

STRUCTURAL INTERDEPENDENCE,  
INCOME DISTRIBUTION, AND  
INDUSTRIAL GROWTH: WITH  
SPECIAL REFERENCE TO  
BANGLADESH AND INDIA

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by  
Muhammad Sadequl Islam

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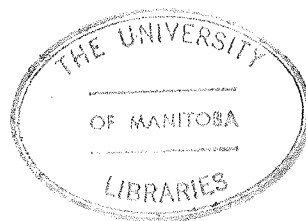
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## ABSTRACT

Economic growth in virtually all developing countries has been characterized by shifts in the structure of production toward the manufacturing sector. Such structural shifts, however, often do not take place at a steady rate. The growth of manufacturing output in Bangladesh and India, for instance, reveals three features: (1) a high degree of fluctuations in the growth rate of output; (2) a high degree of variation in growth rates across different sub-sectors of the manufacturing sector; and (3) a low trend growth rate, compared to many other developing countries. The main objective of this study is to investigate how the growth of output in the capitalist manufacturing sector (i.e., the registered manufacturing sector) has been affected by structural interdependence between this sector and other sectors.

As a first step, a model is presented to demonstrate theoretically the interaction between the inter-sectoral terms of trade and the growth of manufacturing output. This is followed by an empirical investigation of the nature of adjustment processes in the manufacturing sector in response to changes in the terms of trade. Two possible adjustment processes are considered: the demand-adjustment process, as emphasized in a Kalecki-Kaldor model; and the supply-adjustment process, as emphasized in a Ricardo-Lewis model. Empirical evidence, based

on trends in the growth of output, the mark-up, the terms of trade, and the ratio of raw material costs to the wage bill, seems to suggest that the adjustment process in the manufacturing sector of India is consistent with the Ricardo-Lewis model. On the other hand, the adjustment process in Bangladesh manufacturing seems to be consistent with the Kalecki-Kaldor model. This conclusion is also supported by evidence on changes in income distribution within the manufacturing sectors of Bangladesh and India. One possible explanation for different adjustment mechanisms in Bangladesh and India lies in differences in market size and in the monopoly power of firms in the manufacturing sectors of these two countries.

This study, in contrast to other studies in the literature, emphasizes the relevance of a two-fold disaggregated analysis for investigating the problems of manufacturing output growth:

- 1) a comparative analysis of the wage goods, basic goods (e.g., capital goods), and non-basic goods (e.g., luxury goods) industries;
- 2) the flows of wage goods, basic goods, and non-basic goods between the sectors of the economy.

Empirical evidence suggests that, compared to the wage goods industry, the non-basic goods industry is likely to have greater monopoly power and thus to exhibit the Kalecki-Kaldor adjustment mechanism. The wage goods industry, on the other hand, is likely to exhibit the Ricardo-Lewis adjustment mechanism.

In this study an attempt is made to examine briefly the role of petty commodity production in the growth of the manufacturing sector. On the basis of the limited evidence available, it is apparent that petty commodity production is more integrated with the manufacturing sector than is commonly supposed. This study further reveals that, as far as industrial activity is concerned, the petty commodity sector seems to be in competition with the wage goods industry of the capitalistic manufacturing sector. The existence of this competition may be one of the reasons why the wage goods industry, compared to the non-basic goods industry, has limited monopoly power.

This study also examines aspects of possible demand constraints on the manufacturing sectors of India and Bangladesh. It appears from the empirical investigation that output growth patterns of overall manufacturing are closely related to those of the non-durable consumer goods industry. Finally, on the basis of evidence on consumption patterns of different expenditure classes in rural areas, this study is skeptical about the notion that any reduction in rural income inequality would increase the growth of manufacturing output through a rise in demand.

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## CHAPTER I

## INTRODUCTION

Capital accumulation and growth continuously interact with structural interdependence within an economy.<sup>1</sup> Such interaction is a two-way process: at any given time the prevailing structural interdependence influences the pace of capital accumulation and growth which in turn give way to new forms of structural interdependence.<sup>2</sup> This is especially relevant in such developing countries as India and Bangladesh where significant heterogeneities exist in several spheres: technology, labour markets, the organization of production (capitalist and non-capitalist), and taste patterns.

One of the preoccupations of development economists has been to illuminate the process of this interaction. Two main objectives have been the following: first, to state the conditions which would ensure a steady rate of growth and the transformation of the "traditional" sectors; and second, to explain how growth in an economy or in a

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<sup>1</sup>Structural interdependence involves linkages among sectors through flows of labour, capital, commodities, technology, and the like.

<sup>2</sup>Implications of structural interdependence for growth were recognized long ago by Quesnay in Tableau Economique (1758).

particular sector can be hindered by constraints originating in other sectors.

The scope of this study is largely limited to this second objective. Specifically, this study will deal with the following question, with reference to India and Bangladesh: how has the growth of manufacturing output been affected by structural interdependence between the manufacturing sector and other sectors? The question is important for several reasons. First, successful economic development in virtually all countries has been characterized by a rise in the share of manufacturing in total output.<sup>3</sup> Second, in such countries as Bangladesh and India, the growth of manufacturing output is likely to be influenced by the growth of output in other sectors, especially in the agricultural sector and by the nature of inter-sectoral linkages. Finally, the growth of manufacturing output in Bangladesh and India, as we shall see later, reveals three features which need to be examined. These features are: (1) a high degree of fluctuation in the rate of growth of output; (2) a high degree of variation in growth rates across different sub-sectors of the manufacturing sector; and (3) a low trend growth

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<sup>3</sup>For evidence of the positive relationship between per capita income and the growth of manufacturing output, see H. B. Chenery, "Patterns of Industrial Growth," American Economic Review, September, 1960; and UN, Department of Economic and Social Affairs, A Study of Industrial Growth, New York, 1963.

rate in comparison with many other developing countries.<sup>4</sup>

It is the hypothesis of this study that structural interdependence between the manufacturing sector and other sectors plays a significant role in shaping the growth pattern of the former sector. Furthermore, it is likely that the experiences of Bangladesh and India are not unique; accordingly, generalizations based on the empirical evidence for Bangladesh and India may apply to other developing countries.

### 1.1 Theoretical Framework

Since neither the Post-Keynesian nor the neo-classical one-sector models can be expected to highlight the implications of structural interdependence for growth, an appeal to two-sector or multi-sector models is understandable.<sup>5</sup> Given the objective of this study, we shall consider two competing theoretical frameworks. At the risk

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<sup>4</sup>Of the 71 developing countries for which data are available, 40 countries have shown higher rates of manufacturing growth than either India or Bangladesh, during the period 1970-78. Source: The World Bank, World Development Report, 1980, Table 2.

<sup>5</sup>This is not to say that all one-sector models are useless for a developing economy. Some economists (e.g. Henry J. Bruton, "Growth Models and Underdeveloped Economies," in A. M. Agarwala and S. P. Singh, eds., The Economics of Underdevelopment (Delhi: Oxford University Press, 1958)) have tried to apply some variants of the Harrod-Domar model to developing countries. The model adopted in the first five-year plan (1951-1956) of India was essentially (Continued next page)

of over-simplification we shall identify them as:

- (1) Ricardo-Lewis Model<sup>6</sup> and (2) Kalecki-Kaldor model.<sup>7</sup>

### Ricardo-Lewis Model

As it is well-known, the dual economy models in the tradition of Lewis (1954) consider development as a transition from traditional to modern forms of production and economic activity. During the process of economic development, profits, savings, and capital accumulation increase in the capitalist sector or in the industrial sector - the most dynamic sector, given the subsistence level of wages.

What does this theoretical framework say about the possible causes of interruptions to the growth process? In this context the dual-economy models emphasize the critical role of the terms of trade between the sectors. Growth in the capitalist sector or in the industrial sector can be slowed down by a deterioration in the terms of trade. It

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a simple version of the Harrod-Domar model. On the other hand, one-sector models are not necessarily adequate in explaining growth in the developed countries. See, for example, an application of a dual framework of analysis in John Cornwall, "The Dual Structure of Modern Capitalism," in his Modern Capitalism: Its Growth and Transformation (London: Martin Robertson, 1977).

<sup>6</sup>W. A. Lewis, "Economic Development With Unlimited Supplies of Labour," Manchester School of Economic and Social Studies, May, 1954.

<sup>7</sup>M. Kalecki, Selected Essays on the Dynamics of the Capitalist Economy, 1933-1970 (Cambridge: Cambridge University Press, 1971); N. Kaldor, "Inflation and Recession in the World Economy," Economic Journal, December, 1976.



is important to note that the effects of a deterioration in the terms of trade work mainly through higher costs per unit of output and hence through lower profits and lack of incentive to produce and invest. Deficient aggregate demand is not, apparently, a significant hindrance in such models.

It should be noted that the scenario of constraints on growth depicted in the Lewis-type model is similar to that in the Ricardian model of growth and stagnation.<sup>8</sup> In a two-sector economy consisting of agriculture and manufacturing, a consequence of the Ricardian growth process is essentially a shift in relative prices in favour of the agricultural sector. The falling share of profit and the rising share of rent in national income in this growth process can thus be viewed as an aspect of the terms of trade effect.<sup>9</sup>

In any extension of the Lewis-type theoretical framework several questions become relevant:

- (1) Theoretically, how do movements in the terms of trade affect various components of aggregate demand and aggregate supply in the manufacturing sector?
- (2) To what extent can the fluctuations in manufacturing

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<sup>8</sup>Hence, our designation of this approach as a "Ricardo-Lewis Model."

<sup>9</sup>Further discussions on the Ricardian growth process and the terms of trade can be found in A. Mitra, Terms of Trade and Class Relations (London: Frank Cass, 1977), Chapter 2.

output in India and Bangladesh be explained by movements in the terms of trade between the manufacturing sector and the agricultural sector?

(3) How have movements in the terms of trade affected the growth process through supply variables: wages per unit of output, raw material costs per unit of output, the profit rate, and the share of profit in value added?

(4) If the manufacturing sector faces adverse terms of trade, would all segments of the manufacturing sector be affected uniformly? If not, why not? Is it because of differences in input-composition, the mark-up, and productivity across different industries?

Usually the last type of question is outside the scope of the Lewis-type model which does not give primary emphasis on heterogeneities within the capitalist or the manufacturing sector. To quote Lewis:

Though the capitalized sector can be subdivided into islands, it remains a single sector because of the effect of competition in tending to equalize the earnings on capital (marginal profit).<sup>10</sup>

The above view ignores the question of monopoly power of the capitalist sector as a whole or of a sub-sector within the capitalist sector. The significance of this issue lies in the fact that because of the limited size of the domestic markets and economies of scale of modern technology,

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<sup>10</sup> Lewis in Agarwala and Singh, p. 408.

monopolies often emerge in developing countries even at an early stage of industrialization.<sup>11</sup> How does the existence of monopoly power in the capitalist sector or in the manufacturing sector affect the growth scenario?<sup>12</sup> This is treated in the alternative theoretical framework presented below.

### Kalecki-Kaldor Model

This type of model does not deny that constraints on the growth of manufacturing output may arise because of a deterioration in the terms of trade. However, analysis of the adjustment process in the manufacturing sector differs sharply from that of the Ricardo-Lewis model. In the Kalecki-Kaldor model, the manufacturing sector is characterized by an oligopolistic market structure with "administered prices." These "administered prices" are cost-determined; that is, they are based on the application of mark-ups on labour and material costs. In contrast, the primary sector is characterized by competitive conditions and prices in this sector are demand-determined.

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<sup>11</sup>For further discussions on the relationship between monopoly and growth in developing countries see M. Merhav, Technological Dependence, Monopoly and Growth (London: Pergamon Press, 1969).

<sup>12</sup>Throughout this study, unless otherwise mentioned, the terms capitalist manufacturing, manufacturing and the capitalist sector will be used interchangeably. For empirical analysis, by capitalist manufacturing we refer (Continued next page)

Based on these assumptions, the model makes three broad assertions. First, while a decrease in primary product prices tends to be an effective instrument in moving the terms of trade against the primary producers, an increase in prices of primary products is not likely to be effective in moving the terms of trade in their favour. In other words, a shift in the terms of trade in favour of the primary producers is likely to be transitory. This is because the industrial sector with its superior market power will resist any reduction of its real income by countering the rise in prices of primary products through a cost-induced inflation of industrial prices.

Second, inflation itself is likely to have a deflationary effect on the effective demand for industrial goods in real terms if the increase in incomes of producers in the primary sector is not matched by an increase in their expenditure.<sup>13</sup> This, in effect, leads to stagflation in the economy. The growth of output in the manufacturing sector, according to this view, is inhibited not on the aggregate supply side, which is emphasized in the Ricardo-Lewis model, but through a fall in real effective demand.

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12(Continued)

to registered manufacturing. For detailed definitions of the manufacturing sector, see Appendices B.1 and B.2.

<sup>13</sup>Kaldor, 1976.

Third, the impact of changes in the terms of trade on the effective demand for industrial goods is also likely to depend on what happens to the share of wages in value-added in the industrial sector. In this context the Kaleckian view of structural interdependence and the distribution of income is relevant.<sup>14</sup> This is briefly summarized in what follows.

With  $W$  representing the wage bill of production workers and  $M$  the raw material bill, and  $K$  the mark-up, value-added can be expressed as  $(1+K)(W+M)-M$  and the wage share in value-added ( $W_s$ ) can be written

$$\begin{aligned} W_s &= \frac{W}{(1+K)(W+M)-M} \\ &= \frac{W}{W + K(W+M)} \\ &= \frac{1}{1 + K(1+J)} \end{aligned}$$

Where  $J = \frac{M}{W}$ .

Thus, the share of wages is inversely related to  $K$  which is determined by the degree of monopoly;<sup>15</sup> and  $J$ , the ratio of the raw material bill to the wage bill.  $J$  may rise

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<sup>14</sup>Kalecki, 1971.

<sup>15</sup>An increase in the mark-up ( $K$ ) does not necessarily imply an increase in the degree of monopoly; the reason is that in the short-run the mark-up may increase even in a competitive industry due to an increase in demand or due to a decrease in costs. In the long-run, however, the mark-up  
(Continued next page)

because of an increase in raw material prices. This can be interpreted as a movement in the terms of trade against the manufacturing sector in relation to the primary sector. To stress the main point: an adverse terms of trade for the manufacturing sector leads to a fall in the share of wages. As mentioned earlier, this is likely to affect the effective demand for industrial consumer goods.

The above scenario is quite different from that of the Ricardo-Lewis model. In the latter, as the terms of trade deteriorate for the capitalist sector, capitalists have to pay a higher percentage of their product to workers in order to keep the real subsistence wage constant. The assumption here is that the capitalist sector is dependent on the traditional sector mainly for wage goods. The difference between the two models thus reveals that income distribution within the manufacturing sector is likely to be influenced by the composition of commodities (wage goods, raw materials, and other commodities) which flow from the traditional sector to the manufacturing sector.

In the context of India and Bangladesh some relevant questions within the Kalecki-Kaldor framework are the

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is largely determined by the degree of monopoly. Further issues concerning the degree of monopoly and the mark-up are treated in Kalecki, 1971, Chapter 5; A. Asimakopulos, "A Kaleckian Theory of Income Distribution," Canadian Journal of Economics, Vol. 8, No. 3., 1975; and L. Tarshis, "Post-Keynesian Economics: A Promise that Bounced?" The American Economic Review, Vol. 70, No. 2, May, 1980.

following:

- (1) Does the evidence for India and Bangladesh support the claim of the Kalecki-Kaldor model that a deterioration in the terms of trade for the manufacturing sector is likely to be transitory?
- (2) What does the behaviour of mark-ups in the two countries indicate about the monopoly power of the manufacturing sector?
- (3) Does a deterioration in the terms of trade for the manufacturing sector lead to a fall in the share of wages in value-added in the manufacturing sectors of India and Bangladesh?

### 1.2 The Need for an Eclectic and Disaggregated Approach

In this study we shall examine, in the context of the manufacturing sectors of Bangladesh and India, the validity of the Ricardo-Lewis model and the Kalecki-Kaldor model, the two polar adjustment mechanisms through which the rate of growth of output can be inhibited. It is the contention of this study, however, that neither of the two models taken alone is likely to illuminate the dynamics of growth in the manufacturing sectors of Bangladesh and India. Accordingly, this study calls for an eclectic theoretical framework embracing elements of the Ricardo-Lewis model and the Kalecki-Kaldor model. The rationale for such an approach can be elaborated as follows.

First, it is possible that some elements of the Ricardo-Lewis model (e.g., the subsistence wage and the supply side adjustment mechanism) are relevant over a longer time horizon than those of the Kalecki-Kaldor model (e.g., the demand side adjustment mechanism and the fall in labour's share of income in the face of a deterioration in the terms of trade for the manufacturing sector). In other words, each model can claim some validity, depending on the time horizon.

Second, we have already observed that while in the Ricardo-Lewis model the share of wages in value-added increases in the manufacturing sector because of a deterioration in the terms of trade, in the Kalecki-Kaldor model the share of wages decreases. The difference lies in the assumption about the flows of commodities from the traditional sector to the manufacturing sector. In the Kalecki-Kaldor model emphasis is given to the flows of raw materials; on the other hand, in the Ricardo-Lewis model, the emphasis is on the flows of subsistence goods, e.g. food.<sup>16</sup>

In India and Bangladesh both types of flows are likely to be significant. Moreover, the composition of such flows often fluctuates widely; this is because in the traditional sector, from the producers' point of view, raw

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<sup>16</sup> Lewis in Agarwala and Singh, p. 432.



materials and food are often substitutes.<sup>17</sup>

In this study we emphasize the need to disaggregate the flows of commodities into wage goods, basic goods (e.g., raw materials), and non-basic goods (e.g., luxury goods). The rationale for this disaggregation is that the effects of a change in prices of these three groups of commodities are likely to differ from one another. For instance, in the manufacturing sector, it is likely that a rise in raw material prices will be passed on fully and immediately in the form of higher manufacturing prices.<sup>18</sup> In contrast, when prices of wage goods consumed by workers rise, this is likely to increase costs per unit of manufacturing output only partially and with a time lag; this is because there is usually a time lag between a rise in prices of wage goods and workers' ability to achieve higher money wages. On the other hand, if prices of luxury goods produced in the traditional sector rise, this will have little impact on costs per unit of manufacturing output.

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<sup>17</sup>For details, see S. M. Hussain, "The Effect of the Growing Constraint of Subsistence Farming on Farmer Response to Price: A Case Study of Jute in Pakistan," Pakistan Development Review, Autumn, 1969; G. Mustafa, "A Note on Equi-profitable Jute-Rice Price Ratio," The Bangladesh Development Studies, January, 1976.

<sup>18</sup>For detailed discussions and empirical evidence see P. Sylos-Labini, "Prices and Income Distribution in Manufacturing Industry," Journal of Post-Keynesian Economics, Fall, 1979.

Third, it is our hypothesis that because of certain economic characteristics (to be discussed in Chapter 4), some segments of the manufacturing sector (e.g., industries producing wage goods) are likely to exhibit the Ricardo-Lewis adjustment process in the face of a deterioration in the terms of trade. On the other hand, some other segment (e.g., industries producing luxury goods) might exhibit the Kalecki-Kaldor adjustment process. In order to analyze the implications of different adjustment processes within the manufacturing sector, in this study we suggest a three-fold classification of the manufacturing sector: the wage goods industry, the basic goods industry (producing goods that are required for the production of wage goods), and the non-basic goods industry (producing luxury goods).

This classification is in the tradition of another type of model which disaggregates the economy or the manufacturing sector into either (1) a consumption goods sector and a capital goods sector,<sup>19</sup> or (2) a wage goods sector, a

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<sup>19</sup>G. A. Feldman, "On the Theory of Growth Rates of National Income, I" and "On the Theory of Growth Rates of National Income, II" in Nicolas Spulber, eds., Foundations of Soviet Strategy for Economic Growth (Bloomington: Indiana University Press, 1964); P. C. Mahalanobis, "The Approach of Operational Research to Planning in India," Sankya, 1955, and "Some Observations on the Process of Growth of National Income," Sankya, September, 1953. One of the earliest models consisting of consumption goods and capital goods sectors was given by K. Marx in Capital Vol. II (New York: International Publishers, 1967), Chapter XX and XXI.

luxury goods sector, and a capital goods sector.<sup>20</sup> Two fundamental themes of this type of model are the following: first, growth in the economy crucially depends on capital accumulation in the capital goods sector. Second, while the conditions of production of wage goods can influence the rate of profit and the money wage rate throughout the economy, the conditions of production of luxury goods can not do so. This is because wage goods, unlike luxury goods, are considered necessary inputs for all industries.<sup>21</sup>

In the context of such developing countries as India and Bangladesh the above classification has further appeals. It has been alleged, for instance, that problems of industrial growth in developing countries are due to a structural incapacity to produce the capital goods required for growth. Furthermore, it has also been argued that the growth of manufacturing output is often not self-sustained, because its

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<sup>20</sup>M. Kalecki, "Problems of Financing Economic Development in a Mixed Economy" in Selected Essays on the Economic Growth of the Socialist and the Mixed Economy (Cambridge: Cambridge University Press, 1972), Chapter 14. In P. Sraffa, Production of Commodities by Means of Commodities (Cambridge: Cambridge University Press, 1960) the disaggregation is made in terms of basic and non-basic goods. These concepts will be elaborated in Chapter 4.

<sup>21</sup>For a rigorous analysis of this proposition see L. Pasinetti, "A Mathematical Formulation of the Ricardian System," Review of Economic Studies, Vol. XXVII, 1959-60, pp. 78-98.

basis is not wage goods but luxury goods whose demand is limited.<sup>22</sup> In recent years the "basic needs" approach to development has emphasized the same point.

An important objective of our study is to highlight the problems concerning the growth of output in the wage goods industry. We shall argue in this study that fluctuations in the growth of output in the wage goods industry are largely influenced by structural interdependence between this industry and the traditional sector. This argument is based on several assumptions. First, the wage goods industry largely depends on the traditional sector for raw materials and food. Second, this industry has complex relationships with petty commodity producers in the traditional sector. On the one hand, agricultural petty commodity producers are important suppliers of raw materials and food to the wage goods industry in the capitalist sector and a major buyer of products of this industry. On the other hand, some petty commodity producers produce traditional industrial goods (e.g., food products and textiles) and hence compete with the wage goods industry in the capitalist sector. The significance of this competition for the adjustment process in the wage goods industry in the face of a deterioration in the terms of trade will be taken up in Chapter 5.

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<sup>22</sup>Merhav, Technological Dependence, Monopoly, and Growth, p. 30.

### 1.3 Relevance of a Comparative Study on India and Bangladesh

Comparative studies on structural interdependence and growth in South Asian countries are few and limited in scope.<sup>23</sup> Moreover, no comparative study exists on industrial growth patterns in India and Bangladesh. Because of some striking similarities as well as differences between India and Bangladesh, it would be worthwhile to compare the constraints, if any, on industrial growth in these two countries. Accordingly, part of the purpose of this study is to highlight those constraints which are generated through structural interdependence and to analyze the adjustment processes in the industrial sectors of India and Bangladesh.

Some similarities between the two countries, having significance for industrial growth, can be easily identified. Both countries share the same colonial history which had influenced the pace and pattern of industrialization in these two countries in the past.<sup>24</sup> Both countries are overwhelmingly agricultural societies, with a similar proportion (11%)

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<sup>23</sup> Some general discussions on problems of growth in agriculture and manufacturing in South Asian countries can be found in E. A. G. Robinson and M. Kidron, eds., Economic Development in South Asia (London: Macmillan, 1970).

<sup>24</sup> A detailed discussion on this subject can be found in J. N. Bhagwati and P. Desai, India: Planning for Industrialization (London: Oxford University Press, 1970), Chapter 2; and A. K. Bagchi, "De-industrialization in the Nineteenth Century: Some Theoretical Implications," Journal of Development Studies, Vol. 12, No. 2 (January, 1976).

of the labour force in the industrial sector and can be characterized as countries with "unlimited" supply of labour.<sup>25</sup>

Yet, differences between the two countries are striking too. India is about seven times as large as Bangladesh in terms of population and fourteen times as large in terms of gross domestic product. In India modern industrialization, based on machine tools, started in the mid-19th Century, almost one hundred years earlier than in Bangladesh. Accordingly, India has a long tradition of industrial entrepreneurship. In absolute terms, India is one of the largest producers of industrial goods in the world. Furthermore, although India fulfills some basic criteria in order to qualify as an industrial country, Bangladesh does not.<sup>26</sup> Thus, in comparison with India, Bangladesh is at a lower level of industrialization.

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<sup>25</sup>For some economic characteristics of the two countries, see Appendix A.1.

<sup>26</sup>R. B. Sutcliffe, in Industry and Underdevelopment (London: Addison-Wesley, 1971, pp. 16-26) has suggested three criteria in order to judge whether a country should be called industrial or not. (1) A certain minimum percentage (25%) of its Gross Domestic Product arises in the industrial sector (mining, manufacturing, construction, electricity, gas and water). (2) A certain proportion of the output (60%) of the industrial sector should be in manufacturing. (3) A certain proportion of the population (10%) should be employed in the industrial sector. In 1979, for India, the relevant figures were 27%, 67%, and 11%, respectively. For Bangladesh the corresponding figures, in 1979, were 13%, 62% and 11%. Source: The World Bank, World Development Report, 1981, Tables 3 and 19.

In our study we shall examine whether the two notable differences (i.e., size of the economy and the level of industrialization) have had any role in industrial growth patterns in Bangladesh and India.<sup>27</sup>

#### 1.4 An Outline of the Study

Chapter 2 presents a critical review of the existing literature on structural interdependence, the distribution of income, and growth. Chapter 3 sets forth a simple model which introduces the basic problem of the interaction between the terms of trade and the growth of income in the capitalist sector. One distinctive feature of this model is that it treats the terms of trade as an endogenous variable determined by the mark-up within the manufacturing sector. This Chapter also examines some empirical evidence for Bangladesh and India in order to shed light on the relation between manufacturing growth and the terms of trade.

Chapter 4 presents a disaggregated analysis of the manufacturing sectors of Bangladesh and India: a disaggregation of industries into wage goods, basic goods and

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<sup>27</sup>The rationale for undertaking a comparative study is based not only on these differences and the similarities mentioned earlier, but also on the simple fact that these two countries are contiguous.

non-basic goods industries; and disaggregation of the flows of commodities from the traditional sector to the manufacturing sector. This chapter then analyzes the significance of this disaggregated analysis for understanding the growth of output in the manufacturing sectors of Bangladesh and India.

Chapter 5 touches on one of the least-studied issues: the role of petty commodity production in industrial growth. In particular, this chapter attempts to relate the role of petty commodity production to problems concerning the growth of output in the wage goods industry.

Chapter 6, unlike the previous chapter, focuses exclusively on the demand constraints faced by the manufacturing sector. Several plausible hypotheses are examined on the basis of empirical evidence for Bangladesh and India. Finally, Chapter 7 provides the overall conclusions of this study.

It should be noted that the main emphasis in our study is on "internal" factors, e.g., inter-sectoral linkages, the inter-sectoral terms of trade, and income distribution. It is beyond the scope of this study to examine in detail the impact of international trade on industrial growth. The limitations of our approach are likely to be minimized, however, by the following factors. First, some "internal" variables, e.g., the inter-sectoral terms of trade, the mark-up, and the ratio of the raw material bill to the wage



bill incorporate, at least in part, changes in external variables, e.g., export and import prices. Second, in comparison with most of the other developing countries, Bangladesh and India are less dependent on international trade.<sup>28</sup>

Still, one might argue that international trade plays an important role in the growth of some major industries (e.g., jute and cotton). Accordingly, this study also examines the implications of some issues concerning international trade (e.g., the international terms of trade and tariff) for the interpretation of some of the main empirical results.

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<sup>28</sup> This statement is based on the exports/GDP ratio in developing countries in 1980, as reported in The World Bank, The World Development Report, 1982, Table 5.

## CHAPTER 2

### REVIEW OF THE LITERATURE

In this chapter we shall examine how the existing literature on India and Bangladesh has related structural interdependence and the distribution of income to industrial growth. Furthermore, in Sections 2.1 and 2.2, we connect our study with the existing literature.

#### 2.1 Studies on Industrial Growth in India

The literature on industrial growth in India can be divided into three broad groups: first, studies which attribute the problems of industrial growth to constraints originating in international trade;<sup>1</sup> second, studies which treat the problems of industrial growth in terms of inefficiencies in the industries belonging to the public sector;<sup>2</sup> and third, studies which seek to explain the problems of industrial growth through examination of the distribution of income and structural interdependence between

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<sup>1</sup>J. Bhagwati and P. Desai, India: Planning for Industrialization (London: Oxford University Press, 1970); J. Bhagwati and T. N. Srinivasan, Foreign Trade Regimes and Economic Development: India (New York: National Bureau of Economic Research, 1975).

<sup>2</sup>A detailed discussion on this issue can be found in A. V. Desai, "Factors Underlying the Slow Growth of Indian Industry," Economic and Political Weekly, Annual Number, March, 1981.

the industrial sector and other sectors in the economy. Given the subject of our study, we restrict this review to the third group of studies.<sup>3</sup>

A substantial literature exists on the pace of industrial growth and structural interdependence in India. A widely held view is that since the mid-1960's the industrial growth rate has decelerated mainly because of a continuous deterioration in the terms of trade for the industrial sector.<sup>4</sup> There are disagreements, however, over two main issues: causes of the deterioration in the terms of trade and the nature of the adjustment process in the industrial sector in the face of a deterioration in the terms of trade.

It has been argued that it is the slow growth in agricultural output that has led to a movement in the terms of trade against the industrial sector.<sup>5</sup> Some writers, on

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<sup>3</sup>This does not imply that the other two approaches are entirely incorrect. International economic problems and inefficiencies in the public sector are likely to be secondary factors in explaining constraints on industrial growth in India and Bangladesh.

<sup>4</sup>A. Mitra, Terms of Trade and Class Relations (London: Frank Cass, 1977); D. Nayyar, "Industrial Development in India," Economic and Political Weekly, Special Number, August, 1978; K. N. Raj, "Growth and Stagnation in Indian Industrial Development," Economic and Political Weekly, Annual Number, February, 1976; S. L. Shetty, "Structural Retrogression in the Indian Economy Since the Mid-Sixties," Economic and Political Weekly, Annual Number, February, 1978.

<sup>5</sup>K. N. Raj, 1976, and S. L. Shetty, 1978.

the other hand, have argued that although agricultural expansion might be a necessary condition for sustained industrial growth, it may not be a sufficient condition, in the Indian context.<sup>6</sup> This is because, as the argument goes, the landlord class, through political influence, has manipulated the intersectoral terms of trade in its favor, and might well do so in the future.

In contrast to the above views, one writer<sup>7</sup> has argued that there has been no secular deterioration in the terms of trade for the industrial sector: the terms of trade for this sector improved in the early 1950's, deteriorated in the 1960's, but improved again in the early 1970's. As will be seen in Chapter 3, this seems to accord with the empirical evidence. The Desai view, however, attributes the slow growth of the industrial sector entirely to inefficiencies in the public sector and ignores the possibility of any connection between a variation in the growth rate of

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<sup>6</sup>Mitra, 1977, has argued that since the 1960's, despite an expansion of agricultural output, the government procurement price for wheat has been raised significantly. He analyzes this fact in terms of the need of the industrialist class for an alliance with the big landowners in rural areas. Similar arguments have been put forward by D. Nayyar, "Industrial Development in India," Economic and Political Weekly, Special Number, August, 1978; and by A. K. Bagchi, "Some Characteristics of Industrial Growth in India," Economic and Political Weekly, Annual Number, February, 1975.

<sup>7</sup>A. V. Desai, "Factors Underlying the Slow Growth of Indian Industry," Economic and Political Weekly, Annual Number, March, 1981, p. 382.

industrial output and a variation in the terms of trade.

### Adjustment Process in the Industrial Sector

Analysis of the adjustment processes in the industrial sector in the face of a deterioration in the terms of trade has taken different forms.

It has been argued by Chakravarty (1974)<sup>8</sup> that a shift in the terms of trade in favour of the agricultural sector has resulted in higher wages per unit of output, lower profits per unit of output, and subsequently, lower savings and investments. This analysis essentially emphasizes the Ricardo-Lewis adjustment process mentioned in Chapter 1.

In recent years, on the other hand, the approach that has received a great deal of attention is the role of demand in industrial growth. Several writers (Bagchi, 1975; Mitra, 1977; Nayyar, 1978; and Sau, 1974) have argued that the industrial sector in India has been experiencing retrogression because of a growing inequality in the distribution of income.<sup>9</sup> The increase in income inequality is said to

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<sup>8</sup>S. Chakravarty, Reflections on the Growth Process in the Indian Economy (Hyderabad: Administrative Staff College of India, 1974).

<sup>9</sup>A. K. Bagchi, "Some Characteristics of Industrial Growth in India," Economic and Political Weekly, Annual Number, February, 1975; A. Mitra, Terms of Trade and Class (Continued next page)

have caused a shrinkage in the domestic market, especially for mass consumption goods.

Mitra (1977) has also made an attempt to combine the demand with the supply adjustment processes in the industrial sector. His main assertions can be summarized as follows:

1. Cost per unit of industrial output has risen over the years as a consequence of movements in the terms of trade against industry. This has adversely affected the rate of profit and savings in the economy, especially in those industries which use agricultural raw materials.
2. The rise in relative prices of agricultural commodities has eroded the level of real incomes of the majority of the population in both urban and rural areas. The reason is that an increase in food grain prices squeezed the non-food expenditure of the urban as well as the rural poor.
3. Furthermore, the rise in farm prices contributes, either immediately or with a time lag, to a corresponding increase in the price of industrial commodities. Insofar as the rate of increase in money earnings of industrial and agricultural workers and petty commodity producers is less than that in industrial prices, a further reduction takes place

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Relations (London: Frank Cass, 1977); D. Nayyar, "Industrial Development in India," Economic and Political Weekly, Special Number, August, 1978; R. Sau, "Some Aspects of Inter-Sectoral Resource Flow," Economic and Political Weekly, Special Number, August, 1974.

in their level of real incomes, and in the real demand for manufacturing goods. Furthermore, this reduction in the demand for industrial goods is not offset by an expansion in demand on the part of the rural rich who experience major increases in their levels of income. It is hypothesized that the demand for industrial goods of the rural rich is income-inelastic.

We make several comments on the above studies. First, the scenario of a persistent deterioration in the terms of trade for the industrial sector and a secular stagnation in this sector needs to be substantiated by a thorough empirical analysis. As we shall see in Chapter 3, the growth rate of industrial output and that sector's terms of trade have fluctuated widely; during the 1970's the terms of trade have improved, rather than deteriorated, for the industrial sector.

Second, the analysis of adjustment processes carried out by Mitra and others has several limitations. For instance, the claim that the rate of growth of industrial output has been slowed by a rising labour cost per unit of output has not been based on careful empirical analysis. According to Mitra's own findings, the share of wages in value-added shows a diminishing trend.<sup>10</sup> Furthermore, the supply side analysis appears to be inconsistent with the demand side analysis. While focusing on the demand for

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<sup>10</sup>Mitra, 1977, p. 148.

industrial goods it has been emphasized that the demand constraint is worsened because the industrial sector passes on higher input costs to consumers in the form of higher prices of industrial goods. If indeed this were true, then the terms of trade need not remain adverse to the industrial sector and accordingly, the argument that the adverse terms of trade affect industrial growth through higher costs per unit of output loses much of its relevance.

It seems, therefore, that a reconciliation of the demand and supply side of adjustment processes is essential. This may be done in either of the following two ways.

1. One could disaggregate the manufacturing sector and identify those sub-sectors in which the demand adjustment process is likely to be dominant and those sub-sectors in which the supply adjustment process is likely to be dominant.<sup>11</sup>
2. One could also explore the possibility that for the manufacturing sector as a whole, the nature of the adjustment process depends on the time horizon; for instance, a particular adjustment process may prevail in the short-run but not in the long-run.

Third, the analysis of demand constraints has been based on two unverified assumptions. First, it has been

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<sup>11</sup>In Chapter 4 we adopt this method.



assumed that petty commodity producers do not gain from an improvement in the terms of trade for the agricultural sector. Their main role in the economy is considered to be that of buyers of essential consumer goods, including food grains.

The above assumption, in effect, ignores the role of petty commodity producers as suppliers of commodities to the industrial sector. In Chapter 5 of this study we examine this role and its significance for industrial growth. Another assumption which deserves a careful empirical scrutiny is that the demand for industrial goods by the rural rich, in comparison with the rural poor, is income-inelastic. This is taken up in Chapter 6.

Some studies have analyzed interrelationships between structural interdependence and growth in terms of linkages between the industrial and other sectors.<sup>12</sup> Bharadwaj (1979) has suggested a classification of industries in order to illuminate interrelationships among technology, the distribution of income, and demand conditions. The main points of this study can be summarized as follows:

1. The organized sector's<sup>13</sup> input links with the

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<sup>12</sup>K. Bharadwaj, "Towards a Macroeconomic Framework for a Developing Economy: The Indian Case," The Manchester School, 1979; and A. Rudra, Relative Rates of Growth: Agriculture and Industry (Bombay: University of Bombay, 1967).

<sup>13</sup>The "organized sector" refers to the "factory sector" (as defined by the Annual Survey of Industries, (Continued next page)

unorganized sector are weak so that the two sectors largely depend upon their own inputs. The only link between them is through agricultural raw materials.

