THE INDUSTRIALISATION OF LESS DEVELOPED COUNTRIES

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Preface

This volume has its origins in the continuing debate among economists and other social scientists as to the nature and characteristics of the industrialisation process in less developed countries (LDCs), and the role of industrial strategies in the pattern of economic development. Much of this discussion has been concerned with the relationship between trade policy and industrialisation. The increasing difficulties experienced by many LDCs in their attempts to pursue a strategy of import-substituting industrialisation led to a critical reappraisal of the longer-run viability of this strategy and encouraged the revival of a more orthodox view of industrialisation based on an outward-looking, export-oriented trade strategy. This resurgence in neo-classical thinking was accompanied by the increasing application of orthodox analytical techniques to development issues, as, for example, in the elaboration of investment appraisal procedures and in the estimation of the economic costs of import-substituting production and protectionist trade regimes. The neo-classical perspective on trade and industrialisation, and the analytical methods that it employs, are examined in detail in the introductory chapter.

The past decade has also seen a growth of interest in the role played by transnational corporations in the development process. It is now generally recognised that the operations of transnationals have been an important factor in the foreign trade and industrialisation experience of many developing countries, and a major part of the introduction is devoted, therefore, to a discussion of their evolution, structure and mode of operation, and to an assessment of their impact on the industrialisation process.

The underlying objective of the book is to emphasise the complexity of the industrialisation process in less developed countries and to indicate the difficulties that arise in analysing and interpreting that experience. Despite its internal logical consistency, the neo-classical perspective provides an inadequate analytical framework for the explanation and understanding of the issues involved, and it would seem that the profession's general espousal of the

neo-classical viewpoint, and its rejection of the import-substitution strategy in favour of an export-led approach, has been injudicious. It is hoped that this volume will contribute towards a more reasoned and balanced evaluation of the issues.

The book brings together the results of a programme of research being undertaken under the editors' direction in the University of Manchester Economics Department, on various aspects of industrialisation in LDCs. Although the research has consisted largely of self-contained studies, the work has been presented and discussed at the regular meetings of the department's Development Economics Workshop, and the comments and interest of the workshop participants have provided a valuable stimulus to the research programme.

We have been encouraged throughout this project by our colleagues in the Economics Department. We owe a particular debt of gratitude to Philip Leeson, who has patiently read and given valuable comments on various versions of the text. Norman Lee, Graham Smith and Mo Yamin read and commented on individual chapters. Our thanks are due also to the various contributors for the efforts that they have put into their individual contributions. We would hope that our colleagues would be in broad agreement with the arguments advanced in the introduction, but it is only fair that they should be exonerated from any responsibility for the opinions expressed therein, and all remaining errors of fact and interpretation are our responsibility.

Finally, we should like to thank Mrs Jean Ashton, who typed various drafts of the manuscript with her usual efficiency, speed and good humour, ably assisted by Janice Hammond and Hilary Thornber.

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Introduction

The industrialisation of the less developed countries

I Introduction

Our objectives in this introductory essay are twofold. Firstly, we present a broad overview of the progress of industrialisation in less developed countries (LDCs) over the past twenty years, focusing on the growth and geographical distribution of industrial activity and changes in its structure and composition. Secondly, we consider a number of specific aspects of the experience of industrialisation and relate them to the six case studies which together constitute the major part of the volume.

We highlight four major areas of interest:

1. The experience of import-substituting industrialisation and the lessons that can be drawn from it. The chapters by Ekuerhare and Kemal, both in the neo-classical tradition, discuss some of the salient issues.
2. The role of foreign capital in general, and the transnational corporation (TNC) in particular, in the process of growth and development. Sant'Ana considers some aspects of the relationship between economic growth and foreign capital inflows in the case of Brazil; Yamin is concerned with the impact of oligopolistic rivalry on entry patterns of TNCs into LDCs; the crucial problems of technology transfer and anchorage, and taste transfer, are discussed by Adikibi and Braun.
3. Export-led industrialisation. The relationship between export-led industrialisation and economic development is analysed in this introduction and the role of the TNC in the export of manufactured goods considered; the experience of the Republic of Korea is looked at in some detail.
4. In the final section of the introduction we attempt to draw the various strands of the discussion together, identify a number of issues that remain to be clarified and relate what has been happening in the field of industrial development to some contemporary debates in development studies, especially those relating to the possibilities for independent industrial development in today's LDCs.

