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## Panel VII Employment and social aspects of industrialization



**Background Paper**

## Industrialization in developing countries: The challenges of employment and social integration

Prepared by

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## THEMATIC SUMMARY

1. Over the past 40 years, the non-agricultural labour force in developing countries has been increasing at a rate of nearly four per cent per annum. This creates an enormous pressure to create jobs. The growth of manufacturing industry has been seen as a key part of the process of job creation outside of agriculture, not only because of its direct impact on employment, but also because of the considerable linkages between manufacturing and other sectors of the economy.

2. Up until 1975, new jobs in manufacturing were created in developing countries at a fast pace - fast enough to match the rate of growth of non-agricultural employment. In Latin America, the import substitution industrialisation (ISI) strategy succeeded in creating jobs and reducing the size of the urban informal sector. At the same time, manufacturing production was diversified through the creation of new industries, and many countries seemed capable of steadily deepening their industrial structures and moving towards the production of more complex products. Employment grew more rapidly in the intermediate goods sectors and in the machinery and equipment industries than in labour-intensive sectors such as food products, clothing and footwear. At this time, ISI seemed capable of providing both economic growth and social integration through provision of employment.

3. After the mid-1970s, however, the situation changes markedly. In Sub-Saharan Africa, South Asia and the Caribbean, rates of growth of manufactured value added (MVA) and manufacturing employment begin to fall. Manufacturing employment shows negative growth in these three regions between 1980 and 1985. The contribution of industry to GDP growth declines in Sub-Saharan Africa and Latin America. Poverty increases. In Southeast and East Asia, in contrast, MVA and employment continued to show a strong performance after 1975, with MVA growth averaging ten per cent per annum between 1975 and 1990. In Sub-Sahara Africa and Latin America, industrial and economic policies undergo a sharp change in the course of the 1980s, with an increasing emphasis on outward orientation.

4. The current perspectives for employment creation and poverty alleviation must be situated in the context of globalisation and liberalisation of trade. These trends will have markedly uneven effects on different regions of the world. In the economies making the transition from protection towards greater openness in trade, industry will restructure. Industries whose competitive advantage is based on factor conditions will tend to expand, while hi-tech industries will contract. However, some industries will upgrade in response to liberalisation, and the interest shown by Latin America and India in Japanese management techniques (Just-in-Time and Total Quality Management) is evidence of this.

Competitive pressures will lead to an upgrading of some industries which do survive, involving expansion into higher value added market niches and greater investments in the education and skills of labour and management. A clear aim of government policy must be to encourage this process of upgrading. The rapid globalisation of manufacturing production means that competitive advantages based on resource endowments can be eroded quickly, and firms, industries and countries must seek to constantly upgrade their capabilities.

5. The Asian economies have most to gain from liberalisation and globalisation. They are best placed to benefit from better access for manufactures to developed country markets. The Asian NIEs will continue their move into more advanced sectors of manufacturing, driven forward by rising wages and the competition from newly-emerging Asian competitors. This creates space for newer Southeast Asian economies and for the South Asian economies to expand production of labour-intensive exports.

6. In contrast, the African economies are expected to be put at a further disadvantage by the Uruguay Round agreement, and manufacturing in Sub-Saharan Africa is poorly placed to compete in a liberalised global economy.

7. Small and medium-sized enterprises (SMEs) have a crucial role to play not only in employment generation but also in seizing new opportunities in export markets. Support for the SME sector is often justified on the grounds of employment creation and equity. However it is being recognised increasingly that SMEs have an important role to play in export manufacturing and can be a vibrant and competitive part of manufacturing industry. They account for a large share of export earnings in the East Asian economies and some clusters of SMEs in developing countries have managed to enter export markets on a large scale. These firms will be well-placed to take advantage of the opportunities opened up by the Uruguay Round. A recent example of this phenomenon are the Rural Township Enterprises in China.

8. Industrialisation must seek both efficiency and equity, and UNIDO has long advocated industrialisation as the only route to sustained improvements in living standards. However, the 1995 World Summit for Social Development largely ignored issues relating to industrialisation. The focus of attention was largely on, on the one hand, macro policies and the functioning of markets, and, on the other, targeted interventions directed at the poor, particularly in rural areas. What role remains for industry policy in the search for poverty alleviation and social integration?

9. Industrialisation is still necessary for growth of per capita incomes. Long-term improvements in social welfare indicators require increasing per capita incomes. This link

is well established, not only on the basis of cross-section data, but also on time series data from developing countries. It is also clear that for most developing countries, increased openness to trade will involve increased trade in manufactured goods. It is not likely that per capita incomes will rise without further industrial development. A shift to more open economies by no means obviates the need for policies to promote industry. The only region for which doubts remain as to the importance of industrial growth for raising per capita incomes is Sub-Saharan Africa. Here, the weakness of the region's economies and the poor performance of manufacturing industry seems to rule out export-oriented manufacturing as a means of promoting growth.

10. Industry policy can also contribute directly to poverty alleviation and social integration through targeted policies aimed at the disadvantaged. Of particular importance are support for rural industry as a means of increasing rural non-farm employment, support for women-run enterprises and support for the SME sector. UNIDO has played an active part in promoting policies and programmes in these areas. However, these targeted policies do encounter a trade-off between efficiency and equity. The stronger and larger enterprises are the ones which respond most effectively to support, and yet these are the ones which are less deserving of support on equity grounds. Similarly, targeted interventions for the most deserving require large, integrated programmes of support, and these inevitably reduce the numbers for whom effective support can be supplied.

## INTRODUCTION

For much of the past 50 years, industrialisation has been seen as synonymous with development and the satisfaction of human needs. The rich countries were, on the whole, industrialised, and the poor were not. Agricultural employment was in decline and the people who were migrating to the towns needed productive work. The need for industry to generate employment appeared to be self-evident. By the 1950s Prebisch and Singer had developed arguments concerning the long-run tendency for the terms of trade to shift against commodities - agricultural products and minerals - and the case for industrialisation seemed incontrovertible. A shift from agriculture to industry was seen as the only basis for sustainable rises in incomes which could match income growth in developed countries. In Latin America, countries embarked on new programmes of industrial promotion behind tariff barriers to build on the local industries which had developed since the beginning of the twentieth century.

The aim of industrial policy in many developing countries was to promote the growth of local industry, using protection where required, and to deepen the industrial base by developing new industries which were more technologically sophisticated and could supply inputs to existing industries. The familiar development path of industrial production - from consumer non-durables towards the intermediate goods and consumer durables sectors and then on to capital goods - was seen as a policy objective in the more advanced developing countries. This policy was pursued on the grounds of both efficiency and equity. ISI policies were meant to provide a basis for rapid industrialisation and the creation of efficient local industries. The costs of protection were expected to be recouped in long term gains in income. At the same time, industrialisation was expected to modernise economies and create jobs. Slow growth and limited employment creation would exacerbate the problems of marginality and underemployment in the towns.

ISI policies, as they have been pursued in developing countries, have never been free from criticism, from both those who favoured more radical, sometimes non-capitalist, solutions and those who favoured more market-oriented solutions. While ISI was able to provide jobs and growth in the 1960s and the first part of the 1970s (see part one of this paper), the experience after the mid-1970s was much less impressive. A combination of both changing evaluations of the results of past policies and a distinctively new international policy environment have forced a re-think of industry policy over the past decade. The success of the more export-oriented (but not necessarily free trade) Asian economies, combined with economic crisis and adjustment in Sub-Saharan Africa and Latin America has led to profound changes in the nature of industry policy, and even a questioning of whether any type of industry promotion makes economic sense. There has been



increasing debate about whether to industrialise, how to industrialise, and the impact of industrialisation on poverty and social welfare in developing countries.

This paper examines the past experience and future prospects of industrial development in order to consider its impact on employment creation and poverty alleviation. This is done in five stages:

- Section one considers trends in manufacturing output and employment in developing countries since 1960 and considers how manufacturing has contributed to employment generation in this period.
- Section two examines the implications of current global economic changes on employment, skill and wages in manufacturing and the prospects for industrial development in different parts of the developing world.
- Section three considers the role of Small and Medium Enterprises (SMEs) in manufacturing, and the changing opportunities opened up as a result of liberalisation of trade.
- Section four considers the impact of industrialisation as it has taken place and as it is likely to take place, on poverty and social integration. It considers the issues of the impact of industrialisation on social development indicators, alternative means of generating increases in national income and the links between agriculture, industry and the service sector.
- Finally, section five examines policies for raising the quality and quantity of manufacturing employment in the next context for industrial development in the 1990s.

## 1. MANUFACTURING OUTPUT AND EMPLOYMENT

### 1.1 The Rapid Growth of Manufacturing Industry

If the aim of development is to create sustainable improvements in standards of life and promote social progress, then industrialisation has generally been seen to have an important role to play in this process. The rich countries of today were mainly the early industrialisers, and there are few rich countries which do not have a strong industrial base. Even resource-based economies, such as Canada and Finland, have diversified into downstream processing of these resources and upstream into the provision of equipment. In developing countries, industrialisation has often been seen as a particularly pressing priority because of the rapid decline of agricultural employment and the low productivity of agriculture. Industry has offered the prospect of more productive employment for those displaced from agriculture and a means of gainfully employing those seeking work in the fast-growing cities of the developing world.

While industrialisation has been a goal of many governments, concern about limited employment generation by manufacturing industry were voiced right from the early days of Import Substituting Industrialisation (ISI). In the 1960s, dependency theorists soon came to argue that in Latin America, ISI based on attracting foreign direct investment (FDI) into manufacturing industry not only increased the dependence of Latin America on the capitalist core economies but also led to use of inappropriate, capital-intensive techniques which failed to create sufficient jobs. This critique of the capital intensive bias of ISI has been echoed many times subsequently, notably in the discussions of women's supposed marginalisation from productive employment (Saffioti, 1978: 188). The failure of manufacturing to generate jobs has been linked to the phenomenon of marginality in urban areas, then later to the growth of the informal sector, and also to the supposed lack of formal sector jobs for women.<sup>2</sup>

These concerns reflect in part the urgent need for the creation of non-agricultural employment in developing countries. Over the past 35 years, the total population of developing countries (excluding China) has been growing at a rate of 2.4 per cent per annum. The economically active population of the developing countries also grew by between 2.0 and 2.4 per cent per annum between 1965 and 1990.<sup>3</sup> As employment in agriculture declines, so the need for new non-agricultural jobs increases. Table 1.1 shows the extent of job creation in non-agricultural occupations in five less developed regions of

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2 Sautu, for example, argues that in Latin America an overall shortage of jobs in manufacturing resulting from the application of labour-saving technologies forces women into low-paid employment in the informal sector (1980: 152).

3 Data from UNIDO database.

the world. Across four decades, the lowest average annual rate of growth of the non-agricultural labour force was 3.2 per cent, recorded in Southeast and East Asia in the 1960s and 1980s. Overall, the mean annual rate of growth of the non-agricultural labour force was 3.9 per cent between 1950 and 1990.

Merely keeping pace with this speed of expansion of the population seeking jobs outside of agriculture is a major task. It is perhaps surprising that in the 1960s and 1970s, the growth of manufacturing employment was able to achieve this. Table 1.2 shows that manufacturing value added in constant 1990 US dollars grew rapidly in all developing regions except China in the period 1965-70. In the 58 developing countries (excluding China) for which data are available, manufacturing value added grew by 8.8 per cent per annum in the period 1965-70 and by 9.3 per cent per annum in the period 1970-75. In these periods, growth of MVA was particularly strong in Sub-Saharan Africa, Southeast and East Asia and Latin America and the Caribbean.

It would be unusual for growth in manufacturing employment to keep pace with the growth of MVA. One of the aims of industrial development is to raise the level of labour productivity by increasing the efficiency of existing plants through better machinery and working methods and by developing new and more efficient plants and industries. Table 1.2 shows that in the developing countries as a whole over the period 1965-90 there is a 2.4 per cent gap between the rate of growth of MVA and the rate of growth of manufacturing employment. Even so, the performance of manufacturing industry was strong enough to create many new jobs and keep pace with non-agricultural employment growth as a whole in the 1960s and 1970s. In Sub-Saharan Africa and in Southeast and East Asia, employment growth in manufacturing in the period 1965-80 far exceeded the underlying growth rate of non-agricultural employment. In Latin America and the Caribbean and in South Asia, manufacturing employment grew slowly in the period 1965-70, but it picked up in the 1970s, creating jobs at a rate distinctly faster than the rate of growth of non-agricultural employment as a whole.

The period up to 1975 was the 'Golden Age' of manufacturing development in developing countries. Industry grew rapidly and created jobs. In spite of rising populations and migration to the towns, manufacturing could absorb at least part of the in-flow. While much discussion took place about urban marginality and the informal sector, the fact was that the formal sector was expanding rapidly. In Latin America, where considerable concern was expressed about the poor performance of industry and the problems of the cities, the urban formal sector was more than sufficient to absorb the growing urban economically active population. Gilbert (1994: 7) suggests that the percentage of urban workers in the informal sector was lower in 1980 than in 1950 in Argentina, Chile,

Colombia, Mexico, Peru and Venezuela. In Brazil, the informal sector share was constant, and it rose only in Ecuador and Uruguay. In other words, in spite of the all the criticisms of ISI, it was able to generate employment at a rate more than sufficient to match the growing labour force

In addition to its direct impact, industrialisation generates output and employment in other sectors. As UNIDO has stressed:

"manufacturing sectors tend to generate considerably greater output multiplier effects on the economy than any other sector, perhaps except for construction ... The reason for this is the comparatively high density of inter-industry transactions involving both forward and backward linkages within and around the manufacturing sector" (1992: 179).

It seems likely that the strong growth of MVA and manufacturing employment at this time had a much broader impact on the economy. In most developing countries manufacturing employment occupies only a small proportion of the labour force, and even the strong growth in manufacturing employment would not by itself be sufficient to reduce the size of the informal sector. However, a strong performance by the manufacturing sector also generates activity and employment in other sectors. This is achieved directly through demand for inputs into manufacturing activities - raw materials, energy, buildings, distributive services (transport and storage, whole and retail activities), producer services and communications, and indirectly through the income effects generated by all of these activities. The model of transition from a primary-production based economy to a developed economy presented by Chenery et al (1986) underlines this point. While employment in manufacturing rises to only a limited extent in the transition period, the contribution of manufacturing to growth rises considerably during the transition, irrespective of the size or degree of outward orientation of the economy (1986: 72-73). Manufacturing is central to sustained growth, even if much of its employment effect is indirect.

Quantifying the employment effect of manufacturing growth in developing countries is, unfortunately, hampered by lack of reliable data on inter-sector linkages and employment. All that can be said with certainty is that measuring direct employment in manufacturing greatly underestimates its full impact on employment in the economy, and to a greater extent than for other sectors of the economy. It is a well known that the direct employment effects of a given increase in final output are lower in manufacturing than in most other sectors. The growth of direct manufacturing employment may be low compared to the overall growth of MVA and the economy as a whole, but it generates significant indirect employment. This means that the impact of industrial growth on

employment as a whole tends to be underestimated compared to the impact of other sectors. In the early stages of industrialisation this will be mainly through linkages with agriculture, but in more developed economies, employment is generated in the formal part of the service sector - in producer services, finance and banking - where productivity and incomes are high. It is important to note that the impact of manufacturing growth on the economy is not only quantitative, but qualitative. A strongly growing and competitive industry will generate high-quality employment in the service sector and will tend to upgrade those who supply it. In the pursuit of competitiveness, industry will drive forward the development of agriculture and the service sector.

Evidence from Southeast and East Asian countries show that linkages between industry and the rest of the economy become stronger over time and are stronger in the more industrialised countries of the region (UNIDO, 1992: 167). As countries industrialise more the potential advantages from industrial growth increase. Conversely, countries which have a low level of industrial development, and in particular manufacturing industries with a high import-propensity generate less indirect employment. While this could be taken as an indication that there are benefits from the deepening of industry, so that a greater amount of intra-industry demand is satisfied within the country, it is important that this does not lead to policies which cause excessive diversification of industry and the development of non-competitive sectors.

### 1.2 The Diversification of Industry

In the course of a relatively short period of time - perhaps 30 years in Latin America and south Asia, less in Africa and Southeast and East Asia - rapid industrial growth increased employment. At the same time, the industrial structures of developing countries became more diversified, more complex, more technologically demanding and more skill-intensive. UNIDO has analysed this development in detail (UNIDO, 1990: 27-30). Some of the results are summarised in table 1.3. The main trends in industrial diversification have been:

- Across many nations, a range of food-related industries already existed by 1970. Such production had spread to even the newer and smaller states of the world by 1987. By this time, the larger economies in each continent were producing a broad range of processed food products.
- Production of clothing and footwear was also well-established by 1970 and, to a lesser extent than food, spread to other countries between 1970 and 1987.