2. In India, growth has been biased toward those luxury consumer goods, capital goods, and intermediate goods which are exclusively produced in the organized sector under oligopolistic conditions. Such a growth pattern reinforces income inequality.

3. Rising agricultural prices (e.g., food prices) tend to reduce the demand for those industries which produce essential consumer goods (food products and textiles). These industries can be found in both the organized and the unorganized sectors. From the cost side, too, these industries are affected relatively more than the capital goods and luxury consumer goods industries. The reason is that the industries producing essential consumer goods are more labour intensive (accordingly, wages are a higher proportion of costs) and they draw relatively more inputs from the agriculture sector.

The following comments on the above assertions are in order. First, input links derived from input-output relations reveal only a part of the intersectoral relations;

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13 (Continued)  
India) and also to plantations, mining, banking, and insurance, and modern transport. The "unorganized sector" includes the majority of agricultural farms, small-scale and household industries.

this is because input-output relations do not capture the intersectoral flows of wage goods and luxury goods.

Bharadwaj's study does not discuss the flows of wage goods and luxury goods.

Second, although Bharadwaj's (1979) study makes the plausible assertion that a growth pattern based on luxury consumer goods and income inequality reinforce each other, it does not explain why in India (and as we see in Chapter 6, also in Bangladesh) the growth of output in the luxury consumer goods industry fluctuates so widely. In this context our contention is that these fluctuations cannot be explained without incorporating the non-technological links (e.g., the flows of wage goods and luxury goods) among different sectors in the economy.

Third, Bharadwaj's assertion that constraints originating in the agricultural sector would adversely affect those industries which produce essential consumer goods appears to be plausible. The study by Bharadwaj, however, does not provide any empirical analysis of this issue. In Chapters 4, 5, and 6 we shall highlight the problems of the growth of output in wage goods industries on the basis of empirical evidence for India and Bangladesh.

## 2.2 Studies on Industrial Growth in Bangladesh

In Bangladesh, in recent years, a major part of the literature on economic development has focused on agriculture and on the rural sector generally rather than on the industrial sector. Moreover, the studies on industrial growth in Bangladesh have concentrated mainly on industrial efficiency and industrial planning. Much less attention has been paid to structural interdependence and industrial growth.

However, in the 1960's several studies were conducted on movements in the terms of trade between the agricultural sector and the industrial sector and on the transfer of resources from the agricultural sector to the industrial sector.

The studies by Lewis on the terms of trade are notable.<sup>14</sup> The main objective of these studies, however, is to explain changes in the terms of trade between the agricultural sector and the industrial sector rather than to analyze the impact of such changes on industrial growth. Changes in the terms of trade are explained in terms of the differential growth rates of the industrial sector and the

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<sup>14</sup>S. R. Lewis, Economic Policy and Industrial Growth in Pakistan (London: George Allen and Unwin, 1969), Chapter III, Section 5; S. M. Hussain and S. R. Lewis, Relative Price Changes and Industrialization in Pakistan, 1951-1964 (Karachi: Pakistan Institute of Development Economics, 1967).

agricultural sector and in terms of government policies toward international trade, tariff, and food procurement.

In one of his studies, Lewis rightly points out that unless growth in demand for goods in each sector exactly matches growth in supply, the more rapidly growing sector would have declining relative prices.<sup>15</sup> In terms of a two-sector model of economic growth, faster expansion of the industrial sector than of the agricultural sector would lead to falling relative prices of manufactured products. According to Lewis, to a large extent the improved terms of trade for agriculture after the mid-1950's were due to a fall in absolute prices of manufactured products.

Some studies have argued that in the 1950's the terms of trade were deliberately turned against agriculture in order to transfer income to the supposedly high-saving industrial sector.<sup>16</sup> Such a biased policy toward the industrial sector at the expense of the agricultural sector,

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<sup>15</sup>S. R. Lewis, Economic Policy and Industrial Growth in Pakistan, pp. 59-60.

<sup>16</sup>K. Griffin, "Financing Development Plans in Pakistan" and S. R. Bose, "Trend of Real Income of the Rural Poor in East Pakistan" in K. Griffin and A. R. Khan, eds., Growth and Inequality in Pakistan (London: Macmillan, 1972); A. H. M. Chowdhury, "Some Reflections on Income Redistributive Intermediation in Pakistan," The Pakistan Development Review, Vol. IX, 1969.

it is hypothesized, has subsequently led to stagnation in agriculture and to rising raw material and food prices.

No study has been done to extend Lewis's analysis concerning the terms of trade in Bangladesh (then East Pakistan) to the post-independence period, i.e., the 1970's. In our study we examine the movements in the terms of trade in the last two decades and their implications for industrial growth.

As stated earlier, in Bangladesh much attention has been paid to the question of industrial efficiency in the use of labour, capital and technology. A common view held by several writers is that large-scale industries benefit from "imperfections" in factor markets (e.g., lower prices of such scarce inputs as capital).<sup>17</sup> These studies, however, do not deal with such issues as growth constraints on large-scale industries or with fluctuations in the growth rate of output in these industries.

In a comprehensive study, Sobhan and Ahmad examined the problem of inefficiency in the industries belonging to the public sector.<sup>18</sup> One of their conclusions of this study is that constraints on growth of these industries cannot

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<sup>17</sup>See, for instance, A. R. Khan, The Economy of Bangladesh (London: Macmillan, 1972), Chapters 6 and 12.

<sup>18</sup>R. Sobhan and M. Ahmad, Public Enterprise in an Intermediate Regime (Dacca: Bangladesh Institute of Development of Studies, 1981).

be attributed to high costs of labour. As we shall see in our study, the above conclusion also holds for the manufacturing sector as a whole in Bangladesh. Their study also mentions the likely nature of the market structure; i.e., the degree of competition and monopoly in selected industries. In our study, as stated earlier, we shall examine the degree of monopoly power in different subsectors of the manufacturing sector in Bangladesh and its implications for the growth of manufacturing output.

In recent years several studies have focused on income inequality in Bangladesh in order to explain stagnation in the economy.<sup>19</sup> The general tenor of the arguments in these studies seems to imply that any reduction in income inequality will necessarily increase the rate of industrial growth. These studies, however, do not empirically analyze the relationship between income inequality and industrial growth. In Chapter 6 we shall see that the relationship between income inequality and industrial growth is likely to be complex.

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<sup>19</sup> M. Alamgir, Bangladesh: A Case of Below Poverty Level Equilibrium Trap (Dacca: Bangladesh Institute of Development Studies, 1978); M. Alamgir, "Poverty, Inequality and Social Welfare: Measurement Evidence and Policies," Bangladesh Development Studies, Vol. II, No. 2, April, 1975.

### CHAPTER 3

#### A MODEL OF STRUCTURAL INTERDEPENDENCE AND THE GROWTH OF OUTPUT IN THE CAPITALIST SECTOR

In this chapter we focus on two broad objectives of our study: to demonstrate theoretically the interaction between the terms of trade and the growth of output in the capitalist sector, and to empirically investigate the nature of the adjustment processes in the capitalist sector in response to changes in the terms of trade.

In Section 3.1 we present a model that shows inter-relationships between the terms of trade and the growth rate of output in the capitalist sector. Specifically, the model makes an attempt to relate the terms of trade to various components of aggregate demand, e.g., consumption, exports from the capitalist sector to the traditional sector, and imports from the traditional sector to the capitalist sector. While focusing on the aggregate supply side, the model emphasizes the role of two variables: the mark-up and the ratio of raw material costs to the wage bill in the capitalist sector.

In Section 3.2 we examine trends in such variables as the growth of output, the mark-up, the ratio of raw material costs to the wage bill, and the inter-sectoral terms of trade, with reference to the manufacturing sector of Bangladesh and India. In this section we also examine



the implications of the international terms of trade for the interpretation of empirical findings.

### 3.1 The Basic Model

Some essential conditions which structure the model are given below.

1. The growth of output in the capitalist sector is affected by changes in the terms of trade through aggregate demand as well as aggregate supply.
2. Changes in the terms of trade depend on the mark-up and on the ratio of raw material costs to the wage bill in the capitalist sector.
3. In the long-run the terms of trade are an endogenous variable, being determined by the growth of aggregate demand and aggregate supply in the capitalist sector and in the traditional sector.<sup>1</sup>

It should be noted that the interrelationships between economic variables in this model are shown within a static framework. The model does not, as most growth models do, analyze the dynamic interrelationships among

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<sup>1</sup>The essential criterion to distinguish the two sectors is the dominant form of income. In the capitalist sector wages and profit are the dominant forms of income; in the traditional sector they are rent and income of petty commodity producers. The traditional sector includes not only the large segment of agriculture but also household industries. Since the main focus of our study is the manufacturing sector we ignore the controversial issues concerning the development of capitalism in agriculture. For  
(Continued next page)

capital accumulation, technical progress, the growth of output, and the growth of the labour force.<sup>2</sup>

The model to be described consists of a modern or capitalist sector and a traditional sector. Some basic assumptions of the model are as follows:

1. Unless stated otherwise, only commodity markets are considered. Money and financial markets are assumed to accommodate the needs of the commodity markets.<sup>3</sup>
2. The traditional sector produces food for both sectors and raw materials for the capitalist sector. The capitalist sector produces industrial consumer goods for both sectors and investment goods for itself. Furthermore, the profit receivers in the capitalist sector and the rentiers in the traditional sector spend a greater part of their income on

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1 (Continued)

an elaborate discussion on this subject, see A. Rudra and others, Studies in the Development of Capitalism in India (Lahore: Vanguard Books, 1978).

<sup>2</sup>However, the implications of technological progress for the terms of trade and the growth of output are examined later in this section.

<sup>3</sup>"Market imperfections" may exist in the money and financial sector and the "imperfections" are likely to favour the capitalist sector vis-a-vis the traditional sector. See M. Lipton, "Strategy for Agriculture: Urban Bias and Rural Planning," in P. Streeten and M. Lipton, ed., The Crisis of Indian Planning (London: Oxford University Press, 1968).

However, whether and to what extent the money and financial sector affects the inter-sectoral terms of trade is outside the scope of our study.

industrial consumer goods than do workers in the capitalist sector or petty commodity producers in the traditional sector. It is assumed, for simplicity, that the traditional sector does not depend on the capitalist sector for any intermediate inputs.

3. Production can be increased by drawing labour from the "reserve army" within the capitalist sector and the traditional sector.<sup>4</sup>

4. The economy is a closed one, i.e., international trade is not considered.<sup>5</sup>

Further assumptions will be made as the model is developed. First, we concentrate on aggregate demand. The usual equation for the commodity balance in the capitalist sector can be stated as follows:

$$(1) \quad Y = C + I + E - M$$

where Y = Aggregate income of the capitalist sector;

C = Consumption expenditure of all persons within the capitalist sector on products of the capitalist sector as well as of the traditional sector;

<sup>4</sup>How these labourers survive in the capitalist sector before being employed is an issue that is not taken up in this model.

<sup>5</sup>This assumption is obviously unrealistic for such developing countries as India and Bangladesh. The assumption is made mainly to illuminate the relationship between the inter-sectoral terms of trade and the growth of output in the capitalist sector. The implications of international trade for the interpretations of empirical results are discussed in Section 3.2.

I = Investment expenditure within the capitalist sector on products of the capitalist sector;

E = Exports of the capitalist sector to the traditional sector;

M = Imports of commodities from the traditional sector to the capitalist sector.

All variables are expressed in real terms.<sup>6</sup>

The following assumptions are made about the behaviour of expenditure in the capitalist sector:

1. Consumption depends on real income and the terms of trade (N),<sup>7</sup> between the traditional sector and the capitalist sector.

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<sup>6</sup>Price index ( $P_C$ ) for commodities produced in the capitalist sector can be taken as the numeraire.

<sup>7</sup>Here the net barter or commodity terms of trade between the two sectors is considered. This can be defined as  $N = P_C/P_T$ , where  $P_C$  and  $P_T$  are price index numbers for the capitalist sector and the traditional sector, respectively. A fall in N indicates that the capitalist sector has to give a larger volume of exports, on the basis of price relations only, for a given volume of imports from the traditional sector.

When there is continuous technical progress leading to an increase in productivity in the sector being studied, the single factoral terms of trade(s) would be a better measure of the terms of trade. This can be defined as  $S=NZ$ , where N is as defined above and Z is a productivity index. N is widely used in the literature because it is easy to compute and is relevant to analyzing the consequences of changes in relative prices. In a model where N is used a change in productivity can be regarded as a change in a parameter, affecting aggregate supply. This is illustrated later in this section.

Different concepts of the terms of trade are discussed in Gerald M. Meir, The International Economics of Development (New York: Harper and Row, 1968), Chapter 3.

$$(2) \quad C = C(Y, N); \quad 1 > C^8(Y) > 0, \quad C'(N) < 0.^9$$

2. Investment depends on real income,

$$(3) \quad I = I(Y); \quad I'(Y) > 0$$

Equation (3) implies that the higher the aggregate income (Y), the stronger is the inducement to invest.

3. Exports of the capitalist sector to the traditional sector depend on the terms of trade and on the aggregate income  $Y_T$  of the traditional sector,

$$(4) \quad E = E(N, Y_T); \quad E'(N) < 0, \quad E'(Y_T) > 0.$$

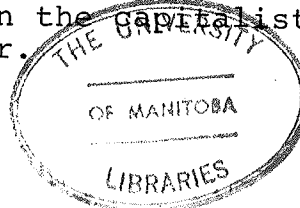
$E'(N) < 0$  implies that as the terms of trade improve for the capitalist sector, exports of the capitalist sector would decrease.  $E'(Y_T) > 0$  implies that as income rises in the traditional sector, exports of the capitalist sector to the traditional sector would tend to rise. To simplify the analysis,  $Y_T$  may be considered an exogenous variable,<sup>10</sup> so

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<sup>8</sup> $C'(Y) = \frac{\partial C}{\partial Y}$ , the marginal propensity to consume. Similar notations are used for other variables.

<sup>9</sup> $C'(N) < 0$  implies that as N increases, aggregate real consumption expenditure decreases. This is based on the assumption that (1) demand for commodities produced in the capitalist sector is price-elastic and that (2) this elasticity is greater than the elasticity of demand for commodities produced in the traditional sector.

<sup>10</sup>This assumption is justified because our main concern is the growth of aggregate income in the capitalist sector rather than in the traditional sector.



that

$$(4a) \quad E = E(N); \text{ and } E'(N) < 0.$$

4. Imports by the capitalist sector depend on aggregate income and the terms of trade,

$$(5) \quad M = M(Y, N); \quad M'(Y) > 0, \quad M'(N) > 0.$$

The commodity balance equation (1) for the capitalist sector can now be written as

$$(6) \quad Y = C(Y, N) + I(Y) + E(N) - M(Y, N).$$

After total differentiation and the collection of terms equation (6) yields

$$(7) \quad \left( 1 - \frac{\partial C}{\partial Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y} \right) dY = \left( \frac{\partial C}{\partial N} + \frac{\partial E}{\partial N} - \frac{\partial M}{\partial N} \right) dN$$

Multiplying through this equation by  $\frac{1}{Y}$  and the RHS (right-hand-side) by  $\frac{N}{N}$ , we get

$$\left( 1 - \frac{\partial C}{\partial Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y} \right) \dot{Y} = \left( \frac{\partial C}{\partial N} + \frac{\partial E}{\partial N} - \frac{\partial M}{\partial N} \right) \dot{N} \frac{N}{Y}$$

where  $\dot{Y} = \frac{dY}{Y}$  the rate of change in  $Y$ ; an analogous interpretation holds for  $\dot{N}$ . We now multiply each term in the parenthesis on the RHS as follows:

$$\frac{C}{N} \text{ by } \frac{C}{C}, \quad \frac{E}{N} \text{ by } \frac{E}{E}, \text{ and } \frac{M}{N} \text{ by } \frac{M}{M}$$

and by bringing the term  $\frac{N}{Y}$  into the parenthesis on the right-hand side we get

$$(8) \quad \left( 1 - \frac{\partial C}{\partial Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y} \right) \dot{Y} = \left( -e_{CN} \frac{C}{Y} - e_{EN} \frac{E}{Y} - e_{MN} \frac{M}{Y} \right) \dot{N}$$

where  $e_{CN} = -\frac{N}{C} \frac{\partial C}{\partial N}$ , the elasticity of consumption with respect to N, the terms of trade; similar interpretations hold for other elasticities.<sup>11</sup>

Given the values of the various expenditure propensities and elasticities, equation (8) traces the relationship between  $\dot{Y}$  and  $\dot{N}$ . If we assume all these propensities and elasticities included within the parentheses on both sides of the equation constant, then we can define the slope of this equation as

$$(9) \quad \frac{d\dot{Y}}{d\dot{N}} = \frac{-e_{CN} \frac{C}{Y} - e_{EN} \frac{E}{Y} - e_{MN} \frac{M}{Y}}{1 - \frac{\partial C}{\partial Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y}}$$

The numerator on the RHS is negative, given our assumptions about consumption, exports, and imports. A verbal interpretation of this condition can be given as follows: As the terms of trade improve for the capitalist sector, i.e., prices of commodities produced in the capitalist sector increase in comparison with those in the traditional sector, aggregate demand in the capitalist sector will

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<sup>11</sup>We define the elasticity of a variable Y with respect to another variable, X, given  $Y = f(X)$ , as follows:

$e_{YX} = \frac{\partial Y}{\partial X} \frac{X}{Y}$ , if  $\frac{\partial Y}{\partial X} > 0$ ; and  $e_{YX} = -\frac{\partial Y}{\partial X} \frac{X}{Y}$ , if  $\frac{\partial Y}{\partial X} < 0$ .

decrease because of a decrease in consumption and exports and an increase in imports. The extent of decrease depends on the elasticities of consumption, exports and imports.

The denominator on the RHS would be positive if

$$0 < \frac{\partial C}{\partial Y} + \frac{\partial I}{\partial Y} - \frac{\partial M}{\partial Y} < 1$$

a condition which is likely to hold.<sup>12</sup>

If the above condition is satisfied, the slope  $\frac{d\dot{Y}}{d\dot{N}}$  would be negative. The economic meaning of a negative slope is clear: the growth of aggregate income in the capitalist sector is inversely related to the rate of increase in the terms of trade ( $\dot{N}$ ). From equation (9) the following proposition can be derived:

Proposition 1: The sensitivity of the growth of aggregate income in the capitalist sector to the rate of change in the terms of trade, i.e.,  $\frac{d\dot{Y}}{d\dot{N}}$  would be higher, (1) the higher are the marginal propensities of consumption and investment with respect to changes in income; (2) the higher are the elasticities of consumption, exports and imports with respect to changes in the terms of trade; (3) the lower is the elasticity of imports with respect to changes in income.

An intuitive interpretation of the above proposition is straightforward. A continuous change in the terms of

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<sup>12</sup>In order for the system to be stable this condition is usually assumed to hold.



trade in favour of the capitalist sector is likely to reduce the growth of aggregate income in this sector. The magnitude of the reduction depends on the responsiveness of consumption, exports, and imports with respect to changes in the terms of trade. The initial reduction in aggregate demand, because of the fall in consumption, exports and a rise in imports, will induce a further fall in aggregate income through the multiplier process. The reduction through this multiplier process will be higher, the higher are the responsiveness of consumption and investment, and the lower is the responsiveness of imports, with respect to changes in income.

Terms of Trade, Income Distribution  
and Growth of Demand in the  
Capitalist Sector

Thus far the impact of the terms of trade on the capitalist sector have been analyzed without any reference to changes in the distribution of income. If consumption and saving propensities vary across different groups, then it would be essential to include the distribution of income, explicitly, in the analysis. Accordingly, some of the behavioural relations discussed in the previous section are modified as follows: Aggregate consumption consists of consumption expenditure by workers ( $C_1$ ) and consumption expenditure by capitalists ( $C_2$ ).  $C_1$  depends positively on the total real wage bill ( $W$ ) and inversely on the terms of trade ( $N$ );  $C_2$  depends positively on total real profits ( $\Pi$ )

and inversely on the terms of trade (N). The wage bill and profit would in turn depend on aggregate income.<sup>13</sup>

Accordingly, the aggregate consumption expenditure in the capitalist sector can be written as

$$(10) \quad C = C_1 (W(Y), N) + C_2 (\Pi(Y), N)$$

The commodity balance equation (6) in the previous section can be re-written now as

$$(11) \quad Y = C_1 (W(Y), N) + C_2 (\Pi(Y), N) + I(Y) + E(N) - M(Y, N)$$

which, after total differentiation and re-arrangement, yields

$$\left( 1 - \frac{\partial C_1}{\partial W} \cdot \frac{\partial W}{\partial Y} - \frac{\partial C_2}{\partial \Pi} \cdot \frac{\partial \Pi}{\partial Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y} \right) dY \\ = \left( \frac{\partial C_1}{\partial N} + \frac{\partial C_2}{\partial N} + \frac{\partial E}{\partial N} - \frac{\partial M}{\partial N} \right) dN.$$

By further algebraic operations similar to those for equation (8), we find

$$(12) \quad \left( 1 - \frac{C_1}{Y} e_{C_1 W} e_{WY} - \frac{C_2}{Y} e_{C_2 \Pi} e_{\Pi Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y} \right) \dot{Y} \\ = \left( - e_{C_1 N} \frac{C_1}{Y} - e_{C_2 N} \frac{C_2}{Y} - e_{EN} \frac{E}{Y} - e_{MN} \frac{M}{Y} \right) \dot{N}$$

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<sup>13</sup> Profit in the capitalist sector is defined in gross terms, i.e., it includes all non-wage incomes; accordingly  $W + \Pi = Y$ .

If we assume that wage earners consume all their income, then  $e_{C_1 W} = 1$  and (12) reduces to

$$(12a) \quad \left( 1 - \frac{C_1}{Y} e_{WY} - \frac{C_2}{Y} e_{C_2 \Pi} e_{\Pi Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y} \right) \dot{Y} \\ = \left( -e_{C_1 N} \frac{C_1}{Y} - e_{C_2 N} \frac{C_2}{Y} - e_{EN} \frac{E}{Y} - e_{MN} \frac{M}{Y} \right) \dot{N}$$

Assuming all the terms in the parentheses on both sides of equation (12a) constant, we can differentiate  $\dot{Y}$  with respect to  $\dot{N}$  to yield

$$(13) \quad \frac{d\dot{Y}}{d\dot{N}} = \frac{-e_{C_1 N} \frac{C_1}{Y} - e_{C_2 N} \frac{C_2}{Y} - e_{EN} \frac{E}{Y} - e_{MN} \frac{M}{Y}}{1 - \frac{C_1}{Y} e_{WY} - \frac{C_2}{Y} e_{C_2 \Pi} e_{\Pi Y} - \frac{\partial I}{\partial Y} + \frac{\partial M}{\partial Y}}$$

The numerator would be negative if  $-e_{C_1 N} \frac{C_1}{Y} - e_{C_2 N} \frac{C_2}{Y} - e_{EN} \frac{E}{Y} - e_{MN} \frac{M}{Y} < 0$ . Given our assumptions about consumption, exports and imports with respect to changes in the terms of trade, the above condition will be satisfied. This condition implies that as the commodities of the capitalist sector become relatively expensive, i.e.,  $N$  rises, aggregate income in the capitalist sector falls. The extent of this fall depends on the responsiveness of consumption expenditures of wage earners and profit receivers and the responsiveness of exports and imports, with respect to changes in the terms

of trade.<sup>14</sup>

The denominator would be positive if

$$\frac{C_1}{Y} e_{WY} + \frac{C_2}{Y} e_{C_2 \Pi} e_{\Pi Y} + \frac{\partial I}{\partial Y} - \frac{\partial M}{\partial Y} < 1$$

Intuitively, this condition can be interpreted as follows: the net expenditure on commodities produced in the capitalist sector by wage earners, profit receivers and investors should be less than one dollar for every one dollar of income generated in the capitalist sector. As mentioned in footnote 12, this condition is essential for the stability of the system.

If the above conditions are satisfied, the slope  $\frac{d\dot{Y}}{dN}$  would be negative.

Utilizing equation (13) the following proposition can be stated:

Proposition 2: Ceteris paribus, the sensitivity of the growth of aggregate income in the capitalist sector to the rate of change in the terms of trade would be higher, (1) the higher is the elasticity of the wage bill with respect to changes in income ( $e_{WY}$ ) and (2) the higher is the elasticity of the wage earners' consumption with respect to changes in the terms of trade ( $e_{C_1 N}$ ).

It should be noted that "the elasticity of the wage bill with respect to changes in income" essentially measures

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<sup>14</sup>The significance of different consumption expenditure patterns of wage earners and profit receivers is explained in Chapter 4 and Chapter 6.

a change in the share of wages in value added. For example,  $e_{WY} < 1$  implies that the percentage rise in income is greater than the percentage rise in the wage bill, so that the share of wages would fall. On the other hand,  $e_{WY} > 1$  implies that the share of wages would increase. Only if  $e_{WY} = 1$  would the share of wages remain constant as income increases.<sup>15</sup>

#### Growth in the Capitalist Sector: Supply Side

Growth of aggregate supply is commonly analyzed in terms of production functions and competitive conditions in the labour market.<sup>16</sup> With the assumption that workers in the capitalist sector predominantly consume commodities produced in the traditional sector, the analysis of constraints on the growth of the capitalist sector reduces to

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<sup>15</sup>In the literature on developed countries the long-run constancy in the share of wages has been emphasized. See, for instance, E. Helmstädter, "The Long-Run Movement of the Capital-Output Ratio and of Labour's Share," in J. A. Mirrlees and N. H. Stern, eds., Models of Economic Growth (New York: John Wiley, 1973). During the industrialization process in developing countries, however, the share of wages or  $e_{WY}$  might vary considerably. Lewis (1954) has argued that during the early phase of industrialization the share of wages would go down. According to Lewis, the share of wages, however, will go up if the capitalist sector faces a deterioration in the terms of trade. This will be taken up in Chapter 6.

Note that if  $e_{WY} > 1$ , then  $e_{PY} < 1$  must hold; however, the sum of the two elasticities is not necessarily equal to 1.

<sup>16</sup>This is the text-book approach to the aggregate supply of output. See William H. Branson, Macroeconomic (Continued next page)

the following: as the terms of trade become unfavourable to the capitalist sector, the real wage rate rises from the capitalists' point of view, because of higher money wage demands. This leads to a fall in the growth of employment and hence a fall in the growth of output.<sup>17</sup>

By postulating competitive price formation and adjustments, the above theoretical scenario ignores the possibility of market power in the capitalist sector. That is, the burden of adjustment in the capitalist sector might fall on the commodity market through changes in prices rather than on the labour market: higher wages and higher prices of raw materials might be passed on at least in part to purchasers of commodities produced in the capitalist sector. This is one of the assertions of the Kalecki-Kaldor model, discussed in Chapter 1.

Our task now is to determine the interrelationship between the terms of trade and growth of aggregate supply in the capitalist sector, incorporating the pricing process of the Kalecki-Kaldor model. We assume, as before, that

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16 (Continued)

Theory and Policy (New York: Harper and Row, 1972), Part II and Part IV.

For alternative approaches emphasizing monopoly conditions in the industrial sector, see Taylor, 1979, and Kaldor, 1976.

<sup>17</sup>This is, in fact, the Ricardo-Lewis adjustment process described in Chapter 1. For a description of this process in the context of India, see Chakravarty, 1974.

the capitalist sector depends on the traditional sector for the major part of raw materials and wage goods. Now, the value of output (Y) in the capitalist sector can be expressed as follows:<sup>18</sup>

$$(14) \quad P_C Y = (1+K) (W+M)$$

where  $P_C$  = Price index of commodities produced in the capitalist sector;

$W$  = wage bill

$M$  = raw material cost

$K$  = mark-up

$$\begin{aligned} \text{or} \quad P_C &= (1+K) (W/Y + M/Y) \\ &= (1+K) (U_W + U_M) \end{aligned}$$

where  $U_W = W/Y$  = wage per unit of output

$U_M = M/Y$  = material cost per unit of output.

We retain the Kaleckian assumption that material costs per unit of output ( $U_M$ ) varies proportionately with prices of materials produced in the primary sector (in our study, the traditional sector).<sup>19</sup> Thus we can write  $U_M = 1/\alpha P_T$ ;  $1/\alpha$  is a factor of proportionality and  $P_T$  refers to price index of

<sup>18</sup>This is the same Y as in the demand side analysis.

<sup>19</sup>Kalecki, 1969, p. 29. This assumption essentially means that changing efficiency in the utilization of materials is not taken into account; in other words, it rules out the possibility of substituting other inputs for raw materials when the relative prices of raw materials increase. Accordingly, the assumption is likely to exaggerate the impact of an increase in raw material prices on production costs.

commodities produced in the traditional sector. In other words,  $P_T$  can be expressed as proportional to  $U_M$ ,

$$(15) \quad P_T = \alpha U_M^{20}$$

From equations (14) and (15) we can write

$$(16) \quad N = P_C/P_T = \frac{(1 + K) (U_W + U_M)}{\alpha U_M}$$

which on multiplication of the numerator and denominator of the right-hand side by  $1/U_M$  gives

$$(17) \quad N = \frac{(1 + K) (1/J) + 1}{\alpha}$$

where  $J = U_M/U_W$ . This equation not surprisingly shows that as the mark-up in the capitalist sector increases,  $N$  rises, i.e., the terms of trade move in favour of this sector. Similarly, as the ratio of material cost per unit of output to the wage bill per unit of output (i.e.,  $J$ ) rises,  $N$  falls, thus implying a deterioration in the terms of trade for the capitalist sector.<sup>21</sup>

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<sup>20</sup>This does not imply that  $P_T$  is causally dependent upon  $U_M$ . Equation (15) is derived from the assumption that  $U_M$  is proportional to  $P_T$ .

<sup>21</sup>In the Kaleckian analysis a rise in the ratio of raw material cost to the wage rate per unit of output ( $J$ ) leads to a deterioration in the terms of trade (i.e.,  $N$  falls) for the manufacturing sector in relation to the primary sector--the latter supplying raw materials. One assumption in this analysis is that prices of raw materials undergo (Continued next page)



Utilizing equation (17) we can express the general relationship between the terms of trade (N), the mark-up (K), and the ratio of raw materials to wage costs (J) as

$$(18) \quad N = N(K, J); \quad N'(K) > 0 \quad \text{and} \quad N'(J) < 0$$

Concentrating on the supply side we further postulate a relationship between K and real output in the capitalist sector:

$$(19) \quad K = K(Y); \quad K'(Y) > 0$$

That is, a higher level of real output in this sector is associated with a higher mark-up. This assumption about the relationship between K and Y is an empirical one. It has been justified in the literature in the following way: a higher mark-up is called for in order to finance a higher level of investment which leads to a higher level of output.<sup>22</sup>

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21(Continued)

larger cyclical fluctuations than prices of all other commodities and that the fluctuations in the latter follow those in the former.

For the arguments that prices of raw materials undergo larger cyclical fluctuations, see Kalecki, 1969, p. 24; R. Dornbusch, S. Fishcer, and G. Sparks, Macroeconomics (Toronto: McGraw-Hill Ryerson, 1972), Chapter II; and C. L. Barber, Inventories and the Business Cycle (University of Toronto Press, 1958), Chapter 6.

To what extent the above assumption is valid is, of course, an empirical question. In Bangladesh and India, the behaviour of raw material prices seems to support this assumption. Source: Bangladesh Statistical Yearbook, 1979, Table 10.2, and Statistical Abstract of India, 1977, Table 162.

<sup>22</sup>A. Eichner, The Megacorp and Oligopoly (New York: M. E. Sharp, 1980), Chapters 1, 2, and 3; and L. Taylor, (Continued next page)

In the context of India and Bangladesh, another argument may be stated that as the manufacturing sector expands, it "crowds out" a part of the household industries. This leads to a greater monopoly power and hence a greater mark-up in the manufacturing sector.

It is not easy, however, to formulate a priori, an assumption with regard to the behaviour of  $J$ , the ratio of material costs to wage costs. In the short-run  $J$  may vary directly with real output in the manufacturing sector if raw material prices increase sharply during the boom period, relative to the increase in wages.<sup>23</sup> In the long-run, in which we are interested, a few scenarios are conceivable. One is without technological progress, where production conditions eventually lead to diminishing returns in the production of raw materials--essentially a Ricardian view. In this scenario there would be a secular rise in  $J$  because of the higher prices of raw materials.<sup>24</sup> Another scenario

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22 (Continued)

Macro Models for Developing Countries (New York: McGraw-Hill, 1979), Chapter 5.

<sup>23</sup> Kalecki, 1969, pp. 23-24, maintains that  $J$  is pro-cyclical, i.e., rises sharply during a boom and falls sharply during a depression, because of greater oscillations in raw material prices. See footnote 21.

<sup>24</sup> This would be true if the phenomenon of diminishing returns is more severe in the production of raw materials than in the production of wage goods and if there is a time-lag between an increase in prices of wage goods and an increase in the wage bill; accordingly, the increase in  $U_M$  would be greater than the increase in  $U_W$ .

is given by technological progress in the production of raw materials. In this scenario, continuous technological progress in the production of raw materials would lead to a secular decline in  $J$  because of a reduction in prices of raw materials, assuming competitive conditions in the traditional sector. Finally, a secular rise in labour productivity can reduce  $U_w$  and hence increase  $J$ . We make no assumption in our model about the determinants of  $J$ . Rather, we shall examine empirically the changes in  $J$  and infer whether the trend in  $J$  throws any light on the existence of diminishing returns and technological progress in the production of raw materials.<sup>25</sup>

Substituting (19) in (18) we get

$$(20) \quad N = N(K(Y), J)$$

Differentiating totally,

$$dN = \frac{\partial N}{\partial K} \frac{\partial K}{\partial Y} dY + \frac{\partial N}{\partial J} dJ$$

and dividing through by  $N$

$$\frac{dN}{N} = \frac{\partial N}{\partial K} \frac{1}{N} \frac{\partial K}{\partial Y} dY + \frac{\partial N}{\partial J} \frac{1}{N} dJ$$

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<sup>25</sup> However, even with a trend it may not be easy to make a persuasive inference on these issues because the behaviour of  $J$  (the ratio of raw material costs to wage costs) depends not only on technological conditions in the production of raw materials but also on changes in labour productivity and on the ability of labour unions to increase wages.

and after some algebraic operations

$$(21) \quad \dot{N} = (e_{NK}) e_{KY} \dot{Y} + e_{NJ} \dot{J}$$

$$\text{where } e_{NK} = \frac{K}{N} \frac{\partial N}{\partial K} \text{ and } \frac{\partial N}{\partial K} > 0.$$

The meaning of  $e_{NK}$  is straight forward: it shows the degree to which the terms of trade change as the mark-up in the capitalist sector changes by a certain percentage. Similar interpretations hold for  $e_{KY}$  and  $e_{NJ}$ . Equation (21) depicts the positive relationship between  $\dot{N}$  and  $\dot{Y}$  in the capitalist sector, for a given rate of growth in  $J$ , the ratio of raw material costs to wages. The slope of equation (21) is

$$\frac{d\dot{Y}}{d\dot{N}} = \frac{1}{e_{NK} e_{KY}}.$$

Hence the following proposition:

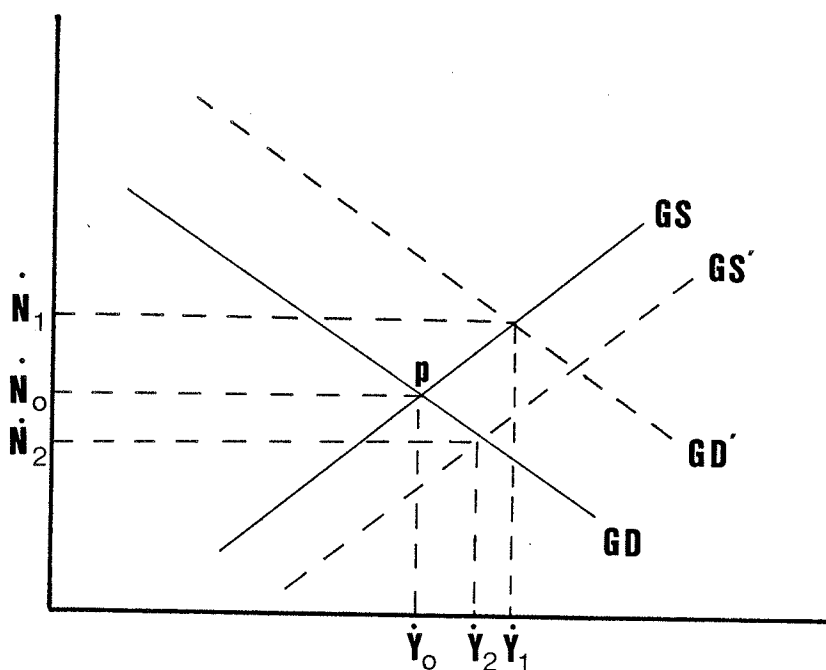
Proposition 3: The sensitivity of the growth of aggregate supply in the capitalist sector to  $N$ , measured by  $\frac{d\dot{Y}}{d\dot{N}}$ , would be higher, the lower is the elasticity of the terms of trade with respect to the mark-up ( $e_{NK}$ ) and the lower is the elasticity of the mark-up with respect to real output ( $e_{KY}$ ).

