	53.8	+13.0	+30.9	+31.6	130	157	159
13. Other manufacturing	1.1	1.6	1.6	5.1	7.1	6.7	- 4.0	- 5.5	- 5.1	22	23	24
14. Consumer goods industries (1 + 3 + 4 + 6 + 7)	100.8	151.8	151.8	168.2	217.0	229.0	-67.4	-65.2	-77.2	60	70	66
15. Intermediate goods industries (2 + 5 + 8 + 9)	77.4	116.7	116.7	68.4	142.7	141.3	+ 9.0	-26.0	-24.6	113	82	83
16. Investment and related industries (10 + 11 + 12 + 13)	134.9	203.2	203.2	76.5	112.0	101.4	+58.4	+91.2	+101.8	176	181	200

NB Notes and sources as for Table 7.2, except that fabricated metals are now included under metal products.

figures for 'actual' value added in total manufacturing industry in
absolute terms were much higher than in any of the earlier years analyzed
in relative terms, with respect to degrees of industrialization total
manufacturing was less developed in 1983 than it was in 1974, though
more developed than in both 1965 and 1980. Such an observation indicates
that, although Zambia's manufacturing sector had started recovering after
the 1980s, it had still not fully recovered to the level of the first
decade after Independence, and, moreover, it fell short of∧ This again
the level of 1974.
may be explained by the factors discussed in Chapter VI.

On the group level, the pattern in 1983 had not changed much
from what it was in 1980, for all the three broad groups sustained their
proportionate shares of value added in total manufacturing. Thus, the
investment and related goods group was still the dominant group, followed
by the consumer goods group and the intermediate goods group being last.
However, based on averages of the three estimates in Table 7.5, only the
investment and related goods and consumer goods groups increased their
proportionate shares of 'actual' over 'normal' value added between 1980
and 1983. The intermediate goods group, though still ranking second,
declined with respect to proportionate shares. As regards deviations of
'actual' from 'normal' patterns, on the average the consumer goods group
again had the widest negative deviations although narrower than in 1980,
while the investment and related goods group continued to have the
widest positive deviations. On the other hand, the intermediate goods
group started widening its negative deviations, although they were still
narrower than the consumer goods group.

On the sectoral level, basic metals, metal products and food,
beverages and tobacco continued to dominate all the thirteen manufacturing
sectors in terms of volume of output, and the least dominant continued

to be 'other manufacturing', paper and paper products, printing and
publishing, leather products and rubber products. On the average, the
majority of sectors were more developed in 1983 than in 1980, although
still less developed than in 1974. For instance, out of the thirteen
sectors, only textiles and basic metals decreased their proportionate
shares of 'actual' over 'normal' patterns between 1980 and 1983, while
food, beverages and tobacco and leather products maintained their 1980
rankings and the remaining nine sectors increased their rankings in 1983.
However, as measured against 1974 estimates, the picture was still a
less happy one in 1983 since seven out of the thirteen sectors were less
developed than in 1974 and these included food, beverages and tobacco,
wood products, printing and publishing, rubber products, chemicals,
basic metals, and 'other manufacturing', while clothing and footwear and
metal products remained constant, and the remaining four sectors increased
their rankings. The compositions of both the highly and lowly ranked
groups in terms of value added, remained as they were in 1980. The
composition with respect to deviations of 'actual' from 'normal' patterns
also remained the same.

7.6   Summary and Conclusion

The principal object of this Chapter was to evaluate the
development of Zambia's manufacturing sector since Independence by
means of a generally accepted economic development model. As such the
UN model, itself an adaptation of the Chenery cross-section regression
model of 1960, was chosen and re-run using two sets of sample data: one
for LDCs only and the other for LDCs and DCs mixed together, both sets
excluding the centrally-planned economies. The regression results so
obtained were then applied to Zambia. For the sake of comparison, the
original UN regression equations were also applied to Zambia.

All the three sets of regression equations showed similar
trends of patterns of industrialization in all the four years analyzed.
However, they differed in magnitude. For instance, the estimates from
our own regression results showed higher relative degrees of industriali-
zation than the estimates from the UN parameters. Within our own estimates,
Zambia's manufacturing industry seemed to have higher relative degrees
of industrialization when the LDC sample data results were used than when
the mixed data results were used. Such differences, anyway, may have
arisen from the statistical and data limitations of any cross-section
study discussed in the Chapter. However, for reasons again given in the
Chapter, such limitations do not necessarily prevent us from making
certain obvious conclusions.

First, all the three sets of estimates were in general agreement
that, at Independence, Zambia's manufacturing industry was unusually
underdeveloped, in the sense that the relatively simpler industries to
develop, mainly in the consumer goods group, lagged farthest behind the
'normal' patterns, while the relatively more difficult industries, such
as basic metals, ranked highest above the 'normal' patterns. The main
explanation for the former could be the country's geographical situation
on the periphery of the most developed part of Africa, the South, as well
as the political and economic institutions of the colonial and federal
periods, and for the latter it was mainly because of the country's copper
industry.

Secondly, again all the three sets of estimates were in general
agreement that, after having had a promising start during the first
decade of Independence, the drive to industrialize seemed to have started
faltering after the mid 1970s, as shown in the declining relative degrees
of industrialization and deviations of actual from the 'normal' patterns

between 1974 and 1980. The initial rapid industrialization could be
explained, amongst other factors discussed in the previous Chapter, by
the ending of colonialism and the economic boom consequent upon the
rise in the copper price, as well as the deliberate policies pursued by
the government towards manufacturing sector. On the other hand, the
stagnation or relatively slow growth of this sector after the mid 1970s
could mainly be attributed to both the foreign exchange and transport
constraints, amongst other factors, which had become acute at this time.

Finally, towards the end of the third plan, all the three sets
of estimates were also in general agreement that the economic recovery
was in sight since the relative degrees of industrialization had shot
up again beyond the levels for 1980, though still lower than those for 1974.

In general, however, given the state of industrialization at
Independence there was impressive progress toward the development of
manufacturing in Zambia, though there was little structural change within
the sector. All the above findings simply confirmed the impressions made
in the earlier Chapters.

NOTES AND REFERENCES

1. See Chenery, H. B. (1960), "Patterns of Industrial Growth",
   American Economic Review, Vol. L, No. 4, September, pp. 624-54.

2. For instance, United Nations (1963), A Study of Industrial Growth,
   Department of Economic and Social Affairs, New York; Chenery, H. B.
   and Taylor, L. (1968), "Development Patterns: Among countries and
   over Time", Review of Economics and Statistics, November, pp. 391-
   446; Chenery, H. B. and Syrquin, M. (1975), Patterns of Development
   1950-70, Oxford University Press; UNIDO, (1979), World Industry
   Since 1960: Progress and Prospects, New York; Batchelor, R. A.,
   Major, R. L. and Morgan, A. D. (1980), "Industrialization and the
   Basis for Trade", The National Institute of Economic and Social
   Research, No. 93.

3. The UN study initially employed the following candidate explanatory
   variables: per capita income, population as an approximation for
   size of market, the rate rather than the level of economic develop-
   ment (e.g. the share of gross fixed capital formation in GDP),
   government policy, natural resource endowments, trading position
   (the relative importance of foreign trade in a country's economy),
   technological factors (especially those determining economies of
   scale) and other factors such as availability of technical and
   entrepreneurial skills, and the relative costs of labour and capital
   (UN, 1963, op. cit., pp. 3-5).

4. The term 'residuals' is used in the sense customary in this type of
   analysis, i.e. indicating the difference between the observed values
   of industrial output and the 'predicted' values; that is, those
   calculated from the regression equations on the basis of observed
   values of the independent variables.

5. Total manufacturing itself cannot be chosen as a third explanatory
   variable, because of its high correlation with the other explanatory
   variables.

6. "The objective of the equations is to 'explain' the value added of
   total manufacturing and of the individual sectors in a given country
   in terms of the observed values of the explanatory variables in the
   same country. For such relations to be valid it is not necessary
   to assume that there exists a one-way causal relationship between
   the variables, in the sense that the factors for which the
   explanatory variables stand 'determine' manufacturing output. The
   causal relationship may to some extent run the other way round: for
   instance, the level of manufacturing output will substantially
   contribute to determining the level of per capita income. The
   equations considered should thus be considered as being the
   expressions of the interdependence between the to-be-explained
   and the explanatory variables". (UN, 1963, op. cit., p. 6).

7. The numbers 1 to 13 stand for sectors while the numbers 14 to 16
   stand for the three broad industrial groups, i.e., consumer,
   intermediate and investment and related goods groups.

8. A partial elasticity coefficient indicates the quotient of the rate of change in value added and the rate of change of the given explanatory variable, the other explanatory variables remaining constant. Thus b_i is equal to the per cent

   increase (or decrease) in value added of the i-th sector (or group) corresponding to one per cent increase (or decrease) in per capita income, other variables (P and D) remaining unchanged. Mathematically expressed:

$$b_i = \frac{\delta v_i}{v_i} \bigg/ \frac{\delta y}{y}$$ (See also UN, 1963, op. cit., p.6)

9. However, the UN excluded the United States. It would stand, in many important respects, far apart from the other non-centrally-planned economies, and its inclusion would tend to distort the results.

10. There would be the additional difficulty of the conceptual differences in the data between the two types of economy, which would reduce the comparability.

11. For the lists of the countries used see UN, 1963, p. 7, op. cit.

12. See also UN, 1963, op. cit., p. 29.

13. See also Kirkpatrick, C. H., Lee, N, and Nixson, F. I. (1984), Industrial Structure and Policy in Less Developed Countries, George Allen and Unwin, London, Chs. 2 and 4.

14. Chenery, H. B. (1979), Structural Change and Development Policy, Oxford University Press for the World Bank, Oxford, p. 6.

15. Sutcliffe, R. B. (1971), Industry and Underdevelopment, Addison-Wesley, London, p. 33.

16. See Chenery, 1960, op. cit.; C. Clark, (1940), The Conditions of Economic Progress, London; Balassa, B. (1961), "Patterns of Industrial Growth: Comment", American Economic Review, June, pp. 394 and 395; and Sutcliffe, 1971, op. cit., Ch. 2.

17. Steuer, M. D. and Voivodas, C. (1965), "Import Substitution and Chenery's Patterns of Industrial Growth - A Further Study", Economica Internazionale. See also Temin, P. (1967), "A Time Series Test of Patterns of Industrial Growth", Economic Development and Cultural Change, January, pp. 174-181; and Jameson, K. P. (1982) "A Critical Examination of 'The Patterns of Development'", Journal of Development Studies, Vol. 18, No. 4, July, pp. 431-446.

18. See World Bank, (1976), World Bank Atlas 1975: A Technical Note on the Computation Method, Economic and Social Data Division, Economic Analysis and Projections Department, Washington, D.C., March.

19. Office of the President, National Commission for Development Planning, (1979), Third National Development Plan 1979-83, Government Printer, Lusaka, October.

20. Young, A. (1973), Industrial Diversification in Zambia, Praeger Publishers, New York, Appendix B, pp. 302 and 303.

21. See UN, 1963, op. cit.; and Stoutjesdijk, E. J. (1967), Uganda's Manufacturing Sector, Makerere Institute of Social Research, East African Studies, No. 28, Nairobi: East African Publishing House.

22. See Bell, B.W. (1981) "Primary Production in an Unstable Economic Order: The Zambian Economy 1965 to 1978", Working Paper Series No. 197, The University of Aston Management Centre, February, p. 6.

23. See Gulhati, R. and Sekhar, U. (1982), "Industrial Strategy for Late Starters: The Experience of Kenya, Tanzania and Zambia", World Development, Vol. 10, No. 11, pp. 949-972.

	Manufacturing Sector/Group (ISIC Classification)	Number of Observations	Constant (a_i)	b_i log V (STD Error)	c_i log P (STD Error)	d_i log D (STD Error)	R^2
0.	Total Manufacturing (20-39)	80	-1.696	1.393 (0.092)	0.753 (0.068)	–	0.802
1.	Food, beverages and tobacco (20-22)	80	-1.142	1.006 (0.068)	0.670 (0.050)	0.700 (0.084)	0.845
2.	Textiles (23)	77(a)	-2.027	1.039 (0.100)	0.945 (0.078)	0.890 (0.127)	0.784
3.	Clothing and footwear (24)	73(b)	-2.973	1.332 (0.092)	0.655 (0.068)	0.787 (0.113)	0.816
4.	Wood products (25-26)	78(c)	-3.525	1.511 (0.085)	0.691 (0.062)	0.736 (0.108)	0.849
5.	Paper and paper products (27)	75(d)	-4.062	1.605 (0.090)	0.890 (0.062)	0.879 (0.106)	0.877
6.	Printing and Publishing (28)	67(e)	-3.410	1.460 (0.062)	0.716 (0.047)	0.754 (0.080)	0.920
7.	Leather products (29)	66(f)	-3.039	1.125 (0.081)	0.667 (0.063)	0.610 (0.106)	0.821
8.	Rubber products (30)	66(g)	-3.633	1.340 (0.100)	0.935 (0.073)	0.837 (0.123)	0.835
9.	Chemicals and petroleum coal products (31-32)	80	-2.526	1.341 (0.077)	0.837 (0.057)	0.908 (0.095)	0.882
10.	Non-metallic mineral products (33)	78(h)	-2.901	1.337 (0.067)	0.762 (0.049)	0.751 (0.084)	0.894
11.	Basic metals (34)	65(i)	-3.882	1.630 (0.106)	0.909 (0.077)	0.809 (0.131)	0.837
12.	Metal products (35-38)	79(j)	-3.952	1.799 (0.072)	0.915 (0.053)	0.909 (0.089)	0.924
13.	Other manufacturing (39)	68(k)	-3.877	1.503 (0.107)	0.711 (0.074)	0.742 (0.127)	0.813
14.	Consumer industries group (1 + 3 + 4 + 6 + 7)	40(l)	-1.223	1.132 (0.063)	0.611 (0.048)	0.647 (0.079)	0.888
15.	Intermediate industries group (2 + 5 + 8 + 9)	44(m)	-1.858	1.228 (0.071)	0.846 (0.052)	0.847 (0.087)	0.895
16.	Investment and related industries group (10 + 11 + 12 + 13)	38(n)	-2.925	1.586 (0.074)	0.855 (0.052)	0.823 (0.088)	0.920

NOTES:

1. Value added (v) is measured in millions of US$ and per capita income (y) in US$ (both at 1974 prices) and population (p) in millions; the explanatory variables (y, p and d = degree of industrialization) and the constant terms (a's) are expressed in common logarithms; and b's, c's and d's are the partial elasticity coefficients on the respective explanatory variables.

2. $\bar{R}^2$ = Coefficient of determination adjusted for the degree of freedom used up in the estimation of regression coefficients:

$$\bar{R}^2 = 1 - (1 - R^2) \; \frac{N - 1}{d.f}$$

3. Numbers in parentheses below regression coefficients indicate their standard errors.

4. The above tests include the following eighty countries: 1. Afghanistan, 2. Argentina, 3. Bangladesh, 4. Barbados, 5. Bolivia, 6. Brazil, 7. Chile, 8. Colombia, 9. Cyprus, 10. Dominican Rep., 11. Equador, 12. Egypt (UAR), 13. El Salvador, 14. Ethiopia, 15. Fiji, 16. Greece, 17. Guatemala, 18. Haiti, 19. Honduras, 20. Hong Kong, 21. India, 22. Iran, 23. Iraq, 24. Israel, 25. Ivory Coast, 26. Jamaica, 27. Jordan, 28. Kenya, 29. Korean Rep., 30. Indonesia, 31. Kuwait, 32. Libya, 33. Madagascar, 34. Malawi, 35. Malaysia, 36. Iceland, 37. Mauntius, 38. Mexico, 39. Nicarague, 40. Nigeria, 41. Panama, 42. Papua New Guinea, 43. Peru, 44. Philippines, 45. Portugal, 46. Senegal, 47. Singapore, 48. Somalia, 49. Spain, 50. Sri Lanka, 51. Syrian Arab Rep., 52. Tanzania, 53. Trinidad and Tobago, 54. Tunisia, 55. Turkey, 56. Uruguay, 57. Venezuela, 58. Yemen Domocratic Rep., 59. Yugoslavia, 60. Zambia, 61. Zimbabwe, 62. Australia, 63. Austria, 64. Belgium, 65. Canada, 66. Denmark, 67. Finland, 68. France, 69. Federal Rep. of Germany, 70. Ireland, 71. Italy, 72. Japan, 73. Luxembourg, 74. Netherlands, 75. New Zealand, 76. Norway, 77. South Africa, 78. Sweden, 79. United Kingdom and U.S.A. Countries 1-61 with the exception of 36 are referred to as less developed countries (developing countries) and countries 62-80 including 36 are referred to as developed countries.

5. The missing countries for each manufacturing sector/group are: (a) 4, 15, 73, (b) 2, 25, 32, 38, 51, 53, 68; (c) 2, 58; (d) 1, 18, 48, 58, 73; (e) 2, 4, 15, 18, 25, 26, 32, 38, 42, 50, 51, 53, 58; (f) 2, 4, 15, 31, 32, 38, 42, 46, 51, 53, 58, 61, 64, 73; (g) 1, 4, 23, 26, 27, 32, 42, 46, 48, 51, 53, 58, 73, 74; (h) 53, 58; (i) 1, 4, 9, 15, 18, 23, 26, 32, 33, 34, 42, 48, 51, 53, 58; (j) 46; (k) 1, 2, 14, 23, 25, 34, 38, 46, 51, 58, 68, 73; (l) 2, 14, 15, 18, 25, 26, 31, 32, 38, 42, 46, 50, 51, 53, 58, 61, 64, 68, 73; (m) 1, 4, 15, 18, 23, 26, 27, 32, 42, 46, 48, 51, 53, 58, 73, 74; (n) 1, 2, 4, 9, 14, 15, 18, 23, 25, 26, 32, 33, 34, 38, 42, 46, 48, 51, 53, 58, 68, 73.

1974 CROSS-SECTION REGRESSIONS FOR MANUFACTURING VALUE-ADDED: LESS DEVELOPED COUNTRIES

	Manufacturing Sector/Group (ISIC Classification)	Number of Observations	Constant	b, log Y (STD Error)	c, log P (STD Error)	d, log D (STD Error)	R^2
0.	Total manufacturing (20-39)	60	-1.668	1.286 (0.105)	0.927 (0.070)	-	0.814
1.	Food, beverages and tobacco (20-22)	60	-1.233	0.992 (0.095)	0.785 (0.063)	0.789 (0.120)	0.810
2.	Textiles (23)	58(a)	-2.371	1.016 (0.145)	1.331 (0.105)	1.044 (0.188)	0.778
3.	Clothing and footwear (24)	54(b)	-3.185	1.384 (0.128)	0.717 (0.087)	1.205 (0.168)	0.802
4.	Wood products (25-26)	58(c)	-3.369	1.418 (0.134)	0.750 (0.087)	1.005 (0.177)	0.749
5.	Paper and paper products (27)	56(d)	-4.068	1.519 (0.132)	1.098 (0.081)	0.951 (0.163)	0.824
6.	Printing and publishing (28)	47(e)	-3.226	1.323 (0.078)	0.855 (0.056)	0.974 (0.111)	0.911
7.	Leather products (29)	48(f)	-3.111	1.079 (0.113)	0.834 (0.085)	0.766 (0.173)	0.783
8.	Rubber products (30)	48(g)	-4.256	1.438 (0.141)	1.265 (0.095)	1.055 (0.189)	0.831
9.	Chemicals and petroleum coal products (31-32)	60	-2.814	1.371 (0.106)	1.037 (0.071)	1.272 (0.134)	0.869
10.	Non-metallic mineral products (33)	58(h)	-3.149	1.346 (0.092)	0.969 (0.061)	0.893 (0.125)	0.879
11.	Basic metals (34)	45(i)	-4.469	1.679 (0.171)	1.297 (0.119)	1.132 (0.226)	0.790
12.	Metal products (35-38)	59(j)	-4.214	1.799 (0.100)	1.163 (0.066)	1.107 (0.125)	0.909
13.	Other manufacturing (39)	50(k)	-3.409	1.293 (0.160)	0.747 (0.099)	0.953 (0.215)	0.697
14.	Consumer industries group (1 + 3 + 4 + 6 + 7)	44(l)	-1.234	1.092 (0.077)	0.710 (0.053)	0.906 (0.115)	0.888
15.	Intermediate industries group (2 + 5 + 8 + 9)	46(m)	-2.242	1.265 (0.074)	1.087 (0.051)	1.201 (0.099)	0.933
16.	Investment and related industries group (10 + 11 + 12 + 13)	40(n)	-3.403	1.630 (0.079)	1.146 (0.053)	1.154 (0.105)	0.948

NOTES:

1. As for notes 1-3 in Appendix 7.1

2. The above tests include the following sixty developing countries:
1. Afghanistan, 2. Argentina, 3. Bangladesh, 4. Barbados, 5. Bolivia,
6. Brazil, 7. Chile, 8. Colombia, 9. Cyprus, 10. Dominizan Rep., 11.
Equador, 12. Egypt (UAR), 13. El Salvador, 14. Ethiopia, 15. Fiji,
16. Greece, 17. Guatemala, 18. Haiti, 19. Honduras, 20. Hong Kong,
21. India, 22. Iran, 23. Iraq, 24. Israel, 25. Ivory Coast, 26.
Jamaica, 27. Jordan, 28. Kenya, 29. Korean Rep., 30. Indonesia,
31. Kuwait, 32. Libya, 33. Madagascar, 34. Malawi, 35. Malaysia,
36. Mauritius, 37. Mexico, 38. Nicaragua, 39. Nigeria, 40. Panama,
41. Papua New Guinea, 42. Peru, 43. Philippines, 44. Portugal,
45. Senegal, 46. Singapore, 47. Somalia, 48. Spain, 49. Sri Lanka,
50. Syrian Arab Rep., 51. Tanzania, 52. Trinidad and Tobago, 53.
Tunisia, 54. Turkey, 55. Uruguay, 56. Venezuela, 57. Yemen Democratic
Rep., 58. Yugoslavia, 59. Zambia and 60. Zimbabwe.

5. The missing countries for each manufacturing sector/group are:
(a) 4, 15; (b) 2, 25, 32, 27, 50, 52; (c) 2, 57; (d) 1, 18, 47, 57;
(e) 2, 4, 15, 18. 25, 26, 32, 37, 41, 49, 50, 52, 57; (f) 2, 4, 15,
31, 32, 37, 41, 45, 50, 52, 57, 60; (g) 1, 4, 23, 26, 27, 32, 41,
45, 47, 50, 52, 57; (h) 52, 57; (i) 1, 4, 9, 15, 18, 23, 26, 32, 33,
34, 41, 47, 50, 52, 57; (j) 45; (k) 1, 2, 14, 23, 25, 34, 37, 45, 50,
57; (1) 2, 4, 15. 18, 25, 26, 31, 32, 37, 41, 45, 49, 50, 52, 57, 60,
(m) 1, 4, 15, 18, 23, 26, 27, 32, 41, 45, 47, 50, 52, 57, and
(n) 1, 2, 4, 9, 14, 15, 18, 23, 25, 26, 32, 33, 34, 37, 41, 45, 47,
50, 52, 57.

RESULTS OF CROSS-SECTION ANALYSIS: 1953 AND 1958 COMBINED SAMPLE

Manufacturing Sector (ISIC Classification)	No. of Observations	α_i	β_i log y	γ_i log P	δ_i log D
0. Total Manufacturing (20-39)	95	-1.637	1.369	1.124	-
1. Food, beverages & tobacco (20-22)	95	-1.032	0.978	0.862	0.884
2. Textiles (23)	95	-2.549	1.205	1.329	0.964
3. Clothing & footwear (24)	89	-2.709	1.361	0.962	0.877
4. Wood products (25-26)	93	-3.288	1.531	1.030	1.008
5. Paper and paper products (27)	85	-5.008	2.035	1.116	1.699
6. Printing & publishing (28)	87	-3.926	1.718	1.041	0.873
7. Leather products (29	91	-2.160	0.893	0.857	1.251
8. Rubber products (30)	85	-4.176	1.582	1.201	0.281
9. Chemicals & petroleum coal products (31-32)	95	-3.476	1.547	1.395	0.712
10. Non-metallic mineral products (33)	95	-2.258	1.157	1.014	1.116
11. Basic metals (34)	76	-5.269	1.991	1.649	1.915
12. Metal products (35-38)	91	-4.175	1.984	1.312	1.566
13. Other manufacturing (39)	81	-4.872	1.847	1.333	1.053

NB Value added (v) is measured in millions of US$ and per capita income (y) in US$ (both at 1953 prices) and population (P) in millions; the variables and constant terms are expressed in common logarithms. For the statistical details of the above estimations and the excluded countries in each manufacturing sector see source below.

SOURCE: United Nations (1963), 'A Study of Industrial Growth' Department of Economics and Social Affairs, New York, ST/ECA/74, Sales No. 63 II.B.2.

APPENDIX 7.4

A TECHNICAL NOTE ON THE COMPUTATION METHOD

Under the new procedure of converting values in national
currencies into US$, for the computations of gross national product (GNP)
per capita in 1974, GNP in local currency was first expressed in weighted
average prices of the base period 1973-75. The three year base period
was used in an attempt to reduce the temporary distortions resulting
from the undervaluation or overvaluation of individual national currencies
in particular years of the base period. The weighted GNP was then
converted to US$ at a weighted average exchange rate for the base period.
The GNP converted into US$ was finally adjusted for US inflation between
the base period and the year 1974, and to arrive at per capita income,
the GNP expressed in US$ was divided by mid-1974 population. The weighted
average exchange rate was obtained as the ratio between the sum of
current price GNP in the years 1973-75 (in local currency) and the sum
of current price GNP for the same years converted to current US$ with
each year's exchange rate. Thus,

$$
y74 = \hat{Y}74 \quad \cdot \quad \frac{\sum\limits_{73}^{75} Y}{\sum\limits_{73}^{75} \hat{Y}} \quad \cdot \quad \frac{\sum\limits_{73}^{75} \frac{Y}{x}}{\sum\limits_{73}^{75} Y} \quad \cdot \quad \frac{D74}{P74} \qquad 1.
$$

where: y = GNP per capita in current US$

Y = GNP (at market prices) in current prices, local currency

x = exchange rate in units of local currency per US$

$\hat{Y}$ = GNP (at market prices) in constant prices of any year,
      local currency

D = US GNP deflator (base period 1973-75)

P = midyear population.

A numerical example for Zambia is given below, and the basic data are shown in the Table that follows immediately, together with the necessary calculations.

In practice, these computations are greatly simplified by using the equation 1. above and cancelling where possible. Thus, substituting the appropriate values, we have:

$$y_{74} = (\bar{Y}_{74}) \; (\textstyle\sum Y/\textstyle\sum \bar{Y}) \; (\textstyle\sum \underset{x}{Y} \, / \textstyle\sum Y) \; (D_{74} \, / \, P_{74}) \qquad\qquad 2.$$

$$471.3 = (938.6)(4929.5/2815.9)(6426.0/4929.5)(0.997/4.671)$$

In our results GNP per capita was rounded to the nearest tenth so that in the above case it was 470 US$.

Looking at the right hand side of equation 2., the first term was 1974 GNP in local currency at constant market prices. The second term was the price ratio needed to change 1974 GNP at constant market prices to average 1973-75 prices. The third term was the weighted average exchange rate for 1973-75, here expressed in US$ per unit of local currency (the reciprocal of the expression of exchange rates in units of local currency per US$ shown in row 7 of the Table). The product of these three terms was 1974 GNP expressed in average 1973-75 US$. The final term included both the conversion to 1974 US$ and to a per capita basis. The conversion to 1974 US$ was accomplished by means of a deflator linking the base period to 1974. The implicit US GNP deflator (base year 1976) for the 1973-75 period was 127.0, and for 1974 was 126.6, yielding the adjustment factor of 0.997. Conversion of value added in manufacturing in local currencies into US$ was also accomplished by using the same new World Bank Atlas methodology described above.

CALCULATION OF WORLD BANK ATLAS GNP PER CAPITA, 1974

	1973	1974	1975	Total or Average	Symbols
1. GNP at current market prices, millions of units of local currency (Y)	1538.7	1825.0	1565.8	4929.5	$\sum Y$
2. GNP at constant 1965 market prices, millions of units of local currency (Ȳ)	879.3	967.7	968.9	2815.9	$\sum \bar{Y}$
3. Price ratio 1973-75 (base year 1965) (row 1, column 4 ÷ row 2, column 4)				1.75	$\dfrac{\sum Y}{\sum \bar{Y}}$
4. GNP at average 1973-75 prices, local currency millions (row 3, column 4 x row 2)	1538.8	1693.5	1695.6	(4927.9)	
5. Average annual exchange rates, local currency units per US$ (x)	0.648	0.936	0.745		
6. GNP at current market prices and exchange rates, US$ millions (row 1 ÷ row 5)	2374.5	1949.8	2101.7	6426.0	$\sum \left(\dfrac{Y}{x}\right)$
7. Weighted average exchange rate, base period 1973-75 (row 1, column 4 ÷ row 6, column 4)				0.767	$\dfrac{\sum Y}{\sum \dfrac{Y}{x}}$
8. 1974 GNP in millions of 1973-75 US$ (row 4, column 2 ÷ row 7, column 4)		2208.0			
9. 1974 US GNP price deflator (base period 1973-75)		0.997			D_{74}
10. 1974 GNP in millions of current US$ (row 8, column 2 x row 9, column 2)		2201.4			
11. 1974 midyear population in millions		4.671			P_{74}
12. 1974 GNP per capita in current US$ (row 10, column 2 ÷ row 11, column 2)		471.3			Y_{74}

For Notes and Sources see overleaf.

NOTES ON EXAMPLE

The above computations refer to the Zambian data for 1974.
For computations of GNP per capita, GNP in local currency (Kwacha) was
first expressed in weighted average prices of the base period 1973-75,
converted to US$ at a weighted average exchange rate for the base period,
and then adjusted for US inflation between the base period and the year
1974 and divided by the mid year population for 1974. The weighted
average exchange rate was obtained as the ratio between the sum of
current price GNP in the years 1973-75 (in local currency) and the
sum of current price GNP for the same years converted to current US$
with each year's exchange rate.

SOURCES: 1. World Bank, (1976), World Bank Atlas 1975: A Technical
Note on the Computation Method, Economic and Social Data Division,
Economic Analysis and Projections Department, Washington, D.C., March.

2. World Bank (1980), World Tables 1980, The Johns Hopkins
University Press, Baltimore and London, Second Edition.

CHAPTER VIII

SOURCES OF INDUSTRIALIZATION IN ZAMBIA 1965-80

The principal object of this Chapter is to examine various sources of industrial growth in Zambia over the period 1965-80 for which data were available. The first section gives a summary of the growth in gross output and value added of manufacturing. The second section gives a brief exposition of the proposed measures of sources of industrial growth. The third section endeavours to apply the proposed measures to the Zambian experience. Finally, an attempt is made to summarize the findings and relate them to the discussion in the previous Chapters.

For this exercise, data have been used for the years 1965, the first full calendar year after Independence; 1970, the final year of the First National Development Plan (FNDP) which began in 1966; 1975, marking the end of the first decade after Independence and being one year before the end of the Second National Development Plan (SNDP), which began in 1972; and, 1980, the last year for which reasonably complete, though provisional and unpublished, data were available at the time of writing.[1] The entire period under analysis refers here to 1965-80. Finally, the sources of industrialization have been analyzed in terms of three major groups of industries, namely, consumer goods, intermediate goods, and investment and related goods. Further disaggregations within these groups are detailed in the Appendices 8.1-8.10.

8.1   Growth in Gross Output and Value Added in Manufacturing

Before discussing 'causes' or 'sources' of industrialization in Zambia in the post-Independence period, we will give a summary of the performance and pattern of growth over the period under analysis. Thus, Table 8.1 gives estimates of the average annual growth rates of gross

TABLE 8.1

ESTIMATES OF AVERAGE ANNUAL GROWTH RATES OF GROSS OUTPUT AND VALUE ADDED IN MANUFACTURING BY INDUSTRY GROUPS, 1965-80

Industry Group	1965-70	1965-75	1965-80	1970-75	1975-80
A. Gross Output					
Consumer goods	18	16	15	11	11
Intermediate goods	42	33	27	19	12
Investment & related goods	11	16	15	18	10
Total all industries	18	18	17	15	11
B. Value Added					
Consumer goods	21	16	15	9	11
Intermediate goods	35	32	27	23	13
Investment & related goods	11	15	14	16	11
Total all industries	19	18	17	14	12

SOURCE: Calculated from Central Statistical Office, Censuses of Production 1965/66-1980, Government Printer, Lusaka.

value of output and value added in manufacturing industry in current prices for both the entire period 1965-80 and the sub-periods, mentioned above. Indeed, the table reveals some interesting and important results, although they have been calculated from current prices.

First, there was an extremely wide range of growth rates for both the major industrial groups and 'total all industries'. Secondly, there was a general deceleration in the rates of growth of both the industrial groups and 'total all industries'. For instance, confirming our impressions in the previous Chapters, of all the sub-periods, the highest rates of growth were recorded in 1965-70, though the investment and related goods group had its highest rates in 1970-75. Furthermore, the first decade after Independence, 1965-75, witnessed higher rates of growth for all the industrial groups and 'total all industries' than the period that followed, 1975-80. On overall, the entire period, 1965-80, performed better than the sub-periods, 1970-75 and 1975-80. The explanation for this type of performance lies mainly in the special opportunities and obstacles to industrialization in the respective sub-periods and the entire period, analyzed in the previous Chapters.

Thirdly, the intermediate goods industries grew at rates relatively faster than both other major industrial groups, the least being the investment and related goods industries, over both the entire period and the sub-periods. The relatively higher rates of growth in the intermediate goods industries were mainly due to high investments in chemicals and paper and paper products during the first two National Development Plans and textiles after the mid 1970s.[2] The poor performance of chemicals during the sub-period 1975-80 can be attributed to shortages of foreign exchange to import raw materials such as crude petroleum. On the other hand, the poor performance of the investment and related goods

sector was mainly due to the poor rates of growth of the non-metallic minerals (especially structural clay products) and other metal products (transport equipment and machinery, all of which depended heavily on imported inputs and components which could not be easily procured, especially after the mid 1970s, due to the problems of shortage of foreign exchange and other problems discussed in the previous Chapters.[3] The consumer goods industries' performance was mainly affected by poor growth rates of edible oils and fats, wood and wood products, and printing and publishing, most of which depended on imported raw materials and components.[4]

Fourthly, looking at the dispersion of growth rates within the major industrial groups in each period in Appendices 8.5 - 8.9, it is fairly evident that the high rates of growth for the 'intermediate goods' industries were a general phenomenon in all such industries, and that the high rate of growth is not simply the result of domination of the group by one industry.

Finally, it should be noted that although the main emphasis in the National Development Plans was on import substitution mainly in the consumer goods industries, the intermediate goods industries performed quite remarkably if not better. Of course, one can say that the weight of these industries was still small relative to the final consumer goods and the imports of competing 'intermediate' goods, and that the high growth rates are misleading because the base outputs were low. (Censuses of Production 1965/66, 1970, 1975 and 1980).