- A similar picture applies for consumer products derived from the chemical and minerals industries - paints, tyres, lubricants, soap, etc.
- Production of metal and electrical products also expanded considerably in the 1970s and 1980s. Consumer durables production was diversified to a group of ISI countries in Latin America, North Africa and South and East Asia.
- The same countries were also prominent in the production of intermediate goods. Outside of this group, the main intermediate goods produced widely were animal feeds, raw sugar, asphalt, kerosene, cement and fertilisers.
- Production of machinery and equipment was much more limited. Only 7 countries - Brazil, the Korean Republic, Turkey, India, Colombia, Iran, Mexico and Argentina - produced more than 5 products in this category out of a list of 43 in 1970 (UNIDO, 1990: 28). The most commonly produced items were vehicles (buses, lorries and cars), railway equipment, electric motors and transformers. The number of developing countries producing machine tools and equipment for heavy industry was still very limited. By 1987, there had been a diversification and extension of machinery and equipment production. By 1987, 15 countries were producing more than five items. Machine tool production had extended, as can be seen from the examples of lathes and boring machines presented in table 1.3. A small group of countries (Brazil, Republic of Korea, Turkey, Colombia, China, Algeria, Iran and the Philippines) significantly expanded the scope of their machinery and equipment production between 1971 and 1987.

Overall, then, the scope of industrial production had widened across the developing world in the 1970s and 1980s. The technological capabilities and industrial skills of most developing countries had expanded. Even the least-developed countries seemed capable of getting started on the road to industrial development.

The diversification of industry is reflected in the changing sectoral composition of employment. Data on employment by sector is only available for a few countries. Table 1.4 presents data for 16 countries in 4 developing regions, comparing the years 1975 and 1990. The data is aggregated into three industry groups:

- ISIC sectors 31, 32 and 33 - food products, textiles, leather and wood and furniture.
- ISIC sectors 34, 35, 36 and 37 - paper and printing, chemicals, petroleum, rubber, plastics, non-metallic minerals and metals

- ISIC sector 38 - metal products, non-electrical machinery, electrical machinery and transport equipment.

Sectors 31-33 are the generally labour-intensive industries developed in a wide range of countries. Sectors 33-37 are mainly the intermediate goods industries, while sector 38 includes mainly the more advanced discrete-products industries.

In the period 1975-90 there has been shift away from the labour-intensive industries - food, textiles, leather and furniture - which are for most countries the starting point for industrialisation. Overall, employment growth in these sectors has been relatively slow, as can be seen in Figure 1.1, and their share of employment has declined in every country except Sri Lanka, Kenya and Mauritius (table 1.4). In the cases of Sri Lanka and Mauritius, the increased share of employment in these sectors is the result of an export promotion policy based on export processing zones and the growth of the clothing industry. In Mauritius, clothing and apparel had replaced sugar as the most important export crop by 1990, and was employing the great majority of the workers in manufacturing industry.<sup>4</sup> While the traditional, labour-intensive industries have been declining in importance, employment in the machinery and equipment industries has been growing rapidly, particularly in the more advanced developing countries. In 1975, just one of the 16 countries listed in table 1.4, Singapore, had more than one-quarter of its labour force employed in sector 38. By 1990, this number had increased to seven, with the addition of India, Hong Kong, the Republic of Korea, Malaysia, Mexico and South Africa. This expansion represents two distinct processes. On the one hand, it reflects the growth of the electrical and electronics industries. The location of the labour-intensive stages of production in these industries has led to a sharp rise in employment in sector 38. On the other hand, this rise also reflects the process of industrial deepening, and the growth of the non-electrical machinery and transport equipment sectors in the more advanced developing countries.

Within the context of this general trend, there are important regional differences. In the rapidly-developing economies of Southeast and East Asia, the employment share of labour-intensive sectors fell sharply, from 56.3 per cent in 1975 to 44.9 per cent in 1990. Most of the movement was towards sector 38, in which employment in the five countries listed increased by over 200 per cent, or approximately 8 per cent per year. In Latin America, the labour-intensive industries also declined in importance, but in this case employment shifted more towards the intermediate goods industries than to sector 38. This reflects the resource base of the Latin American countries, their import substitutions

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<sup>4</sup> The EPZs in Mauritius accounted for 96 per cent of all manufactured exports in 1990, having initially concentrated on clothing, but in the 1980s more advanced industries also located there (UNCTAD, 1995b: 23-28).

strategies and, possibly, the capital-intensive nature of the industries developed in sector 38. In South Asia, for which data is only available for two countries, contrasting patterns are discernible. India continued to diversify its industrial base, shifting from labour-intensive production towards machinery and equipment, while Sri Lanka intensified its dependence on the labour-intensive industries. Finally, in Sub-Saharan Africa, employment in the labour-intensive industries continued to be important. Employment in these industries fell only marginally in three countries and rose in two. Similarly, the share of employment in sector 38 fell in three of the five countries, which may represent a reversal of industrial deepening.

### 1.3 1975-1990, Divergent Trends in Manufacturing Growth

The data presented so far present a generally optimistic picture of the progress of industrialisation in developing countries in the 1960s and early 1970s. Value added and employment grew quickly in most regions of the world. Employment growth more than matched the rate of increase of the non-agricultural labour force. Industrial production diversified and new sectors were developed. This optimistic picture changed in the mid-1970s. The first and second oil crises, the recession in the industrialised economies and then later the debt crisis and financial instability took a heavy toll on developing countries, undermining economic progress, casting doubts on the efficacy of ISI and producing marked regional variations in manufacturing performance.

The signs of change were already evident by the period 1975-80. Table 1.2 shows that the rate of growth of MVA was lower in the period 1975-80 than in the period 1970-75 in Sub-Saharan Africa, South Asia and Latin America. The rate of growth of employment in manufacturing remained high between 1975-80, but at the expense of stagnating labour productivity. Manufacturing employment rose faster than MVA in the three regions mentioned above.<sup>5</sup> The only region to show really strong MVA and employment growth in the period 1975-80 was Southeast and East Asia. The situation worsened in the period 1980-85, when MVA growth declined precipitously in Africa and remained well below the rate seen in the period 1965-75 in Latin America. In Sub-Saharan Africa, South Asia and Latin America manufacturing employment fell between 1980 and 1985.

Data on growth in MVA for 33 more industrialised countries in the five regions, shown in table 1.5, detail the problem. In 8 of the 12 more industrialised Sub-Saharan African countries, MVA growth was lower in the second half of the 1970s than in the first half, and in the first half of the 1980s MVA declined in this group of countries as a whole.

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<sup>5</sup> These trends in labour productivity in manufacturing were apparent in the economy as a whole. GDP per worker declined between 1980 and 1990 in Latin America and Sub-Saharan Africa (World Bank, 1995b: 13).



Similarly, in 8 of 9 Latin American countries MVA growth fell back in the latter part of the 1970s. The only Latin American countries not to show further declines in MVA growth in the period 1980-85 were Argentina, Chile and Uruguay, which had all seen negative MVA growth in the period 1975-1980. In contrast, MVA growth accelerated in Southeast and East Asia in the latter part of the 1970s, and with the exception of the Philippines and Thailand, MVA growth remained above 10 per cent per annum in the period. While there was some slackening of this rapid pace of development in the early 1980s, by the latter half of the 1980s, most of the Southeast and East Asian economies were growing at over ten per cent per annum (table 1.5). In spite of rapidly increasing productivity, manufacturing employment was growing at over 4 per cent per annum (table 1.2).

The overall shift in the dynamism of manufacturing industry is shown in Figure 1.2. This plots the contribution of industry to GDP growth in the period 1970 to 1992.<sup>6</sup> The data are calculated as five-year moving averages, from 1970-74 to 1988-92. In Sub-Saharan Africa, the contribution of industry to GDP fell from over 2 per cent to close to zero for much of the 1980s, recovering slightly at the end of the decade. In Latin America, industry's contribution to GDP fell from an average of 2.5 per cent per annum in the early 1970s to about zero in the early 1980s. A temporary improvement in the mid-1980s was not sustained up to the end of the decade. In South Asia, industry's contribution has been much less volatile than in Latin America, and much more modest, rising from under 1 per cent to nearly 2 per cent in the 1980s. Finally, in Asia and the Pacific, the contribution of industry to GDP growth rose consistently from 2.5 per cent in the late 1970s (no data are available for the first half of the decade) to nearly 4 per cent in the latter part of the 1980s.

Clearly, in the period 1975-1990, the Southeast and East Asian economies were more able to withstand the turbulence in the world economy. In part this was the result of their export orientation. As Fritsch and Franco observe (1994: 90), the capacity of the Korean Republic and Brazil to respond to the shock of the 1982 financial crisis were quite different. Korea's open economy (exports/GDP 38%) could generate extra resources to cope with debt repayments with a much smaller overall adjustment in trade than could Brazil's closed economy (exports/GDP, 7%). However, there is increasing recognition that the turbulent state of the world economy has exposed underlying weaknesses in industrialisation strategies in Latin America and Africa. The evaluations of these weaknesses vary in the severity of their criticisms:

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<sup>6</sup> This figure is calculated simply by multiplying the share of the sector in GDP by its rate of growth. For example, 10 per cent growth in a sector accounting for 20 per cent of GDP would raise GDP by 2 per cent, which is its contribution to GDP growth.

- UNIDO has reflected this reappraisal with recognition of the misguided nature of some industrialisation programmes (UNIDO, 1995, SS: 16-17):

"In the past, there has been some disenchantment with the actual results produced by industrial development in developing countries in terms of resource generation and impact on social development. This scepticism has arisen not because of any basic flaw in the logical nexus between increased industrial activity and increased prosperity but due to ill-conceived and uneconomic investments, low productivity, bad management and large-scale "white elephant" public projects. The ability of industries in developing countries to generate resources depends, without doubt, on how effective investment projects are and how efficiently the industries are operated. To redress these costly mistakes, a well-conceived industrial development strategy would need to be tailor-made to the circumstances of each country, emphasising comparative advantage, interlinking industry with agriculture and services, widening the entrepreneurial base by promoting the small and medium sectors, and incorporating the informal sector and women into the main stream of industrialisation efforts. Public policies towards industry need to direct, induce and promote an industrial development pattern that will stimulate growth and build up a capacity for technological innovation" (UNIDO, 1995b: 16-17).

In this view, the underlying strategy of development has been satisfactory, but the application has been poor.

- A more severe criticism refers to the inefficiencies arising from protection. These arise from both distortions of policy induced by rent-seeking behaviour and by the economic inefficiencies arising from a policy of industry protection. In this view, the potential long-term gains from dynamic efficiencies are either unrealised or not sufficient to offset the costs. One means of countering these problems is to combine a policy of export-oriented industrialisation in well-established industries in order to enforce competitive disciplines with support for infant industry to offset failures in product and factor markets. A recent ILO study, citing the case of Southeast Asia, supports this policy of selective intervention to support industrialisation and argues against rapid liberalisation (ILO, 1995: 77). It is unclear, however, whether pursuit of this strategy requires political and social conditions not easily replicable elsewhere in the world.
- Finally, a fundamental critique of ISI stresses its bias against exports and agriculture, its underutilisation of labour and the tendency towards exhaustion of the potential for

growth. This critique was perhaps first developed extensively by Little, Scitovsky and Scott (1970), and it has gained in influence in the 1980s. The World Bank has recently stated this position tersely: "Policies in a wide range of countries that emphasised import-substituting industrialisation eventually proved bad for industrial employment, agricultural growth and overall economic performance (World Bank, 1995a: 31).

The use of the term "eventually" in the preceding quote is a recognition that for quite a long period ISI was able to generate growth and employment, probably to a greater extent than its many critics from Left and Right were prepared to admit at the time or later.<sup>7</sup> However, the difficulties experienced by ISI economies over the last 20 years, the success of the Southeast and East Asian economies, combined with the pressures of structural adjustment in Africa and macroeconomic instability and adjustment in Latin America, have led to a radical re-thinking of industry policy within the context of a globalising economy.

These reflections also lead to a reappraisal of the diversification noted in section 1.2. One of the goals of ISI was to develop new sectors, moving from labour-intensive consumer non-durables towards the more technologically advanced consumer durables, intermediate and capital goods sectors, as outlined in table 1.4. This progression tends to obscure: (i) the need to establish competitive production at all stages, (ii) the opportunities for upgrading production within each sector or sub-sector, by improving both product and process technology (better quality T-shirts, or more efficient means of producing steel), and (iii) the importance of continual improvement of all processes as a means of gaining competitiveness. In other words, the importance of technological mastery and intra-sectoral improvement was played down and the development of new sectors over-played.

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7 See Schmitz (1984: 2-6) for an interesting comparison of the critiques of ISI from the neo-liberal and dependency perspectives.

## 2. EMPLOYMENT IMPLICATIONS OF GLOBAL CHANGES

In part one, trends in manufacturing value added and employment up to 1990 have been described, but an understanding of future trends has to be located in the context of global trends in economic development. A rapidly changing world economy means that the past is not necessarily a good guide to the future, and the impact of global changes is highly uneven on different regions of the world. Understanding these changes is important if the employment generation and poverty alleviation effects of the future growth of manufacturing industry are to be assessed. The most important recent trends in the world economy for manufacturing in developing countries are:

- **globalisation.** This has two aspects which are important for manufacturing industry. The first is the increasing openness of economies, as indicated by the ratio of trade to GDP. The World Bank estimates that exports as a percentage of GDP in developing countries has risen from 25 per cent in 1970 to 45 per cent in 1990. However, this process has been uneven. Figure 2.1 presents calculations for the exports/GDP relation for 27 countries in Sub-Saharan Africa, South Asia, Southeast and East Asia and Latin America at five-year intervals from 1960 to 1990.<sup>8</sup> The rise for all four regions taken together is from 15 per cent to 28 per cent, but most of this is accounted for by the performance of the East Asian economies, which would be even more marked if Taiwan Province were included. In contrast, the ratio of exports to GDP has fallen in Sub-Saharan Africa, remained roughly flat in South Asia and only started to increase modestly in Latin America since 1975. The second distinctive feature of the world economy in the past 25 years has been the increasing exports orientation of manufacturing industry, in both developed and developing countries. Manufactured exports have been rising as a proportional of all exports, and exports of manufactures have been rising more rapidly than manufactured value added in all regions of the world except Sub-Saharan Africa, as can be seen in table 2.1.
- **liberalisation of trade.** Liberalisation means the scrapping of non-tariff and tariff barriers on imports, particularly manufactured imports, and the abandonment of protectionist support for ISI. This has taken place in Africa as part of structural adjustment programmes, in Latin America as a result of responses to debt and inflation crises, and in South Asia, with recent economic reforms in India being a notable example. Radical shifts in industry policy have resulted from trade policy changes. Trade liberalisation has often been accompanied by a move away from pro-active

<sup>8</sup> The countries included in the 4 regions are those listed in table 1.5, except for Venezuela, Ethiopia, Tanzania, Zimbabwe, Taiwan and China, for which data on exports of non-financial goods and services and GDP are not available in the World Bank Stars database. The figures are calculated in constant 1987 dollars.

industry policies, a process seen most markedly in countries such as Chile, which has largely eschewed sectoral policies. A similar process has been seen in Brazil, more by default than conscious policy. Brazil has been unable to develop an effective industrial promotion policy in the context of trade liberalisation. It is much easier to abolish tariffs - which can be done at a stroke - than to institute new industry policies adequate to an open economy. It is worth noting that in East Asia, there has been a considerable variation in industry policies, ranging from the highly interventionist Republic of Korea to the laissez-faire policies pursued in Hong Kong.

- the likely impact of the Uruguay round. Liberalisation of world trade has been given a further impulse by the Uruguay Round. This is expected to increase trade and have a positive impact on most developing regions, with the exception of Sub-Saharan Africa (see below). However, some of the provisions of the agreement will limit the immediate impact on tariff and non-tariff barriers. In particular, much of the reform of the Multi-Fibre Agreement (MFA) is scheduled to come into force at the end of a 10-year transition period, and there is still discrimination against some labour-intensive imports to developed countries. According to Stevens:

"Provisional analysis of the UR [Uruguay Round] shows the share of DC [developed country] imports of industrial goods from LDCs entering duty free doubling (from 22 per cent to 45 per cent). But some manufactures of particular interest to LDCs still face relative discrimination. The four product groups with the smallest changes in duty-free treatment are fish and fish products, textiles and clothing, transport equipment and leather and footwear" (1994: 3).