A verbal interpretation of the above proposition can be given as follows: a lower elasticity of the terms of trade with respect to the mark-up ( $e_{NK}$ ) implies that a larger percentage change in the mark-up is required in order to change the terms of trade by a given percentage. Now if the elasticity of the mark-up with respect to real output ( $e_{KY}$ ) is low, then the above larger percentage change in

the mark-up would be logically associated with an even larger percentage change in real output. The above two conditions thus imply that the aggregate supply of real output would be very sensitive to changes in the terms of trade; that is,  $\frac{d\dot{Y}}{dN}$  would be large.

Combining equation (21) with equation (8) or (12a) from the aggregate demand side the equilibrium values of  $\dot{N}$  and  $\dot{Y}$  can be derived. The intersection of the growth of demand and supply curves is shown in Figure 3.1.<sup>26</sup> The intersection of the demand-growth (GD) and the supply-growth (GS) curves at P gives the equilibrium growth rates of income in the capitalist sector and the terms of trade.

Figure 3.1 Rate of Growth of Output and the Terms of Trade.



<sup>26</sup> These curves can be easily derived in a four-quadrant diagram, as in an IS-LM diagram.

If there were an autonomous increase in exports from or investment in the capitalist sector, the GD curve would shift to  $GD'$ . With the given GS curve, this would lead to an increase in the growth rate to  $\dot{Y}_1$  and an increase in  $\dot{N}$  from  $\dot{N}_0$  to  $\dot{N}_1$ , i.e., an improvement in the terms of trade for the capitalist sector. On the other hand, given the GD curve, if there is any improvement in technology, the GS curve would shift up to  $GS'$ . This would lead to a decrease in  $\dot{N}$  from  $\dot{N}_0$  to  $\dot{N}_2$  and an increase in the growth rate of real income to  $\dot{Y}_2$ . Of course, when both curves shift, the capitalist sector can experience an increase in both  $\dot{N}$  and  $\dot{Y}$ . On the other hand, for some period, the capitalist sector might also experience a worsening terms of trade (i.e., a fall in  $\dot{N}$ ), and a fall in growth rate, because of leftward shifts of the GD curve.<sup>27</sup>

### 3.2 Empirical Evidence for Bangladesh and India

The model presented in this chapter is largely heuristic; that is, aimed at understanding rather than empirical analysis. The problems of empirical analysis are due to non-availability of data for the capitalist sector and the traditional sector, and also due to the deviations

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<sup>27</sup> This seems to have happened in India in the mid-1960's.

of the economies of Bangladesh and India from the assumptions of the model. For instance, the capitalist manufacturing sectors in these countries do not exclusively draw raw materials from the traditional sector. The capitalist manufacturing sector produces some raw materials, e.g., synthetic fibres, and also imports some raw materials from abroad. Another departure from the assumptions of the model is that the traditional sectors of these countries purchase some intermediate inputs, e.g., fertilizer and cotton yarn, from the manufacturing sectors.

The empirical investigation of the model involves a common methodological problem. For instance, in our model, relationships between the terms of trade and industrial growth are based on such ceteris paribus conditions as unchanged technological conditions and unchanged government policies toward agricultural and manufacturing prices. In real economies, it is unlikely that such ceteris paribus conditions would hold. Bearing in mind these problems, we carry out the following empirical analysis on some aspects relating to the terms of trade and manufacturing growth.

Our empirical analysis here will be limited to examining the significance of trends in certain selected variables: the growth rate, the mark-up, the terms of trade, and the ratio of raw material costs to the wage bill. Specifically, we are interested to know whether these trends throw any light on the Ricardo-Lewis and Kalecki-Kaldor

adjustment processes.

In Table 3.1 we observe that in Bangladesh the growth rate of manufacturing output ( $\dot{Y}$ ) has fluctuated widely; on average, however, the rate has declined from 14.4% (1960-69) to 7.6% (1969-1978). One major reason for this slowing down in the growth rate may be the disruption caused by the 1971 war.<sup>28</sup> We observe, however, in Table 3.1 that during the period 1971-72 to 1973-74 the growth rates were impressive.

A relevant question is whether movements in the terms of trade have played any role in the decline of  $\dot{Y}$  in the 1970's. The evidence shows that on average  $\dot{N}$  has increased slightly from -1.9 (1960-69) to .9 (1969-1978), indicating a slight improvement in the terms of trade for the manufacturing sector (see Table 3.1). Variations in the mark-up ( $K$ ) and the ratio of raw material cost to the wage bill ( $J$ ) show opposite trends: during the period 1954 to 1975-76  $K$  increased on average at the rate of .9 per year while  $J$  declined at the rate of .13 per year. These coefficients, however, are statistically significant only at

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<sup>28</sup> It should be noted that the different base years for the price deflator are not likely to be responsible for the observed differences between the growth rates in the 1960's and the 1970's; this is because the different base year for the 1970's would affect the levels of output but not the year-to-year rates of growth of output.



Table 3.1 Growth of Manufacturing (Y); Rate of Change in the Terms of Trade (N), Mark-up (K), and Ratio of Materials bill to Wage bill (J) in Bangladesh.

Year	$\dot{Y}^*$ (%)	Year	$\dot{N}^{**}$ (%)	Year	K (Mark-up) (%)	J
1960-63	10.7	1960-63 - 1961-64	10.4	1954	22	8.6
1963-66	18.1	1961-64 - 1962-65	-3.8	1955	26	8.2
1966-69	14.3	1962-65 - 1963-66	-5.2	1959-60	32	6.7
1969-70-1970-71	-9.8	1963-66 - 1964-67	-9.9	1962-63	64	6.4
1970-71-1971-72	-46.1	1965-67 - 1965-68	- .3	1963-64	52	6.8
1971-72-1972-73	63.6	1965-68 - 1966-69	-2.2	1965-65	50	8.2
1972-73-1973-74	15.9	1969-70 - 1972-73	11.0	1965-66	57	7.4
1973-74-1974-75	-2.0	1972-73 - 1973-74	-15.6	1966-67	44	7.8
1974-75-1975-76	13.9	1973-74 - 1974-75	-6.3	1967-68	51	9.2
1975-76-1976-77	12.7	1974-75 - 1975-76	16.0	1968-69	55	7.1
1976-77-1977-78	12.7	1975-76 - 1976-77	-1.6	1969-70	61	5.9
		1976-77 - 1977-78	2.0	1970-71	53	6.0
				1971-72	57	3.8
				1972-73	47	4.4
				1973-74	64	3.8
				1974-75	38	6.8
				1975-76	30	8.4

\*  $\dot{Y}$  figures are annual average rates.

\*\* For the period 1960-63 to 1969-69  
 $\dot{N}$  figures are calculated from three-year moving average data.

\*  $\dot{Y}$  figures are annual average rates.

\*\* For the period 1960-63 to 1969-69  
N figures are calculated from three-  
year moving average data.

Average $\dot{Y}$ (1960-1969) = 14.4	Average $\dot{N}$ (1960-69) = -1.9	Average K = 47	Average J = 6.8
Average $\dot{Y}$ (1969-1978) = 7.6	Average $\dot{N}$ (1969-78) = .9	(1954-1975-76)	J = 8.3 - .13M
		K = 36.15 + .9M	(-2.02)
		(1.83)	

(For a discussion of data sources, see the note on the next page.)

Table 3.1 (Cont'd)

Where M is time. Figures within parentheses are t-values. The coefficients of M in equations for K and J are significant at the 10% level.

Note:  $\dot{Y}$  for 1960-1969 refers to average annual growth rate of large scale manufacturing (those units employing twenty or more workers and using power) at 1959-60 prices.

Source of data: A.R. Khan, The Economy of Bangladesh (London: Macmillan, 1972), p. 17.

$\dot{Y}$  for 1969-70 to 1977-78 refers to average annual growth rate of large-scale manufacturing at 1972-73 prices. Source: Planning Commission, Government of Bangladesh, quoted in World Bank, Bangladesh: Current Trends and Development Issues (Washington, D.C.: 1979), Table 2.1, p. 76.

$\dot{N}$  for 1960-1969 refers to the average annual rate of change in the net barter terms of trade between agriculture and manufacturing (base year 1959-60). Source: Stephen R. Lewis, Jr., "Recent Movements in Agriculture's Terms of Trade in Pakistan," Pakistan Development Review, 1970, Vol. X, No. 3.

The average  $\dot{N}$  figures for 1969-1978 are based on the price indexes (base year: 1969-70) in the Bangladesh Bureau of Statistics, Government of Bangladesh, Statistical Yearbook of Bangladesh, 1979, Table 10.2.

K and J figures are calculated from data in Statistical Yearbook of Bangladesh, 1979, Tables 5.33, 5.35 and 5.36. K has been defined as follows:

$$K = \frac{GVP}{W + M} - 1$$

where GVP = Gross value of Industrial Production  
W = Employment cost of production workers  
M = Industrial cost (raw materials)

$$J = \frac{M}{W}$$

the 10% level. Accordingly, we can only say that in Bangladesh manufacturing, there had been no falling trend in  $K$  and no rising trend in  $J$ . We can further say that the manufacturing sector in Bangladesh has not witnessed a secular deterioration in the terms of trade. This conclusion follows from the relationship in equation (18)  $N = N(K, J)$ , i.e., the terms of trade deteriorate for the capitalist sector ( $N$  falls) only when the mark-up ( $K$ ) falls and the ratio of raw material costs to the wage ( $J$ ) rises.

The evidence of a slight improvement in the terms of trade and a falling growth rate of output in the manufacturing sector of Bangladesh in the 1970's is consistent with the proposition I stated in Section 3.1 and also with the Kalecki-Kaldor adjustment process, mentioned in Chapter 1. That is, in Bangladesh the manufacturing sector seems to have passed on higher costs of inputs into prices of manufactured products and the higher prices of manufactured products might have adversely affected the growth of manufacturing output through a reduction in the growth of demand.

The above causal connections, however, cannot be demonstrated on the basis of information in Table 3.1 only. One can argue that the decrease in the growth of manufacturing output in the 1970's are mainly due to such factors as the disruptions caused by the 1971 war and the nationalization of industries in 1972. Nevertheless, as we see later

in this section and in Chapters 4 and 6, some indirect evidence based on international trade conditions and real wages appears to make the demand-constraint argument plausible.

In comparison with the manufacturing sector of Bangladesh, the manufacturing sector of India shows some striking similarities and differences. As in Bangladesh, the Indian growth rate in manufacturing output ( $\dot{Y}$ ) slowed down in the mid-1960's and picked up in the late 1970's (see Table 3.2). However, in contrast to Bangladesh, in India the growth rate has never been negative. The annual average growth rate during 1961-61 to 1968-69 was 5.9% and during 1970-71 to 1977-78, 6.3%, overall a remarkably consistent rate of growth.

In India, the annual average  $\dot{N}$  has increased from -3.6% during 1961-62 to 1969-70 to .8% during 1970-71 to 1978-79. This contradicts the assertion made by a number of economists that the growth rate in the manufacturing sector has been constrained by a continuous deterioration in the manufacturing sector's terms of trade.<sup>29</sup>

The fact that in India the growth rate in manufacturing slowed down in the late 1960's but slightly

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<sup>29</sup> A. Mitra, Terms of Trade and Class Relations: D. Nayyar, "Industrial Development in India: Some Reflections on Growth and Stagnation," Economic and Political Weekly, August, 1978, Special Number, pp. 1265-178; and S. Chakravarty, 1974. This assertion, however, may have been true for the 1960's.

Table 3.2 Growth of Manufacturing ( $\dot{Y}$ ), Rate of Change in Terms of Trade ( $\dot{N}$ ), Mark-up ( $K$ ), and Ratio of Material Bill to Wage Bill ( $J$ ) in India

Year	$\dot{Y}$ (%)	$\dot{N}$ (%)	Year	$K$ (%)	$J$
1960-61 - 1961-62	9.9	-	1959	32	5.8
1961-62 - 1962-63	9.6	- .3	1961	32	6.2
1962-63 - 1963-64	10.1	- 3.6	1965	38	6.6
1963-64 - 1964-65	8.8	-13.9	1966	37	6.8
1964-65 - 1965-66	2.5	.1	1967	32	7.0
1965-66 - 1966-67	1.0	- 8.2	1968	47	6.9
1966-67 - 1967-68	.5	- 9.0	1969	39	7.2
1967-68 - 1968-69	8.1	7.5	1970	38	7.3
1968-69 - 1969-70	6.8	- 1.6	1973-74	36	7.4
1969-70 - 1970-71	-	4.5	1974-75	43	8.2
1970-71 - 1971-72	3.0	8.7			
1971-72 - 1972-73	3.0	- 3.9			
1972-73 - 1973-74	7.5	- 8.9			
1973-74 - 1974-75	3.4	3.8			
1974-75 - 1975-76	.2	7.3			
1975-76 - 1976-77	11.7	6.2	- indicates missing data		
1976-77 - 1977-78	5.4	- 8.8			
1977-78 - 1978-79	16.2	1.7			

Average  $\dot{Y}$  (1960-61 - 1978-79) = 6.5

Average  $\dot{N}$  (1961-62 - 1978-79) = - .1

Average  $\dot{Y}$  (1961-62 - 1968-69) = 5.9

Average  $\dot{N}$  (1961-62 - 1969-70) = -3.6

Average  $\dot{Y}$  (1970-71 - 1978-79) = 6.3

Average  $\dot{N}$  (1970-71 - 1978-79) = .8

(Notes to Table 3.2 are on the next page)

Notes to Table 3.2

$$\begin{aligned} \text{Average Mark-up (K), 1959-1974-75} &= 37\% \\ K &= 32.6 + .59M \\ &\quad (1.98) \end{aligned}$$

$$\begin{aligned} \text{Average J (1959-1974-75)} &= 6.9 \\ J &= 5.8 + .14M \\ &\quad (10.6) \end{aligned}$$

Where M is time. Figures within parentheses are t-values. The coefficient of M in the equation for K is significant at the 10% level. The coefficient for J is significant at the 1% level.

$\dot{Y}$  figures for 1960-61 to 1969-70 refer to the average annual growth rate of net value-added (at 1960-61 prices) in the registered manufacturing sector.

Source: Central Statistical Organization, Government of India, National Accounts Statistics 1960-61 - 1972-73, Disaggregated Tables, Table 25.1

$\dot{Y}$  figures for 1970-71 to 1978-79 refer to the average annual growth rate in the registered manufacturing sector at 1970-71 prices.

Source: C.S.O., National Accounts Statistics, 1970-71 - 1978-79, Statement 40.

$\dot{N}$  figures (1961-62 - 1978-79) refer to the rate of change in the net barter terms of trade between agriculture and manufacturing.

Source: Reserve Bank, Bulletin, various issues.

The figures of K and J refer to the (Census) factory sector.

Source: Central Statistical Organization, Government of India, Statistical Abstract of India, 1977, Table 37.

$$K = \frac{GVO}{W + M} - 1$$

where GVO = gross ex-factory value of output

W = wages paid to the workers

M = materials consumed, fuels, electricity and lubricants

and

$$J = \frac{M}{W}$$

increased in the 1970's in the face of an improvement in the terms of trade suggests that the growth process is consistent with the Ricardo-Lewis model. It is necessary to point out, however, that the Indian evidence is also consistent with one of the assertions of the Kalecki-Kaldor model: the manufacturing sector is unlikely to face a secular deterioration in the terms of trade.

Similar to the manufacturing sector of Bangladesh, the Indian manufacturing sector also shows an increasing trend in  $K$ , the mark-up. The trend, however, does not have statistical significance; the trend coefficient is significant only at the 10% level. In contrast to the literature on Bangladesh, the literature on India has emphasized the problem of high degree of monopoly power in the Indian manufacturing sector.<sup>30</sup> It is evident, however, from our findings that, on average, the mark-up has been higher in Bangladesh (47%) than in India (37%).

In contrast to Bangladesh, the ratio of material bill to wage bill ( $J$ ) in India shows an increasing trend during the period 1959 to 1974-75. Because of the importance of raw material and the wage bill as determining

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<sup>30</sup> See Bettelheim, India Independent (London: MacGibbon Kee, 1968); N. K. Chandra, "Monopoly Capital, Private Corporate Sector and the Indian Economy: A Study in Relative Growth, 1931-1976," Economic and Political Weekly, Special Number, Vol. XIV (August, 1979).

factors of supply constraints, it is worthwhile to explore this further.

First, in India and Bangladesh, for the entire period covered, the average values of  $J$  have been 6.8 and 6.9, respectively. In comparison with the developed countries, these figures are high.<sup>31</sup> This is not surprising, since in such labour abundant countries as India and Bangladesh, the wage bill is likely to be much lower in comparison with the raw material bill, making the ratio of the raw material bill to the wage bill high.

Second, the ratio of raw material bill to wage bill may rise because of (1) a rise in raw material prices relative to wage rates, (2) a rise in labour productivity, and (3) a change in the composition of manufacturing toward more raw material intensive commodities. We are able to examine the first of these reasons for India and Bangladesh.

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<sup>31</sup>For example, in the U.S.A. the average value of  $J$  for the period 1963-1976 was 4.1. Source: Bureau of the Census, U.S. Department of Commerce, Statistical Abstract of the United States, 100th Edition, p. 797.

Furthermore, during the early industrialization period  $J$  declined in the U.S.A., from 3.55 in 1879 to 1.98 in 1937 (Kalecki, 1969, p. 32). Kalecki explained this declining trend in terms of a rising productivity in the raw materials producing sectors. As we shall see in Chapter 5, neither Bangladesh nor India has experienced a long-term rise in productivity in raw materials production, compared to that in the developed countries.



Since in these two countries agro-based industries are a substantial part of the manufacturing sector, agricultural raw material costs would be a significant part of the total raw material costs.<sup>32</sup> Accordingly, it is worthwhile to examine the trend in the ratio of agricultural raw material prices and money wage rates in the manufacturing sector.

In Table 3.3 we observe that in India, the ratio of price indexes of agricultural raw materials and money wages has been higher in most of the years in the 1960's and 1970's in comparison with 1961, the base year. The ratio, however, does not show a clear trend; the positive trend coefficient does not have statistical significance. In Bangladesh also the  $P_A/W_M$  ratio has been higher in the 1970's in comparison with the ratio in 1969-70, the base year. This ratio, however, does not show a strong trend; the positive trend coefficient is significant only at the 10% level.

The evidence in Table 3.3 allows us to draw only a weak conclusion: it is unlikely that in the manufacturing

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<sup>32</sup>In Bangladesh, the share of agro-based industries (food, beverage, tobacco, textiles, leather and rubber products) in gross value-added was 74.5% in 1972-73. These industries consumed 70.82% of total raw materials in the same year. (Source: Statistical Yearbook of Bangladesh, 1979, p. 264). In India the share of agro-based industries in value-added was 32.8%, and its share of raw material consumption was 45%, during the year 1975-76. Source: C.S.O., Annual Survey of Industries, 1975-76.

Table 3.3 Ratio of Price Indexes of Agricultural Raw Materials ( $P_A$ ) to Money Wage Indexes in Manufacturing ( $W_M$ ) (expressed in percent).

India		Bangladesh	
Year	$P_A/W_M$	Year	$P_A/W_M$
1961	100	1969-70	100
1962	93.6	1972-73	194.5
1963	92.9	1973-74	173.5
1964	102.3	1974-75	160.4
1965	104.6	1975-76	173.0
1966	115.5	1976-77	170.8
1967	106.0	1977-78	186.8
1968	98.9		
1969	107.0		
1970	115.5		
1971	104.2		
1972	104.4		
1973	146.8		
1974	165.5		
1975	134.3		
1976	86.7		
1977	99.7		
1978	85.6		

$$P_A/W_M = 101.17 + .93M$$

(.99)

$$P_A/W_M = 128.27 + 7.91M$$

(2.11)

Where M is time. Figures within parentheses are t-values. The coefficient of M for India is significant at the 40% level and the coefficient of M for Bangladesh is significant at the 10% level; accordingly, neither of the coefficients has statistical significance.

(Notes to Table 3.3 continued on the next page)

Notes to Table 3.3

For Bangladesh the figures are calculated from the price indexes in Table 10.2, p. 370 and from the wage indexes in Table 10.23, p. 385, Statistical Yearbook of Bangladesh, 1979. The figures for India are based on the price indexes in Reserve Bank of India, Bulletin, various issues, and on the wage indexes calculated from the wage rates in I.L.O., Yearbook of Labour Statistics, 1980 and earlier issues.

sectors of India and Bangladesh that wage costs relative to agricultural material prices have been a persistent supply constraint.

### The Role of the International Terms of Trade

Thus far the empirical investigation of the growth of manufacturing output has been centred on the inter-sectoral terms of trade. Now it is worthwhile to examine the implications of the international terms of trade for the interpretation of the empirical results derived so far. The significance of this issue is given by the fact that the growth of manufacturing output may be constrained not only by a deterioration in the manufacturing sector's terms of trade but also by a deterioration in the terms of trade for the economy vis-a-vis the rest of the world.

We observed earlier in Tables 3.1 and 3.2 that during the 1970's the inter-sectoral terms of trade improved for the manufacturing sectors of Bangladesh and India. Furthermore, during the 1970's, in comparison with the 1960's, the growth of manufacturing output showed some increase in India but not in Bangladesh. A relevant question is whether the international terms of trade have been at least partly responsible for the above difference between the two countries.

In Table 3.4 we observe that in Bangladesh the average rate of change in the international terms of trade

Table 3.4 Rate of Change in the International Terms of Trade ( $\dot{N}_e$ ) for Bangladesh and India.

Bangladesh Period	$\dot{N}_e$	India Period	$\dot{N}_e$
1961-62 to 1962-63	-18.3	1961-1962	-2.1
1962-63 to 1963-64	12.7	1962-1963	-1.1
1963-64 to 1964-65	16.7	1963-1964	-3.2
1964-65 to 1965-66	-8.6	1964-1965	5.5
1965-66 to 1966-67	43.0	1965-1966	2.1
1966-67 to 1967-68	-18.0	1966-1967	-3.1
1967-68 to 1968-69	1.6	1967-1968	2.1
1968-69 to 1972-73	-	1968-1969	3.1
1972-73 to 1973-74	-31.8	1969-1970	0
1973-74 to 1974-75	- .9	1970-1971	3.0
1974-75 to 1975-76	-10.7	1971-1972	7.8
1975-76 to 1976-77	13.1	1972-1983	7.2
1976-77 to 1977-78	9.8	1973-1974	-18.4
1977-78 to 1978-79	7.5	1974-1975	-9.5
		1975-1976	2.6
		1976-1977	26.9
		1977-1978	-4.0
		1978-1979	-16.8
Average $\dot{N}_e$ (1961-62 to 1968-69) = 4.2		Average $\dot{N}_e$ (1961-1969) = .4	
Average $\dot{N}_e$ (1972-73 to 1978-79) = -2.2		Average $\dot{N}_e$ (1970-1979) = -.1	

(Notes to Table 3.4 are on the next page)

Notes to Table 3.4

$\dot{N}_e$  refers to the rate of change in the ratio of the export-price index to the import-price index during a given period.

Source of data: For Bangladesh: the figures for the 1960's are calculated from Government of Pakistan, Central Statistical Office, Monthly Statistical Bulletin, 1970-71, and earlier issues, as reported in S. H. Rahman, "An Analysis of Terms of Trade of Bangladesh, 1959/60 to 1974/75," The Bangladesh Development Studies, July, 1976. The figures for the 1970's are calculated from Government of Bangladesh, Planning Commission, as reported in The World Bank, Bangladesh: Current Economic Situation and Review of the Second Plan, 1981, Table 3.4, p. 103.

For India: International Financial Statistics, October, 1982, and earlier issues.

was 4.2% in the 1960's and -2.2% in the 1970's; the corresponding figures for India were .4% and -.1%. Thus, the extent of deterioration in the international terms of trade in the 1970's appears to be greater in Bangladesh. This deterioration in the international terms of trade may have adversely affected the growth of manufacturing output in Bangladesh during the 1970's.

On the other hand, in India the growth of manufacturing output increased slightly during the 1970's in the face of an improvement in the manufacturing sector's terms of trade, despite a deterioration in the international terms of trade. This evidence seems to reveal the dominance of the inter-sectoral terms of trade in India.<sup>33</sup>

It is now worthwhile to examine the implications of the international terms of trade for the adjustment processes in the manufacturing sectors of Bangladesh and India. A deterioration in the international terms of trade can adversely affect the growth of manufacturing output in two ways. First, through an increase in prices of imported inputs, thereby affecting the aggregate supply side. Second, through a reduction in aggregate demand. The

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<sup>33</sup>In comparison with Bangladesh, India is less dependent on international trade, as indicated by lower exports/GDP and imports/GDP ratios (see Appendix A.1). Accordingly, it is expected that the international terms of trade would be less influential in India.

reduction in aggregate demand is the result of a reduction in real income in the economy, following the deterioration in the international terms of trade.

It is not easy to evaluate the relative importance of each of the above two effects for the manufacturing sectors of Bangladesh and India. There are some indications, however, which suggest that the demand mechanisms would be more applicable to the manufacturing sector of Bangladesh than to the manufacturing sector of India. First, during the 1970's, Bangladesh, in contrast to India, was an importer largely of consumer goods, including food, rather than intermediate inputs.<sup>34</sup> Second, in Bangladesh, in contrast to India, the growth of exports in real terms declined during the 1970's, possibly because of adverse demand conditions for the jute industry.<sup>35</sup> The fact that the growth of exports declined in Bangladesh implies that the income terms of trade also deteriorated in Bangladesh. This may have reduced the aggregate real income of the economy and the aggregate demand for all products, including manufactured products.

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<sup>34</sup>The World Bank, Bangladesh: Current Economic Situation and Review of the Second Plan, 1981, Table 3.3; and The World Development Report, 1982, Table 10.

<sup>35</sup>Source: The World Development Report, 1982, Table 8.



### 3.3 Summary

In this chapter we presented a simple model of interdependence between the capitalist and the traditional sectors, with the rate of change in the inter-sectoral terms of trade ( $\dot{N}$ ) as an endogenous variable. We put forward a number of propositions concerning the relationship between the rate of growth of output ( $\dot{Y}$ ) in the capitalist sector and  $\dot{N}$ . These propositions are based on some postulated relationships (1) between the terms of trade and some of the variables on the aggregate demand side, e.g., consumption and investment; and (2) between the terms of trade and the variables on the aggregate supply side, e.g., the mark-up and the ratio of the raw material bill to the wage bill.

In this chapter we then investigated the trends in selected variables ( $\dot{Y}$ ,  $\dot{N}$ ,  $K$ , and  $J$ ) in Bangladesh and India. The notable findings are the following:

1. In neither country has the manufacturing sector experienced a secular deterioration in the terms of trade, thus confirming the claim made by the Kalecki-Kaldor model.
2. In Bangladesh the terms of trade improved for the manufacturing sector during the 1970's. However, this improvement was associated with a fall in the growth of manufacturing output. This growth process is consistent with the Kalecki-Kaldor adjustment mechanism mentioned in

Chapter 1. In contrast, in India, the growth of manufacturing output increased slightly during the 1970's in the face of an improvement in the terms of trade. This appears to be consistent with the Ricardo-Lewis adjustment mechanism discussed in Chapter 1.

3. In India and Bangladesh, the evidence shows that there has been no secular decrease in the ratio of prices of agricultural raw materials to money wages in the manufacturing sector; in other words, wage costs relative to agricultural raw material costs have not been a persistent supply constraint.

4. During the 1970's, the international terms of trade deteriorated for both Bangladesh and India. The extent of deterioration appears to be greater in Bangladesh. This may have been partly responsible for a decrease in the growth of manufacturing output in Bangladesh during the 1970's. Furthermore, the demand-deficiency problem, emphasized in the Kalecki-Kaldor model, appears to be more applicable to the manufacturing sector of Bangladesh than to the manufacturing sector of India. Further investigations are needed, however, to rigorously derive these conclusions.

## CHAPTER 4

STRUCTURAL INTERDEPENDENCE, THE  
DISTRIBUTION OF INCOME, AND GROWTH:  
A DISAGGREGATED ANALYSIS

In the theoretical model presented in Chapter 3, we observed that movements in the terms of trade can influence the growth of manufacturing output through changes in aggregate demand as well as changes in aggregate supply. From the empirical findings we also observed that the adjustment process in Bangladesh manufacturing appears consistent with the Kalecki-Kaldor model. On the other hand, the adjustment process in Indian manufacturing seems to be consistent with the Ricardo-Lewis model. In Chapter 3, however, no attempt was made to investigate whether constraints and the adjustment processes differ substantially within sub-sectors of the manufacturing sector. Furthermore, no attempt was made to examine the flows of commodities from the traditional sector to the manufacturing sector.

In this chapter we undertake a disaggregated analysis in order to illuminate further the adjustment process within the manufacturing sector in the face of constraints originating in the traditional sector. The disaggregation will be two-fold: a disaggregation of the manufacturing sector and a disaggregation of the flows of

commodities from the traditional sector to the manufacturing sector. The theoretical rationale for such disaggregations has been discussed in Chapter 1.

#### 4.1 Disaggregation of the Manufacturing Sector into Wage Goods, Non-Basic Goods, and Basic Goods Industries

The disaggregation of the manufacturing sector will be made in terms of (1) enterprises producing wage goods, (2) enterprises producing non-basic goods (e.g., luxury consumer goods and any inputs or capital goods which are used only for the production of luxury consumer goods), and (3) enterprises producing basic goods (i.e., all other intermediate inputs and capital goods).<sup>1</sup>

The task of disaggregating the manufacturing sector in such a way is by no means easy, because of the dearth of

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<sup>1</sup>The distinction between basic and non-basic goods (ideas of which can be found in the writings of Ricardo and Marx) is elaborated in Pierro Sraffa, Production of Commodities by Means of Commodities (Cambridge: Cambridge University Press, 1960). In simple terms, the criterion is whether a commodity enters into the production of all commodities. Those that do are called basic, and those that do not are called non-basic. The categorization of basic and non-basic commodities, however, might be sensitive to the degree of sectoral disaggregation of the economy. For empirical analysis, some assumptions and proxies will be necessary for the separation of basic commodities from the non-basic. If wages are defined in terms of a fixed basket of consumer commodities, these commodities, called wage goods, should also be considered basic, on equal footing with other material inputs. In our study, however, we shall classify basic goods further into basic consumer goods (hereafter called "wage goods") and basic non-consumer goods (hereafter simply called "basic goods").

disaggregated data both for output and for consumption patterns of wage earners and profit receivers. If highly disaggregated data were available, we would designate an enterprise as:

1. a wage good enterprise if the commodity produced by the enterprise were wholly or mainly consumed by wage earners;
2. a non-basic goods enterprise if the commodity produced by the enterprise were either consumed wholly or mainly by profit receivers, or used solely for the production of commodities consumed by profit receivers;
3. a basic goods enterprise if the commodity produced by the enterprise were used for the production of wage goods, directly or indirectly.

It should be noted that our concept of an "enterprise" is not exactly synonymous with the concept of a "firm." A firm which produces, let us say, three products in three physical plants, would constitute, in our view, three enterprises. We thus follow the product-method rather than the firm-method in disaggregating the manufacturing sector and then we explore technological and other features (e.g., wages, profit, and value-added) of the disaggregated units. This approach is compatible with the Censuses of Manufacturing Industries of Bangladesh and the Annual Surveys of Industries of India. Accordingly, we shall use the terms "enterprise" and "industry" interchangeably.

The data in the Censuses of Manufacturing for Bangladesh are disaggregated to the 4-digit level.<sup>2</sup> In India, the Annual Surveys of Industries provide data at the 3-digit level.<sup>3</sup> From these sources one can identify most industries as being producers of either consumer goods or non-consumer goods (i.e., intermediate inputs and capital goods). The problem is to disaggregate the consumer goods sub-sector into those industries which produce either wage goods or non-basic goods; similarly, it is necessary to identify those industries producing inputs and capital goods which are used only for non-basic goods. This classification would require highly disaggregated data on the manufacturing sector and on the consumption patterns of wage earners and profit receivers.

In the absence of such information on consumption patterns and industrial classification, the following methods have been adopted to classify the manufacturing sector into wage goods, basic goods, and non-basic goods industries.

1. Industries producing mainly consumer durables have

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<sup>2</sup>Data for Bangladesh manufacturing are also given at the 2-digit level but not at the 3-digit level.

<sup>3</sup>Problems due to different levels of disaggregation of industries in India and Bangladesh are not likely to be serious. Many industries in Bangladesh at the 4-digit level correspond with the Indian industries at the 3-digit level. See the list of industries in the two countries in Appendices D.1 and D.2.

been placed in the category of non-basic goods. This is based on the assumption that consumer durables produced in the capitalist manufacturing sector are consumed mainly by non-workers.<sup>4</sup>

2. Industries producing capital goods and intermediate inputs have been placed in the category of basic goods on the ground that these inputs and capital goods are directly or indirectly required for the production of wage goods.<sup>5</sup>

3. Ad-hoc judgments were made in order to classify industries producing non-durable consumer goods as either wage goods industries or non-basic goods industries.<sup>6</sup>

By adopting these methods, we have been able to classify most of the manufacturing industries of India and Bangladesh into wage goods, basic goods, and non-basic goods industries. (For the list of these industries, as well as

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<sup>4</sup>The evidence on the consumption patterns for India and Bangladesh seems to support this assumption. See Government of India, National Sample Survey Organization, The National Sample Survey, 28th Round (New Delhi: 1977); and Statistical Yearbook of Bangladesh, 1979, Table 15.18.

<sup>5</sup>In principle, industries producing inputs or capital goods used only for the production of luxury consumer goods should be classed as non-basic goods rather than basic goods. The data, however, are not disaggregated enough to exclude such industries, with the exception of a few, from the category of basic goods. See Appendix C for further discussion.

<sup>6</sup>See the note in Appendix C for arguments that these methods are unlikely to bias the main results of our study.

those excluded, see Appendices D.1 and D.2).

In this chapter, first we are interested in a comparative analysis of some selected features of these three groups of industries: input structure, capital intensity, wage, productivity, mark-ups and profit. The main purpose here is to elucidate the implications of different features of these three groups of industries for growth. Study of time trends of these features, however, is not pursued here. We have first selected the latest year for which data were available to us for India (1975-76) and Bangladesh (1976-77) and compared the results with those of another year for each country, 1967 for India, and 1972-73 for Bangladesh.<sup>7</sup>

Input Structure of Wage Goods,  
Basic Goods, and Non-Basic  
Goods Industries

In Table 4.1 and Table 4.2, we observe the following features of the input structure of the three groups of industries.

1. In both countries the wage bill as a percentage of total input cost has been higher in the basic goods and wage goods industries compared with the non-basic goods industry. However, the differences are not always large:

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<sup>7</sup>The years 1967 and 1972-73 were selected because data for these years are available to us.



Table 4.1 Input Structure of Wage Goods, Non-Basic Goods and Basic Goods Industries in Bangladesh

Industries	Wage Bill As % Total Input Cost		Salary Bill as % Total Input Cost		Raw Material Cost as % Total Input Cost		Other Input Cost as % Total Input Cost		Ratio of Raw Material Cost to Wage Bill (J)	
	Year		Year		Year		Year		Year	
	1972-73	1976-77	1972-73	1976-77	1972-73	1976-77	1972-73	1976-77	1972-73	1976-77
Wage Goods	12.8	11.0	5.7	3.9	74.5	80.9	7.0	4.2	5.8	7.4
Non-Basic Goods	11.0	5.9	5.6	3.6	81.3	88.1	2.1	2.4	7.4	14.9
Basic Goods	20.8	10.6	5.7	3.2	67.9	86.2*	5.6	-	3.7	8.1
All Industries**	17.5	9.2	5.7	3.3	71.6	82.6	5.2	4.9	4.1	9.0

\* Refers to raw material and other input costs as % total input cost.

\*\* Including those industries not covered by this study.

- Other input cost is included in raw material cost.

Note:

Figures for 1972-73 are computed from Bangladesh Bureau of Statistics, Census of Manufacturing, Bangladesh, 1972-73, Tables I, II, and XIX.

Figures for 1976-77 are computed from Tables I, XVI, and XXIII of Census of Manufacturing Bangladesh, 1976-77.

Wage bill is the total payment (all wages, allowances, and benefits) to production workers and the salary bill is the total payment to salaried employees. The wage bill and the salary bill together constitute the total employment cost. Total input cost comprises employment cost and industrial cost. Industrial cost refers to raw material cost and "other input costs". "Other input costs" refers to fuel and electricity costs.

Table 4.2 Input Structure of Wage Goods, Non-Basic Goods and Basic Goods Industries in India

Industries	Wage Bill as % Total Input Cost		Salary Bill as % Total Input Cost		Material Cost as % Total Input Cost		Other Input Cost as % Total Input Cost		Ratio of Material Cost to Wage Bill (J)	
	Year		Year		Year		Year		Year	
	1967	1975-76	1967	1975-76	1967	1975-76	1967	1975-76	1967	1975-76
Wage Goods	12.8	9.2	3.1	3.4	77.4	70.0	6.7	17.4	6.1	7.6
Non-Basic Goods	7.8	5.1	5.3	4.8	76.0	74.0	10.9	16.1	9.7	14.5
Basic Goods	10.9	7.7	6.6	5.1	69.1	67.5	13.4	19.7	6.3	6.8
All Industries*	8.2	7.8	3.9	4.7	61.2	70.0	26.7	17.5	7.5	9.0

\*Including those industries not covered by this study.