8.2   Proposed Measures of Sources of Industrial Growth

Considering the importance of the recent studies of 'sources' of industrial growth and in view of the assessment of economic policy inferred from them, this section is addressed to a critical review of

the most commonly employed measures of sources of industrial growth. However, in the Zambian case, two major measures will be employed, one used by Chenery in his "Patterns of Industrial Growth" in 1960,[5] and the other used by Lewis and Soligo in their "Growth and Structural Change in Pakistan 1954-64"[6]. The latter was an adaptation of the former.

8.21   Chenery's Measure

In his 1960 analysis of "Patterns of Industrial Growth", Chenery was mainly concerned with the determination of the 'causes of industriali-zation'. He thus distinguished as 'causes' or 'sources' of industrial growth: (1) the substitution of domestic production for imports (import substitution), (2) growth in final use of industrial products separated into (a) final domestic demand and (b) export demand, and (3) growth in intermediate demand stemming from (1) and (2). In other words, four causes of industrial growth were identified: final domestic demand, export demand, intermediate demand, and import substitution.(IS)

According to Chenery, IS was defined as the "difference between growth in output with no change in the import ratio and the actual growth". In other words, if domestic output rises faster than imports, then IS is taking place, and if the opposite was happening, then negative IS or "import liberalization" is occurring. Symbolically, this measure of IS is given by $(U_2 - U_1) S_2$, where U_2 is the ratio Q_2/S_2 of output (Q_2) to supplies (S_2) in Period 2 and U_1 is the ratio Q_1/S_1 of output to supplies in Period 1. Thus, in relative terms this measure can be expressed by dividing $(U_2 - U_1) S_2$ with $\wedge Q$ or the change in output over the period under analysis. More specifically we can say that if:

$$\frac{\displaystyle\sum_{i=1}^{n} Q_2^{\,i}}{\displaystyle\sum_{i=1}^{n} S_2^{\,i}} \; - \; \frac{\displaystyle\sum_{i=1}^{n} Q_1^{\,i}}{\displaystyle\sum_{i=1}^{n} S_1^{\,i}}$$

$$\frac{}{\displaystyle\sum_{i=1}^{n} \Delta Q_i} \cdot \sum_{i=1}^{n} S_2^{\,i} \; > \; 0 \qquad\qquad 1.$$

then there is IS. In order for IS to take place, the value of the difference in the ratios has to be positive because the numerators in the ratios are outputs rather than inputs.

In formalizing the division of the sources of growth in domestic production, the Chenery measure takes, as an explanation, the broad framework of general equilibrium theory. Thus two equilibrium positions are assumed for the economy which are expressed as follows:

$$C = S \qquad\qquad 2.$$

$$\Delta C = \Delta S \qquad\qquad 3.$$

where C = total demand

ΔC = change in total demand

S = total supply

ΔS = change in total supply

Total supply (S) is equal to domestic production (Q) plus imports (M), while total demand (C) is equal to the sum of final domestic demand (including inventory accumulation) (D), export demand (E), and intermediate demand (W). Substituting these variables into Equation 2. we get:

$$Q + M \equiv D + W + E \qquad\qquad 4.$$

This gives the identity for incremental values, namely:

$$\Delta Q + \Delta M \equiv \Delta D + \Delta W + \Delta E \qquad\qquad 5.$$

$$\text{or} \quad \Delta Q \equiv \Delta D + \Delta W + \Delta E - \Delta M \qquad \qquad 6.$$

$$\Delta S \equiv \Delta D + \Delta W + \Delta E \qquad \qquad 7.$$

Given the change in total demand, the change in domestic output which would have taken place, if there had been no IS is given by:

$$U_1 (S) \qquad \qquad 8.$$

$$\text{or} \quad U_1 (\Delta D + \Delta W + \Delta E) \qquad \qquad 9.$$

In other words, if Zambia continued to import in the later period the same proportion of its total supply as in the base period, the change in domestic output which would have been required to satisfy the given change in total demand is given by Equation 9. Equation 9 could be separated into three parts so that two could further ascribe changes in domestic output to changes in the various components of demand. Thus it becomes:

$$U_1 (\Delta D) + U_1 (\Delta W) + U_1 (\Delta E) \qquad \qquad 10.$$

However, although it was not the case for Zambia, it should be noted that for most LDCs, due to inadequate data to allow separation of domestic final demand and intermediate demand, the two variables are usually combined into a single variable. (Lewis and Soligo, 1965, p. 104).

The change in domestic output ascribed to IS is measured by the change in domestic output implied by the actual change in the proportion of total supply imported, when total demand is held constant. The total increase in output is given by:

$$\Delta Q = U_1 (\Delta D) + U_1 (\Delta W) + U_1 (\Delta E) + (U_2 - U_1) S_2 \qquad 11.$$

In order to facilitate inter-industry comparison of the relative contribution of each factor to the change in output both sides of Equation 11 can be divided by ΔQ, to express the contribution of each factor as a per cent of the total change in industry output. Further, Equation 11 parcels out additional domestic output into four categories,

namely:

(a) U_1 (ΔD) = the change in domestic production due to the growth
of final domestic demand assuming that the ratio of
domestic production to total supply remains fixed.

(b) U_1 (ΔW) = the change in domestic production due to a change in
intermediate demand, again assuming U_1 to remain fixed.

(c) U_1 (ΔE) = the change in domestic production due to a change in
export demand, again assuming U_1 to remain fixed.

(d) $(U_2 - U_1)S_2$ = the change in domestic production due to actual change
in the ratio of domestic production to total supply.

The last category, thus, is the measure of the additional domestic
production which would result exclusively from a change in the ratio of
domestic production to total supply. This is actually the Chenery
measure of 'import substitution'!

The Chenery method derives the measures of the four sources
of industrial growth by working directly with the (aggregated) totals
of imports, supplies, and domestic production for individual broad
groups of industries which have been classified into: 'consumer goods',
'intermediate goods', and 'investment and related goods'. (Desai, 1969).
This is with the view to inferring whether one group has 'import
substituted' more than another or rather to establish which factors
have been more dominant in the industrial growth of each group. It
thus ignores analysis of individual industries within each broad group,
unlike the Lewis-Soligo method outlined below.

8.22   Lewis-Soligo Measure

As mentioned earlier, this is an adaptation of the Chenery
measure described above. However, although dealing with the same
sources of industrial growth, unlike the Chenery measure which works

directly with the (aggregated) totals of imports, supplies, and
domestic production for each broad industrial group, the Lewis-Soligo
measure takes a different procedure to derive the measures of various
causes of industrial growth for each group or total industry (Desai,
1969). It rather uses a disaggregation approach. In other words, it
consists in, first, decomposing the output growth, for each industry in
the broad industrial group, into that 'attributable' to each source of
industrial growth, aggregating these causal effects into the group
causal effect, and then dividing the total group effect by the growth
of output for the group. These successive operations give the measure
of various causes of industrial growth for the group as a whole or
total industry.

Thus, Equation 11 is used to isolate the components of domestic
growth to some various manufacturing industries, separately. The
importance of the four components of causes of industrial growth
described in Chenery measure for the large-scale manufacturing sector
as a whole is derived by adding up the components for each industry.
(Lewis-Soligo, 1965, p. 104):

$$\Delta Q_m = \sum_j \Delta Q_j = \sum_j U_{1j}(\Delta D_j) + \sum_j U_{1j}(\Delta W_j) + \sum_j U_{1j}(\Delta E_j) + \sum_j (U_{2j} - U_{1j})S_{2j} \qquad 12.$$

Where ΔQ_m = the change in output of total manufacturing sector

j = the individual manufacturing industries.

Again, as in the Chenery measure, in order to facilitate inter-industry
comparison of the relative contribution of each factor to the change
in output we can divide both sides of Equation 12 by either ΔQ_m for
total manufacturing or ΔQ_j for each manufacturing industry, to express
the contribution of each factor as a per cent of either the total change
in manufacturing output or in individual manufacturing output. Equation 12
is also applied to the various broad industrial groups mentioned earlier,

and thus, for each group we estimate the proportion of growth in
domestic output which is attributable to the four variables of
Equation 12.

Although both the Chenery and Lewis-Soligo measures give
magnitudes of the four sources of industrial growth for total and
for broad industrial groups with a view to inferring whether some
causes or sources have been more dominant in some industries than
others or in total industry, it is clear that both measures can also
give results that can diverge, and, more importantly, the ranking
of different groups or total industry can be reversed by the choice
of a different method of aggregation. However, the choice of an
'appropriate' method of aggregation would appear to be arbitrary as
these measures are 'descriptive'. (Desai, 1969, p. 321). For instance,
one should note that the Chenery measure is appropriate if we expect
that the implicit premise of the 'balanced growth' or constancy of
the ratio of output to supplies is to make sense directly at the broad
industrial group-level, whereas the Lewis-Soligo type is appropriate
if we expect that this premise should hold at the level of individual
industries. Apropos of this, Desai further cautions us to note that
the latter method will yield estimates of group-level sources of
industrial growth which will vary, in general, with the industrial
classification employed, an arbitrariness absent in the Chenery measure.
However, it should be mentioned that whatever measure is employed
extreme caution has to be exercised in view of the great problems
involved in the aggregation process. Further limitations of any measure
of sources of industrial growth are, however, discussed in some detail
in the next sub-section.

Finally, although in the preceding discussions we have been

pre-occupied with the measures of sources of industrial growth with
respect to gross value of output, we shall also attempt in this study
to analyze the sources of growth in value added in manufacturing in
Zambia over the period under consideration. This latter analysis is
important because it measures the contribution of domestic factors of
production to output.

Lewis and Soligo used the following equation to allocate the
change in value added to various factors. (Lewis & Soligo, 1965, p. 105):

$$\Delta V = U_1 r_1 \Delta D + U_1 r_1 \Delta W + U_1 r_1 \Delta E + (U_2 - U_1) r_1 S_2 + (r_2 - r_1) U_2 S_2 \qquad 13.$$

where r = the ratio of value added to gross value of output at market
        price

   v = value added

The first three terms in Equation 13 measure the change in value added
due to the change in final domestic demand, intermediate demand, and
export demand, respectively, when both the ratio of domestic production
to total supply and value added to domestic production are the same as
in the base period. The fourth term measures the importance of IS (the
amount by which value added changes when the ratio of domestic production
to total supply changes and when the proportion of value added to gross
output remains at its base period level). The last term measures the
effect on value added of changes in the ratio of value added to
domestic output. It is essentially a residual, as it measures, among
other things, the effect of intra-industry changes in the composition
of domestic output as well as changes in the technical efficiency.
These factors are usually grouped together under the name 'technical
change'.

In calculating the various 'sources' of growth in value added

in manufacturing we shall exactly follow the same procedural
approaches of the two measures suggested above, only that this time
we shall employ Equation 13.

8.23   Critique of Measures of Sources of Industrialization

Literally all the measures of sources of industrial growth,
including the Lewis-Soligo measure used here, are adaptations of the
Chenery measure outlined in the earlier sub-sections. As they have
all often been subject to similar criticisms, let alone the statistical
limitations discussed in the previous Chapter,   here only the more
obvious ones will be discussed below.

First, one major criticism levelled against the Chenery
measure arises from the definition of import substitution described
earlier. Sutcliffe argues that by defining it as he did, Chenery
exaggerated the displacement of imports engendered by domestic
production.[7] He, therefore, prefers to use the term "import
substitution to cover only the direct substitution of domestic
production for the import of the same product", and defined in this
way it is, therefore, a useful term only for economic changes which
take a comparatively short length of time. (Sutcliffe, 1971, p. 255).
In this narrow sense, it is quite possible that import substitution
can play an overwhelmingly important role in the industrialization
of a particular country, especially so if industrialization took the
form of step by step substitution of domestic production for imports,
as imports of particular commodities reached a sufficient level to
make their domestic production economic, an argument which was discussed
in some detail in Chapter III.

The above criticism raised by Sutcliffe implies that the
phenomenon which Chenery describes should preferably always be called

"the reduction in the import content of manufactured supplies"
and there are three concepts involved: the substitution of domestic
production for goods once imported; changes in the pattern of
consumption away from normally imported; and changes in the import
content of total supplies of manufactured goods. The third concept
is the sum of the other two. The weakness of this Chenery definition
and, indeed, other measures, is that they imply that the first and
third concepts are equivalent.

However, the preceding terminological criticism does not
dismiss the importance of the Chenery phenomenon. The tendency for
the import content of supplies of manufactured goods to fall, which
Chenery finds from his cross-section analysis as well, is confirmed
by Maizels in his time-series analysis for a large number of countries
during the period 1899-1959.[8] The dramatic falls in the import
content of manufactured supplies are partly the results of deliberate
import substitution usually supported by massive government policies
through protective controls, as defined by Sutcliffe. Import sub-
stitution of this kind has, without doubt, played a very significant
role in the amount of industrialization which has taken place in many
LDCs in the past few decades.

A second criticism of the Chenery concept of import
substitution has come from Morley and Smith who question the validity
of his definition on the grounds that it does not incorporate all that
can legitimately be considered as import substitution.[9] They argue,
for instance, that Chenery's measure underestimates the amount of IS
that is actually taking place, through its exclusion of intermediate
demands generated by IS itself. Their conclusions based on the results
of their study of the Brazilian data, showed almost 33% more IS than

Chenery's for manufacturing and 53% more for the economy as a whole. (Morley and Smith, 1970, p. 729). The rationale of expanding the concept of imports to include intermediate demands generated by IS industrial production itself, derives from the observed fact that, as the process of import replacement proceeds, production must rise not only in the final processing industry but also in industries supplying its inputs and in their supplier industries. In the absence of these linkage effects, induced import intermediates must increase, otherwise the supply of goods for final demand in other sectors must fall.

However, Fane argues that, like the Chenery measure, Morley and Smith's measure of IS can yield inconsistent results in the sense that there could be positive IS in each industry and yet negative IS for all industries as a group.[10] He argues that the inconsistent results of Chenery's and other measures are due to the fact that such results may be sensitive to the length of the period considered. He, therefore, suggests a way for estimating 'consistent measures' of IS based on the use of substantially disaggregated data where IS during a long period of time can be estimated by adding-up IS measures for a series of successive and fairly short periods for the industry or the group of industries under review.

Fane, like many other investigators, accepts Chenery's measure of IS - that positive IS corresponds to an increase in the ratio of domestic gross output to total supply, as expressed:[11]

$$(U_{2i} - U_{1i}) \, S_{2i} \qquad\qquad 14.$$

Notation: x_i = domestic gross output in industry

M_i = imports competing with industry

S_i = total supply (= demand) of output of industry i

Define: $\qquad U_i = \dfrac{X_i}{S_i}$ 15.

Accounting identity: $\qquad S_i = X_i + M_i$ 16.

Derivative: $\qquad \wedge X_i = U_{1i} \wedge S_i + (U_{2i} - U_{1i})\, S_{2i}$ 17.

Where subscripts 1 and 2 denote the beginning (base) and the end (current) of the period (year) being studied, respectively.

However, whilst accepting the preceding criterion, Fane proposes a method for reconciling the different results which can be obtained using aggregated or disaggregated data. As a brief exposition, he proposes that IS for industry i be measured in two parts, that is, IS within the industry, denoted by Z_i, and the extra contribution, Z^*_i, of growth in industry i to IS in all industries. The total contribution of industry i to IS, Z^T_i, is then defined using:

$$Z^T_i = Z_i + Z^*_i$$ 18.

Using formulae appropriate for small changes in Z_i, Z^*_i, and S_i, he arrives at two expressions:

$$\wedge Z_i = S_i \Delta U_i$$ 19.

$$\wedge Z^*_i = (U_{2i} - U_{1i})\, \wedge S_{2i}$$ 20.

Z_i and Z^*_i are obtained from $\wedge Z_i$ and $\wedge Z^*_i$ by integration. The rationale for the definition of $\wedge Z^*_i$ is that growth in an industry with a higher than average ratio of domestic production to total supply leads to an increase in this ratio for the whole group. Therefore, the contribution of IS to the growth of all industries, denoted by Z, may be defined by applying Equation 19 to aggregate data:

$$\wedge Z = S \wedge U$$ 21.

Detailed exposition of the Fane measures of IS and his justifications

for them are given in his publication already cited above.[12] Details
of the application of his measures have also been outlined by Ekuerhare
(Ekuerhare, 1978). Fane applied his measures by using the data
collected and analyzed by Lewis and Soligo who also used Chenery's
measure of IS on Pakistan industrialization already mentioned above.
However, the results of both Fane's and Lewis and Soligo's measures
differed significantly from each other.

The preceeding discussions and comparisons of measures of
sources of industrial growth, particularly IS, indicate that the known
measures when used to describe structural changes in the manufacturing
sector may lead to inconsistent and contradictory results on account of
the differences in methods, length of period, degree of aggregation,
and the nature and source of statistics. (cf Fane's and Lewis and
Soligo's studies).

Therefore, there is no one generally accepted and consistent
measure of the sources of industrial growth, particularly IS, since,
as we have already noted above, different measures can yield different
and often conflicting estimates of the quantitative importance of the
sources. Thus, great care must be taken in mind when interpreting and
using their results to describe the process of industrial growth in
LDCs, in view of the conceptual and statistical weaknesses of such
measures. It is, therefore, because of these weaknesses that we have
chosen more than one measure of the sources of industrial growth for
Zambia in our analysis.

8.3   Application of the Chenery and Lewis-Soligo Measures of Sources
         of Industrialization to the Zambian Experience

8.31   Sources of Growth in Gross Output

Table 8.2 gives the gross output of the three major industrial

TABLE 8.2

GROSS OUTPUT BY INDUSTRY GROUPS, 1965-80

Industry Group	1965		1970		1975		1980	
	1000 Kwacha	% of total	1000 Kwacha	% of total	1000 Kwacha	% of total	1000 Kwacha	% of total
Consumer Goods	68,144	60.6	181,725	58.5	349,408	49.4	659,156	49.6
Intermediate goods	7,152	6.4	59,758	19.2	169,989	24.1	337,570	25.4
Investment & related goods	36,719	32.6	68,312	22.0	183,575	26.0	327,788	24.7
Other manufacturing goods	458	0.4	642	0.2	3,625	0.5	3,489	0.3
Total all industries	112,473	100.0	310,437	100.0	706,597	100.0	1328,003	100.0

NB Figures may not add up due to rounding

SOURCES: As for Table 8.1

groups and together with their shares in percentages for each of the
years under analysis. The influence of the differential growth rates
of the three groups discussed earlier is obvious, as the importance
of consumer goods group fell from nearly two-thirds in 1965 to just
nearly half of the total gross output in 1980, and, the investment
and related goods group fell from nearly one-third to about one-quarter
while the intermediate goods group remarkably rose from over 6. to a
little over 25 . Thus, although the consumer goods industries still
dominated the industrial scene in 1980, the change in economic structure
had been quite marked. Also interesting was the drop into third position
of the investment and related goods industries in 1980, giving way to
the intermediate goods industries. These trends, therefore, confirm
the patterns of industrialization observed in the previous Chapter
regarding the three broad industrial groups.

In the following paragraphs, however, we shall try to examine
the 'causes' or 'sources' responsible for the above trends. Table 8.3
summarizes the final results of our calculations of the sources of
gross output in manufacturing in Zambia both during the entire period
under analysis and the sub-periods, using both the Chenery and Lewis-
Soligo measures. However, it should be noted that our analyses and
conclusions throughout this sub-section shall be based on averages of
the results from the two measures as shown in the Table. Although
showing different magnitudes of contributions of the sources of
industrial growth, both measures show results indicating similarities
in the rankings of the sources of growth for both 'total all industries'
and the three broad industrial groups.

First, considering the rows for 'total all industries',
striking differences between the entire period and the sub-periods are

SUMMARY SOURCES OF GROSS OUTPUT GROWTH BY SUB-GROUPS OF INDUSTRIES FOR ZAMBIA'S MANUFACTURING INDUSTRY 1965-80

Period and sub-group of industries	ΔX	$U_1(\Delta D)$		$U_1(\Delta W)$		$U_1(\Delta E)$		$(U_2 - U_1)S_2$	
	Kwacha	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo
		% of ΔX	% of ΔX	% of ΔX	% of ΔX	% of ΔX	% of ΔX	% of ΔX	% of ΔX
1965-70									
Consumer goods	113581.0	49.7	56.0	26.5	27.6	-2.0	-1.5	25.8	18.0
Intermediate goods	52606.0	12.4	11.2	8.2	8.9	0.1	0.1	79.3	79.8
Investment & related goods	31593.0	82.4	72.1	15.5	21.1	-2.4	-4.2	4.6	11.0
Total all industries	197964.0	45.0	46.8	18.8	21.6	-1.1	-1.5	37.2	33.2
1965-75									
Consumer goods	281264.0	38.5	43.1	31.9	32.9	-0.5	-0.3	30.1	24.3
Intermediate goods	162837.0	10.4	10.3	7.0	7.0	0.1	0.1	82.5	82.6
Investment & related goods	146856.0	42.7	36.3	16.0	20.8	5.6	8.8	35.6	34.1
Total all industries	594124.0	33.9	32.3	20.0	22.6	1.9	2.1	44.2	43.0
1965-80									
Consumer goods	591012.0	36.4	41.8	30.7	31.9	-0.1	-0.2	33.0	26.4
Intermediate goods	330418.0	10.0	9.8	6.8	7.4	0.1	0.1	83.1	82.7
Investment & related goods	291069.0	31.5	24.0	15.4	20.3	10.8	16.0	42.3	39.7
Total all industries	1215530.0	28.9	28.8	19.3	22.4	3.4	3.8	48.4	45.1
1970-75									
Consumer goods	167683.0	36.9	40.1	42.4	41.3	0.6	0.6	20.2	18.1
Intermediate goods	110231.0	31.4	31.8	21.2	20.5	0.2	0.2	47.2	47.5
Investment & related goods	115263.0	32.5	26.8	16.5	22.5	8.2	3.8	42.9	37.0
Total all industries	396160.0	37.1	33.6	27.0	29.7	4.4	4.3	31.5	32.3
1975-80									
Consumer goods	309748.0	45.6	49.6	39.0	37.1	0.4	0.4	15.0	13.0
Intermediate goods	167581.0	45.8	45.5	31.9	31.8	0.2	0.2	22.2	22.5
Investment & related goods	144213.0	28.2	15.9	20.7	26.5	22.1	31.3	29.0	26.3
Total all industries	621406.0	38.3	40.6	29.7	33.2	7.9	7.5	24.2	18.7

NB: Figures may not add up due to rounding and 'total all industries' includes 'other' manufacturing industries.
SOURCES: See Appendices 8.1-8.10.

quite evident. In the sub-periods 1965-70, 1970-75, and 1975-80,
final domestic demand was the predominant source of all expansion in
gross output, followed by IS in the first two sub-periods, and by
intermediate demand in the last sub-period. The predominance of final
domestic demand in the first two sub-periods, in spite of the great
emphasis on IS in the first two national development plans was largely
due to, amongst other factors, the increase in wages of African workers
in all sectors of the economy immediately at and a few years after
Independence, especially made possible by the rising copper prices as
outlined in the preceeding Chapters.[13] However, in the sub-period 1975-80
the predominance of final domestic demand was largely due to the poor
performance of IS as a result of the constraints discussed in the previous
Chapters. Appendix 8.11 illustrates, in particular, the extent of the
foreign exchange constraint on various Zimco operations, including industry.

However, looking at the longer sub-period, 1965-75, and the
entire period 1965-80, IS was generally the predominant source of
expansion in the gross output of 'total all industries', followed by
final domestic demand. The good performance of IS in these periods was
largely the result of the special opportunities that became available
to the development of manufacturing industries in Zambia at and during
the first decade of Independence. In addition, the first two national
development plans' main emphasis was on IS.[14]

The important differences in the behaviour of the sub-periods
and the entire period under analysis and the differences among the broad
industrial groups are also brought out in Table 8.3, where we have
aggregated from all individual industries in Appendices 8.1 - 8.10 to
three groups producing consumer, intermediate, and investment and
related goods. First, for the consumer goods group, the predominant

source of all expansion in gross output in the entire period and the
sub-periods, with the exception of sub-period 1970-75 which was
dominated by intermediate demand, was generally final domestic demand,
followed by intermediate demand with the exception of sub-period 1965-70
and the entire period 1965-80, when it was followed by IS. Generally, IS
and export demand always took third and fourth places, respectively, in
all the sub-periods and the entire period under analysis. Only for once
in the sub-period 1970-75 did final domestic demand take second place
after intermediate demand. However, it should be noted that the influence
of both final domestic demand and IS declined between the sub-periods
1965-70 and 1970-75, largely due to the growing influence of both
intermediate demand and export demand consequent upon the favourable
climate offered by the first two national development plans and the
economic take-overs of the late 1960s. However, the influence of final
domestic demand rose up again in the sub-period 1975-80, largely due to
the continuous decline in the influence of IS. Generally, the highest
contribution of final domestic demand was in the sub-period 1965-70, due
to the reasons already advanced above for 'total all industries', and
for the reasons also advanced above the least contribution was in the
sub-period 1970-75. The least contribution of IS in the consumer goods
industrial group was in the sub-period 1975-80, also for the reasons
advanced for 'total all industries' above.

Table 8.3 also shows that, for the intermediate goods group,
the predominant source of all expansion in gross output in the entire
period under discussion and the sub-periods was IS, followed by final
domestic demand, intermediate demand, and export demand, with the only
exception in the sub-period 1975-80 when final domestic demand was
predominant, followed by intermediate demand, IS, and export demand.

The predominance of IS in the intermediate goods industrial group was largely due to the great emphasis of the government in the first national development plans to develop local industries that would substitute foreign raw materials for use in agriculture, mining, and manufacturing itself, particularly chemicals and textiles.

The greatest period of IS in the intermediate goods industrial group was in the entire period 1965-80, followed by 1965-75 and 1965-70, the least being in the sub-period 1975-80 followed by 1970-75. The declining influence of IS in some sub-periods, was largely due both to the rising influence of final domestic demand, intermediate demand, and export demand, and to the foreign exchange and transport and fuel constraints encountered especially after the mid 1970s. These problems resulted in enormous difficulties in the procurement of raw materials, parts and equipment for industries, and, therefore, the subsequent undercapitalization and low production, as it was shown in the previous Chapter.

Finally, Table 8.3 shows that, the predominant source of all expansion in gross output of the investment and related goods group was also again generally IS in both the entire period 1965-80 and the sub-period, 1970-75. Generally, final domestic demand took second place, followed by intermediate demand and export demand in the third and fourth places, respectively. Again the reasons advanced for predominance of IS in the intermediate goods industrial group above apply here, and so are the reasons for declining influences in some sub-periods. During the entire period under analysis, IS first grew remarkably well between sub-periods 1965-70 and 1970-75, and thereafter declined substantially in the sub-period 1975-80.

On the other hand, Table 8.4 shows the percentage distribution

TABLE 8.4

PERCENTAGE BREAKDOWN OF SOURCES OF GROSS OUTPUT GROWTH BY INDUSTRY GROUP

Period and Industry Group	$U_1(\Delta D)$		$U_1(\Delta W)$		$U_1(\Delta E)$		$(U_2 - U_1)S_2$		(ΔX)	
	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo
1965-70										
Consumer goods	28.5	32.1	15.2	15.8	-1.2	-0.9	14.8	10.3	57.4	57.4
Intermediate goods	3.2	3.0	2.2	2.4	-	-	21.1	21.2	26.6	26.6
Investment & related goods	13.1	11.5	2.5	3.4	-0.4	-0.7	0.7	1.8	16.0	16.0
Total all industries	45.0	46.8	18.8	21.6	-1.1	-1.5	37.2	33.2	100.0	100.0
1965-75										
Consumer goods	18.2	20.4	15.1	15.6	-0.3	-0.1	14.3	11.5	47.3	47.3
Intermediate goods	2.9	2.8	1.9	1.9	-	-	22.6	22.7	27.4	27.4
Investment & related goods	10.5	9.0	3.9	5.1	1.4	2.2	8.8	8.4	24.7	24.7
Total all industries	33.9	32.3	20.0	22.6	1.9	2.1	44.2	43.0	100.0	100.0
1965-80										
Consumer goods	17.7	20.3	14.9	15.5	-0.1	-0.1	16.1	12.8	48.6	48.6
Intermediate goods	2.7	2.7	1.9	2.0	-	-	22.6	22.5	27.2	27.2
Investment & related goods	7.5	5.8	3.7	4.9	2.6	3.8	10.1	9.5	33.9	24.0
Total all industries	28.9	22.8	19.3	22.4	3.4	3.8	48.4	45.1	100.0	100.0
1970-75										
Consumer goods	15.6	17.0	17.9	17.5	0.2	0.3	8.5	7.7	42.3	42.3
Intermediate goods	8.7	8.9	5.9	5.7	0.1	0.1	13.1	13.2	27.8	27.8
Investment & related goods	9.4	7.8	4.8	6.5	2.4	4.0	12.5	10.8	29.1	29.1
Total all industries	37.1	33.6	27.0	29.7	4.4	4.3	31.5	32.3	100.0	100.0
1975-80										
Consumer goods	22.7	24.7	19.5	18.5	0.2	0.2	7.5	6.5	49.8	49.9
Intermediate goods	12.3	12.3	8.6	8.6	-	0.1	6.0	6.1	27.0	27.0
Investment & related goods	6.5	3.7	4.8	6.1	5.1	7.3	6.7	6.1	23.2	23.2
Total all industries	38.3	40.6	29.7	33.2	7.9	7.5	24.2	18.7	100.0	100.0

NB: Totals may not add up due to rounding and the omission of 'other' manufacturing industries from calculations of individual industry groups whereas they were included in 'total all industries'.

SOURCE: See Appendices 8.1 - 8.11

of growth in gross output over the entire period 1965-80 and the sub-
periods, both by industrial groups and by 'source' of growth of gross
output. Again, as in Table 8.3 just analyzed above, there are fairly
striking differences in Table 8.4 both in the importance of the sources
of industrialization and in the relative importance of the broad
industrial groups.

In the entire period 1965-80, nearly 50% of the growth in
gross output of 'total all industries' was accounted for by IS and over
25% by final domestic demand, whereas intermediate demand and export
demand accounted for over 20% and only nearly 4% respectively. With less
than 50% of the growth in gross output, the consumer goods industrial
group had the highest rate of growth, followed by the intermediate goods
and investment and related goods industrial groups in that order.

In the sub-periods 1965-70, nearly 50% and over 30% of growth
in gross output of 'total all industries' were accounted for by final
domestic demand and IS, respectively. The least and negative contribution
was from export demand. The consumer goods industrial group was again
the highest in growth rate, accounting for nearly 50% of the growth, again
followed by the intermediate goods and investment and related goods
industrial groups in that order.

In the sub-period 1970-75, over 30% each of the growth in
gross output of 'total all industries' was again accounted for by final
domestic demand and IS, with the least contribution from export demand.
Over 20% of the growth was accounted for by the predominant consumer
goods industrial group, followed again by the intermediate goods and
investment and related goods industrial group in that order.

In the 1975-80 sub-period, nearly 40% and 30% of the growth
in gross output of 'total all industries' were accounted for by 'final

domestic demand and intermediate demand, respectively, again with the least contribution from export demand. The predominant consumer goods industrial group accounted for nearly 50% of the growth, followed in order of magnitude by the intermediate and related goods industrial groups.

Finally, in the sub-period 1965-75, over 40% and 30% of the growth in gross output of 'total all industries' were accounted for by IS and final domestic demand, respectively, again with the least contribution from export demand. The predominant consumer goods industrial group accounted for nearly 50% of the growth, followed again in sequential order by the intermediate goods and investment and related goods industrial groups.

Table 8.4 also shows the relative importance of the sources of growth in gross output of individual broad industrial groups. IS was the dominant source of growth both in the intermediate goods and investment and related goods industrial groups, whereas final domestic demand accounted for most of the growth in gross output of the consumer goods industrial group. However, the exceptions are that in the sub-period 1975-80 final domestic demand accounted for most of the growth in the intermediate goods industrial group, and for most of the growth in the investment and related goods group in the sub-periods 1965-70 and 1965-75. Again the reasons for the important differences in the behaviour of the entire period and the sub-periods and the differences among the major industrial groups remain the same as those that were discussed with respect to the analysis of Table 8.3.

Therefore, we may sum up by stating that there were substantial differences in the rate of growth of industries producing consumer, intermediate, and investment and related goods, with the latter two growing much more rapidly, although the former still dominated the

growth in gross output of 'total all industries'. A substantial portion of the growth of the latter two groups was due to IS, particularly in the first decade of Independence. The rapid growth of the intermediate goods and investment and related goods industrial groups has meant that they now contribute substantially both to gross output and to the growth of gross output in manufacturing.

In order to see at a still more disaggregated level what had been happening within the major industrial groups since Independence, one should refer to Appendices 8.1 to 8.10. Briefly, these appendices have revealed also that, the gross output of individual manufacturing industries both in the entire period under analysis and the sub-periods of it was influenced in a similar fashion to the broad industrial groups, with respect to the sources of industrial growth. Thus IS was responsible for the growth of output of a substantial number of industries producing intermediate and investment and related goods, while final domestic demand was largely responsible for those generally producing consumer goods. In between the two sources always lay intermediate and export demand, with the former being relatively more important. Further, while final domestic demand was relatively more important in the very short sub-periods, IS was very significant in the longer periods.

8.32   Sources of Growth in Value Added

The sources of growth in value added of manufacturing in Zambia are again discussed here for the entire period and the sub-periods outlined in the preceeding sub-section. Table 8.5 gives the value added by major industrial groups and their percentage shares in total value added for each of the years under study. The influence of the differential growth rates of the three industrial groups is again obvious. As with gross output, although the consumer goods industrial group still dominated

TABLE 8.5

Industry Group	1965		1970		1975		1980	
	1000 Kwacha	% of total	1000 Kwacha	% of total	1000 Kwacha	% of total	1000 Kwacha	% of total
Consumer goods	18,350	48.0	56,696	53.2	87,566	38.3	171,314	38.1
Intermediate goods	3,080	8.1	19,003	17.8	65,300	28.5	137,335	30.6
Investment & related goods	16,587	43.4	30,489	28.6	74,337	32.5	138,986	30.9
Other manufacturing goods	182	0.5	375	0.4	1,649	0.7	1,864	0.4
Total all industries	38,199	100.0	106,563	100.0	228,852	100.0	449,300	100.0

VALUE ADDED BY INDUSTRY GROUPS, 1965-80

NB: Figures may not add up due to rounding.

SOURCE: See Appendices as for Table 8.1

value added in manufacturing in 1980, the change in economic structure was quite evident, with the rapid growth of the intermediate goods industrial group, which was now almost at the same level as the investment and related goods industrial group. These trends, therefore, more or less support the patterns of industrial growth observed in the previous Chapter as regards the three broad industrial groups, which were also confirmed in the preceeding sub-section.

In the following paragraphs, however, we shall try to examine the sources of growth in value added observed above and try to confirm the observations and conclusions made in the previous sub-section which examined the same problem but using gross output. Table 8.6 summarizes the final results of our calculations of the sources of growth in value added of manufacturing in Zambia both in the entire period under analysis and the sub-periods. However, again it should be noted that, for easy comprehension, our analyses and conclusions throughout this sub-section shall be based on averages of the results from the two measures. Afterall, although showing different magnitudes of contributions to the sources of growth, both measures show results yielding almost similar rankings of the influences of the sources of growth for both 'total all industries', and the three broad industrial groups.