The eventual phasing out of both the Multi-Fibre Agreement and the special status granted poorer countries under GSP and Lomé Convention arrangements will have a complex impact on developing countries.

- changes in market structures in developed economies may mean that the quality thresholds for successful export from developing to developed economies may rise. Even if product characteristics for basic products do not change, exporters will face increasing demands for frequent deliveries, consistent standards and quality of packaging.

These trends will have a highly uneven impact on the different regions of the developing world.

## 2.1 The Uruguay Round and World Poverty

A recent study by UNCTAD (1995) has identified the following likely impact on poverty of the Uruguay Round by region. Using the model of the long-term impact of the Uruguay Round on world poverty developed in Harrison (1995), it is predicted that world poverty will be reduced by 15.8 million people, or 1.4 per cent of the world's poor. This reduction in poverty is unevenly distributed across the world because the various regions of the developing world face different changes in opportunities and are very differently placed to take advantage of liberalisation of trade in manufactures.

The main beneficiaries of the Uruguay Round are likely to be the economies of Asia. The Harrison calculations show a long-term increase of GDP - 12.9 per cent for Malaysia, 16.5 per cent for Thailand and 7.1 per cent for the Philippines. Much smaller gains (2.5 - 3.1 per cent) are evident for the Republic of Korea, Indonesia, South Asia as a whole and Brazil. Most worrying, however, is the prediction of the Harrison model that the long-run impact of the Uruguay Round on Sub-Saharan Africa will be to reduce GDP by 0.9 per cent in the long-term. A similar pattern appears for changes in real wages arising from the Uruguay Round. The 1995 World Development Report cites a study predicting that the largest rises in real wages resulting from the Uruguay Round will be in the Asean countries and China, followed some way behind by the South Asia and the Newly Industrialising Economies of Asia. Real wages in Latin America will hardly rise, and there will be no rise at all in real wages in Sub-Saharan Africa (World Bank, 1995b: 57).

These regional differences in GDP growth and wage growth will have a corresponding impact on the reduction of poverty. While the numbers in poverty will be reduced by 5.8 million in India, 5.5 million in East Asia and 1.8 million in the rest of South Asia, 1.6 million in China and 1.2 million in Latin America, the long-term effect of the Uruguay Round will be to marginally increase the incidence of poverty in Sub-Saharan Africa - by 269,000. Clearly, these estimates have to be taken with caution. Other models have come out with different predictions. However, the same general trend is evident. Trade liberalisation is likely to have a negative impact on Sub-Saharan Africa.

## 2.2 Regional Trends in Manufacturing

It was seen in part I that trends in industrial development have become increasingly divergent since the mid-1970s, and the prospects for future development are extremely diverse. The remainder of this section will discuss likely scenarios for employment growth and skill for three groups of countries: the economies emerging from ISI strategies (particularly Brazil and India), the economies of Southeast and East Asia, and Sub-Saharan Africa.

### 2.2.1 Economies in Transition from ISI

Liberalisation of economies which have diversified their industries behind trade barriers is likely to lead to the decline of some sectors, although some skill-intensive and capital-intensive sectors of industry may be strong enough to survive. A number of Latin American economies fall into this category. Tariff barriers were brought down in the course of the 1980s (IDB, 1992: 248), and further measures have been taken in the 1990s. India, too, is liberalising an economy whose industry was built up behind protective barriers. In the latter case, Nambiar and Taddas (1994) have argued that liberalisation of trade between 1978 and 1990 has had the effect of shifting production to resource-based industries. Using a 60-sector input-output transactions table, they chart the impact of the growth of domestic demand and changes in trade on different sectors of the economy. They argue that increasing imports have undermined hi-tech industries and that increasing exports have been concentrated in the resource-based industries. In the period under consideration, the trade effects have been swamped by the domestic demand effects, but the more radical liberalisation policies adopted in the 1990s could have a more profound effect.

Some shifts in industry structure seem inevitable. Two different patterns are likely to emerge. First, in the case of industries which are unsustainable in a liberalised economy, there will be wholesale restructuring. The case of the production of micro- and mini-computers and their peripherals in Brazil is a case in point. This was built up under a system of a reserved market for certain products, and it showed impressive employment growth and efficiency improvements (Schmitz and Hewitt, 1992). A skill base in computers was built up largely by the private sector in a short space of time. However, these impressive improvements in performance could not bridge the gap to an equally rapidly improving world industry.<sup>9</sup> With a shift in policy away from market reservation, the industry has restructured rapidly, moving to greater reliance on imports. Similarly, problems are being experienced by the capital goods industries of Brazil and India. Wogart, Mehta and Mehta (1993: 27-28) note that in both countries policy focused on the development of endogenous technological capability at the expense of competitiveness, while in East Asia, an export orientation forced companies to reach international standards of competitiveness. While ISI is meant to protect industries so that they can "learn by doing" and obtain economies of scale, all too often learning is restricted because access to the most demanding consumers and markets is cut off, and economies of scale are either not achievable in the local market or a proliferation of local firms leads to small-

<sup>9</sup> The problems of the electronics industry then affected other sectors. Wogart, Mehta and Mehta argue that the machine tool industry in Brazil was hampered by the high price of electronics. Although the domestic price of electronic components halved in five years in the late 1980s, the world market price also fell by half in the same period, and the price gap remained, making Brazilian CNCs expensive.

scale production. Second, in industries which are viable, liberalisation and increased competitiveness is likely to lead to a narrowing of the range of production and a focusing by firms on their areas of core competence. One of the distinctive features of ISI economies is that larger manufacturing enterprises tend to be vertically integrated to a greater extent than in developed countries and to be excessively diversified for their size. In relatively small and uncompetitive domestic markets, firms gain sales by diversifying their product range. In an open economy, this strategy becomes less viable. Local firms with highly diversified production start to compete with much larger firms with more tightly-focused product lines. In the longer term, the limited investment capabilities of local firms will force them to specialise.

There are also substantial positive benefits arising from trade liberalisation, particularly when it is sequenced correctly and is combined with support for industrial restructuring. In some cases it has forced companies to consider competitive standards in the broader world economy and upgrade performance (Fleury and Humphrey, 1993). In others it has freed companies for the shackles of uncompetitive sources of local supply, enabling them to purchase raw materials and equipment at nearer to world standards of price and quality.

#### **Box 2.1: Restructuring to Meet Competition: a Brazilian Case Study**

Firm X has a plant producing synthetic fibre. Prior to the trade liberalisation undertaken in 1990, it produced a profit for the company, selling its product in the internal market for \$4 per kilo. The world market prices, FOB, was about \$1.80. The trade liberalisation programme adopted by the Brazilian government in 1990 made imports at \$1.80 a real threat in the medium term. The company had no strategic interest in the plant and was not willing to invest in it, but the plant's management received permission to experiment with new working systems in an attempt to make the new plant viable.

The plant's management compressed the managerial hierarchy and devolved responsibility onto workers formed into teams. Every aspect of the plant's operation was reviewed. Workers were given training in problem-solving. Within three years, the plant was able to run profitably with a selling price of \$2.10 per kilo. Once freight and insurance was taken into account, this was close enough to the world market price to maintain the plant's hold on the domestic market. Liberalisation had freed up creativity and dramatically improved the plant's performance. At the same time, labour productivity had doubled and internal demand for the product had been stagnant. As a result, half the labour force (including managers) lost their jobs.

Source: Interviews with management by the author.



Similarly, liberalisation does not necessarily lead to de-skilling of labour forces. While it is true that certain industries employing relatively high numbers of skilled workers and technical staff, such as computers and machine tools, may face difficulties, there are other processes at work in industry. Exposure to new competitive standards is forcing firms to upgrade their production facilities and invest in human capital. The adoption of so-called "Japanese" production techniques is now evident in a wide range of developing countries (Humphrey, 1995). Such techniques are spreading rapidly in Latin America, and Just-in-time and Total Quality Management are now being used by firms in India which are looking to defend or expand their activities in a liberalising economy. These new techniques are associated with higher educational standards for labour and investments in training. This training is often extended to the whole labour force, and production workers become more involved in work relating to the quality and routine maintenance. As leading firms adopt these techniques, they also seek improved quality and reliability from their suppliers, which leads to further upgrading of capabilities. Within particular sectors of industry, work becomes more skilled, and this offsets some of the skill impact of inter-sectoral shifts.

Having said this, trade liberalisation may lead to job losses in those industries which restructure in order to meet international competition. Labour productivity will rise quickly in these industries - in some cases spectacularly. In Latin America, these rises in productivity have often taken place while the domestic economy has shown little growth. This forces firms to cut back on labour as productivity is increased (see Box 2.1 for an example taken from Brazil). Continuing macroeconomic problems have created instability in many countries in the region. While inflation has been brought under control in most countries, this has been at the expense of policies which have led to appreciation of the real exchange rate, undermined the competitiveness of manufacturing and led to reliance on inflows of volatile external funds. The macroeconomic consequences of this policy have been seen most spectacularly in Mexico, but industry in Argentina has suffered from the consequences of stabilisation, and industry in Brazil has restructured in the context first of recession (1990-93) and then exchange rate appreciation (1994-95). Given that the productivity and quality gap between domestic and international best practice production remains wide, exports are unlikely to increase rapidly even if exchange rate appreciation is contained. As a result, improving productivity leads to job losses. Large-scale industry may create few jobs in these countries for some time to come.

In India, these problems are less pressing, but there is no doubt that industry is very severely over-staffed, and increased competitive pressures will lead to calls for reforms in labour legislation aimed at increasing functional flexibility of labour and relaxing restrictions on lay-offs. At the same time, India is better-placed than Latin America to

take advantage of new opportunities in the manufacture of labour-intensive products. China and India together are the main potential beneficiaries from the eventual scrapping of the MFA by 2005, and the enormous success of the cotton textile industry in Tirunelveli, in South India (Swaminathan and Jeyaranjan, 1994), shows the potential for export-led development in this field.

### 2.2.2 Southeast and East Asia

The industrialising economies of this region (see table 1.5) have already fared well in the last 25 years. GDP growth has been rapid and manufacturing industry has grown strongly. They are likely to continue their rapid progress, but with a need to upgrade production and move away from the labour-intensive and low value-added products which were the starting point of industrial growth. This requirement arises from the success of industrialisation itself in both raising wages and in creating trade surpluses which lead to pressures for currency revaluation. The extent of rises in real wages in manufacturing in the Republic of Korea, Singapore and Taiwan between 1975 and 1990 is documented in table 2.2. In the late 1980s and early 1990s these rises were compounded by significant appreciation of the currencies of these countries against the US dollar. These two shifts force industry to move away from labour-intensive production. In some cases this involves FDI in countries which have cheap labour. The extensive investments of firms from Hong Kong and Taiwan in Southern China is a case in point (Chen, 1994). Similarly, firms located in Singapore have been investing heavily in Malaysia and parts of Indonesia. In the case of Hong Kong, the shift of manufacturing to China has been so strong that manufacturing employment in Hong Kong itself fell by 20 per cent in the 1980s.

The consequence of this is that new opportunities arise for the emerging Asian countries to move into the areas vacated by the more developed countries of the region, and there is every sign that they are able to do this. An example of this process is seen in the production of women's synthetic blouses.<sup>10</sup> There are three stages to this process, of diminishing technological complexity: production of synthetic fibre, production of synthetic fabric, and production of the blouses themselves. Between 1978 and 1987, Korea began to emerge as an exporter of fibre, alongside the leading Asian exporter, Japan. In the same period, Korea and China became significant exporters of fabric, while Japan declined in importance. Finally, the least complicated part of the production chain, making the blouses themselves shifted from Hong Kong towards China, Indonesia, Sri Lanka and Malaysia.

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<sup>10</sup> All the information for this example is taken from Appelbaum, Smith and Christerson (1994: 195-201)

The Southeast and East Asian economies are also well placed to benefit from the considerable inflows of FDI coming from the developed countries (Gundlach and Nunnenkamp, 1995). While the immediate advantage of these countries lies in cheap labour, it seems likely that wage rates will rise over time, and these countries will also be able to develop industries with higher value-added. Malaysia has already gone some way down this path, and Indonesia and Thailand are following. The considerable investment in human resources undertaken by the countries of the region provide a strong basis from which to start this process. If the countries in the third tier of the region (behind Japan and the NIFs) fail to take this path, they will encounter the challenge of the late-comers to export-oriented development in the region, such as Vietnam and, above all, China, as well as competition from South Asian countries. Even in the markets for labour-intensive products, pressure for upgrading will result from new entrants into existing product markets, and this puts an onus on enterprises, sectors and countries to invest in human resources, both labour and management, as a means of maintaining and developing competitiveness.

### 2.2.3 Sub-Saharan Africa

The African economies face particular problems with respect to industrial development in a liberalised world economy.

- much of large-scale African industry has been developed under ISI policies. This type of industry will have great difficulty in competing in liberalised markets. A recent UNIDO study concluded:

"Import substitution industrialisation strategies have failed to provide the basis for structural diversification and self sustained economic development. The structure of GDP has not changed significantly over the last decade. The manufacturing sector still accounts for less than 10 per cent of the region's GDP. The absence of domestic linkages and the persistence of dual economies is reflected in the large gap between the subsistence sector and the industrial enclave dependent on imported capital, equipment and skills. Large manufacturing enterprises were often established as public corporations under heavy protection against outside competition. Technology was employed in a form of 'turnkey' factories with a limited scope for employment creation and training' (UNIDO, 1995a: 6).

- under the Uruguay Round agreement, African countries will lose their privileged access under MFN and ACP arrangements.
- the import penetration in manufactured goods is likely to rise in Africa:

"Liberalization exposed local industries to competition with imported goods. All in all, observers argue that the overall impact of the Stabilisation and Structural Adjustment Project has been a process of de-industrialisation. In general, the implication of these economic reforms for the manufacturing sector differ between those industries which continue to be heavily import-dependent and those which could develop local sources of supply. Industries such as beverages, food, textile and clothing apparel have registered improved performance. However, growth of the manufacturing sector is constrained by a number of factors such as inadequacy of basic infrastructure, weak consumer demand resulting from the erosion of purchasing power and high interest rates" (UNIDO, 1995a: 29).

- participation in increasingly competitive export markets will require managerial and labour skills which are scarce in Africa. The global shift towards a "buyer's market" in which competition is increasingly fierce, favours enterprises which are well organised and which can compete on a broad range of competitive criteria - not only cost but also consistency of product, product features, speed of response, adaptability to specific customer requirements, etc. The new competitive strategies are human resource intensive, and many African countries lack a strong managerial and worker skill base.

Africa's problem remains that it is poorly placed in even the labour-intensive industries. There is virtually no export of footwear in Sub-Saharan Africa, and this region also produces a tiny fraction (less than one per cent) of the world's clothing and textiles. The region's share of production in these two sectors only increased marginally in the period 1984-1993 (Gundlach and Nunnenkamp, 1995: 26-27). The abolition of the MFA is much more likely to benefit the economies of South Asia, and Southeast Asia than Sub-Saharan Africa. The one country to enter into export of clothing on a significant scale in the course of the 1980s has been Mauritius, for which apparel and clothing now account for over half of all exports. These are produced in the country's Export Processing Zone (UNIDO, 1995a: 59). Even this trade may be undermined by the eventual phasing out of the MFA. If African countries wish to enter this area of export production, they have a narrow window of opportunity while the MFA is phased out.

### 3. SMALL AND MEDIUM-SIZED ENTERPRISES AND EXPORT MANUFACTURING

When considering the impact of industrial development on employment and social integration, particular attention has to be given to the role of SMEs. Particular emphasis has been given in development policy in recent years to support for SMEs and their role in employment creation. In this section, the potential for SMEs to play a role in export of manufactures is considered in the context of the trends in the world economy outlined in the previous section. Attention is focused on new developments in the SME field, particularly the recognition of the advantages accruing to SMEs from clustering.

For a long time it was generally held that SMEs were a declining part of manufacturing industry, and an inefficient one too. The continuing importance of the small-scale sector was seen as one indicator of underdevelopment. If the SME sector was to be supported, the grounds were more social than economic. Support for micro enterprises, in particular, has been supported on the grounds of employment creation and poverty alleviation, not economic efficiency.