Note:

Figures for 1975-76 have been computed from Central Statistical Organization, Government of India, Annual Survey of Industries, 1975-76, Factory Sector, Table 3; Figures for 1967 have been computed from Annual Survey of Industries, 1967, Table 1. Definitions of the wage bill and the salary bill for India are similar to those stated for Bangladesh. Total input cost includes employment cost (the wage bill and the salary bill), material cost, and "other input costs". "Other input costs" includes fuels, electricity, and non-industrial services (legal expenses and insurance charges). This definition of total input cost is slightly broader than for Bangladesh, because of the inclusion of non-industrial services.

for example, percentages of the wage bill are very similar for wage goods and non-basic goods industries of Bangladesh in 1972-73. The non-basic goods industry appears to have a higher ratio of raw material cost to total input cost than all the industries on average. Furthermore, the ratio of raw material cost to the wage bill (J) is higher in the non-basic goods industry than in wage goods and basic goods industries. One significance of the above findings is that if prices of wage goods (produced in the traditional sector) increase and this is followed by an increase in money wages in the manufacturing sector, then the impact would be greater in wage goods and basic goods industries than in the non-basic goods industry. On the other hand, if prices of raw materials rise, the impact is likely to be greater in the non-basic goods industry.

2. The salary bill as a percentage of total input cost has been higher in the wage goods industry of Bangladesh, in comparison with the non-basic goods industry. In contrast, in India the percentage of the salary bill has been higher in the non-basic goods industry. The view that the percentage of the salary bill is higher in the luxury goods industry is thus supported by our findings only for India.<sup>8</sup>

3. In Bangladesh the wage bill and the salary bill

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<sup>8</sup>For an exposition of this view, see K. Bharadwaj, "Towards a Macroeconomic Framework for a Developing Economy," The Manchester School, 1979.

as percentages of total input costs have declined in all three groups of industries in 1976-77 in comparison with those in 1972-73. Correspondingly, the percentage of raw material cost has increased in all three groups of industries. In India the wage bill as well as the material cost as percentages of total input costs have declined in 1975-76, in comparison with those in 1967. In contrast to Bangladesh, in India the salary bill as a percentage of total input cost has increased in the manufacturing sector as a whole and in the wage goods industry. Furthermore, in contrast to Bangladesh, in India the "other input costs" as a percentage of total input cost have gone up in all three groups of industries.

4. A notable finding is that in Bangladesh as well as in India the ratio of raw material cost to the wage bill (J) has gone up in all groups of industries, and the extent of absolute increase is highest in the non-basic goods industry. In Bangladesh this ratio has gone up in the non-basic goods industry from 7.4 in 1972-73 to 14.9 in 1976-77. In India the ratio has gone up in the non-basic industry from 9.7 on 1967 to 14.5 in 1975-76. The significance of a rise in J for the terms of trade and for manufacturing growth has already been discussed in Chapter 3.<sup>9</sup> A relevant

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<sup>9</sup>In Section 3.1 of Chapter 3, we observed in equation (18) that the manufacturing sector's terms of trade depends positively upon the mark-up (K) and inversely upon (Continued next page)

question in this context is whether, in the face of a rising  $J$ , all three groups of industries would experience a similar adjustment process. The answer depends on monopoly power and other characteristics of the three groups of industries, discussed in the following sub-section.

Monopoly Power and Other  
Characteristics of Wage Goods,  
Non-Basic Goods, and Basic  
Goods Industries

On the basis of information in Tables 4.3, 4.4, 4.5, and 4.6, if we compare labour income, the mark-up, and the profit rate in the wage goods industry with those in the non-basic goods industry, some striking patterns emerge. The non-basic goods industry in Bangladesh, as well as in India, has higher mark-ups, higher profit rates, and lower proportions of the wage bill and employment cost in value-added.<sup>10</sup> This suggests that the degree of monopoly power is likely to be substantially higher in the non-basic goods industry than in the wage goods industry. Accordingly, the

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9 (Continued)

the ratio of the raw material bill to the wage bill ( $J$ ). Hence, if  $J$  increases for the manufacturing sector as a whole or for any sub-sector within this sector, then the manufacturing sector's terms of trade is likely to deteriorate.

<sup>10</sup>As discussed in Chapter 1, in the Kaleckian theory of income distribution, labour's share of income varies inversely to the mark-up which is determined by the degree of monopoly.

Table 4.3 Comparison of Wage-Goods, Non-Basic Goods and Basic Goods Industries in Bangladesh, 1976-77

A. Assets or Capital Intensity

	Wage-goods	Non-basic	Basic	All*
Fixed Assets per worker (Taka)	15418	25576	27667	23150
Fixed assets/ value-added ratio	1.04	.26	1.53	.98
Total assets/ value-added ratio	2.04	.77	2.83	1.94
Total assets/ gross output	.66	.41	.83	.69

B. Labour Income and Productivity

Annual wages per worker (Taka)	3993	5540	4635	4483
Value-added per worker (Taka)	14762	98090	18067	23707
Annual earnings per employee (Taka)	4438	6156	5019	4946
Wage/value-added (%)	27.1	5.6	25.7	18.9
Employment cost/ value-added (%)	36.8	9.1	33.3	25.7

C. Mark-up and Profit

Mark-up (%)	31	102	75	41
Gross Profit/ total assets (%)	31	117.6	24	38

\* Including those industries not covered by this study.

(Notes to Table 4.3 are on the next page)

### Notes to Table 4.3

The above figures have been computed from the Census of Manufacturing Industries, Bangladesh, 1976-77, Table I and XVI. The data in Table 4.3 and also in Tables 4.4, 4.5 and 4.6 represent the sub-sector as a whole. For instance, annual wages per worker in the wage goods sub-sector has been computed in the following way: add up all the wages bills of the wage goods industries and divide by all production workers in these industries. Similarly for all other sub-sectors.

Annual earnings per employee: total employment cost divided by all employees including production workers.

$$\text{Mark-up} = \frac{\text{Gross value of output}}{\text{Wage bill} + \text{Industrial cost}} - 1$$

For detailed definitions of various terms in Tables 4.3, 4.4, 4.5 and 4.6, see Appendixes B.1 and B.2.

Table 4.4 Comparison of Wage-Goods, Non-Basic Goods and Basic Goods Industries in Bangladesh, 1972-73

A. Assets or Capital Intensity

	Wage-goods	Non-basic	Basic	All Industries
Fixed assets per worker (Taka)	7273	14744	14892	12061
Fixed assets/ value-added ratio	.80	.54	2.59	1.31
Total assets/ value-added ratio	1.52	1.01	3.92	2.20
Total assets/ value of product ratio	.69	.58	1.45	.98

B. Labour Income and Productivity

Annual wages per worker (Taka)	1754	2677	2764	2542
Value-added per worker (Taka)	9096	27389	5741	8934
Annual earnings per employee (Taka)	2156	2868	3048	2855
Wage/value-added (%)	19.3	9.8	48.0	28.5
Employment cost/ value-added (%)	27.9	14.8	61.0	37.8

C. Mark-up and Profit

Mark-up (%)	55	108	24	55
Gross Profit/ Total assets (%)	47	84	10	28

Source:

The above figures have been computed from the Census of Manufacturing Industries, Bangladesh, 1972-73.



Table 4.5 Comparison of Wage-Goods, Non-Basic Goods and Basic Goods Industries in India, 1975-76

A. Assets or Capital Intensity

	Wage-goods	Non-basic	Basic	All Industries
Fixed Capital per worker (Rupees)	6839	14604	31169	19173
Fixed capital/ value-added	.82	1.13	1.92	1.52
Invested capital/ value-added	2.02	2.75	3.53	3.03
Invested capital/ output	.36	.50	.75	.62

B. Labour Income and Productivity

Annual wages per production worker (Rupees)	3969	3687	4908	4223
Value-added per production worker (Rupees)	8390	12949	16226	12590
Annual earnings per employee (Rupees)	4635	4709	6332	5345
Wages/value added (%)	47.3	28.5	30.2	33.6
Employment cost/ value-added (%)	64.7	49.1	50.6	53.6

C. Mark-up and Profit

Mark-up (%)	37	42	53	46
Gross Profit/ Invested capital (%)	17.5	18.3	14.0	15.3

Source:

The figures have been computed from the Annual Survey of Industries, 1975-76, Table 1.

Table 4.6 Comparison of Wage-Goods, Non-Basic Goods and Basic Goods Industries in India, 1967

A. <u>Assets or Capital Intensity</u>				
	Wage-goods	Non-basic	Basic	All Industries
Fixed capital/ production worker (Rupees)	4611	9528	20734	11142
Fixed capital/ value-added	1.19	1.60	3.54	2.17
Invested capital/ value-added	2.33	3.40	4.8	3.7
Invested capital/ output	.48	.75	1.15	.80
B. <u>Labour Income and Productivity</u>				
	Wage-goods	Non-basic	Basic	All Industries
Annual wages per production worker (Rupees)	2170	1819	2227	2055
Value-added per production worker (Rupees)	3887	5940	5859	5144
Annual earnings per employee (Rupees)	2599	2384	3043	2652
Wages/value-added (%)	55.6	30.6	38.0	40.0
Employment cost/ value-added (%)	69.5	51.2	60.8	59.2
C. <u>Mark-up and Profit</u>				
	Wage-goods	Non-basic	Basic	All Industries
Mark-up (%)	22	38	49	35
Gross Profit/ Invested capital (%)	13.1	14.3	8.2	11.1

Source:

The figures have been computed from the Annual Survey of Industries, 1967, Table 1.

Kalecki-Kaldor adjustment mechanism would be applicable more to the non-basic goods industry than to the wage goods industry.

One possible source of a higher degree of monopoly in the non-basic goods industry is the existence of economies of scale and the small size of the domestic market.<sup>11</sup> Another major source is the tariff structure. The general pattern of the tariff structure in both Bangladesh and India often has been one of low tariffs on capital goods, still higher tariffs on raw materials, and highest of all on consumer goods, especially on luxuries.<sup>12</sup> Accordingly, the tariff structure is likely to provide greatest protection to the domestic non-basic goods industry.

In Tables 4.3 to 4.6, we also observe that there is a substantial difference in labour productivity, measured by value-added per worker, between the wage goods industry and the non-basic goods industry. For instance, in the non-basic goods industry of Bangladesh, value-added per worker

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<sup>11</sup>For a discussion on the significance of economies of scale and the size of the domestic market, see Sutcliffe, 1971, Chapter 6.

<sup>12</sup>For empirical evidence, see S. R. Lewis, Jr., Pakistan: Industrialization and Trade Policies (London: Oxford University Press, 1970), Chapter 4; J. N. Bhagwati and P. Desai, India: Planning for Industrialization (London: Oxford University Press, 1970), Chapters 17 and 21; and the Bangladesh Observer, July 1, 1982.

was 6.6 times higher than in the wage goods industry in 1976-77 and three times higher in 1972-73. In India, the corresponding figure was approximately 1.5 in both 1975-76 and 1967. This may be an indication that higher productivity due to such factor as technological change is largely confined to the non-basic goods industry rather than to the wage goods industry.<sup>13</sup> This seems to be partially supported by evidence for India and Bangladesh. For instance, in contrast to a majority of industries, the performance of the cotton textile industry--a major wage goods industry--has been poor in terms of productivity in India as well as in Bangladesh.<sup>14</sup>

If indeed this is true, then such improvements in productivity in the non-basic goods industry will have less impact on the whole economy than if there were similar improvements in productivity in wage goods and basic goods industries; this is because wage goods are, in a sense,

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<sup>13</sup>Alternatively, the relatively higher value-added per worker in the non-basic goods industry may be the result of higher capital stock, which the Tables 4.3 to 4.6 confirm. Note, however, that in Bangladesh capital stock (i.e., fixed assets) per worker was 1.7 times higher in the non-basic goods industry than in the wage goods industry in 1976-77 and twice higher in 1972-73. As observed earlier, the corresponding figures for value-added per worker are much higher in the non-basic goods industry. This suggests that higher value-added per worker in the non-basic goods industry cannot be entirely explained in terms of capital stock per worker.

<sup>14</sup>Source: Indian Yearbook of Labour Statistics, 1977, Table 11.13; Bangladesh Statistical Yearbook, 1979, Table 5.25.

inputs for all groups of industries while non-basic goods are not. If there were an improvement in productivity in the wage goods industry, this would tend to reduce prices of wage goods. In this situation there would be less pressure on the employers to increase money wages of workers. In other words, in principle higher productivity in the wage goods industry is likely to reduce costs of production in all industries.<sup>15</sup>

In contrast to productivity differences, wage differences between the wage goods industry and the non-basic goods industry are not great in India or in Bangladesh. In India the average wages per production worker in the non-basic goods industry are lower than in the wage goods industry, during both 1975-76 and 1967. Because of the somewhat imprecise grouping of industries, we cannot uncritically accept the absolute values of these average wages. Nevertheless, the above evidence for India cautions us against making the following assertions: (1) the luxury consumer industry is characterized by well-paid and skilled "labour-aristocrats"; (2) a growth strategy based on the expansion of luxury consumer goods would be largely self-supporting because these well-paid workers consume a

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<sup>15</sup> This is the significance of distinguishing between the wage goods industry and the non-basic goods industry, as mentioned in Chapter 1.

significant part of luxury goods.<sup>16</sup> Lower wage differences in contrast to higher productivity differences suggests further that the labour market for production workers is likely to be characterized by some competitive conditions rather than by complete segmentation and imperfection.

Finally, we observe in Tables 4.3 to 4.6 that in both India and Bangladesh, the basic goods industries which include capital goods industries, show highest capital intensity however measured, higher than average wages per worker and annual earnings per employee, and lower than average profit rates. This pattern holds in both years for each country. The evidence, thus, suggests that capital intensive techniques do not necessarily generate high profit rates.

It would be misleading to argue that higher capital intensive techniques in the basic goods industries have been caused by higher wages. Choice of techniques is affected only if there is a change in the profit rate. A change in the wage rate per se may have no effect on the choice of technique if there is no alternative to the existing technique or if the higher wage rate can be passed on in the form of higher product prices.<sup>17</sup>

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<sup>16</sup> Some writers seem to over-emphasize this phenomenon. See, for instance, K. Bharadwaj, 1979, p. 289.

<sup>17</sup> For the distribution of income, price, and capital accumulation, capital intensity should be interpreted in (Continued next page)

The implications of the above findings for overall manufacturing growth will be analyzed further in Section 4.3 in conjunction with the implications of findings about the flows of commodities from the traditional sector to the manufacturing sector.

#### 4.2 Disaggregation of the Flows of Commodities from the Traditional Sector to the Capitalist Manufacturing Sector

In this section we consider the extent to which the capitalist manufacturing sector is self-contained in terms of wage goods, basic goods, and non-basic goods. This essentially requires an investigation of the flows of commodities between this sector and the traditional sector at a disaggregated level.

A framework for the study of these intersectoral flows is presented below.

From/To	Traditional Sector	Capitalist Manufacturing Sector
Traditional Sector	1. Wage Goods	1. Wage Goods
	2. Basic Goods	2. Basic Goods
	3. Non-Basic Goods	3. Non-Basic Goods
Capitalist Manufacturing Sector	1. Wage Goods	1. Wage Goods
	2. Basic Goods	2. Basic Goods
	3. Non-Basic Goods	3. Non-Basic Goods

17 (Continued)

terms of the capital-output ratio or the capital-value-added ratio rather than the capital-labour ratio. The capital-labour ratio, an index of mechanization, has relevance only for employment. A detailed discussion can be found in Pasinetti, 1981, Chapter IX.

The magnitude of intersectoral flows of commodities in real terms would not only give us a disaggregated picture of the economy but also shed light on sectoral interdependence and output growth. Unfortunately, the existing data on India and Bangladesh do not allow a precise estimate of these flows for any year, let alone for a number of years.<sup>18</sup>

We can derive some information about the flows of wage goods and non-basic goods from the monthly expenditure patterns of a typical wage earner and a profit receiver in the capitalist sector. These are reported in Table 4.7. As this Table shows, an average worker in Bangladesh spends only 13.6% on industrial food and 14.1% on non-food industrial items, i.e., in all, 26.7% on industrial consumer goods. How much of this is spent on goods produced by the capitalist manufacturing sector rather than by the unregistered manufacturing sector is unknown. If we assume a 50-50 division, we can say that only 13.4% of a worker's expenditures are

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<sup>18</sup>In input-output tables and in Annual Surveys of Industries published by the Central Statistical Organization (India); and in the Censuses of Manufacturing Industries (Bangladesh) the input structure of the manufacturing sector is not disaggregated in terms of the traditional sector and the capitalist manufacturing sector. The other major problem is that these sources do not provide any information about the intersectoral flows of wage goods and non-basic goods.



Table 4.7 Approximate Consumption Expenditure Patterns of A Wage Earner and a Profit Receiver in Bangladesh and India, 1973-74

Expenditure Items	% of Total Consumption Expenditure			
	Bangladesh		India	
	Wage Earner	Profit Receiver	Wage Earner	Profit Receiver
1. Food grains	35.7	19.8	30.6	9.7
2. Other food produced in agriculture and allied activi- ties	19.1	20.0	21.4	19.3
Sub-Total	54.8	39.8	52.0	29.0
3. Food (Indust- rial)	13.1	14.1	15.8	17.4
4. Non-food con- sumer items (industrial)	13.6	12.8	15.1	22.8
Sub-total	26.7	26.9	30.9	40.2
5. Others	18.5	33.8	17.1	30.8
Total	100	100	100	100

Note: Other food produced in agriculture includes milk and milk products, meat, fish, vegetables, fruits and spices. Food (industrial) according to our definition includes sugar, salt, beverage and edible oil. Non-food consumer items include clothing, footwear, fuel and light, durable goods and tobacco. "Others" (item 5) includes education, health, rent, travel and recreation. We have made the following assumptions: the consumption expenditure pattern of a wage earner is similar to that of the average urban household (in terms of expenditure) as available in consumer expenditure data; and the consumption expenditure pattern of a profit receiver is similar to that of the highest expenditure group in urban areas as reported in consumer expenditure survey. For consumption patterns of different groups in the urban areas in Bangladesh and India, see

(Notes to Table 4.7 continued on the next page)

Table 4.7 (Note cont'd)

Appendices A.3, A.4, and A.7.

Source of data: For Bangladesh: Bangladesh Bureau of Statistics, Statistical Yearbook of Bangladesh, 1979. Tables 15.18 and 15.21; pp. 481, 485-486. For India: Department of Statistics, Government of India, National Sample Survey, 28th Round, Table 2.27, p. 110.

for goods produced by the capitalist manufacturing sector. The corresponding figure for a worker in India is 15.5%, approximately the same as in Bangladesh.

In Table 4.7 we also observe that an average profit receiver in Bangladesh spends as much as 39.8% on food produced in agriculture; the corresponding figure in India is 29.0%. The proportions on industrial consumer goods (food, and non-food) are 26.9% in Bangladesh and 40.2% in India. Again, how much of these expenditures are on industrial consumer items produced by the capitalist manufacturing sector is impossible to know. However, it is likely that a profit receiver spends a greater percentage of his expenditure on goods produced by the capitalist manufacturing sector than a worker does. This is partly evident from the fact that the proportions of expenditures on such items as durable goods, sugar and beverages are higher for a profit receiver (see Appendix A.7 for India). These items are largely produced in the capitalist manufacturing sector. Note, however, that in India as well as in Bangladesh the proportions of expenditures on "other food produced in agriculture" are higher than those on industrial food, even for a profit receiver. Various consumer studies have also shown that these "other food produced in agriculture" (milk, fruits, meat and poultry) are no less income elastic than the main non-food industrial

items (e.g., clothing and footwear).<sup>19</sup> This suggests that an increase in the income of profit receivers does not necessarily lead to a reduction in demand for products of the non-manufacturing sectors.

#### 4.3 Implications of the Disaggregated Analysis for Adjustment Process in the Manufacturing Sector

In Section 4.1, we examined input structure, monopoly power, and other characteristics of wage goods, basic goods, and non-basic goods industries. In Section 4.2 we have explored the flows of commodities from the traditional sector to the manufacturing sector. In this section we analyze the implications of the above disaggregated analyses for the distribution of income and the growth of output in the overall manufacturing sector. Specifically, we shall refer to the distribution of income and growth envisaged in the Ricardo-Lewis model and in the Kalecki-Kaldor model.

Let us consider first the Kalecki-Kaldor model. In this model the primary determinant of the distribution of income is the rate of capital accumulation. The share of profit in income, for instance, is determined by investment

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<sup>19</sup> John W. Mellor, The New Economics of Growth (London: Cornell University Press, 1976), Chapter VII; N. Islam, Studies in Consumer Demand, Vols. I and II (Dacca: Bureau of Economic Research, Dacca University, 1965).

and consumption expenditure of the capitalists themselves.<sup>20</sup>

In Kalecki's theory, the share of profit also depends on the degree of monopoly power and the level of effective demand.

We contend that in the context of such developing countries as Bangladesh and India, it is worthwhile to recast the Kalecki-Kaldor model in a multi-sectoral framework--a framework that should focus on the interdependence between the manufacturing sector and the traditional sector in terms of wage goods, basic goods, and non-basic goods. The significance of this point can be highlighted by treating an important issue: the impact of an increase in wages within the manufacturing sector.

According to Kalecki an increase in wages need not reduce total profit and hence subsequent capital accumulation. Consider an economy with three sectors: capital goods, consumer goods for the capitalists, and wage goods. It is possible that an increase in the money wage rate may lead to a decline in profit in the first two sectors. However, the increments of the wage bills in those two sectors would

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<sup>20</sup>This is reflected in Kalecki's dictum: "Capitalists earn what they spend and workers spend what they earn." For a fuller discussion of post-Keynesian and Kaleckian theories of distribution and growth see Pasinetti, Growth and Income Distribution (Cambridge: Cambridge University Press, 1974) and A. Asimakopulos, "A Kaleckian Theory of Income Distribution," Canadian Journal of Economics, Vol. 8, No. 3, 1975.

cause profits in the wage goods sector to rise, since workers spend exclusively on wage goods. Profit in the wage goods sector would increase due either to a rise in output or to a rise in the prices of wage goods. As a result, total profits need not change, the loss of the first two sectors being counterbalanced by an equal gain of the wage goods sector.<sup>21</sup>

To what extent do the basic arguments of the post-Keynesians and Kalecki (that high wages need not reduce total profits and that capitalists' spending determines the profit share) hold in the capitalist manufacturing sector of a developing economy? The answer depends on the extent of mark-ups and the relative proportions in total value-added of wage goods, basic goods and non-basic goods industries. For instance, capitalists' investment expenditure would raise the aggregate share of profit in value-added in the capitalist manufacturing sector as a whole, to a greater extent than the capitalists' consumption expenditure would do, provided the basic goods industry, in comparison with the non-basic goods industry, has higher mark-ups and has a higher share in total value-added. The basic industry, however, does not necessarily have higher mark-ups (for

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<sup>21</sup> Kalecki, Selected Essays on the Dynamics of the Capitalist Economy (Cambridge: Cambridge University Press, 1971), Chapter 14. The implicit assumption is that the marginal propensity to consume is one for workers.

example, in Bangladesh, the mark-up is higher in the non-basic goods industry; see Tables 4.3 and 4.4).

More importantly, the share of profit and the profit rate in the capitalist manufacturing sector will also depend on the extent to which the capitalists' and the workers' expenditures generate, directly or indirectly, demand for basic goods, non-basic goods, and wage goods produced outside this sector and on the extent to which real wages are flexible in the downward direction. As we have already observed, in both Bangladesh and India, the capitalist manufacturing sectors are far from self-contained in terms of wage goods and non-basic goods. Thus, possibilities exist for the emergence of a Ricardo-Lewis problem: a decline in the profit share and profit rate in the capitalist manufacturing sector, especially in the wage goods sub-sector, through changes in the terms of trade which favour rentiers and petty commodity producers in the traditional sector.<sup>22</sup> The wage goods industry is likely to exhibit the Ricardo-Lewis adjustment process for the following reasons. In comparison with the non-basic goods industry, the wage goods industry (1) draws relatively more inputs from the

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<sup>22</sup>This cautions us against making mechanical applications of the post-Keynesians or Kaleckian models, as some writers have hastily done. To quote one writer: "If either capitalists or landlords suddenly increase their claims on social output by investing or consuming more, they do not hurt one another. These higher claims are met by utilizing more capacity and  
(Continued next page)

traditional sector<sup>23</sup> and (2) is characterized by much less monopoly power.

The non-basic goods industry, on the other hand, is likely to be less vulnerable to input price shocks originating in the traditional sector. Moreover, this industry, with a greater monopoly power (as observed in Section 4.1) is likely to shift any increase in input prices onto product prices.

The non-basic goods industry, however, is not necessarily insulated from the problems of the wage goods industry. Any reduction in total profit in the wage goods industry in the face of a deterioration in the terms of trade is likely to reduce the demand for non-basic goods by profit receivers in the wage goods industry. In principle, this reduction in demand for non-basic goods on the part of profit receivers might be offset by an increase in demand by rentiers in the traditional sector. Such a possibility may not exist in India and Bangladesh if, in comparison with profit

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22 (Continued)

employing more workers with the given wage bill.... The workers consume what they earn while capitalists and landlords taken together earn what they spend."

P. Patnaik, "Disproportionality Crisis and Cyclical Growth: A Theoretical Note," Economic and Political Weekly, Annual Number, 1972, p. 355.

<sup>23</sup>We observed in Section 4.1 that the wage goods industry is relatively labour intensive. We also observed in Section 4.2 that workers predominantly consume wage goods produced in the traditional sector. These facts, in effect, imply that the wage goods industry is more dependent on the traditional sector for wage goods than other groups of  
(Continued next page)



receivers, rentiers, have a lower marginal propensity to consume non-basic industrial goods.<sup>24</sup> This issue will be taken up again in Chapter 6.

The above considerations lead to our main argument that the adjustment process within the manufacturing sectors of India and Bangladesh is likely to be a complex one: while some industries (e.g., wage goods industries) are likely to exhibit the Ricardo-Lewis adjustment process, some other industries (e.g., non-basic goods industries) are likely to exhibit the Kalecki-Kaldor adjustment process. The manufacturing sector as a whole in India or in Bangladesh may, of course, tend to exhibit either the Ricardo-Lewis or the Kalecki-Kaldor adjustment process, depending on the pre-dominance of either of the adjustment processes across different segments of the manufacturing sector.

One way of identifying the dominant adjustment mechanism in the overall manufacturing sectors of India and Bangladesh is to examine time trends in the variables relating to income distribution within these sectors.

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23 (Continued)

industries. Furthermore, the wage goods industry draws relatively more raw materials from agriculture; see the lists of wage goods industries in Appendices D.1 and D.2.

<sup>24</sup>For an analogous argument that a shift in the distribution of world income toward the primary commodity producing countries would reduce the demand for industrial goods, see Kaldor, 1976.

In Table 4.8 we observe that gross profits as a percentage of value-added ( $\pi$ ) seems to show an increasing trend in both countries. In India as well as in Bangladesh the positive trend, however, does not have statistical significance. The gross profit rate ( $\sigma$ ), which is more important for investment decisions, exhibits different patterns. In India this rate shows a declining trend until 1968 but a rising trend thereafter. In Bangladesh, on the other hand, the profit rate has fluctuated considerably but shows an increasing trend; the positive trend is significant at the 5% level. Thus, any argument that the growth of manufacturing output in Bangladesh has been constrained by a secular decline in the profit rate would have little validity.

In Table 4.9 it is evident that for a number of years real wages declined in Bangladesh to a significant extent in comparison with those in India. What is striking is that real wages in Bangladesh show a greater degree of variation, as measured by the coefficient of variation, than does the profit rate; normally, one would expect the profit rate to exhibit a greater degree of variation over time.

The evidence thus suggests that the notion of a given subsistence wage, assumed in the Ricardo-Lewis model, would have greater relevance to the manufacturing sector of India than to the manufacturing sector of Bangladesh.

Table 4.8 Profit Shares and Profit Rates in the Manufacturing Sectors of India and Bangladesh

Year	Bangladesh		Year	India	
	$\pi$ Gross Profit/ value-added (%)	$\sigma$ Gross Profit/ fixed assets (%)		$\pi$ Gross Profit/ value-added (%)	$\sigma$ Gross Profit Productive capi- tal (%)
1954	57.5	33.9	1959	42.3	18.5
1955	63.3	52.8	1961	45.8	19.0
1957	61.8	42.0	1965	42.9	11.3
1959	62.4	46.9	1966	41.5	9.9
1962-63	76.0	56.8	1967	42.3	9.7
1963-64	73.6	46.6	1968	32.6	8.8
1964-65	75.6	49.4	1969	41.4	10.3
1965-66	76.4	55.8	1970	45.5	11.6
1966-67	72.1	41.7	1973	44.8	12.8
1967-68	74.3	50.2	1974	49.2	16.2
1968-69	75.0	56.4			
1969-70	71.8	55.2			
1970-71	65.2	41.0			
1971-72	64.9	49.2			
1972-73	62.2	46.0			
1973-74	67.5	73.0			
1974-75	65.8	65.2			
1975-76	65.6	50.8			

(Table 4.8 continued on the next page)

Table 4.8 (cont'd)

<u>Bangladesh</u>		<u>India</u>	
Mean $\pi$ = 68.4	Mean $\sigma$ = 50.7	Mean $\pi$ = 42.8	Mean $\sigma$ = 12.8
$\pi = 66.2 + 18M$ (.81)	$\sigma = 42.5 + .69M$ (2.25)	$\pi = 41.3 + .19M$ (.61)	$\sigma = 15.5 - .32M$ (1.27)
	Coefficient of variation of $\sigma$ = 18%		Coefficient of variation of $\sigma$ = 29.34

Note: M refers to time. Figures within parentheses are t-values. For Bangladesh: the coefficient of M in the equation for  $\sigma$  is significant at the 5% level; the corresponding coefficient in the equation for  $\pi$  is not. For India: neither of the coefficients are significant at the 5% level.

Gross profit rates in the two countries are not strictly comparable. In India, the profit rate has been defined as a percentage of "productive capital" which consists of fixed as well as working capital. In Bangladesh, it has been defined as a percentage of fixed assets. In India, value-added refers to net value-added while in Bangladesh it refers to gross value-added.

Source of data: For Bangladesh: Statistical Yearbook of Bangladesh, 1979, Tables 5.33, 5.34, and 5.37. For India: Statistical Abstract of India, 1977, Table 37.

Table 4.9 Index Number of Average Real Wages ( $R_W$ ) for Workers in Manufacturing

Year	India $R_W$	Year	Bangladesh $R_W$
1961 (Base year)	100.0	1954 (Base year)	100.0
1962	101.6	1955	79.9
1963	102.0	1959-60	84.7
1964	94.3	1962-63	91.9
1965	96.4	1963-64	88.6
1966	94.5	1964-65	100.9
1967	89.2	1966-67	93.4
1968	93.5	1967-68	79.7
1969	100.0	1968-69	98.3
1970	100.1	1969-70	121.1
1971	96.7	1970-71	125.0
1972	96.7	1971-72	122.7
1973	86.3	1972-73	85.0
1974	66.9	1973-74	73.7
1975	63.7	1974-75	52.9
1976	114.2	1975-76	68.7
1977	110.8	1976-77	76.3
1978	114.4	1977-78	72.5
$R_W = 96.2 - .07M$ (-.12) Coefficient of variation of $R_W = 14\%$		$R_W = 99.3 - 1.02M$ (-1.23) Coefficient of variation of $R_W = 21.6\%$	

Note: M refers to time. Figures within parentheses are t-values. The coefficient of M in the equation for  $R_W$  (India) is significant at the 45% level -- an unreasonable level. For Bangladesh, the corresponding coefficient is significant at the 15% level. Thus, for both countries the coefficient is not statistically significant.

(Notes to Table 4.9 continued on the next page)

Table 4.9 (cont'd)

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Note (cont'd): For both India and Bangladesh, money wages indexes have been deflated by the consumer price indexes for industrial workers.

Source of data: India: For money wages, I.L.O., Yearbook of Labour Statistics, 1980 and earlier issues; for consumer price indexes, Reserve Bank of India, Bulletin, 1981 and earlier issues. Bangladesh: For money wages 1978, Statistical Yearbook of Bangladesh, 1979, Tables 5.31, 5.33, and 10.23. For consumer price indexes, 1971-1978, Statistical Yearbook, 1979, Table 10.17. For earlier years, I.L.O., Yearbook of Labour Statistics, 1970 and earlier issues.

If the level of real wages is indeed significantly flexible, then the profit share in the manufacturing sector can be maintained, in the face of a deterioration in the terms of trade, by squeezing wages. This adjustment process is inconsistent with the Ricardo-Lewis model but not with the Kalecki-Kaldor model.<sup>25</sup>

The above findings seem to reinforce one of the conclusions of the previous chapter: the relevance of the Kalecki-Kaldor adjustment process is greater in the manufacturing sector of Bangladesh than in the manufacturing sector of India.

#### 4.4 Summary

The main findings and arguments of this chapter can be summarized as follows:

The disaggregated analysis shows that there are substantial differences among the sub-sectors within the

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<sup>25</sup>One can argue that the notion of a subsistence wage in the Ricardo-Lewis model is valid in the long-run rather than in the short-run. However, for the analysis of the adjustment process in the manufacturing sector, the above argument has little operational relevance unless one has at least some rough idea about the durations of the short-run and the long-run.

Our main point is that in Bangladesh, for a number of years during the period of 24 years (1954-1978) real wages significantly declined.

For discussions on the proportions of households lying below the "poverty line" (by any reasonable definition of that concept) in India and Bangladesh, see V. M. Dandekar and N. Rath, "Poverty in India," Economic and Political Weekly, Vol. 6, Number 1, January, 1971; and International

(Continued next page)

manufacturing sectors of India and Bangladesh in terms of input composition, the mark-up, and other characteristics. Specifically, in comparison with the wage goods industry, the non-basic goods industry appears to be characterized by a higher degree of monopoly power. This leads to a tentative conclusion that it is the non-basic goods industry which is likely to exhibit the Kalecki-Kaldor adjustment process. In contrast, the wage goods industry is likely to exhibit the Ricardo-Lewis adjustment process.

The manufacturing sectors of India and Bangladesh are significantly dependent on the traditional sector for wage goods and non-basic goods. It is the wage goods industry within the manufacturing sector, in India as well as in Bangladesh, which appears to be relatively most dependent on the traditional sector for wage goods and raw materials.

This chapter also briefly outlined the implications of the disaggregated analysis for the distribution of income and the growth of output within the manufacturing sector. The empirical findings on income distribution within the manufacturing sectors of India and Bangladesh are consistent with two conclusions of the previous chapter: 1) the Kalecki-Kaldor adjustment mechanism is more pronounced in

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25 (Continued)

Labour Office, Poverty and Landlessness in Rural Asia  
(Geneva, I.L.O., 1977).



the manufacturing sector of Bangladesh than in the manufacturing sector of India; and 2) labour costs have not been a persistent supply constraint on the manufacturing sectors of Bangladesh and India.

## CHAPTER 5

PETTY COMMODITY PRODUCTION AND GROWTH  
OF THE MANUFACTURING SECTOR

In the previous chapters, we have dealt with the problem of how the growth of output in the capitalist manufacturing sector may be hindered by constraints originating in the traditional sector. A natural extension is to examine those economic features of the traditional sector which preserve or reinforce the constraints on manufacturing growth. In the literature on India and Bangladesh, much attention has been paid to the unproductive expenditures of big landowners in the traditional sector. On the other hand, little attention has been paid to the role of petty commodity producers in the growth of output in the capitalist manufacturing sector. The main purpose of this chapter is to investigate the latter issue. Specifically, we shall link the problems of growth of the wage goods industry, highlighted in the previous chapter, with the role of petty commodity production.

First, it is worthwhile to define the concept of petty commodity production. It can be identified with a group of producers who own or control some means of production and engage in production (for market and self-consumption) predominantly using family labour. A petty commodity producer may hire wage labour or may himself hire out as wage labour. These,

however, would not be the predominant form of outlay or income for a producer belonging to the petty commodity sub-sector<sup>1</sup> within the traditional sector.

Empirically, the concept may be difficult to operationalize and will require some arbitrary rules. However, the problems here are not greatly different from those which arise in the definition of sectors in dual economy models or in input-output models. In the context of India and Bangladesh, by the term, petty commodity production in manufacturing, we shall mean those unregistered enterprises which predominantly use family labour. In the context of India, petty commodity production in agriculture, means small and marginal farm holdings within the range of 0 - 2 hectares, as defined in the Agricultural Census, 1970-71, Government of India. For Bangladesh, we define petty commodity production in agriculture in terms of small holdings (0 - 2.5 acres) as defined in Bangladesh Agricultural Census, 1977.<sup>2</sup>

The relationship between the petty commodity sector and the capitalist manufacturing sector can potentially assume the following forms: 1) the petty commodity sector is a competitor with the capitalist manufacturing sector; 2) the petty

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<sup>1</sup> Hereafter referred to as the petty commodity sector.

<sup>2</sup> For further issues on the concept of petty commodity production, see the note in Appendix E.

commodity sector is a supplier of commodities to the capitalist manufacturing sector; and 3) the petty commodity sector is a buyer of commodities from the capitalist manufacturing sector. In this chapter, we concentrate on the first and second forms. In the next chapter we shall take up the third.