First, considering the rows for 'total all industries', striking differences between the entire period under analysis and the sub-periods are again quite clear. As with growth of gross output, in the shorter sub-periods, final domestic demand was the major cause of expansion in value added of 'total all industries', followed by IS. However, in the entire period and the longer sub-period 1965-75, IS was the predominant source of growth in value added of 'total all industries', followed by final domestic demand. The poor performance of IS in the

TABLE 8.6

SUMMARY SOURCES OF GROWTH OF VALUE ADDED BY SUB-GROUPS OF INDUSTRIES FOR ZAMBIA'S MANUFACTURING INDUSTRY 1965-80

Period and sub-group of industries	ΔV Chenery Kwacha	ΔV Lewis-Soligo Kwacha	$r_1U_1(\Delta D)$ Chenery %	Lewis-Soligo %	$r_1U_1(\Delta M)$ Chenery %	Lewis-Soligo %	$r_1U_1(\Delta E)$ Chenery %	Lewis-Soligo %	$T_1(U_2-U_1)S_2$ Chenery %	Lewis-Soligo %	$(r_2-r_1)x_2$ Chenery %	Lewis-Soligo %
1965-70												
Consumer goods	38346.0	38344.0	39.7	41.0	21.1	20.6	-1.6	-1.4	20.6	17.6	20.2	22.2
Intermediate goods	15923.0	15923.0	17.6	15.3	11.7	12.8	0.2	0.2	112.8	105.9	-42.3	-34.2
Investment & related goods	13902.0	13902.0	94.5	68.9	15.9	24.1	-2.5	-4.2	4.7	10.3	-2.7	0.9
Total all industries	68364.0	68362.0	44.3	40.8	18.5	19.4	-1.1	-1.6	36.6	36.5	1.7	4.8
1965-75												
Consumer goods	69216.0	77008.0	42.1	42.2	34.9	32.9	-0.6	-0.5	33.0	30.2	-9.4	-4.8
Intermediate goods	62220.0	62220.0	11.7	11.4	7.9	7.8	0.1	0.1	93.0	85.9	-12.7	-5.2
Investment & related goods	57750.0	57750.0	49.0	38.9	18.3	25.3	6.7	10.0	40.9	32.5	-14.9	-6.7
Total all industries	190653.0	198445.0	35.9	31.4	21.2	22.6	2.0	2.8	46.8	48.6	-5.8	-5.3
1965-80												
Consumer goods	152964.0	160816.0	37.9	41.5	31.9	27.1	-0.1	-0.2	34.4	29.4	-4.0	2.2
Intermediate goods	134256.0	134256.0	10.6	10.2	7.2	8.0	0.1	0.1	88.1	82.9	-6.0	-1.2
Investment & related goods	122399.0	122399.0	33.9	25.0	16.5	24.1	11.5	16.9	45.5	34.8	-7.4	-0.8
Total all industries	411301.0	419153.0	29.0	26.5	19.4	20.0	3.5	4.9	48.6	48.2	-0.4	0.3
1970-75												
Consumer goods	30870.0	38664.0	62.5	54.2	71.8	64.4	1.0	0.7	34.2	36.4	-69.5	-55.7
Intermediate goods	46297.0	46297.0	23.8	24.7	16.0	15.5	0.2	0.1	35.8	34.2	24.3	24.5
Investment & related goods	43848.0	43848.0	38.1	29.0	19.3	27.8	9.6	17.3	50.3	36.9	-17.3	-11.0
Total all industries	122289.0	130083.0	41.3	34.7	30.0	34.1	4.9	6.1	35.0	36.6	-11.2	-11.5
1975-80												
Consumer goods	83748.0	83808.0	42.3	46.4	36.2	29.4	0.3	1.1	13.9	13.0	7.3	10.1
Intermediate goods	72036.0	72036.0	40.9	40.4	28.5	28.0	0.2	0.2	19.8	17.5	10.6	13.9
Investment & related goods	64649.0	64649.0	25.5	18.1	18.7	26.5	19.9	25.2	26.2	24.0	9.7	8.2
Total all industries	220648.0	220708.0	35.0	36.0	27.1	28.0	7.2	7.9	8.8	10.3	8.8	10.3

NB Figures may not add up due to rounding and 'total all industries' includes 'other' manufacturing industries as well.

SOURCES: See Appendices 8.1 to 8.10

shorter sub-periods coincided with the periods when the copper prices
were very low and thus not enough foreign exchange was available to
import the necessary raw materials, parts and equipment required by
industries. The good performance of IS in the longer periods, on the
other hand, was due to the favourable economic climate that existed
during those periods.

The important differences in the behaviour of the sub-periods
and the entire period under analysis and the differences among the
broad industrial groups are also brought out in Table 8.6, where we
have aggregated, from all individual industries in Appendices 8.1 -
8.10 to three groups producing consumer, intermediate and investment
and related goods. Considering first the consumer goods group, the
predominant source of growth in value added in the entire period and
the sub-periods, with the exception of 1970-75, was final domestic
demand, followed by intermediate demand, with the exception of the
entire period. Generally, IS took third place in all the sub-periods
and the entire period under analysis.

The decline in influence of final domestic demand in the
sub-period 1970-75 was largely due to the rising influence of intermediate
demand, whereas its dominance in the consumer goods group was largely
due to the factors discussed earlier in this Chapter. On the other
hand, the poor performance of IS in the consumer goods group was largely
due to the fact that industries had become too much dependent on foreign
inputs, parts, and equipment which could not be readily and easily
procured due to insufficient foreign exchange and transport constraint,
as we saw in the previous Chapters and elsewhere.[15]

The predominant source of growth in value added of the
intermediate goods group in the entire period and the sub-groups was

generally IS, with the only exception in the sub-period 1975-80 when final domestic demand was the major source. With the exception of sub-period 1975-80, when it assumed first place and IS third place after intermediate demand, generally final domestic demand was the second major influence on growth in value added of the intermediate goods group. The reasons for the dominance of IS in the intermediate goods group are already clear from the previous discussions, and so are the reasons for its poor performances in some sub-periods.

Finally, Table 8.6 shows that, as with the intermediate goods group, the predominant source of growth in value added of the investment and related goods group was generally IS in both the entire period under discussion and the sub-periods, with the exception of the sub-periods 1965-70 and 1965-75 when final domestic demand was predominant and IS came third and second, respectively. Generally also, final domestic demand was the second major source, with the exception of sub-periods 1965-70 and 1970-75 when intermediate demand came second and 1965-75 when IS came second. Intermediate demand, export demand and 'technical change', as in the other two groups, took third, fourth and fifth places, respectively, with some occasional exceptions as shown in the Table. The behaviour of the investment and related goods group both in the entire period under analysis and its sub-periods in response to the various sources of growth have already been discussed earlier in this Chapter.

Presenting the above picture in another way, Table 8.7 shows the percentage distribution of growth in value added in manufacturing over the entire period 1965-80 and its sub-periods analyzed above, both by broad industrial groups and by source of growth in value added. As in Table 8.6, there are fairly striking differences in Table 8.7 both in the importance of the sources of growth in value added and in the

TABLE 8.7

PERCENTAGE DISTRIBUTION OF GROWTH IN VALUE ADDED BY 'SOURCE' AND BY INDUSTRY GROUP, 1965-80

Period and industry group	$r_1U_1(\Delta D)$		$Y_1U_1(\Delta M)$		$r_1U_1(\Delta E)$		$r_1(U_2-U_1)S_2$		$(r_2-r_1)X_2$		(ΔV)	
	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo
1965-70												
Consumer goods	22.3	23.0	11.8	11.5	-0.9	-0.8	16.6	9.9	11.4	12.4	56.1	56.1
Intermediate goods	4.1	3.6	2.7	3.0	0.4	-	26.3	24.7	-9.8	-8.0	23.3	23.3
Investment & related goods	17.2	14.0	3.2	4.9	-0.5	-0.9	1.0	2.1	-0.5	-0.2	20.3	20.3
Total all industries	45.0	40.8	18.5	19.4	-1.1	-1.6	36.6	36.5	1.7	4.8	100.0	100.0
1965-75												
Consumer goods	15.3	16.4	12.7	12.8	-0.2	-0.2	12.0	11.7	-3.4	-1.9	36.3	38.8
Intermediate goods	3.8	3.6	2.6	2.5	-	-	30.4	26.9	-4.1	-1.6	32.6	31.4
Investment & related goods	14.8	11.3	5.6	7.4	2.0	2.9	12.4	9.5	-4.5	-2.0	30.3	29.1
Total all industries	35.9	31.4	21.2	22.6	2.0	2.8	46.8	48.6	-5.8	-5.3	100.0	100.0
1965-80												
Consumer goods	14.1	15.9	11.9	10.4	-	-0.1	12.8	11.3	-1.5	0.8	37.2	38.4
Intermediate goods	3.5	3.3	2.4	2.6	-	-	28.8	26.6	-2.0	-0.4	32.6	32.0
Investment & related goods	10.1	7.3	4.9	7.1	3.4	4.9	13.5	10.2	-2.2	-0.3	29.8	29.2
Total all industries	29.0	26.5	19.4	20.0	3.5	4.9	48.6	48.2	-0.4	0.3	100.0	100.0
1970-75												
Consumer goods	15.8	16.1	18.1	19.2	0.2	0.2	8.6	10.8	-17.5	-16.5	25.2	29.7
Intermediate goods	9.0	8.8	6.1	5.5	-	0.1	13.5	12.2	9.2	9.1	37.9	35.6
Investment & related goods	13.7	9.8	6.9	9.4	3.5	5.8	18.0	12.4	-6.2	-3.7	35.9	33.7
Total all industries	41.3	34.7	30.0	34.1	4.9	6.1	35.0	36.6	-11.2	-11.5	100.0	100.0
1975-80												
Consumer goods	16.0	17.6	13.7	11.2	0.1	0.4	5.3	4.9	2.7	3.9	38.0	38.0
Intermediate goods	13.4	13.2	9.3	9.1	-	0.1	6.5	5.7	3.5	4.5	32.6	32.6
Investment & related goods	7.5	5.3	5.5	7.6	5.8	7.4	7.7	7.0	2.8	1.8	29.3	29.3
Total all industries	35.0	36.0	21.1	28.0	7.2	7.9	22.0	17.8	8.8	10.3	100.0	100.0

N3: Totals may not add up due to rounding and the omission of 'other' manufacturing industries from calculation of individual industry groups whereas they were included in 'total all industries' calculations.

SOURCE: See Appendices 8.1 to 8.10

TABLE 8.7

PERCENTAGE DISTRIBUTION OF GROWTH IN VALUE ADDED BY 'SOURCE' AND BY INDUSTRY GROUP, 1965-80

Period and industry group	$r_1 U_1 (\Delta D)$		$Y_1 U_1 (\Delta M)$		$r_1 U_1 (\Delta E)$		$r_1 (U_2 - U_1) S_2$		$(r_2 - r_1) X_2$		(ΔV)	
	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo	Chenery	Lewis-Soligo
1965-70												
Consumer goods	22.3	23.0	11.8	11.5	-0.9	-0.8	16.6	9.9	11.4	12.4	56.1	56.1
Intermediate goods	4.1	3.6	2.7	3.0	0.4	-	26.3	24.7	-9.8	-8.0	23.3	23.3
Investment & related goods	17.2	14.0	3.2	4.9	-0.5	-0.9	1.0	2.1	-0.5	-0.2	20.3	20.3
Total all industries	45.0	40.8	18.5	19.4	-1.1	-1.6	36.6	36.5	1.7	4.8	100.0	100.0
1965-75												
Consumer goods	15.3	16.4	12.7	12.8	-0.2	-0.2	12.0	11.7	-3.4	-1.9	36.3	38.8
Intermediate goods	3.8	3.6	2.6	2.5	-	-	30.4	26.9	-4.1	-1.6	32.6	31.4
Investment & related goods	14.8	11.3	5.6	7.4	2.0	2.9	12.4	9.5	-4.5	-2.0	30.3	29.1
Total all industries	35.9	31.4	21.2	22.6	2.0	2.8	46.8	48.6	-5.8	-5.3	100.0	100.0
1965-80												
Consumer goods	14.1	15.9	11.9	10.4	-	-0.1	12.8	11.3	-1.5	0.8	37.2	38.4
Intermediate goods	3.5	3.3	2.4	2.6	-	-	28.8	26.6	-2.0	-0.4	32.6	32.0
Investment & related goods	10.1	7.3	4.9	7.1	3.4	4.9	13.5	10.2	-2.2	-0.3	29.8	29.2
Total all industries	29.0	26.5	19.4	20.0	3.5	4.9	48.6	48.2	-0.4	0.3	100.0	100.0
1970-75												
Consumer goods	15.8	16.1	18.1	19.2	0.2	0.2	8.6	10.8	-17.5	-16.5	25.2	29.7
Intermediate goods	9.0	8.8	6.1	5.5	-	0.1	13.5	12.2	9.2	9.1	37.9	35.6
Investment & related goods	13.7	9.8	6.9	9.4	3.5	5.8	18.0	12.4	-6.2	-3.7	35.9	33.7
Total all industries	41.3	34.7	30.0	34.1	4.9	6.1	35.0	36.6	-11.2	-11.5	100.0	100.0
1975-80												
Consumer goods	16.0	17.6	13.7	11.2	0.1	0.4	5.3	4.9	2.7	3.9	38.0	38.0
Intermediate goods	13.4	13.2	9.3	9.1	-	0.1	6.5	5.7	3.5	4.5	32.6	32.6
Investment & related goods	7.5	5.3	5.5	7.6	5.8	7.4	7.7	7.0	2.8	1.8	29.3	29.3
Total all industries	35.0	36.0	21.1	28.0	7.2	7.9	22.0	17.8	8.8	10.3	100.0	100.0

NB: Totals may not add up due to rounding and the omission of 'other' manufacturing industries from calculation of individual industry groups whereas they were included in 'total all industries' calculations.

SOURCE: See Appendices 8.1 to 8.10

relative importance of the broad industrial groups both in the entire
period under analysis and the sub-periods.

In the entire period 1965-80, nearly half of the growth in
value added of 'total all industries' was accounted for by IS, nearly
30% by final domestic demand, about 20% by intermediate demand, 4%
by export demand, and 'technical change' had no contribution at all.
About 40% of the growth was accounted for by the consumer goods group,
over 30% by the intermediate goods group, and about 30% by the
investment and related goods group.

In the sub-period 1965-70, final domestic demand was pre-
dominant, accounting for over 40% of the growth in value added of
'total all industries', followed by IS with over 30%, intermediate
demand with about 20%, 'technical change' with just over 2%, and
export demand with a negative contribution of 1%. Again, the consumer
goods group was predominant, much above 50% of the growth in value added
of 'total all industries' followed by the intermediate goods group with
nearly 25% and the investment and related goods group with 20%.

In the sub-period 1970-75, final domestic demand was again
predominant, accounting for nearly 40% of the growth in value added
of 'total all industries', followed by IS with over 30%, intermediate
demand with just over 30%, export demand with 5%, and 'technical change'
with a negative contribution. However, unlike in the gross output
growth, the intermediate goods group was predominant, accounting for
nearly 40% of the growth, followed by the investment and related goods
group with over 30% and for the first time, the consumer goods group
was the least important with just nearly 30% of the growth in value
added accounted for by it.

In the sub-period 1975-80, again final domestic demand was the major source of growth in value added of 'total all industries', accounting for over 30 of the growth, followed by intermediate demand with about 25, IS with about 20, 'technical change' with about 10%, and export demand with over 7 . The consumer goods group was again predominant, accounting for nearly 40 of the growth, followed by the intermediate goods group with over 30, and the investment and related goods group with nearly 30 of the growth.

Finally, IS was the dominant source of growth in value added of 'total all industries' in the sub-period 1965-75, accounting for nearly 50% of the growth, followed by final domestic demand with over 30, intermediate demand with over 20%, export demand with over 2, and 'technical change' with a negative contribution of 5 . Again the consumer goods group was predominant, accounting for nearly 40 of the growth, followed by the intermediate goods group with over 30, and the investment and related goods group with nearly 30 of the growth.

The relative importance of the sources of growth in value added of individual broad industrial groups is also shown in Table 8.7. In the entire period 1965-80, final domestic demand was the major source of growth in value added of the consumer goods group, whereas IS dominated the growth in both the intermediate goods and investment and related goods groups. In the sub-periods 1965-70 and 1965-75, final domestic demand was the major source of growth in both the consumer goods and investment and related goods groups, whereas IS was dominant in the intermediate goods group. In the sub-period 1970-75, IS was the major source of growth in both the intermediate goods and investment and related goods industrial groups, whereas intermediate demand was dominant in the consumer goods group. Finally, in the sub-period 1975-80,

final domestic demand was predominant in all the three broad industrial groups. Again, the reasons for the important differences in the behaviour of the entire period under analysis and its sub-periods and the differences among the major industrial groups remain the same as those that have been discussed earlier in the Chapter and elsewhere in this Study.

One may conclude that, as with gross output, there was a substantial differential in the rate of growth of industries producing consumer, intermediate, and investment and related goods, with the latter two growing much more rapidly. A substantial portion of the growth of the latter two groups was again largely due to IS, particularly in both the entire period and the longer sub-period 1965-75, and the shorter sub-period 1970-75. The growth in the consumer goods group was largely accounted for by final domestic demand. The predominance of final domestic demand in the growth of all the three broad industrial groups in the sub-period 1975-80 shows how adversely affected IS was during this time as a result of the consequences of the 1974-75 world economic recession and the middle east oil crisis, such as insufficient foreign exchange for procurement of imported raw materials, parts, and equipment for industries, and the transport bottlenecks, among other factors already discussed in the earlier Chapters.

In order to see at a still more disaggregated level what had been happening to the individual industries within the three broad industrial groups since Independence, with respect to the sources of growth of value added, one should again refer to the detailed analysis in Appendices 8.1 to 8.10. In sum, however, the Appendices have also revealed similar results to those analyzed above for the broad industrial groups. Thus, while IS was generally predominant in industries primarily

producing intermediate and investment and related goods, final domestic
demand was mainly accountable for industries primarily producing
consumer goods. The other sources of growth were responsible for a
mixture of industries. Further, while final domestic demand was
relatively more important in the very short sub-periods, IS was relatively
more important in the longer sub-period, 1965-75, and the entire period
under analysis, 1965-80.

8.4   Summary and Conclusion

This Chapter has attempted to outline and account for the
development of manufacturing industry in Zambia during the period 1965-80,
in terms of the various 'causes' or sources of growth based on the Chenery-
type measures.

Before summarizing the general impressions we wish to point out
some of the major constraints of the analysis, apart from the limitations
of the measures of sources of growth which were dealt with in some detail
in the Chapter. On the one hand, the data on domestic supplies concerned
only the so-called large-scale manufacturing, and thus excluded an
unknown quantity of small-scale industry with an unknown rate of growth
and unknown distribution among industry, a remark also expressed in one
of the measures applied in this study. (Lewis and Soligo, 1965, p. 110).
On the other hand, the extraction of 'manufactured' imports and exports
from Zambia's Annual Statements of External Trade was based on personal
judgment and, thus, may necessarily be somewhat arbitrary.[16] Furthermore,
there was a certain element of understatement of the total supply of
imported goods at current prices because we did not account for the
scarcity premium (above normal trade margins) on imported goods. However,
while these defects do tend to have some effects on the results and their
interpretations, there was no way of telling the extent of their effects.

The figures presented on the 'sources' of growth, therefore, should be taken at best as indications of the orders of magnitude involved. Whatever the defects, the establishment of statistically 'normal' patterns of industrial growth in the previous Chapter and the observations and attempts to account for the exceptions to them do at least confirm some of the major aspects of sources of industrial growth in Zambia since Independence, especially import substitution, which was the major focus of the national plans.

As for the substantive conclusions, we have arrived at the following summary observations. First, the extremely rapid rate of growth of manufacturing was maintained mainly due to the very rapid growth of intermediate goods industries (mainly chemicals and textiles) both in the entire period under analysis and the sub-periods, during which time both consumer goods and investment and related goods industries showed decelerating growth trends. The rise of intermediate goods industries can largely be explained by the heavy government investments in this group, following the UDI in Zimbabwe and the 1968 economic reforms. The fall in the consumer goods group was mainly due to the decline of the food, beverage and tobacco sector in the 1970s, whereas that of investment and related goods group was largely due to the poor performance of the non-metallic minerals and basic metals sectors. Undoubtedly, external factors, such as the oil crisis, transport, and the collapse of the copper prices had also adverse effects on most industries that depended heavily upon imported inputs, particularly after the mid 1970s.

Secondly, the highest rates of growth in all manufacturing industries were in the sub-periods 1965-70 and 1970-75, particularly the former due to the initial favourable economic climate that prevailed in the country; and 1975-80 had the lowest rates, even lower than the

longer sub-period 1965-75, mainly due to the oil crisis and the collapse of the copper prices towards the mid 1970s.

Thirdly, the major source of growth in both gross output and value added of intermediate goods and investment and related goods industries was generally import substitution, while final domestic demand was largely accountable for most of the expansion in the consumer goods industries.

Fourthly, import substitution was generally the major source of growth in total manufacturing during the entire period 1965-80 and the sub-period 1975-80, while final domestic demand was largely responsible for the growth during the shorter sub-periods.

Fifthly, although they were not major sources of growth in manufacturing, both export demand and intermediate demand grew steadily, more especially the former, though the latter accounted for a larger share of growth.

Finally, although there is great scope for import substitution in all the three broad industrial groups, both intermediate goods and investment and related goods industries present the greatest scope since imports are still a larger proportion of total supply of goods in these groups. However, a good deal of progress has been made already and a base of some significance has been developed domestically in these industries, as indicated in this and the previous Chapters.

From the above exposition, we have, therefore, confirmed some of the industrial policy economists' arguments, such as Chenery's, that the importance of IS is greatest in the earliest stages of industrialization and that the relative importance of IS is greater in the intermediate and investment and related goods industries than in the consumer goods industries. Furthermore, we tend also to support Chenery's assertion

that, the IS pattern of industrialization has been more significant
in the 20th Century than in the 19th Century; and Maizels that, the
'normal' extent of ISI has been much greater in the _less developed_
countries (LDCs) during the 20th Century than during the early stages of
industrialization of the present-day developed countries. (Maizels,
1963, p. 50). Such conclusions have also been confirmed by empirical results
of studies also based on the Chenery model in countries such as Pakistan,
India, and Nigeria.[17] However, these conclusions still remain with
the type of limitations pointed out earlier in this Chapter and elsewhere.

NOTES AND REFERENCES

1. For instance, by early 1984 the Census of Industrial Production for 1976 had not been published, let alone whether it had been conducted at all.

2. For instance, Nitrogen Chemicals, Kafironda Explosives, Indeni Oil Refinery, Kafue Textiles, and Kabwe Industrial Fabrics, as will be recalled from Chapter VI. See also Indeco Annual Reports 1968-82 and Bank of Zambia Annual Reports 1971-82.

3. For instance, Zambia Clay Industries and Livingstone Motor Assemblers. See Indeco Annual Reports 1968-82 and Bank of Zambia Annual Reports, 1971-82.

4. For instance, Refined Oil Products Limited and Zambezi Sawmills Limited. See Indeco Annual Reports 1968-82 and Bank of Zambia Annual Reports, 1971-82.

5. Chenery, H.B. (1960), "Patterns of Industrial Growth", American Economic Review, September.

6. Lewis, S. R. and Soligo, R. (1965), "Growth and Structural Change in Pakistan Manufacturing Industry, 1954-64", Pakistan Development Review, Spring. See also Desai, P. (1969), "Alternative Measures of Import Substitution", Oxford Economic Papers, November; and Bhagwati, J.N. and Desai, P. (1970), India, Planning for Industrialization, Industrialization and Trade Policies since 1951, Oxford University Press, London.

7. Sutcliffe, R. B. (1971), Industry and Underdevelopment, Addison-Wesley Publishing Company, London.

8. Maizels, A. (1963), Industrial Growth and World Trade, Cambridge.

9. Morley, S.A. and Smith, G.W. (1970), "On the Measurement of Import Substitution", American Economic Review, September, and Morley, S.A. and Smith, G.W. (1971), "Import Substitution and Foreign Investment in Brazil", Oxford Economic Papers, Vol. 23, No. 1, March.

10. Fane, G. (1973), "Consistent Measures of Import Substitution", Oxford Economic Papers, Vol. 25, No. 2, July, pp. 251-261.

11. See also Ekuerhare, B. (1978) The Economic Appraisal of Import Substituting Industrialization with Special Reference to the Nigerian Textile Industry, University of Manchester, Ph.D Thesis, mimeo.

12. However, please note that, due to lack of space in our analysis, it has not been possible to apply the Fane measure to Zambia. Nonetheless, we feel that the Chenery and Lewis-Soligo measures will be sufficient for our purpose.

13. For instance, following the Brown Commission recommendations, the

lowest-paid worker in the mining industry was awarded wage increases
equal to 22% in October, 1966, and the wage increase in mining
spread to the rest of the economy. For instance, following the
Whelan Commission, the lowest-paid workers in Central Government
and urban local government were awarded wage increases equal to
20-30% and 4% in January 1967, respectively. In April 1967,
following the Wages Board recommendations, the general minimum
wage increase for the lowest-paid workers was fixed at 33%. See
Elliott, C. ed. (1971), Constraints on the Economic Development of
Zambia, Oxford University Press, Nairobi, pp. 99-119.

14. For instance, see Republic of Zambia: Office of National Development
and Planning (1966), First National Development Plan 1966-1970,
Government Printer, Lusaka, July, pp. 33-35; and Republic of Zambia:
Ministry of Development Planning and National Guidance, (1971),
Second National Development Plan January 1972 - December 1976,
Government Printer, Lusaka, December, pp. 93-100.

15. See for instance, Seidman, A. (1974), "The Distorted Growth of
Import Substitution Industry: the Zambian Case", The Journal of
Modern African Studies, Cambridge, Vol. XII, No. 4, December,
pp. 601-631; Bhagavan, M.R. (1978), Zambia: Impact of Industrial
Strategy on Regional Imbalance and Social Inequality, Scandinavian
Institute of Social Studies, Uppsala; and Fincham, R. (1980),
"Economic Dependence and the Development of Industry in Zambia",
The Journal of Modern African Studies, Vol. 18, No. 2, pp. 297-313.

16. This approach has also been made use of elsewhere. See Young, A.
(1973), Industrial Diversification in Zambia, Praeger Publishers,
New York, Appendix K, p. 318.

17. See Lewis, S.R. and Soligo, R. 1965. op. cit., Ahmad, J. (1968),
"Import Substitution and Structural Change in Indian Manufacturing
Industry 1950-66", Journal of Development Studies, Vol. 4, No. 3,
April; and Oyejide, T.A. (1975), Tariff Policy and Industrialization
in Nigeria, Ibadan University Press, Ibadan.

DETERMINANTS OF GROSS OUTPUT GROWTH: 1965 TO 1970

Industry Name	$U_1(\Delta D)$		$U_1(\Delta W)$		$U_1(\Delta E)$		$(U_2 - U_1)S_2$		(ΔX)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	6157	59	6617	63	-63	1	-2262	-22	10450	100
Edible oils and fats	1873	77	1224	51	-58	-2	-617	-25	2422	100
Grain mill products	8793	52	9615	57	-270	-2	-1381	-8	16756	100
Bakery products	2779	49	3199	56	-5	-	-255	-4	5718	100
Other food products	3093	33	1551	16	-589	-6	5410	57	9465	100
Total food products	22804	51	20358	45	-1534	-3	3182	7	44811	100
Spirits, malt, liquors & tobacco	32140	81	1439	4	-94	-	5996	15	39475	100
Soft drinks	3084	49	2809	45	-11	-	356	6	6238	100
Total beverages & tobacco	35245	77	4056	9	-106	-	6518	14	45713	100
Wood and furniture	2502	42	2040	34	-586	-	2017	34	5973	100
Wearing apparel, except footwear	2093	18	1978	17	-33	-10	7757	66	11796	100
Leather products and footwear	395	13	234	8	-24	-	2489	80	3095	100
Printing and publishing	663	30	618	28	4	-1	908	41	2193	100
Paper and paper products	621	14	317	7	2	-	3443	79	4382	100
Chemicals, except rubber products	2893	9	1622	5	13	-	26329	85	30858	100
Rubber products	1408	13	1937	18	14	-	7572	69	10931	100
Textiles	977	15	801	12	39	1	4618	72	6435	100
Structural clay products	-97	878	48	-439	-1	5	38	-344	-11	100
Cement, lime and other	3602	50	2786	39	97	1	664	9	7149	100
Total non-metallic minerals	3240	45	2674	37	90	1	1134	16	7138	100
Basic metals & fabricated metals	10252	71	2860	20	-1702	-12	3010	21	14421	100
Machinery, except electrical	4212	104	244	6	10	-	-401	-10	4065	100
Electrical machinery	927	23	206	5	-1	-	2966	72	4099	100
Transport equipment	3879	207	511	27	280	15	-2801	-150	1870	100
Other manufacturing	357	194	-1	-1	3	1	-175	-95	184	100
Total all industries	89164	45	37287	19	-2121	-1	73634	37	197964	100
A. Consumer goods	56492	50	30059	26	-2310	-2	29340	26	113581	100
B. Intermediate goods	6519	12	4319	8	59	-	41710	79	52606	100
C. Investment & related goods	26017	82	4882	15	-764	-2	1458	5	31593	100
Total A, B & C	88835	45	37991	19	-2175	-1	73130	37	197780	100

N.B. Figures may not add up due to rounding.

- 404 -

SOURCES OF CHANGE IN VALUE ADDED, 1965 TO 1970

Industry Name	$r_1U_1(\Delta D)$		$r_1U_1(\Delta W)$		$r_1U_1(\Delta E)$		$r_1(U_2 - U_1)S_2$		$(r_2 - r_1)x_2$		(ΔV)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	1480	54	1590	58	-15	-1	-544	-20	221	8	2733	100
Edible oils and fats	403	98	263	64	-13	-3	-133	-32	-112	-27	409	100
Grain mill products	1372	25	1501	28	-42	-1	-216	-4	2816	52	5431	100
Bakery products	761	46	876	53	-1	-	-70	-4	97	6	1662	100
Other food products	760	16	361	8	-145	-3	1330	28	2353	50	4680	100
Total food products	4749	32	4240	28	-319	-2	663	4	5583	37	14915	100
Spirits, malt, liquors & tobacco	7606	89	339	4	-22	-	1419	17	-798	-9	8544	100
Soft drinks	1045	32	952	29	-4	-	121	4	1169	36	3283	100
Total beverages & tobacco	8681	73	999	8	-26	-	1606	14	570	5	11829	100
Wood and furniture	1119	41	912	33	-262	-10	902	33	54	2	2725	100
Wearing apparel, except footwear	730	12	690	11	-12	-	2707	44	2073	33	6189	100
Leather products and footwear	120	9	71	5	-7	-1	758	55	431	31	1373	100
Printing and publishing	337	26	314	24	2	-	461	35	201	15	1315	100
Paper and paper products	185	10	94	5	1	-	1025	58	474	27	1779	100
Chemicals, except rubber	1086	13	609	7	5	-	9881	115	-2984	-35	8597	100
Rubber products	699	19	962	26	7	-	3760	104	-1795	-49	3632	100
Textiles	464	24	380	20	18	1	2191	114	-1138	-59	1915	100
Structural clay products	-70	70	35	-35	-	-	27	-28	-91	92	-99	100
Cement, lime and other	2265	68	1752	52	61	2	418	12	-1148	-34	3347	100
Total non-metallic minerals	2082	64	1718	53	58	2	729	22	-1339	-41	3248	100
Basic metals & fabricated metals	4487	62	1252	17	-745	-10	1317	18	977	13	7288	100
Machinery, except electrical	1241	64	72	4	3	-	-118	-6	745	38	1943	100
Electrical machinery	250	14	56	3	-	-	801	46	623	36	1729	100
Transport equipment	1408	-460	186	-61	102	-33	-1017	332	-985	323	-306	100
Other manufacturing	142	74	-	-	1	1	-70	-36	120	62	193	100
Total all industries	30283	44	12664	19	-720	-1	25008	37	1130	2	69364	100
A. Consumer goods	15212	40	8094	21	-622	-2	7901	21	7761	20	38346	100
B. Intermediate goods	2807	18	1860	12	25	-	17962	113	-6732	-42	15923	100
C. Investment & related goods	11752	85	2206	16	-345	-2	658	5	-369	-3	13902	100
Total A, B & C	30149	44	12894	19	-738	-1	24820	36	1046	2	68171	100

N.B. Figures may not add up due to rounding.

SOURCES: See Appendix B.1.

DETERMINANTS OF GROSS OUTPUT GROWTH, 1970 TO 1975

Industry Name	$(U_2 \cdot \Delta D)$		$U_2(\cdot \Delta M)$		$U_2(\cdot \Delta E)$		$(U_3 - U_2)S_3$		(ΔX)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	546	7	5436	69	-21	-	1921	24	7882	100
Edible oils and fats	2035	-48	-1828	43	4	-	-4454	105	-4242	100
Grain mill products	-5149	-33	20782	135	993	6	-1182	-8	15444	100
Bakery products	5615	33	6803	48	-2	-	1846	13	14262	100
Other food products	5849	30	2730	14	2	-	10678	55	19259	100
Total food products	3627	7	3084	59	-132	-	18289	35	52605	100
Spirits, malt, liquors & tobacco	43439	87	3889	11	1	-	1039	2	46367	100
Soft drinks	5897	82	1270	18	-	-	9	-	7176	100
Total beverages & tobacco	46332	87	6149	11	1	-	1061	2	53543	100
Wood & furniture	4128	20	11976	58	34	-	4475	22	20613	100
Wearing apparel, except footwear	1738	8	9071	44	-29	-	9870	48	20650	100
Leather products & footwear	1350	21	1370	21	9	-	3784	58	6512	100
Printing and publishing	4721	34	6125	49	-3	-	2317	17	13760	100
Paper and paper products	4875	54	2319	26	-17	-	1774	20	8951	100
Chemicals, except rubber products	16288	23	12930	19	354	-	40045	58	69617	100
Rubber products	7754	69	3275	29	-6	-	141	1	11164	100
Textiles	6131	30	4045	20	-87	-	10410	51	20499	100
Structural clay products	2207	-2006	160	-145	4	-4	-2481	2255	-110	100
Cement, lime and other	3202	22	6460	43	671	5	4555	31	14888	100
Total non-metallic minerals	6215	42	6437	44	650	4	1475	10	14778	100
Basic metals & fabricated metals	9246	17	15374	28	15453	29	13931	26	54005	100
Machinery, except electrical	3865	31	847	7	-58	-	7730	62	12385	100
Electrical machinery	3609	31	1375	12	-	-	6821	58	11805	100
Transport equipment	8724	39	1673	8	-152	-1	12044	54	22290	100
Other manufacturing	170	6	88	3	50	2	2675	90	2983	100
Total all industries	147104	37	106805	27	17406	4	124646	32	396160	100
A. Consumer goods	61808	37	71087	42	965	1	33823	20	167683	100
B. Intermediate goods	34577	31	23350	21	262	-	52042	47	110231	100
C. Investment & related goods	37429	32	18972	16	9470	8	49392	43	115263	100
Total A, B & C	148055	38	107820	27	17240	4	120062	31	393177	100

N.B. Figures may not add up due to rounding.