The obverse of this view was the idea that large-scale industry provided the future for developing countries. A recent report by UNCTAD summed up the expectations of this view and its failure:

"The economy policy of many developing countries has long been based on the belief that rapid development could best be achieved by emulating what were perceived to be the industrial structures of developed countries, i.e. structures based on capital-intensive large-scale industries. By the mid-1970s, however, this strategy was increasingly questioned as a result of the poor performance of these industries and the protection awarded to them. Large enterprises in both the private and public sectors, which operated in a protected environment, often proved to be inefficient. In addition, the employment objectives vested in them were rarely achieved. This was largely due to their economies of scale and the government policies that encouraged capital-intensive patterns at production. For these reasons, it is now widely recognised that the large-scale sector will, in principle, be unable to generate sufficient employment for the expanding labour force in developing countries. In this context, the small-scale sector is being viewed as a means to mitigate the employment crisis and to promote more equitable distribution of income" (UNCTAD, 1994: 7).

If this analysis of the failure of the large-scale sector were correct - and it seems to generalise excessively the problems of this sector in Africa and Latin America - then

SMEs would need to do more than just create jobs. Indeed, to stress the role of SMEs in mitigating the employment crisis and promote a more equitable income distribution would seem to emphasise their social role unduly and neglect the need for a broad-based dynamism in manufacturing industry. In fact, there is ample evidence of the potential productive role of SMEs and their export capabilities.

It is well known that SMEs can participate indirectly in exporting through sub-contracting relations with large firms. Levy (1994: 11-15) describes some of the subcontracting arrangements seen in East Asia. In this paper, however, attention will be focused on two less well-known routes to export participation for SMEs: clusters of firms, and Township and Village Enterprises in China.

### 3.1 The Export Potential of Clusters of SMEs

The recent revival of interest in the potential for SMEs has been stimulated by two developments. The first is the success in the 1970s and 1980s of industrial districts in Italy and the codification of this experience into a model of capitalist development, "flexible specialisation", by Piore and Sabel (1984). The analysis of the Italian experience identified clusters of SMEs as possessing competitive advantages compared to large, mass production enterprises. They could achieve economies of scale and scope and great flexibility through inter-firm cooperation and divisions of labour. Far from being backward, they were dynamic and innovative. In the case of shoes, for example, the Italian SMEs increased the volume and unit value of their production, becoming the world's second largest exporter of footwear, at a time when the rest of Europe's shoe industry was in decline (Rabellotti, 1995). The success of SME clusters covered "traditional" products such as shoes, leather goods, furniture and textiles - but through a focus on higher value-added market niches - and also the machinery and equipment industries which supplied the traditional sectors.

The success of the Italian clusters and the "flexible specialisation" model based upon it have attracted increasing attention from both analysts of SME development (Schmitz 1989), and policy makers and practitioners in developing countries who are orienting policies towards promoting cooperation between firms and developing networks of SMEs (Humphrey and Schmitz, 1995).

The second key factor in the revival of interest in SMEs is their clear success in export manufacturing in an number of developing countries. According to a recent analysis:

"In the Republic of Korea and Taiwan, Province of China, their shares [of SMEs in total export earnings] amount to 4 per cent and 56 per cent. In China, they

account for more than 50 per cent. For the developing countries of East Asia as a whole, it is estimated that SME exports account for about 40 per cent of their total export earnings, twice the OECD rate for SMEs" (UNCTAD, 1995b: 6).

The contribution of SMEs to exports can take various forms. In some cases, exports are indirect, through SME subcontracting to larger firms. In other cases, SMEs export directly, straight to overseas markets, or to associated firms or through intermediaries. Data from the sample of SMEs in Korea (table 3.1) show that SMEs have been increasing their direct exports markedly, not just in a traditional sector, such as woven textiles, but also in more advanced sectors such as auto parts, electronics parts and metal-cutting equipment. In Taiwan, there is ample evidence of the important role played by SMEs in manufacturing. Industry is much less concentrated in Taiwan Province than in the Republic of Korea, with the largest 10 companies accounting for only 14.3 per cent of GDP in 1987 in the former, compared to 63.5 per cent in the latter. In 15 out of 20 sectors of manufacturing, average firm size in Taiwan Province is below 50 workers (Lam and Clark, 1994: 414-415). Enterprises with under 300 workers accounted for 65 per cent of all exports in the period 1978-85 (Lam and Clark, 1994: 416).

The export activities of SMEs have also shown startling success in other countries of the developing world, above all when firms are located in clusters. According to Schmitz (1995), when firms in the same sector cluster together they obtain the advantages of collective efficiency. These include, on the one hand, unplanned external economies arising from the agglomeration of firms in one location, such as the easy availability of raw materials, labour and second-hand machinery, and the growth of specialised service firms. An additional external economy very relevant to exporting is also the attraction of buyers, export agents and other forms of intermediary, which reduces transactions costs for both sides. The second form of advantage Schmitz calls "consciously pursued joint action" (1995: 536), and this includes the activities of producer associations and cooperation between individual firms. This can be important not only for specialisation and the development of economies of scale and scope, but also for conscious collaboration in the field of export promotion, such as mounting or visiting trade fairs and the development of local customs (dry ports etc.) and transport facilities.

A recent review of the cluster literature can be found in Nadvi and Schmitz (1994). Among the strongly export-oriented clusters which have been analysed in the literature are:

- The Tiruppur cotton textile cluster. This consists of a dense network of firms in the Southern Indian town of Tiruppur. Cawthorne (1995: 44) estimates that there were 1500 small-scale enterprises in the town with a workforce of 40,000 in 1985. Three-

quarters of all SSIs in the town in 1980 were in the textile industry (1995: 46). Since the mid-1980s, the town has greatly developed its export activities. In 1986, exports from Tiruppur amounted to Rp. 375 million. By 1993, they had reached Rp. 11,975 million, which is approximately equivalent to US \$400 million. There are large firms in Tiruppur, but these link up to smaller ones, establishing networks of firms which can help meet orders quickly (Swaminathan and Jeyaranjan, 1994: 5).

- The clothing industry in Bangladesh. Production and export of ready-made garments in Bangladesh is concentrated around the cities of Dhaka and Chittagong. International subcontractors place orders on behalf of overseas retailers and wholesalers with SMEs who carry out cutting and making up. Exports increased from US \$7 million in 1981/82 to US \$1.24 billion in 1992/93 (World Bank, 1995c: 77). In this case, the potential for upgrading and diversification of production may be much more limited than in Tiruppur, because the subcontractors and overseas buyers take responsibility for design, finance, raw materials and marketing. In Tiruppur, more is done locally, and this may give the cluster a better long-term future.
- The surgical instruments industry in Sialkot. A large cluster of firms in Sialkot in Pakistan control an important share of the world market for surgical instruments, together with firms in Germany. 80 per cent of output is exported and export revenues have been rising at 10 per cent per annum. An extensive division of labour exists within the cluster, between large and small firms and between the producers of final products and the many specialised workshops which carry out special processes. The cluster has been able to improve quality in an industry where health and safety concerns are paramount (Nadvi, 1995).
- The furniture industry in Chile. This is an industry where SMEs have successfully developed export markets and made rapid progress in improving quality and process technology to meet the requirements of developed country consumers. For more details, see Box 3.1

The interest in clusters of SMEs in Europe has focused on their potential for high-wage, high productivity, innovation-based production. It has been argued - for the case of advanced countries - that industrial clusters face two contrasting growth paths: (i) the 'high road', characteristic of the successful industrial districts in Europe and synonymous with innovation, high quality, functional flexibility and good working conditions, and (ii) the 'low road' based on competing on the basis of low prices, cheap materials, numerical labour flexibility and cheap labour (Sengenberger and Pyke, 1991). The two roads are seen as mutually exclusive and contradictory in the European literature - because the low road is seen as undermining the high road through disloyal competition.



Schmitz (1989) has suggested that the large labour surplus existing in many developing countries would induce competition based on low wages rather than innovation and quality improvements. However, the review by Nadvi and Schmitz (1994) suggests that this dichotomy does not capture what has occurred in LDC clusters. While some clusters were clearly 'low road', others seemed to show signs of innovation and upgrading capability, even if the wages paid to workers often did not rise. Sometimes clusters were segmented, with more and less innovative firms existing side-by-side, but serving different markets (Cawthorne 1995). What seems to be important, however, is that some cluster clearly have the capability of responding to the demands of export buyers (either retailers from developed countries or intermediaries) and upgrading their production. Schmitz (1995) provides a very clear example of this in the case of the shoe industry in the Sinos Valley in Southern Brazil. In response to the challenge posed by Chinese producers in the US market to the position of cheap Brazilian men's leather shoes, the Brazilian producers have been restructuring and moving into higher quality market segments in order to escape the Chinese competition.

Once gain, however, the prospects for Sub-Saharan Africa are less clear. The few clusters in the region which have been research show less dynamism than that seen in South Asia (India and Pakistan, in particular), Southeast and East Asia and Latin America. This may be because they are still at an early stage of development and have yet to fully develop specialisation and inter-firm cooperation. Structural adjustment, too, has taken its toll. For example, Dawson (1992: 38) notes that economic restructuring in Ghana has led to "cut-throat competition" among firms and an increasing number of firms going out of business. Similarly, a study of the potential for small firm clusters producing African-design garments for the United States market has shown that problems have arisen when African firms have been unable to meet either the volume or the delivery requirements of the major customers (UNCTAD, 1995b: 17-18). Clearly, a lot of support work will be necessary if African clusters are to acquire vitality.

### 3.2 Township and Village Enterprises in China

Not all SMEs are in clusters, and while clustering is one route to improving SME efficiency, it is not the only one. Sub-contracting has been mentioned as one other established route, and the study by Lam and Clark (1994) of SME export success in Taiwan emphasises sub-contracting networks and inter-firm linkages, but neither geographical concentration nor support from the local state, both of which have received considerable emphasis in the clustering literature. Similarly, Hillebrand points to the export competitiveness of medium-sized Korean firms, which is based on a "relatively dense network of private and public institutions (1993: 104) rather than clustering. The

experience of the township and village enterprises (TVEs) in China points to the role that can be played by SMEs in rural development and export activities.

In 1994, there were 18 million TVEs in China, compared to just 1.3 million 11 years earlier. Over one hundred million people are employed in these enterprises. In 1992, there were 84,750 export-oriented TVEs (UNCTAD, 1995b: 28-29). In the garments industry, arts and crafts, silk and chemical industries, TVEs account for more than half of China's exports, and they clearly form a dynamic part of manufacturing system of China.

It is clear that much of the potential for SME export growth in developing countries lies in the production of labour-intensive products. Taiwan Province and the Republic of Korea are perhaps exceptions to this rule, but in many other countries, SME exports will concentrate on garments, knitwear, shoes, leather goods, furniture, handicrafts, etc. Trade in these products has been restricted in the past. In the past, labour-intensive items have generally received less favourable treatment than other products, being subject to higher MFN tariff rates (UNCTAD, 1994: 21-22). The Uruguay Round should remove some of these restrictions on trade, and SMEs in developing countries should secure freer access to developed country markets. However, it should be borne in mind that most of the phasing out of the MFA will only take place in the last year of the transition period, 2004, and insofar as African countries currently enjoy preferential treatment, particularly to Europe under the ACP rules, they will be disadvantaged by the equalisation of treatment

### **Box 3.1: Co-operation in the Chilean Woodworking Industry**

Supported by macro policies of export promotion after 1983 and specific export promotion activities undertaken by bodies such as ProChile and ASEXMA (the export manufacturers association), SMEs in the wood products sector began to try and export in the mid-1980s. At first, they were totally unprepared for the challenges they faced and made basic mistakes:

'the "new exporters" had neither enough export know-how (transport, marketing, international quality standards, protectionism) nor sufficient manufacturing competence (knowledge of technology and the organization of work, management strategies, an adequately trained work force)' (Messner 1993, 41).

Firms tried to offer too broad a range of products, failed to guarantee quality, and did not appreciate the importance of reliable delivery. Exporting was a shock to these firms. They thought that their products were good enough for export markets until they tried to sell them (Messner 1993). Such mistakes are common when firms enter export markets. What is notable, however, is how these problems were rapidly overcome.

ASIMAD, the association of small and medium enterprises provided assistance with learning about markets. It organised trade missions linked to international trade fairs and visits to overseas factories producing both furniture and machinery. It also established links with a number of higher education institutes to create technical and design courses and to promote entrepreneurship, and has invited leading authorities on the sector from overseas to speak to its members. At the end of 1993, ASIMAD was preparing to sign a large contract with a leading Italian consultancy firm for training, standardisation and certification in an effort to achieve the international quality standard, ISO 9000 (see section 4 on total quality management). The Association sees itself as seeking to emulate the experience of the Italian furniture industry, improving its design, manufacturing capability and skills in order to increase its competitiveness in export markets. In other words, the entry to export markets pinpointed deficiencies and provided the impulse to try and overcome them.

The development of new inter-firm linkages has been a slower development. The leading firms have begun to develop links with other firms and local institutions, and the growth of joint action in marketing is leading to more exchanges of information about design and technical problems. The size of export orders (much larger than those in the internal market) also tends to promote specialisation and cooperation (horizontal and vertical). In this way, new relationships are being constructed, but outside agencies, such as the Fundación Chile have a role to play in establishing such them.

A sector which had been almost entirely oriented to the domestic market was able to move into export markets and create the mechanisms needed to make this move a success. In the course of the second half of the 1980s, exports of non-traditional forestry products - veneers, packaging materials - grew rapidly. In the case of smaller manufacturers of wood products (furniture, processed construction materials, boards, laminates etc.), exports increased substantially from 1985 to 1992 (Messner 1993). Co-operation, promoted partly by the State and partly by sectoral associations, played an important role in this success. A long history of community or State action was not required to achieve this - only a desire to capture export markets and a framework of support centred on private sector institutions.

#### **4. INDUSTRIALISATION, POVERTY ALLEVIATION AND SOCIAL INTEGRATION**

UNIDO has consistently made the case for associating industrial development with both economic and social progress. It has argued that industrialisation is historically a central part of the process of economic development and that the more developed economies are more industrialised. In the words of the Director General's presentation to the UN Social Summit in Copenhagen, "Industrialised is still today synonymous with 'developed'."

At the Social Summit in Copenhagen industry was not the direct focus of many of the discussions on poverty alleviation and social integration. On the one hand, an emphasis was placed on economic growth as essential for long-term improvement in social conditions. The need for properly functioning national and international markets was given particular emphasis here. On the other hand, consideration of programmes specifically targeted at the poor tended to focus on the informal sector, guarantees of employment stability and improving access to resources for the poorest sectors of the population were given a lot of emphasis.

In spite of the relatively limited direct consideration of the theme of industrialisation at the World Summit for Social Development, it is an important implicit topic. If the two main economic themes of the Summit can be summarised succinctly as (i) increasing incomes and (ii) providing targeted interventions directed towards the poorest, then promoting industry has an important role in both. Firstly, industrial growth clearly has a role to play in economic growth. The most rapidly growing developing nations are those which are industrialising rapidly as well, and selling an increasing amount of their industrial production in developing countries. In section 4.1 the relationship between industrial development and social development will be examined. This requires an intermediate variable, GDP growth, to be considered. The relationship between these variables will be studied in section 4.1. Second, the Social Summit gave particular attention to the situation of women, who are disproportionately represented among the poor. The impact of industrialisation on the position of women, will be considered in section 4.2. The question of women will be taken up again in section 4.3, which is addressed to the potential for industry policy in the area of focused anti-poverty policies. The Declaration and Programme of Action endorsed by the Copenhagen Summit (United Nations, 1995) emphasised the importance of agro-processing and rural non-farm production in the provision of sustainable employment for the poor. These policies, together with policies for promoting entrepreneurship and small enterprises, will be considered in section 4.3.