### 5.1 Petty Commodity Sector as Competitor With the Capitalist Manufacturing Sector

Historically, the capitalist manufacturing sectors of India and Bangladesh have often expanded at the expense of industries in the petty commodity sector.<sup>3</sup> The industries in the petty commodity sector, however, have far from disappeared; on the contrary, these industries compete with the capitalist manufacturing sector.<sup>4</sup> Our hypothesis is that the degree of competition is higher in the production of wage goods, e.g., textile and food products than in the production of other types of goods, e.g., basic and non-basic goods. This seems to be indirectly supported by evidence on the composition of output

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<sup>3</sup>Detailed discussions on this issue can be found in A. K. Bagchi, "De-industrialization in the Nineteenth Century: Some Theoretical Implications", Journal of Development Studies, Vol. 12, No. 2 (January 1976).

<sup>4</sup>This does not imply that the petty commodity sector and the capitalist manufacturing sector sell a homogeneous commodity in a perfectly competitive market. The petty commodity sector is likely to be involved in the production of similar but differentiated goods, e.g., indigenous sugar, cigarettes, textiles, and shoes.

in registered and unregistered manufacturing of India.

In Table 5.1 we observe that in India, value-added in food and textile industries as a proportion of total value-added is higher in unregistered manufacturing than in registered manufacturing.<sup>5</sup>

Comparable data on unregistered manufacturing at the macro level do not exist for Bangladesh. However, a recent survey on small-scale enterprises in rural areas reveals that 72 percent of these rural enterprises are engaged in the production of food and textile products. The proportion of the total employment accounted for by food and textile industries was 81 percent.<sup>6</sup> For registered manufacturing, the figures are significantly lower. For instance, in 1976-77 (the latest year for which figures are available), 44 percent of enterprises were engaged in the production of food and textile products. These industries employed 76 percent of total

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<sup>5</sup> A decline in the proportion of value-added accounted for by food and textile industries is inevitable as the industrial sector becomes more diversified. For a discussion on this, see Sutcliffe, Industry and Underdevelopment, Chapter 2. The notable point for our study is that the decline has been greater in registered manufacturing (i.e., capitalist manufacturing, according to our definition).

<sup>6</sup> Bangladesh Institute of Development Studies, Rural Industries Study Project: Phase I Report (Dacca: 1979), Table III. Note that the average employment size of these rural enterprises was only 3.8. On average, family labour was about 63% of total labour. Source: Table III and IV of the above reference.

Table 5.1 Value-Added in Selected Consumer Industries as Proportion of Total Value-Added in Unregistered and Registered Manufacturing in India: Selected Years:

Year	$\frac{U_C}{U}(\%)$	$\frac{R_C}{R}(\%)$
1955-56	55.8	54.0
1960-61	52.2	46.0
1965-66	59.1	36.4
1970-71	42.1	33.6
1975-76	43.5	33.0

Note:  $U_C$  refers to net value-added in food, beverages, tobacco, textiles, and wearing apparel industries in the unregistered manufacturing sector.  
 $R_C$  refers to gross value-added in the above industries in the registered manufacturing sector.  
 $U$  and  $R$  refer to total net value-added in the unregistered manufacturing sector and total gross value-added in the registered manufacturing sector, respectively.

Source: Data for the 1950's and the 1960's; Central Statistical Organization, India, National Accounts Statistics: Disaggregated Tables, Tables 25.1 and 26.1. Data for the 1970's: C.S.O., India, National Accounts Statistics: 1970-71 - 1978-79, Statements 40 and 41.

employees in the registered manufacturing sector.<sup>7</sup>

On the basis of the above scanty data, we make some tentative inferences. As far as industrial activity is concerned, the petty commodity sector seems to have a "comparative advantage" in food and textile products, which largely include wage goods. This, in effect implies that the wage goods industry of the capitalist manufacturing sector is in competition with the petty commodity sector in food and textile products.<sup>8</sup> The existence of this competition, we argue, is a major reason why the wage goods industry within the capitalist manufacturing sector is likely to possess little monopoly power as discussed in Chapter 4.

The explanations for the survival of the petty commodity sector and its capacity to compete with the capitalist manufacturing sector are well-known: petty commodity production is based on the "self-exploitation" of family labour and on cheap hired labour. On the other hand, the capitalist manufacturing sector is characterized by higher wages because of such factors as the existence of minimum wage legislation and labour

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<sup>7</sup> Bangladesh Statistical Yearbook, 1980. Tables 5.13 and 5.20.

<sup>8</sup> This seems to be one of the reasons why the industrial policy resolutions of India emphasized the need to improve the competitive strength of small-scale producers in the production of "mass consumption goods," by restricting the volume of production in large-scale firms and by differential taxation and subsidies. For further details on government policies, see Government of India, India: A Reference Annual, 1979 Chapter 18; and A. Sen, The State, Industrialization and Class Formations in India (London: Routledge & Kegan Paul, 1982), Chapter 5.

unions.<sup>9</sup>

What is the implication of the above points for the adjustment process in the wage goods industry of the capitalist manufacturing sector in the face of input price shocks (e.g., a rise in raw material price)? An answer can be given in terms of a somewhat tautological statement: The higher is the ability of petty commodity producers to absorb input price shocks through a reduction in their income, the lower will be the ability of the wage goods industry within the capitalist manufacturing sector to shift input prices onto product prices.<sup>10</sup> Accordingly, the wage goods industry is likely to exhibit the Ricardo-Lewis adjustment process, as discussed in the previous chapter.

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<sup>9</sup>For a discussion on wage disparities between large and small-scale industries, see A. R. Khan, The Economy of Bangladesh, Chapter 6.

<sup>10</sup>Micro level studies often emphasize the ability of petty commodity producers to survive in the face of input price shocks. This ability on the part of petty commodity producers is indirectly reflected in the fact that they often continue to produce and sell commodities even though profit is less than the imputed wage of family labor. For evidence, see A. N. Bose, Calcutta and Rural Bengal: Small Sector Symbiosis (Calcutta: Minerva Associates, 1978), Chapter III.



## 5.2 Petty Commodity Sector as Supplier of Commodities to the Capitalist Manufacturing Sector

In the previous section, we considered the role of the petty commodity sector as a competitor of the wage goods industry of the capitalist manufacturing sector. In such developing countries as India and Bangladesh, however, the main activity of petty commodity producers is in agriculture rather than in industry. Accordingly, it is worthwhile to examine the role of the agricultural petty commodity producers as a supplier of commodities to the manufacturing sector. The significance of analyzing the flows of commodities has already been emphasized in Chapter 1 and Chapter 4. In this section, we explore the implications of the supply-role of the petty commodity sector for growth and the adjustment process within the manufacturing sector. We examine this supply-role in terms of the composition of output and productivity of petty commodity producers.

Table 5.2 reports agricultural activities of different land-holding groups in Bangladesh. As the Table shows, in 1977, shares of the small farmers in gross-cropped areas were 18.6 percent, 20.3 percent, and 21 percent in cereal substitutes, cereals, and raw materials, respectively. In livestock, their shares were significantly higher, the highest being in poultry (40.3 percent). The pattern of the shares of the large farmers is just the opposite. Their shares are high in cereals and

Table 5.2 Shares of Land-holding Classes in Agricultural Cropped Area, Livestock and Poultry\* in Bangladesh (in percentage).

Classes by Size of Item Holding	1960				1977			
	Total	Small 0-2.5 Acres	Medium 2.5-7.5 Acres	Large 7.5 Acres & Above	Total	Small 0-2.5 Acres	Medium 2.5-7.5 Acres	Large 7.5 Acres & Above
Cereals	100.0	17.5	48.0	34.5	100.0	20.3	50.0	29.7
Cereal Substitutes	100.0	16.3	49.3	34.4	100.0	18.6	50.8	30.6
Raw materials for manufac- turing	100.0	19.9	50.4	29.7	100.0	21.0	51.7	27.3
Cattle	100.0	25.2	47.3	27.5	100.0	28.5	50.1	21.4
Other Live- stock (Sheep and Goat)	100.0	36.8	41.3	21.9	100.0	39.9	53.7	6.4
Poultry	100.0	41.0	41.5	17.5	100.0	40.3	45.0	14.7

\* Livestock and Poultry are measured in numbers.

Note: The talbe can be read as follows: In 1960, of the total land devoted to cereals in Bangladesh the shares of small, medium, and large firms were 17.5%, 48%, and 34.5%, respectively.

Source: Statistical Yearbook of Bangladesh, 1980, Table 4.17.

Table 5.3 Shares of Land-holding Classes in Cropped Area  
In India (in percentage) 1970-71.

Classes by Size of Items holding	Marginal and Small 0-2 hectares	Semi-Medium and Medium 2-10 ha.	Large 10 ha. and above	All
Cereals	33.9	49.4	16.7	100.0
Cereal Sub- stitutes and Pulses	18.6	47.6	33.8	100.0
All Raw Materials for Manufacturing	17.6	51.6	30.8	100.0
a) Sugar Cane	30.1	54.2	15.7	100.0
b) Oil Seeds	19.1	51.5	29.4	100.0
c) Cotton	8.0	51.9	40.1	100.0
d) Jute	44.2	44.2	8.6	100.0
Fruits and Vegetables	42.4	41.5	16.1	100.0

Note: The table can be read as follows. Of the total land allocated to cereals, shares of marginal and small, semi-medium and medium, and large farms were 33.4%, 49.4%, and 16.7% respectively.

Source of Data: Agricultural Census, 1970-71, India, Tables 8.14, 8.15, 8.16, 8.17, 8.18, 8.19, 8.21, 8.22, 8.24, 8.25, 8.26 of Part I; Table VI of Part II.

cereal substitutes and low in raw materials and livestock.<sup>11</sup>

As shown in Table 5.3, the situation in India appears to be somewhat different. The small and marginal farmers' share in the total land allocated to all raw materials is 17.6 percent - lower than their share in cereals. We cannot say, however, that small farmers are engaged only in the production of subsistence food for themselves and are largely isolated from the market system. Note the high shares of the small farmers in jute (44.2%), sugar cane (30.1%), fruits and vegetables (42.4%), and the low share of cereal substitutes (18.6%). It is likely that the small farmers produce and sell not only a considerable amount of raw materials but also livestock products, fruits and vegetables in exchange for industrial wage goods and inferior cereal substitutes.<sup>12</sup>

The empirical evidence presented in Tables 5.2 and 5.3 is consistent with the view that the extent of market involvement

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<sup>11</sup> It should be noted that most cereal substitutes in India and Bangladesh are inferior substitutes of main cereals (rice and wheat) and are consumed largely by lower income groups including small farmers and industrial workers. On the other hand, livestock products are largely consumed by the upper income groups in both rural and urban areas. For evidence, see N. Islam, Studies in Consumer Demand (Karachi: Oxford University Press, 1966), Vol. 2, Chapter 1.

<sup>12</sup> This seems to accord with the composition of purchase and sale of commodities of small farmers as reported, for instance, in A. Rahman, "Variations in Terms of Exchange and Their Impact on Farm Households in Bangladesh," Journal of Development Studies, July 1981.

of petty commodity producers is likely to be significant.<sup>13</sup> The evidence, thus, casts doubt on the view that the petty commodity producers in agriculture produce only subsistence crops for themselves and that these producers are to be treated mainly as buyers of wage goods of the capitalist manufacturing sector.

It is worthwhile to mention another view about the petty commodity producers. According to this view, petty commodity producers sell to the market a higher proportion of their output after harvest, when prices are low, and buy from the market a significant proportion of their consumption needs before harvest, when prices are high.<sup>14</sup> This unequal exchange, it is argued, creates a channel for the transfer of surplus from petty commodity producers to merchants and industrial capitalists.<sup>15</sup> This leads essentially to a hypothesis that the petty commodity producers' terms of trade may worsen even when

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<sup>13</sup> Some writers, e.g., D. Narain, Distribution of the Marketed Surplus of Agricultural Produce by Size-Level of Holding in India, 1950-51, Occasional Paper No. 2 (Delhi: Institute of Economic Growth, 1961) found a bimodal pattern: the percent of output marketed is higher for the smaller land holding groups (0-5 acres). It declines for the land holdings up to 15 acres and then rises again.

<sup>14</sup> This view is implicitly held by such writers as A. Mitra, Terms of Trade and Class Relations, 1977 and D. Nayyar, "Industrial Development in India", Economic and Political Weekly, August, 1978.

<sup>15</sup> A. Bhaduri, "Towards a Theory of Pre-Capitalistic Exchange," in A. Mitra, ed., Economic Theory and Planning (Calcutta: Oxford University Press, 1974).

large farmers' terms of trade improve. In other words, higher agricultural prices may benefit only large farmers rather than petty commodity producers.

It is simplistic, however, to assume that only the petty commodity producers sell after harvests and only large-scale producers sell before harvest. Furthermore, if storage costs and interest rates are taken into account, the difference between post- and pre-harvest prices may not be very large, as confirmed by one study.<sup>16</sup> Accordingly, the hypothesis that higher agricultural prices benefit only larger farmers rather than petty commodity producers may not always be true.

In the light of the discussions thus far, we wish to emphasize two points regarding the petty commodity sector:

- 1) this sector seems to be an important supplier of a wide range of commodities to the capitalist manufacturing sector;
- and 2) petty commodity producers would benefit by an improvement in the terms of trade for the traditional sector, if this improvement is associated with higher prices of those commodities in which petty commodity producers tend to specialize.

The above points signify that the adjustment process in the capitalist manufacturing sector in the face of input price shocks is likely to be complex. For instance, a rise in

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<sup>16</sup> C.H.H. Rao and K. Subbarao, "Marketing of Rice in India: An Analysis of the Impact of Producer's Prices on Small Farmers," Indian Journal of Agricultural Economics, April-June 1976. Furthermore, a study on Bangladesh (A. Rahman, 1981) could not strongly support the hypothesis that in the face (Continued next page)

prices of raw jute may adversely affect the growth of jute-based industries. This rise in price, however, is likely to increase the real income of petty commodity producers in agriculture and to stimulate the demand for wage goods produced in the capitalist manufacturing sector. Conversely, a fall in raw jute prices may worsen the demand constraints on the capitalist manufacturing sector, through a reduction in the income of petty commodity producers. The role of petty commodity producers in manufacturing growth through the demand side will be taken up again in Chapter 6.

### 5.3 Productivity in the Petty Commodity Sector and its Implications for the Manufacturing Sector

We have observed already that the shares of agricultural petty commodity producers in cropped-area differ from the other groups of producers. A relevant question that arises is why this is so. The answer has to be sought not necessarily in terms of the subsistence needs of petty commodity producers, but in terms of labour intensities of different economic activities. There is evidence, for instance, that small farmers tend to produce and sell relatively labour intensive crops

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16 (Continued)

of an over-all improvement in the terms of exchange, those of the small farms may deteriorate.

including raw materials.<sup>17</sup> Furthermore, even for similar commodities, labor utilization per unit of land is greater for small farmers, in comparison with large farmers. The well-known reason is the greater use of family labour by small farmers. Consequently, a greater productivity of small farmers (per unit of land rather than per unit of labour) has been widely observed.<sup>18</sup>

Intensity in the use of family labour and participation of petty commodity producers in the market system might have a significant influence in the determination of relative prices of commodities (wage goods, basic goods and non-basic goods) in the entire economy. For instance, greater production of labour intensive agricultural raw materials and wage goods through the use of family labour is likely to reduce the prices of these commodities. This in turn may reduce the costs of production in those industries of the capitalist manufacturing sector which depend significantly on petty commodity producers for wage goods and raw materials. These points are consistent with the assertions of dependency theorists that petty commodity

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<sup>17</sup> For detailed evidence, see the Farm Management Survey data in K. Bharadwaj, Production Conditions in Indian Agriculture (Cambridge: Cambridge University Press, 1974) Chapter 7.

<sup>18</sup> J. Bhagwati and S. Chakravarty, "Contributions to Indian Economic Analysis: A Survey", American Economic Review, Vol. LIX, No. 4, Part 2, pp. 41-44.



Table 5.4 Value-added Per Worker in Agriculture and Manufacturing (1975-76)

	Bangladesh (Taka)	India (Rupees)
Value-added per worker in Agriculture ( $V_A$ )	2560	1607
Value-added per worker in Manufacturing ( $V_M$ )	16965	12590
Annual wages per worker in Manufacturing ( $W_M$ )	4398	4223
$V_A$ as % of $V_M$	15.1	12.8
$V_A$ as % of $W_M$	58	38

Note: For Bangladesh  $V_A$  refers to gross value-added in agriculture at current prices per economically active person in agriculture.  $V_M$  refers to gross value-added in the (Census) manufacturing sector at current prices per production worker.

Source of Data: Value-added in agriculture: Statistical Yearbook of Bangladesh, 1979, Table 4.1. Wages and value-added in manufacturing: Statistical Yearbook of Bangladesh, 1980, Tables 5.20, 5.22, and 5.26. Economically active population in agriculture: Food and Agricultural Organization (FAO), Production Yearbook, 1979 (Rome: 1980), Table 3.

Note: For India  $V_A$  refers to net value-added in agriculture at current prices per economically active person in agriculture.  $V_M$  refers to net value-added at current prices per production worker in registered manufacturing.

Source of Data: Value-added in agriculture: Central Statistical Organization, India, National Accounts Statistics, 1970-71 - 1978-79, p. 16. Wages and value-added in manufacturing: Annual Survey of Industries, India, 1975-76. Economically active population in agriculture: FAO, Production Yearbook, 1979, Table 3.

production facilitates capital accumulation and manufacturing growth through the supply of wage goods.<sup>19</sup>

The contribution of the petty commodity sector to manufacturing growth, however, depends on its ability to supply wage goods and raw materials through a continuous increase in labour productivity. The significance of a continuous increase in labour productivity can hardly be exaggerated; experience of the developed countries shows that the growth process has been associated with a continuous productivity increase in the agricultural sector.<sup>20</sup> In the context of India and Bangladesh, the ability of petty commodity producers to show such dynamism in terms of a continuous increase in labour productivity is likely to be limited.

This is indirectly evident from the enormous productivity gaps between agriculture and manufacturing, shown in Table 5.4. As we observe in this Table, in Bangladesh, value-added per worker in agriculture is only 15.1 percent of value-added per worker in manufacturing; for India the corresponding figure is 12.8 percent.<sup>21</sup> In this Table, we also see that

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<sup>19</sup> See, for example, C. Leys, Underdevelopment in Kenya (Berkeley: University of California Press, 1974). pp. 171-172.

<sup>20</sup> S. Kuznets, Modern Economic Growth (New Haven: Yale University Press, 1966), Chapter 3.

<sup>21</sup>

That intersectoral inequality in productivity is higher in developing countries in comparison with the developed (Continued next page)

there is a wide gap between value-added per worker in agriculture and wages per worker in agriculture and wages per worker in manufacturing. In India, for instance, value-added per worker in agriculture is only 38 percent of the annual wages in manufacturing.<sup>22</sup>

Unfortunately, from the available data on India and Bangladesh, it is difficult to derive a reliable estimate of the value-added or total income per petty commodity producer in agriculture. From the information on percentage shares in number and area of land holdings of petty commodity producers, we can only conjecture that value-added per petty commodity producer is lower than value-added per labourer in the agricultural sector as a whole. For instance, in Bangladesh, 49.7 percent of farms belong to the 0-2 acres range owning only 18.7 percent of total farm area. The average number of

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21 (Continued)

countries has been observed by several writers: S. Kuznets, Modern Economic Growth (New Haven: Yale University Press, 1966), Chapter 8; S. Amin, Accumulation on a World Scale, Vol. 1 and 2 (New York: Monthly Review Press, 1974) pp. 262-264. What is striking, however, is that the above inequality appears to be higher in India and Bangladesh in comparison with other developing countries. According to Kuznet's study, value-added per worker in agriculture was 72% of that in the industrial sector in low income countries. Amin's estimate of this figure for Latin America was 33%. As seen in Table 5.4, the figures are considerably lower in India and Bangladesh. Part of the above differences may be due to differences in the definition of the industrial sector.

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The gap between wages in manufacturing and value-added per worker in agriculture plays a role in the reallocation of labour from the latter to the former sector. For a discussion on this, see Lewis, in Agarwala and Singh, 1958.

agricultural labourers per acre in small farms is 1.9, more than twice the figure for an average farm in the agricultural sector as a whole.<sup>23</sup> In order for small farms to have higher labour productivity, per acre productivity in these farms has to be more than twice the average for all farms. Such a great differential in land productivity, however, is unlikely to exist.<sup>24</sup>

To be sure, one cannot attribute the problem of low productivity in agriculture to the prevalence of petty commodity production alone. The fact, however, remains that productivity (per acre) has not shown any dramatic increase in those agricultural commodities (e.g., jute), where petty commodity producers have "comparative advantages".<sup>25</sup> This seems to be one of the reasons why in India and Bangladesh often there has been a rise in prices of agricultural raw materials and a rise in the ratio of the raw material bill to the wage bill, discussed in Chapter 3.<sup>26</sup>

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<sup>23</sup>Source: Bangladesh Agricultural Census in Bangladesh Statistical Yearbook, 1980, Tables 4.15 and 4.17.

<sup>24</sup>According to a micro study, output per acre in small firms (0 - 2.5 acres) is only 17.7% higher than in all firms on average. See M. Hossain, "Farm Size and Productivity in Bangladesh Agriculture: A Case Study of Phulpur Farms," The Bangladesh Economic Review, January 1974.

<sup>25</sup>For yield rates of major crops see Appendix A.2.

<sup>26</sup>In Bangladesh and India, the governments on some occasions had to resort to compulsory procurement of food grains (Continued on next page)

The significance of labour productivity in the petty commodity sector for the capitalist manufacturing sector can be further highlighted by referring to the two scenarios mentioned by Lewis (1954). According to Lewis, if the capitalist sector depends on the subsistence sector only for labour, then low labour productivity in the latter sector need not be a hindrance to the growth of the former sector. On the contrary:

The fact that the wage level in the capitalist sector depends upon earnings in the subsistence sector is sometimes of immense political importance, since its effect is that capitalists have a direct interest in holding down the productivity of the subsistence workers. <sup>27</sup>

On the other hand, if the capitalist sector is dependent on the subsistence sector for food and raw materials, then low productivity in the latter sector may bring to an end the expansion of the former sector through a deterioration in the terms of trade. Alternatively, a rise in productivity in the subsistence sector will benefit the capitalist sector through lower prices of inputs.

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<sup>26</sup> (Continued)

and raw materials from farmers (at prices unfavorable to farmers) for the manufacturing sector. These measures, however, provide solutions only in the short-run. Recent policies, aided by such international agencies as the World Bank, toward improving the productivity of small producers reflect a greater recognition of the problems of petty commodity producers.

<sup>27</sup> Lewis in Agarwala and Singh, pp. 409-410.

From the empirical findings for India and Bangladesh, we have observed that the petty commodity sector is an important supplier of commodities to the capitalist manufacturing sector. Accordingly, it is the second scenario described above which is relevant to India and Bangladesh, i.e., low productivity in the petty commodity sector would hurt rather than benefit the capitalist manufacturing sector.

#### 5.4 Summary

In this chapter, we have tried to evaluate the role of the petty commodity sector in the growth of the capitalist manufacturing sector. From the empirical evidence, it appears that in India as well as in Bangladesh, the petty commodity sector is significantly engaged in the production of industrial wage goods (e.g., textile and food products). Accordingly, this sector competes with the wage goods industry of the capitalist manufacturing sector. This explains why the wage goods industry is likely to possess little monopoly power and is likely to exhibit the Ricardo-Lewis adjustment process in the face of a deterioration in the terms of trade as discussed in Chapter 4.

The empirical evidence on the composition of output of small farmers suggests that the petty commodity sector is an important supplier of labour-intensive commodities to the

capitalist manufacturing sector. The petty commodity producers in agriculture, however, do not seem to show a great dynamism in terms of labour productivity. This is indirectly revealed in the wide gap between value-added per worker in manufacturing and agriculture in both India and Bangladesh. In such a context, it is not surprising that the manufacturing sector periodically faces a rise in prices of inputs produced in the traditional sector.

## CHAPTER 6

INCOME DISTRIBUTION, DEMAND CONSTRAINTS,  
AND INDUSTRIAL GROWTH

In this chapter, we shall examine how structural interdependence influences aggregate demand and industrial growth through changes in the distribution of income. At the outset, it is worthwhile to point out the connections of this chapter with the theoretical discussions of Chapter 3 and the empirical results of the last two chapters. In Chapter 3, we have taken into account the role of the distribution of income between wage earners and profit receivers in determining the growth of aggregate demand. However, how the distribution of income itself might be affected by such factors as movements in the terms of trade was not considered. In this chapter, we take up this issue. Specifically, we shall examine whether in the face of a deterioration in the manufacturing sector's terms of trade labour's share of income increases (as emphasized in the Ricardo-Lewis model) or decreases (as emphasized in the Kalecki-Kaldor model).

In this chapter we also extend the analysis of aggregate demand by an examination of expenditure patterns in the rural areas of India and Bangladesh. This is likely to throw light on a subject that has been emphasized in the literature: the relationship between income inequality



in the traditional sector and aggregate demand for commodities produced in the capitalist manufacturing sector. As discussed in Chapter 2, an important hypothesis of this literature is that a deterioration in the terms of trade for the capitalist manufacturing sector leads to a fall in labour's share of income in this sector as well as to a fall in the petty commodity producers' share of income in the traditional sector. This fall in labour's share of income throughout the economy, it has been argued, leads to a fall in the demand for wage goods produced in the manufacturing sector.

In Chapter 3, we assumed that the workers' propensity to consume is greater than that of profit receivers. Accordingly, a relevant question is whether a fall in the labour's share of income in the manufacturing sector reduces the rate of growth of this sector through a fall in aggregate demand. This question is related to under-consumption theories which have received much attention in the literature on India. This chapter examines the above question and other related issues in the context of Bangladesh and India.

In Chapter 4, we examined the expenditure patterns of wage earners and profit receivers. From these expenditure patterns, we have some idea about the extent to which the manufacturing sector buys its own wage goods and non-basic consumer goods. In this chapter, we consider the flows of different categories of industrial consumer goods from the manufacturing sector to the traditional sector.

In Chapter 5, we concluded that in the face of an improvement in the terms of trade for the traditional sector, the petty commodity producers' share of income need not fall. In this chapter, we shall examine further whether or not labour's share of income in the two sectors moves uniformly in a given time period. The significance of this issue for the wage goods industry will be discussed in Section 6.2.

### 6.1 Demand Constraints and the Growth of the Capitalist Manufacturing Sector

The problem of inadequate demand may emerge due to two factors which are not necessarily unrelated:

a) problems of aggregate under-consumption and/or investment; and b) sectoral disproportionality, i.e., sectoral imbalance between demand and productive capacity. One of the main arguments of the under-consumption thesis runs from an increase in inequality in income distribution leading to a slowdown in consumption demand and thus to a fall in aggregate demand relative to productive capacity.<sup>1</sup> The slowdown in consumption demand would restrain the growth of aggregate

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<sup>1</sup>For a review of different versions of the under-consumption theory, including those of Keynes and Malthus see M. F. Bleaney, Under-Consumption Theories (New York: International Publishers, 1976). See also N. Lustig, "Under-Consumption in Latin American Economic Thought: Some Considerations," The Review of Radical Political Economics, 12:1 (Spring, 1980), pp. 35-43, and T. E. Weisskopf, "Marxian Crisis Theory and the Rate of Profit in the Post-War U.S. Economy," Cambridge Journal of Economics, 3, 1979, pp. 346-347.

demand because investment is considered a derived demand, ultimately dependent on the expected growth of consumption. Verification of the under-consumption thesis is likely to involve several theoretical and empirical questions. What causes a rise in inequality in the distribution of income or a decline in labour's share of income in the first place?<sup>2</sup> Does the boom phase of an economy come to an end because of a prior fall in labour's share of income? When there is a rise in income inequality, to what extent does the growth in non-basic consumer demand offset the slowdown in the growth of demand for wage goods?<sup>3</sup>

The first question has been examined by several writers in the context of the developed countries. The long-run version of the under-consumption thesis attributes a secular decline in labour's share of income to an increase of monopoly power.<sup>4</sup> The short-run version attributes cyclical declines in labour's share of income to the greater

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<sup>2</sup> Inequality in income distribution might be interpreted in two ways: inequality in personal income distribution or in functional income distribution; i.e., labour and non-labour categories of income. Labour income in the whole economy includes: 1) wages of production workers; 2) salaries of non-production employees; and 3) income from self-employment. For the capitalist manufacturing sector, the first two categories are dominant.

<sup>3</sup> It should be noted that not all under-consumptionist theories would argue these points.

<sup>4</sup> See, for example, Kalecki, 1969, Chapter 2.

variability of profits as compared to wages: when a capitalist economy emerges from a contraction into a new period of expansion, profits increase at a faster rate while wages tend to change less dramatically.<sup>5</sup> The question, of course, remains whether one can establish empirically a causal connection between a fall in labour's share of income and a business contraction.

In the context of India, one popular argument has been that favourable terms of trade for the agricultural sector vis-a-vis the manufacturing sector essentially imply an increase in the relative prices of food grains, the demand for which is price inelastic.<sup>6</sup> Favourable terms of trade for the agricultural sector thus lead to a fall in real income of poor people throughout the economy and hence to a reduction in the demand for wage goods produced in the capitalist manufacturing sector. The causal links in this scenario become the following: supply constraints in agriculture ---> a deterioration in the terms of trade for the manufacturing sector ---> fall in labour's share of real income ---> fall in the demand for manufactured goods, especially for wage goods.

In a long-run analysis, these causal links would be

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<sup>5</sup>Weisskopf, 1979.

<sup>6</sup>Sau, 1974; and Mitra, 1977.

unsatisfactory for a variety of reasons. First, it is hypothesized that variations in the terms of trade are due to supply constraints in agriculture alone, and not by differences, if any, between growth rates in the two sectors. Second, a deterioration in the terms of trade for the manufacturing sector need not lead to a fall in labour's share of income throughout the economy; this is because labour's share of income may not move uniformly in agriculture and manufacturing.<sup>7</sup> Furthermore, labour's share of income in manufacturing and/or in the economy as a whole may change due to such factors as changes in the mark-up, trade union power, or government policies, independent of any change in the terms of trade. Accordingly, a variety of situations are possible:

1. A deterioration in the terms of trade for the manufacturing sector and a rise in labour's share of income in this sector;
2. An improvement in the terms of trade and a fall in labour's share of income;
3. A deterioration in the terms of trade and a fall in labour's share of income;
4. An improvement in the terms of trade and a rise in labour's share of income.

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<sup>7</sup>We shall examine this for India.

It should be noted that while situations (1) and (2) are consistent with the Ricardo-Lewis adjustment mechanism, situations (3) and (4) are consistent with the Kalecki-Kaldor adjustment mechanism, as described in Chapter 1.

#### Terms of Trade and Labour's Share of Income

We now examine for Bangladesh and India the relationship between the terms of trade and labour's share of income. Tables 6.1 and 6.2 present the rates of change in the terms of trade ( $\dot{N}$ ) and the labour's share of income ( $\dot{W}$ ) in Bangladesh and India, respectively. In Table 6.1, we observe that  $\dot{N}$  and  $\dot{W}$  have fluctuated widely in Bangladesh. On average,  $\dot{N}$  has increased from -1.9 percent during the period 1960 - 1969 to .7 percent during the period 1969-70 to 1976-77, indicating an improvement in the terms of trade for the manufacturing sector in the latter period. On average,  $\dot{W}$  increased from -1.7 percent during the period 1959-60 to 1969-70 to 1.0 percent during the period 1969-70 to 1976-77. It seems, therefore, that the labour's share of income increased in the face of an improvement in the terms of trade. This adjustment mechanism thus accords with the Kalecki-Kaldor model.

In Table 6.2 we observe that in India also  $\dot{N}$  and  $\dot{W}$  have fluctuated, but overall the extent of fluctuation has been less than in Bangladesh. On average,  $\dot{N}$  has increased

Table 6.1 Rates of Change in the Terms of Trade ( $\dot{N}$ ) and Labour's share of Income ( $\dot{W}$ ): Bangladesh (Selected years)

Year	$\dot{N}^*$	Year	$\dot{W}$
1960-63 - 1961-64	10.3	1959-60 - 1962-63	-36.2
1961-64 - 1962-65	-3.8	1962-63 - 1963-64	10.0
1962-65 - 1963-66	-5.2	1963-64 - 1964-65	-7.6
1963-66 - 1964-67	-9.9	1964-65 - 1965-66	-3.3
1964-67 - 1965-68	-.3	1965-66 - 1966-67	18.2
1965-68 - 1966-69	-2.2	1966-67 - 1967-68	-8.0
1969-70 - 1972-73	11.0	1967-68 - 1968-69	-2.6
1972-73 - 1973-74	-15.6	1968-69 - 1969-70	12.8
1973-74 - 1974-75	-6.3	1969-70 - 1970-71	23.4
1974-75 - 1975-76	16.0	1970-71 - 1971-72	.9
1975-76 - 1976-77	-1.6	1971-72 - 1972-73	7.7
		1972-73 - 1973-74	-14.0
		1973-74 - 1974-75	5.2
		1974-75 - 1975-76	.9
		1975-76 - 1976-77	-25.2
Average $\dot{N}$ (1960-69) = -1.9%		Average $\dot{W}$ (1959-60 - 1969-70) = -1.7	
Average $\dot{N}$ (1969-70 - 1976-77) = .7%		Average $\dot{W}$ (1969-70 - 1976-77) = 1.0	

Note:  $\dot{W}$  refers to the rate of change in the share of compensation of employees in gross value-added at current prices in the Census manufacturing sector.

Source:  $\dot{W}$ : calculated from Government of Bangladesh, Bureau of Statistics, Statistical Yearbook of Bangladesh, 1979, Tables 5.32 and 5.37.

$\dot{N}$ : same as in Table 3.1, Chapter 3.

Table 6.2 Rates of Change in the Terms of Trade ( $\dot{N}$ ) and Labour's Share of Income ( $\dot{W}$ ): India (Selected Years)

Year	$\dot{N}$	Year	$\dot{W}$
1961-62 - 1962-63	-.3	1959-1961	-6.1
1962-63 - 1963-64	-3.6	1961-1965	1.4
1963-64 - 1964-65	-13.9	1965-1966	2.5
1964-65 - 1965-66	.1	1966-1967	-1.4
1965-66 - 1966-67	-8.2	1967-1968	8.1
1966-67 - 1967-68	-9.0	1968-1969	-6.1
1967-68 - 1968-69	7.5	1969-1970	-
1968-69 - 1969-70	-1.6	1970-71 - 1972-73	2.5
1969-70 - 1970-71	4.5	1972-73 - 1973-74	-3.0
1970-71 - 1971-72	8.7	1973-74 - 1974-75	-8.1
1971-72 - 1972-73	-3.9	1974-75 - 1975-76	8.1
1972-73 - 1973-74	-8.9	1975-76 - 1976-77	-8.1
1974-75 - 1975-76	7.3	1976-77 - 1977-78	6.8
1973-74 - 1974-75	3.8	1977-78 - 1978-79	-.4
1975-76 - 1976-77	6.2		
1976-77 - 1977-78	-8.8		
1977-78 - 1978-79	1.7	- missing data	
Average $\dot{N}$ (1961-62 - 1970-71) = -.1		Average $\dot{W}$ (1959-61 - 1969) = 1.8	
Average $\dot{N}$ (1970-71 - 1978-79) = 1.2		Average $\dot{W}$ (1970-71 - 1978-79) = -.3	

Note:  $\dot{W}$  refers to the rate of change in the share of compensation of employees in value-added at current prices in the manufacturing sector.

Source: Data for  $\dot{W}$ , 1959-69: Central Statistical Organization, India, Statistical Abstract of India, 1977, p.405.

(continued on the next page)



Source: (cont'd) Data for  $\dot{W}$ , 1970-71 to 1978-79: C.S.O. National Accounts Statistics, 1970-71 to 1978-79, pp. 118 and 138.  
Data for  $\dot{N}$ : same as in Table 3.2 in Chapter 3.

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in India from  $-.1$  percent in the 1960's to  $1.2$  percent in the 1970's. On the other hand,  $W$  has declined from  $1.8$  percent in the 1960's to  $-.3$  in the 1970's. The evidence for India, although not very strong, seems to be consistent with the Ricardo-Lewis adjustment mechanism: labour's share of income falls when the terms of trade improve for the manufacturing sector and rises when the terms of trade deteriorate for this sector.

We now focus on some plausible hypotheses which are directly related to demand constraints, if any, on the manufacturing sector.

#### Hypotheses Related to the Demand Constraints

As discussed in Chapter 2 in the literature on industrial growth in India, a great deal of attention has been paid to the role of demand. Several writers have argued that industrial growth in India has been constrained by an increase in income inequality.<sup>8</sup> This increase in

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<sup>8</sup>Bagchi, 1975; Mitra, 1977; Nayyar, 1978; and Sau, 1974..

income inequality, implying a decrease in labour's share of income in the manufacturing and other sectors, is said to have decreased the demand for industrial wage goods.

The demand-constraint thesis, however, has not been stated in the literature in terms of well-defined and empirically verifiable hypotheses.

In this section, we formulate and examine some plausible hypotheses concerning potential demand constraints on the growth of manufacturing output.