SOURCES: See CSO, Censuses of Industrial Production 1970 and 1975, and Annual Statements of External Trade 1970 to 1975. Government Printer, Lusaka.

SOURCES OF CHANGE IN VALUE ADDED: 1970 TO 1975

Industry Name	$r_2U_2(\Delta D)$		$r_2U_2(\Delta W)$		$r_2U_2(\Delta E)$		$r_2(U_3 - U_2)S_3$		$(r_3 - r_2)X_3$		(ΔV)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	138	5	1375	51	-5	-	486	18	683	26	2677	100
Edible oils and fats	395	-45	-355	40	1	-	-864	98	-59	7	-882	100
Grain mill products	-1302	38	5257	-152	251	-7	-299	9	-7362	213	-3456	100
Bakery products	1594	31	1931	37	-1	-	524	10	1164	22	5212	100
Other food products	2470	27	1153	13	1	-	4509	49	1001	11	9134	100
Total food products	1026	21	8721	178	-37	-1	5175	106	-9994	-204	4891	100
Spirits, malt, liquors & tobacco	9036	157	1092	19	-	-	232	4	-4617	-80	5737	100
Soft drinks	2822	820	608	177	-	-	4	1	-3090	-898	344	100
Total beverages & tobacco	11799	194	1566	26	-	-	270	4	-7554	-124	6081	100
Wood and furniture	1865	31	5412	90	15	-	2022	34	-3331	-56	5984	100
Wearing apparel except footwear	808	15	4215	77	-13	-	4587	84	-4121	-75	5475	100
Leather products and footwear	570	18	579	18	4	-	1599	50	439	14	3191	100
Printing and publishing	2563	49	3650	70	-2	-	1250	24	-2221	-42	5248	100
Paper and paper products	1921	62	914	29	-7	-	699	23	-428	-14	3099	100
Chemicals, except rubber	4656	15	3696	12	101	-	11448	36	11591	37	31493	100
Rubber products	2724	51	1150	21	-2	-	50	1	1443	27	5365	100
Textiles	2143	34	1414	22	-30	-	3638	57	-823	-13	6340	100
Structural clay products	1445	-349	105	-25	3	-1	-1624	392	-342	83	-414	100
Cement, lime and others	1767	27	3566	55	370	6	2514	39	-1780	-28	6437	100
Total non-metallic minerals	3484	58	3609	60	365	6	827	14	-2261	-38	6023	100
Basic and fabricated metals	4357	27	7245	45	7282	45	6565	41	-9374	-58	16075	100
Machinery, except electrical	1500	32	329	7	-22	-	3000	64	-149	-3	4657	100
Electrical machinery	1378	31	525	12	-	-	2605	59	-60	-1	4448	100
Transport equipment	2252	18	432	3	-39	-	3109	25	6891	55	12645	100
Other manufacturing	99	8	52	4	29	2	1562	123	-468	-37	1274	100
Total all industries	50496	41	36663	30	5975	5	42856	35	-13700	-11	122289	100
A. Consumer goods	19283	62	22178	72	301	1	10552	34	-21445	-69	30870	100
B. Intermediate goods	10996	24	7425	16	83	-	16549	35	11244	24	46297	100
C. Investment & related goods	16705	38	3468	19	4226	10	22045	50	-7596	-17	43848	100

N.B. Figures may not add up due to rounding.

SOURCES: See Table 8.3

DETERMINANTS OF GROSS OUTPUT GROWTH: 1975 TO 1980

Industry Name	$U_3(\Delta D)$		$U_3(\Delta M)$		$U_3(\Delta E)$		$(U_4 - U_3)S_4$		(ΔX)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	4457	47	1959	21	13	-	2994	32	9423	100
Edible oils and fats	-176	-43	34	8	5	1	543	134	406	100
Grain mill products	5405	7	55700	75	-1098	-1	13951	19	73958	100
Bakery products	13990	62	4254	19	-1	-	4415	20	22618	100
Other food products	6087	19	19673	60	2152	7	4328	14	31441	100
Total food products	26878	20	83962	61	2179	2	24827	18	138748	100
Spirits, malt, liquors & tobacco	80515	81	17315	17	-	-	1203	1	99032	100
Soft drinks	15599	73	5691	27	-	-	13	-	21303	100
Total beverages & tobacco	96084	80	22981	19	-	-	1271	1	120335	100
Wood and furniture	7146	-262	-9894	359	-32	1	-39	1	-2729	100
Wearing apparel, except footwear	8269	26	16000	50	91	-	7782	24	32142	100
Leather products and footwear	6147	41	3497	23	-40	-	5288	36	14891	100
Printing and publishing	6148	85	1392	19	-7	-	-270	-4	7263	100
Paper and paper products	3180	23	3140	23	6	-	7624	55	13951	100
Chemicals, except rubber products	48837	68	23268	32	-85	-	-210	-	71809	100
Rubber products	7689	34	11987	53	478	2	2511	11	22665	100
Textiles	16531	28	14916	25	10	-	27699	47	59156	100
Structural clay products	926	27	258	8	-1	-	2251	66	3434	100
Cement, lime and other	13848	42	18807	57	1024	3	-427	-1	33252	100
Total non-metallic minerals	15938	43	17223	47	869	2	2655	7	36686	100
Basic metals & fabricated metals	-19760	-53	7256	19	43845	117	6166	16	37507	100
Machinery, except electrical	11287	109	596	6	78	1	-1633	-16	10329	100
Electrical machinery	6468	22	4397	15	49	-	18047	62	28961	100
Transport equipment	10215	33	6851	22	94	-	13570	44	30730	100
Other manufacturing	-478	352	-65	48	-13	10	421	-310	-136	100
Total all industries	238122	38	184324	30	48836	8	150124	24	621406	100
A. Consumer goods	141196	46	120924	39	1078	-	46550	15	309748	100
B. Intermediate goods	76737	46	53384	32	318	-	37142	22	167581	100
C. Investment & related goods	40693	28	29845	21	31835	22	41840	29	144213	100
Total A, B & C	241916	39	186361	30	49364	8	143902	23	621542	100

N.B. Figures may not add up due to rounding.

SOURCES: See CSO, Censuses of Industrial Production 1975 and 1980; and Annual Statements of External Trade 1975 to 1980 Government
Printer, Lusaka.

SOURCES OF CHANGE IN VALUE ADDED: 1975 TO 1980

Industry Name	$r_3u_3(\Delta D)$		$r_3u_3(\Delta W)$		$r_3u_3(\Delta E)$		$r_3(u_4 - u_3)S_4$		$(r_4 - r_3)X_4$		(ΔV)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	1243	32	549	14	4	–	838	21	1287	33	3925	100
Edible oils and fats	-24	-30	5	6	1	1	75	92	26	31	82	100
Grain mill products	173	-49	3276	-503	-96	10	1221	-126	-7445	767	-970	100
Bakery products	4641	64	1415	20	–	–	1469	20	-284	-4	7241	100
Other food products	2758	12	8559	38	975	4	1961	9	8462	37	22705	100
Total food products	5496	17	17168	52	445	1	5077	15	4737	14	32923	100
Spirits, malt, liquors & tobacco	14478	132	3115	28	–	–	216	2	-6834	-62	10974	100
Soft drinks	4365	98	1592	36	–	–	4	–	-1491	-33	4470	100
Total beverages & tobacco	18505	120	4426	29	–	–	245	2	-7732	-50	15444	100
Wood and furniture	2488	33	-3414	-45	-11	–	-14	–	8570	112	7620	100
Wearing apparel, except footwear	2959	23	5725	45	33	–	2785	22	1280	10	12781	100
Leather products and footwear	2863	29	1629	17	-19	–	2463	25	2899	29	9835	100
Printing and publishing	2638	51	597	12	-3	–	-116	-2	2029	39	5145	100
Paper and paper products	1155	17	1140	17	2	–	2769	40	1812	26	6879	100
Chemicals, except rubber	19458	70	9271	33	-34	–	-84	–	-802	-3	27809	100
Rubber products	3173	52	4946	80	197	3	1036	17	-3203	-52	6149	100
Textiles	5713	17	4798	15	3	–	8909	29	12172	39	31199	100
Structural clay products	356	18	99	5	-1	–	864	45	611	32	1930	100
Cement, lime and other	6817	55	9258	75	504	4	-210	-2	-4031	-33	12338	100
Total non-metallic minerals	7776	55	8403	59	424	3	1296	9	-3630	-25	14268	100
Basic and fabricated metals	-7082	-31	2601	12	15714	70	2210	10	9160	41	22602	100
Machinery, except electrical	4298	64	227	3	30	–	-622	-9	2817	42	6750	100
Electrical machinery	2448	17	1664	12	18	–	6830	48	3370	24	14330	100
Transport equipment	4859	73	3259	49	45	1	6455	96	-7918	-118	6699	100
Other manufacturing	-218	-101	-30	-14	-6	-3	192	89	277	120	215	100
Total all industries	77123	35	59699	27	15817	7	48622	22	19388	9	220648	100
A. Consumer goods	35385	42	30305	36	270	–	11666	14	6121	7	83748	100
B. Intermediate goods	29478	41	20507	28	122	–	14268	20	7661	11	72036	100
C. Investment & related goods	16478	25	12085	19	12891	20	16943	26	6251	10	64649	100

N.B. Figures may not add up due to rounding.

SOURCES: See Appendix 8.5.

DETERMINANTS OF GROSS OUTPUT GROWTH: 1965 TO 1975

Industry Name	$U_1(\Delta D)$		$U_1(\Delta W)$		$U_1(\Delta E)$		$(U_3 - U_1)S_3$		(ΔX)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	6774	37	12758	70	-87	-	-1113	-6	18332	100
Edible oils and fats	4144	-228	-816	45	-53	3	-5095	280	-1820	100
Grain mill products	3399	11	31384	97	770	2	-3353	-10	32200	100
Bakery products	8544	43	10184	51	-7	-	1260	6	19980	100
Other food products	6569	23	3173	11	-588	-2	19569	68	28724	100
Total food products	26277	27	49867	51	-1660	-2	22933	24	97416	100
Spirits, malt, liquors & tobacco	68523	80	5832	7	-94	-	11580	13	85842	100
Soft drinks	8731	65	4025	30	-11	-	670	5	13414	100
Total beverages & tobacco	77146	78	9617	10	-105	-	12598	13	99256	100
Wood and furniture	5906	22	11918	45	-558	-2	9320	35	26586	100
Wearing apparel, except footwear	3078	9	7120	22	-49	-	22297	69	32446	100
Leather products & footwear	823	9	669	7	-21	-	8135	85	9607	100
Printing and publishing	4639	29	6283	39	1	-	5030	32	15953	100
Paper and paper products	2088	16	1015	8	-3	-	10233	77	13333	100
Chemicals, except rubber products	6329	6	4350	4	88	-	89708	89	100475	100
Rubber products	4412	20	3206	15	11	-	14465	65	22095	100
Textiles	3998	15	2795	10	-4	-	20145	75	26934	100
Structural clay products	2049	-1694	204	-168	4	-3	-2378	1965	-121	100
Cement, lime and other	6662	30	8959	41	737	3	5679	26	22037	100
Total non-metallic minerals	9024	41	8664	40	695	3	3534	16	21916	100
Basic metals & fabricated metals	18541	27	16642	24	12152	18	21091	31	68426	100
Machinery, except electrical	8271	50	1134	7	-50	-	7095	43	16450	100
Electrical machinery	2610	16	848	5	-1	-	12447	78	15904	100
Transport equipment	15206	63	2684	11	83	-	6187	26	24160	100
Other manufacturing	573	18	112	4	66	2	2416	76	3167	100
Total all industries	201376	34	118759	20	11156	2	262833	44	594124	100
A. Consumer goods	108321	39	89669	32	-1501	-1	84775	30	281264	100
B. Intermediate goods	15962	10	11371	7	137.7	-	134366	83	162837	100
C. Investment & related goods	62647	43	23450	16	8504	6	52255	36	146856	100
Total A, B & C.	201939	34	120359	20	10995	2	257664	44	590957	100

N.B. Figures may not add up due to rounding

SOURCES: See CSO, Censuses of Industrial Production 1965 to 1975; and Annual Statements of External Trade 1965 to 1975, Government Printer, Lusaka.

SOURCES OF CHANGE IN VALUE ADDED: 1965 TO 1975

Industry Name	$r_1U_1(\Delta D)$		$r_1U_1(\Delta W)$		$r_1U_1(\Delta E)$		$r_1(U_3 - U_1)S_3$		$(r_3 - r_1)X_3$		(ΔV)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	1628	30	3066	57	-21	-	-267	-5	1004	19	5410	100
Edible oils and fats	891	-188	-175	37	-11	2	-1096	232	-82	17	-437	100
Grain mill products	531	27	4899	248	120	6	-523	-27	-3051	-154	1975	100
Bakery products	2339	34	2786	41	-2	-	345	5	1404	20	6874	100
Other food products	1615	12	780	6	-145	-1	4811	35	6752	49	13814	100
Total food products	5472	28	10385	52	-346	-2	4776	24	-481	-2	19806	100
Spirits, malt, liquors & tobacco	16217	114	1380	10	-22	-	2740	19	-6034	-42	14281	100
Soft drinks	2959	82	1364	38	-4	-	227	6	-920	-25	3627	100
Total beverages & tobacco	19081	106	2369	13	-26	-	3103	17	-6537	-37	17910	100
Wood and furniture	2642	30	5330	61	-250	-3	4168	48	-3182	-37	8709	100
Wearing apparel, except footwear	1074	9	2484	21	-17	-	7780	67	342	3	11664	100
Leather products & footwear	251	5	204	4	-6	-	2476	54	1640	36	4564	100
Printing and publishing	2356	36	3191	49	1	-	2554	39	-1539	-23	6563	100
Paper and paper products	622	13	302	6	-1	-	3047	62	908	19	4878	100
Chemicals, except rubber	2375	6	1633	4	33	-	33667	84	2382	6	40090	100
Rubber products	2191	24	1592	18	6	-	7182	80	-1973	-22	8997	100
Textiles	1879	23	1326	16	-2	-	9559	116	-4526	-55	8255	100
Structural clay products	1478	-288	147	-29	3	-1	-1715	334	-426	83	-513	100
Cement, lime and other	4188	43	5633	58	464	5	3570	36	-4071	-42	9784	100
Total non-metallic minerals	5799	63	5568	60	447	5	2271	24	-4813	-52	9271	100
Basic & fabricated metals	8114	35	7283	31	5318	23	9230	40	-6582	-28	23363	100
Machinery, except electrical	2437	37	334	5	-15	-	2090	32	1753	27	6600	100
Electrical machinery	704	11	229	4	-	-	3359	54	1885	31	6177	100
Transport equipment	5520	45	974	8	30	-	2246	18	3568	29	12339	100
Other manufacturing	228	16	44	3	26	2	960	65	209	14	1467	100
Total all industries	68393	36	40334	21	3789	2	89266	47	-11128	-6	190653	100
A. Consumer goods	29169	42	24146	35	-404	-1	22828	33	-6524	-9	69216	100
B. Intermediate goods	7305	12	4897	8	59	-	57865	93	-7906	-13	62220	100
C. Investment & related goods	28300	49	10593	18	3841	7	23605	41	-8589	-15	57750	100
Total A, B & C	68536	36	40849	22	3732	2	87449	46	-11380	-6	189186	100

N.B. Figures may not add up due to rounding.

SOURCES: See Appendix 8.7.

DETERMINANTS OF GROSS OUTPUT GROWTH: 1965 TO 1980

Industry Name	$U_1(\Delta D)$		$U_1(\Delta W)$		$U_1(\Delta E)$		$(U_4 - U_1)S_4$		(ΔX)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	11427	41	14803	53	-73	-	1599	6	2775	100
Edible oils and fats	3154	-222	-619	44	-27	2	-3903	276	-1414	100
Grain mill products	9211	9	91280	86	-410	-	6077	6	106158	100
Bakery products	21756	51	14213	33	-8	-	6637	16	42598	100
Other food products	9002	15	10716	18	272	-	40175	67	60165	100
Total food products	48315	21	118708	50	126	-	68113	29	235262	100
Spirits, malt, liquors & tobacco	140256	76	21259	12	-94	-	23454	13	184874	100
Soft drinks	23658	68	9471	27	-11	-	1600	5	34717	100
Total beverages & tobacco	163284	74	30219	14	-105	-	26193	12	219591	100
Wood and furniture	10979	46	4958	21	-581	-2	8500	36	23857	100
Wearing apparel, except footwear	6565	10	13867	21	-11	-	44167	68	64588	100
Leather products & footwear	2048	8	1366	6	-29	-	21113	86	24498	100
Printing and publishing	9204	40	7316	32	-4	-	6700	29	23216	100
Paper and paper products	2923	11	1839	7	-1	-	22523	83	27284	100
Chemicals, except rubber products	12625	7	7350	4	77	-	152232	88	172284	100
Rubber products	7374	16	7822	17	195	-	29369	66	44760	100
Textiles	9279	11	7560	9	-1	-	69252	80	86090	100
Structural clay products	4719	142	948	29	-1	-	-2353	-71	3313	100
Cement, lime and other	17875	32	24187	44	1566	3	11661	21	55289	100
Total non-metallic minerals	23151	40	23930	41	1465	3	10056	17	58602	100
Basic metals & fabricated metals	3798	4	22056	21	44865	42	35214	33	105933	100
Machinery, except electrical	15625	58	1522	6	1	-	9631	36	26779	100
Electrical machinery	4442	10	2093	5	12	-	38318	85	44865	100
Transport equipment	23426	43	8197	15	159	-	23108	42	54890	100
Other manufacturing	414	14	90	3	62	2	2466	81	3031	100
Total all industries	350923	29	234520	19	41827	3	588216	48	1212499	100
A. Consumer goods	215259	36	181254	31	-684	-	195183	33	591012	100
B. Intermediate goods	33043	10	22558	7	204	-	274612	83	330418	100
C. Investment & related goods	91757	32	44799	15	31277	11	123236	42	291069	100
Total A, B & C	355184	29	238412	20	42265	3	576638	48	1212499	100

N.B. Figures may not add up due to rounding.

SOURCES: See CSO Censuses of Industrial Production 1965 to 1980; and Annual Statements of External Trade 1965 to 1980.
Government Printer, Lusaka.

SOURCES OF CHANGE IN VALUE ADDED: 1965 TO 1980

Industry Name	$r_1 U_1(\Delta D)$		$r_1 U_1(\Delta W)$		$r_1 U_1(\Delta E)$		$r_1(U_4 - U_1)S_4$		$(r_4 - r_1)X_4$		(ΔV)	
	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%	Kwacha	%
Slaughtering	2746	29	3559	38	-18	-	384	4	2664	29	9335	100
Edible oils and fats	674	-172	-133	34	-6	1	-839	215	-87	22	-391	100
Grain mill products	1438	143	14247	1418	-64	-6	949	94	-15564	-1549	1005	100
Bakery products	5956	42	3891	28	-2	-	1817	13	2453	17	14115	100
Other food products	2213	6	2635	7	67	-	9878	27	21726	59	36519	100
Total food products	10061	19	24721	47	26	-	14184	27	3736	7	52729	100
Spirits, malt, liquors & tobacco	33193	131	5031	20	-22	-	5551	22	-18497	-73	25255	100
Soft drinks	8019	99	3210	40	-4	-	542	7	-3670	-45	8097	100
Total beverages & tobacco	40217	121	7443	22	-26	-	6451	10	-20732	-62	33354	100
Wood and furniture	4910	30	2218	14	-260	-2	3802	23	5659	35	16329	100
Wearing apparel, except footwear	2291	9	4839	20	-4	-	15411	63	1908	8	24445	100
Leather products & footwear	623	4	416	3	-9	-	6426	45	6943	48	14399	100
Printing and publishing	4674	40	3715	32	-2	-	3403	29	-82	-1	11708	100
Paper and paper products	870	7	548	5	-	-	6707	57	3632	31	11757	100
Chemicals, except rubber	4738	7	2758	4	29	-	57133	84	3241	5	67899	100
Rubber products	3661	24	3884	26	97	1	14582	96	-7078	-47	15146	100
Textiles	4403	11	3587	9	-1	-	32861	83	-1397	-4	39454	100
Structural clay products	3403	240	684	48	-	-	-1697	-120	-972	-69	1417	100
Cement, lime and other	11238	51	15207	69	985	4	7332	33	-12639	-57	22122	100
Total non-metallic minerals	14878	63	15378	65	942	4	6462	27	-14121	-60	23539	100
Basic and fabricated metals	1662	4	9652	21	19634	43	15411	34	-394	-1	45965	100
Machinery, except electrical	4604	34	449	3	-	-	2838	21	5460	41	13350	100
Electrical machinery	1199	6	565	3	3	-	10341	50	8400	41	20507	100
Transport equipment	8504	45	2976	15	58	-	8389	44	-889	-5	19038	100
Other manufacturing	164	10	36	2	24	1	980	58	478	28	1682	100
Total all industries	119183	29	79649	19	14205	3	199790	49	-1527	-	411301	100
A. Consumer goods	57965	38	48809	32	-184	-	52559	34	-6185	-4	152964	100
B. Intermediate goods	14230	11	9715	7	88	-	118261	88	-8038	-6	134256	100
C. Investment & related goods	41449	34	20237	17	14129	12	55669	45	-9085	-7	122399	100
Total A, B & C	120547	29	80915	20	14344	4	195706	48	-1894	-	409619	100

N.B. Figures may not add up due to rounding.

SOURCES: See Appendix 8.9

APPENDIX 8.11

SECTORAL FOREIGN EXCHANGE: EARNINGS AND REQUIREMENTS IN ZIMCO

| | EARNINGS | | | | REQUIREMENTS | | | |
| | 1980-81 | | 1981-82 | | 1980-81 | | 1981-82 | |
Sector	Actuals (K'millions)	Per cent of total	Estimates (K'millions)	Per cent of total	Allocations (K'millions)	Per cent of total	Estimates (K'millions)	Per cent of total
Mining	1,160.5	92.0	1,116.5	91.4	432.6	49.6	590.3	42.4
Trading	-	-	-	-	21.7	2.2	34.7	2.4
Transport	50.2	4.0	54.1	4.4	122.3	12.6	153.4	11.0
Energy	37.1	2.9	34.8	2.9	233.9	24.0	311.0	22.3
Finance	3.8	0.3	4.0	0.3	9.4	1.0	27.3	2.0
Hotels	1.6	0.1	1.8	0.1	1.3	0.1	2.9	0.2
Industry	6.2	0.5	7.8	0.7	87.5	9.0	244.6	17.8
Agriculture (RDC)	-	-	-	-	3.6	0.4	8.8	0.6
Miscellaneous	2.0	0.2	2.7	0.2	10.6	1.1	18.0	1.3
Total	1,261.3	100.0	1,221.7	100.0	973.1	100.0	390.0	100.0

N.B. Figures may not add up due to rounding off.

SOURCE: Office of the President, National Commission for Development Planning (1982), Economic Report 1981, Government Printer, Lusaka, January, p. 242, Table VI.

CHAPTER IX

AN EVALUATION OF ZAMBIA'S POST-INDEPENDENCE INDUSTRIALIZATION EXPERIENCE

In Chapter IV it was noted that the objectives of Zambian industrialization and the policies chosen to achieve them had been stated a number of times in several documents published since Independence.[1] Like the majority of LDCs since World War II, immediately after attaining its Independence, Zambia adopted an ISI strategy of development. Although the degree of emphasis had varied over the years, basically the main objectives remained economic diversification away from copper, conserving and, to some extent, earning foreign exchange, promoting inter-industry linkages, employment-generation, rural diversification and economic independence, particularly disengagement from Southern Africa.

Initially, the ISI strategy was pursued under a laissez faire 'liberal' capitalistic setting just as under colonialism since the government placed heavy reliance on foreign private parties to supply not only capital, but also technology, skills and management. The role of the government was merely to provide the favourable climate to attract manufacturers to invest in Zambia. However, since the 1968 Mulungushi Declaration on the 'Zambian Economic Revolution' Zambia opted to pursue the ISI strategy along the path of socialism-humanism.[2] The state became more openly and directly committed to the promotion of industrialization than before.

The major object of this Chapter is to examine the experience or impact of the ISI strategy in the post-Independence period in relation to the oficially stated objectives or basic policies.

9.1   The ISI Experience

It will be recalled from Chapter VI that, one of the
success stories of economic development in Zambia in the post-
Independence period was the rapid growth of manufacturing industry,
relative to the other sectors of the economy, particularly mining
and agriculture, which declined both in absolute and relative terms.
For instance, while the manufacturing sector increased its share in
total GDP at current producers' values by threefold between 1964 and
1982, mining's share was reduced by almost eightfold.[3] The former's
average annual growth rate of wage employment was also the fastest in
the economy, though far below that of output.

It was also noted in Chapter VI that, another impressive
progress was the increasingly more open and direct state intervention
in the promotion of manufacturing industry through the '51 plus'
nationalizations, through Indeco, which began after the 1968 Mulungushi
Declaration. Since that date, the state became increasingly involved
in the creation of large-scale projects in the intermediate sector,
whereas prior to this date the ISI strategy was largely based on the
replacement of consumer goods, particularly those coming from Zimbabwe.
The state now owns substantial amounts of capital invested in manufactur-
ing, in addition to mining and construction, in which the state parastatals
through which the state and foreign capital jointly operate, are more
dominant than the purely private capital enterprises. By 1982, the
parastatals' major companies accounted for more than 75% of manufacturing
activity in Zambia (Bank of Zambia Report, 1982, p. 35).

Table 9.1 shows also that, by 1980, total domestic manufacturing
production already supplied about 60% of the domestic Zambian market for

TABLE 9.1

PROPORTION OF DOMESTIC MANUFACTURING PRODUCTION* TO TOTAL DOMESTIC MARKET BY SECTOR/INDUSTRY GROUP (%)

Sector/Industry Group	1965	1970	1975	1980
1. Slaughtering	79.2	71.1	77.1	84.3
2. Edible oils & fats	58.3	54.2	11.2	15.0
3. Grain mill products	78.9	78.1	74.0	86.7
4. Bakery products	78.9	77.0	83.5	92.3
5. Other food products	17.1	54.7	81.5	83.9
Total food products	60.5	69.0	81.8	88.2
6. Tobacco, spirits, liquors, etc.	87.8	98.1	99.1	99.6
7. Soft drinks	95.1	99.9	100.0	100.0
Total beverages & tobacco	88.4	98.3	99.2	99.7
8. Wood and furniture	54.8	79.4	92.2	92.2
9. Wearing apparel, excluding footwear	34.4	62.3	84.0	94.3
10. Leather and footwear	8.3	42.4	67.9	86.5
11. Printing and publishing	62.4	74.1	84.4	83.6
12. Paper and paper products	11.4	40.0	46.3	63.8
13. Chemicals, excluding rubber	6.5	34.1	55.8	56.1
14. Rubber products	25.8	68.0	68.7	71.7
15. Textiles	14.5	29.3	46.8	68.1
16. Structural clay products	50.3	51.8	17.3	33.5
17. Other non-metallic minerals	60.0	73.6	85.9	86.0
Total non-metallic minerals	65.1	71.0	73.6	77.3
18. Basic metals & fabricated metal products	27.6	44.7	32.2	7.2
19. Machinery	7.9	9.1	17.0	16.1
20. Electrical products	7.3	18.0	30.4	50.1
21. Transport equipment	21.6	14.6	28.1	36.3
22. Other manufacturing	4.2	3.6	13.6	15.6
Total all industries	31.7	47.1	54.9	59.6
Industries primarily producing:				
Consumer goods (1-11)	60.6	76.6	84.6	91.1
Intermediate goods (12-15)	10.8	37.5	54.4	61.5
Investment and related goods (16-21)	22.3	26.5	30.9	28.3

* After deducting exports.

SOURCES: Calculated from CSO, Censuses of Industrial Production and Annual Statements of External Trade for the respective years.

manufactures, as compared with only about one-third at Independence.
Impressive progress had been made particularly in the intermediate
goods sector which had displaced the investment and related goods
sector. This was largely due to large investments in the chemicals,
rubber products, and textiles industries in particular, and, indeed,
in the intermediate sector in general, which began especially after
the 1968 reforms, as was explained in Chapter VI.

The consumer goods group continued to expand and dominate
the local production, with notable successes in beverages and tobacco,
wearing apparel, wood and furniture, and some food products. The
poorest performance was in the edible oils and fats industry, largely
due to the problem of procurement of raw materials, noted in Chapter V.

The success of local production in the domestic market during
the entire period under analysis was also confirmed by our empirical
findings in the previous Chapters, examining the Zambian pattern of
industrialization in relation to the 'normal' pattern of development
and analyzing the 'sources' of industrial growth. By 1980, the degree
of industrialization in Zambia had increased to the level of or slightly
more than proportionately with the 'normal' or expected pattern of
development. The majority of the sectors analyzed had positive deviations
from the 'normal' pattern, whereas at Independence the reverse was the
case. The intermediate goods group performed better than the other two
broad industrial groups, consumer goods and investment and related goods
groups. This was largely because of the impressive growth of the
textiles, chemicals, and rubber products industries. The investment
and related goods group continued to be the most developed, though not
as much as at Independence, mainly because the basic metals industry had

reduced its positive deviations from the 'normal' pattern. Finally, although the consumer goods group widened its negative deviation in 1980, its leather products, wood and wood products, and clothing and footwear industries performed well, with positive deviations from the 'normal' pattern.

Table 9.2 shows the contributions of IS to the value added in manufacturing industry over different sub-periods and the entire period 1965-1980, derived from our empirical findings in Chapter VIII. From our empirical findings, IS was the dominant 'source' of growth in both total manufacturing industry and the intermediate goods and investment and related goods industrial groups, followed by final domestic demand, with insignificant, but steadily growing, contributions from both intermediate and export demand.

Within the intermediate goods group, IS was greatest in the rubber products, chemicals, textiles, and paper products industries, in that order of magnitude. Within the investment and related goods group, it was greatest in electrical products and transport equipment, and least in machinery and non-metallic minerals, particularly in the structural clay products which had even a substantial negative IS, mainly because of the very strong influence of final domestic demand. Finally, within the consumer goods group it was greatest in edible oils and fats, grain mill products and wearing apparel, as well as leather and footwear, with the least being in slaughtering, soft drinks, and bakery products, or generally in the food, beverages and tobacco sector. Therefore, the impact of IS in particular industries and groups, mainly explains the Zambian patterns of industrialization in relation to the 'normal' patterns of development observed above.

TABLE 9.2

PERCENTAGE CONTRIBUTIONS OF IMPORT SUBSTITUTION TO VALUE ADDED IN MANUFACTURING BY SECTOR/INDUSTRY GROUP*

Sector/Industry Group	1965-70	1970-75	1975-80	1965-75	1965-80
1. Slaughtering	-19.9	18.1	21.4	-5.9	4.1
2. Edible oils and fats	-32.4	98.0	92.0	231.7	214.7
3. Grain mill products	-4.0	8.7	-125.9	-26.5	94.4
4. Bakery products	-4.2	10.1	20.3	5.0	12.9
5. Other food products	28.4	49.4	8.6	34.8	27.1
Total food products	4.4	105.8	15.4	24.1	26.9
6. Tobacco, spirits, liquors, etc.	16.6	4.0	2.0	19.2	22.0
7. Soft drinks	3.7	1.2	0.1	6.3	6.7
Total beverages & tobacco	13.6	4.4	1.6	17.3	19.3
8. Wood and furniture	33.1	33.8	-0.2	47.9	23.3
9. Wearing apparel, exc. footwear	43.7	83.8	21.8	66.7	63.1
10. Leather and footwear	55.2	50.1	25.0	54.3	44.6
11. Printing and publishing	35.1	24.0	-2.3	38.9	29.1
12. Paper and paper products	57.6	22.6	40.3	62.5	57.1
13. Chemicals, excluding rubber	114.9	36.4	-0.3	84.0	84.1
14. Rubber products	103.5	0.9	16.9	79.8	96.3
15. Textiles	114.4	57.4	28.6	115.8	83.3
16. Structural clay products	-27.6	392.4	44.8	334.2	-119.8
17. Other non-metallic minerals	12.5	39.1	-1.7	36.5	33.1
Total non-metallic minerals	22.4	13.7	9.1	24.5	27.5
18. Basic metals & fabricated metal products	18.1	40.8	9.8	39.5	33.5
19. Machinery	-6.1	64.4	-9.2	31.7	21.2
20. Electrical products	46.3	58.6	47.7	54.4	50.4
21. Transport equipment	332.7	24.6	96.4	18.2	44.1
22. Other manufacturing	-36.0	122.6	89.1	65.5	58.3
Total all industries	36.6	35.0	22.0	46.8	48.6
Industries primarily producing:					
Consumer goods (1-11)	20.6	34.0	13.9	33.0	34.4
Intermediate goods (12-15)	112.8	35.8	19.8	93.0	88.1
Investment and related goods (16-21)	4.7	50.3	26.2	40.9	45.5

* Based on the 1965 Lewis-Soligo measure

SOURCES: Appendices 8.1 to 8.10.

Finally, Zambia's achievement towards orientating its
sources of supplies away from the south, following first the UDI
in Zimbabwe in 1965 and then the border closure with the latter
in 1973, was illustrated in Table 5.3 of Chapter V. By 1974, all
imports from Zimbabwe had ceased, only to resume in 1980 following
this country's Independence in that year and the consequent lifting
of economic sanctions. At first trade with South Africa increased
but declined after 1968 because of the economic reforms and stringent
import control regulations. Imports from this country picked up again
in 1979 mainly because of the re-opening of the southern route by
President Kaunda in 1978.

However, despite industry's apparent overall success,
especially relative to the other sectors of the economy, closer
examination of reality reveals that the ISI experience contributed
less than satisfactorily towards restructuring Zambia's inherited
distorted economy that the authorities proclaimed their intention
to transform in their ambitious development programmes. Several
disturbing features of the ISI experience in Zambia are given in the
following sub-sections with respect to the stated   objectives of the
government.

9.11   Foreign Exchange Saving

The objective of conserving foreign exchange had only
limited success in the sense that, industries which were purportedly
import-substituting were heavily dependent on imported inputs of many
kinds, which the authorities or planners seemed to have overlooked in
the first place. For instance, apart from the special case of sugar
from Zambia Sugar Company's Nakambala Estate, where IS possibilities
were viable, in many industries involved in processing, although value

added locally might have been considerable, import requirements were also relatively high, since local production was not forthcoming, especially from agriculture. For instance, Zambia imported about 90% of its wheat and milk, fishmeal for processing into animal feed, all barley used by the breweries, and steel for the large number of metal-fabricating factories.[4] The Nitrogen Chemicals plant at Kafue had to import about K100,000 worth of catalysts and process chemicals each year, although the plant also used local raw materials. Finally, the Kafue Textiles' annual rated capacity of 18 million metres of cotton, polyester and rayon fabrics requires continuing imports of rayon and polyester materials for processing, since Zambia for a long time will not have the technological capacity to produce these materials; they require advanced chemical industries with large economies of scale, which cannot be established given Zambia's currently limited market.[5] In some consumer items, like Fiat cars from the Livingstone Motor Assemblers (LMA), industries only involved assembly at the final stage of production so that consumer goods production in their case implied a great deal of importation of intermediate inputs.[6] All this means that intermediate goods industries are not sufficiently developed. Therefore, there has not been enough ISI.