#### 4.1 Manufacturing, Per Capita GDP and Social Indicators

UNIDO has consistently made a case for associating industrial development with economic and social progress. Historically, industrialisation has been the key to economic growth. The richer countries are more industrialised than the poor. As important, the developing countries which have recently shown most rapid growth in per capita incomes have largely been those which have not only industrialised rapidly, but, in most cases, pursued conscious policies aimed at industrial development. A number of the rapidly growing Southeast and East Asian countries (Korean Republic, Malaysia, Taiwan Province, Indonesia, Singapore etc.) have not left industrial development to the dictates of the free market, even if they have often been anxious to impose market disciplines on companies through trade policies with a net outward bias. In spite of this, doubts are still expressed in some quarters. There are three ways in which the apparently obvious link between industrialisation and development might be questioned:

- Industrialisation might widen social inequalities if the wrong type of industrialisation policies are adopted. ISI policies have often been involved a bias against agriculture, which probably increased income inequalities. More generally, ISI has been associated with the promotion industries which are either capital-intensive or heavily-reliant on imports (or both), which limit their direct employment generation effects and reduce their indirect stimulus to the economy as a whole.
- Industrialisation is one path to development, but is it the only path? In spite of the results presented by Chenery et al. (1986), which point to the centrality of industrialisation in the transition from primary-based economies to developed economies, it is sometimes suggested that manufacturing need not or should not be the focus of policies to induce growth. First, the growth of the service economy in developed countries and the difficulties facing manufacturing in Africa and Latin America (see section one), have put the spotlight on services in developing countries, with tourism being one obvious tradable service with enormous employment potential. The potential for locating computer-based activities such as software development and data processing in developing countries is also mentioned frequently in the media. Second, in countries whose economies are still based predominantly on primary products, is there a danger of promoting manufacturing at the expense of ensuring efficiency in those areas which provide a much greater contribution to GDP and exports?
- The disparities in income inequalities and social development between countries with the same level of per capita GDP illustrate clearly that poverty alleviation and social progress are not the inevitable outcome of economic growth. The construction of the

Human Development Index (HDI), for example, highlights the differences in GNP ranking and HDI rankings (UNDP, 1994: 94-95). The same level of income can be associated with widely differing outcomes in human development. Life expectancy, adult literacy and infant mortality can differ markedly between countries at the same level of GDP (UNDP, 1994: 15).

Notwithstanding these reservations, a robust case can be made for viewing manufacturing growth as an important part of the process of improvement in social indicators and alleviating poverty in developing countries.

#### **4.1.1 GDP Per Capita and Social Indicators**

It has long been established that there is a strong relation between levels of GDP per capita and indicators of social welfare such as infant mortality, life expectancy and literacy. A study by UNIDO (1990: 21-25) provided extensive evidence of this relation:

a) **infant mortality rates** - fall sharply as per capita incomes rise up to about 2000 US dollars (1980, constant dollars), continuing to fall more slowly as incomes rise further.

b) **life expectancy** - rises sharply as per capita incomes increase from low levels of income up to about 2000 US dollars per capita income, continuing to rise slowly beyond this point.

c) **daily calorie intake** - rises sharply as per capita incomes rise towards the 2000 US dollar level.

d) **percentage of the population below the poverty line** - falls as per capita incomes rise towards 2000 US dollars.

e) **adult illiteracy rate** - falls sharply from around 70 per cent in the poorest countries to under 20 per cent when per capita income rises above 1500 US dollars, flattening out after this point.

f) **primary school enrolment ratios** - rise steeply up to \$1000 US dollars and then flatten out.

g) **secondary school enrolment ratios** - rise steeply up to a per capita income of 2500 US dollars and continue rising more slowly up to 7000 dollars.

The presentation of such figures does not in any way deny that policy choices can have a big impact on these indicators. Social indicators are strongly affected by policy provision and also by the degree of income inequality in a country. However, there is evidence that

countries which grow more rapidly also achieve greater improvements in their social indicators. It was noted above that infant mortality rates vary markedly between countries at roughly the same level of income. However, it can be shown that the degree of decline in infant mortality is related to the rate of growth of GDP per capita. Countries which have grown more quickly have reduced infant mortality to a greater extent than countries which have experienced less rapid growth. A calculation of changes in infant mortality rates over the period 1970-1990 is presented in table 4.1. For the world as a whole there is a significantly larger fall in infant mortality in those countries in which GDP per capita increased by more than one per cent per annum than in those countries where GDP per capita growth was lower. The higher growth countries halved their infant mortality, the lower growth countries reduced it by only one third. This relationship also holds in the poorer countries, those with a GDP per capita of less than 2500 dollars, as can be seen in the table. Infant mortality fell by an average of 41 per cent in the faster growing countries, and by 32 per cent in the slow-growth countries in the period 1970-1990. The extent to which these figures indicate a causal relationship is unclear, however. The faster-growing countries may be in regions where underlying structural factors or social policies have led to the greater improvements in infant mortality. When the relationship between per capita income growth and infant mortality reductions is analysed at the regional level, the relationship is less strong. As can be seen in the table, in both Sub-Saharan Africa and Latin America there are differences in the level of reduction in infant mortality according to GDP per capita growth, although these are lower than for all countries. In Sub-Saharan Africa, the difference between the lower and higher-growth countries is statistically significant, but the rate of improvement in the higher-growth group is markedly less than in low-income countries as a whole. In Latin America the difference between the two groups of countries is not statistically significant.<sup>11</sup> In the latter case, the small number of countries and the small size of the difference in falls in infant mortality prevent any conclusions being drawn.

Finally, while it is true that certain rapid-industrialisers such as Brazil, have shown lamentable levels of improvement in social development indicators, there is abundant evidence that rapid industrialisation can be associated with dramatic improvements in social development. The East Asian NIEs are the most obvious example. They grew rapidly on the basis of an export-oriented manufacturing policy and, at the same time, showed above-average improvements in social indicators (Arndt, 1987: 7-12). Improvements in social indicators appear to be linked closely to income distribution, and

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<sup>11</sup> Results have not been calculated for South Asia and South-east and East Asia. Data is only available for three countries in South Asia, while in South-east and East Asia, no country for which data is available grew slowly in the period under consideration

rapid industrialisation did not lead to a concentration of income in these countries. On the contrary, employment creation on a large scale raised the incomes of the poor.

#### **4.1.2 GDP and Manufacturing Growth**

If there is a case to be made for growth in per capita GDP having a strong influence on improvements in the quality of life, the next logical question concerns the role of manufacturing in GDP growth. Is it possible to pursue growth of GDP without growth in manufacturing? A second, different question can also be posed. Should the pursuit of GDP growth involve active policy interventions to promote industry?

It is well known that economic development is strongly associated with the decline of employment in agriculture. In low-income economies, a large part of the labour force is employed in agriculture, while in developed economies only a small part is so employed. In low-income economies, 44 per cent of the working age population is employed in agriculture. For middle-income countries, this figure falls to 18 per cent, and for the high-income countries to just 3 per cent (World Bank, 1995a: 10). Similarly, as GDP per worker rises, the share of the working population employed in waged work in industry and services rises steadily (World Bank, 1995: 20).

In the long-term, then, as countries develop, people will move out of agriculture and into industry and services. For most countries, in this period manufacturing output will rise as a proportion of GNP. Chenery et al., having studied growth and industrial development in many countries conclude that "a period in which the share of manufacturing rises substantially is a virtually universal feature of the structural transformation" (1986: 350). As economies grow, so final and intermediate demand for industrial products, at least part of which will be supplied internally, rises rapidly. Scenarios in which rapid expansion of mineral exports or the development of export-oriented service industries (finance and tourism) are considered by Chenery et al. to be unrealistic.

While globalisation might increase the extent to which demand for manufactures can be satisfied from abroad, it is clear that for most developing regions of the world globalisation will involve greater exports of manufactures. This is seen clearly in the scenarios for growth contained in the 1995 World Development Report (World Bank, 1995a). The Report constructed an "optimistic scenario" for development prospects over the 15 years up to the year 2010. While in the developed countries, the Report's analysis points to a shift of labour towards hi-tech goods and services, the scenarios for developing regions emphasise the production of goods rather than services over the next 15 years:



"workers in the industry market economies continue to move out of medium-skill products and into high technology goods and services: the Asian newly industrialising economies and the former centrally planned economies master the production of medium-skill products and start moving into high-technology goods; Latin America and the Middle East extend their lead in mining and agriculture and start moving into the production of technologically more demanding goods; China and India become steadily larger exporters of labour-intensive products; and Sub-Saharan Africa regains its advantages in natural resources and becomes a large exporter of agricultural products" (World Bank, 1995a: 119).

In the World Bank's optimistic scenario for world development to the year 2010, the only region of the developing world which is not expected to increase its output of manufacturing goods is Sub-Saharan Africa. In the rest of the developing world, those in which the overwhelming majority of population reside, the World Bank scenario foresees an expansion of production of goods, even if other sectors of the economy also expand.

The World Bank's "optimistic scenario" is very much in line with the model of trade specialisation developed by Wood (1994a, 1994b). Wood's model provides a simple but powerful explanation of trade patterns. The balance of a country's exports (between primary products and manufactures) is explained largely by its relative endowments of human and natural resources - measured by Wood in terms of average years of schooling and land per worker respectively (Wood, 1994b: 20-23). In the case of the East Asian NIEs, which have highly educated populations and poor endowments of natural resources, it makes sense to develop manufacturing. Once the process begins, it develops a virtuous dynamic of its own. Manufactured output, employment and exports rise. This, in turn, is associated with rising real wages. These rising wages provide the motivation for upgrading of manufacturing capabilities, and the means are provided by further investments in human capital and in science and technology development (private and public). Even if such development has, in some Asian countries, involved an active role for the State (White, 1988; Wade, 1990), such policies are pushing the economy in the right direction. The indications are that the ASEAN countries are following in the same direction, developing capabilities in the labour-intensive industries which were the backbone of early industrialisation in the NIEs. In Latin America, the combination of natural resources and relatively well-educated labour forces will provide a comparative advantage in process primary products, and this is seen in the sectoral balance of employment in industry (table 1.4). Similarly, there is no doubt that manufacturing will have an important role to play in promoting growth and generating employment in China and South Asia. In the case of South Asia, and in particular in India, strong human resource endowments in the population working in manufacturing means that

manufacturing employment growth will not be restricted solely to labour-intensive products, even in a rapidly opening economy.

Given the centrality of manufacturing to economic growth, it is not surprising that MVA growth is strongly associated with GDP growth. An illustration of this relations is presented in Figure 4.1, which shows growth of MVA and GDP for 25 more industrialised countries in Sub-Saharan Africa, South Asia, Southeast and East Asia and Latin America for two period, 1970-80 and 1980-90.<sup>12</sup> The strong relation between GDP growth and MVA growth appears to survive into the period 1980-90. Among the few countries for which the relation clearly does not hold are Tanzania and Cameroon, both of which are indicated in the figure. The relation between manufacturing performance and growth of GDP per capita can also be illustrated by a regression of per capita GDP on the growth of MVA and manufacturing exports for the period 1970-90. Based on 63 countries in five developing regions (those specified in table 1.5), this shows that half the variance in per capita GDP growth in the period is explained by two variables - MVA growth and growth of manufactured exports.<sup>13</sup> Such a result is hardly surprising. It is clear that once economies begin to industrialise rapidly, they are able to raise MVA, GDP per capita and manufactured exports.

In Sub-Saharan Africa, however, the relationship between economic growth and industrialisation appears to be weaker. At first sight, the statistical evidence appears to suggest a strong relationship between growth of GDP per capita and MVA growth in Sub-Saharan Africa. A regression of GDP per capita growth with MVA for the period 1970-90 shows that in a sample of 45 countries in Sub-Saharan Africa, just one variable, the growth MVA from 1970 to 1990 explains half of the variation in per capita GDP growth over the same period ( $R^2 = 0.50$ ). For 11 more industrialised countries in the region (see table 1.5), the  $R^2$  rises to 0.67, and adding in one further variable, the proportion of manufactured exports in MVA in 1970, raises the  $R^2$  to 0.82. However, this strong relation weakens considerably for the period 1980-90. For the 45 African countries, the  $R^2$  falls to 0.17 in the later period. The decline in the contribution of industry to GDP growth in the 1980s is clearly shown in figure 1.2. One explanation of this changing relation is simply that in protected economies, income growth is bound to create demand for manufactured goods, and these will be satisfied by an expansion of manufacturing output. Even where there is no protection, some industries are likely grow up to satisfy local demand in those cases where they are competitive with imports. In Latin America in the period up to 1930, local industries developed in this way.

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12 GDP and MVA figures are in constant 1987 US \$. The 25 countries are those listed in table 1.5, except for 9 countries for which data was not available..

13 The regression analysis for the 63 countries produced an  $R^2 = .50$

Agricultural and mining expansion drove the economies forward, and industry followed behind, supply a rapidly increasing demand for manufactured products.<sup>14</sup> Structural adjustment and liberalisation may have broken the relationship.

In the final analysis, the role of manufacturing growth in generating GDP growth cannot be resolved by statistics such as those presented above. The issue concerns long-term growth dynamics and the interrelation between the different sectors of the economy. The World Bank's scenario for Africa looks to agriculture to provide the stimulus to growth. A service sector could clearly develop to some extent on the basis of a vibrant agricultural sector. Many of the service activities linked to manufacturing mentioned in part 1 would also be needed for agricultural development - transport, communications, banking and finance, import-export houses etc. As countries move into the production of more specialised agriculture - such as export horticulture - the producer services required will develop in sophistication. In Zimbabwe, for example, the export horticulture has emerged in just a few years and become the country's second largest export sector, after tobacco. This puts a premium on good packaging, handling and freight services (Muzamani, 1995: 263-64).

Is it possible, then, to foresee a continent with agriculture and services providing the motors for growth and relatively little manufacturing (only that which develops or remains without State support)? In this case, the Sub-Saharan African countries would sell agricultural products in order to gain access to the manufactured goods which every country's population needs for its well-being. Only those manufactured items which could be produced more cheaply locally would be made locally. Industrial promotion's role in poverty alleviation might be limited to ensuring that non-tradeable manufactures (bulky items, or items which a highly localised market - building materials, locally-processed foods etc.) were produced efficiently and available to the poor at reasonable prices.

Some of the difficulties facing African manufacturing have been alluded to in parts 2 and 3 of this paper. Endowments of human resources are relatively low and likely to rise slowly. Not only are educational endowments low, but other less tangible human resource endowments such as entrepreneurial and manufacturing experience are in short supply. Sub-Saharan Africa has only a short history of industrial development and indigenous entrepreneurship. The question remains as to whether the above scenario for non-manufacturing growth will lock Sub-Saharan Africa into a low-growth trajectory. Even Wood, whose analysis underpins part of the 1995 World Development Report, recognises that poor countries may specialise in the production of good requiring low-

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<sup>14</sup> In some cases, tariffs on imported products were levied for revenue purposes, but in a number of countries political opinion was strongly against a pro-industry policy.

skill, and this may then reinforce long-term poverty by reducing incentives for increased education and skill acquisition.

Similar considerations, albeit of a more well-established type, are at the heart of the discussion of trade and industrialisation in Africa contained in the 1993/94 Global Report (UNIDO 1993: 81-120). This stresses in particular, (i) the dangers of export instability associated with primary products, and the low elasticities of demand for primary goods, which will lead to slow growth in the long run (the terms of trade moved sharply against African countries in the 1980s), and (ii) the reduced linkages of agriculture with the service sector, and therefore the limited size of the service sector which agriculture can support. The Global Report goes on to argue that African industry is not capable of competing of world markets at the present time. Whereas the World Bank would see this as good reason for not encouraging manufacturing development, the analysis in the 1993/94 Global Report uses points (i) and (ii) above as justification for the need for protection in order to build up local capacities, arguing that this was the strategy used by the East Asian countries to build up new industries in the past. Whatever industry policies are pursued in Africa, they will not resemble the ISI policies of the past. They are more likely to be focused on activities in which efficient local processing of primary products (such as leather and food products) and resource-based industries can be built up in a relatively short period of time.

#### 4.2 Manufacturing, economic growth and gender inequalities

One of the major issues for programmes of poverty alleviation and social integration is gender differences. Women are a disproportionate part of the poor, and the aims of social integration and poverty alleviation require a gender focus. The relation between gender inequalities and development, particularly industrial development, has been of concern for a long time. Boserup's pioneering study of women in economic development (1990) associated industrialisation with the replacement of female handicraft production by male factory production. Similarly, studies of women in Latin America (Saffioti, 1978; Sautu, 1980) have associated ISI and the development of more sophisticated industries with the marginalisation of women from formal sector employment.

More recent studies have also put into question the relation between economic/industrial development and improvements in women's position in society. To take just three examples:

- A study by Colclough (1995) on female disadvantage in the education system in Africa shows that the gender gap in female enrolments in primary schools is not affected by the level of GDP per capita. Data from 55 countries showed that the extent of female

disadvantage is related to such factors as the proportion of the total population of school age, repetition rates and the proportion of teachers who are female, but not per capita incomes.

- A study by Chant (1994) of local labour markets for poor women in three cities in Mexico shows that women in a town where manufacturing is important have fewer job opportunities than in a town dominated by tourism. This has important consequences for household formation.
- The wage gap in manufacturing between men and women seems to bear little relation to the level of speed of manufacturing development. Data for eight Asian-Pacific countries show no relation between level of development and gender differences in wages, nor any consistent tendency for these differentials to narrow over time (ESCAP, 1994: 39<sup>15</sup>).