1. Variations in the growth rate of manufacturing output are significantly influenced by variations in labour's share of income. Specifically, as labour's share of income increases, this would increase the growth rate of manufacturing output by increasing the demand for manufacturing output. On the other hand, as labour's share of income decreases, this would decrease the growth rate of manufacturing output.
2. The expansionary and contractionary phases of the capitalist manufacturing sector as a whole are preceded by the expansionary and contractionary phases of the wage goods industry.
3. The growth rate of the non-basic goods industry moves counter-cyclically with that of the wage goods industry. In other words, the expansionary and contractionary phases of the non-basic goods industry match the opposite phases;

i.e., contractionary and expansionary, of the wage goods industry.<sup>9</sup>

We now examine the first hypothesis mentioned above: the positive relationship between the growth rate of manufacturing output ( $\dot{Y}$ ) and the rate of change in labour's share of income ( $\dot{W}$ ). The regression results with  $\dot{Y}$  as the dependent variable and  $\dot{W}$  as the independent variable are reported in Table 6.3. The coefficient for  $\dot{W}$  in equation 1, for India, is negative, indicating that the growth rate of output in the manufacturing sector varies inversely with the rate of increase in labour's share of income.<sup>10</sup> The coefficient for  $\dot{W}$  in equation 1 is statistically significant at the 5 percent level.

The coefficient for  $\dot{W}_{-1}$  in equation 2 is positive, indicating a positive relationship between the rate of growth of manufacturing output in the current period and the rate of increase in labour's share of income in the previous period. This coefficient, however, is not significant at

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<sup>9</sup> If we consider income distribution as the primary causal variable for growth, then the above hypothesis is likely to hold. That is, as income inequality increases, the non-basic goods industry would experience a boom and the wage goods industry, a relative contraction.

<sup>10</sup> Labour income influences the growth of output in the manufacturing sector through aggregate supply as well as aggregate demand. A negative coefficient for  $\dot{W}$  implies that the supply side is dominant; that is, an increase in labour's share of income through an increase in production (Continued next page)

the 5 percent level.

The relationship between  $\dot{Y}$  and  $\dot{W}$  for India is also shown in Figure 6.1. In this Figure, we observe no strong systematic relationship between the growth rate of output ( $\dot{Y}$ ) and the rate of change in labour's share of income ( $\dot{W}$ ). Positive values for  $\dot{Y}$  have been associated with negative values of  $\dot{W}$  (in seven periods) as well as with positive values of  $\dot{W}$  (in six periods); accordingly, overall, it seems that  $\dot{Y}$  and  $\dot{W}$  move counter to each other.

In Table 6.3, equations 3 and 4, we observe that the coefficients for  $\dot{W}$  and  $\dot{W}_{-1}$  are negative for Bangladesh, indicating an inverse relationship between the rate of change in the labour's share of income and the growth of value-added in manufacturing. However, although the coefficient for  $\dot{W}$  is statistically significant at the 5 percent level, the coefficient for the lagged value of  $\dot{W}$ , (i.e.,  $\dot{W}_{-1}$ ) is not.

The relationship between  $\dot{Y}$  and  $\dot{W}$  for Bangladesh is also shown in Figure 6.2. The value of  $\dot{W}$  appears to be low when the growth rate of value-added in manufacturing is high.

One evidence that can be observed from Figures 6.1 and 6.2 is the greater degree of fluctuations in  $\dot{Y}$  and in  $\dot{W}$

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10 (Continued)

leads to a decrease in aggregate supply of output. A positive coefficient for  $\dot{W}$ , on the other hand, implies that an increase in the labour's share of income would increase the growth of output through aggregate demand.

Table 6.3 Relationship Between Rates of Increase in Industrial Output ( $\dot{Y}$ ) and in Labour's Share of Income ( $\dot{W}$ ): Bangladesh and India (1954-55 to 1975-76) and India (1959 to 1978-79)

Equation (India)			Equation (Bangladesh)		
1.	$\dot{Y} = 14.81 - .82 \dot{W}$ (-2.32)	$R^2 = .33$ d. of f. = 11	3.	$\dot{Y} = 27.11 - 2.59 \dot{W}$ (-2.58)	$R^2 = .37$ d. of f. = 15
2.	$\dot{Y} = 8.95 + .17 \dot{W}_{-1}$ (.38)	$R^2 = .01$ d. of f. = 10	4.	$\dot{Y} = 22.26 - .05 \dot{W}_{-1}$ (-.10)	$R^2 = .0001$ d. of f. = 14
	$t_{.05} (11) = 1.80$	$t_{.05} (10) = 1.81$		$t_{.05} (15) = 1.75$	$t_{.05} (14) = 1.76$
	$t_{.01} (11) = 2.72$	$t_{.01} (10) = 2.76$		$t_{.01} (15) = 2.60$	$t_{.01} (14) = 2.62$

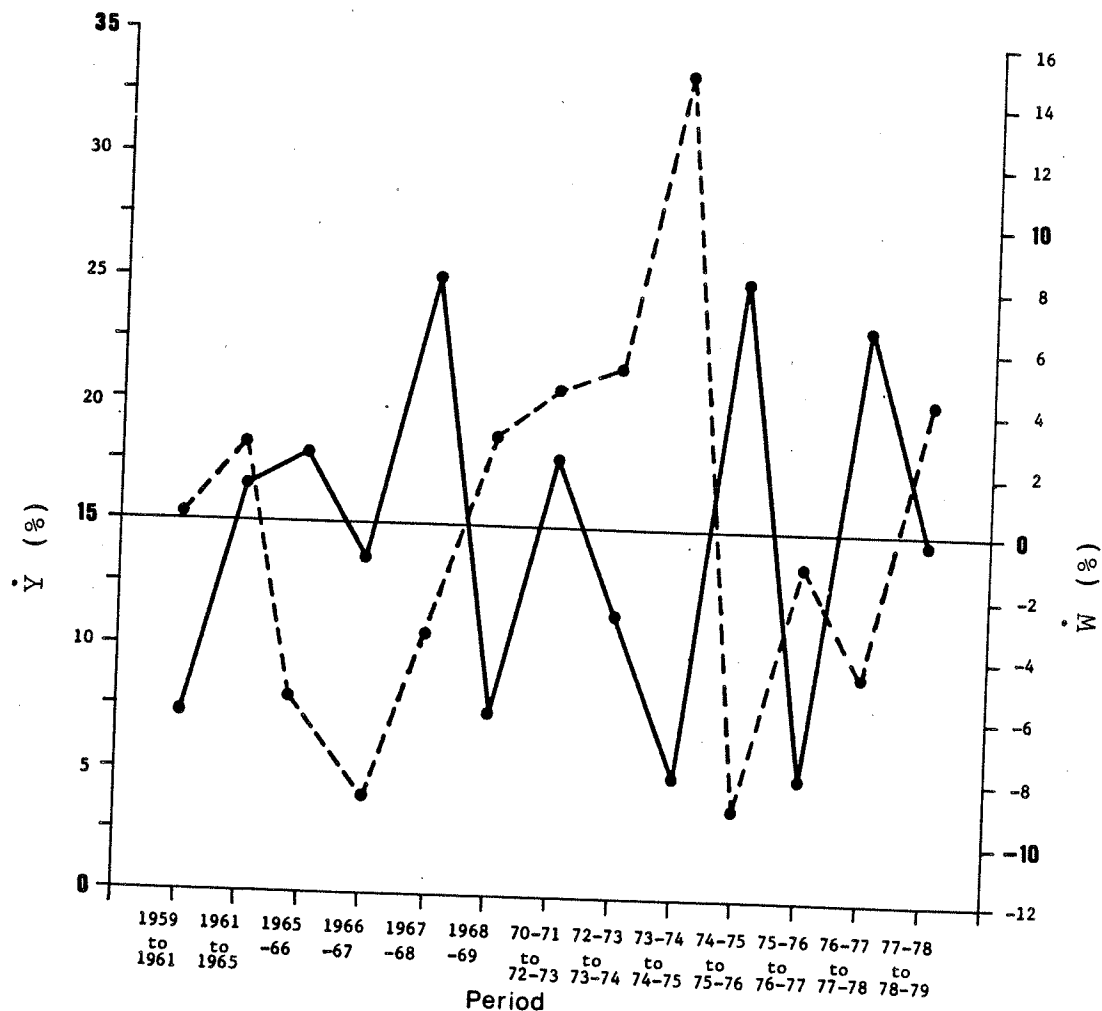
Note: The numbers in parentheses in equations 1 - 4 of this Table and in equations of later Tables of this chapter are t-values.  
 $t_{.05} (11)$  implies the minimum absolute t-value for 11 degrees of freedom at the 5% level of significance. Analogous interpretations hold for others.  
 $\dot{W}_{-1}$  indicates the one-period lagged value of the rate of change in labour's share of income in the manufacturing sector.

Source of data: Appendices A.9 and A.10 for India and Bangladesh, respectively.

Figure 6.1 Rates of change in value-added in manufacturing and in labour's share of income, India (%)

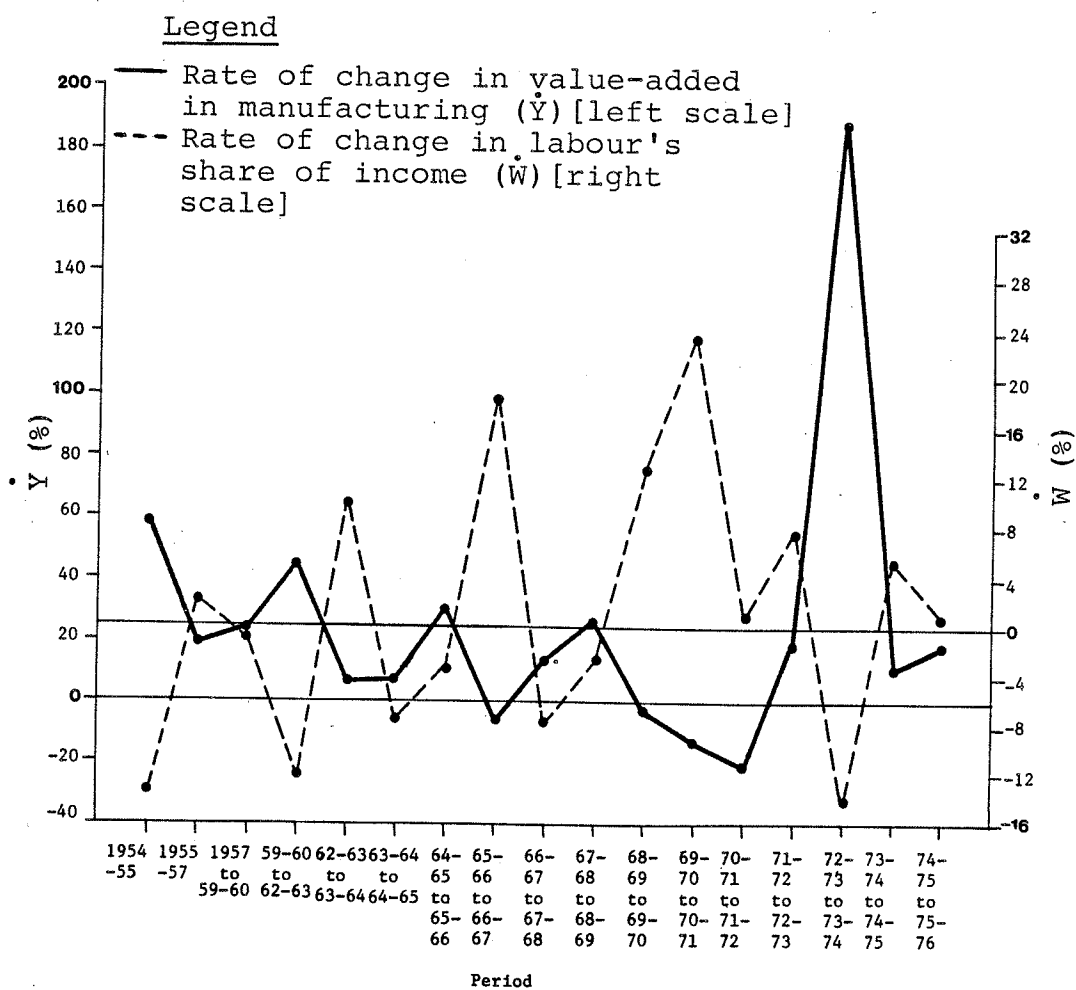
LEGEND

- Rate of change in labour's share of income in manufacturing ( $\dot{W}$ ) [right scale]  
 --- Rate of change in value-added in manufacturing ( $\dot{Y}$ ) [left scale]



Source: Appendix A.9. For detailed definitions of  $\dot{Y}$  and  $\dot{W}$  see the note to Appendix A.9.

Figure 6.2 Rates of change in value-added in manufacturing and in labour's share of income, Bangladesh



Source: Appendix A.10. For detailed definitions of  $\dot{Y}$  and  $\dot{W}$  see the note to Appendix A-10.

in Bangladesh relative to those in India.

The above results for India and Bangladesh fail to support the first hypothesis mentioned earlier that expansion in the growth rate of output are caused by an increase in labour's share of income acting through increases in consumer demand.<sup>11</sup> These results are not surprising, since in India and in Bangladesh, labour income originating within the manufacturing sector is not the main source of demand for this sector -- not even for the wage goods industry. We shall return to this point later.

The Second Hypothesis: Growth  
Patterns of Overall Manufacturing  
and the Wage Goods Industry

In order to examine the second hypothesis, we would need to observe the rates of output growth in the wage goods industry and in the overall manufacturing sector. Unfortunately, time series data on the wage goods industry are not available for Bangladesh or India. However, production figures of the non-durable consumer goods industry and of the durable consumer goods industry are available for

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<sup>11</sup> It should be noted that the relationship between an increase in labour's share of income and an increase in demand for manufactured consumer goods has not been investigated explicitly, because of the lack of reliable data on consumption. The influence of this relationship, however, will be reflected in the relationship we have examined between the growth rate of output and the rate of change in labour's share of income.



India.<sup>12</sup> We shall consider the former as a proxy for the wage goods industry and the latter as a proxy for the non-basic goods industry.<sup>13</sup>

Table 6.4 presents regression results concerning the relationship between the output growth rate of overall manufacturing ( $\dot{Y}$ ) and the output growth rate of the non-durable consumer goods industry ( $\dot{Y}_{ND}$ ). For India, we observe in equation 2 that the coefficient for  $\dot{Y}_{ND}$  is positive, indicating a positive relationship between  $\dot{Y}$  and  $\dot{Y}_{ND}$ . The coefficient is statistically significant at the 1 percent level.

The relationship between growth rates of overall manufacturing output and the non-durable consumer goods industry can also be identified in Figure 6.3. We observe in this Figure that although the growth cycles of the

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<sup>12</sup>These data are directly available from the bulletin published by the Reserve Bank of India.

For Bangladesh the required data are not directly available from any source. Accordingly, we have computed the production figures of durable and non-durable goods industries from Statistical Yearbook of Bangladesh, 1979, Table 5.37.

For the definitions of durable and non-durable goods, see Appendix A.12.

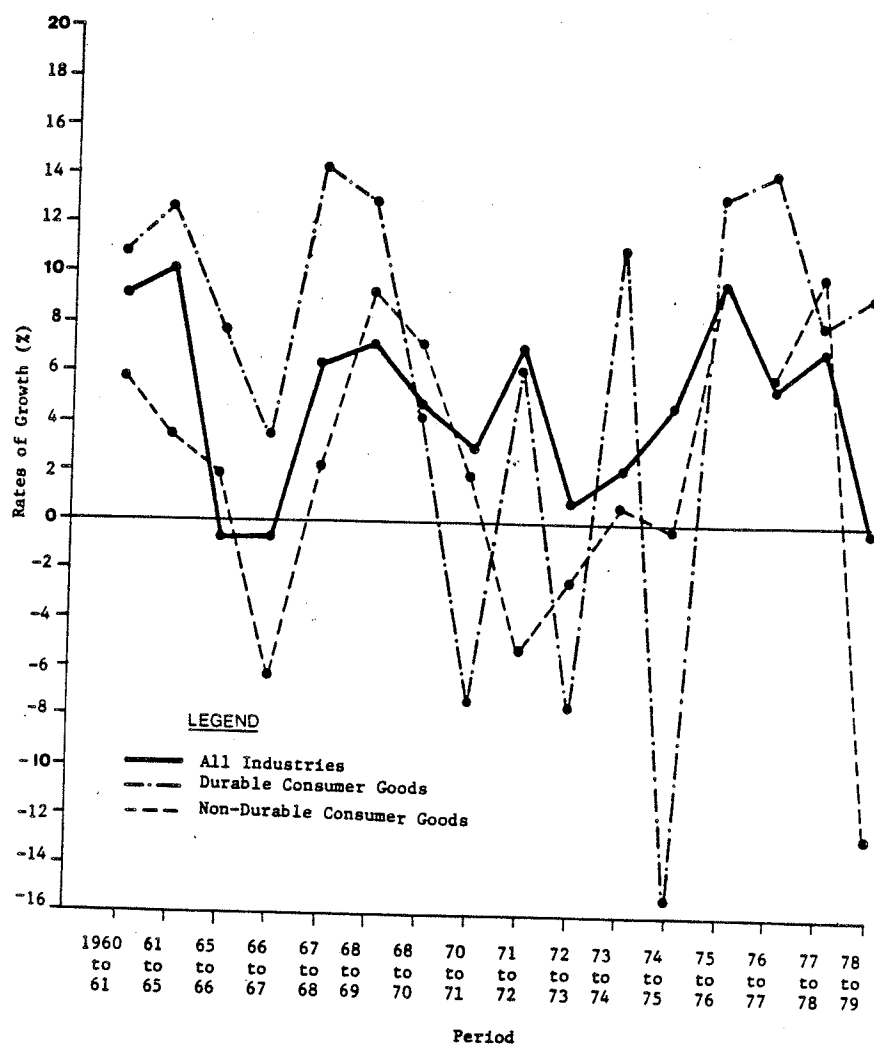
<sup>13</sup>Note that according to our classification of industries, in Chapter 4, all durable consumer goods industries have been placed within the category of the non-basic goods industry. Not all non-durable consumer goods industries, however, belong to the wage goods industry. See Appendices D.1 and D.2. However, the dominant non-durable goods industries (e.g., food and cotton textiles) clearly belong to the wage goods industry.

Table 6.4 Relationship Between Rates of Change in  
Manufacturing Output ( $\dot{Y}$ ) and in the Non-Durable  
Consumer Goods Industry ( $\dot{Y}_{ND}$ )

Equation	
<u>Bangladesh</u> (1954-55 to 1975-76)	
1.	$\dot{Y} = 5.99 + .46 \dot{Y}_{ND}$ <p style="text-align: center;">(8.06)</p> $R^2 = .86, \text{ degrees of freedom} = 15$ $t_{.05} (15) = 1.75$ $t_{.01} (15) = 2.60$
<u>India</u> (1960-61 to 1978-79)	
2.	$\dot{Y} = 3.96 + .38 \dot{Y}_{ND}$ <p style="text-align: center;">(3.94)</p> $R^2 = .42, \text{ degrees of freedom} = 14$ $t_{.05} (14) = 1.76$ $t_{.01} (14) = 2.62$

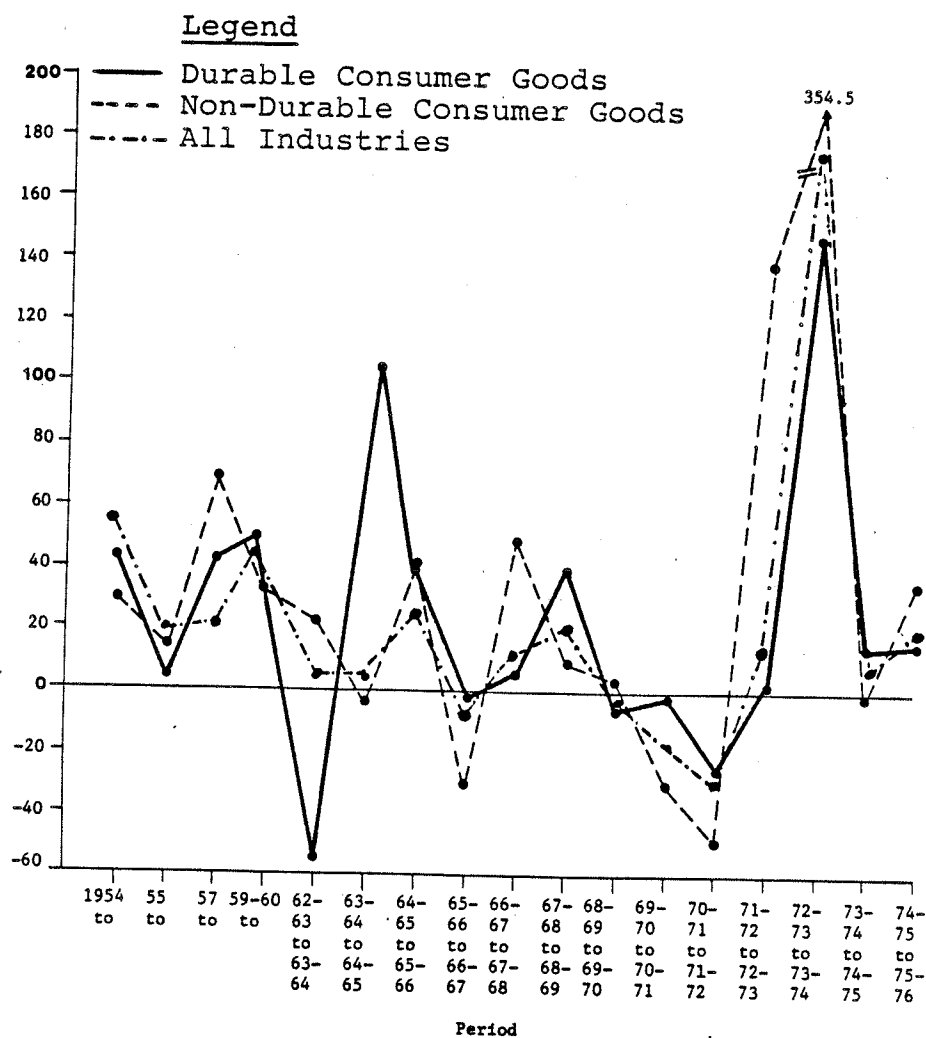
Source of Data: Appendices A.11 and A.12 for India and Bangladesh, respectively.

Figure 6.3 Rates of Growth in Industrial Production, India (%)



Source: Appendix A.11

Figure 6.4 Rates of Growth in Industrial Production, Bangladesh



Source of data: Appendix A.12

non-durable consumer goods industry do not perfectly match those of overall manufacturing output, three peaks and three troughs of the former do coincide with those of the latter. On the other hand, only one peak and one trough of overall manufacturing output match the opposite phases of the non-durable consumer goods industry.

This evidence is consistent with the second hypothesis that the expansion and contraction of overall manufacturing output are dependent upon the expansion and contraction of the non-durable consumer goods industry. In the context of India, this is not a surprising result, since the non-durable consumer goods industry has a significant weight (28.1%) in total industrial production.<sup>14</sup>

For Bangladesh, the relationship between the growth rate of output in the non-durable goods industry and the growth rate of output in overall manufacturing is shown in equation 1, Table 6.4. We observe that the coefficient for  $\dot{Y}_{ND}$  is positive and statistically significant (at the 1 percent level) indicating a positive relationship between the growth rate of overall manufacturing output and the growth rate of output in the non-durable consumer goods industry.

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<sup>14</sup> Reserve Bank of India, Bulletin, January, 1980, p. 20.

In Figure 6.4 also, we see that the expansion and contraction of the manufacturing sector as a whole and of the non-durable goods industry in most cases match each other: 4 peaks and 5 troughs coincide and no single peak or trough of overall manufacturing output face the opposite phase of the non-durable goods industry. The above results are consistent with the second hypothesis mentioned earlier.<sup>15</sup>

The Third Hypothesis: Growth  
Patterns of the Durable and the  
Non-Durable Goods Industries

According to this hypothesis, the growth rate of the durable goods industry moves counter-cyclically with that of the non-durable goods industry. In order to examine the above relationship, we have regressed the growth rate of the non-durable goods industry on the growth rate of the durable goods industry.<sup>16</sup> For India, we observe in equation 2, Table 6.5, that the coefficient for  $\dot{Y}_D$  is positive, indicating that growth rates of the durable and

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<sup>15</sup>The evidence that growth patterns of overall manufacturing output and of the non-durable goods industry are similar is hardly surprising. In 1976-77, the non-durable industry (food and textiles) had a weight of 32.6% in total value-added for the manufacturing sector of Bangladesh.

<sup>16</sup>This does not imply that changes in the growth of the non-durable goods industry are caused by changes in the growth of the durable goods industry.

Table 6.5 Relationship Between Rates of Growth of Output in the Non-durable Consumer Goods Industry and in the Durable Consumer Goods Industry

Equation	
<u>Bangladesh</u> (1954-55 to 1975-76)	
1.	$\dot{Y}_{ND} = 10.29 + 1.22 \dot{Y}_D$ <p style="text-align: center;">(3.65)</p> $R^2 = .40, \text{ degrees of freedom} = 15$ $t_{.05} (15) = 1.75$ $t_{.01} (15) = 2.60$
<u>India</u> (1960-61 to 1978-79)	
2.	$\dot{Y}_{ND} = .64 + .21 \dot{Y}_D$ <p style="text-align: center;">(1.15)</p> $R^2 = .09, \text{ degrees of freedom} = 14$ $t_{.05} (14) = 1.76$ $t_{.01} (14) = 2.62$

Source of data: Appendix A.12

non-durable industries are synchronous. The coefficient, however, is not statistically significant at the 5 percent level.

The growth patterns of the durable goods industry and the non-durable goods industry are also shown in Figure 6.3. In this Figure we observe no sustained inverse relationship between the growth rate of output in the non-durable goods industry and the growth rate of output in the durable goods industry during the period 1960-61 to 1978-79. The average growth rate of output in the non-durable goods industry has been only 2.2 percent in contrast to 6.1 percent for the durable goods industry.<sup>17</sup> However, it would be misleading to draw a scenario in terms of a growing income-inequality leading to an accelerated growth of output in the durable consumer goods industry and to a continuous reduction in the growth of output in the non-durable consumer goods industry.<sup>18</sup> As we observe in Figure 6.3, the growth rate of output in the durable goods industry fluctuated widely and for three periods it was negative. This suggests that, for India at least, one should distinguish between a general industrial recession affecting all sectors and a

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<sup>17</sup>Source: Appendix A.11.

<sup>18</sup>A discussion on this scenario can be found in K. Bharadawaj, 1979.



particular recession affecting the durable consumer goods industry or the non-durable consumer goods industry.

In Table 6.5, we observe that in equation 1, for Bangladesh, the coefficient for  $\dot{Y}_D$  is positive and statistically significant (at the 1 percent level) indicating a positive relationship between the growth of output in the durable goods industry and the growth of output in the non-durable goods industry.

In Figure 6.4 also, we see that durable and non-durable goods industries have very similar growth cycles: 3 peaks and 4 troughs of the non-durable goods industry match similar phases of the durable goods industry; only one period (1963-64 to 1964-65) shows a conflict in phases.

The above results for India and Bangladesh are inconsistent with the third hypothesis according to which the growth rate of output in the non-durable goods industry moves counter-cyclically with that of the durable goods industry.

One surprising evidence for both Bangladesh and India is that the growth rate of output in the non-durable goods industry shows a greater degree of variability than does the durable goods industry.<sup>19</sup> This is a surprising

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<sup>19</sup> In Bangladesh, the coefficient of variation of growth in the non-durable goods industry during the period 1954-1955 to 1975-1976 was 229.8%; in the durable goods industry it was 196.0%. In India, during the period 1960-61 to 1978-79, the corresponding figures were 282.3% and 144.7%. See Appendices A.11 and A.12.

evidence because uses of durable goods, compared to those of non-durable goods, are postponable to a greater extent; accordingly, one would expect the growth rate of the durable goods industry to exhibit a greater degree of variation.<sup>20</sup>

One possible explanation for the greater degree of variation in the growth rate of non-durable goods in Bangladesh and India may be a high and variable degree of competition faced by some non-durable goods industries (e.g., food and textiles) from petty commodity producers in unregistered household industries.<sup>21</sup>

One may also argue that the greater degree of variation in the growth rate of non-durable goods is mainly

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<sup>20</sup>In the developed countries the growth rate of the durable goods industry, compared to the non-durable goods industry, commonly shows a greater degree of variation. See, for example, R.C.O. Mathews, "Postwar Business Cycles in the United Kingdom," in M. Bronfenbrenner, ed., Is the Business Cycle Obsolete (New York: John Wiley, 1969).

<sup>21</sup>The variability in the degree of competition may be attributed to the risks and uncertainty faced by petty commodity producers in purchasing inputs and in marketing final products. For further details, based on a micro study, see A. N. Bose, Calcutta and Rural Bengal: Small Sector Symbiosis (Calcutta: Minerva Associates, 1978).

Alternatively, as discussed in Chapter 5, changes in government policy toward petty commodity producers vis-a-vis the non-durable goods industry in the registered manufacturing sector may have played a significant role in the variation of the growth rate of the non-durable goods industry.

caused by variations in aggregate demand for these goods. The variations in demand in turn may be attributed to variations in aggregate income in the agricultural sector.<sup>22</sup>

It is difficult to evaluate the dominance of the demand-side explanation vis-a-vis the supply-side explanation mentioned earlier. Nevertheless, the findings of this section seem to suggest two things. First, in both Bangladesh and India, it is the non-durable goods industry which dominates the growth cycles in the manufacturing sector. Second, growth cycles in the non-durable goods industry are likely to be influenced significantly by supply and demand shocks originating in the traditional sector.

#### 6.2 Income Distribution Outside the Manufacturing Sector and its Implications for Demand Constraints on the Manufacturing Sector

Aggregate demand for output of the manufacturing sector cannot be explained by income distribution within this sector only. The reason is obvious when we consider the dominant sources of consumer demand for the manufacturing sector.<sup>23</sup> These are as follows:

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<sup>22</sup> See, for some indirect evidence, K. N. Raj, "Growth and Stagnation in Indian Industrial Development," Economic and Political Weekly, February, 1976.

<sup>23</sup> Exports play a significant role in aggregate demand for manufactured consumer goods in India. Our main focus here, however, is on sources of demand within the economy.

## Sources of Demand

Wage Goods	<p>"Internal": Wage and salary earners within the manufacturing sector</p>
	<p>"External": a) Petty commodity producers in agriculture, household industries, and trade.</p> <p>b) Wage and salary earners in sectors other than the manufacturing sector.</p>
Non-Basic Goods	<p>"Internal": Recipients of profit within the manufacturing sector</p> <p>"External": Recipients of profits and rents in agriculture and trade.</p>

Although available data do not permit us to quantify these sources of demand, indirect evidence for India suggests that the dependence of the wage goods industry on "external demand" is greater than is the case for the non-basic goods industry. Total compensation of employees in registered manufacturing constituted only 7.7 percent of total labour income (i.e., compensation of employees and income from self-employment in the entire Indian economy). On the other

hand, the registered manufacturing sector generated as much as 24.8 percent of the total surplus (i.e., value-added less labour income) in the Indian economy.<sup>24</sup> It is likely, therefore, that compared to the non-basic goods industry, a greater part of goods produced in the wage goods industry is destined to non-manufacturing sectors. The reason is that labour income, a part of which is spent on industrial wage goods, is largely generated within the non-manufacturing sectors.

Thus, in order to predict the demand for wage goods, it is necessary to examine changes in labour's share of income not only in the manufacturing sector, but also in other sectors. There is no reason to assume that labour's share of income would uniformly change in all sectors in any given time period.

In Table 6.6 we observe that the coefficient for  $\dot{W}_{UR}$  is positive, indicating a positive relationship between variations in labour's share of income in the registered manufacturing sector and in the unregistered manufacturing sector. The coefficient, however, is not statistically significant. We observe that the coefficient for  $\dot{W}_{UN}$  is negative, indicating an inverse relationship between

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<sup>24</sup>These figures refer to 1978-79. Source: C.S.O., National Accounts Statistics, 1970-71 to 1978-79, Statement 53.

Table 6.6 Relationship between rates of change in labour's share of income in registered manufacturing ( $\dot{W}_R$ ), labour's share of income in unregistered manufacturing ( $\dot{W}_{UR}$ ), and labour's share of income in the "Unorganized" sector ( $\dot{W}_{UN}$ ), India (1970-71 to 1978-79)

Equation		
1.	$\dot{W}_R = -.21 + .45 \dot{W}_{UR}$ (.69)	$R^2 = .05$ degree of freedom = 5
2.	$\dot{W}_R = -.29 - .34 \dot{W}_{UN}$ (-.58)	$R^2 = .06$ degree of freedom = 5
$t_{.05} (5) = 2.02$		
$t_{.01} (5) = 3.37$		

Source of data: Appendix A.13

variations in the labour's share of income in the registered manufacturing sector and variations in the labour's share of income in the "unorganized" sector.<sup>25</sup> The coefficient for  $\dot{W}_{UN}$ , however, is not statistically significant. The above results indicate that labour's share of income may not change uniformly in all sectors at a given time period.

For Bangladesh, comparable data are not available. However, we can infer something about changes in labour's share of income in different sectors by examining inter-sectoral wage rates. In Table 6.7, we observe wide fluctuations in an important relative wage rate.<sup>26</sup> It is notable that the agricultural wage rate was higher than the industrial (jute) wage rate during the period 1974-75 to 1977-78. This, of course, does not necessarily mean that the annual earnings of agricultural workers were greater than those of jute workers.

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<sup>25</sup>The "unorganized" sector includes all enterprises except the registered mining and factory sector, wholesale trade, transport, construction, banking, public administration, and plantations. The biggest segment of the "unorganized" sector is, of course, the largest part of the agricultural sector.

<sup>26</sup>For the agricultural sector, data are available for daily wages but not for annual wages; the opposite is true for the manufacturing sector as a whole. However, daily wages are available for selected industries. We have taken the daily wage rate in the jute industry because it is the largest industry in Bangladesh in terms of both value-added and employment.

Table 6.7 Agricultural Wage Rate as Percentage of Wage Rates in the Jute Industry: Bangladesh

Period	Percent
1969-70	72.3
1970-71	67.1
1971-72	60.4
1972-73	73.7
1973-74	96.9
1974-75	121.9
1975-76	117.4
1976-77	108.7
1977-78	120.8

Note: The wage rate refers to daily wages for unskilled workers in both agriculture and the jute industry.

Source: Calculated from, Statistical Yearbook of Bangladesh, 1979, p. 386.



The main findings of this section may be summarized as follows. First, labour's share of income does not appear to change uniformly in all sectors. It is necessary to elaborate the significance of this issue for the growth of manufacturing output. It has been implicitly assumed by some writers that a reduction in labour's share of income in the manufacturing sector is also associated with a reduction in labour's share of income in the agricultural sector.<sup>27</sup> This reduction in labour's share of income throughout the economy, it has been argued, has reduced the demand for industrial wage goods. The evidence for this section of our study suggests, however, that the above implicit assumption may not hold. It is possible, for instance, that a decrease in labour's share of income in the manufacturing sector is associated with an increase in labour's share of income in the agricultural sector. Accordingly, aggregate demand for industrial wage goods need not decrease.

Another finding of this section is that, compared to the non-basic goods industry, a greater proportion of output of the wage goods industry appears to flow to the traditional sector. This reinforces one of the conclusions of Chapter 4 that, compared to the non-basic goods industry, the wage goods industry has greater links with the

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<sup>27</sup> Mitra, 1977; and Nayyar, 1978.

traditional sector.

### 6.3 Rural Income Inequality and Demand for Industrial Consumer Goods

Because of the enormous size of the rural sectors in both India and Bangladesh, it is natural that a great deal of attention has been paid to rural demand for manufactured products.<sup>28</sup> To quote one writer:

The percentage of per capita consumer expenditure spent on industrial goods is declining over the years, rather sharply in rural India and mildly in urban areas. Among various groups of population, the ones at the bottom are increasingly withdrawing from the market for industrial consumer goods. In a word, Indian industry is fast approaching the walls of a restricted market.<sup>29</sup>

In order to evaluate this argument, we need to examine the following issues: 1) trends in income inequality and in consumption; and (2) consumption patterns of different income groups. We make a few comments on the first. We then examine consumption patterns in the rural areas of Bangladesh and India and derive some implications for the

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<sup>28</sup>About 89% of the population of Bangladesh lives in rural areas, as compared to 78% in India. It should be noted that a significant part of (registered) manufacturing activities is undertaken in rural areas. In 1970-71, the rural sector in India, for instance, produced 24% of manufacturing output. Source: National Accounts Statistics, 1970-71 to 1978-79, pp. 148-149.

<sup>29</sup>R. Sau, "Some Aspects of Inter-Sectoral Resources Flow," Economic and Political Weekly, Special Number (August, 1974), p. 1277.

relationship between inequality and the demand for manufactured goods.