In addition to the continued imports of intermediate materials, most of the examples cited above required the import of new machinery and equipment which, technically, could not be produced in Zambia; for instance, the Kafue Textiles required new machinery and equipment to weave and spin cotton fabrics since it was primarily designed to perform these functions. Furthermore, new machinery and equipment were also required for both maintenance and expansion after the new
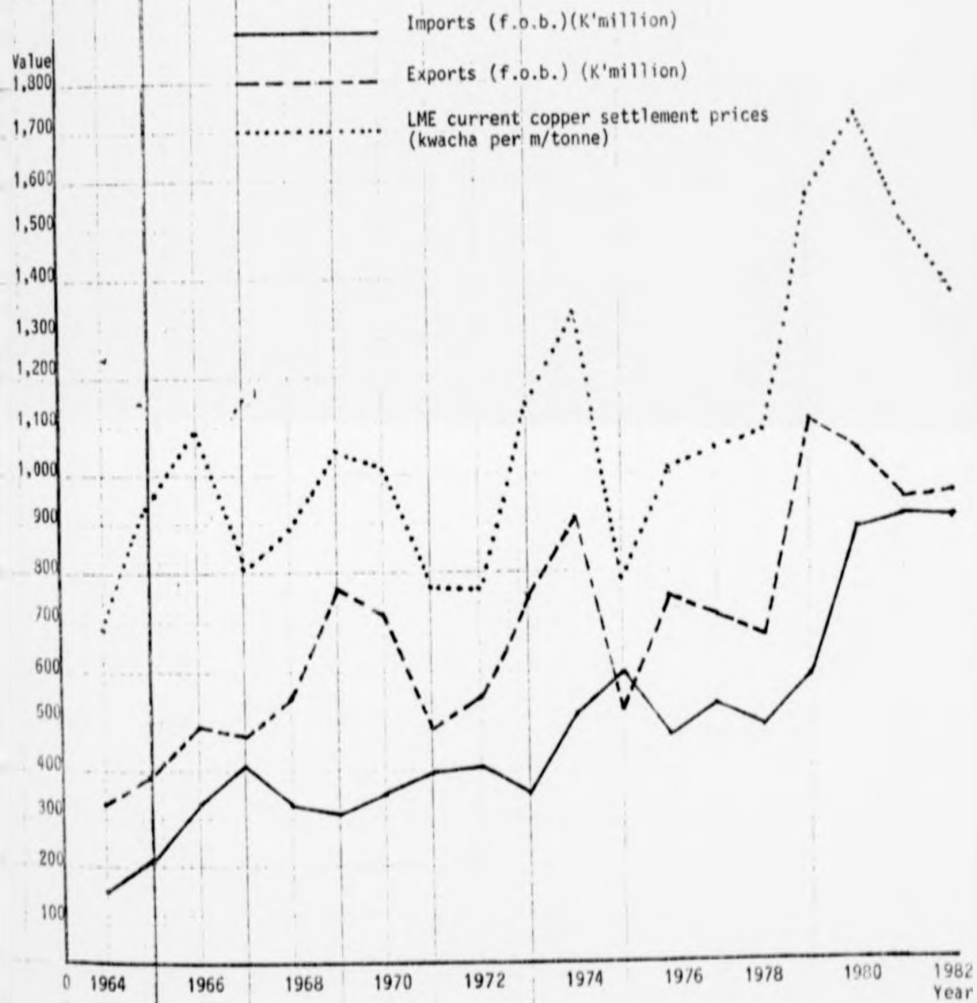
projects were commissioned. Added to all this was the high cost
of skilled manpower required to manage the new projects and operate
the new machinery, as well as the profits of the participating
foreign partners; and the foreign exchange demand was likely to be
high.

Figures 1 and 2 and Appendices 9.1 and 9.2 show trade and
production graphs and figures to illustrate the dependence on foreign
exchange in more detail. At Independence there was an ambition to
increase both production and consumption beyond levels typical of the
colonial period. In the first six years or so, this was not a problem
because of the buoyancy in the economy consequent upon the rise in
the price of copper which contributed to fairly rapid economic growth,
accumulation of foreign exchange reserves and a basically sound
government budget.[7] Thus, the rapid increase in imports was to be
expected.[8] However, since 1972 or so, these imports fluctuated in
both value and volume, the former probably reflecting a general increase
in the latter, at least up to 1974.

Examining, first, the relationship between imports and exports,
apart from 1975, Zambia had traditionally run a balance of trade surplus.
However, this had declined both in absolute and relative terms over
the years since then. This was largely because, while the proportion
of imports to exports had fluctuated, an upward trend was evident,
indicating progressive absorption of the trade surpluses provided by
exports. This rise in the import/export ratio, together with growth
in the value of imports, contributed to an increased dependence of
imports upon exports, as shown in Figure 1 for the period 1964-82.
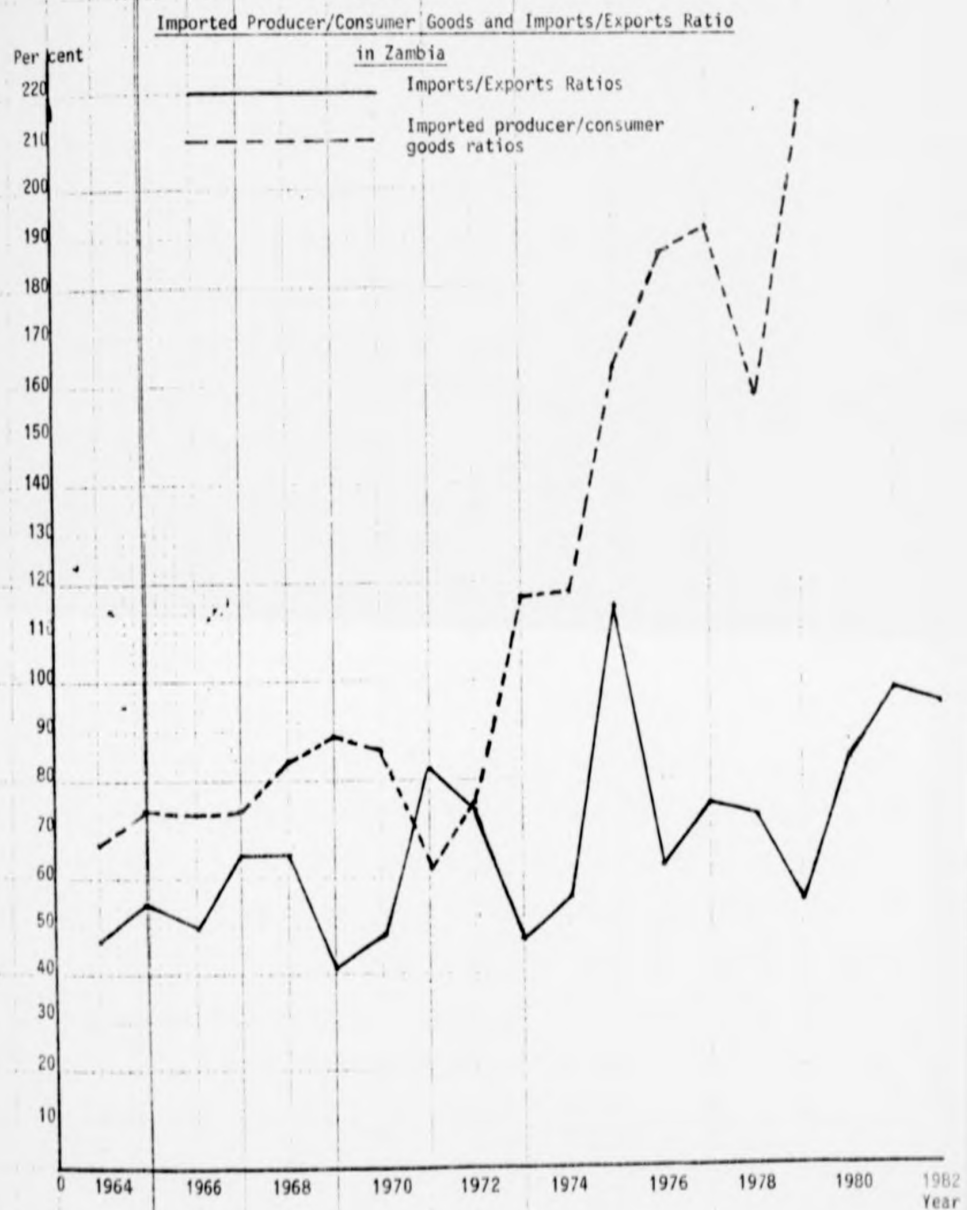Although the growth in visible imports and exports corresponded, a

Figure 1

Relationships Between Imports, Exports and Copper Prices in Zambia
1964-82

Imports (f.o.b.)(K'million)

Exports (f.o.b.) (K'million)

LME current copper settlement prices
(kwacha per m/tonne)

SOURCES: As for Appendix 9.1

Figure 2

Imported Producer/Consumer Goods and Imports/Exports Ratio
in Zambia

SOURCES: As for Appendix 9.1.

time lag developed between them around 1971, and thereafter the
value of imports fluctuated closely behind exports. Since the
production of copper and the proportion of exports accounted for
by copper sales remained roughly constant during this period, the
principal determinant of the secular behaviour of both imports and
exports may thus have been the fluctuations in the price of copper,
so that export earnings and imports could change dramatically from
one year to the next. However, the import controls of increasing
severity had tended to reverse in 1976 and subsequent years the rapid
growth of imports between 1974-75.

Secondly, from the available statistics, total visible
imports were divided into imported producer goods in manufacturing
(both intermediate inputs and fixed capital formation) and total
imported goods for private and government consumption. Since 1964
the composition had changed considerably, with the proportion of producer
to consumer imports showing a strong tendency for the former to be
favoured over the latter, as shown in Figure 2, especially between
1975 and 1977, and from 1979. Since 1975, when many imported goods
disappeared from the shops consequent upon stringent import controls
to save foreign exchange, the value of total imported goods for final
consumption had not risen above the level of 1971, except for one
year, 1974.

Finally, production figures in Appendix 9.2 show GDP by
major economic sectors at current producers' values. The data show
that, mining's massive dominance that existed at Independence had
been substantially reduced and, in fact, its output had been reduced
in absolute terms, whereas output and relative shares of other sectors
had increased, especially in manufacturing. The variable proportional

contributions of economic sectors, though the data do not reflect real growth since they are not in constant prices, were largely due to significant fluctuations in the price of copper. Thus, in the years when the price was high, like in 1968, the contributions were also high, and vice versa.

Thus, the foregoing has illustrated an increasing dependence of imports upon exports, and an emerging relationship between imports and production. Furthermore, the structural change of imports, with an increasing proportion devoted to producer goods, tended to exacerbate the dependence of production upon imports, while the production of domestic inputs remained low, since there were increasingly fewer consumer imports to eliminate . This dependence had serious implications for the development and expansion of many manufacturing enterprises after the mid-1970s when foreign-exchange shortages became acute consequent upon the impact of world recession on copper prices and demand. For instance:

> "Severe shortages of essential raw materials
> and spare parts brought about not only a halt
> in output growth but, naturally, rampant
> increases in idle installed capacity in most
> manufacturing establishments with food, beverages
> and tobacco, metal products, and wood and wood
> products apparently worst hit." (9)

Of course, the above does not deny the influence of other factors on poor performance with respect to capacity utilization such as those identified by the ILO Study: the rise in oil prices, the dis- locations and disruptions of transport, bad management, questionable inventory policies as regards spare parts, and ill-considered expansion plans. (ILO, 1981, pp. XXV and 206). Evidence for underutilization of capacity in parastatals was given in Appendix 6.12 of Chapter VI.

9.12   Foreign Exchange Earning

Industrial strategy in export promotion was also disappointing,
with the exception of a few success stories of copper wire rods
and cables from the Metal Fabricators of Zambia (ZAMEFA), sugar and
molasses from the Zambia Sugar Company, Cement and lime from Chilanga
Cement factory and Ndola Lime Company respectively, and timber products
from Zambezi Sawmills, all of which were Indeco operations.[10] The
reason for the overall poor export performance was clearly stated in
an Indeco Annual Report:

> "The Group it may be recalled, is primarily
> oriented towards meeting the local demand for
> various products, and exportable surpluses
> emerge only after the local demand is met."
>   (Indeco Report, 1982, p. 15)

However, it should be anticipated that the setting up of
the Export Promotion Council, together with the Preferential Trade
Area (PTA) and the Southern African Development Co-ordination
Conference (SADCC) should in the near future help in initiating and
expanding export promoting manufacturing industries.

9.13   The Interindustry Linkages

Although it was impossible, in the present study, to assess
in quantitative terms the effects of ISI strategy on interindustry
linkages, there were a few notable examples of both Fleming's
'balanced growth' and Hirschman's 'unbalanced growth' strategies
discussed in the earlier Chapters.

Examples of the Fleming approach included such integrated
programmes of large, interrelated industrial projects like the Nitrogen
Chemicals fertilizer factory at Kafue and the Kafironda explosives plant
at Mufulira; the former was also planned to use coal from Zambia's
Maamba Colliery.

Hirschman's strategy could be justified by the
establishment of such projects as the Indeni Oil Refinery, which
"could lead to the development of manufacturing industries for
such oil based products as polythene and plastics",[11] which
President Kaunda described as heralding "the beginning of a
petrochemical industry in Zambia which is the basis of every modern
society". (Kaunda, 1969, p. 17). Another project was the abortive
iron and steel plant in North-Western Province, Tika Project, which
could also have provided a market for local coal, but unfortunately
did not get off the ground due to some technical and other complexities.[12]
Examples of backward linkages included the establishment of the Nakambala
Sugar Estate by the Zambia Sugar Company, and the establishment of
Kafue Textiles which encouraged "strenuous efforts.....to step up
Zambia's raw cotton production".[13] However, unlike the sugar-growing
industry, the cotton industry was largely dependent upon small-scale
traditional producers, which in 1970 accounted for about 92% of seed
cotton output.[14] Other industries which processed local agricultural
raw materials included maize mills and oil expressing plants (in Lusaka,
Ndola and Luanshya along the line of rail, and Chipata in the outlying
Eastern Province, in the case of the latter.

However, in spite of the benefits from such manufacturing
expansion percolating through to the rural provinces, such linkages
had been rather limited. Potential backward linkages from industry
did not necessarily mean a sufficient condition for stepping-up
agricultural production. Evidence has shown that agriculture mildly
responded to such incentives because of other bottlenecks like poor
producer prices, lack of marketing facilities, inadequate financing,
lack of co-ordination among development agencies, lack of skilled

personnel and clear and coherent guidelines. (ILO, 1977, p. 117).
This is one reason why many industrial projects, like Kafue Textiles,
Refined Oil Products, Kabwe Industrial Fabrics, and the milling
companies, that were established to utilize local agricultural raw
materials more often had to resort to imports. However, due to the
foreign exchange constraint described above the alternative was always
met with insurmountable difficulties, resulting in capacity under-
utilization.

9.14   Employment-Generation

The performance of ISI in this respect was also disappointing.
While generating an increase in wage employment ISI did not create
wage employment on the level that had been envisaged by the authorities.
For instance, "a total of 24,000 jobs had been projected for the
manufacturing sector over the SNDP",[15] but the numbers actually
employed in 1976 were virtually the same as in 1971, at the beginning
of the Plan.[16] During the period 1965-82, while manufacturing
output as a whole grew at an average annual rate of 19% at current
producers' values, total wage employment in manufacturing sector grew
at only 5%, and the ratio of wages to value added in manufacturing
decreased from 55 to 34% during 1965-80.[17] The problem of
employment creation in outlying rural provinces will be discussed later in
the context of rural diversification objective.

Apart from overmanning and underutilization of labour when
output fell after the mid 1970s, the failure of ISI to create more wage
employment was that imported technology had tended to be capital-
intensive rather than labour-intensive. Table 9.3 illustrates the
capital-intensity of some of the major Indeco projects to prove the
above point. Most of these projects were almost exclusively dependent

TABLE 9.3

CAPITAL COSTS AND EMPLOYMENT IN SELECTED INDECO PROJECTS 1968-82			
Project	Cost of Plant (K'million)	Numbers Employed	Cost per Workplace (K)
Indeni Oil Refinery*	24.0	350	68,571
Metal Fabricators of Zambia	2.5	80	31,250
Nitrogen Chemicals of Zambia**	326.5	1400	233,214
Kafiranda Explosives	8.0	400	20,000
Livingstone Motor Assemblers	3.0	250	12,000
Dunlop Zambia	3.8	435	87,736
Kafue Textiles of Zambia	7.0	1000	7,000
Kabwe Industrial Fabrica	3.0	570	5,263
All selected projects	377.8	4485	84,236

* Employment figures for the oil refinery are not strictly comparable with those for other projects, since the latter are projected whereas the former are for initial production only.

** Employment figures are partly projected and partly actual. Projected employment figures for the sulphuric acid plant, which has already cost K21.0 million as at March, 1982, were not available. The newly commissioned fertilizer plant alone cost K285.5 million as at March, 1982, and the rest of the costs were accounted for by the initial Ammonium Nitrate Plant commissioned in 1970.

SOURCES: Indeco, Enterprise Magazines, 1969, 1970, 1972 and 1983, and Indeco, Annual Reports, 1972-82.

on imported technology. Even the relatively cheap Indeco projects
were actually expensive methods of increasing employment as compared
with similar projects elsewhere in Africa. For instance, although
clothing and textiles are labour-intensive industries by Zambian
standards, Kafue Textiles required over three times as much capital
investment per worker as the Friendship Textile mill in Dar-es-Salaam.
(ILO, 1977, p. 115). For all the eight selected projects in Table 9.3,
the gross addition to the fixed capital stock amounted to K377.8 million,
involving an employment generation of only 4,485 during the period
1964-82, thus, implying a ratio of new fixed investment to new employ-
ment of K84,236 per worker. However, this was largely because of the
heavy investment in Nitrogen Chemicals.

Table 9.4 further illustrates the above arguments for various
individual manufacturing sector developments. As against the capital
employed per worker target of K2,896 deflated by 1980 GDP (originally
K1,500 at 1975 prices) set in Report 1(A) of the Summary Report of the
Economic Situation of Zambia, submitted to the ruling UNIP National
Council Meeting by President Kaunda in 1975,[18] the manufacturing
sector required capital expenditures per worker of the order of K10,982,
K12,175, and K13,359 in the years 1972, 1975 and 1980, respectively.
Indeed, in the table where sectoral capital-labour ratios and actual
capital expenditures were adjusted for price changes over the respective
years, it was noted that not one major manufacturing industry met the
target of K2,896. Due to the heavy investments in Nitrogen Chemicals
the chemicals sector had the highest capital intensity; followed by
non-metallic products due to investments in cement and lime production
(Chilanga Cement and Ndola Lime Companies), brick-making (Nega Nega
Brickworks), and glass manufacturing (Kapiri Glass Products); and the

TABLE 9.4

CAPITAL COSTS AND EMPLOYMENT IN MANUFACTURING SECTOR, AT 1980 PRICES

Industry	1972			1975			1980		
	Capital Costs (K'000)	No. of Workers Employed	Capital Costs per Worker (K)	Capital Costs (K'000)	No. of Workers Employed	Capital Costs per Worker (K)	Capital Costs (K'000)	No. of Workers Employed	Capital Costs per Worker (K)
Food, beverages & tobacco	148,897	10,519	14,155	145,867	13,221	11,033	154,865	16,062	9,642
Textiles and leather	30,031	7,619	3,942	50,575	9,512	5,317	41,101	9,382	4,381
Wood and furniture	14,127	2,839	4,976	26,578	3,532	7,525	19,191	2,990	6,418
Paper and printing	12,615	1,796	7,024	17,546	2,455	7,147	12,681	2,210	5,738
Chemicals	97,497	3,399	28,684	149,930	4,838	30,990	290,263	5,632	51,538
Non-metallic products	50,015	2,597	19,259	111,004	3,344	33,195	59,736	2,984	20,019
Basic metals	7,444	738	10,087	7,384	947	7,797	6,278	1,136	5,526
Metal products & machinery	48,455	7,634	6,347	60,216	8,698	6,923	49,713	7,055	7,046
Other manufacturing	154	122	1,262	907	269	3,373	1,857	132	14,068
Total manufacturing	409,235	37,263	10,982	570,007	46,816	12,175	635,685	47,585	13,359

NOTES: 1. Values are arrived at by using GDP Deflator (1980 = 100) in IMF, (1984), International Financial Statistics Yearbook 1984, Volume XXXVII, p. 629.
2. Workers employed is meant 'operatives' which includes all employees who are directly engaged in the production or related activities, including any clerical or working supervisory personnel. Thus the employment figures quoted in this table includes any other employees such as administrative, technical and clerical staff.
3. The capital/employment ratios do not make any allowances for gestation periods for investment and in some cases include units which did not operate throughout the year, due to lack of any such information.

SOURCES: Central Statistical Office, Censuses of Industrial Production 1972, 1975 and 1980, Government Printer, Lusaka, (the latter unpublished and provisional at the time of writing.

food, beverages and tobacco sectors mainly due to the Zambia Sugar
Company's Nakambala Estate and extensions of Zambia Breweries at
both Lusaka and Ndola Plants. For instance, Nakambala Sugar Estate's
initial cost of capital, over the period of five years 1964-68, was
K13.0 million, providing employment for only 1,800 workers and, thus,
implying a capital outlay of K7,222 per worker.[19]

     In conclusion, however, the failure of industrialization to
create much direct employment in Zambia must not necessarily be reflected
simply in the failure to expand or to generate wage employment, or in
the high cost of production in terms of over-manning and underutilization
of labour when output falls   (ILO, 1981, pp. 208 and 209), but in its
failure also to support the process of modernization in other sectors
of the economy, for instance, creating conditions for an expanding
labour force to make a decent livelihood in agriculture and in the
informal sector.

9.15   Balanced Agro-Industrial Development

     A bias in favour of manufacturing characterized the
development strategy of the government, especially in the first two
national plans. This argument may be developed as follows. First,
since economic diversification away from copper was a desirable objective,
the arguments advanced for the promotion of industry usually should
also have applied with great strength to agriculture. For instance,
the latter has a great role to play also in saving and earning foreign
exchange, provision of raw materials to industry, employment-generation,
rural development and economic independence. Secondly, while industry
made rapid progress, agriculture stagnated throughout the period under
analysis.

     Finally, amongst other factors, the stagnation of agriculture
was partly and largely due to the discriminatory economic policy that

favoured the development of manufacturing. Since the first two observations have already been sufficiently covered in the earlier Chapters, the concern of this section is primarily with the third proposition.

The bias towards manufacturing industry in Zambia was almost inevitable since in practice it proved much easier to establish new industries than stimulate agriculture, partly because the latter depended on the transformation of attitudes of uncertain expatriates on the one hand, and conservative Zambian farmers on the other. Furthermore, agriculture was discouraged by the government's pricing policy towards this sector, which provided inadequate incentives for commercial and emergent farmers.[20] In contrast to manufacturing, the principle of import parity in agriculture seems to have been honoured more in official pronouncements than in implementation. Throughout, the government continued with the inherited pricing system that depressed food prices for the mining and urban sectors by paying low prices to farmers while subsidizing the transportation, handling, and processing of foodstuffs for urban consumers. Further still, producer prices for most agricultural produce were frequently set at levels far lower than those Zambia paid to import the same produce from other countries. (Klepper, 1979, p. 144). Until recent years, the government even set much higher consumer subsidies than those in the colonial period, though one important exception was sugar which was, for instance, 50% above import parity in the early stages of the development of the Nakambala Estate.[21]

The above situation generally led to a serious distortion in the relative returns to labour in the rural and urban sectors, in favour

of the latter.[22] For instance, one important case was that of
maize price. Maize was especially important partly because it had
been Zambia's staple crop, and partly because it had always been
regarded as a training ground "for entry into commercial farming
economy".[23] Initially, the official maize pricing was influenced
by the fear that Zambia was "moving into a position of permanent
surplus", which in fact was not true. (Ministry of Agriculture,
1968, p. 2). Thus, in pursuit of this policy of discouraging maize
production, the authorities reduced the price of maize by 22% between
the seasons 1963/64 and 1968/69, from its peak of K3.70 to K2.90.[24]
Diversification into crops other than maize was not also possible
because prices were equally unattractive. Over the same period,
however, the average earnings for all Africans in wage employment
rose by 97%, from K382 to K754. (Young, 1973, p. 236).

In view of the trends in relative remuneration that the
above figures imply, it is hardly surprising that the desire for paid
employment in the urban sector appears to have become more widespread
over the years since Independence, all to the detriment of agricultural
development.[25] The rural-urban migration tended to aggravate the
problem of unemployment, underemployment and urban poverty in Zambia.
Thus, whatever the government was trying to solve in the unemployment
problem, the effects of its own pricing policy meant fighting a losing
battle.

However, by the early 1970s, partly as a consequence of the
disastrous maize crop yields in 1968, 1969 and 1970, the government
had realized the drawbacks of its maize pricing policy, so that it
raised the maize price to K3.50 per 90 kg bag in the 1969/70 season

and by the 1981/82 season it had reached K16.00. (Bank of Zambia
Reports). Prices of other crops have also risen over the recent years.

Finally, there was also price discrimination within the
agricultural sector itself. For instance, the government pricing
policy directed agricultural production, especially from commercial
farmers, away from grain, oil seeds and tobacco towards livestock
since while the former's prices remained controlled, the latter's
wholesale prices were not. Thus, selling livestock at uncontrolled
prices had the additional advantage of allowing farmers to escape
close scrutiny by government price control officials, thereby hiding
some farm income from taxes as well. (Klepper, 1979, p. 144).
Together with the uncertainty in the procurement of requisites and
the high cost of farm implements, the above factors tended to motivate
commercial farmers to shift more towards livestock than crop production,
a fact with considerable implications for narrowing the gap between
agriculture and industry.

9.16   Rural Diversification

Table 9.5 and Appendix 9.3 show that the structure of
manufacturing establishments remained much as it had been at Independence.
The majority of manufacturing establishments remained concentrated in
the line of rail provinces over the period 1965-80, though a limited
amount of diversification into the rural areas was evident by 1975,
which remained almost stable up to 1980. The Copperbelt continued
to dominate the scene, followed by Central and Southern Provinces in
order of magnitude, although the latter reduced its share considerably,
while Central Province gained considerably. For both rural and urban
provinces the greatest period of expansion in manufacturing establish-
ments occurred between 1965 and 1975, especially between 1969 and 1975.

TABLE 9.5

REGIONAL DISTRIBUTION OF MANUFACTURING ESTABLISHMENTS								
Region	1965(1)		1969(2)		1975		1980	
	Number	% of total	Number	% of total	Number	% of total	Number	% of total
Copperbelt Province	297	56.8	317	59.6	392	54.8	295	54.7
Central Province	149	28.5	166	31.2	218	30.5	164	30.4
Southern Province	61	11.7	41	7.7	58	8.1	44	8.2
3 Line of Rail Provinces	507	96.7	524	98.5	668	93.4	503	93.3
Northern Province	-	-	1	0.2	15	2.1	12	2.2
Western Province	-	-	1	0.2	13	1.8	2	0.4
North Western Province	-	-	1	0.2	4	0.6	2	0.4
Luapula Province	-	-	1	0.2	6	0.8	7	1.3
Eastern Province	-	-	4	0.7	9	1.3	12	2.2
5 Rural Provinces	16	3.1	8	1.5	47	6.6	35	6.5
Total Zambia	523	100.0	532	100.0	715	100.0	539	100.0

NOTES: 1. Disaggregated numbers for individual rural provinces were not available in the earlier publications of Censuses of Production.
2. Calculated from Indeco Survey, op. cit., Part II.

SOURCES: As for Table 9.3.

Between 1975 and 1980 all the provinces declined substantially in terms of numbers of establishments, on the average about 25% for each of them.

The almost complete neglect of the rural provinces cannot, however, be solely attributed to the private sector, which according to the logic of capitalist philosophy preferred to set up new industries where there was already good economic and social infrastructure in the urban centres along the line of rail provinces. The parastatal/ public sector, too, followed the same pattern of development, for it has been shown elsewhere that in 1975, the last year for which figures could be obtained, out of a total of 66 industries belonging to this sector, only six were in the rural provinces.[26] The line of rail provinces accounted for about 91% of all the parastatal/public sector enterprises. Of the 9% attributable to the rural provinces, Luapula and North-Western each accounted for 3%, Western and Northern for 1.5% each, and none at all for Eastern Province. However, over the years towards the early 1980s, some more enterprises were added to the rural provinces, notably the Mansa Batteries (Luapula), Chipata Bicycle Plant (Eastern), and rural maize mills at Chinsali (Northern), Kaoma (Western), Solwezi (North-Western), Luangwa (Lusaka Rural), and Nchelenge (Luapula). A good number of agro-industries were envisaged for rural areas in the TNDP.

The provincial marketing co-operative unions were also to play a major role, especially in the establishment of maize, wheat, and stockfeeds mills, and the Eastern Province Co-operative Marketing Union even went as far as setting up groundnut cooking oil plants in Chipata and Petauke.

Accordingly, the pattern of employment was similar to that of establishments. ISI proved not to be a major instrument for employment-creation in the rural provinces. For instance, Table 9.6 shows that, while out of a total manufacturing employment of 45,077 in 1972 just over 2% was in the five rural provinces, in 1980 this proportion was maintained out of a total manufacturing employment of 58,656.

One strong reason for the almost complete neglect of rural provinces can be attributed to the natural tendencies toward inequality. The geographical pattern of expansion in Zambia confirms the usual argument that economic growth creates imbalances, that is, those fortunate regions where growth begins first tend to increase their lead by attracting or diverting productive resources from the depressed regions, thereby exacerbating their backwardness. This process whereby the 'backwash' effects of growth outweigh the 'spread' effects was considered in Chapter II with respect to the distribution of gains from the customs unions before Independence. (Young, 1973, pp. 10-12). The vulnerability of the rural provinces were obvious enough in the years after Independence, from our discussions in Chapters II and V.

Another major reason for the aggravation of the rural-urban disparity was the rural-urban emphasis in the Zambian government development policy itself. While the official enthusiasm for rural development was noted in Chapter IV, this enthusiasm received mixed feelings amongst the members of the government. This was because, although there may have been valid political and economic grounds to justify government intervention in rural industry, the question as to how much emphasis should have been given to such a policy remained

TABLE 9.6

Area	1965		1972		1975		1980	
	Number	% of total	Number	% of total	Number	% of total	Number	% of total
Copperbelt Province	14,552	53.4	22,553	50.0	27,634	49.5	26,814	45.7
Central Province	7,982	29.3	15,552	34.5	19,368	34.7	20,100	34.3
Southern Province	4,271	15.7	5,923	13.1	7,350	13.2	10,404	17.7
Line of Rail Provinces	26,805	98.3	44,028	97.7	54,352	97.5	57,318	97.7
Rural Provinces	471	1.7	1,049	2.3	1,418	2.5	1,338	2.3
Total Zambia	27,276	100.0	45,077	100.0	55,770	100.0	58,656	100.0

REGIONAL DISTRIBUTION OF MANUFACTURING EMPLOYMENT

NOTES: As for Table 9.10.

SOURCES: Central Statistical Office, Censuses of Industrial Production 1965/66, 1972 and 1980 (unpublished and provisional), Government Printer, Lusaka.

unanswered and highly debatable. This was largely due to the
difficulties involved in quantifying even the purely economic
factors and also the impossibility of avoiding value judgements
in making decisions about distribution.

Therefore, throughout the period after Independence,
some prominent politicians argued that the rural areas should have
been given a relatively low priority in the Zambian development
strategy since already more than half the population of Zambia lived
in the urban areas or near the provincial centres.[27] Moreover,
the urban population already included the 'economically effective'
groups, a relatively high proportion of those remaining in the rural
areas being "old men, women and children, unemployable adolescents
and 'stay-at-home idlers'". (Musakanya, 1970). Politically, Musakanya
pointed out also that the encouragement of people to remain in their
tribal enclave would have tended to encourage tribalism, and that
politicians would have tended, accordingly, to use rural development
projects to bribe the main tribal groups to support the central
government, which ultimately was a self-defeating policy. Nonetheless,
his proposals for rural diversification came close to the path that
the government actually pursued throughout the period under analysis.
The emphasis was on establishing industries in the provincial capitals,
all of which, except Solwezi, were in fact areas of fairly heavy
population concentration, implying that they provided both a potential
labour force and a potential market for new industries. The same could
be said of a sixth 'secondary development zone' proposed by Musakanya
for Kawambwa in the densely populated Luapula Valley, which to-day is
the home of the Kawambwa Tea Company.

9.2   The Explanation for the Unsatisfactory Performance of ISI

It is recognized here that, it is pointless to simply indicate that ISI performed less than satisfactorily with respect to achieving the avowed ends of the government's industrialization policy, but rather an explanation ought to be given as well, for future policy determination.   In the previous Chapters the explanation was given in terms of both internal and external macroeconomic conditions. First, it was argued that, the loss of momentum of ISI after the mid 1970s was partly the consequence of the inherited structural imbalances which had always been present in the economy (low level of indigenous skills, small market, and landlocked situation); the buoyancy in the price of copper of the late 1960s and early 1970s simply postponed the inevitable crisis. (Elliott, 1971; and Bell, 1981a, p. 6).

Secondly, it was explained in Chapter VI that the poor performance of ISI, especially after the mid 1970s, was partly due to the impact of recession in the DCs on the prices of and demand for copper, the rise in the Middle-East oil prices, and the dislocations and disruptions, particularly of transport, caused by the final stages of the liberation struggle in Zimbabwe.[28] The increasing dependence of the manufacturing sector upon the uncertain supply of foreign exchange from sales of copper, for instance, resulted in continuing crisis in industrial output, employment and investment.

Thirdly, the poor performance of ISI was also exacerbated by internal influences such as the decline of productivity, especially in the parastatal sector, consequent upon under-capacity utilization, itself resulting from bad management, questionable inventory policies as regards spare parts, and ill-considered expansion plans. (ILO, 1981, p. 206). Undoubtedly declining output and under-capacity utilization

limited the scope for employment-generation in the manufacturing
sector and thus its contribution towards meeting the basic needs
of the poorest. Other internal constraints included conflicting
social and economic objectives of the government, especially with
respect to the price control mechanism); downward rigidities in the
excise tax system; rising costs due to imported inflation and
accumulation of payments arrears; inadequate capital gearing of
most companies; and the tight credit policy implemented since the
adoption of the IMF Stabilization Programme in 1978. (Bank of Zambia
Report, 1979, pp. 28-30).