One simple way of assessing the impact of development on women is to use the Women's Status Index (WSI) developed by IFAD (1993a; 1993b). This index has to use indicators for which data is widely available in developing countries, and therefore it is inevitably a very imperfect measure of women's status in society. It is constructed from data on the following:

- maternal mortality rates
- the percentage of women using contraceptives
- the female adult literacy rate
- female primary enrolment
- female secondary enrolment
- the male/female wage ratio
- the female labour force participation rate.

This index is constructed to have a value between 0 and 1, with higher values indicating higher status (IFAD, 1993a: 84-86).

The WSI for the late 1980s has been charted against GDP per capita in 1990 for 21 countries in Latin America and 24 countries in Sub-Saharan Africa in Figure 4.2. This shows a clear association between the two variables. While there are some countries which depart from the norm (three of which are identified in the figure) the results are consistent for both continents.

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15 Similarly, data on earnings differentials in manufacturing presented by Standing (1989: 1086) also show little relation between level of development and earnings difference, nor any clear trends across countries over time.

It is much less clear what is the cause of this improvement. In part, the relationship could reflect urbanisation, which in turn is associated with better education for women, better medical services etc. One might expect an increase in wage labour to improve women's status, as this would lead to independent access to resources. However, the link to the employment structure is not immediately apparent. Data for 16 countries in Latin America and 7 countries in Sub-Saharan Africa on the prevalence of manufacturing wage labour and the WSI are charted in Figure 4.3. There is no discernible relationship between the two variables. Similarly, in the case of 19 countries in Sub-Saharan Africa there is no apparent relationship between the WSI and the percentage of the female labour force working in agriculture, as can be seen in Figure 4.4. This shows that while women's status appears to be improved by per capita income growth, the link with particular types of employment structure is more difficult to establish.

### 4.3 Industrial Policy and Poverty Alleviation

Industrial policy can be constructed at different levels. It can be concerned with the broad context of national development and defined by trade policy, technology policy, sectoral priorities etc. Much of industry policy in the 1960s and 1970s was focused on these questions, and they remain legitimate concerns. Insofar as industry policy was successful and created productive jobs, then it certainly contributed to poverty alleviation. However, as States retreat in the face of the greater emphasis now being placed on markets, industry policy is turning to more specific targets. There is now a greater emphasis on what might be termed industrial policy and industrial promotion at the micro level. Much of this policy is driven directly by priorities of employment creation, regional development and poverty alleviation. With this shift in policy has come a growing recognition that the impact of industry policy on poverty reduction varies significantly with the type of industrialisation strategies and policies pursued.

This paper cannot do justice to the great variety and importance of poverty-focused industry policies, but it is important to consider some of the elements of this policy. Attention will be restricted to two areas which often overlap in practice: support for rural industry and support for SMEs. Particular attention will be given to UNIDO's work in these areas.

#### **4.3.1 Support for Rural Industry**

It is being increasingly recognised that off-farm activities play an important role in sustaining rural livelihoods and that this role is likely to increase. A study by IFAD of poverty in Africa reached the following conclusion about rural off-farm employment:

"Given the fact that a large proportion of the rural poor in Africa have inadequate productive assets and live in fragile ecological conditions, which limit farming potential, off-farm income-generating activities are essential to help them improve their lives and earn enough money to meet their subsistence and other basic needs. In many countries in Sub-Saharan Africa, rural non-farm enterprises account for a sizeable and increasing share of GDP. In Ghana and Sierra Leone, for example, they account for more than one-third of value added in manufacturing. Recent studies conclude that rural non-farm employment in Africa has grown more rapidly than employment in agriculture" (IFAD, 1993: 28).

Similarly, it is estimated that in India between 1977 and 1987 agricultural employment grew at a rate of 0.7 per cent per annum, compared to a growth in rural non-farm employment of 5.4 per cent per annum (Study Group, 1995: 1). Of course, a lot of this off-farm activity is not in manufacturing, as can be seen in table 4.2, which presents data on the importance of off-farm employment for 11 countries. While off-farm employment as a whole may occupy a substantial proportion of the rural labour force, the share of rural employment accounted for by manufacturing employment in the 10 countries for which data is available comes to just 6.8 per cent. Nevertheless, this figure is likely to grow, and rural manufacturing, particularly agro-processing, can provide not only direct benefits to those engaged in it, but also benefits to farmers.

The development of rural, small-scale manufacturing enterprises can provide employment, help families supplement farm incomes, provide work at times when farm incomes are low and provide low-cost products for local consumers (UNIDO, n.d.: 28). In the lower-income developing countries the larger part of manufacturing employment is in rural areas, as can be seen in table 4.3. A recent study in India in 8 States of India found potential for considerable expansion of the rural non-farm sector in activities such as "oilseed processing, herbal products and phytochemicals, fruit and vegetable processing, meat and fish processing, stone quarrying and polishing, ceramics, cementware and construction material, structural metal products, repairs, agro-services, rural tourism and business services" (Study Group, 1995: 5). However, support to this sector is often fragmented and falls between assistance to rural areas and assistance to SMEs in urban areas.

UNIDO is involved with a number of rural industry projects in Africa and Asia - for example, the pilot project on the "Development dissemination of appropriate food processing equipment for rural women in Sub-Saharan Africa", which has been running as a pilot project in Mali and Burkina Faso. This, according to a short description from the Integration of Women in Industrial Development Branch of UNIDO, aims at:

"developing, testing and introducing appropriate food-processing technologies and equipment in order to decrease purchase costs, energy consumption and running costs while upgrading the maintenance and management systems. An integrated approach to village development has been introduced by extending the use of a pilot multi-purpose trailer consisting of a dehuller and grinding mill, oil press, generator and motor. A credit scheme under the form of a revolving fund is included to support the activities of women."

This is just one of a number of schemes being supported in rural areas. A comprehensive analysis of the potential for poverty alleviation of rural small-scale enterprises can be found in UNIDO (n.d.). In many cases, support for rural non-farm activities can be linked to broader development projects. One example is provided in Box 4.1. A programme in Chile aimed at improving the position of poor farmers is based partly on the development of local cheese production, which involves not only the development of local facilities for cheese making, but also improvements in livestock care and milk treatment.

**Box 4.1: Integrated rural development in Chile**

In the arid zone of Region IV in Chile, goats form one of the main economic resources for poor farmers. The Plano Cabrino is a rural development project aimed at improving the livelihoods of this poorest sector of the local population. It aims to improve all aspects of production, from optimisation of forage and water resources to cheese production and commercialisation.

The aim is to raise the quantity of goats cheese being produced and to improve the quality of the product through attention to rearing hygienic milk preservation and cheese-making. By improving standards the plan aims to place the local goats' cheese in a higher market niche, where returns will be correspondingly higher. The farmers will gain local control over the manufacturing process in order to produce a high quality cheese rather than sell their milk at low prices to intermediaries, who have it made into low-quality cheese. This project will increase rural non-farm activities and raise the returns to milk production.

*Source: Interviews with local officials.*

The particular needs of women can be a focus of off-farm employment projects, and UNIDO has a number of schemes designed to support the activities of women entrepreneurs. These include a programme to promote the participation of women in Township and village Enterprises in China (see part 3), and a programme for women entrepreneurs which has been pioneered in the textile industry but is being extended to other sectors. These programmes have much in common with more general programmes



aimed at improving entrepreneurial skills in SMEs and micro-enterprises. However, they recognise that specific programmes for women are required because (i) women may be marginalised from more general programmes when business cultures are strongly male-centred, (ii) women entrepreneurs are mainly concentrated in a few activities which are female-dominated, textiles being one, and training requires a sector-specific component, and (iii) women entrepreneurs may face specific problems in areas such as access to credit which are not as severe for men.

#### **4.3.2 Poverty Alleviation and Support for Small Enterprises**

A discussion of the export potential of SMEs was presented in part three of this paper. Small enterprises, in particular, have a crucial role to play in employment creation more generally, particularly in the less developed countries. A recent study by Mead has shown that in five countries in Sub-Saharan Africa (Botswana, Kenya, Malawi, Swaziland and Zimbabwe), 43 per cent of the increase in the total labour force in the period 1980-91 was absorbed by enterprises with under 50 employees (Mead, 1994: 1883). In many countries, small enterprises - those with 50 employees, employ more than half the industrial labour force in a large number of countries.<sup>16</sup>

There are now a large number of programmes aimed at SMEs and micro enterprises in the manufacturing sector. These include training schemes, diagnostic consultancies, credit schemes (individual and group), collective purchase and sales schemes, promotion of sub-contracting relations, small-firm incubators and industrial parks. Some of the most interesting new developments have taken place in connection with the promotion of networks of firms and support for clusters of SMEs (Humphrey and Schmitz, 1995). UNIDO has extensive work in this area, working not only with general support to the SME sector, but also developing small-firm clusters and networks and promoting linkages between large and small firms through its programme of developing industrial sub-contracting exchanges.

SME support is perhaps the most legitimate area of industrial intervention in developing countries. Even a country such as Chile, which have largely abandoned direct support for industry has an extensive programme of SME assistance. The incidence of market failure appears to be high, the returns on projects often seem to be good, and there are good equity grounds for intervention. However, it should be noted that a tension remains in these projects between the twin aims of poverty alleviation and promoting economic

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<sup>16</sup> Liedholm and Mead estimate that in India, Tanzania, Kenya, Indonesia, Zambia, the Philippines and Colombia, firms employing under fifty employees account for more than half the industrial labour force (cited in UNIDO, 1994: 17). In all of these countries, the great majority of these employees work in firms of up to 10 employees.

efficiency. The firms most able to benefit from schemes aimed at improving the performance of the SME sector are often those which are already relatively strong. The case of the furniture industry in Chile (see Box 3.1) is a case in point. Entry into export markets presented a need for upgrading, which involved a restructuring of relations between firms and internal reorganisation. Firms without a minimum level of competence were unable to do either of these (Messner, 1993).

The limited success of schemes designed to bring entrepreneurs together and gain advantages from interaction provides an illustration of difficulties involved. A UNIDO review of small-scale industry support programmes in Southeast and East Asia (UNIDO, 1989: 16-17) arrives at the following conclusions on programmes to develop industrial estates:

- "industrial estates are particularly effective when they are operating in an economy with a fairly high level of industrial development and where the estate caters for medium to large scale industries" (1995: 16)
- "industrial estates are unlikely to have major overall impact when located in areas where infrastructure and industry are still at a relatively low stage of development, and where industrial services are weak and the size of the market is limited" (1995: 16)
- "the small size and traditional orientation of enterprises presents another problem to industrial estates. In most cases, such enterprises need to be located close to the urban market both to acquire inputs and to attract customers ... The provision of support services on the spot is apparently not sufficient to counter-balance negative locational aspects in the industrial estates" (1995: 17)

The point here is not that such programmes often fail. Rather, it is to stress that there can be a trade-off in support for small-scale industry between economic and social objectives. By the criteria of poverty alleviation and rural development, projects should be located in rural areas and directed at the weaker and the smaller firms, but these are the hardest to support. The firms which respond most quickly and most effectively to support schemes are those which already have some established capabilities and networks. It is not impossible to work with the disadvantaged - but it requires greater resources, which tends to reduce coverage. However, concentration of resources may be the price to be paid for success: better a limited number of well-functioning support schemes than a larger number of failures.

## **5. POLICIES FOR RAISING THE QUANTITY AND QUALITY OF EMPLOYMENT**

The context in which industry policy is formulated and carried out has changed dramatically in the past 25 years. In the 1960s, employment could be created and incomes raised through ISI policies aimed at satisfying domestic demand behind protective barriers. For some time these policies worked well, and many new industries were developed. However, from the mid-1970s onwards, increasing turbulence in the international economy has undermined "classic" ISI policies. Employment creation and poverty alleviation in the 1990s has to be pursued in the context of an increasingly liberalised and globalised economy.

The biggest challenges for policy are found in those countries still adjusting to the changing state of the world economy, but there are lessons to be drawn from the experiences of both the developed world and the more dynamic developing economies.

1. In economies adjusting to globalisation and liberalisation, employment creation will not be concentrated in the large firm sector. In countries such as India, Brazil and South Africa, employment in larger firms is likely to decline or remain stagnant as they adjust to new standards of competitiveness. These firms need to raise productivity and quality rapidly if they are to compete successfully in world markets. An employment creation strategy cannot be based on these firms.

2. The quality of employment in these larger enterprises is likely to change in two different ways. On the one hand, the pursuit of world standards of quality, productivity and response to customers will require investments in the core labour force. Training within the firm will tend to rise. Off-the-job and on-the-job training will become more systematic and be extended to a much larger proportion of the labour force. National training systems should be geared to ensuring both that firms can obtain the materials needed for such training and that firms without their own training units can buy-in assistance. On the other hand, an emphasis on reducing costs and focusing on core competencies will lead to an increase in contracting-out of work and on increased reliance on other firms. In some cases, this will mean core jobs being replaced by low-waged and unstable employment in SMEs, sometimes in the informal sector.

3. Restructuring of industry will also lead to a shift in the sectoral composition of industry. Sectors which have not yet become competitive will decline in importance, and external sources of supply increase. Imports of materials and equipment will rise, putting pressure on local producers, who may be forced to buy-in more of their output from firms

overseas. This will lead to some job losses and de-skilling of work in the intermediate goods and machinery and equipment industries.

4. The global economy also provides opportunities. Job losses in more advanced sectors can be offset by the growth of more labour-intensive industries in lower-wage countries and resource-based industries in countries with endowments of natural resources. Employment, skills and the long-term survival of these industries will depend, however, on policies aimed at upgrading of these industries. These industries will face intense competition as new entrants come to the market. As Porter (1990) has argued, competitive based on resource endowments is a frail basis for long-term competitiveness, and firms and governments must work hard to establish new competencies on which to secure their market standing. Established producers can protect their position by moving away from the low-value added "commodity" sections of the market and producing goods of higher quality or improved design. Policy can have an important impact on the upgrading potential of manufacturing. Direct support to companies, provision of technical infrastructure and help with marketing and information on overseas markets are all important, as is stimulation of inter-linkages and cooperation. In many cases, design and delivery of support can best be achieved through collaboration between the public and private sectors and by de-centralised public agencies.

5. The capacity to learn is a central aspects of competitive advantage for both capital-intensive and labour-intensive sectors of manufacturing. Firms will require better educated and trained workers to compete in international markets. Basic education is essential for workers who will need to be more flexible and more consistent in their work and more capable of responding to training opportunities. At the same time, enterprises need to learn from each other and learn from the markets they serve. This requires not only provision of information, but also investments in managerial capability. The new competitiveness is management-intensive.

6. In the fast-growing economies of Southeast and East Asia, employment will continue to grow rapidly in firms of all sizes. In other developing countries, the main source of employment growth in manufacturing will be SMEs. There is considerable potential for SMEs to enter export markets and upgrade the quality of their products. SMEs gain particular advantages from being part of a local productive system - establishing linkages to other firms, large or small, and benefiting from the local availability of inputs, technical assistance and producer services. Governments can do much to help improve the functioning of local production systems. They can also promote the formation of networks of enterprises by working closely with the private sector.

7. It is not easy for SMEs to enter export markets. The information costs are high, firms have to adapt to new demands and new entrants to export markets face problems of credibility. There is a strong case for public support at this stage, and as firms become established, private sector institutions grow up which can replace State ones. Once again, the State can encourage this process by assisting the development of cooperation in the private sector.

8. There is a strong case for SME promotion on efficiency grounds. At the same time, the goals of poverty alleviation and social integration provide a strong case for targeted support of small and micro enterprises. Programmes for SME support are well-established in many countries, but particular attention should be given to the rural non-farm sector and the promotion of opportunities for women.

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**Table 1.1: Growth rate of labour force in non-agricultural occupations: less developed countries, by region (average growth rate, percent per annum)**

<u>Region</u>	<u>Period</u>				
	1950-60	1960-70	1970-80	1980-90	1950-90
Sub-Saharan Africa	3.6	3.8	4.5	4.1	4.0
South Asia	3.4	3.3	3.6	3.7	3.5
Southeast and East Asia (excl. China)	4.0	3.2	4.7	3.2	3.8
China	4.7	4.8	4.3	4.6	4.6
Latin America and Caribbean	3.3	3.8	4.5	3.3	3.7
All Five Regions	3.9	3.6	4.3	3.7	3.9

Source: Calculated from UNDIESA (1988).