First, the growth of industrial output may be slowed by a reduction in the growth of demand induced by rising rural income inequality. The growth of demand may also be reduced, however, by a reduction in the growth of income for all income groups in the economy without any change in income inequality. It is not easy to isolate these causes. There is some evidence which suggests that income inequality does not show a rising trend in the rural areas of Bangladesh and India; however, income inequality may have fluctuated a great deal.<sup>30</sup>

Second, the decline in the percentage of per capita consumer expenditure on industrial goods noted by Sau, relates to the Indian economy in the 1950's, 1960's, and early 1970's. For the entire decade of the 1970's, actual consumption patterns do not confirm this view. The proportion of private final consumption expenditure on industrial goods (edible oils, sugar, salt, clothing, footwear, furniture and household equipment, and transport and communications)

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<sup>30</sup> Source: Bangladesh Bureau of Statistics, Socio-Economic Indicators for Monitoring and Evaluation of Agrarian Reform and Rural Development (Dacca: 1981), p. 116; G. S. Fields, Poverty, Inequality and Development (Cambridge: Cambridge University Press, 1980), p. 205.

was 20 percent in 1970-71 and 21 percent in 1978-79. It fluctuated in the intervening years, but does not show any declining trend.<sup>31</sup>

We now turn to the question whether disaggregation of consumption expenditures throws any light on the relationship between income inequality and demand for manufactured consumer goods. Tables 6.8 and 6.9 present percentages of expenditures on agricultural and industrial goods in the rural areas of Bangladesh and India. Some broad patterns are clearly evident: the percentage of expenditures on food grains declines over successive higher income/expenditure groups; correspondingly, the percentage on all other major groups of items (other agricultural products, industrial food, non-food, and others) appears to increase.<sup>32</sup> This pattern, which is consistent with the Engel's theory, is

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<sup>31</sup>Source: C.S.O., India, National Accounts Statistics, 1970-71 to 1978-79, Statement 11.1. Note that Sau refers to per capita figures while these data do not. However, if the percentage of per capita consumer expenditures spent on industrial goods is declining in both rural and urban areas, as claimed by Sau, then expenditures on industrial consumer goods as a proportion of total consumption expenditures, for the economy as a whole, should also decline.

<sup>32</sup>Throughout this section, we assume that the "expenditure" groups are proxies for "income" groups. Accordingly, we consider the percentage distributions of expenditures as "average propensities to consume." We have selected the years 1973-74 (India) and 1976-77 (Bangladesh) because these are the latest years for which data have been published.

somewhat more pronounced in India than in Bangladesh.

In Tables 6.8 and 6.9, we observe a few other features concerning the consumption expenditures. First, in India, the increase in the percentage of expenditure, as income rises, is greater in non-food industrial consumer goods and in the "other" category, compared to industrial food and other agricultural products. In Bangladesh the increase in the percentage of expenditure is clearly evident in the "other" category but not in non-food industrial consumer goods. Second, although the percentage of expenditures appears to be increasing as income increases for other agricultural products and industrial food, in India, these percentages tend to fall at the highest per capita expenditure range. In Bangladesh, the percentage of expenditures tends to decline at the highest income range in "other agricultural products" but not in industrial food. Third, it is evident from the tables that the percentage of expenditure on food grains does not decline significantly in either India or Bangladesh for several low income groups. Fourth, a further disaggregation of industrial food and non-food groups would probably show variations within each broad group. The percentage of expenditures on some food items (edible oil and sugar) is likely to show a rising and then a falling trend; while the percentage on others (e.g., beverages) would show a rising trend. The percentage of expenditures on some

Table 6.8 Percent Distribution of Expenditures by Commodity Classes in Rural India, 1973-74

Monthly per capita Expenditure Class (Rupees)	Food grains	Other Agricultural Products	Industrial Food	Non-food Industrial Consumer Goods	Other
0 - 13	63.8	13.3	6.6	14.6	1.7
13 - 15	64.5	12.2	6.7	13.1	3.5
15 - 18	64.8	11.1	8.4	12.7	3.0
18 - 21	65.1	11.6	7.3	12.5	3.5
21 - 24	63.6	9.2	7.0	13.0	7.2
24 - 28	63.7	12.1	7.8	12.3	4.1
28 - 34	61.9	13.4	7.9	12.1	4.7
34 - 43	58.4	15.1	9.0	12.4	5.1
43 - 55	54.3	16.7	9.4	13.6	6.0
55 - 75	44.7	17.1	9.0	15.0	14.2
75 - 100	42.2	19.5	9.6	18.9	9.8
100 - 150	32.3	20.3	10.5	24.3	12.6
150 - 200	23.8	18.6	10.0	31.3	16.3
200 & above	18.1	17.8	9.3	37.0	17.8
All Classes	48.3	17.3	9.3	17.1	8.0

(Notes to Table 6.8 are on the next page)

Table 6.8 (cont'd)

Note: Definitions:	Foodgrains:	cereals, grains, cereal substitutes, and pulses
	Other Agricultural Products:	milk, meat and fish, vegetables, fruits and spices
	Industrial Food:	edible oil, sugar, salt, and beverage
	Non-food Industrial Consumer Goods:	Fuel, light, tobacco, clothing, footwear, and durable goods.
	Other:	Health, education, travel, and recreation.

Source: Computed from, National Sample Survey Organization, Government of India, 28th Round, No. 240, Tables on Consumer Expenditure, p. 44.

Table 6.9 Percent Distribution of Expenditures by Commodity Classes in Rural Bangladesh, 1976-77

Monthly Household Income Groups (Taka)	Food grains	Other Agricultural Products	Industrial Food	Non-food Industrial Consumer Goods	Other
Less than 50	58.8	12.8	6.1	17.3	5.0
50 - 99	57.7	9.9	5.5	20.1	6.7
100 - 149	58.8	12.7	4.6	17.3	6.6
150 - 199	56.8	13.5	4.8	19.1	5.8
200 - 249	58.1	12.8	5.2	18.4	5.7
250 - 299	58.8	12.5	5.2	17.5	6.1
300 - 399	58.4	13.2	5.2	17.0	6.3
400 - 499	58.3	12.5	5.6	16.5	7.1
500 - 799	59.7	14.9	6.5	10.3	8.6
750 - 999	54.0	15.4	5.8	15.4	9.3
1000 - 1499	50.0	16.5	5.9	16.9	10.6
1500 - 1999	45.2	20.5	5.9	16.3	12.1
2000 & above	44.9	17.4	6.9	18.4	12.5
All groups	54.9	15.1	5.9	15.3	8.8

Note: Definitions of each class of goods are the same as in Table 6.8

Source: Bangladesh Bureau of Statistics, 1981. Statistical Yearbook of Bangladesh, 1980. Ministry of Planning: Dacca: Tables: 15.14 and 15.15; pp. 571 and 573.



non-food items (durable goods and clothing) also is likely to increase as income increases, while the percentage on some other non-food items (fuel and light) would show a decline.<sup>33</sup>

These findings seem to reveal three broad groups of commodities and services identifiable in terms of the behaviour of the average propensity to consume:

1. a declining APC (average propensity to consume;
2. an increasing APC; and
3. an increasing APC up to certain income groups but a decrease in the APC at the highest income group. These findings suggest that the relationship between income inequality and the demand for manufactured goods is likely to be complex. At the risk of oversimplification, we express the two contending hypotheses concerning these relationships in Figures 6.5 and 6.6.

With the limited empirical data available, we offer a few conjectural statements concerning these relationships. Those writers who attribute a falling demand for manufactured goods to a rising income inequality (e.g., Sau) would argue that Figure 6.5 is most likely to reflect reality. The relationship in Figure 6.5, however, implicitly assumes that the average and marginal propensities to consume manufactured

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<sup>33</sup>For a disaggregated picture of consumption patterns in India, see Appendices A.6 and A.8.

# Rural Income Inequality and Demand for Manufactured Consumer Goods

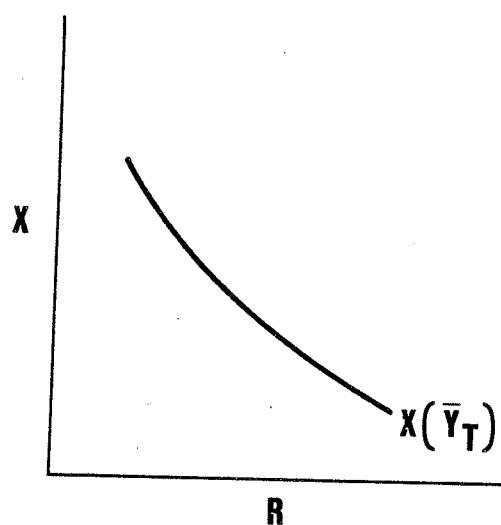


Figure 6.5

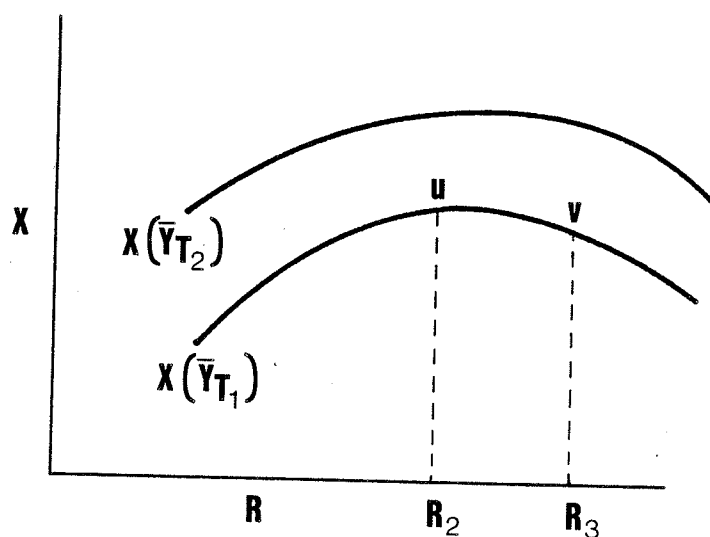


Figure 6.6

## Symbols

X: value of exports of manufactured consumer goods (in real terms) from the capitalist manufacturing sector to the traditional sector.

R: Income inequality in the traditional sector

$\bar{Y}_T$ : Per capita income in the traditional sector

$\bar{Y}_{T_2} > \bar{Y}_{T_1}$

goods are higher for lower income groups than for the higher income groups.<sup>34</sup> Data presented in Tables 6.8 and 6.9 appear inconsistent with that assumption.

On the other hand, if for a significant number of industrial consumer goods the average and the marginal propensities to consume manufactured goods rise up to certain income groups but decline for higher income groups, then the relationship depicted in Figure 6.6 cannot be ruled out. This Figure shows that a rise in income inequality promotes industrial demand up to Point  $R_2$ . A further rise in inequality ( $R_3$ ) may not lead to a higher demand for manufactured goods. The main point we wish to emphasize is that a reduction in income inequality need not always generate a greater demand for manufactured goods. For instance, any measure to redistribute income toward very low income groups may lead to a greater demand for food grains than for manufactured goods.

The above argument does not imply that industrial growth based on luxury consumer goods should be promoted through an increase in income inequality. We merely point out the possibility of conflicts between short-term measures to redistribute income and efforts to increase the demand for industrial goods in poor, capitalist countries such as

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<sup>34</sup> Some writers (e.g., Sau, 1974) have argued that large landowners' demand for manufactured goods is quite low and is income inelastic. This, however, does not accord with  
(Continued next page)

India and Bangladesh. It is possible that redistribution measures such as land reforms, coupled with other measures (e.g., greater saving, investment, and the use of modern inputs through cooperatives) might increase the level of income of all rural people. This could increase the demand for manufactured goods with the original or even a lower degree of income inequality. In Figure 6.6, this would be represented by a shift of the curve  $X(\bar{Y}_{T_1})$  to  $X(\bar{Y}_{T_2})$ .

#### 6.4 Summary

In this chapter, we have investigated the relationship between income distribution and the demand constraints on the capitalist manufacturing sector at a disaggregated level. The main findings may be summarized as follows.

First, the empirical evidence for Bangladesh on the relationship between changes in the terms of trade and labour's share of income appears to be consistent with the

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34 (Continued)

recent evidence. In India, the proportion of expenditures on durable goods for the highest expenditure group in rural areas has increased from 5.0% in 1970-71 to 14.4% in 1973-74. Source: National Sample Surveys, 25th and 28th Rounds. Furthermore, even if the average propensity to consume manufactured goods is very low for high income groups, this could generate a very large absolute demand given their very high incomes. Thus, while the inverse relationship between  $X$  and  $R$  shown in Figure 6.5 requires that the average propensity to consume industrial consumer goods is relatively low for the rural rich, the latter condition may not ensure the former.

Kalecki-Kaldor model. On the other hand, the empirical evidence for India seems to accord more closely with the Ricardo-Lewis model. These findings reinforce the conclusions of Chapter 3 and 4 that the Kalecki-Kaldor model has greater relevance to the manufacturing sector of Bangladesh than to the manufacturing sector of India.

Second, the empirical evidence for India and Bangladesh does not show any strong and systematic relationship between the growth of the manufacturing sector and income distribution within that sector.

Third, our findings for Bangladesh and India support one of the hypotheses associated with the under-consumption thesis: the expansionary and contractionary phases of the manufacturing sector as a whole are closely related to those of the wage goods industry.

Fourth, a notable finding is the greater variability in the growth rates of the non-durable consumer goods industry as compared with the durable consumer goods industry in both India and Bangladesh.

Fifth, distributions of labour income in different sectors of the economy do not show similar movements. This suggests that the relationship between the growth rate in the manufacturing sector and income distribution is more complex than commonly supposed. This is especially so since the demand for the wage goods industry largely depends on labour income originating in non-manufacturing sectors.

Finally, empirical evidence concerning consumption patterns in rural areas of Bangladesh and India do not allow us to infer that a reduction in income inequality will necessarily promote the demand for industrial goods.

## CHAPTER 7

## CONCLUSIONS

The main purpose of this study was to explore some of the causal mechanisms underlying structural interdependence, income distribution, and problems of growth in the manufacturing sectors of India and Bangladesh. As a first step, a theoretical model was developed to illustrate the interrelationships between the terms of trade, aggregate demand, and aggregate supply in the capitalist manufacturing sector. While concentrating on the supply side, one of our presumptions was that the terms of trade depend on monopoly power, as measured by the mark-up of the manufacturing sector. Empirical evidence from India and Bangladesh reveals an improvement in the terms of trade for this sector during the 1970's.

In the face of such an improvement in the terms of trade, the growth rate of manufacturing output seems to have increased in India; in Bangladesh the growth rate has declined. This allows us to draw a tentative conclusion that while the adjustment mechanism in the manufacturing sector of India is consistent with the Ricardo-Lewis model, the adjustment mechanism in Bangladesh manufacturing seems to be consistent with the Kalecki-Kaldor model. As discussed in Chapter 1, the Kalecki-Kaldor model emphasizes the adjustment process through aggregate demand; on the other hand, the Ricardo-

Lewis Model emphasizes the supply side adjustment mechanism. One possible explanation for different adjustment mechanisms, in Bangladesh and India, in response to changes in the terms of trade, lies in differences in market size and in the degree of monopoly power of the manufacturing sectors of these two countries. From data on trends in mark-ups, it is evident that the Bangladesh manufacturing sector enjoys relatively greater market-power than does its counterpart in India. This is not surprising, given the smaller size of the market in Bangladesh.<sup>1</sup>

Two broad policy implications of the above conclusions may be briefly mentioned. First, in order to ensure a sustained industrial growth, demand management policies, (e.g. monetary and fiscal policies) are likely to have greater relevance to Bangladesh, compared to India. Second, in the presence of supply shocks, control of the monopoly power of manufacturing firm may be justified in order to minimize the adverse consequences (e.g. increasing prices, decreasing output and hence increasing unemployment, of the monopolistic adjustment process.

It should be noted that the adverse consequences of supply shocks may be minimized also by other government policies: the provision of subsidised food to industrial workers through rationing, subsidies to industrial firms,

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<sup>1</sup>As discussed in Chapter 1, if there are economies of scale in industrial production, an economy with a small market is likely to be characterized by monopoly power in the industrial sector.



and compulsory procurement of raw materials from raw material producers at lower than market prices.

This study emphasized the relevance of a two-fold disaggregated analysis for investigating the problems of manufacturing output growth: 1) a comparative analysis of the wage goods, basic goods, and non-basis goods industries; and 2) the flows of wage goods, basic goods, and non-basic goods among sectors of the economy.

From empirical evidence, it is evident that, compared to the wage goods industry, the non-basic goods industry in India as well as in Bangladesh, seems to have higher profit rates, higher shares of profit in value-added, higher mark-ups, and higher labour productivity. This suggests that it is the non-basic goods industry which is likely to have greater monopoly power and to exhibit the Kalecki-Kaldor adjustment mechanism. The wage goods industry, on the other hand, is likely to exhibit the Ricardo-Lewis adjustment mechanism.

It is worthwhile to mention one policy implication of the above conclusion. In order to protect and promote the domestic industries, governments often increase tariff rates on imported luxury goods, i.e., non-basic goods.

This policy is likely to reinforce the Kalecki-Kaldor adjustment mechanism in the face of input price shocks. In other words, the non-basic goods industry will have a greater ability to pass higher input prices onto product

prices, following the increase in tariff rates on imported non-basic goods.

The manufacturing sectors of India and Bangladesh are found to be significantly dependent on the traditional sector in terms of wage goods and non-basic goods. This is likely to make the interrelationship between income distribution and the growth of manufacturing output much more complex than is implied by one-sector models. One striking finding in this context is that in Bangladesh, a country poorer than India, adjustments in income distribution seem to have occurred mainly through an absolute reduction of real wages. Furthermore, empirical evidence shows that there has been no secular increase in the ratio of money wages in manufacturing to raw material prices. Thus, it would be erroneous to argue that the growth of output in the manufacturing sector of Bangladesh has been low because of falling profits caused by rising wages.

It was beyond the scope of this study to undertake a detailed analysis of linkages between the manufacturing sectors and other sectors in India and Bangladesh. However, an attempt was made in Chapter 5 to examine briefly the role of petty commodity production in the growth of the manufacturing sector. On the basis of the limited evidence available, it is apparent that petty commodity production is more integrated with the manufacturing sector than is commonly supposed. The integration of the petty commodity sector with the manufacturing sector, however, has not been associated

with an increase in labour productivity in the former sector in order to match the productivity level in the latter.

It is necessary to emphasize one policy implication of our finding concerning the petty commodity producers in agriculture. Government policy to improve the agricultural sector's terms of trade is often subject to two criticisms: (1) this policy inhibits industrial growth on the aggregate supply side; and (2) this policy benefits only large-scale producers. The latter criticism is based on the assumption that petty commodity producers produce largely subsistence crops for themselves. The evidence in Chapter 5 of our study, however, casts doubt on this assumption. It is possible, therefore, that improvements in the agricultural sector's terms of trade increase the real incomes of agricultural petty commodity producers; consequently, the demand for wage goods produced in the manufacturing sector might increase.

Our findings also show that the petty commodity sector tends to specialize in the production of labour intensive commodities, e.g., food and textile products. Accordingly, this sector is in competition with the wage goods industry of the capitalist manufacturing sector. The existence of this competition may be one of the reasons why the wage goods industry, compared to the non-basic goods industry, has limited monopoly power. Further research, however, is needed to evaluate the nature and degree of competition between the two sectors.

This study has also examined aspects of possible demand constraints on the manufacturing sectors of India and Bangladesh. It appears from the empirical analysis of Chapter 6 that output growth patterns of overall manufacturing are closely related to those of the non-durable consumer goods industry. A notable finding is the greater variability in the growth rate of output in the non-durable consumer goods industry, compared to other industries. We speculate that this may be the result of: 1) the existence of competition between the petty commodity sector and the wage goods industry in the production of such non-durable goods as food and textile products; and 2) the variability in incomes not only of wage earners, but also of agricultural petty commodity producers who are the main purchasers of non-durable wage goods produced in the manufacturing sector.

Finally, given the evidence on consumption patterns of different expenditure classes, this study is skeptical about the "populist" notion that any reduction in rural income inequality would promote the growth of manufacturing output through a rise in demand.

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## APPENDICES

## APPENDIX A.1

## SOME BASIC DATA ON BANGLADESH AND INDIA

	<u>Bangladesh</u>	<u>India</u>
1. Population (millions), mid 1979	88.9	659.2
2. Gross domestic product (millions of U.S. dollars), 1979	7670	112,000
3. GNP per capita (U.S. dollars), 1979	90	190
4. Average annual real growth of per capita GNP (percent), 1960-79	-.1	1.4
5. Average annual real growth rate (percent) of manufacturing output		
1960-70	6.6	4.8
1970-79	5.9	4.5
6. Average annual real growth rate (percent) of agriculture output		
1960-70	2.7	1.9
1970-79	1.9	2.1
7. Share of manufacturing in gross domestic product (percent)		
1960	6	14
1979	8	18
8. Share of agriculture in gross domestic product (percent)		
1960	61	50
1979	56	38
9. Value-added in manufacturing (millions of 1975 U.S. dollars)		
1978	874	15,068
10. Percentage of labour force in industry		
1960	3	11
1979	11	11
11. Percentage of labour force in agriculture		
1960	87	74
1979	74	71
12. Urban population as percentage of total population, 1980	11	22

## APPENDIX A.1 (cont'd)

	<u>Bangladesh</u>	<u>India</u>
13. Exports as percentage of GDP, 1979	8.4	7
14. Imports as percentage of GDP, 1979	20.2	9.1

Source: The World Bank, World Development Report, 1981.



# APPENDIX A.2

## TRENDS IN YIELD RATES OF SELECTED AGRICULTURAL RAW MATERIALS AND FOOD CROPS

Bangladesh (per acre)					India (quintals per hectare)						
Year	Agricultural Raw Materials			Food Crops	Year	Agricultural Raw Materials				Food Crops	
Average	Jute (lbs)	Sugar Cane (ton)	Oil Seeds (lbs)	Rice (lbs)		Jute	Sugar Cane	Ground Nuts	Cotton Lint	Wheat	Rice
1965-66 to 1969-70	1165	18	841	1007	1950-51	10.4	33.4	7.8	.9	6.6	6.7
1970-71	1212	19	743	1003	1955-56	10.8	32.9	7.5	.9	7.1	8.7
1971-72	1001	16	718	953	1960-61	11.8	46.1	7.5	1.3	8.5	10.1
1972-73	1176	17	676	935	1965-66	10.6	45.0	5.5	1.0	8.3	8.6
1973-74	1092	17	696	1075	1970-71	11.9	49.6	8.3	1.1	13.1	11.2
1974-75	981	17	571	1028	1971-72	12.6	48.6	8.2	1.5	13.8	11.4
1975-76	1233	18	672	1102	1972-73	12.8	52.1	5.8	1.3	12.7	10.7
1976-77	1200	18	688	1061	1973-74	14.1	52.4	8.4	1.4	11.7	11.5
1977-78	1187	17	731	1154	1974-75	12.1	50.9	7.2	1.6	13.4	10.4
					1975-76	13.7	52.7	9.5	1.4	14.1	12.5

Source: For Bangladesh: Statistical Yearbook of Bangladesh, 1979, p. 165.  
For India: Statistical Abstract of India, 1979, Table 18, p. 53 and p. 55.

## APPENDIX A.3

CONSUMPTION EXPENDITURE PATTERNS PER HOUSEHOLD BY  
MONTHLY INCOME GROUP IN BANGLADESH,  
URBAN, 1976-77 (IN PERCENTAGE)

Monthly house- hold income groups (Taka)	Food produced in agriculture and allied activities		Food (indus- trial)	Non-food consumer items (indus- trial)	Others
	Cereals and pulses	Others			
Less than 50	44.6	16.2	7.6	18.2	13.4
50 - 99	43.1	14.3	8.6	20.7	13.3
100 - 149	46.6	13.6	6.5	20.4	12.9
150 - 199	50.1	13.5	5.8	19.8	10.8
200 - 249	50.7	13.4	6.2	19.0	10.2
250 - 299	46.2	15.8	6.2	18.1	13.7
300 - 399	46.9	14.6	6.2	18.4	13.9
400 - 499	45.4	15.7	7.2	17.6	14.1
500 - 749	43.6	16.1	7.6	17.3	15.4
750 - 999	39.3	18.0	7.7	16.4	18.6
1000 - 1499	34.2	19.2	7.6	16.2	22.8
1500 - 1999	30.2	20.2	7.8	15.9	25.9
2000 & above	24.7	23.7	7.4	15.8	28.4
All groups	37.6	18.2	7.5	16.8	19.9

Source: Bangladesh Bureau of Statistics. Statistical Yearbook of Bangladesh, 1980. Tables: 15.14 and 15.15; pp. 571 and 574.

## APPENDIX A.4

CONSUMPTION EXPENDITURE PATTERNS PER HOUSEHOLD BY  
MONTHLY INCOME GROUP IN BANGLADESH,  
URBAN, 1973-74 (IN PERCENTAGE)

Monthly house- hold income groups (Taka)	Food produced in agriculture and allied activities		Food (indus- trial)	Non-food consumer items (indus- trial)	Others
	Cereals pulses	Others			
Less than 50	-	-	-	-	-
50 - 99	40.8	13.6	15.2	16.4	14.0
100 - 149	43.5	11.7	15.8	17.5	11.5
150 - 199	41.8	14.0	18.7	15.3	10.2
200 - 249	45.7	15.9	11.8	14.8	11.8
250 - 299	44.4	16.2	12.6	14.6	12.2
300 - 399	43.5	16.2	12.2	14.4	13.6
400 - 499	41.5	18.0	12.9	14.3	13.4
500 - 749	38.4	19.5	13.3	14.2	14.8
750 - 999	35.0	21.8	12.4	13.1	17.2
1000 - 1499	33.9	20.0	13.5	12.3	20.3
1500 - 1999	29.7	19.2	12.7	13.6	24.8
2000 & above	19.8	20.0	14.1	12.8	33.4
All groups	35.7	19.1	13.1	13.6	18.5

Source: Bangladesh Bureau of Statistics. Statistical Yearbook of Bangladesh, 1979. Tables: 15.18 and 15.21; pp. 481; 485-486.

## APPENDIX A.5

CONSUMPTION EXPENDITURE PATTERNS PER HOUSEHOLD BY  
MONTHLY INCOME GROUP IN BANGLADESH,  
RURAL, 1973-74 (IN PERCENTAGE)

Monthly house- hold income groups (Taka)	Food produced in agriculture and allied activities		Food (Indus- trial)	Non-food consumer items (indus- trial)	Others
	Cereals pulses	Others			
Less than 50	45.8	25.4	7.5	15.2	6.1
50 - 99	48.7	14.2	8.3	18.0	10.8
100 - 149	44.2	25.0	7.4	15.1	8.4
150 - 199	49.9	20.0	6.7	15.4	8.0
200 - 249	47.4	23.4	7.4	14.1	7.8
250 - 299	50.5	17.7	8.8	14.3	8.6
300 - 399	50.2	15.1	10.1	15.6	8.9
400 - 499	48.1	19.5	8.8	13.6	9.9
500 - 749	48.6	17.5	9.6	13.8	10.5
750 - 999	46.7	17.7	10.3	13.4	11.9
1000 - 1499	45.0	17.1	11.0	12.7	14.3
1500 - 1999	36.2	18.1	8.7	15.9	21.2
2000 & above	35.8	19.3	8.9	14.3	21.8
All groups	47.2	18.0	9.6	14.0	11.2

Source: Bangladesh Bureau of Statistics. Statistical Yearbook of Bangladesh, 1979. Tables: 15.18 and 15.22; pp. 481 and 487-488.

# APPENDIX A.6

CONSUMER EXPENDITURE (R.s. 0.00) PER PERSON FOR A PERIOD OF 30 DAYS BY BROAD GROUPS OF ITEMS AND BY MONTHLY PER CAPITA EXPENDITURE CLASSES, 1973-74

All India: Rural

Items	Monthly per capita expenditure class in rupees														
	0-13	13-15	15-18	18-21	21-24	24-28	28-34	34-43	43-55	55-75	75-100	100-150	150-200	200& above	all classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1. cereals	6.15	7.97	10.21	11.61	13.10	15.18	17.48	20.34	23.81	27.50	31.84	33.78	34.63	43.71	23.00
2. gram	0.04	--	0.00	0.07	0.05	0.08	0.17	0.17	0.22	0.28	0.51	0.64	0.66	0.82	0.25
3. cereal substitutes	0.39	0.80	0.31	0.61	0.50	0.41	0.39	0.34	0.40	0.33	0.31	0.35	0.31	0.47	0.38
4. pulse & products	0.16	0.29	0.37	0.52	0.62	0.90	1.15	1.55	1.93	2.55	3.32	3.80	4.79	6.45	1.99
5. milk & products	0.01	0.12	0.16	0.24	0.42	0.51	0.96	1.74	3.10	5.22	8.19	13.44	17.10	26.12	3.82
6. edible oil	0.21	0.38	0.57	0.60	0.70	0.93	1.11	1.54	1.91	2.51	3.13	4.11	5.16	7.17	1.99
7. meat, fish & egg	0.27	0.39	0.36	0.33	0.45	0.54	0.69	0.95	1.25	1.78	2.37	2.86	4.68	8.20	1.37
8. vegetables	0.55	0.68	0.70	0.82	0.94	1.10	1.31	1.63	1.97	2.44	3.04	3.51	3.98	6.53	2.00
9. fruits & nuts	0.17	0.10	0.08	0.16	0.18	0.19	0.22	0.34	0.45	0.71	1.20	2.08	3.01	5.23	0.61
10. sugar	0.10	0.20	0.27	0.30	0.42	0.59	0.74	1.14	1.54	2.25	2.97	4.41	5.40	8.41	1.67
11. salt	0.09	0.03	0.08	0.09	0.08	0.09	0.08	0.09	0.09	0.10	0.13	0.11	0.14	0.17	0.09
12. spices	0.41	0.42	0.56	0.73	0.08	0.81	0.97	1.14	1.36	1.58	1.83	2.30	2.90	4.50	1.35
13. beverages & refreshments	0.17	0.21	0.38	0.34	0.37	0.41	0.51	0.68	1.02	1.33	1.98	3.85	6.34	10.77	1.18
14. food: total	8.72	11.64	14.05	16.42	18.63	21.74	25.78	31.65	39.05	48.58	60.82	75.24	89.10	128.55	39.70

APPENDIX A.6 (cont'd)

Items	Monthly per capita expenditure class in rupees														
	0-13	13-15	15-18	18-21	21-24	24-28	28-34	34-43	43-55	55-75	75-100	100-150	150-200	200& above	all classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
15. pan, tobacco	0.43	0.40	0.49	0.69	0.75	0.78	0.87	1.16	1.47	1.78	2.40	3.23	5.28	7.56	1.53
16. fuel and light	1.07	1.31	1.42	1.54	1.76	1.91	2.13	2.45	2.89	3.46	4.14	5.14	5.97	7.98	2.96
17. clothing	0.03	0.13	0.20	0.21	0.40	0.50	0.69	1.05	2.00	4.38	8.02	16.13	24.77	44.88	3.58
18. footwear	--	--	0.01	0.01	0.01	0.02	0.04	0.05	0.12	0.27	0.70	1.24	2.02	3.96	0.26
19. misc. goods services	0.31	0.56	0.63	0.79	0.90	1.08	1.45	1.96	2.86	4.64	8.17	14.72	27.07	49.52	4.18
20. rents	--	--	--	0.01	0.00	0.00	0.00	0.00	0.03	0.08	0.15	0.30	0.45	1.19	0.05
21. taxes	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.13	0.03	0.16	0.01
22. durable goods	0.01		0.01	0.00	0.00	0.00	0.02	0.06	0.14	0.40	0.89	3.29	15.16	40.89	0.74
23. non-food: total	1.85	2.40	2.76	3.25	3.82	4.29	5.20	6.73	9.51	14.98	24.49	44.18	80.75	156.14	13.31
24. total consumer expenditure	10.57	14.04	16.81	19.67	22.45	26.03	30.98	38.38	48.56	68.56	85.31	119.42	169.85	284.69	53.01
25. No. of sample households	55	49	145	272	412	749	1593	2760	3113	3168	1704	1025	255	167	15467

Source: National Sample Survey, 28th Round, Table 2.27/R

APPENDIX A.7

CONSUMER EXPENDITURE (RS.0.00) PER PERSON FOR A PERIOD OF 30 DAYS BY BROAD GROUPS OF ITEMS AND  
BY MONTHLY PER CAPITA EXPENDITURE CLASSES, 1973-74

All India: Urban

Items	Monthly per capita expenditure class in rupees														
	0-13	13-15	15-18	18-21	21-24	24-28	28-34	34-43	43-55	55-75	75-100	100-150	150-200	200& above	all classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1. cereals	2.94	5.94	7.38	9.84	10.49	12.71	14.26	16.52	18.44	20.83	22.17	21.00	21.65	23.11	19.03
2. gram	--	--	--	--	0.04	0.06	0.08	0.04	0.09	0.12	0.16	0.23	0.22	0.37	0.12
3. cereal substitute	--	0.94	0.22	0.41	0.26	0.22	0.11	0.10	0.10	0.09	0.12	0.09	0.15	0.19	0.13
4. pulse & products	--	0.21	0.60	0.56	0.76	0.94	1.27	1.52	1.97	2.51	3.14	3.57	3.74	4.16	2.36
5. milk & products	--	0.15	0.98	0.25	0.65	0.83	1.51	2.32	3.72	6.03	8.92	13.21	19.21	25.98	6.50
6. edible oil	0.23	0.45	0.66	0.79	1.22	1.16	1.56	2.11	2.83	3.77	5.12	6.02	7.55	8.75	3.70
7. meat, fish & egg	--	0.20	0.15	0.58	0.81	0.83	0.94	1.17	1.58	2.24	3.11	4.21	6.06	9.79	2.43
8. vegetables	0.32	0.54	0.92	0.88	1.05	1.16	1.50	1.87	2.40	3.11	4.21	5.04	6.39	7.75	3.15
9. fruits & nuts	0.00	0.13	0.15	0.21	0.20	0.25	0.22	0.38	0.63	0.99	1.78	3.14	5.18	9.11	1.39
10. sugar	--	0.46	0.58	0.72	0.90	0.72	1.11	1.39	1.80	2.45	3.18	3.66	4.38	5.32	2.32
11. salt	0.04	0.03	0.04	0.05	0.06	0.05	0.07	0.07	0.07	0.09	0.10	0.12	0.11	0.11	0.08
12. spices	0.10	0.29	0.62	0.94	0.88	1.03	1.09	1.30	1.52	1.66	1.96	2.15	2.49	2.90	1.65
13. beverages & refreshments	0.86	1.92	1.21	0.66	0.91	1.21	1.29	1.60	2.19	3.18	5.43	12.04	21.73	32.90	5.09
14. food: Total	4.49	11.06	13.51	15.89	18.23	21.17	25.01	30.39	37.34	47.07	59.40	61.28	98.85	130.44	47.93

## APPENDIX A.7 (cont'd)

Items	Monthly per capita expenditure class in rupees														
	0-13	13-15	15-18	18-21	21-24	24-28	28-34	34-43	43-55	55-75	75-100	100-150	150-200	200 & above	all classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
15. pan, tobacco & intoxicants	0.26	0.54	0.84	0.59	0.56	0.70	0.84	0.94	1.27	1.55	2.05	3.10	4.37	8.85	1.85
16. fuel & light	0.68	1.04	1.34	1.48	1.96	1.96	2.30	2.81	3.32	4.26	5.21	6.51	7.95	10.93	4.25
17. clothing	--	--	0.45	0.05	0.16	0.40	0.37	0.62	1.13	2.07	3.67	8.69	12.31	29.04	3.36
18. footwear	--	0.04	0.03	0.03	0.03	0.01	0.02	0.04	0.08	0.16	0.34	0.69	1.23	2.75	0.27
19. misc. goods & services	2.91	0.81	0.68	1.24	1.58	1.67	2.17	3.05	4.51	7.02	11.24	20.03	34.01	66.09	9.56
20. rents	0.13	0.07	0.16	0.30	0.22	0.23	0.46	0.63	1.14	1.70	3.21	5.42	9.79	16.05	2.50
21. taxes	--	--	--	--	--	0.00	0.00	0.00	0.01	0.04	0.09	0.16	0.25	0.91	0.07
22. durable goods	--	--	--	--	0.03	0.05	0.01	0.03	0.11	0.17	0.73	1.72	3.06	22.76	1.00
23. non food: total	3.98	2.50	3.50	3.69	4.54	5.02	6.17	8.12	11.57	16.97	26.54	46.32	72.97	157.38	22.84
24. total consumer expenditure	8.47	13.56	17.01	19.58	22.77	26.19	31.18	38.51	48.91	64.04	85.94	107.60	171.82	287.82	70.77
25. no. of sample households	9	10	20	26	62	168	415	940	1285	1641	1250	1169	467	413	7881

Source: National Sample Survey, 28th Round, Table 2.27/U



## APPENDIX A.8

CONSUMER EXPENDITURE ON BROAD GROUPS OF ITEMS AS PERCENTAGE TO TOTAL CONSUMER EXPENDITURE BY  
MONTHLY PER CAPITA EXPENDITURE CLASSES IN RURAL AREAS, 1970-71

All India

Items	Monthly per capita expenditure class in rupees													
	0-8	8-11	11-13	13-15	15-18	18-21	21-24	24-28	28-34	34-43	43-55	55-75	75 & over	all classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1. cereals	58.69	58.79	58.87	59.01	56.82	53.40	52.51	49.85	45.78	41.11	36.13	29.34	19.99	39.59
2. gram	0.57	0.59	1.31	0.81	0.99	0.90	0.94	0.80	0.65	0.63	0.54	0.64	0.44	0.65
3. cereal substitute	3.69	3.69	1.54	1.20	1.03	0.97	0.67	0.80	0.42	0.42	0.29	0.27	0.14	0.45
4. pulse & products	1.17	2.71	3.10	3.51	3.38	3.86	3.89	3.88	4.08	3.94	4.05	3.55	2.96	3.77
5. milk & products	0.68	1.29	1.59	1.81	2.32	3.66	4.19	5.08	7.25	9.03	9.79	12.30	13.01	8.58
6. edible oil	2.74	2.31	2.67	2.92	3.16	3.58	3.54	3.69	3.79	3.68	3.69	3.49	3.24	3.57
7. meat, fish & egg	1.90	1.65	1.87	1.88	2.13	2.15	1.38	2.54	2.88	3.15	3.41	3.17	2.79	2.89
8. vegetables	3.28	3.99	3.83	3.91	4.00	3.87	3.89	3.81	3.82	3.68	3.69	3.38	2.70	3.60
9. fruits & nuts	1.15	0.49	0.64	0.67	0.68	0.84	0.76	0.80	0.94	1.16	1.42	1.62	1.81	1.22
10. sugar	1.16	1.23	1.98	1.84	1.96	2.47	2.49	2.65	3.04	3.34	3.41	3.74	3.75	3.17
11. salt	0.81	0.61	0.50	0.46	0.41	0.54	0.32	0.30	0.26	0.21	0.19	0.16	0.09	0.25
12. spices	3.13	3.67	3.91	4.16	3.85	3.84	3.95	3.77	3.56	3.28	3.02	2.73	2.23	3.20
13. beverages & refreshments	1.72	1.27	1.45	1.86	1.75	2.11	2.08	2.38	2.49	2.55	2.46	3.06	3.89	2.66
14. food: total	80.69	82.29	83.24	84.04	82.46	81.99	81.61	80.35	78.96	76.18	72.09	67.45	57.02	73.58

## APPENDIX A.8 (cont'd)

Items	Monthly per capita expenditure class in rupees													
	0-8	8-11	11-13	13-15	15-18	18-21	21-24	24-28	28-34	34-43	43-55	55-75	75 & over all	classes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
15. pan tobacco & intoxicants	3.19	3.64	3.12	3.29	3.21	3.31	3.56	3.27	3.37	3.41	2.52	3.21	3.54	3.23
16. fuel & light	11.63	9.69	8.92	8.46	7.90	7.61	7.35	6.81	6.51	6.04	5.56	5.21	4.18	6.03
17. clothing	1.59	1.37	1.37	1.06	2.39	2.35	2.54	3.85	4.47	6.41	9.37	10.87	13.87	7.28
18. footwear	--	0.29	0.64	0.01	1.05	0.10	0.20	0.23	0.32	0.50	0.65	1.22	1.60	0.65
19. misc. goods & services	2.84	2.61	2.58	3.07	3.89	4.49	4.57	5.27	6.09	7.12	8.89	10.90	14.40	8.10
20. rents	--	0.08	0.04	0.04	0.03	0.02	0.06	0.11	0.06	0.10	0.17	0.16	0.34	0.14
21. taxes	0.02	0.03	0.01	0.01	0.01	0.04	0.01	0.03	0.03	0.03	0.06	0.14	0.07	0.06
22. durable goods	0.04	0.00	0.08	0.02	0.06	0.09	0.10	0.08	0.19	0.21	0.69	0.84	4.98	0.93
23. non-food: total	19.31	17.71	16.76	15.96	17.54	18.01	18.39	19.65	21.04	23.82	27.91	32.55	42.98	26.42
24. total consumer expenditure	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
25. no. of sample households	141	530	860	1246	2614	3350	3607	4652	6109	5962	4168	2730	1624	37593

Source: National Sample Survey, 25th Round, Table 7.26/R

## APPENDIX A.9

ANNUAL AVERAGE PERCENTAGE RATES OF GROWTH IN  
 MANUFACTURING ( $\dot{Y}$ ) AND LABOUR'S SHARE  
 OF INCOME ( $\dot{W}$ ): INDIA (SELECTED  
 YEARS, 1959 - 1978-79)

Period	$\dot{Y}$	$\dot{W}$
1959 - 1961*	15.1	-6.1
1961 - 1965*	18.0	1.4
1965-66	7.7	2.5
1966-67	3.7	-1.4
1967-68	10.4	8.1
1968-69*	18.3	-6.1
1970-71 - 1972-73*	20.6	2.5
1972-73 - 1973-74*	21.9	-3.0
1973-74 - 1974-75*	33.2	-8.1
1974-75 - 1975-76	3.6	8.1
1975-76 - 1976-77	13.6	-8.1
1976-77 - 1977-78	9.2	6.8
1977-78 - 1978-79*	20.3	- .4
Average $\dot{Y}$	15.0	Average $\dot{W}$ - .3

\* High growth periods (higher than the average)

Average  $\dot{Y}$  during the high growth periods 21.1%

Average  $\dot{W}$  during the high growth periods -1.9%  
 of  $\dot{Y}$ .