Finally, added to the internal constraints was also the fact
that the implementation of the development plans fell badly below
targets, as shown in Appendix 9.4 with respect to the growth of GDP.
However, although it was not possible to discuss planning in this
study, it is worth noting here some of the short-comings of planning
in Zambia which might have had a bearing on the performance of ISI.[29]
First, economically, unlike the Soviet-type planning, planning in
Zambia was usually not successful because planners were not well
equipped to project future trends of economic variables and there was
also a relatively low degree of direct control over them, since the
economy remained 'open'. Literally, one would agree with Bell that
"a development plan in Zambia is as good as the Planning Commission's
forecast of the price of copper," (Bell, 1981b, p. 2), given the
high price fluctuations of copper on the international market, over which
Zambia alone had virtually no influence. Under these circumstances
it was, therefore, highly difficult to make accurate forecasts of
macroeconomic variables and resource availability, and, as yet, no
forecasting model had been perfected. Furthermore, planning was limited

by the country's landlocked situation, aggravated by the political developments in the south since UDI in Zimbabwe, and made worse in the 1970s.

Secondly, there was a considerable amount of instability in the planning framework itself with respect to the role of the National Commission for Development Planning, which assumed many changes in status since Independence, with accountability to a considerable number of politicians within the government.[30] Such instability, undoubtedly, had adverse effects on long term development planning. Another source of administrative instability was related to the Commission's staffing structure. For instance, out of 24 professional staff in 1975, only four were Zambians and the rest had been drawn from a number of foreign technical agencies, with different ideological and methodical backgrounds. (ILO, 1977). Besides, the high turnover of Zambians, later, mainly involved young University graduates who had tended to use the Commission mainly as a training ground for better prospects elsewhere. Thus, all these limitations, in part, explain the Commission's apparent incomprehension of the country's social, political, administrative, and economic circumstances, a point with considerable implications for the development of industry, and, indeed, any sector in the economy.

Finally, there had been conflicting objectives in the plans themselves. For instance, while the TNDP in some places called for a socialistic planning of the Soviet-type economies, in other places it was not fully committed to such an ideological economic setting. President Kaunda confirmed this in his forward speech to the TNDP:

> "While the public sector will continue occupying
> the commanding heights of the economy and supply

> the main driving force behind development,
> there is a clear recognition in the plan that,
> in the transitional period from capitalism to
> socialism, the private sector, both domestic
> and foreign, will play an important role in
> fostering increased investment and rapid growth
> of the economy."   (TNDP, 1979, p. IV).

However, in spite of such contradictions the plans had

remained largely indicative in approach. For instance, the first

two plans were largely concerned with long term capital expenditure

plans for central government, with more limited coverage of the

parastatal sector and without any attempt at all to influence the

private sector. The TNDP intended to move closer to much more central

direction of the economy, but the sections on parastatals and private

enterprises showed no significant proposals in that regard, except

for a very general statement of intent or a very detailed list of

projects which the companies themselves appeared to have initiated.

Finally, although government agencies did become involved in such areas

as pricing, fiscal, commercial, exchange control, and other industrial

policies, the Planning Commission itself seemed to have had no direct

influence on the economy in that regard. In other words, it could be

said that, it had not been effective in promoting economic development

or influencing such policy decisions.

The final, and probably the most important, explanation for

the less than satisfactory performance of ISI was the nature of the

type of ISI strategy adopted. Zambia, like the majority of LDCs, had

adopted at Independence what Nixson has referred to as 'market-based' ISI:

> ".....a strategy of industrialization based
> on the domestic production of manufactured
> goods previously imported which takes as given
> the existing distribution of income and its
> associated features (high demand for non-
> essential consumer durables and personal

services by middle and upper income groups;
depressed demand for essential, mass con-
sumption goods), and is heavily dependent
on a variety of foreign inputs (product
specifications, production technology, etc.)[31]

In other literature, this type of ISI strategy has been
referred to simply as 'import reproduction' or 'import replication'
(the domestic product is an exact replica of the good previously
imported).[32] However, since this subject of ISI in economic theory
was fully discussed in Chapter III we shall not dwell on it here,
except for the salient points relevant to the Zambian economy arising
from the discussions in the previous section.

Recent analyses of the Zambian economy have pointed out that
Zambia's manufacturing sector is distorted in composition, regionally
imbalanced, foreign dominated, and provides for luxury consumption;
and that these characteristics derived from excessive reliance on
the strategy of ISI, itself the result of the state's neo-colonial
character. (Seidman, 1979, pp. 103-106; and Bhagavan, 1978). They
claim that, by adopting an ISI strategy the planners permitted 'market
forces' to shape decisions as to which manufacturing industries should
be established, where, and how. Even in theory, however, from our
discussions in Chapter III this approach seems more likely to have
exacerbated rather than restructured the dualistic features of the
Zambian economy. This argument is also supported by the ISI experience
in the Brazilian economy, as well as other Latin American countries.[33]

Our exposition of the ISI experience in Zambia in the pre-
ceding section tends to corroborate very much both the economic theory
implications of the ISI strategy and the practical experience in
other LDCs, particularly in Latin America, which have pursued the same

type of ISI strategy. First, the growth of incomes in the urban areas after Independence (mainly involving the middle and upper income groups), partly as a result of the redistributive mechanisms at work under ISI from agriculture to industry, and, within industry, from labour to capital), tended to bias demand toward luxury consumption goods (sophisticated, advanced technology, durable consumer goods, and personal services) as opposed to the necessary, mass consumption goods. For instance, according to one study of Zambian industry, more than 75% of all manufacturing firms analyzed produced either for export or for the luxury market, and less than 10% for the mass market or for inputs for mass industries. (Bhagavan, 1978, p. 28). Of course, there can be disagreement with respect to what constitutes 'luxury goods' or 'mass consumption goods', (Fincham, 1980, p. 309), but in general durable consumer goods tend to require the use of capital-intensive production technologies as opposed to labour-intensive techniques, as was the case in Zambia from the illustrations given in Table 9.3 and 9.4.

The use of capital-intensive techniques was partly reinforced by the tariff structures mentioned in Chapter IV that emerged after Independence consistent with both the desire of the authorities to promote IS industries in the consumer goods group and with patterns of market demand as influenced by income distribution. By nature, both nominal and effective tariff structures tended to favour the domestication of consumer goods against intermediate and capital goods, as shown in Table 9.1. This type of development tends, not only to give rise to the 'perverse' result of giving the greatest incentives to the least essential imports for domestication, but also to exacerbate the tendency

toward what has been called the 'premature widening' of the productive
structure (the production of sophisticated, high income durable
consumer goods), rather than the development of backward linkages
towards intermediate and capital goods industries.[34]

An example of the above case is the Livingstone Motor
Assembly Plant for Fiat cars, built by the Italians, with the Zambian
Government providing 70% of the capital. Undoubtedly, its planned
annual capacity of 4,500 cars was designed to meet the expanding
domestic market of middle and high income groups. Furthermore, since
it involved processing only at the final stage of production, with a
great deal of intermediate inputs being imported from Italy, there were
very little backward linkages into the Zambian intermediate goods and
investment and related goods industrial development. Most of the
linkage effects were ploughed back into the Italian economy itself.
This, however, is not to say that Fiat cars were the wrong type of
vehicles to introduce, but rather the priority was wrong, given the basic
needs disparity in the country. Thus, it is doubtful if at all a full
project appraisal of the suitability of the product was undertaken with
respect to the factor endowments and development objectives of the
country, the engineering and technological characteristics and demands
of the Fiat car project, of course, bearing in mind the different income
distributional profiles existing in the country.

A second example relates to the experience of ISI with respect
to the balance of payments objective. From our analysis in the previous
section, there was no evidence that suggested that the 'market-based'
ISI actually saved or earned foreign exchange and thus alleviated the
balance of payments constraint in Zambia. This argument follows both
from the nature of ISI in economic theory and the actual experience in

Zambia. Table 9.7 tends to illustrate this point with respect to foreign exchange earnings and requirements in the major sectors of the economy as a whole. Of particular interest is industry in our case, but the picture shown in the Table is almost the same for all sectors, with the exception of mining. Theoretically, the argument develops as follows. Due to the redistribution of income that typically occurs during ISI which allegedly favours groups or sectors with a high marginal propensity to import (or consume domestically produced, import-intensive products), it is hardly likely that Zambia could have saved much foreign exchange under the ISI approach. Further, this point is reinforced by the changing import structure under the ISI regime and the likely existence of a minimum limit below which the import ratio cannot fall.[35] Besides, the domestication of sophisti-cated consumer durables entails a high import intensity or import content of intermediate inputs.[36] There is also the likely outflow of income and capital associated with the activities of TNCs associated with ISI. The very high and differentiated tariff structures, in some cases, can generate such levels of inefficiency that IS activities actually cost the economy foreign exchange when all prices are converted into world prices. Finally, there is also the general bias against exporting which the IS regime induces through over-valued exchange rates, highly protected domestic markets, the neglect of the traditional export sectors (agriculture), lack of export incentives, etc. From our discussions and examples given in this and the previous Chapters, most of these features have been prominent in the ISI experience in Zambia.

In the next section, therefore, we look at some of the possible policy implications for Zambia's future industrialization programmes.

TABLE 9.7

SECTORAL FOREIGN EXCHANGE IN ZAMBIA 1981-82						
Sector	Foreign Exchange Earnings		Foreign Exchange Requirements		Foreign Exchange Allocations		Allocations as % of Requirements
	K'm	%	K'm	%	K'm	%	
Mining	977.1	93.2	590.3	42.4	321.8	36.8	54.5
Industry	6.2	0.6	2,445.6	17.6	115.1	13.2	4.7
Energy	35.1	3.4	311.0	22.4	272.7	31.2	87.7
Transport	25.5	2.4	153.4	11.0	110.2	12.6	71.8
Finance	0.4	-	27.2	2.0	9.0	1.0	33.1
Hotels	1.4	0.1	2.9	0.2	1.5	0.2	51.7
Agriculture (RDC)*	-	-	8.8	0.6	4.7	0.5	53.4
Trading	-	-	34.7	2.5	24.7	2.8	71.2
Communications	2.3	0.3	18.0	1.3	14.5	1.6	80.6
Real Estate	-	-	-	-	-	-	-
Total	1,048.1	100.0	1,391.0	100.0	874.2	100.0	62.8

* Rural Development Corporation.

SOURCE: Office of the President, National Commission for Development Planning, Economic Report 1982, Government Printer, Lusaka, Table XV.5, p. 373.

9.3   Possible Alternative Strategies

Our review of the official pronouncements and documents
during the last two decades or so after Independence has left us
with the view that the goals of the national plans and many of their
projects and programmes were on balance in the right direction,
relative to many other countries' published plans or statements of
national economic objectives. (ILO, 1981). The problem, however,
has been with the setting and maintaining priorities all the time
in relation to the various constraints, particularly economic,
financial, administrative and political, which had held back action
and implementation during the period under analysis.

Therefore, our major policy argument in this study is that,
to make the rapidly expanding manufacturing industry contribute more
significantly to restructuring the country's dual economy that it has
done so far, the government must review its approach towards this
sector. This, of course, will call for more government encouragement
of the development of industry both directly and indirectly. In this
way, though, recognizing the country's inherent constraints, the industry
could be used to stimulate more economic activities, to create more jobs,
to generate more incomes in the agricultural sector, and to develop
technological capability in the domestic economy. Most of our arguments
for the need for implementation of the government's industrial policies
lie in the basic needs framework under the structuralist/dependency
school of thought.

Given its undoubted significance in the Zambian economy, the
performance of the manufacturing industry has crucial implications for
growth and development and the satisfaction of basic needs. This,

therefore, calls for an urgent need for a new strategy aimed at establishing a strong industrial base which may be both self-sustaining and supportive of the process of development in the other sectors of the economy, especially the small-scale agricultural and informal sectors. Characteristically, such a strategy would call first, for greater priority for production of basic needs for general consumption, in terms of allocation of import licenses and credit. Secondly, it would call for a deliberate long term policy to strengthen basic industries, such as channelling new investment to enterprises involved in the production of capital and intermediate goods for other sectors and utilizing local materials as appropriate. It is our belief that, resources for this type of strategy could be available if, first, the necessary incentives were devised to stimulate the existing para-statal companies to produce more efficiently and profitably; secondly, investment in existing consumer goods industries was limited to maintaining existing productive capacity, except for those producing essential basic needs goods; and, finally, the mining industry financed its urgently needed capital and replacement and development expenditures through its own retained earnings or external sources. Of course, these views have been expressed elsewhere in one form or another. (ILO, 1981, pp. xxxvi and xxxvii).

More specifically, we wish to recommend that, in order to ensure that more of the inputs of the manufacturing industry, particularly the raw materials, are produced locally than is currently the case, the government should actively become involved in, and give support in the form of subsidies for, the efforts of the manufacturing firms, to cultivate locally most of their agricultural raw materials. Two case studies are given here.

First, the Refined Oil Products (ROP, 1975), the main producer of the country's edible oils and fats, could be financially encouraged to have its own farms producing its basic agricultural raw materials requirements such as sunflower, cotton seed, and soya beans. Presently, it has a crushing capacity of 120,000 tonnes per annum and only 30,000 and 20,000 tonnes per annum of sunflower seeds and soya beans are available locally, respectively.[37] Against an annual refining rated capacity of 52,200 tonnes, only 25% capacity utilization was achieved in 1982, mainly because of insufficient foreign exchange to import the shortfall from local production. If the full capacity was utilized there would even have been enough for export since the national demand of edible oils and fats was only 31,000 tonnes in 1982. (Economic Report, 1982, p. 223).

Secondly, Kafue Textiles is another case where the government could actively become involved, financially, in encouraging the establish- ment of cotton farms by this company. Presently, this company produces about 13.9 million metres of cloth per annum against a rated capacity of 18.0 million metres (Economic Report, 1982, p. 228). A lot of its requirements have to be imported since local production is inadequate even to meet the present capability. Between the two industries, there would be a lot of linkages. For instance, ROP would utilize the cotton seed from Kafue Textiles and the latter would utilize the cotton wool from the former. Besides, ROP's cotton seed, soyabean, and sunflower cakes would be utilized by the local milling companies as inputs for animal feedstock. Presently, local production of the two companies' requirements of these products is accounted for mainly by small-scale and medium farmers who have neither the capabilities nor finances for expansion.

An example of a success story of such ventures, and within Zambia itself, is the Zambia Sugar Company's Nakambala Sugar Estate, established in 1969 and which to date produces enough raw sugar to enable the Zambia Sugar Company to have enough refined sugar for export. For instance, in 1982 the Zambia Sugar Company's export sales of sugar, including molasses, stood at K1.5 million as compared with K1.2 million during the previous year.[38]

Government support, in the form of subsidy, is necessary in the above mentioned cases because, as is often the case in most experimental activities, the initial efforts of the firms are likely to require substantial financial resources which could become too high for these firms to bear on their own.

In other areas of policy we wish to call for greater emphasis on the following. First, in order to achieve the government's objectives of both conserving and earning foreign exchange, Zambian planners should not treat ISI and export-oriented industrialization (EOI) strategies as mutually exclusive alternatives, since, in practice, elements of both strategies are involved and the relative importance given to each strategy is likely to alter over time.[39] There should be an appropriate balance between ISI and EOI, and the share should be determined by Zambia's industrialization objectives and not vice versa.[40] Furthermore, any such trade policies to be adopted should not be seen as the only set of instruments with which to pursue the goals of industrialization, but rather should be viewed in relation to other governmental policy instruments that are appropriate to the attainment of these goals. (Kirkpatrick, et. al., 1984, p. 200).

Secondly, when planning industrial development, both private and public sector investment allocations should be more or less equally

considered, unlike the present practice whereby the planning of industrial policy towards the private sector has been largely neglected. For instance, in the TNDP consideration of the private sector was only confined to twelve pages out of over 650 pages of the Plan, simply describing the sector's activities, listing a few desired industries, and presenting a brief summary of a few companies' investment programmes. (TNDP, 1979, pp. 433-443).

Thirdly, the government should seriously review its attitude towards the establishment of domestic capital goods industries, without which an indigenous technological base is not likely to develop.[41] A detailed investigation of the role of foreign capital and the potential for regional co-operation in the establishment of such industries would be required. Normally, we would recommend joint ventures between the experienced foreign firms and indigenous engineering firms or, on comparative advantage basis, the location of such industries could be encouraged elsewhere within the member states of the Preferential Trade Area (PTA) and the Southern African Development Co-ordination Conference, Zambia being one.

Finally, fuller utilization of the services of PTA and SADCC should be emphasized in terms of export promotion, as trade with the DCs is likely to involve Zambia in continual deficit, and, moreover, it is difficult for Zambia, under the present circumstances, to penetrate the DCs' markets for manufactured goods when the cost of producing them is frequently prohibitive. A possible simultaneous solution to the achievement of a higher utilization of manufacturing capacity and the avoidance of payments with DCs is for Zambia to press hard upon the other PTA and SADCC member states to issue their own international money, on the lines suggested by the Stewarts,[42] which would increase the

purchasing power of each member state and encourage more trade between themselves. The Stewarts suggest that the LDCs as a group should issue their own international money, rocnabs (bancor backwards), which they would agree to accept in part payment for goods sold to each other. This would have the effect of increasing the purchasing power of every LDC over the goods and services of every other country in the group. Exports would expand, but the reserve position of the importing country would be unimpaired. In effect, rocnabs would function like Special Drawing Rights (SDRs) work on a world scale.[43] However, this proposition requires further investigation.

In essence, we are calling here for more deliberate and more purposeful planning of the development of manufacturing industry in order to make industrial activities contribute more significantly to the restructuring of the domestic economy than they have done so far. A superficial or half-hearted planning effort, such as that experienced so far, is certainly inadequate to achieve the stated objectives or basic policies, especially in the political and social areas.

NOTES AND REFERENCES

1. See Note 2 of Chapter IV for a detailed list of these documents.

2. Kaunda, K. D. (1968), Zambia's Economic Revolution, Zambia
    Information Services, Government Printer, Lusaka; and Kaunda,
    K. D. (1969), Towards Complete Independence, Zambia Information
    Services, Government Printer, Lusaka.

3. All statistical comparisons relating to the Zambian economy, unless
    otherwise cited, are in, or calculated from, the Monthly Digests of
    Statistics 1967-83, Censuses of Industrial Production 1965/66-80,
    Annual Statements of External Trade 1965-80, Economic Reports 1965-83,
    and Bank of Zambia Annual Reports 1967-82.

4. See Fincham, R. (1980), "Economic Dependence and the Development of
    Industry in Zambia", The Journal of Modern African Studies, 18, 2,
    pp. 297-313.

5. Seidman, A. (1979), "The Distorted Growth of Import Substitution:
    The Zambian Case", in Turok, B. (1979), Development in Zambia, Zed
    Press, London, pp. 100-127.

6. ILO (1977), Narrowing the Gaps: Planning for Basic Needs and
    Productive Employment in Zambia, ILO/JASPA, ADDis Ababa, January,
    pp. 113-128.

7. Bell, M. W. (1981a), Primary Production in an Unstable Economic
    Order: The Zambian Economy 1965 to 1978, The University of Aston
    Management Centre, Working Paper Series No. 197, February, p. 6.

8. See Elliott, C. (ed.)(1971), Constraints on the Economic Development
    of Zambia, Oxford University Press, Nairobi, p. 4.

9. ILO (1981), Basic Needs in an Economy Under Pressure: Findings and
    Recommendations of an ILO/JASPA Basic Needs Mission to Zambia,
    ILO/JASPA, Addis Ababa, p. 206.

10. Indeco (1983), Annual Report 1982, Monterey Printing and Packaging
    Ltd., Ndola, p. 15. For instance, the exports of these products
    during 1982 together amounted to K6.1 million as compared with
    K5.1 million in the previous year.

11. Indeco Ltd. (1970), Enterprise, No. 1, p. 10; See also Young, A.
    (1973), Industrial Diversification in Zambia, Praeger Publishers,
    New York, Ch. 7.

12. Bank of Zambia Report, 1974, op. cit., p. 34.

13. Indeco Ltd. (1970), Enterprise, No. 1, p. 15.

14. Ministry of Finance (1972), Economic Report 1971, Government
    Printer, Lusaka, p. 164. In 1970, 11.3 million lbs. out of 12.4
    million lbs. came from 'small scale producers'.

15. Office of the President, National Commission for Development
    Planning (1979), Third National Development Plan 1979-83, (TNDP)
    Government Printer, Lusaka, p. 236.

16. See ILO, 1981, op. cit., p. 208.

17. See Monthly Digests of Statistics and Economic Reports, op. cit.

18. See ILO, 1977, op. cit. pp. 115 and 116. For GDP deflator see
     Note 1 of Table 9.4.

19. See Zambia Sugar Company (1968), Report for Nakambala Estate,
     pp. 12-13 and 18.

20. See Klepper, R. (1979), "Zambian Agricultural Structure and
     Performance", in Turok, 1979, op. cit., pp. 137-148.

21. See Elliott, C. (1969), "Humanism and the Agricultural Revolution",
     in Fortman, B. de Gaay, ed. (1969), After Mulungushi, East African
     Publishing House, Nairobi, p. 125, Table 2, and Fortman, B. de
     Gaay, (1971), "Zambia's Markets", in Elliott, C. ed. (1971),
     Constraints on Zambian Economy, Oxford University Press, Nairobi,
     East Africa, p. 206, No. 17. However, as shown by Elliott, this
     was unusual, since in a number of cases the official producer price
     for agricultural goods was actually below the cost at which they
     were being imported. (Elliott, 1969, op. cit. Table 2).

22. See Young, C. (1970), "The Terms of Trade between the Rural and
     Urban Sectors", manuscript presented to the Lusaka Economics Club
     on May 5th - the paper suggested that the barter terms of trade
     facing the rural farmer were 30% less favourable in 1968 than
     in 1958. See also Sardanis, A. (1972), "Economic Nationalism",
     in Times of Zambia, June 16th, Hill, A. (1972), A Report in
     African Development in August, 1972, and Young, 1973, op. cit.,
     Chapters 7 and 9.

23. See Ministry of Agriculture, (1968), Review of the Operations of
     Agricultural Marketing Committee during the Year Ending 30th June
     1967, Government Printer, Lusaka, p. 3.

24. See Ministry of Agriculture Review, 1968, op. cit., p. 21, Table II,
     for the 1963-64 price, and Ministry of Finance, (1970), Economic
     Report 1969, Government Printer, Lusaka, p. 143, for the 1968-69
     price - prices relate to Grade A maize delivered to the line of rail.

25. See CSO (1971), Statistical Yearbook 1970, Government Printer,
     Lusaka, Table 1.9, Census of Population and Housing 1969, Final
     Report; and Sample Census of Population 1974, Preliminary Report,
     as well as 1980 Census of Population.

26. See Bhagavan, M. R. (1978), Zambia: Impact of Industrial Strategy
     on Regional Imbalance and Social Inequality, The Scandinavian
     Institute of African Studies, Uppsala, Research Report, No. 44,
     pp. 33 and 34.

27. See Musakanya, V. S. (1970), "Development Priorities", in
     African Development, Economic Survey (1970), Zambia Six Years
     After, October, p. Z-18; and Musakanya, V. S. (1970), "Intermediate
     Rural Policy: The Paternalism that Underlies this Rural Development
     Idea," Times of Zambia, January 22nd.

28. For instance, the UN in 1975 estimated the cost to Zambia of UDI by the minority regime in Zimbabwe at about K560 million or about K1,500 million in 1980 prices, without taking into account the direct costs/military activities and further costs of dislocation after 1975 during the final stages of the liberation struggle. (ILO, 1981, op. cit., p. 1).

29. For a detailed evaluation of the performance of planning in Zambia see Bell, M. W. (1981b), The Decline and Fall of Planning in Zambia, The University of Aston Management Centre, Working Paper Series, No. 213, August.

30. This unit had variously been, in rough chronological order: the Office of National Development and Planning; the Office of Development and National Guidance; a Division within the Ministry of Planning and Finance; the Ministry of Development Planning (both with and without full cabinet status); the National Commission for Development Planning, first in the Office of the Prime Minister and later in the Office of the President, and most recently combined with Ministry of Finance as Ministry of Finance and National Commission for Development Planning (see President Kaunda's Press Conference in the Times of Zambia, February 9th, 1965, p. 1).

31. Nixson, F. I. (1981), "State Intervention, Economic Planning and Import-Substituting Industrialisation: The Experience of the Less Developed Countries", Manchester Discussion Papers in Development Studies, No. 8202, p. 3.

32. See also Stewart, F. (1972), "Choice of Technique in Developing Countries", Journal of Development Studies, Vol. 9, No. 1, October, pp. 99-121; and Sutcliffe, R. B. (1971), Industry and Under-development, Addison-Wesley Publishing Co., London.

33. See UNECLA (1964), "The Growth and Decline of Import Substitution in Brazil", Economic Bulletin for Latin Americas Vol. IX, March, pp. 1-59; Baer, W. and Maneshi, A. (1971), "Import Substitution, Stagnation, and Structural Change: An Interpretation of the Brazilian Case", The Journal of Development Areas, 5, pp. 177-192; Leff, N. H. and Netto, A. D. (1966), "Import Substitution, Foreign Investment and International Disequilibrium in Brazil", The Journal of Development Studies, Vol. Two, No. 3, April, pp. 215-233.

34. See Felix, D. (1964), "Monetarists, Structuralists and Import-Substituting Industrialization: A Critical Appraisal", Baer, W. and Kerstenetzky, I. (eds.)(1964), Inflation and Growth in Latin America, Richard D. Irwin, Inc., Illinois.

35. See Robock, S. H. (1970), "Industrialization through Import Substitution or Export Industries: a False Dichotomy", in Markham, J. W. and Papanek, G. F. (eds.)(1970), Industrial Organization and Economic Development, Haughton Mifflin, Boston.

36. For instance, there is empirical evidence that, whereas basic industrial consumer goods (clothing, etc.) have an import content

of less than 5%, other goods (electrical consumer durables, etc.) have an import content of about 30%. See ILO (1970) Towards Full Employment: A Programme for Colombia, Geneva.

37. Office of the President, National Commission for Development Planning, Economic Report 1982, Government Printer, Lusaka, p. 233.

38. Indeco (1983), Annual Report 1982, Monterey Printing and Packaging Ltd., Ndola, p. 9.

39. Kirkpatrick, C. H., Lee, N., and Nixson, F. I. (1984), Industrial Structure and Policy in Less Developed Countries, George Allen and Unwin, London, p. 200.

40. For emphasis see Ul Haq, M. (1973), "Industrialization and Trade Strategies in the 1970s: Developing Country Alternatives", in Streeten, P. (ed.)(1973), Trade Strategies for Development, MacMillan, London, p. 101.

41. Stewart, F. (1976), "Capital Goods in Developing Countries", in Cairncross. A. and Puri, M. (ed.)(1976), Employment, Income Distribution and Development Strategy: Problems of the Developing Countries, Macmillan, London.

42. Stewart, F. and M. (1972), "Developing Countries, Trade and Liquidity: A New Approach", Banker, March.

43. See also Thirlwall, A. P. (1983), Growth and Development: with special reference to developing economies, The MacMillan Press Ltd., London, Third Edition, p. 359.

				Imported Producer Goods (Man)				
Year	Total Visible Imports	Total Exports	$^2/_3$ Ratio (%)	Intermediate	Capital	Total (5+6)	Consumer Goods (Imported)	$^7/_8$ Ratio (%)
1	2	3	4	5	6	7	8	9
1964	156.4	335.5	46.6	26.5	3.8	30.3	45.0	67.3
1965	210.7	380.3	55.4	34.0*	5.6	39.6	53.2	74.4
1966	332.3	493.5	49.9	47.7	21.0	68.7	94.3	72.9
1967	413.3	470.0	65.1	58.3	22.8	81.1	109.0	74.4
1968	325.2	544.4	64.7	48.6	22.7	71.3	84.6	84.3
1969	311.8	766.5	40.7	52.6	20.1	72.7	82.3	88.8
1970	340.7	715.0	47.7	56.9	18.1	75.0	87.4	85.8
1971	399.3	485.2	82.3	63.5	19.2	82.7	133.1	62.1
1972	402.5	541.6	74.3	64.0	28.3	92.3	122.7	75.2
1973	346.9	742.0	46.8	77.0	26.3	103.3	88.0	117.4
1974	506.6	905.1	56.0	147.5	20.4	167.9	142.1	118.2
1975	597.6	521.0	114.7	186.7	24.4	211.1	129.5	163.0
1976	468.7	751.9	62.3	151.2	21.1	172.3	92.6	186.1
1977	530.0	708.5	74.8	170.8	28.7	199.5	104.4	191.1
1978	492.7	686.8	71.8	144.2	27.7	171.9	108.9	157.9
1979	599.8	1,117.1	53.6	224.9	37.4	262.3	121.0	216.8
1980	884.5	1,048.1	88.4	N/A	N/A	N/A	N/A	N/A
1981	911.3	927.2	98.3	"	"	"	"	"
1982	909.6	960.4	94.7	"	"	"	"	"

Table title: **TRADE IN ZAMBIA, 1964-82 (K'million)**

NOTES: * Includes mining, but excludes food, beverages and tobacco.   N/A Not available.

SOURCES: CSO, Annual Statements of External Trade and Bank of Zambia Annual Reports.

GROSS DOMESTIC PRODUCT IN ZAMBIA BY SECTOR AT CURRENT PRODUCER'S PRICES (K'm)								
Year/Sector	Agriculture	Mining	Manufacturing	Construction	Trade	Transport	Other	Total
1964	53.3	220.8	28.2	20.0	45.8	20.6	76.7	464.9
1965	54.8	208.9	40.0	39.4	71.3	32.4	101.9	548.7
1966	60.5	240.1	60.2	54.0	78.3	32.4	119.0	644.5
1967	64.6	359.8	86.1	56.9	103.5	50.0	170.2	891.1
1968	64.3	389.9	105.8	62.3	124.5	48.4	194.2	989.4
1969	68.6	615.8	113.9	67.5	92.4	44.1	237.8	1240.1
1970	85.4	436.6	127.4	82.3	119.3	52.0	282.3	1185.3
1971	154.0	275.1	149.7	98.2	112.4	62.3	329.2	1180.9
1972	172.2	324.4	181.4	99.8	127.9	63.5	378.8	1348.0
1973	179.6	515.0	195.3	102.7	139.5	64.9	396.1	1593.1
1974	199.4	615.7	238.5	127.0	168.2	76.3	467.5	1892.6
1975	206.4	215.2	250.3	151.2	132.8	88.5	539.0	1583.4
1976	273.3	341.8	275.6	116.6	154.5	118.5	591.9	1872.2
1977	321.5	233.7	314.0	108.5	182.9	134.4	656.5	1951.5
1978	357.8	286.8	383.9	105.4	209.5	142.1	717.1	2202.6
1979	375.0	469.3	398.3	95.0	253.7	162.8	816.5	2570.6
1980	433.8	484.1	477.0	126.0	302.0	193.0	962.2	2978.1
1981	553.0	225.2	551.2	120.0	305.0	196.0	1090.0	3040.4
1982	488.0	191.5	588.9	140.0	353.0	210.0	1264.0	3221.4

SOURCE: CSO, Monthly Digests of Statistics 1967-83, Government Printer, Lusaka.

REGIONAL DISTRIBUTION OF MANUFACTURING ESTABLISHMENTS CLASSIFIED BY SECTOR, 1965-1980

Sector	Copperbelt Province				Central Province				Southern Province				Total Line-of-Rail Provinces				Rural Provinces				Total Zambia			
	1965		1980		1965		1980		1965		1980		1965		1980		1965		1980		1965		1980	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Food	29	9.8	49	16.6	19	12.8	28	17.1	14	23.0	10	22.7	62	12.2	87	17.3	4	25.0	24	68.6	66	12.6	111	20.6
Beverages and tobacco	13	4.4	9	3.1	9	6.0	9	5.5	4	6.6	3	6.8	26	5.1	21	4.2	3	18.8	4	11.4	29	5.5	25	4.6
Textiles, clothing & leather	34	11.4	67	22.7	19	12.8	31	18.9	17	27.9	22	50.0	70	13.8	120	23.9	-	-	7	20.0	70	13.4	127	23.6
Wood products & furniture	25	8.4	15	5.1	8	5.4	10	6.1	7	11.5	4	9.1	40	7.9	29	5.8	-	-	-	-	40	7.6	29	5.4
Paper and printing	12	4.0	17	5.8	10	6.7	19	11.6	2	3.3	1	2.3	24	4.7	37	7.4	1	6.3	-	-	25	4.8	37	6.9
Chemicals and rubber	16	5.4	27	9.2	7	4.7	24	14.6	1	1.6	-	-	24	4.7	51	10.1	-	-	-	-	24	4.6	51	9.5
Non-metallic mineral products	26	8.8	12	4.1	20	13.4	11	6.7	2	3.3	2	4.5	48	9.7	25	5.0	4	25.0	-	-	52	9.9	25	4.6
Basic metals	70	23.6	3	1.0	19	12.8	1	0.6	3	4.9	-	-	92	18.1	4	0.8	-	-	-	-	92	17.6	4	0.7
Metal products, machinery and transport	68	22.9	92	31.2	37	24.8	28	17.1	11	18.0	2	4.5	116	22.9	122	24.3	4	25.0	-	-	120	22.9	123	22.8
Other manufacturing	4	1.3	4	1.4	1	0.6	3	1.8	-	-	-	-	5	1.0	7	1.4	-	-	-	-	5	1.0	7	1.3
Total manufacturing	297	100.0	295	100.0	149	100.0	164	100.0	61	100.0	44	100.0	507	100.0	503	100.0	16	100.0	35	100.0	523	100.0	539	100.0

NOTES: 1. Central Province includes Lusaka Province.

2. Line-of-Rail provinces comprise Copperbelt, Central, and Southern Provinces and are, for our purpose, the Urban Provinces.

3. Rural Provinces comprise Eastern, Northern, Luapula, North-Western, and Western Provinces.

SOURCES: Republic of Zambia: Censuses of Production 1965/66 and 1980 (unpublished and provisional), Government Printer, Lusaka.