**Table 1.2: Rates of growth of MVA, and manufacturing employment : 5 regions, 5-year periods**

Manufacturing Valued Added, Constant 1990 US\$ (per cent per annum) <sup>(a)</sup>						
Region <sup>(a)</sup>	1965-70	1970-75	1975-80	1980-85	1985-90	1965-90
Sub-Saharan Africa	9.7	7.0	5.2	-0.7	5.3	5.2
South Asia	7.2	3.7	3.2	5.5	8.8	5.7
Southeast and East Asia (excl. China)	9.7	9.1	11.8	6.2	12.0	9.7
China	2.2	2.9	3.8	7.2	2.5	3.7
Latin America and the Caribbean	8.6	10.0	3.3	3.2	-5.4	3.7
Developing countries (excluding China)	8.8	9.3	5.3	4.0	2.0	5.8

Manufacturing Employment (per cent per annum)						
Region	1965-70	1970-75	1975-80	1980-85	1985-90	1965-90
Sub-Saharan Africa	6.9	6.8	5.6	-0.4	3.5	4.4
South Asia	2.0	3.9	4.0	-0.6	3.4	2.5
Southeast and East Asia (excl. China)	6.3	7.5	7.5	3.4	4.3	5.8
China	1.3	1.4	1.9	4.1	2.7	2.3
Latin America and the Caribbean	2.2	6.1	4.6	-0.9	-0.4	2.3
Developing countries (excluding China)	3.2	5.8	5.2	0.5	2.4	3.4

Source: UNIDO database.

Note: (a) 59 countries for which data on manufacturing value added and employment available for all the years in the table.

**Table 1.3: Number of countries producing selected industrial goods: 1970 and 1987**

	<i>Developing Countries<sup>(a)</sup></i>	
	<i>1970</i>	<i>1987</i>
<b>Consumer Goods</b>		
Fruits tinned or bottled	18	34
Soft drinks	51	76
Footwear (excl. rubber/pastic)	43	58
Paints (all types)	44	55
Telephones	5	16
Air-conditioning machines	7	22
Television receivers	25	39
<b>Intermediate Goods</b>		
Prepared animal feeds	33	53
Ethylene	3	12
Insecticides	15	27
Tiles, floor and wall	14	24
Copper wire	43	9
Crude steel	20	26
<b>Machinery and Equipment</b>		
Lorries	22	30
Pumps for liquids	9	15
Electric motors gt 1 hp	5	3
Lathes	3	7
Drilling and boring machines	0	5

Source: UNIDO (1990: 27-29)

Notes: (a) Excludes Yugoslavia from the UNIDO list of developing countries.

**Table 1.4: Distribution of manufacturing employment by sectoral grouping: selected developing countries 1975 and 1990**

Country	Employment in		Sectoral Distribution (%) <sup>(a)</sup>					
	Sectors 31-38 (000's)		Sectors 31-33		Sectors 34-37		Sector 38	
	1975	1990	1975	1990	1975	1990	1975	1990
Ethiopia	60	99 <sup>(b)</sup>	80.5	79.4	17.4	18.0	2.1	2.6
Kenya	99	164	54.7	56.4	20.8	23.4	24.5	20.1
Mauritius	21	104	67.4	88.9	12.7	7.0	19.9	4.1
South Africa	1290	1490	40.5	40.3	38.9	30.3	20.6	29.4
Zimbabwe	144	181	55.0	52.5	22.0	27.6	23.0	19.9
<b>Sub-Saharan Africa</b>			44.5	47.0	35.1	27.8	20.4	25.2
India	5130	6217 <sup>(b)</sup>	49.5	44.0	32.1	30.4	18.5	25.6
Sri Lanka	187	231	67.1	69.6	22.6	24.6	10.3	5.8
<b>South Asia</b>			50.1	44.9	31.7	30.2	18.2	24.9
Hong Kong	660	686	59.3	51.4	16.5	17.9	24.2	30.7
Indonesia	869	2237 <sup>(c)</sup>	73.9	66.7	18.8	23.2	7.3	10.0
Korea, Rep.	1298	2890	48.8	32.6	28.5	28.1	22.7	39.3
Malaysia	283	823	46.6	35.8	29.5	25.6	23.9	38.6
Singapore	187	344	30.3	16.1	18.0	16.6	51.7	67.3
<b>Southeast and E. Asia</b>			56.3	44.9	23.0	24.7	20.7	30.4
Colombia	442	517	52.6	46.9	29.6	36.6	17.8	16.5
Ecuador	73	111	64.9	56.5	30.2	30.7	4.9	12.8
Mexico	413	1060	34.7	29.6	41.5	42.6	23.7	27.8
Venezuela	324	458	47.6	42.4	33.6	39.1	18.8	18.5
<b>Latin America</b>			46.1	37.9	34.6	39.8	19.3	22.3

Source: ILO, Yearbook of Labour Statistics, various years

Note: (a) Sectors 31-33. Food products, textiles and clothing, leather, wood and furniture  
Sectors 34-37. Paper, chemicals, rubber, plastics, metals  
Sector 38. Metal products, machinery and equipment  
(electrical and non-electrical)

(b) 1988

(c) 1989

**Table 1.5: MVA growth in selected more industrialised economies of four developing regions: five-year periods, 1965-1990 (per cent per annum, constant 1990 US \$)<sup>(a)</sup>**

Country	1965-70	1970-75	1975-80	1980-85	1985-90
Cameroon	2.7	6.6	11.4	5.0	-6.2
Cote d'Ivoire	12.8	6.5	5.9	-1.8	6.9
Ethiopia	14.5	8.9	4.9	1.3	7.9
Ghana	18.0	5.2	-11.4	6.0	9.7
Kenya	8.8	12.4	4.5	1.3	3.2
Mauritius	-4.0	17.9	-2.3	10.6	13.4
Nigeria	9.6	6.3	17.4	-8.8	9.8
Senegal	1.1	6.4	-5.3	5.5	-3.8
Sudan	3.2	-1.2	3.4	-1.7	5.0
Tanzania	8.7	6.5	6.9	-9.9	0.2
Zambia	22.1	15.5	0.4	2.4	0.9
Zimbabwe	8.6	10.7	2.3	1.5	7.7
<b>Sub-Saharan Africa</b>	<b>8.3</b>	<b>7.0</b>	<b>6.2</b>	<b>-1.4</b>	<b>5.5</b>
Bangladesh	6.9	-11.8	20.4	1.4	10.7
Sri Lanka	11.3	10.7	14.5	9.0	4.3
India	7.0	4.2	1.9	5.1	9.4
Pakistan	8.7	6.1	3.5	7.8	6.1
<b>South Asia</b>	<b>7.3</b>	<b>3.7</b>	<b>3.1</b>	<b>5.4</b>	<b>8.8</b>
Hong Kong	3.8	7.1	13.9	-2.0	4.6
Indonesia	5.4	15.0	11.9	16.0	12.3
Republic of Korea	19.6	16.4	11.3	10.3	15.5
Malaysia	10.0	11.8	15.3	3.6	11.5
Philippines	8.7	8.4	2.3	-5.9	12.5
Singapore	24.3	13.1	15.8	1.2	12.8
Taiwan Province	8.2	2.3	14.3	7.4	7.3
Thailand	5.7	8.9	8.4	3.1	14.6
<b>Southeast and East Asia</b>	<b>9.8</b>	<b>9.1</b>	<b>11.8</b>	<b>6.2</b>	<b>12.0</b>
<b>China</b>	<b>2.2</b>	<b>2.9</b>	<b>3.7</b>	<b>7.2</b>	<b>2.5</b>
Argentina	13.2	6.9	-3.0	-0.5	-8.8
Brazil	6.2	17.2	6.6	5.8	-10.5
Chile	10.8	4.4	-3.9	4.8	7.7
Colombia	5.9	6.7	7.2	0.7	6.3
Ecuador	7.0	9.7	9.3	-3.5	0.9
Mexico	5.3	6.6	6.4	4.6	0.0
Peru	12.9	6.8	3.2	-2.4	-5.1
Uruguay	3.4	3.6	-2.5	1.4	2.7
Venezuela	8.1	16.4	8.5	0.1	2.4
<b>Latin America</b>	<b>8.9</b>	<b>10.1</b>	<b>3.5</b>	<b>3.3</b>	<b>-5.6</b>

Source: UNIDO database

Note (a) Data for the more industrialised countries from each region

**Table 2.1: Increase in MVA and manufactured exports 1965-90 (% in constant 1990 US\$)**

	<b>MVA</b>	<b>Exports of Manufactures</b>	<b>Number of Countries</b>
<u>Region</u>			
Sub-Saharan Africa	225	132	24
South Asia	279	507	4
SE and E Asia	640	1116	8
China	222	2300	1
Latin America	168	265	21
All LDCs excl. China	271	617	62

Source: UNIDO database.

**Table 2.2: Consumer prices and manufacturing wages: Republic of Korea, Singapore and Taiwan, selected years**

Country	Indicator	Years			
		1975	1980	1985	1990
Korea	Consumer Price Index (1985=100)	32.1	70.9	100	130.2
	Manufacturing Wages (per month) <sup>(a)</sup>	38,378	146,684	269,652	590,760
	Real Wage	44.3	76.7	100	168.3
Singapore	CPI (1985=100)	71.2	85.3	100	106.5
	Manufacturing Wages (per hour) <sup>(a)</sup>	1.46	2.13	3.21	5.00
	Real Wage	63.9	77.8	100	146.3
Taiwan	CPI (1985=100)	54.5	82.5	100	111.5
	Manufacturing Wages (per day) <sup>(a)</sup>	3,430	8,040	12,704	22,175
	Real Wage	49.5	76.7	100	156.6

Source: KFTA (1992).

Note: Local currency.



**Table 3.1: Exports by Korean SMEs in four subsectors (US \$millions)**

Year		Sectors			
		Woven Textiles	Auto Parts	Electronic Parts	Metal-cutting Equipment
1983	SME Exports (\$ mill)	349	4	199	21
	SME Shares of Total Exports (%)	21.3	9.6	19.5	-
1988	SME Exports (\$ mill)	1,454	83	134	68
	SME Shares of Total Exports (%)	42.8	25.9	22.9	-
1991	SME Exports (\$ mill)	3,453	184	2,380	123
	SME Shares of Total Exports (%)	60.6	44.1	24.8	-

Source: Levy (1994: 13)

**Table 4.1: Shifts in infant mortality by rate of growth of gdp per capita, 1970-90**

Country group	Reduction in Infant Mortality <sup>(a)</sup> (%)	Number of Countries
All countries		-
Lower growth <sup>(b)</sup>	33	44
Higher growth <sup>(c)</sup>	50**	56
Countries with 1990 GDP per capita less than 2500 dollars		
Lower growth	32	38
Higher growth	41**	28
(3) Sub-Saharan Africa		
Lower growth	29	28
Higher growth	35*	13
(4) Latin America		
Lower growth	43	8
Higher growth	47	6

Source: UNIDO database

Notes: (a) Calculated by  $100 \times (\text{infant mortality 1970} - \text{infant mortality 1990}) / \text{infant mortality 1970}$ . This shows by what percentage the 1970 infant mortality rate was reduced in the following 20 years.

(b) GDP per capita growth less than 1 per cent per annum, 1970-90.

(c) GDP per capita growth 1 per cent per annum or higher, 1970-90.

\* t-test significance 0.1 or less

\*\* t-test significance .01 or less

**Table 4.2: Share of non-farm activities and manufacturing in rural employment, selected countries**

		(1)	(2)	(3)
Country	Year	Share of non-farm activities (%)	Share of manufacturing (%)	(2)/(1) (%)
Bangladesh	1983/4	33.5	7.7	23.0
India	1981	19.0	6.5	34.2
Indonesia (Java)	1980	37.9	9.5	25.1
Malaysia	1980	49.3	10.5	21.3
Pakistan	1982/3	32.3	9.4	29.1
Philippines	1982	31.9	7.0	21.9
Sri Lanka	1981	45.8	8.4	18.3
Kenya	1970	28.0	-	-
Sierra Leone	1976	19.0	7.6	40.0
Zambia	1980	22.3	2.7	12.1
Colombia	-	23.0	7.6	33.0
Unweighted average		31.1	6.8	

Source: UNIDO (n.d.: 20)

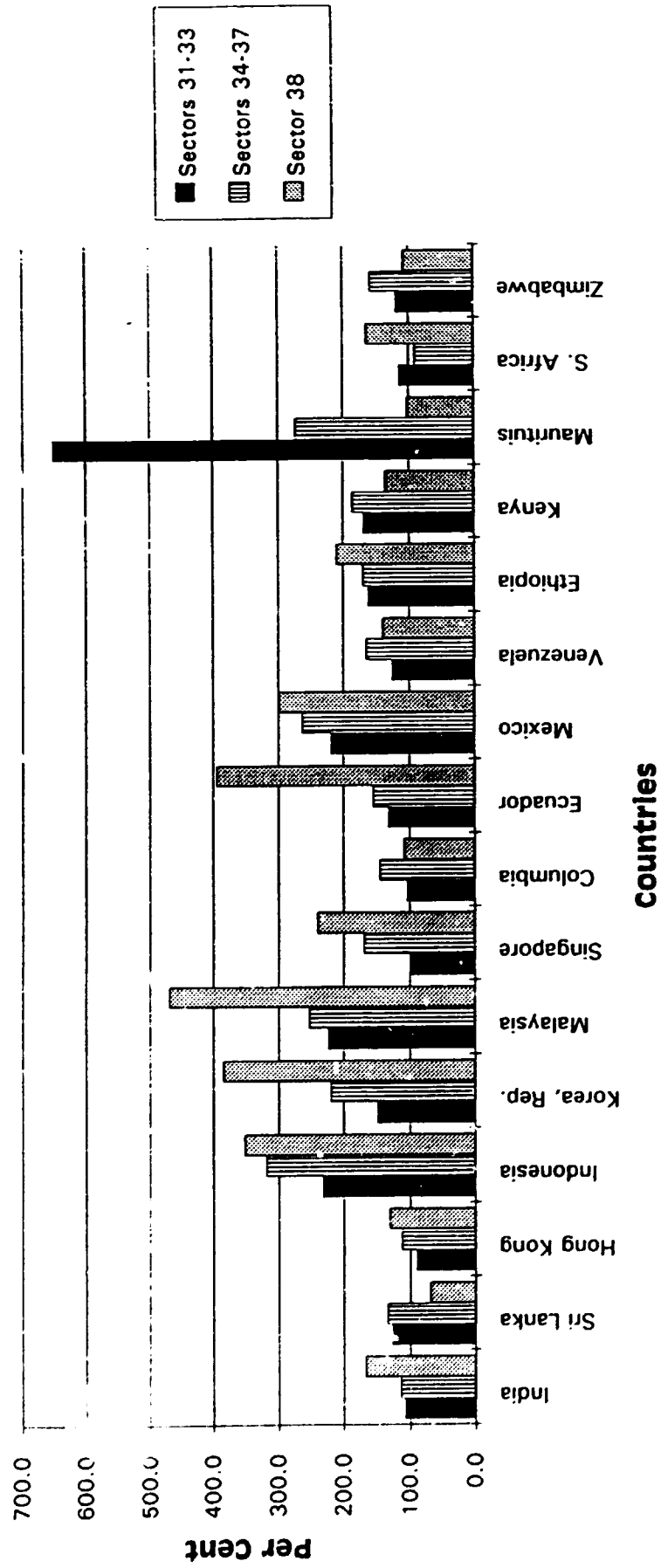
**Table 4.3 Percentage of manufacturing employment in rural areas<sup>(a)</sup>**

<b>Country</b>	<b>Year</b>	<b>Share of Manufacturing Employment in Rural Areas (%)</b>
Sierra Leone	1976	86
Indonesia	1976	80
Sri Lanka	1971	75
Jamaica	1980	74
Ghana	1973	72
Bangladesh	1974	68
Zambia	1985	64
Philippines	1976	61
India	1976	57
Pakistan	1975	52
Taiwan Province	1976	49
Malaysia	1970	46
Korean Republic	1975	30
Colombia	1978	10

Source: Liedholm and Mead (1986), cited in Nanjundan (1994: 13).