A note on terminology is appropriate here. The term 'industrialisation' can mean either: the organisation of production in business enterprises in any sector of the economy, characterised by specialisation and the division of labour and involving the application of technology and mechanical and electrical power to supplement and replace human labour; or it can mean the establishment of a modern, integrated, urban-based manufacturing sector. In general we use the term to mean the latter alternative, although this is not to imply that the strategies based on the alternative interpretations would in any sense be inconsistent with one another or mutually exclusive. Likewise the industrial sector is usually defined to include: mining, manufacturing, construction and public utilities. In this volume we are concerned almost exclusively with manufacturing and we use the term 'manufacturing' and 'industry' interchangeably.

For the great majority of LDCs, industrialisation is still the fundamental objective of economic development. Although attention has been focused in recent years on the need for agricultural development and rural rejuvenation, policy statements still emphasise the argument that industrial development is necessary to achieve high rates of economic growth, provide for the basic needs of the population, create more employment opportunities, diversify the economy and give rise to desirable social, psychological and institutional changes. In the words of the United Nations (1975, p. 2):

> ... the goal of industrialization is sought in the developing world as an essential ingredient of the expansion, diversification and modernization of their economies, and thereby of improving the general living standards.

In global terms, the long-term objective of the LDCs, as stated in the *Lima Declaration and Plan of Action on Industrial Development and Co-operation* (UNIDO, 1975), is that they should account for at least 25 per cent of world manufacturing value added by the year 2000. The implications of such a 'restructuring' of world industry, if it were to be achieved, for both developed and less developed countries, although profound, are not the central concern of this introductory chapter. Rather, our purpose is to analyse the industrialisation experience of the LDCs during the recent past, to examine the nature and characteristics of that experience and to relate it to the more general process of economic growth and development in the majority of these countries.

II. The growth of manufacturing industry in the LDCs: an overview

II.1 *The global perspective*

For a large number of LDCs, economic growth has been rapid and sustained in the post-World War II period. The World Bank (1978, p. 3) has noted that:

> The developing countries have grown impressively over the past twenty-five years; income per person has increased by almost 3% a year, with the annual growth rate accelerating from about 2% in the 1950's to 3·4% in the 1960's. Contrasted with what little can be gleaned of the experience of these countries before 1950, this is a substantial improvement over the historical record.

Rapid economic growth has been accompanied by significant structural change. Table 1.1 clearly shows the declining share of agriculture in gross domestic product in both the low-income and middle-income LDCs and the correspondingly higher shares of industry and services.

Table 1.1 Less developed countries: structure of production, 1960 and 1978; distribution of gross domestic product (%) (weighted averages)

	Agriculture		*Industry*		*(Manufacturing)*[c]		*Services*	
	1960	*1978*	*1960*	*1978*	*1960*	*1978*	*1960*	*1978*
Low-income countries[a]	50	38	17	24	11	13	33	38
Middle income countries[b]	22	16	31	34	22	25	47	50

Notes

a Thirty-eight low-income LDCs with *per capita* incomes in 1978 less than $360.
b Fifty-two middle-income LDCs with *per capita* incomes in 1978 greater than $360.
c Manufacturing is part of the industrial sector, but its share in GDP is shown separately because it typically is the most dynamic part of the industrial sector.

Source. World Bank (1980), Annex, table 3.

Looking more specifically at the development of the manufacturing sector, it has been calculated (UNIDO, 1979, ch. II) that in 1960 eighty-five LDCs for which data were available accounted for 6·9 per cent of world manufacturing value added. Their share remained constant (although with minor fluctuations) until 1968, but from 1969 onwards it grew steadily, and reached 8·6 per cent of world manufacturing value added by 1975. Preliminary figures put it at 9·0 per cent for 1977 (UNIDO, 1979, table II.1, p. 33).