GDP BY KIND OF ECONOMIC ACTIVITY: AVERAGE ANNUAL GROWTH RATES AND SECTORAL SHARES OF GDP[1]

	FNDP (1966-70)					SNDP (1972-76)					TNDP (1979-82)(2)					Actual Average Annual Growth Rates(3)
	Sectoral Composition (%)			Average Annual Growth Rates (%)		Sectoral Composition (%)			Average Annual Growth Rates (%)		Sectoral Composition (%)			Average Annual Growth Rates (%)		
	Actual (1965)	Target (1970)	Actual (1970)	Target (1964-70)	Actual (1965-70)	Actual (1971)	Target (1976)	Actual (1976)	Target (1971-76)	Actual (1971-76)	Actual (1978)	Target (1982)	Actual (1982)	Target (1978-82)	Actual (1978-82)	(1971-82)
Agriculture:[4]																
(a) Subsistence	N/A	N/A	N/A	N/A	N/A	7.6	9.8	6.7	5.3	1.7	N/A	N/A	N/A	N/A	N/A	1.1
(b) Commercial	3.2	3.7	3.9	9.4	5.4	3.5	3.9	4.1	5.9	7.5	16.2	13.3	15.2	5.5	1.7	3.1
Mining	47.6	45.5	31.0	8.4	-7.0	33.0	28.4	32.5	6.1	3.9	13.0	15.1	6.0	1.0	-10.6	0.9
Manufacturing	8.4	7.6	14.5	16.2	11.3	11.5	13.0	9.8	14.7	1.0	17.4	19.3	18.4	8.0	3.8	1.1
Construction	7.0	7.1	6.6	19.9	0.2	7.1	8.8	10.2	8.1	12.1	4.8	7.9	4.4	5.5	0.6	-0.3
Trade	13.6	11.5	14.8	13.8	5.6	10.3	14.4	8.2	8.9	-0.3	9.5	11.6	11.0	5.5	5.6	-1.0
Electricity & Water	N/A	N/A	N/A	N/A	N/A	1.9	1.8	3.4	10.2	17.5	2.2	2.0	2.0	6.0	0.2	12.0
Transport	4.9	4.6	4.7	13.3	0.4	4.6	5.3	4.3	7.2	2.6	2.4	4.6	6.5	5.0	2.2	0.3
Other services	15.3	20.0	24.5	16.2	11.6	20.5	14.5	20.9	5.1	4.8	30.4	26.6	36.6	4.1	7.0	2.6
Total GDP	100.0	100.0	100.0	11.7	1.5	100.0	100.0	100.0	7.5	4.3	100.0	100.0	100.0	4.5	1.9	1.1
Non-mineral GDP	52.4	54.5	69.0	15.1	6.0	67.0	71.6	67.6	8.1	4.5	87.0	84.9	94.0	5.2	4.2	1.4

NOTES: (1) The FNDP targets are based on 1964 prices whereas actuals are based on 1965 prices and GDP is less import duties for purposes of comparison; for SNDP calculations are based on GDP at factor cost at constant 1969 prices and GDP excludes import duties and imputed bank service charges; and for TNDP GDP at producer's values are used at constant 1977 prices for projections.

(2) 1982 Actual and targets are used since 1983 figures were not available at the time of writing.

(3) Based on 1970 constant prices.

(4) Excludes subsistence agriculture in FNDP, and subsistence and commercial agriculture are combined in the TNDP.

SOURCES: See FNDP, SNDP, and TNDP and CSO, Monthly Digests of Statistics, 1967-83.

CHAPTER X

SUMMARY AND CONCLUSION

The purpose of this study has been to record and account for Zambia's industrialization experience during the period 1964-82, in terms of macroeconomic conditions, 'normal' patterns and 'sources' of growth, and the avowed ends of the government's industrialization policy. It has also suggested some possible alternative strategies, though this has not been the major focus of the study.

10.1   Retrospect

At Independence, Zambia was a classic example of a dual economy, dominated almost exclusively by a single primary export, copper, and dependent on foreign capital, skills, technology, inputs and markets. It was characterized by imbalances between Africans and Europeans in terms of education, skills, employment, and earnings; between urban and rural areas in terms of social and industrial infra-structure; and between the copper industry and the other sectors of the economy in terms of contributions to the major macroeconomic aggregates such as GDP, government revenue, gross fixed capital forma-tion, exports, and employment.

The manufacturing sector was underdeveloped in the sense that it was smaller than might have been expected even in view of the limited size of the Zambian market. For instance, local manufacturing production supplied just a third of the local market, and it was mainly dominated by the food, beverages and tobacco, non-metallic mineral products, basic metals, and fabricated metal products which together accounted for over 70% of the total manufacturing GDP.[1]   Manufacturing

sector as a whole contributed only about 6% of the total GDP, about half as much as was typical of other countries with the same income per capita. Finally, all the major industrial activities were concentrated in the small export and import enclave along the line of rail while the rest of the country remained 'underdeveloped' and outside the money economy.

The above distortions were largely the consequence of Zambia's geographical situation on the periphery of the relatively more developed Zimbabwe and South Africa, as well as the political and economic institutions of the colonial and federal regimes; particularly Zambia's membership, first of the South African customs union and, laterly, of the Federal Customs Union which appear to have inhibited the growth of local industry.

Immediately after attaining its Independence, Zambia, like the majority of LDCs, opted for rapid promotion of industry as a major vehicle to transform the inherited economic and social structures. Its immediate priorities were quite clear: economic diversification away from copper within the framework of an ISI strategy; employment-generation; rural diversification; export promotion; inter-industry effects; and national security. The role of the government was to promote the favourable climate to attract manufacturers to invest in Zambia. In the later national plans emphasis was also laid on the promotion of capital and intermediate goods industries and fuller utilization of existing productive capacities, as well as on the encouragement of small-scale and rural industries.

Government intervention in the industrialization process was largely justified by the fact that, the Zambian economy, if left to

the 'liberal' laissez faire influences would not have achieved an
adequate rate and pattern of growth and diversification. The main
reasons for this doubt lay in the short time-horizons of expatriate
investors and their inability to take proper account of interindustry
linkages, the institutionally distorted wage scales, the general
lack of Zambian entrepreneurs (apart from the state itself), and the
failure of the price mechanism to bring about a socially acceptable
distribution of economic benefits of development to the people as a
whole. However, given the ignorance of the authorities about the
most suitable policies to follow and possibly the domination of the
state intervention machinery by the interests of a particular group,
these factors, alone might not have given a guarantee that state
intervention would have led to an improvement.

The policy of expanding the manufacturing industry seems,
on balance, to have been successful. Direct state participation in
industry, through Indeco, brought about the establishment of a broader
industrial base than could have been anticipated under a private
enterprise regime alone. By the early 1970s, the domestic manufacturing
industry was sufficiently large and diversified to make the line of
rail one of the major industrial centres in eastern Africa.

By 1982, the operations of Indeco, together with its 34
subsidiaries, accounted for over 75% of the industrial activity in the
economy. During the entire period under analysis, the manufacturing
sector as a whole increased its share in the total GDP by threefold,
from 6 to 18%, and had the highest average annual growth rate of output
in the economy, during which period both mining and agriculture
declined both in absolute and relative terms. However, this expansion

was punctuated by fluctuations. The sub-periods 1965-70 and 1970-75,
particularly the former, witnessed very rapid expansion, while the
sub-period 1975-82 witnessed a loss of momentum to industrialize,
for reasons to be given later.

Several stimuli were responsible for the initial rapid
growth of manufacturing. First, the attainment of Independence, and
subsequently the political and economic confrontation with the south
following the UDI in Zimbabwe, gave a powerful spur to industrialization
in Zambia, though at the same time the latter development had adverse
effects on the costs and difficulties of importing vital industrial
inputs that were not readily available locally, and on the already
limited supply of skilled manpower. Generally, the industries which
had suffered most from the 'backwash' effects of industrialization in
the south, like clothing and simple chemicals, gained most from the
new situation.

The second stimulus came from the buoyancy in the economy
consequent upon the sharp and sustained increase in the price of copper
which, roughly coinciding with the attainment of Independence, the
cessation of the interterritorial transfers of revenue, and the
recovery of the mineral rights, enabled the authorities to embark on
ambitious development programmes, especially designed to improve or
create social and industrial infrastructural facilities. Together,
the rise in government expenditure and the post-Independence wage
settlements acted as a great boost to increased demand for local
manufactures. However, in spite of this buoyancy, the agricultural
sector did not grow as rapidly as the rest of the economy, and moreover
declined in absolute and relative terms. This decline tended to
inhibit the establishment of raw materials processing industries,

particularly in the food manufacturing sector. On the contrary, by
the standards of LDCs the structure of the market meant that Zambia
had a relatively developed basic metals and fabricated metal products
sectors consequent upon backward linkages from the copper industry,
a point well supported by our empirical findings on the 'normal'
patterns of development.

Finally, the direct assistance from the government itself
provided another source of encouragement to the development of local
industries. Initially, this was done through the 'liberal' commercial
and fiscal policies based on laissez faire capitalistic principles,
and after the 1968 economic reforms, when Zambia opted for a
socialistic-humanism path, the authorities became more openly and
directly involved in the promotion of manufacturing, especially
involving the creation of large-scale projects mainly in the intermediate
and consumer goods sectors, through Indeco.

On the other hand, the loss of momentum after the mid-1970s
partly reflects the impact of world recession on copper prices and demand,
the rise in oil prices, and the dislocations and disruptions, particularly
of transport, caused by the final stages of the liberation struggle
in Zimbabwe. However, although the economic crisis did not become
serious until the mid-1970s, the structural disparities which caused the
crisis had always been present; the buoyancy in the copper price of the
late 1960s and early 1970s simply postponed the inevitable crisis. The
notable consequences of these external factors were reflected in the
fall of GDP, decline in employment, rise in imported and domestic
inflation, escalation in the real mining costs, and severe balance of
payments and government budget deficits which the government was powerless
to rectify without external assistance, especially from the IMF since

1978 onwards.

The causes of the decline, however, were not all external.
Internally, the implementation of the development plans had fallen
badly below targets. For instance, during the SNDP manufacturing
GDP grew at only an average annual rate of one per cent against
nearly 15% projected, whereas during the FNDP against the planned
target of 16%, the actual growth was 11%. Productivity in the
parastatal sector had also declined, apart from the external constraints
of foreign exchange and transport, mainly because of the inadequate
capital gearing of most companies,ambiguities in the social and
economic objectives of the government (for instance, the price control
mechanism) and the downward rigidities of the excise tax system.

The impressions made on both the growth and structural
change of manufacturing sector seemed to be generally confirmed by
our two empirical studies based on the Chenery-type measures: first,
on the Zambian pattern of industrialization during the period 1965-80
in relation to the 'normal' pattern of development derived from a
cross-sectional study of manufacturing industry in over eighty countries,
both DCs and LDCs, at varying stages of economic growth; and, secondly,
on the 'sources' or 'causes' of industrialization during the same
period.

In the first study, based on the UN version of the 1960 Chenery
model, we established that, at Independence Zambia's manufacturing
sector had been unusually 'underdeveloped' in the sense that, contrary
to the expectations of economic theory, the investment and related
goods industries were the most highly developed group much above the
'normal' pattern, whereas the relatively simpler consumer goods

industries were very much 'underdeveloped' in relation to the
'normal' pattern. In general, the degree of industrialization was
less than half the 'normal' pattern. This could again be explained
in terms of the historical context mentioned earlier. However, by
1974 a rapid growth had taken place since the degree of industrializa-
tion was, on balance, even above the 'normal' pattern and about 70%
of the industrial sectors studied had positive deviations from the
'normal' pattern, as compared with only about 30% in 1965. However,
by 1980 the degree of industrialization dropped below both the 1974
level and the 'normal' pattern itself for that year, and the proportion
of industrial sectors with positive deviations declined to 60%. Again
the reasons advanced above may help in some way to explain this down-
ward trend, as well as the earlier upward trend. The projections for
1983 showed an improvement over 1980, though still below the levels
of 1974. In general, however, taking into consideration the historical
context, the study showed also a substantial rapid expansion during
the whole period studied, 1965-80.

The second study, based on both the 1960 Chenery model and
the 1965 Lewis-Soligo version of the Chenery model, also showed similar
trends to those established earlier. IS was the main 'source' of
growth for total manufacturing during the entire period, 1965-80, and
the long sub-period 1965-75, while final domestic demand was dominant
in the short sub-periods 1965-70, 1970-75 and 1975-80. The dominance
of IS during the first decade after Independence was largely due to
the favourable climate in the early years, whereas the loss of momentum
after the mid 1970s could be explained partly by both external and
internal constraints on manufacturing, as well as the nature of the ISI
strategy adopted. The dominance of final domestic demand in the shorter

periods 1965-70 and 1970-75 might have been largely due to the buoyance in the economy which caused a rise in government expenditure and employment earnings, whereas in the shorter sub-period 1975-80 it might as well have been due to a slowing down in IS. Another major observation was that, while IS was dominant in both intermediate and investment and related goods industries, final domestic demand was the main 'source' of growth in the consumer goods industries. Again, the explanation for these features lie in the government's emphasis on certain areas of development. For instance, the period 1965-75 witnessed the creation of large scale intermediate projects like Nitrogen Chemicals, Kafue Textiles, Indeni Oil Refinery, and Kafironda Explosives factory. Finally, throughout the period under analysis, both intermediate and export demand generally shared third and fourth places, respectively, though undoubtedly they had a steady and growing influence on manufacturing expansion.

However, despite the success story of a general rapid expansion, a closer examination of the reality behind the apparent success indicators suggests that the manufacturing sector contributed less than satisfactorily towards achieving most of the major objectives of the government's industrialization policy.

First, while generating an increase in wage employment, the manufacturing sector did not create wage employment on the scale that had been envisaged by the authorities because it had become increasingly capital-intensive. Furthermore, this sector also proved not to be a major instrument for employment-creation in the rural provinces.

Secondly, where industries processed local agricultural raw materials, like maize mills, oil expressing plants, or textile mills, the benefits from manufacturing expansion percolated through to the

rural provinces, but such linkages were relatively limited. The limited success in promoting small-scale rural industries was largely due to inadequate financing, lack of co-ordination among development agencies, lack of skilled personnel and infrastructure and lack of clear and coherent guidelines for promoting small-scale industries in rural areas.

Thirdly, while manufacturing flourished, both subsistence and commercial agriculture stagnated, probably due to the fact that the rewards to both investors and employees in manufacturing, in terms of prices and wages, were allowed to diverge sharply from those in agriculture, where the authorities were much more reluctant to pursue protectionist and fiscal incentives policies. The disparity between the two sectors meant massive rural-urban migration.

Fourthly, Zambia's rapid post-Independence expansion of the manufacturing industry remained concentrated in the export and import enclave just as it had been before Independence.

Fifthly, the composition of manufacturing remained much as it was at Independence, dominated by food, beverages and tobacco, though chemicals and textiles had displaced basic metals and fabricated metal products. Overall, the picture that emerges was that throughout the 1970s and early 1980s manufacturing remained consumer goods oriented, catering for the most part to the higher income brackets.

Sixthly, although IS was the major 'source' of growth in all industries in the entire period under analysis, 1965-80, its successes were limited in the sense that, industries, purportedly import-substituting, were actually established without due regard to the import implications of raw materials and intermediate inputs. Apart

from the success story of sugar, many food processing industries,
like flour milling and manufacture of edible oils and fats, depended
heavily on imported inputs, as the necessary requisites from the
agricultural sector were not forthcoming. In some consumer items,
industries, like Fiat car assembly, only involved assembling at the
final stage of production so that consumer goods production in this
case implied a great deal of importation of intermediate inputs.

Finally, with a few exceptions like copper wire rods and
cables, sugar, and cement, manufacturing's performance in export
promotion left much to be desired mainly due to the lack of a clear-
cut policy towards export promotion. However, prospects in this regard
lie in the newly-established Export Promotion Council, which should
help in initiating and expanding export promoting manufacturing industries
and also in the activities of the equally newly established Preferential
Trade Area (PTA) and Southern African Development Co-ordination
Conference (SADCC).

The less than satisfactory performance of ISI in post-
Independence Zambia, apart from the constraints principally originating
from the colonial heritage and both internal and external influences
after Independence, could be explained largely by the characteristics
and nature of the ISI strategy pursued. Like the majority of LDCs,
soon after Independence Zambia adopted a 'market-based' ISI strategy.
The implementation of this type of strategy in practice, especially
from the experience of Latin American countries, has shown that it is
not a meaningful 'inward-looking' strategy of development since,
although involving the domestication of goods previously imported, in
general, it does not result in greater self-reliance or self-sufficiency
which the Zambian authorities hoped it would. This is partly because

it has been heavily dependent on foreign capital, technology and expertise, and based on the consumption patterns, tastes, marketing techniques, and so on, of the developed capitalist economies. The changes in the import structure and failure to alleviate the balance of payments constraint have exacerbated the dependency of the IS economy on the external sector.[2] From the internal economic and social points of view, ISI has tended to exacerbate the sectoral imbalances (between industry and agriculture, and within the industrial sector itself between capital and consumer goods, labour and capital-intensive techniques of production); regional imbalances (between urban and rural areas); social imbalances (increasing inequality in the distribution of income); and financial imbalances (the generation of inflationary pressures). IS industries are in general large-scale, urban-based, capital-intensive and heavily dependent on foreign capital, technical inputs, intermediate inputs, and machinery and equipment, because of the nature of ISI strategy that has been implemented. Of course, there have been variations between countries, and, within each country, between industries, but the general trend has been as pointed out above.

From the various discussions on the Zambian economy in this study most of the characteristics of ISI strategy stated above were evident. Thus, it is concluded here that the ISI strategy in Zambia produced the results that it did, not because there was 'too much' state intervention, but rather a 'wrong kind' of approach was adopted and being implemented which, even in economic theory, was at variance with most of the avowed ends of government economic policy.

10.2   Possible Alternative Policies

The focus here is on the short-term and medium-term issues
of industrial strategy over the next decade or two, against the
background of what actually happened in the period covered by this
study. Our impression is that, apart from the external constraints
and the inherited problems, the main problem was with the nature of
the 'market-based' ISI strategy that was adopted and actually implemented
by the government. By adopting this approach, the authorities signed
a blank cheque and gave it to the inherited distorted market structures
to shape the decisions affecting the development of manufacturing
industry in the country.

Therefore, the major policy argument here is that, a meaning-
ful industrialization strategy would have been one that took into
account the establishment of economic, social, and political objectives
consistent with Zambia's resources, aspirations, and commitment to
development. Specifically, more government involvement is called for
in the operations of the industry and there is greater need to
implement the industrial policies on the lines consistent with the
basic needs priorities, so as to stimulate more economic activities,
to create more jobs, to generate more incomes in the agricultural
sector, and to develop technological capability in the domestic economy.
What is required is greater emphasis on the production of basic needs
for general consumption, and a deliberate long term policy to strengthen
basic industries by channelling new investment to enterprises involved
in the production of capital and intermediate goods for other sectors
and utilizing local materials as appropriate.

The views expressed above are not necessarily strange to the

Zambian government.[3] The main problem, however, has been
implementation of such ideas, that is, converting planning into
action, and especially sustaining priorities at a time when lack of
resources prevents more than a fraction of the planning machinery's
programmes to be implemented. In other words, the real obstacle has
been the setting and sustaining of priorities all the time in relation
to the various constraints on development.

Specifically, the following policy measures are suggested.
First, within the framework of employment-generation, if new projects
are to contribute significantly to expanding productive employment
opportunities and to improving the standard of life for all the people
at large, employment creation should be carefully scrutinized to
determine whether the technology used in specific projects ought to
be labour or capital-intensive, and the choice should tend towards the
one using more labour and less capital, wherever appropriate.[4]
The location of each project should be biased towards the possibility
of establishing poles of growth and essential linkages in each province
and district in the country. Of course, this is not to deny the
economic advantages of locating some projects close to the sources of
raw materials and others close to existing markets and external economies.
Finally, this role should not necessarily be to create jobs only but
rather also to create the favourable climate for an expanding labour
force to make a decent livelihood, in agriculture and in the informal
sector. (ILO, 1981, p. 209).

Secondly, realizing the significance of linkages between
agriculture and industry, we specifically suggest that more of the
agricultural raw materials for manufacturing should be produced locally

than is currently the case. In addition to encouraging the indigenous population to participate effectively in ensuring an adequate flow of agricultural raw materials to industry, the government should actively become involved in, and give support in the form of subsidies for, the efforts of the manufacturing firms to cultivate locally most of their agricultural raw materials requirements.

Thirdly, in order to alleviate the balance of payments constraint, it is suggested that the Zambian planners should strike a balance between ISI and export-oriented industrialization (EOI) strategies, and that the choice should be determined by Zambia's industrialization objectives and not vice versa, as was the case under the period under analysis. In the past there was an apparent bias towards ISI as opposed to EOI, although lip-service had been given to the latter. For instance, the 1977 Industrial Development Act was 'too regulatory' without offering practical stimulation to the development of exports.[5] Any such trade policies should also be viewed in relation to the other government policy instruments that are appropriate to the attainment of industrialization goals, rather than being treated in isolation.[6]

Fourthly, when planning industrial development in the future, both private and public sector investment allocations should be more or less treated equally, unlike the present practice whereby the planning of industrial policy has had the tendency of neglecting the former in preference for the latter. The need for industrial planning in Africa in general has been covered elsewhere in much detail.[7]

Fifthly, the government should seriously become involved in the promotion of domestic capital goods industries. Probably joint ventures with TNCs should be encouraged to the best interests of the nation, so as to reduce the dependence on DCs.

Finally, fuller utilization of the services of PTA and
SADCC should be emphasized, aimed at developing basic and capital
goods industries in integrated subregional markets, thus stimulating
intra-regional trade in industrial raw materials and extending the
manufacture of industrial products. This proposition is especially
important given the fact that trade with the DCs is at present difficult
due to trade barriers in these countries and also the relatively
high costs of production in Zambia itself, and moreover the continual
dependence on imports of raw materials, machinery and parts from the
DCs would involve the country in continual balance of payments problems.
As a corollary to the above proposition, the possibility of establishing
a common currency among the PTA and SADCC member states should be
fully investigated because, if proved feasible, it would enhance the
achievement of a higher utilization of manufacturing capacity, although
some amount of foreign exchange would still be required to import capital
goods from the DCs due to the lack of availability in the PTA.

In essence, this study is emphasizing more deliberate and more
purposeful planning and implementation of industrialization programmes
in Zambia in order to make industrial activities contribute more
significantly towards restructuring the domestic economy. A superficial
or half-hearted planning effort is certainly inadequate to achieve the
stated objectives or basic policies, especially with respect to
egalitarian objectives. Of course, although it has not been explicitly
discussed in the study, any alternative strategies as suggested here
must be concerned, as well,with the necessary social, political and
institutional changes required to facilitate the implementation of such
policies. For instance, rapid, sustained and broadly based economic
development might require very different income distributional

profiles and consumption and production structures from the present ones in order to accommodate all the economic, social and political classes or groups in Zambia.

NOTES AND REFERENCES

1. All statistics and other information in this Chapter, unless
    otherwise cited, are summarized from the relevant Chapters
    in the main text where all the sources are also cited.

2. See Kirkpatrick, C. H. and Nixson, F. I. (eds.)(1983), The
    Industrialisation of Less Developed Countries, Manchester
    University Press, Ch. 1.

3. See Office of the President: National Commission for Development
    Planning (1979), Third National Development Plan 1979-83 (TNDP)
    Government Printer, Lusaka.

4. Seidman, A. (1979), "The Distorted Growth of Import Substitution:
    The Zambian Case", in Turok, B. (ed.)(1979), Development in Zambia,
    Zed Press, London, pp. 116 and 117.

5. See Mwaanga, V., Zincom President's speech in the Times of Zambia,
    June 24th, 1985.

6. See Kirkpatrick, C. H., Lee, N., and Nixson, F. I. (1984), Industrial
    Structure and Policy in Less Developed Countries, George Allen and
    Unwin, London, Ch. 6.

7. See ECA/OAU/UNIDO (1982), A Programme for the Industrial Development
    Decade for Africa, UN, New York, Ch. 1.

BIBLIOGRAPHY

PART A - GENERAL

ADY, P. (1969), "International Commodity Policy", in Stewart, I. G. (ed.)(1969), Economic Development and Structural Change, Edinburgh University Press.

AGARWAL, J. P. (1976), "Factor Proportions in Foreign and Domestic Firms in Indian Manufacturing", Economic Journal, Vol. 86, No. 346, September, pp. 589-594.

AGARWALA, A. N. and SINGH, S. P. (eds.)(1958), The Economics of Underdevelopment, Oxford University Press, Bombay.

AHMAD, Q. K. (1978), "The Manufacturing Sector of Bangladesh: An Overview", Bangladesh Development Studies, Vol. 6, No. 4, pp. 387-416.

AHMAD, J. (1968), "Import Substitution and Structural Change in Indian Manufacturing Industry 1950-66", Journal of Development Studies, Vol. 4, No. 3, April.

ALAVI, H. (1972), "The State in Post Colonial Societies: Pakistan and Bangladesh", New Left Review, No. 74, July-August, pp. 59-81.

ARRIGHI, G. (1973), "International Corporations, Labour Aristocracies and Economic Development in Tropical Africa", in Arrighi, G. and Saul, J. S. (eds.)(1973), Essays on the Political Economy of Africa, Monthly Review Press, New York.

BAER, W. (1972), "Import Substitution and Industrialization in Latin America: Experiences and Interpretations", Latin American Research Review, Spring.

BAER, W. and MANESCHI, A. (1971), "Import Substitution, Stagnation and Structural Change: An Interpretation of the Brazilian Case", The Journal of Development Areas, January, pp. 177-192.

BAIROCH, P. (1975), The Economic Development of the Third World Since 1900, Methuen.

BALASSA, B. (1978), "Exports and Economic Growth", Journal of Development Economics, Vol. 5, No. 2, June, 181-189.

BALASSA, B. (1980), The Process of Industrial Development and Alternative Development Strategies, World Bank Staff Working Paper No. 438, World Bank, Washington, D.C.

BALASSA, B. (1982), "Disequilibrium Analysis in Developing Economies: An Overview", World Development, Vol. 10, No. 12, December, pp. 1027-1038.

BALASSA, B. et al (1971), The Structure of Protection in Developing Countries, The John Hopkins University Press, Baltimore, Md.

BARAN, P. A. (1957), The Political Economy of Growth, Monthly Review Press, New York.

BASEVI, G. (1966), "The United States Tariff Structure: Estimates of Effective Rates of Protection of United States Industries and Industrial Labour", Review of Economics and Statistics, Vol. 48, May, pp. 147-160.

BATCHELOR, R. A., MAJOR, R. L. and MORGAN, A. D. (1980a), Industrialization and the Basis for Trade, Cambridge University Press, Cambridge.

BATCHELOR, R. A., MAJOR, R. L. and MORGAN, A. D. (1980b), Industrialization and the Basis for Trade, National Institute Economic Review, No. 93, August.

BAUMOL, W. J. (1965), "Models of Economic Competition", in Langhof, P. (ed.) (1965), Models, Measurement and Marketing, Englewood Cliffs, Prentice-Hall, New Jersey, pp. 143-168.

BEHRMAN, J. N. (1970), National Interests and the Multinational Enterprise, Prentice-Hall, Inc., New Jersey.

BHAGWATI, J. N. (1971), "The Generalized Theory of Distortions and Welfare", in Bhagwati, J. N., et al. (eds.)(1971), Trade Balance of Payments and Growth: Papers in International Economics in Honour of Charles P. Kindleberger, North Holland Publishing Company, London and Amsterdam, pp. 69-90.

BHAGWATI, J. N. and DESAI, P. (1970), India, Planning for Industrialization: Industrialization and Trade Policies since 1951, OECD, Oxford University Press, London.

BOSA, G. R. (1969), The Financing of Small-Scale Enterprises in Uganda, Published for the Makerere Institute of Social Research by Oxford University Press, Nairobi, MISR Occasional Paper 3.

BRUTON, H. J. (1970), "The Import-Substitution Strategy of Economic Development: A Survey", Pakistan Development Review, Vol. 10.

CHENERY, H. B. (1960), "Patterns of Industrial Growth", American Economic Review, Vol. L, No. 4, pp. 624-654.

CHENERY, H. B. (1979), Structural Change and Development Policy, Oxford University Press, for the World Bank, Oxford.

CHENERY, H. B. (1980), "Interactions Between Industrialisation and Exports", American Economic Review, Papers and Proceedings, Vol. 70, pp. 281-287.

CHENERY, H. B. (1983), "Interaction Between Theory and Observation in Development", World Development, Vol. 11, No. 10, October, pp. 853-861.

CHENERY, H. B. and KEESING, D. B. (1979), "World Trade and Output of Manufactures: Structural Trends and Developing Countries Exports", World Bank Staff Working Paper, No. 316, The World Bank, Washington, D.C.

CHENERY, H. B. and SYRQUIN, M. (1975), Patterns of Development 1950-1970, Oxford University Press for the World Bank, Oxford.

CHENERY, H. B. and TAYLOR, L. (1968), "Development Patterns: Among Countries and Overtime", The Review of Economics and Statistics, Vol. 50, No. 4, November, pp. 391-416.

CHENERY, H. B. et al. (1973), Redistribution with Growth, John Hopkins University Press, Baltimore, Md.

CODY, J., HUGHES, H. and WALL, D. (eds.)(1980), Policies for Industrial Progress in Developing Countries, Oxford University Press for the World Bank, Oxford.

COLMAN, D. and NIXSON, F. I. (1978), Economics of Change in Less Developed Countries, Philip Allan Publishers Limited, Oxford.

CORDEN, W. M. (1971), The Theory of Protection, Oxford University Press, London.

DASGUPTA, A. K. and PEARCE, D. W. (1972), Cost-Benefit Analysis: Theory and Practice, MacMillan and Co., London and Basingstoke.

DESAI, P. (1969), "Alternative Measures of Import Substitution", Oxford Economic Papers, November.

DESAI, P. (1970), "Growth and Structural Change in the Indian Manufacturing Sector, 1951-1963", Indian Economic Journal.

DIAZ-ALEJANDRO, C. F., Essays on the Economic History of the Argentine Republic, Yale University Press.

DIAZ-ALEJANDRO, C. F., "On the Import Intensity of Import Substitution", in Kyklos, 18, pp. 495-511.

ECA/OAU/UNIDO (1982), A Programme for the Industrial Development Decade for Africa, UN, New York.

EKUERHARE, B. U. (1978), "The Economic Appraisal of Import Substituting Industrialization with Special Reference to the Nigerian Textile Industry", University of Manchester, Ph.D Thesis, Mimeo.

EUROPEAN COMMUNITIES Information Note (1971), "The EEC and Generalized Preferences in Favour of Semi-Finished and Manufactured Products Imported from the Developing Countries", Brussels, June.

FANE, G. (1973), "Consistent Measures of Import Substitution", Oxford Economic Papers, Vol. 25, No. 2, July.

FEI, J. C. H. and RANIS, G. (1964), Development of the Labour Surplus Economy, Economic Growth Centre, Yale University, Homewood III, Richard D. Irwin.

FLEMING, J. M. (1955), "External Economies and the Doctrine of Balanced Growth", Economic Journal, Vol. LXV, No. 258, June, pp. 241-256.

FELIX, D. (1964), "Monetarists, Structuralists and Import Substituting Industrialization: A Critical Appraisal", in Baer, W. A. and Kerstenetzky, I. (eds.)(1964), Inflation and Growth in Latin America, Richard D. Irwin, Inc., Illinois.

FELIX, D. (1968), "The Dilema of Import Substitution - Argentina", in Papanek, G. F. (ed.)(1968), Development Policy - Theory and Practice, Harvard.

FURTADO, C. (1973), "The Post-1964 Brazilian 'Model' of Development", Studies in Comparative International Development, Summer.

FRANSMAN, M. (ed.)(1982), Industry and Accumulation in Africa, Heineman, London.

GWILLAUMONT, P. (1979), "More on Consistent Measures of Import Substitution", Oxford Economic Papers, Vol. 31, No. 2, July.

HARRIS, J. R. and TODARO, M. P. (1970), "Migration, Unemployment and Development: A Two Sector Analysis", American Economic Review, Papers and Proceedings, Vol. 60, No. 1, March.

HEALEY, D. T. (1973), "Development Policy: New Thinking About an Interpretation", Journal of Economic Literature, Vol. 10, No. 3.

HELLEINER, G. K. (1972), International Trade and Economic Development, Penguin Books, London.

HELLEINER, G. K. (1975), "The Role of Multinational Corporations in the Less Developed Countries' Trade in Technology", World Development, Vol. 3, No. 4, April, pp. 161-189.

HELLEINER, G. K. (ed.)(1976), A World Divided: The Less Developed Countries in the International Economy, Cambridge University Press, Cambridge.

HELFGOTH, R. and SCHIAVO-CAMPO, S. (1970), "An Introduction to Development Planning", UNIDO, Industrialization and Productivity Bulletin, No. 16.

HILL, A. (1972), A Report in African Development, August.

HIRSCHMAN, A. O. (1958), The Strategy of Economic Development, Yale University Press, New Haven and London.

HIRSCHMAN, A. E. (1968), "The Political Economy of Import
    Substituting Industrialization in Latin America", Quarterly
    Journal of Economics. February.

HOFFMAN, W. G. (1958), The Growth of Industrial Economies,
    Manchester University Press, Manchester.

HORWITZ, R. (1967), The Political Economy of South Africa,
    Wesdenfield and Nicolson, London.

HUGHES, H. (1978), "Industrialization and Development: A Stock-
    Taking", Industry and Development, 1, 2, pp. 1-27.

ILO (1970), Towards Full Employment: A Programme for Colombia,
    ILO, Geneva.

ILO (1972), Employment, Incomes and Equality: A Strategy for
    Increasing Productive Employment in Kenya, ILO, Geneva.

IMF (1983), International Financial Statistics Yearbook 1983,
    Washington, D.C.

IMF (1984), International Financial Statistics Yearbook 1984,
    Washington, D.C.

INTERNATIONAL COPPER DEVELOPMENT COUNCIL (1966), Market Studies
    on Copper Consumption in Great Britain, London.

INTERNATIONAL WROUGHT COPPER COUNCIL (1967), Copper Scrap (Interim
    Report), London.

JAMESON, K. P. (1982), "A Critical Examination of 'The Patterns
    of Development'", Journal of Development Studies, Vol. 18,
    No. 4, July, pp. 431-446.

JOHNSON, H. G. (1971), Aspects of the Theory of Tariffs, George
    Allen and Unwin, London.

KAPLINSKY, R. (ed.)(1978a), Readings on the Multinational Corpora-
    tion in Kenya, Oxford University Press, Nairobi.

KAPLINSKY, R. (1978b), "Technical Change and the Multinational
    Corporation: Some British Multinationals in Kenya", in
    Kaplinsky, R. (ed.)(1978a), Readings on the Multinational
    Corporations in Kenya, Oxford University Press, Nairobi.

KAPLINSKY, R. (1979), "Export Oriented Growth: A Large International
    Firm in a Small Developing Country", World Development, Vol.
    7, No. 8/9, August-September, pp. 825-834.

KAPLINSKY, R. (1982), "Capitalist Accumulation in the Periphery:
    Kenya", in Fransman, M. (ed.), Industry and Accumulation in
    Africa, Heineman, London, pp. 193-221.

KEESING, D. B. (1967), "Outward Looking Policies and Economic Development", The Economic Journal, June.

KEESING, D. B. (1979), World Trade and Output of Manufactures: Structural Trends and Developing Countries' Exports, World Bank Staff Working Paper No. 316, January.

KHAN, A. R. (1963), "Import Substitution, Export Expansion and Consumption Liberalization: A Preliminary Report", Pakistan Development Review, Vol. 3.

KILBY, P. (1969), Industrialization in an Open Economy: Nigeria 1945-1966, Cambridge University Press.

KILLICK, T. (1976), "The Possibilities of Development Planning", Oxford Economic Papers, Vol. 28, No. 2, July, pp. 161-184.

KILLICK, T. (1978), Development Economics in Action, A Study of Economic Policies in Ghana, Heinemann Educational Books Ltd., London.

KILLICK, T. (1981), Policy Economics: A Textbook of Applied Economics for Developing Countries, Heinemann, London.

KILLICK, T. (1983), "Development Planning in Africa: Experiences, Weaknesses and Prescriptions", Development Policy Review, Vol. 1, No. 1, pp. 47-76.

KILLICK, T. (ed.)(1984), The Quest for Economic Stabilisation: The IMF and The Third World, Heinemann Educational Books Ltd., London.

KILLICK, T. (ed.)(1984), The IMF and Stabilisation: Developing Country Experiences, Heinemann Educational Books Ltd., London.