Note: The data for  $\dot{Y}$  from 1959 to 1969 refer to growth rates of net value added at current prices for the census factory sector. The data for  $\dot{Y}$  from 1970-71 to 1978-79 refer to net value added at current prices for the registered manufacturing sector.

The data for  $\dot{W}$  refer to the rates of change in the share of compensation of employees at current prices in the census factory sector (1959-1969) and the registered manufacturing sector (1970-71 to 1978-79).

## APPENDIX A.9 (cont'd)

Source: Data for the period 1959-69: Central Statistical Organization, India, Statistical Abstract of India, 1977, p. 405.  
Data for the period 1970-71 to 1978-79: C.S.O. National Accounts Statistics 1970-71 - 1978-79, p. 118, 138.

## APPENDIX A.10

ANNUAL AVERAGE PERCENTAGE RATES OF GROWTH IN  
 MANUFACTURING ( $\dot{Y}$ ) AND LABOUR'S SHARE  
 OF INCOME ( $\dot{W}$ ): BANGLADESH  
 (SELECTED YEARS,  
 1954-55 -  
 1975-76)

Period	$\dot{Y}$	$\dot{W}$
1954-55*	56.1	-13.6
1955-57*	18.6	2.0
1957 - 1959-60*	23.2	- .8
1959-60 - 1962-63*	44.4	-12.1
1962-63 - 1963-64	6.4	10.0
1963-64 - 1964-65	6.4	- 7.6
1964-65 - 1965-66*	29.1	- 3.3
1965-66 - 1966-67	-5.9	18.2
1966-67 - 1967-68	12.6	- 8.0
1967-68 - 1968-69*	25.4	- 2.6
1968-69 - 1969-70	-3.7	12.8
1969-70 - 1970-71	-12.7	23.4
1970-71 - 1971-72	-22.0	.9
1971-72 - 1972-73*	18.2	7.7
1972-73 - 1973-74	187.3**	-14.0
1973-74 - 1974-75	10.2	5.2
1974-75 - 1965-76*	17.7	.9
Average $\dot{Y}$ excluding 1972-73 - 1973-74	14.0	Average $\dot{W}$ 1.1

\* Periods having higher than average growth rates

\*\* This abnormal growth rate reflects the recovery from the effects of the 1971 war.

Average  $\dot{Y}$  during the periods of high growth rates 29.1%  
 Average  $\dot{W}$  during the high growth periods of  $\dot{Y}$  -2.7%

## APPENDIX A.10 (Cont'd)

Note:  $\dot{Y}$  refers to the rate of growth of gross value added and  $\dot{W}$  refers to the rate of change in the share of compensation of employees, at current prices, in the census manufacturing sector.

Source: Computed from, Government of Bangladesh, Bureau of Statistics, Statistical Yearbook of Bangladesh, 1979, Tables 5.32 and 5.37.

## APPENDIX A.11

ANNUAL AVERAGE PERCENTAGE RATES OF GROWTH OF  
INDUSTRIAL PRODUCTION (PHYSICAL OUTPUT)  
IN INDIA, SELECTED YEARS,  
1960-61 - 1978-79

Period	All Industries	Durable Consumer Goods	Non-Durable Consumer Goods	Capital Goods
1960 to 61	9.2	10.8	5.8	18.0
1961 - 65	10.2	12.6	3.5	26.7
1965 - 66	- .8	7.7	1.7	-14.0
1966 - 67	- .8	3.5	-6.3	- 2.3
1967 - 68	6.4	14.4	2.2	2.4
1968 - 69	7.1	12.9	9.3	1.8
1969 - 70	4.8	4.1	7.2	5.0
1970 - 71	2.9	-7.4	1.9	- .1
1971 - 72	7.1	6.0	-5.1	- 8.6
1972 - 73	.6	-7.5	-2.4	12.4
1973 - 74	2.1	10.8	.6	4.8
1974 - 75	4.7	-15.3	- .2	.5
1975 - 76	9.8	13.2	9.8	10.5
1976 - 77	5.3	14.2	5.5	5.5
1977 - 78	6.9	8.0	10.0	3.4
1978 - 79	- .3	9.1	-12.8	.7
Average	4.7%	6.1	2.2	4.2
Coefficient* of variation	79.3%	144.7	282.3	229.8

\* Standard deviation of growth rates as percentage of average (mean) growth rates.

Source: Reserve Bank of India, Bulletin, January 1980 and earlier issues.

## APPENDIX A.12

ANNUAL PERCENTAGE VARIATION IN GROSS VALUE-ADDED  
 AT CURRENT PRICES IN DURABLE AND  
 NON-DURABLE GOODS, BANGLADESH,  
 SELECTED YEARS, 1954-55 -  
 1975-76

Year	Durable	Non-Durable	All Industries
1954 - 55	42.6	29.8	56.1
1955 - 1957	5.1	13.9	18.6
1957 - 1959-60	43.7	68.7	23.2
1959-60 - 1962-63	49.9	32.0	46.4
1962-63 - 1963-64	-54.6	23.3	6.4
1963-64 - 1964-65	105.0	- 3.7	6.4
1964-65 - 1965-66	38.2	39.1	29.1
1965-66 - 1966-67	- 1.4	-31.3	- 5.9
1966-67 - 1967-68	5.1	48.1	12.6
1967-68 - 1968-69	39.6	9.0	25.4
1968-69 - 1969-70	- 6.1	3.3	- 3.7
1969-70 - 1970-71	- 2.5	-30.7	-12.7
1970-71 - 1971-72	-26.7	-48.7	-22.0
1971-72 - 1972-73	.5	138.0	18.2
1972-73 - 1973-74	147.4	354.5	187.3
1973-74 - 1974-75	12.8	- .9	10.2
1974-75 - 1975-76	13.7	33.7	17.7

Coefficient of variation of growth in durable goods industries = 196.0%

Coefficient of variation in non-durable goods industries = 229.8%

Note: Non-durable goods here refer to food and textiles. Durable goods refer to furniture, basic metal, metal products, machinery except electrical, electrical machinery, and transport equipments.

Source: Computed from Statistical Yearbook of Bangladesh, 1979, Table 5.37



## APPENDIX A.13

TRENDS IN LABOUR'S SHARE OF INCOME IN CAPITALIST  
MANUFACTURING AND 'UNORGANIZED' SECTOR:  
INDIA, SELECTED YEARS,  
1970-71 - 1978-79

Period	Compensation of Employees as % of Factor Income Within		Mixed Income of the Self-employed as % Factor In- come within the Unorganized Sector	
	Registered Manufacturing	Unorganized Sector	Registered Manufacturing	Unorganized Sector
	Year-to-year change	Year-to-year change	Year-to-year change	Year-to-year change
1970-71	62.0	26.1	64.4	
1972-73	63.5 > +1.5	24.9 > -1.2	64.1 > - .3	
1973-74	61.6 > -1.9	21.6 > -3.3	69.7 > +5.6	
1974-75	56.7 > -4.9	21.7 > + .1	69.5 > - .2	
1975-76	61.3 > +4.6	24.4 > +2.7	65.7 > -3.8	
1976-77	56.3 > -5.0	25.1 > + .7	64.6 > -1.1	
1977-78	60.1 > +3.8	24.3 > - .8	65.9 > +1.3	
1978-79	59.8 > - .3	24.5 > + .2	65.0 > - .9	

Note: The unorganized sector includes all enterprises except the registered mining and factory sector, wholesale trade, transport, construction, banking, public administration, and plantations. The biggest segment of the 'unorganized' sector is of course the largest part of the agricultural sector. Mixed income of the self-employed has been defined as follows: income of own account workers and profits of unincorporated enterprises. This category of income may be regarded as a proxy for incomes of petty commodity producers. It is difficult to assess the reliability of data for "mixed income".

Source: C.S.O., Government of India, National Accounts Statistics, 1970-71 - 1978-79, Statement 53.

## APPENDIX B.1

## CONCEPTS AND DEFINITIONS, INDIA

1. Factory sector and unregistered manufacturing

In India, the registered factory sector covers those factories registered under the Factories Act of 1948, employing either 10 or more workers and using power, 20 or more workers and not using power. The coverage of this sector extends not only to manufacturing units but also to gas and water supply, electricity undertakings, and similar enterprises. The registered factory sector is divided into two groups: the census sector and the sample sector. The census sector covers factories which employ 50 or more persons and use power and those which employ 100 or more persons and do not use power. The rest of the registered factories belong to the sample sector. Data on the registered factory sector are collected by the Annual Survey of Industries.

Registered manufacturing is a subset of the registered factory sector and covers only those registered factories which are engaged in manufacturing. Unregistered manufacturing includes those factories which are not included in the registered factory sector; i.e., 'household-industries' and 'non-household industries'. The former is composed of those industrial units which are operated mainly by the members of the household,

within the household's premises. Data on the unregistered manufacturing are collected periodically by the National Sample Survey.

2. Products

The term 'product' represents the ex-factory value (that is exclusive of taxes, duties or similar levies on sales) of all finished products and by-products (consumer as well as capital goods).

3. Total output

Total output includes the ex-factory value of products (as defined above), the value of services rendered by the factory for others during the survey year, the net value of semi-finished goods, and the sale value of goods sold in the same condition as purchased.

4. Value added by manufactures

Value added by manufactures is obtained by deducting the total value of input and depreciation from the total value of output.

5. Wages

Wages include all payments made to workers in cash as compensation for work done during the year, including for example, basic wages, dearness allowance, over-time payments, shift allowance, leave wages, wages for paid holidays and regular bonuses such as production bonus,

good attendance bonus, and incentive bonus which are paid more or less regularly for each pay period.

6. Employment cost (Emoluments)

Emoluments include the salaries and wages paid during the year to all persons in the enterprise. It includes profit sharing, festival and other bonuses paid at less frequent intervals.

Source: Government of India, Central Statistical Organization, Annual Survey of Industries, 1975-76, Annex 4.

## APPENDIX B.2

## CONCEPTS AND DEFINITIONS, BANGLADESH

1. Scope and coverage of the census of manufacturing industries

All manufacturing activities including repairing and services registered as manufacturing establishments with the Chief Inspector of Factories under section 2(j) and 5(i) of the Factories Act, 1934 are covered.

Section 2(j) factories include those units which employed 20 or more workers on any day of the preceeding year and in which any part of the manufacturing activities are carried out with the aid of power.

Section 5(i) factories include those units which employed 10 or more workers on any day of the preceeding year, whether using power or not in the manufacturing process.

2. Fixed assets

Fixed assets mean all aquisitions, whether obtained from other enterprises or produced by the establishment for its own use, or physical assets which are expected to have a productive life of more than one year, both new and second hand, and including additions, alterations and improvements to existing fixed assets. Expenditure for repair and maintenance are excluded. Fixed assets thus consist of land, buildings and other construction machinery, tools and other mechanical

equipment and other fixed assets.

3. Stock

Stock refers to inventories of input materials such as, raw materials, fuel, spare parts, packing materials, and lubricants.

4. Work-in-progress

Work-in-progress refers to the value of all materials which have been partially processed by the establishment but which are not usually sold without further processing.

5. Production workers

Production workers include those who are engaged on work directly associated with production, whether paid or unpaid. It includes those engaged in manufacturing, assembling, packing, and repairing. Working supervisors and persons engaged for repair and maintenance are included.

6. Wages and salaries (employment cost)

This includes all payments, whether in cash or in kind, made by the employer in connection with work done. It includes all cash payments, bonuses, cost of living allowances and wages paid during vacation and sick leave; taxes and social insurance contribution and the like payable by the employee but deducted by the employer; and payments in kind. Lay-off payments and compensation for unemployment are included.

7. Industrial cost (value of materials consumed and cost of fuel and electricity consumed)

This refers to cost of materials and supplies that have been physically incorporated in the products and by-products, the cost of fuel and electricity used for manufacturing purposes, as well as payment for work done by others outside the enterprise and the cost of materials and supplies bought and resold without further manufacture.

8. Value of gross output (value of products net change in work-in-progress)

This represents the value of products and by-products produced by the establishment plus net change in work-in-progress plus the value of goods sold in the same condition as received plus receipts for work done for the services rendered to others plus the value of electricity sold. Products and by-products are valued at the ex-factory prices, i.e., prices of goods sold at the factory gate.

9. Non-industrial cost

Non-industrial cost includes the cost of all non-industrial services rendered by other establishments and paid for by the respondent establishments; these costs are reflected in the ex-factory price of production. It includes payments for water charges, printing and stationery, advertising, business insurance, postage, telegraph and telephone, banking, legal and accounting

services rendered to the establishment and also any amounts paid for consultative service.

10. Census value added

Census value added means the value of gross output less industrial cost.

11. Value added at factor cost

Value added at factor cost means census value added less non-industrial cost, less indirect taxes net of subsidies.

Source: Government of Bangladesh, Bureau of Statistics, 1981, Detailed Report on the Census of Manufacturing Industries for 1976-77 in Bangladesh, pp. 1-6.



## APPENDIX C

A NOTE ON THE CLASSIFICATION OF THE MANUFACTURING  
SECTORS OF INDIA AND BANGLADESH INTO  
WAGE GOODS, BASIC GOODS, AND  
NON-BASIC GOODS  
INDUSTRIES

In Chapter 3 we discussed briefly the steps that have been taken to classify the manufacturing sector into wage goods, basic goods, and non-basic industries. We provide here, an elaboration of those steps.

1. From the industries covered by this study, all enterprises which produce intermediate inputs and capital goods have been placed in the category of the basic goods industry. Only a few enterprises, producing such inputs as silk and wool have been placed within the non-basic goods industry on the ground that they are commonly used for the production of luxury consumer goods (silk and wool clothing). Given the available data, it is not possible to identify other inputs or capital goods which are ordinarily used for the production of luxury goods.
2. Consumer durables producing enterprises have been placed in the category of the non-basic industry. Two exceptions are medical and office equipment. Although these items have been classified as consumer durables in the Bulletins of Reserve Bank of India, these durables are not for personal use and there is no persuasive reason

why a factory machine and these durables should be treated differently. Accordingly, we have placed these two items in the category of the basic goods industry.

3. Ad hoc judgements were used to classify non-durable consumer goods producing enterprises into wage goods and luxury consumer goods. The latter have been categorized as belonging to the non-basic goods industry. Admittedly, this method of classification is not a "scientific" one. It is, however, far from a completely arbitrary method. For some enterprises, the classification is relatively straight forward. For example, those enterprises which produce indigenous sugar, rubber footwear, edible oils, and bidi have been placed in the category of the wage goods industry; on the other hand, those enterprises which produce such superior substitutes as sugar, footwear, vanaspati and cigarettes, respectively, have been placed in the category of the non-basic goods industry. Also, it is likely that a typical worker's average propensity to consume cotton textiles is much higher than his average propensity to consume silk and woolen textiles. Accordingly, cotton textile producing enterprises have been placed in the wage goods industry group.

Note that we could avoid this ad hoc method by adopting a different classification: 1) the non-durable consumer goods industry ; 2) the durable consumer goods

industry; and 3) the basic goods (intermediate inputs and capital goods) industry. For our purpose, however, this classification is likely to be unsatisfactory because some non-durable consumer goods (e.g., alcoholic beverages and soft drink) may not be labelled as wage goods.

Furthermore, from the list of industries under the three groups, it is evident that wage goods industries are overwhelmingly agro-based industries. Again, we could adopt the following classification: 1) the agro-based consumer goods industry; 2) the non-agro-based consumer goods industry; and 3) the basic goods industry. Not all agro-based consumer goods, however, can be labelled as wage goods (e.g., silk textiles).

4. The purpose of disaggregating the manufacturing sectors is not to provide a detailed comparative study of the three groups of industries. We are interested in examining whether significant differences exist among these groups of industries in a few critical ratios as reported in Tables 4.1, 4.2, 4.3, 4.4, 4.5, and 4.6 of Chapter 4. One notable reason for believing that differences exist among these groups of industries is that these differences were largely stable for India as well as Bangladesh during two time periods. Furthermore, these differences are largely unaffected even when there are some differences

in industrial classifications from one period to another. See, for instance, the list of industries in 1975-76 and 1967 for India.

5. Annual Surveys of Industries (Factory) in India cover not only registered manufacturing but also such activities as generation of electricity, gas and water, cold storage, and repair services. Because we are concerned with registered manufacturing, we have excluded these activities. We have also excluded some manufacturing industries either because they are minor ones or because the titles of the industries are too broad to allow classification in terms of wage goods, basic goods, and non-basic goods. For example, the industry with such a title as "Chemical products not elsewhere classified" cannot be easily categorized as either a basic goods producing enterprise or a non-basic goods producing enterprise.

## APPENDIX D.1

LIST OF WAGE GOODS, BASIC GOODS, AND NON-BASIC  
GOODS INDUSTRIES IN BANGLADESH, 1972-73

Wage Goods		
Serial	Code	Industries
1	2051	Grain milling
2	2052	Rice milling
3	2053	Flour milling
4	2091	Edible oils
5	2092	Tea
6	2096	Tea Blending
7	2311	Cotton textiles
8	2310	Handloom weaving
9	2320	Knitting hosiery
10	2412	Footwear rubber
11	2430	Wearing apparel
12	3140	Medicine
13	3160	Soap and Washing Compounds
14	3191	Matches
15	2431	Garments
Non-Basic Goods		
Serial	Code	Name
1	2020	Dairy Products
2	2030	Fruits & vegetables
3	2040	Fish & Sea foods
4	2060	Bakery Products
5	2070	Sugar
6	2080	Cocoa, chocolate
7	2098	vanspati

## APPENDIX D.1 (cont'd)

Non-Basic Goods (cont'd)		
Serial	Code	Name
8	2110	Distilling and blending of spirits
9	2140	Soft drink
10	2210	Cigarettes
11	2314	Silk & Art Silk
12	2411	Footwear except rubber
13	2611	Wood furniture
14	2612	Metal furniture
15	2920	Leather products
16	3150	Perfumes & Cosmetics
17	3330	China Pottery
18	3551	Cutlery
19	3591	Utensils
20	3670	Service & household machinery
21	3730	Electric fans
22	3740	Electric lamps
23	3972	Toys
24	3750	Communication equipment
25	3851	Cycles & Rickshaw
26	2318	Narrow fabrics
27	3594	Safes, vaults & trunks

Basic Goods		
Serial	Code	Name
1	2313	Jute textile
2	2330	Cordage ropes & twine
3	2340	Thread

## APPENDIX D.1 (cont'd)

Basic Goods (cont'd)		
Serial	Code	Name
4	2510	Saw milling
5	2521	Plywood
6	2710	Pulp paper
7	2910	Tanning & finishing
8	3114	Fertilizer
9	3119	Industrial Chemicals n.e.c.
10	3131	Paints varnish
11	3192	Disinfectants & Insecticides
12	3310	Structural clay products
13	3391	Concrete gypsum
14	3410	Iron & Steel
15	3510	Structural metal products
16	3540	Heating, lighting
17	3552	Hand & edge tools
18	3553	Hardware
19	3592	Barrels, drums
20	3593	Tin can, tin ware
21	3595	Bolts, nuts
22	3610	Agricultural machinery
23	3642	Textile machinery
24	3645	Printing machinery
25	3651	Pumps
26	3659	Industrial machinery
27	3811	Ship building
28	3812	Boat making
29	3830	Vehicle manufacturing & repairing

## APPENDIX D.1 (cont'd)

Basic Goods (cont'd)		
Serial	Code	Name
30	3982	Jute pressing
31	3991	Ice manufacturing
32	2315	Rayon
33	3113	Resin & Plastics

Excluded Industries		
Serial	Code	Industries
1	2290	Tobacco products n.e.c.
2	2317	Dyeing, bleaching & finishing of textile
3	2390	Textiles n.e.c.
4	3090	Other rubber products
5	3199	Chemical products n.e.c.
6	3322	Glass products
7	3599	Other Fab. n.e.c.
8	3690	Other machinery
9	3790	Other electric products n.e.c.
10	3922	Optical goods
11	3940	Plastic Products
12	3992	Pen, Pencil
13	3999	Other Misc. manufacturing n.e.c.
14	2720	Paper products
15	2810	Newspapers
16	2820	Books
17	3132	Polishes

n.e.c.: not elsewhere classified



## APPENDIX D.1 (cont'd)

List of wage goods, basic goods, and non-basic goods  
Industries in Bangladesh, 1976-77.

1. Wage goods: as in 1972-73

2. Non-Basic Goods: Addition to the list for 1972-73.

<u>Code</u>	<u>Industry</u>
2312	Woolen

3. Basic Goods: Addition to the list for 1972-73.

<u>Code</u>	<u>Industry</u>
3210	Petroleum refinery
3321	Glass
3340	Cement
3392	Asbestos
3630	Engines and turbines

4. Excluded Industries: Addition to the list for 1972-73.

<u>Code</u>	<u>Industry</u>
3111	Acid, alkali

## APPENDIX D.2

LIST OF WAGE GOODS, BASIC GOODS, AND NON-BASIC  
GOODS INDUSTRIES IN INDIA,  
1975-76

Serial	Wage Goods	
	Code	Industries
1	204	Grain mill products
2	207	Indigenous Sugar
3	208	Salt
4	211	Edible oils
5	212	Tea processing
6	226	Manufacturing of Bidi
7	228	Chewing tobacco
8	231	Cotton spinning, weaving, finishing in mills
9	234	Production of Khadi
10	235	Weaving and finishing of cotton textiles in handlooms
11	236	Weaving and finishing of cotton textile in power looms
12	260	Knitting mills
13	264	Textiles, garments including weaving apparel
14	301	Footwear (rubber)
15	313	Drugs and medicines
16	317	Matches
17	322	Earthen ware & pottery
18	239	Cotton textiles n.e.c.
19	266	Manufacturing of made- up textile goods

## APPENDIX D.2 (cont'd)

Serial	Non-Basic Goods	
	Code	Industries
1	200	Slaughtering, pres. of meat
2	201	manufacturing of dairy products
3	202	Canned fruit & vegetables
4	203	Canned fish
5	205	Bakery products
6	206	Sugar
7	209	Cocoa, chocolate, etc.
8	210	Hydrogenated oils, vanaspati
9	213	Coffee
10	220	Distilling, blending of spirits
11	221	Wine Industries
12	222	Malt Liquors
13	224	Soft drinks
14	240	Wool cleaning, bailing
15	241	Wool spinning, weaving etc. in mills
16	242	Wool spinning (other than mills)
17	243	Dyeing & bleaching of wool and textiles
18	244	Manufacture of wool, n.e.c.
19	245	Spinning, weaving & finishing of silk
20	246	Printing, dyeing & bleaching of silk
21	247	Spinning, weaving & finishing of other textiles, synthetic fibres
22	248	Printing, dyeing & bleaching of synthetic textiles
23	249	Silk & synthetic fibres n.e.c.

## APPENDIX D.2 (cont'd)

Non-Basic Goods (cont'd)		
Serial	Code	Name
24	262	Embroidery
25	263	Carpets, rugs
26	265	Rain coats & hats
27	267	Waterproof textiles
28	276	Wooden furniture
29	291	Footwear except rubber
30	292	Wearing apparel like coats, gloves
31	293	Leather consumer goods
32	299	Leather & fur products n.e.c.
33	314	Perfumes, cosmetics
34	323	Chinaware
35	342	Metal furniture
36	345	Metal utensils
37	355	Refrigerators, air conditioners
38	359	Sewing machines
39	363	Electrical apparatus, appliances
40	364	Radio & T.V.
41	375	Motor cycles
42	382	Watches & clocks
43	383	Jewellery
44	385	Sports goods
45	386	Musical Instruments
46	389	(Misc. manufacturing; costume jewellery, artificial flowers)
47	297	Cigars
48	376	Bicycles

## APPENDIX D.2 (cont'd)

Serial	Basic Goods	
	Code	Name
1	225	Tobacco stemming, redrying
2	230	Cotton ginning, cleaning & bailing
3	233	Cotton spinning (charkha)
4	250	Jute & Mesta Pressing
5	251	Jute & Mesta Spinning & weaving
6	252	Dyeing, printing & bleaching of Jute textiles
7	253	Spinning, weaving & finishing of hemp
8	259	Jute bags & jute textile n.e.c.
9	261	Thread, cordage, ropes etc.
10	270	Manufacturing of veneer, plywood
11	271	Sawing & plying of wood
12	272	Manufacturing of wooden containers
13	273	Manufacturing of structural wooden goods (beams, doors)
14	274	Manufacturing of wooden Industrial goods
15	275	Cork & cork products
16	280	Pulp, paper, newsprint
17	281	Containers & boxes of paper
18	290	Tanning & finishing of leather
19	300	Tyre & tube
20	304	Petroleum refineries
21	306	Coal tar in coke ovens

## APPENDIX D.2 (cont'd)

Basic Goods (cont'd)		
Serial	Code	Name
22	307	Other coal & coal tar products
23	310	Basic Industrial Chemicals
24	311	Fertilizers
25	312	Paints, varnishes etc.
26	320	Structural clay products
27	324	Cement
28	328	Asbestos cement etc.
29	329	Misc. non-mineral products
30	330	Iron & steel
31	331	Foundries for casting & forging iron & steel
32	332	Ferro alloys
33	333	Copper manufacturing
34	334	Brass manufacturing
35	335	Aluminum
36	336	Zinc manufacturing
37	339	Other non-ferrous metal industries
38	340	Fabricated metal products
39	341	Structural metal products
40	343	Hand tools & hardware
41	350	Agricultural machinery
42	351	Manufacturing of drills, cranes etc.
43	352	Prime movers
44	353	Industrial machinery for food and textiles
45	354	Industrial machinery for other industries
46	357	Machine tools
47	358	Office Computing machineries

## APPENDIX D.2 (cont'd)

Basic Goods (cont'd)		
Serial	Code	Name
48	360	Manufacturing of electrical industrial machinery
49	361	Wires & cable
50	362	Dry & wet batteries
51	365	Radiographic X-ray
52	366	Electronic Computer
53	370	Ship building
54	371	Locomotives
55	372	Railway wagons
56	373	Other railroad equipment
57	378	Bullock-carts etc.
58	380	Medical equipment
59	268	Coir & coir products
60	305	Petroleum products n.e.c.
61	356	Manufacturing & repair of non-electric machinery components
62	344	Enamelling, galvanizing
63	316	Synthetic resins, plastic, fibres
64	377	Air crafts
65	374	Motor vehicles
66	379	Transport equipment n.e.c.
67	315	Inedible oils
68	367	Electronic components

## APPENDIX D.2 (cont'd)

List of Excluded Industries		
Serial	Code	Industries
1	214	Cashew nut
2	216	Animal feeds
3	217	Starch
4	219	Food products not elsewhere classified (n.e.c.)
5	223	country liquor
6	229	tobacco products n.e.c.
7	269	Textiles n.e.c.
8	279	Manufacturing of wood & bamboo products
9	302	rubber products n.e.c.
10	303	Plastic products n.e.c.
11	318	Explosives & ammunition
12	319	Chemical products n.e.c.
13	325	Mica products
14	326	Structural stone goods
15	327	Earthen & planter statues
16	349	Metal products n.e.c.
17	369	Manufacture of electrical machinery, appliances n.e.c.
18	232	Printing, dyeing & bleaching of textiles
19	283	Paper & paper board articles n.e.c.
20	284	Printing & publishing of newspapers
21	285	Printing of books
22	286	Bank notes, currency notes
23	287	Engraving, block making
24	285	Bookbinding
25	289	Printing, publishing, n.e.c.
26	321	Glass & glass products



## APPENDIX D.2 (cont'd)

List of Wage Goods Industries India 1967		
Serial	Code	Industries
1	205	Grain mill products
2	231	Spinning, weaving & finishing of textiles
3	232	Knitting mills
4	239	Manufacturing of textiles
5	243	Wearing apparel
6	244	Made-up textile goods
7	312	Vegetable & animal oils & fats

List of Basic Goods		
Serial	Code	Industries
1	233	Rope & twine
2	259	Cork & wood
3	271	Paper
4	291	Tanneries
5	311	Industrial chemicals
6	321	Petroleum refineries
7	329	Misc. petroleum & coal products
8	331	Structural clay products
9	334	Cement
10	339	Non-metallic mineral products
11	341	Iron & steel
12	342	Basic metal
13	360	Machinery
14	381	Shipbuilding
15	382	Railroad equipment

## APPENDIX D.2 (cont'd)

List of Basic Goods (cont'd)		
Serial	Code	Industries
16	389	Transport equipment
17	391	Professional Scientific Instruments
18	350	Metal products
19	383	Motor vehicles
20	386	Air craft

List of Non-basic goods Industries		
Serial	Code	Industries
1	202	Dairy products
2	203	Canned fruits
3	204	Canned fish
4	206	Bakery
5	207	Sugar
6	208	Cocoa, chocolate
7	211	Spirits
8	213	Breweries
9	214	Soft drinks
10	241	Footwear
11	260	Furniture
12	293	Leather Products
13	333	Pottery china
14	385	Motor cycles
15	393	Watches
16	394	Jewellery
17	395	Musical instruments
18	370	Electrical appliances

## APPENDIX D.2 (cont'd)

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List of Non-basic goods Industries (cont'd)		
Serial	Code	Industries
19	220	Tobacco
20	212	Wine

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List of Excluded Industries 1967		
Serial	Code	Industries
1	209	Misc. food preparation
2	300	Rubber products
3	319	Misc. chemicals
4	384	Repair of motor vehicle
5	392	Photographic & optical goods
6	280	Printing
7	332	Glass & glass products
8	242	Repair of footwear
9	399	Misc. industries
10	511	Electricity*
11	512	Gas*

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\* These industries do not belong to manufacturing. Accordingly, for our purpose, the question of their inclusion does not arise.

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## APPENDIX E

A NOTE ON THE CONCEPT OF PETTY  
COMMODITY PRODUCTION

In this note, we elaborate the concept of petty commodity production in agriculture and in industry. By petty commodity production in industry, we refer to those unregistered industrial enterprises, e.g., household industries,<sup>1</sup> which predominantly use family labour rather than wage labour. Reliable macro-data on the composition of labour in unregistered enterprises in terms of family labour and wage labour are not available for India and Bangladesh. Accordingly, all unregistered enterprises may be taken as a proxy for petty commodity production in industry. It is, of course, possible that some unregistered enterprises operate like capitalist enterprises and are based primarily on wage labour.

In Chapter 5, we provided an operational definition of petty commodity production in agriculture in terms of land holding. Other criteria, for example, the use of family labour and hired labour or the ownership of assets other than land may be no less important. In the agricultural sector of India and Bangladesh, however, the criteria based on

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<sup>1</sup>See Appendix B.1 for the definition of the household industries.

land is likely to be a good proxy, if not a perfect one, for all other criteria. For example, we expect that small farms use family labour. The available evidence, indeed, supports this presumption.<sup>2</sup>

Even if the criterion based on land is acceptable, there are of course, other problems too. For instance, where ought one to draw the line in identifying petty commodity production? In the context of Bangladesh, we have defined petty commodity production in terms of land-holdings below 2.5 acres -- the "small farm" according to the Agricultural Census. In India, by petty commodity production, we have referred to land-holdings below 2 hectares (5 acres) -- the marginal and small farm category, according to the Census. Several points in this context need to be mentioned. First, the difference in the definition of small farms in the censuses of the two countries is understandable; in India the average size of a holding is 13 acres (1970-71), in Bangladesh, the average size is 3.5 acres (1977). Second, the above definitions based on land refer to national averages which conceal large regional variations. For example, in India a farm of 3 acres in irrigated areas may be equivalent,

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<sup>2</sup>In Bangladesh, the Agricultural Census for 1977 reports that 66% of the farms belonging to the 0 - 2.5 acres range used exclusively family labour; less than 5% of the farms used exclusively hired labour; and the rest utilized both types of labour.

in terms of income, to a farm of 7 acres in some dry areas. These regional variations over a typical 5 acre small farm, however, are likely to offset each other. Accordingly, the acreage definition provides, approximately, a correct view of the division of farms into small, medium, and large.

Third, the given definitions of petty commodity production in India and Bangladesh are to be treated as the lower limits of petty commodity production. A significant proportion of the "medium" farms is likely to slip into the "small" farm category because of fragmentation of holdings induced by population pressure. Accordingly, the upper limit of petty commodity production in Bangladesh would be set by the medium farms (2.5 acres and 7.5 acres); in India, by the semi-medium and medium (2 - 10 hectares). Note that the terms "semi-medium" and "medium" have been used by the Agricultural Census. The above points do not imply that petty commodity production is an elusive concept. To make operational any theoretical concept normally involves problems.<sup>3</sup>

Fourth, small and medium farmers are not purely economic or statistical categories. These terms have

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<sup>3</sup>Consider for example, the identification of landless labour in rural areas -- an issue apparently without definitional problems. But Land Occupancy Survey of Bangladesh, 1977 provides four definitions of landless labour and the estimation of the proportion of landless labour varies from 11% to 33%.

sociological and political dimensions too.<sup>4</sup>

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<sup>4</sup>Discussions on these issues can be found in S. Ahmed, "Peasant Classes in Pakistan"; and H. Alavi, "Peasants and Revolution". Both articles are included in K. Gough and H. Sharma, eds., Imperialism and Revolution in South Asia (New York: Monthly Review Press, 1973).