There were marked regional variations between the LDCs. Africa accounted for 0·7 per cent of world manufacturing value added in 1960 and 0·8 per cent in 1975; Latin America for 4·1 per cent in 1960 and 4·8 per cent in 1975; south and east Asia for 1·9 per cent in 1960 and 2·5 per cent in 1975; west Asia (Cyprus, Iraq, Jordan, Saudi Arabia, Syria and Turkey) accounted for 0·3 per cent in 1960 and 0·5 per cent in 1975. Latin America is thus the most industrialised of the less developed regions but west Asia and, to a lesser extent, south and east Asia, have made the largest relative gains since 1960. This can be seen when we examine the annual growth rates for the various regions (Table 1.2).

Although the classification of the LDCs by region yields some interesting results, it is perhaps more useful to classify them according to *per capita* income and examine differences between the various income groups. From Table 1.3 it

Table 1.2 Average annual growth rates of manufacturing value added, by region, 1960–75

Region	%
Africa	7·3
Latin America	7·2
South and east Asia	7·5
West Asia	9·2

Source. UNIDO (1979), p. 38.

Table 1.3 Growth rate of manufacturing value added (MVA) in eighty-five developing countries, by income group, 1960–75

Income group	*GNP per capita (1975 dollars)*	*Average annual growth rate of MVA (%)*	*Group population in 1975 (% of total)*	*Number of countries in group*
Low	<265	5·2	56·7	26
Lower middle	265–520	7·1	16·4	21
Intermediate middle	521–1,075	8·6	17·3	21
Upper middle	1,076–2,000	7·3	7·9	10
High	>2,000	8·3	1·6	7
Total			100·0	85

Note. Where GNP was not available, GDP *per capita* was used to classify countries.
Source. UNIDO (1979), table II.5, p. 39.

can be seen that it was the countries in the Intermediate Middle range ($521–$1,075) that grew most rapidly during the period, and their share of LDC total manufacturing value added rose from 33·37 per cent in 1960 to 39·34 per cent in 1975. On the other hand, the low-income LDCs grew at a rate below that for LDCs as a whole and their share of LDC total manufacturing value added fell from 20·61 per cent in 1960 to 16·24 per cent in 1975 (UNIDO, 1979, fig. III, p. 40).

The data presented in this way are still in too aggregate a form to permit us to identify the LDCs that made the greatest gains in terms of industrial development. UNIDO calculated the incremental gains of a number of LDCs and expressed them as a percentage of the increase in manufacturing value added (at 1970 prices) of all LDCs. The ten countries responsible for the largest contribution to the total increase for all LDCs are listed in descending order in Table 1.4.

Table 1.4 Contribution of selected LDCs to the increase in manufacturing value added of all LDCs, 1966–75 (%)

Country	*Contribution*
Brazil	23·9
Mexico	10·7
Argentina	9·4
Republic of Korea	8·2
India	5·9
Turkey	5·0
Iran	2·9
Indonesia	2·5
Hong Kong	2·4
Thailand	2·3
Total	73·2

Source. UNIDO (1979), table II.6, p. 42.

It can be clearly seen from Table 1.4 that a large part of the growth in manufacturing value added was concentrated in relatively few LDCs (although it should be pointed out that those ten accounted for 60 per cent of the total population of LDCs; UNIDO, 1979, p. 42).[1] Rapid industrial growth has occurred in a small number of cases but has left many more largely untouched, often small, low-income LDCs (with the so-called least developed countries least affected of all). In addition, as UNIDO notes,

> ... dynamic growth of the manufacturing sector in the developing countries did not necessarily affect a broadly based pattern of growth applying to other economic sectors, and particularly to agriculture. [1979, p. 42]

The construction and service sectors have in general grown rapidly, but agriculture has tended to lag behind the other sectors. Even though the UN report (UN, 1975, p.8) is more sanguine than the UNIDO report on this matter, it too emphasises the point that 'industrial progress requires all-round progress in the economy' and that 'Single-minded concentration on industrialization cannot be the road to economic and social development'.