KIRKPATRICK, C. H. and NIXSON, F. I. (1981), "Transnational Corporations and Economic Development", Journal of Modern African Studies, Vol. 19, No. 3, pp. 367-399.

KIRKPATRICK, C. H. (ed) (1983), The Industrialisation of Less Developed Countries, Manchester University Press, Manchester.

KIRKPATRICK, C. H., LEE, N., and NIXSON, F. I. (1984), Industrial Structure and Policy in Less Developed Countries, George Allen and Unwin, London.

KUZNETS, S. (1966), Modern Economic Growth, New Haven.

LAL, D. (1979), "Industrial Priorities in India", in UNIDO, Industrial Priorities in Developing Countries, UN, New York, pp. 24-47.

LANGDON, S. (1975), "Multinational Corporations, Taste Transfer and Underdevelopment: A Case Study from Kenya", Review of African Political Economy, No. 2, January-April, pp. 12-35.

LEFF, N. H. and NETTO, A. D. (1966), "Import Substitution, Foreign Investment and International Disequilibrium in Brazil", Journal of Development Studies, April.

LEWIS, S. R. and SOLIGO, R. (1965), "Growth and Structural Change in Pakistan Manufacturing Industry, 1954-1964", Pakistan Development Review, Spring, pp. 94-139.

LEWIS, W. A. (1954), "Economic Development with Unlimited Supplies of Labour", The Manchester School of Economic and Social Studies, Vol. XXII, No. 2, May, pp. 131-191.

LEWIS, W. A. (1955), The Theory of Economic Growth, George Allen and Unwin, London.

LEWIS, W. A. (1966), Development Planning, George Allen and Unwin, London.

LEYS, C. (1975), Underdevelopment in Kenya: The Political Economy of Neo-Colonialism, 1964-1971, Heinemann, London.

LEYS, C. (1976), "The Overdeveloped Post Colonial States: A Re-Evaluation", Review of African Political Economy, No. 5, January-April, pp. 39-48.

LEYS, C. (1977), "Underdevelopment and Dependency: Critical Notes", Journal of Contemporary Asia, Vol. 7, No. 1.

LIPSEY, R. G. and LANCASTER, K. (1956-57), "The General Theory of the Second Best", Review of Economic Studies, Vol. XXIV, No. 63, pp. 11-32.

LITTLE, I. M. D. and MIRRLESS, J. A. (1969), Social Cost Benefit Analysis, Manual of Industrial Project Analysis in Developing Countries, OECD, Paris, Vol. II.

LITTLE, I., SCITOVSKY, T, and SCOTT, M. (1970), Industry and Trade in Some Developing Countries: A Comparative Study, Oxford University Press, London.

LLOYDS BANK GROUP, Economic Reports: Zambia, 1982 and 1983, Lloyds Bank International, London.

MacBEAN, A. L. (1966), "Export Instability and Economic Development", University of Glasgow, Social and Economic Studies, New Series, No. 9 in Robertson, D. S. (ed.)(1966), George Allen and Unwin Ltd., London.

MAITRA, P. (1967), Import Substitution in East Africa, Oxford University Press, Nairobi.

MAIZELS, A. (1963), Industrial Growth and World Trade, Cambridge University Press.

MAIZELS, A. (1968), Exports and Economic Growth of Developing Countries, Cambridge University Press, also in American Economic Review, Vol. 58, No. 3, Part I, June, pp. 575-580.

MARRIS, P. and SOMERSET, A. (1971), African Businessmen, Routledge and Kegan Paul, London.

MERHAV, G. (1973), Technological Dependence, Monopoly and Growth, Pergamon Press.

METAL STATISTICS (1971), Metallgesellshaft AG, Frankfurt and Main.

MORAWETZ, D. (1974), "Employment Implications of Industrialization in Developing Countries: A Survey", The Economic Journal, September.

MORGAN, T. (1959), "The Long-run Terms of Trade Between Agriculture and Manufacturing", Economic Development and Cultural Change, Vol. VIII, October, pp. 1-23.

MORLEY, S. A. and SMITH, S. W. (1970), "On the Measurement of Import Substitution", American Economic Review, September.

MORLEY, S. A. and SMITH, S. W. (1971), "Import Substitution and Foreign Investment in Brazil", Oxford Economic Papers, Vol. 23, No. 1., March.

NIXSON, F. I. (1981), "State Intervention, Economic Planning and Import-Substitution of Industrialization: The Experience of the Less Developed Countries", Manchester Discussion Papers in Development Studies, No. 8202, mimeo.

NIXSON, F. I. (1982), "Import-Substituting Industrialization" in Fransman, M. (ed.)(1982), Industry and Accumulation in Africa, Heinemann, London.

NIXSON, F. I. (1983a), "Controlling the Transnationals? Political Economy and the UN Code of Conduct", International Journal of the Sociology of Law, Vol. 11, No. 1, February, pp. 83-103.

NIXSON, F. I. (1983b), "Transnational Corporations and Third World Industrialisation", Paper presented to Socialist Economic Review, Annual Conference, London, Also: Manchester Discussion Paper in Development Studies, 8305, mimeo.

NYERERE, J. K. (1968), Freedom and Socialism, Oxford University Press, London.

OAU (1981), Lagos Plan of Action for the Economic Development of Africa 1980-2000, International Institute for Labour Studies, Geneva.

OYEJIDE, T. A. (1975), Tariff Policy and Industrialization in Nigeria, Ibadan University Press, Ibadan.

PEARSON, D. S. (1969), Industrial Development in East Africa,
Oxford University Press, Nairobi, No. 12.

PREBISCH, R. (1950), The Economic Development of Latin America
and its Principal Problems, UNECLA, New York.

PREBISCH, R. (1959), "Commercial Policy in the Underdeveloped
Countries", American Economic Review, Vol. XLIX, No. 2, May,
pp. 251-73.

PREBISCH, R. (1963), Towards a Dynamic Development Policy for
Latin America, UN, New York, E/CN.12/680/Rev.1.

RAHMAN, A. H. M. M. (1973), Exports of Manufactures from Developing
Countries, Rotterdam University Press.

RAJ, K. N. and SEN, A. K. (1961), "Alternative Patterns of Growth
Under Conditions of Stagnant Export Earnings", Oxford Economic
Papers,13, 1, February.

ROBOCK, S. H. (1970), "Industrialization through Import-Substitution
or Export Industries: A False Dichotomy", in Markham, J. W.
and Papanek, G. F. (eds.)(1970), Industrial Organization and
Economic Growth, Houghton Mifflin.

ROBSON, P. (1984), The Economics of International Integration,
George Allen and Unwin, London.

ROEMER, M. and STERN, J. J. (1981), Cases in Economic Development:
Projects, Policies and Strategies, Butterworths, London.

SAUL, J. S. (1974), "The State in Post-Colonial Societies: Tanzania",
in Miliband, R. and Saville, J. (eds.)(1974), The Socialist
Register 1974, The Merlin Press, London, pp. 349-372.

SCHIAVO-CAMFO, S. and SINGER, H. W. (1970), Perspectives of Economic
Development, Houghton Mifflin.

SCHUMPETER, J. A. (1934), The Theory of Economic Development, Harvard
University Press, Cambridge, Mass.

SCHUMPETER, J. A. (1961), The Theory of Economic Development, Oxford
University Press, London.

SCITOVSKY, T. (1954), "Two Concepts of External Economies", Journal
of Political Economy, Vol. 62, No. 2, April, pp. 143-151.

SINGER, H. W. (1979), "Policy Implications of the Lima Target",
Industry and Development, No. 3, Special Issue for the Third
General Conference of the United Nations Industrial Development
Organization, UN, New York.

SINGER, H. W. (1979), "The Basic Needs Approach to Development Vs.
the New International Economic Order: the Significance of Third
World Industrialization", World Development, Vol. 7, No. 6,
June, pp. 585-606.

SINGER, H. W. (1984), "Industrialization: Where do we Stand? Where are we Going?", The Institute of Development Studies, Brighton, Sussex, mimeo.

SOLIGO, R. and STERN, J. J. (1965), "Tariff Protection, Import Substitution and Investment Efficiency", Pakistan Development Review, Vol. 5, Summer.

SPRAOS, J. (1980), "The Statistical Debate on the Net Barter Terms of Trade Between Primary Commodities and Manufactures", Economic Journal, March.

STEUER, M. D. and VOIVODAS, C. (1965), "Import Substitution and Chenery's Patterns of Industrial Growth", Economi Internazionale, Vol. 18.

STEWART, F. (1972), "Choice of Technique in Developing Countries", Journal of Development Studies, Vol. 9, No. 1, October, pp. 99-121.

STEWART, F. (1973), "Trade and Technology", in Streeten, P. (ed.) (1973), Trade Strategies for Development, Macmillan, London.

STEWART, F. (1976), "Capital Goods in Developing Countries", in Cairncross, A. and Puri, M. (eds.)(1976), Employment, Income Distribution and Development Strategy: From Dependence to Revolution, John Wiley and Sons Inc.

STEWART, F. (1976), "Kenya: Strategies for Development" in Damachi, et al (eds.) (1976), Development Paths in Africa and China, MacMillan, London.

STEWART, F. and M. (1972), "Developing Countries, Trade and Liquidity: A New Approach", Banker, March.

STOUTJEDIJK, E. J. (1967), Uganda's Manufacturing Sector, East African Publishing House, Makerere Institute of Social Research, East African Studies, No. 28, Nairobi.

STREETEN, P. (ed.)(1973), Trade Strategies for Development, MacMillan, London.

SUTCLIFFE, R. B. (1971), Industry and Underdevelopment, Addison-Wesley Publishing Company, London.

SUTCLIFFE, R. B. (1972), "Imperialism and Industrialism in the Third World", in Owen, R. and Sutcliffe, R. B. (eds.)(1972), Studies in the Theory of Imperialism, Longman, London.

SUTCLIFFE, R. B. (1973), "Introduction" in Baron, P. A. (1973), The Political Economy of Growth, Penguin.

SZENTES, T. (1971), The Political Economy of Underdevelopment, Akademiai Kiado, Budapest.

TEMIN, P. (1967), "A Time Series Test of Patterns of Industrial Growth", Economic Development and Cultural Change, Vol. 15, No. 2, pp. 174-182.

THIRLWALL, A. P. (1983), Growth and Development: With Special References to Developing Economies, The Macmillan Press Ltd., London, Third Edition.

TODARO, M. P. (1971), Development Planning: Models and Methods, Oxford University Press, Nairobi.

TODARO, M. P. (1981), Economic Development in the Third World, Longman, Second Edition.

TURNER, R. K. and COLLIS, C. (1977), The Economics of Planning, The Macmillan Press Limited, London.

UL HAQ, M. (1973), "Industrialization and Trade Policies in the 1970s: Developing Country Alternatives, in Streeten, P. (ed.) (1973), Trade Strategies for Development, Macmillan, London.

UN (1963), A Study of Industrial Growth, New York.

UN (1965), Planning the External Sector: Techniques, Problems and Policies, New York, September.

UN (1975a) "Industrialization and Development: Progress and Problems in Developing Countries", Journal of Development Planning 8, pp. 1-60, UN, New York: Centre for Development Planning and Projections and Policies.

UN (1975b) The Growth of World Industry 1973 Edition, New York, Vol. I.

UN/IBRD/IDA (1975), Price Forecasts for Major Primary Commodities, Report No. 814.

UN (1982), Yearbook of National Accounts Statistics 1980, New York, Vol. 1, Part 2.

UN Yearbook of National Accounts Statistics 1971, New York, Vol. II.

UN(1983), Statistical Yearbook 1981, New York.

UN (1980), Yearbook of Industrial Statistics, 1978 Edition, New York, Vol. I.

UNECLA (1964), "The Growth and Decline of Import Substitution in Brazil", Economic Bulletin for Latin America, Vol. IX, March, pp. 1-59.

UNIDO (1979a), World Industry Since 1960: Progress and Prospects, UN, New York.

UNIDO (1979b), Industrial Priorities in Developing Countries:
    The Selection Process in Brazil, India, Mexico, Republic of
    Korea and Turkey, UN, New York.

UNIDO (1981a), World Industry in 1980, UN, New York.

UNIDO (1981b), Structural Changes in Industry, UN, New York.

UNIDO (1982), The Role of the Public Sector in the Industrialization
    of the United Republic of Tanzania, UNIDO/IS.358, New York.

VAITSOS, C. V. (1973), "Bargaining and the Distribution of Returns
    in the Purchase of Technology by Developing Countries", in
    Bernstein, H. (ed.)(1973), Underdevelopment and Development,
    Penguin Books, Harmondsworth, Middlesex, pp. 315-322.

VAN ARKADIE, B. (1964), "Import Substitution and Export Promotion
    as Aids to Industrialization in East Africa", East African
    Economic Review, Vol. 1, New Series.

VINER, J. (1953), International Trade and Economic Development,
    Oxford University Press, London.

WARREN, B. (1980), Imperialism: Pioneer of Capitalism, Verso, New
    Left Books, London.

WATERSON, A. (1965), Development Planning: Lessons of Experience,
    John Hopkins University Press, Baltimore.

WINSTON, G. C. (1967), "Notes on the Concept of Import Substitution",
    Pakistan Development Review, VII, Spring.

WORLD BANK (1976a) World Bank Atlas: "A Technical Note on the
    Computation Method", Economic and Social Data Division,
    Economic Analysis and Projections Department, Washington, D.C.,
    March.

WORLD BANK (1976b) World Bank Atlas, 1975, Washington, D.C.

WORLD BANK (1976c) World Tables 1976, The Johns Hopkins University
    Press for the World Bank, Baltimore and London.

WORLD BANK (1979), World Bank Atlas 1979, Washington, D.C.

WORLD BANK (1980), World Tables 1980, The John Hopkins University
    Press for the World Bank, Baltimore and London.

WORLD DEVELOPMENT REPORTS 1978-83, World Bank Publication, Washington, D.C.

ZIERMANN, W. and LAUZENDOIFER, M. (1977), "The State in Peripheral
    Societies", in Miliband, R. and Saville, J. (eds.)(1974), The
    Socialist Register 1974, The Merlin Press, London, pp. 143-177.

PART B - ZAMBIA

ADVISORY COMMITTEE ON INDUSTRIAL DEVELOPMENT REPORTS 1946-1948, Government Printer, Lusaka.

A SURVEY OF TECHNICAL AND COMMERCIAL EDUCATION IN NORTHERN RHODESIA, (Keir Committee Report.).

BALDWIN, R. E. (1966), Economic Development and Export Growth: A Study of Northern Rhodesia, 1920-60, University of California Press, Berkeley and Los Angeles.

BANK OF ZAMBIA, Annual Reports and Statements of Accounts, 1969-1982, Printpak Zambia Limited, Ndola.

BELL, M. W. (1981a), "Primary Production in an Unstable Economic Order: The Zambian Economy 1965 to 1978", University of Aston Management Centre, Working Paper Series No. 197, February.

BELL, M. W. (1981b), "The Decline and Fall of Planning in Zambia", University of Aston Management Centre, Working Paper Series, No. 213, August.

BELL, M. W. (1981c), "Instability and Growth in Economic Time Series: An Application to Primary Commodity Prices", University of Aston Management Centre, Working Paper Series, No. 224, November.

BELL, M. W. (1982), "Government in a Declining Economy: Zambia Since Independence", University of Aston Management Centre, Working Paper Series, No. 232, March.

BELL, M. W. (1983), "Government Revenue Stabilization in Primary Producing Countries: A Model for Zambia", The Journal of Modern African Studies, Vol. 21, No. 1, pp. 55-76.

BARBER, W. J. (1961), The Economy of British Central Africa, Oxford University Press, London.

BHAGAVAN, M. R. (1978), Zambia: Impact of Industrial Strategy on Regional Imbalance and Social Inequality, Scandinavian Institute of African Studies, Uppsala, Research Report No. 44.

BOSTOCK, R. M. (1971), "The Transport Sector", in Elliott, C. (ed.) (1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi.

BOSTOCK, R. M. and HARVEY, C. R. M. (eds.)(1972), Economic Independence and Zambian Copper: A Case Study of Foreign Investment, Praeger Publishers, New York.

BUSSCHAU, W. J. (1945), Report on the Development of Secondary Industries in Northern Rhodesia (Busschau Report), Government Printer, Lusaka.

CABINET OFFICE (1966), Manpower Report: A Report and Statistical Handbook on Manpower, Education, Training and Zambianisation 1965-1966, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE (1964), National Accounts and Balance of Payments 1954-1964, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE (1966), National Accounts 1964-65 and Input-Output Table 1965, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE (1970), National Accounts 1964-1967 and Input-Output Table 1967, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE (1971), National Accounts 1964-1968, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE (1980), Manpower Survey Second Quarter 1977, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE (1980), Zambia in Figures 1980 Edition, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE (1982), Report on Employment and Earnings 1979, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE, Statistical Yearbooks 1965-73, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE, Monthly Digests of Statistics, 1967-83, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE, Censuses of Industrial Production 1963, 1965/66-1975 and 1980, Government Printer, Lusaka.

CENTRAL STATISTICAL OFFICE, Annual Statements of External Trade 1965-80, Government Printer, Lusaka.

COLSON, E. (1960), "Social Organisational of the Gwembe Tonga", Kariba Studies, Manchester University Press, Manchester, Vol. 1.

CONTROL OF GOODS (Import and Export)(Commerce) Regulations (1965), Statutory Instrument No. 383, Government Printer, Lusaka.

COOMBE, T. (1967), "The Origins of Secondary Education in Zambia", African Social Research, Nos. 3 and 4.

COPPER INDUSTRIES SERVICE BUREAU: Copperbelt of Zambia Mining Industry Yearbook, 1964-1982, Kitwe.

DANIEL, P. (1979), Africanisation, Nationalisation and Inequality, Cambridge University Press, Cambridge.

DEANE, P. (1953), Colonial Social Accounting, Cambridge University Press.

DODGE, D. J. (1977), Agricultural Policy and Performance in Zambia, Berkeley.

DOHERTY, N. (1970), "Import Substitution and the Balance of Payments", Eastern African Economic Review. Vol. 2, No. 2, December.

ELLIOTT, C. (1969), "Humanism and the Agricultural Revolution", in Fortman, B. de Gaay (ed.)(1969), After Mulungushi, East African Publishing House, Nairobi, pp. 115-143.

ELLIOTT, C. (ed.)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi.

FABER, M. (1971), "The Development of the Manufacturing Sector", in Elliott, C. (ed.)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi, pp. 299-322.

FABER, M. L. O. and POTTER, J. G. (1971), Towards Economic Independence, Papers on the Nationalization of the Copper Industry in Zambia, Cambridge University Press.

FEDERATION OF RHODESIA AND NYASALAND Economic Reports 1960-61, Government Printer, Salisbury.

FINCHAM, R. (1980), "Economic Dependence and the Development of Industry in Zambia", The Journal of Modern African Studies, Vol. 18, No. 2, pp. 297-313.

FRY, J. (1972), "Economic Independence in Zambia", African Social Research.

FORTMAN, B. de GAAY, (1971), "Zambia's Markets: Problems and Opportunities", in Elliott, C. (ed.)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi.

FORTMAN, B. de GAAY, (ed.)(1969), After Mulungushi, East African Publishing House, Nairobi.

GANN, L. H. (1955), "The Northern Rhodesian Copper Industry and the World of Copper: 1923-1952", Rhodes-Livingstone Journal, Vol. XVIII.

GANN, L. H. (1958), The Birth of a Pural Society, Manchester University Press.

GANN, L. H. (1964), A History of Northern Rhodesia, Chatto and Windus, London.

GLUCKMAN, M. (1941), "The Economy of the Central Barofse Plain", Rhodes-Livingstone Institute, Lusaka, Paper No. 7.

GOODMAN, S. (1971), "The Foreign Exchange Constraint", in Elliott, C. (ed.)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi, pp. 233-254.

GULHATI, R. and SEKHAR, U. (1982), "Industrial Strategy for Late Starters: The Experience of Kenya, Tanzania and Zambia", World Development, Vol. 10, No. 11, pp. 949-972.

HALL, R. (1965), Zambia, Pall Mall Press, London.

HANNA, A. J. (1956), The Beginnings of Nyasaland and North Eastern Rhodesia.

HARVEY, C. R. M. (1971), "Financial Constraints on Zambian Development", in Elliott, C. (ed.)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi, pp. 121-152.

HARVEY, C. R. M. "The Fiscal System", in Elliott, C. (ed.)(1971) Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi, pp. 153-189.

HARVEY, C. R. M. (1971), "Inflation in a Very Open Economy: Zambia 1964-69" Eastern African Economic Review, 3, 1, June.

HAZELWOOD, A. and HENDERSON, P. D. (1960), Nyasaland: The Economics of Federation, Basil Blackwood, Oxford.

HOBART HOUGHTON, D. (1967), The South African Economy, Oxford University Press, Cape Town, 2nd Edition.

HULEC, O. (1969), "The 1930s Depression in Rhodesia", Journal of Modern African Studies, Vol. 7, No. 1.

ILO (1977), Narrowing the Gaps: Planning for Basic Needs and Productive Employment in Zambia, ILO/JASPA, Addis Ababa.

ILO (1981), Basic Needs in an Economy Under Pressure: Findings and Recommendations of an ILO/JASPA Basic Needs Mission to Zambia, ILO/JASPA, Addis Ababa.

ILO and UNDP Technical Assistance Sector (1969), Report to the Government of Zambia on Incomes, Wages and Prices in Zambia: Policy and Machinery (Turner Report), Cabinet Office, Lusaka and Geneva.

INDECO, Annual Reports 1967-83, Falcon Press and Monterey Printing and Packaging, Ndola.

INDECO, Zambia Enterprise, 1968-83, Monterey Printing and Packaging Limited.

INDECO, Indeco Reviews, 1975-1983, Indeco, Lusaka.

INDECO (1970), A Survey of Zambian Industry.

INDUSTRIAL AND PROCESS ENGINEERING CONSULTANTS (Great Britain) in Association with Sir Alexander Gibb and Partners (1960), Report on the Development of Manufacturing Industry within the Federation of Rhodesia and Nyasaland (Gibb Report) Government Printer, Salisbury, July.

INDUSTRIAL PROMOTION CORPORATION (1963), Annual Report 1962, Salisbury.

JOLLY, R. (1971), "The Skilled Manpower Constraint", in Elliott, C. (ed.)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi.

JOLLY, R. and WILLIAMS, M. (1972), "Macro-Budget Policy in an Open Export Economy: Lessons from Zambian Experience", Eastern Africa Economic Review, Vol. 4, No. 2, December.

KAUNDA, K. D. (1967), Humanism in Zambia and a Guide to its Implementation, Part I, Zambia Information Services, Government Printer, Lusaka.

KAUNDA, K. D. (1968), Zambia's Economic Revolution (Mulungushi Declaration), Zambia Information Services, Government Printer, Lusaka.

KAUNDA, K. D. (1969), Towards Complete Independence (Matero Speech), Zambia Information Services, Government Printer, Lusaka.

KAUNDA, K. D. (1970), This Completes Economic Reform: Now Zambia is Ours, Zambia Information Services, Government Printer, Lusaka.

KAUNDA, K. D. (1974), Humanism in Zambia and a Guide to its Implementation Part II, Zambia Information Services, Government Printer, Lusaka, September.

KAUNDA, K. D. (1975), The "Watershed" Speech, Zambia Information Series, Government Printer, Lusaka.

KAUNDA, K. D. (1985), Statement in the Times of Zambia, February 9.

KLEPPER, R. (1979), "Zambian Agricultural Structure and Performance", in Turok, B. (ed.)(1979), Development in Zambia, Zed Press, London, pp. 137-148.

KNIGHT, F. B. (1971), "Wages and Zambia's Economic Development", in Elliott, C. (ed)(1971), Constraints on the Economic Development of Zambia, Oxford University Press, Nairobi.

LLOYDS BANK GROUP, Zambia: Economic Reports 1982-83, Lloyds Bank International, London.

MARTIN, A. (1975), Minding their own Business, Penguin, Harmondsworth.

MINISTRY OF AGRICULTURE (1968), Review of the Operations of Agricultural Marketing Committee during the year ending 30th June, 1967, Government Printer, Lusaka.

MINISTRY OF COMMERCE AND INDUSTRY (1966), "Outline of the Government's Industrial Policy" (OGIP), Government Printer, Lusaka.

MINISTRY OF COMMERCE AND INDUSTRY, Annual Reports 1964-83, Government Printer, Lusaka.

MINISTRY OF COMMERCE AND INDUSTRY (1968), Statutory Instruments Nos. 249 and 352, Government Printer, Lusaka.

MINISTRY OF COMMERCE AND INDUSTRY (1969), Statutory Instrument 392, Government Printer, Lusaka.

MINISTRY OF EDUCATION PLANNING UNIT (1980), Educational Statistics 1978, Government Printer, Lusaka, February.

MINISTRY OF EDUCATION PLANNING UNIT (1981), Annual Report for the Year 1979, Printing Services, Department of Technical Education and Vocational Training, Government Printer, Lusaka.

MINISTRY OF DEVELOPMENT PLANNING AND NATIONAL GUIDANCE (1971), Second National Development Plan, January, 1972 - December, 1976, Government Printer, Lusaka, December.

MINISTRY OF FINANCE (1966), Economic Report 1965, Government Printer, Lusaka.

MINISTRY OF FINANCE, Financial Reports 1965-83, Government Printer, Lusaka.

MINISTRY OF FINANCE, Budget Addresses 1966-1983, Government Printer, Lusaka.

MOLTENO, R. and TORDOFF, W. (1974), "Independent Zambia: Achievements and Prospects", in Tordoff, W. (ed.)(1974), Politics in Zambia, Manchester University Press, Manchester.

MUSAKANYA, V. S. (1970a) "Intermediate Rural Policy: The Paternalism that Underlies this Rural Development Idea", in the Times of Zambia, January 22.

MUSAKANYA, V. S. (1970b) "Development Priorities", in Zambia six years after (1970), African Development Economic Survey, October.

MWANAKATWE, J. (1968), The Growth of Education in Zambia Since Independence, Oxford University Press, Lusaka.

MWANZA, J. M. (1979), "Rural Urban Migration and Urban Employment in Zambia", in Turok, B. (ed.)(1979), Development in Zambia, Zed Press, London, pp. 26-36.

NATIONAL ARCHIVES OF RHODESIA AND NYASALAND (1926), Annual Report on Native Education 1926, Salisbury.

NORTHERN RHODESIA: Central Statistical Office (1931), Report of the Director of Census Regarding the Census taken on 5th May, 1931 Crown Agents for Colonies, London.

NORTHERN RHODESIA: Central Statistical Office (1936), Report for the year ended 31st December, 1935, Government Printer, Lusaka.

NORTHERN RHODESIA: Department of Trade, Transport and Industry (1953), Annual Report 1952, Government Printer, Lusaka.

NORTHERN RHODESIA: Central Statistical Office (1953), Annual Statement of the Trade of Northern Rhodesia, Government Printer, Lusaka.

NORTHERN RHODESIA: (1933), Report of the Government Unemployment Committee 1932, Government Printer, Livingstone.

NORTHERN RHODESIA (1932), Report of the Finance Commission, Government Printer, Livingstone.

NORTHERN RHODESIA (1945), General Notice, No. 791.

NORTHERN RHODESIA (1950), Report of the Development Authority, January 1948 - December, 1949, Government Printer, Lusaka.

NORTHERN RHODESIA (1950), Legislative Council Debates, No. 69, 31st August - 16th September, 1950.

NORTHERN RHODESIA: Central African Statistical Office (1947), First Report on the Census of Industrial Production, Salisbury.

NORTHERN RHODESIA (1955), Report on the African Budget Survey in Northern Rhodesia 1953-54, Government Printer, Salisbury.

NORTHERN RHODESIA: Central African Statistical Office (1954), National Income and Social Accounts of Northern Rhodesia, 1945-1953, Salisbury, reprinted Central Statistical Office (1964), Government Printer, Lusaka.

NORTHERN RHODESIA (1949), Report on the Census of Population of Northern Rhodesia held on 15th October, 1946. Government Printer, Lusaka.

NORTHERN RHODESIA (1951), General Notice No. 46 of 1951.

NORTHERN RHODESIA (1951), Ten Year Development Plan for Northern Rhodesia 1947-56 as Approved by Legislative Council on 11th February, 1947, Government Printer, Lusaka.

NORTHERN RHODESIA: Legislative Council Debates, No. 99, 24th November, 1959 - 3rd February, 1960.

NORTHERN RHODESIA: Ministry of African Education Triennial Survey 1961-63, Government Printer, Lusaka.

NORTHERN RHODESIA: Department of African Education, Annual Report 1954, Government Printer, Lusaka.

NORTHERN RHODESIA: Department of Labour, Annual Reports 1959-61,
    Government Printer, Lusaka.

NORTHERN RHODESIA (1961), Report of the Rural Economic Development
    Working Party, Government Printer, Lusaka.

NORTHERN RHODESIAN INDUSTRIAL DEVELOPMENT CORPORATION (1963),
    Annual Report 1963, Lusaka.

NORTHERN RHODESIAN INDUSTRIAL LOANS BOARD, Annual Reports 1951-60,
    Government Printer, Lusaka.

NORTHERN RHODESIA LEGISLATIVE COUNCIL (1959), Debates, 23rd June -
    7th August, 1959, Lusaka.

OFFICE OF NATIONAL DEVELOPMENT AND PLANNING (1966), First National
    Development Plan 1966-1970, Government Printer, Lusaka, July.

OFFICE OF THE PRESIDENT: National Commission for Development
    Planning (1979), Third National Development Plan 1979-83,
    Government Printer, Lusaka, October.

OFFICE OF THE PRESIDENT: Economic Reports, 1965-1984, Government
    Printer, Lusaka.

OFFICE OF THE VICE-PRESIDENT: Development Division (1969),
    Zambian Manpower, Government Printer, Lusaka.

OLLAWA, P. (1977), "Rural Development Policies Performance in
    Zambia: A Critical Inventory", Institute of Social Studies,
    The Hague, Occasional Paper No. 59.

QUICK, S. A. (1975), "Bureaucracy and Rural Socialism: The Zambian
    Experience", Stanford University, Ph.D Dissertation, Mimeo.

QUINN, K. (1971), "Industrial Relations in Zambia, 1935-69", in
    Elliott, C. (ed.)(1971), Constraints on the Economic Development
    of Zambia, Oxford University Press, Nairobi.

REPUBLIC OF ZAMBIA (1965), An Outline of the Transitional Development
    Plan, Government Printer, Lusaka.

REPUBLIC OF ZAMBIA (1977), Industrial Development Act, Chapter 674,
    of the Laws of Zambia (IDA), Government Printer, Lusaka, October.

RICHARDS, A. I. (1939), Land, Labour and Diet in Northern Rhodesia,
    Oxford University Press, London.

ROBERTS, R. A. F. and ELLIOTT, C. (1971), "Constraints in
    Agriculture" in Elliott, C. (ed.)(1971), Constraints on the
    Economic Development of Zambia, Oxford University Press, Nairobi.

ROTBERG, R. I. (1962), "Rural Rhodesian Markets", in Bohannau, P.
    and Dalton, G. (eds.)(1962) Markets in Africa, Evanston, New
    York.

ROTBERG, R. I. (1965), Introduction to Christian Missionaries and the Creation of Northern Rhodesia, Princeton University Press, New Jersey.

SARDANIS, A. (1972), "Economic Nationalism", in Times of Zambia, June 16th.

SCHUMACHER, E. F. and PORTER, J. (1969), "Rural Development in Zambia", Lusaka, Mimeo.

SCHUTZ, J. (1976), "Land use in Zambia, Part i, The Basically Traditional Land Use Systems and Their Regions", Munich.

SCUDDER, T. (1962), The Ecology of the Gwembe Tonga, Kariba Studies, Manchester University Press, Manchester, Vol. II.

SEIDMAN, A. (1972), Comparative Development Strategies in East Africa, East African Publishing House, Nairobi.

SEIDMAN, A. (1979), "The Distorted Growth of Import Substitution Industry: The Zambian Case", in Turok, B. (ed.) (1979), Development in Zambia, Zed Press, pp. 100-127.

SEIDMAN, A. (1973), "The 'Have - Have Not' Gap in Zambia - or, What Happens to the Investible Surpluses Produced in Zambia", University of Zambia, Lusaka.

SHAW, T. M. (1976), "Zambia: Dependency and Underdevelopment", Canadian Journal of African Studies, Ottawa, X, 1, pp. 3-22.

SKAR, R. L. (1975), Corporate Power in an African State: The Political Impact of Multinational Mining Companies in Zambia, Berkeley and Los Angeles.

THE ECONOMIST INTELLIGENCE UNIT (EIU)(1966), "Annual Supplement to the Quarterly Economic Review: Rhodesia, Zambia, Malawi, 1966".

THOMPSON, C. H. and WOODRUFF, H. W. (1953), Economic Development in Rhodesia and Nyasaland, Dennis Hobson Limited, London.

TIMES OF ZAMBIA, (1970), Statement by Mr. Humphrey Mulemba, Minister of Trade, Lusaka, June 17th.

TIMES OF ZAMBIA, (1985), Statement by Vernon Mwaanga, Zincom President, June 24th.

TORDOFF, W. (ed.)(1974), Politics in Zambia, Manchester University Press, Manchester.

TUROK, B. (ed)(1979), Development in Zambia, Zed Press, London.

TUROK, B. (1981), "Control in the Parastatal Sector in Zambia", Journal of Modern African Studies, Vol. 19, No. 3, pp. 421-446.

UNDP/ILO (1977), Management Development and Advisory Project: Zambia Management and Training Needs Survey.

UN/ECA/FAO (1964), Report of the Economic Survey Mission on the Economic Development of Zambia (The Seers Report), The Falcon Press, Ndola.

UNESCO (1963), Education in Northern Rhodesia: A Report and Recommendations prepared by the UNESCO Planning Mission, Government Printer, Lusaka, September 28th.

UN/IBRD/IDA (1975), Price Forecasts for Major Primary Commodities, Report No. 814.

UNITED KINGDOM COLONIAL OFFICE (1938), Report of the Commission Appointed to Enquire into the Financial and Economic Position of Northern Rhodesia (The Pim Report), H.M.S.O., London, Colonial No. 145.

UNITED NATIONAL INDEPENDENCE PARTY (UNIP)(1973), National Policies for the next decade 1974-84, Zambia Information Services, Government Printer, Lusaka, August.

WILLIAMS, M. (1973), "State Participation and the Zambian Economy", World Development Vol. 1, No. 10.

YOUNG, A. (1973), Industrial Diversification in Zambia, Praeger Publishers, New York.

ZAMBIAN INDUSTRIAL DIRECTORY (1970), "Statement by the Ministry of Home Affairs, December 1968", Associated Reviews, Ndola.

ZAMBIAN INFORMATION SERVICES, "Zambia in Brief", 1964-79, Government Printer, Lusaka.

ZAMBIA SUGAR COMPANY (1968), Report for Nakambala Estate.

ZIMCO, Annual Reports 1976-82, Monterey Printing and Packaging, Ndola.

ZIMCO, (1983), Zambia Industrial and Mining Corporation Limited Subsidiary and Associate Companies", Zimco Information and Publicity Unit, Lusaka, April.