Table 1.1 outlined in aggregate terms the structural changes that have occurred over the period in question and in particular highlighted the increased share in GDP of the manufacturing sector, especially in the middle-income countries. Of the thirty-six LDCs whose industrial development was reviewed by the UN (1975, table 1, pp. 4–5), in only three countries in the early 1960s — Argentina, Brazil and Chile — was the share of manufacturing output in GDP 20 per cent or greater. By the early 1970s the original three had been joined by several more (Peru, Venezuela, Mexico, Iran, the Republic of Korea, Singapore and Egypt), and two others (Colombia and the Philippines) were

close to the 20 per cent mark. In many other LDCs, however, especially those of sub-Saharan Africa, the share of manufacturing in GDP remained low.[2]

It is of interest to note that four of the countries included in Table 1.4 (Brazil, Mexico, the Republic of Korea and Hong Kong) are categorised by the OECD in a recent study (1979) as Newly Industrialising Countries (NICs).[3] The NICs are distinguished from the majority of non-oil LDCs by their emphasis on outward-looking growth policies as a means of promoting rapid industrialisation. They have undoubtedly experienced rapid growth, and their success in this respect has led many academic economists and international institutions to recommend the adoption of outward-looking policies. We discuss this issue in greater detail below.

II.2 *The commodity composition of industrial output*

In its analysis of the commodity composition of industrial production the UNIDO survey distinguishes between light and heavy industries,[4] and documents the gradual decline of light industry's share of total manufacturing in the LDCs. In 1955 it accounted for 67·3 per cent of manufacturing output and heavy industry for 32·7 per cent (UNIDO, 1979, table III.1, p. 66). By 1976 the figures were 48·9 per cent and 51·1 per cent respectively (and for Latin America the share of heavy industry, at 57·5 per cent, was significantly greater than that for the LDCs as a whole). Heavy industry is thus the dominant growth sector in the LDC economies, its rise being closely associated with the expansion of domestic demand (UNIDO, 1979, p. 65).

Analysis of the structure of manufacturing output in LDCs (using as a measure of relative importance the value added in individual industrial branches expressed as a percentage of total manufacturing value added) shows that five sectors — food, textiles, petroleum refineries, transport equipment and other chemicals — accounted for nearly 45 per cent of total manufacturing value added in 1970 (UNIDO, 1979, p. 71). In the case of the developed market economies, non-electrical machinery, transport equipment, electrical machinery, food and metal products accounted for 47 per cent of manufacturing value added in 1970. UNIDO concludes that 'It is immediately evident that the dominant branches differ substantially in these two economic groupings' (UNIDO, 1979, p. 71).

In particular, engineering activities are under-represented in the manufacturing sectors of the LDCs, although certain countries have made progress in specific areas. For example, Argentina and Brazil are important producers of non-electrical machinery: Hong Kong and Singapore are important producers of electrical machinery. In the case of transport equipment, Argentina, Brazil, Chile, Iran, Mexico, the Republic of Korea and Venezuela have made significant advances, especially in the automobile industry. In shipbuilding Argentina, Brazil, India, Peru, the Republic of Korea and Singapore are increasingly important, the availability of a standardised technology and cheap labour being the most important factors underlying this development (UNIDO, 1979, p. 4).

It is important to note, however, that less progress has been made in the field of capital goods, where most LDCs are heavily reliant on imports, which represent anything between 30 and 60 per cent of fixed investment (UN, 1975, p. 15). India has made the greatest progress towards self-reliance, and Brazil, Argentina and Mexico have also reduced substantially the import content of their fixed investment programmes (UN, 1975, p. 15). However, the vast majority of LDCs will continue to rely on imported capital goods, and the realisation of their industrial objectives will depend on increases in their overall capacity to import.

II.3. *Employment in the manufacturing sector*

The rapid growth of manufacturing output in some LDCs has not often been matched by an equally rapid growth of manufacturing employment. UNIDO (1979, p. 223) characterises 1960–75 as a period of steady but uneven growth. For the period as a whole, manufacturing employment grew at 4·9 per cent per annum, but accelerated to 7·0 per cent per annum in the sub-period 1968–75. These rates of growth compare well with those in the developed capitalist and the centrally planned economies, and also with historical experience. Nevertheless, for the LDCs the rise in output was significantly greater than the rise in employment, indicating an increase in labour productivity over the period.[5]

There were wide divergences in experience. Analysing thirty-five LDCs, UNIDO (1979, table VII.2, p. 227) estimated that, on average, the growth of the total labour force for 1970–75 was above 2·5 per cent per annum (ranging from 1·1 per cent per annum for Jamaica to 3·7 per cent per annum for Venezuela). The urban labour force expanded faster, and UNIDO (1979, p. 226) quotes an estimate of 5·0 per cent per annum for most LDCs. However, in the majority of cases the growth rates of manufacturing employment were greater than the growth rates of the total labour force, and even, in some cases, greater than the growth rates of the urban labour force. For example, the rate of growth of employment in manufacturing for the 1970–76 period was 5·0 per cent per annum for Venezuela, 3·8 per cent for Jamaica, 16·8 per cent for the Republic of Korea, 23·7 per cent for Mauritius and 9·3 per cent for Malawi (UNIDO, 1979, table VII.2, p. 227).[6] Rapid growth was often attributable, however, to the smallness of the manufacturing sector at the beginning of the period.

In a number of countries manufacturing employment grew less rapidly, and in three (Sri Lanka, Chile and Guatemala) it actually fell. UNIDO observed that the level of *per capita* income did not appear to affect the performance of the manufacturing sector in generating employment and, perhaps more controversially, that the export orientation of an economy did not explain the rate of growth of manufacturing employment. For example, there was a rapid rise in Korea (16·8 per cent per annum) but not in Hong Kong (1·7 per cent per annum) for the 1970–76 period.

The data above should be treated with caution. The number of countries included is limited and the data relate to a relatively short space of time.[7] They take no account of the possibly destructive effects of extra employment in the 'modern' sector of the economy on employment within the 'traditional' or small-scale sub-sector (handicraft and artisan activities); differences between individual LDCs will be great in this respect, given differences in the patterns of investment between the two sub-sectors. Finally, part of the increase noted may result from more comprehensive statistical coverage.

With respect to the share of the industrial sector and the manufacturing sub-sector in total employment, the experience is very mixed. There is a general presumption that, as economic development proceeds, labour moves from the agricultural sector towards the industrial and service sectors, and that the latter increase their share of the total labour force. Of the forty-six LDCs for which UNIDO (1979, table VII.3, pp. 229–31) was able to make comparisons over time, twenty-three experienced a rising share of the total labour force in the industrial sector and manufacturing sub-sector (including such important industrial producers as Pakistan, Brazil, the Republic of Korea, Hong Kong, Mexico and Venezuela); twelve countries experienced little or no change, including, significantly, two with large populations — India and Indonesia; and eleven actually experienced a fall (including Sri Lanka, Chile, Argentina and Jamaica). The fact that the decline in the share of the industrial sector was accompanied by a decrease in the share of manufacturing suggested to UNIDO (1979, p. 232)

> ... a deeply seated deformation of the socio-economic structure and [reflected] the country's inability to use its most valuable resource, i.e. the labour force.

As an indication of the share of the manufacturing sector in the total labour force, Table 1.5 gives the relevant data for the ten countries in Table 1.4.

The data indicate the wide differences between individual LDCs. Hong Kong is obviously exceptional in this respect (and so to a lesser extent is Singapore, with 25·7 per cent of its economically active population employed in manufacturing in 1976). Typically the share of the manufacturing sector lies between 10 and 15 per cent, but for some of the more important of the semi-industrial LDCs it is lower (for example, India) and for some sub-Saharan African countries the figure is very low (in Zambia, for example, 2·7 per cent in 1969).

Given the rapid urban population growth rates referred to above, and the apparent inability of the 'modern' manufacturing sector to generate extensive employment opportunities, the emergence of massive unemployment and underemployment in many LDCs has attracted a great deal of attention in recent years. Estimates vary as to the size of the problem, because of conceptual and measurement difficulties and because of the controversy surrounding the nature and magnitude of the so-called 'urban informal sector' (see Moser, 1978). The ILO put the total of un- and underemployment in LDCs in the