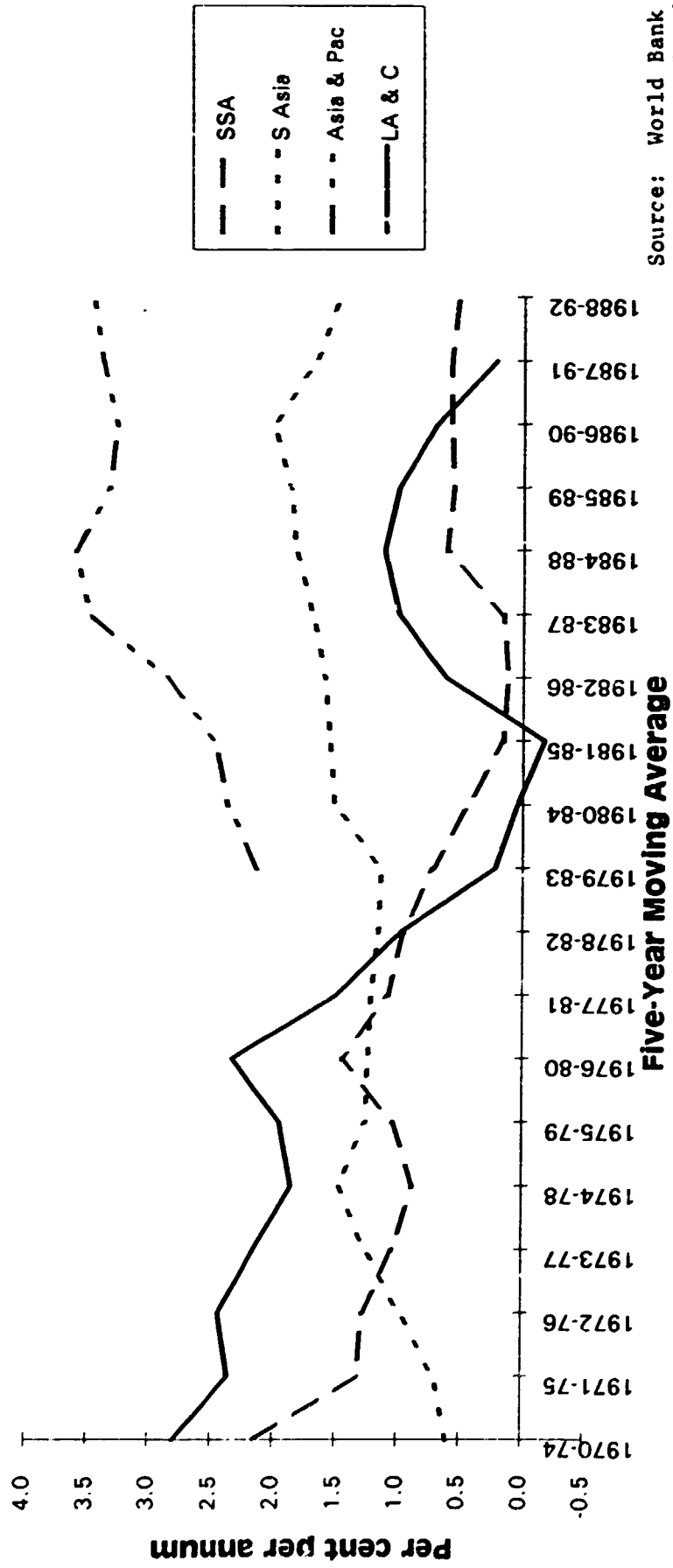
Note: (a) Rural areas are defined as localities with under 20,000 inhabitants.

**Figure 1.1: Growth in Manufacturing Employment by Sectoral Grouping 1975-90**



Source: ILO Yearbook of Labour Statistics, various years.

**Figure 1.2: Contribution of Industry to GDP Growth 1970-1992: 5-Year Moving Average**



Source: World Bank  
Stats Database.

Figure 2.1: Exports/GDP

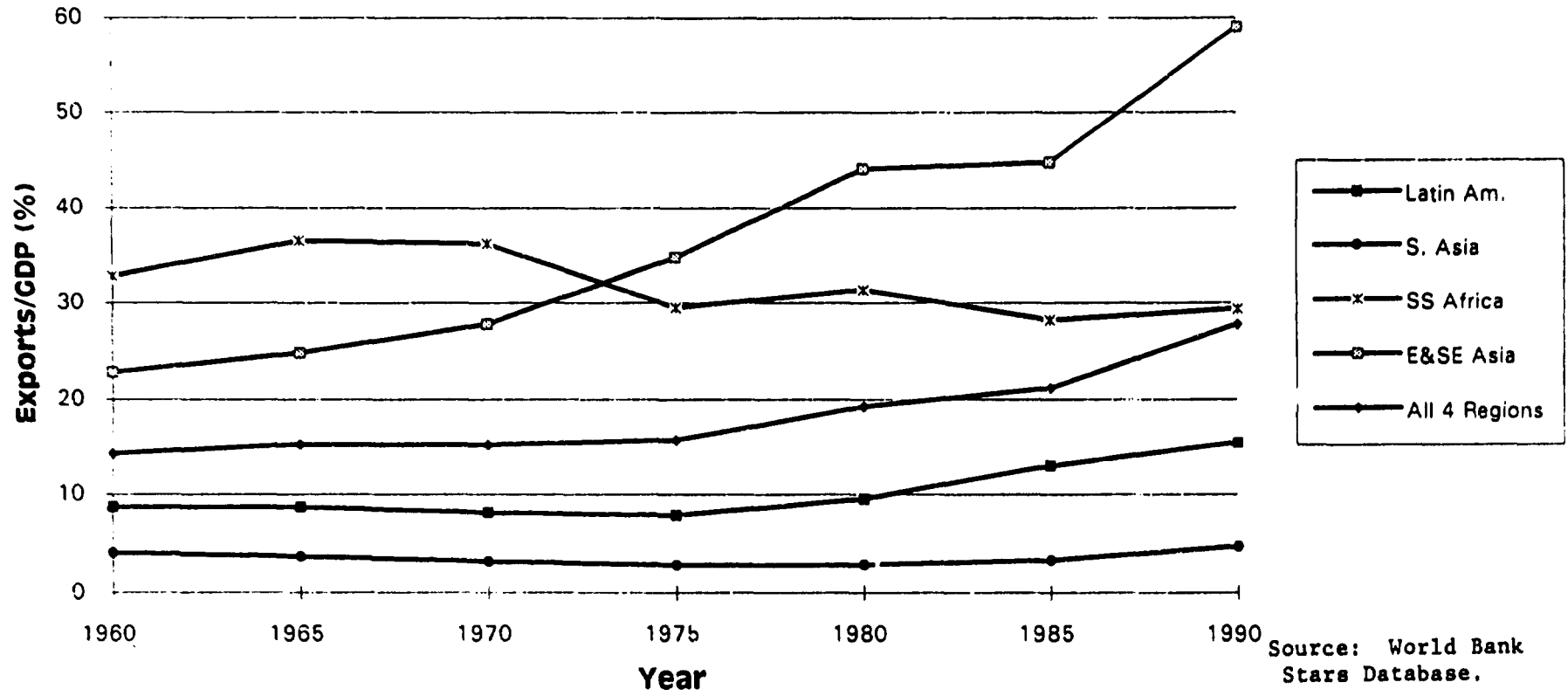
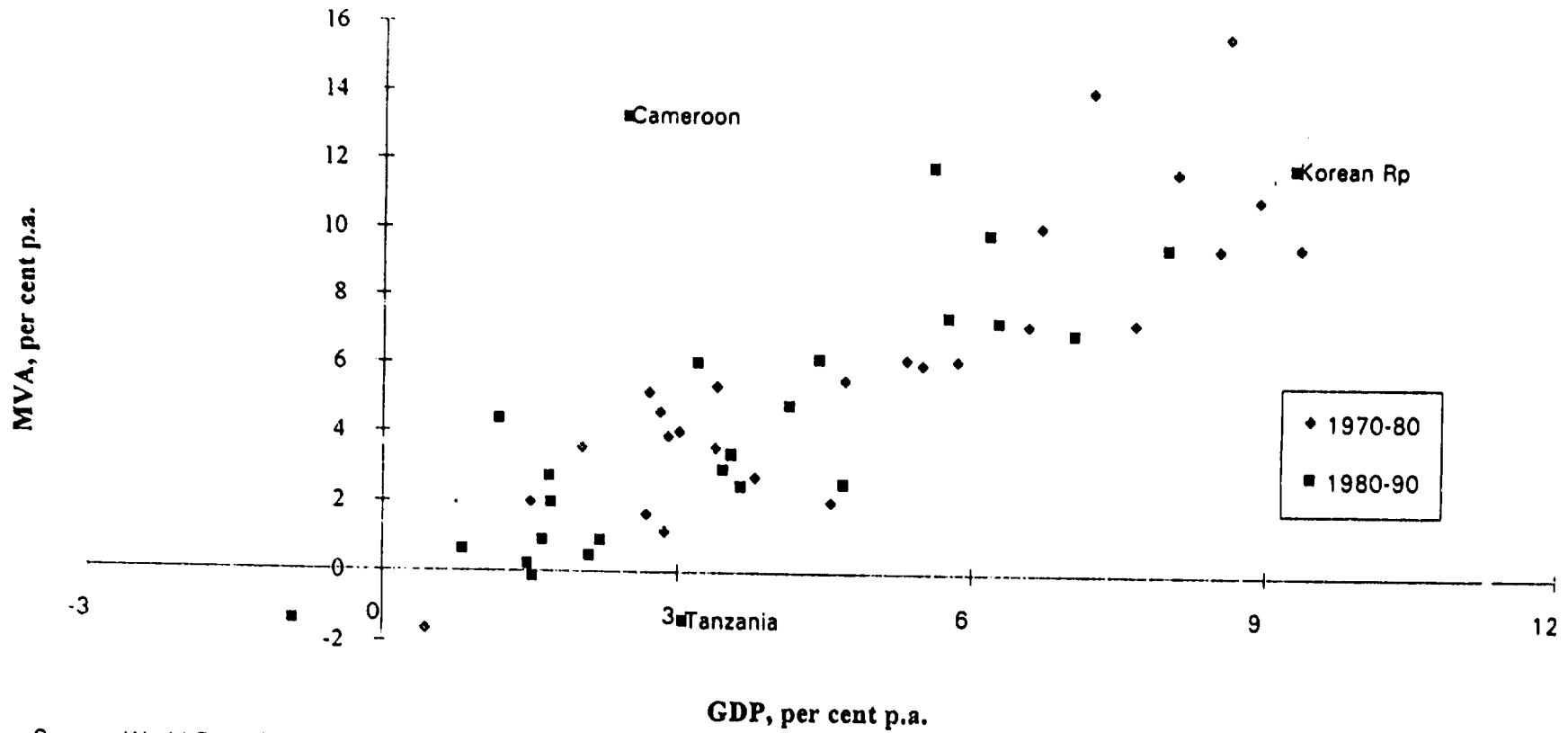
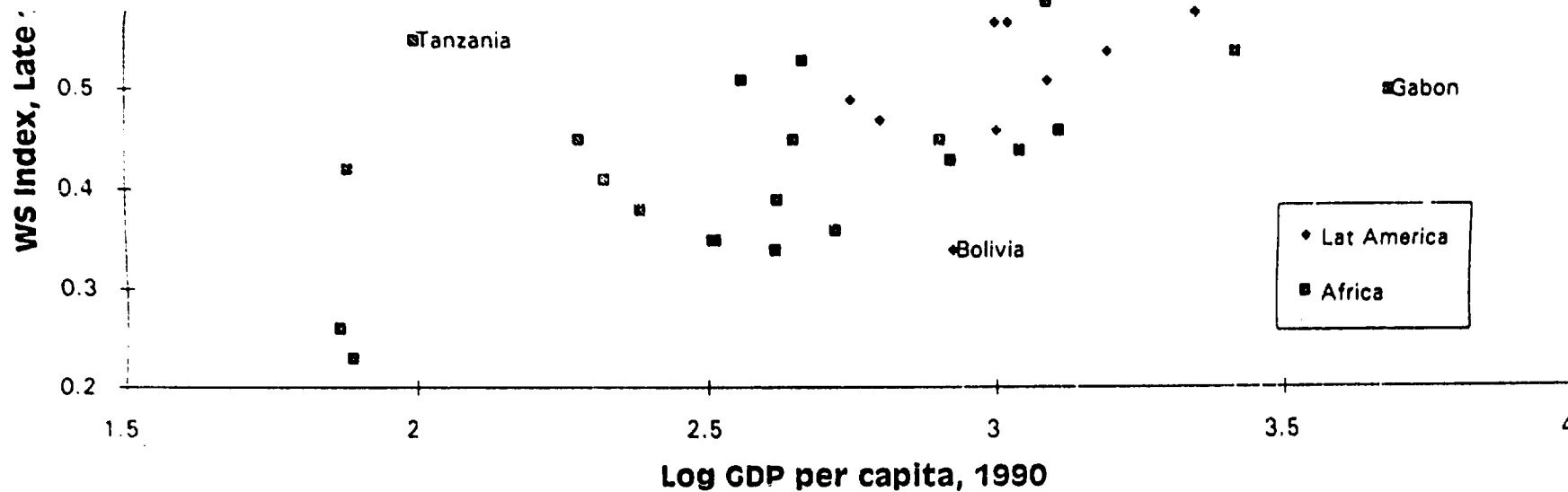


Figure 4.1 GDP and MVA Growth



Source: World Bank Stars Database.

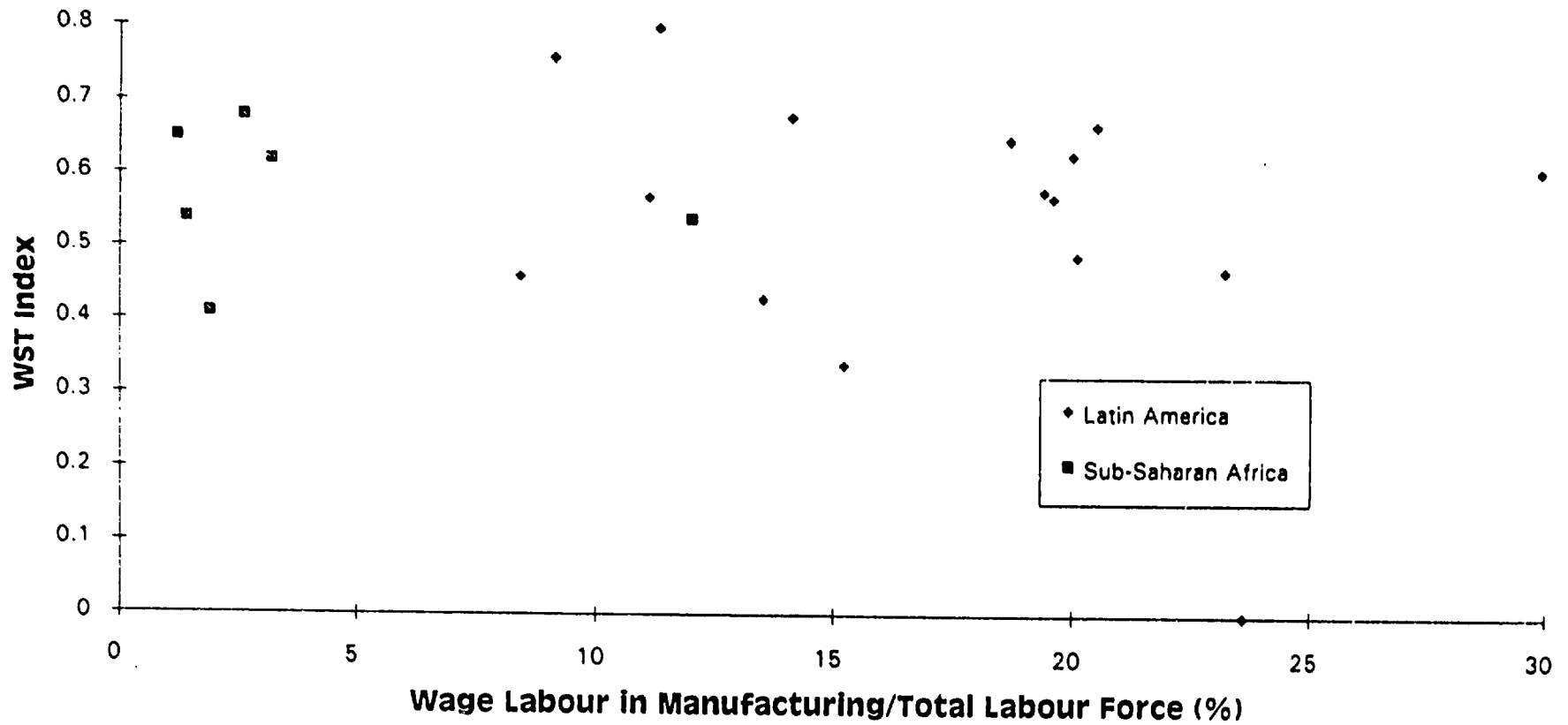




Sources: GDP, Unido database; WST index, IFAD (1993a, 1993b).

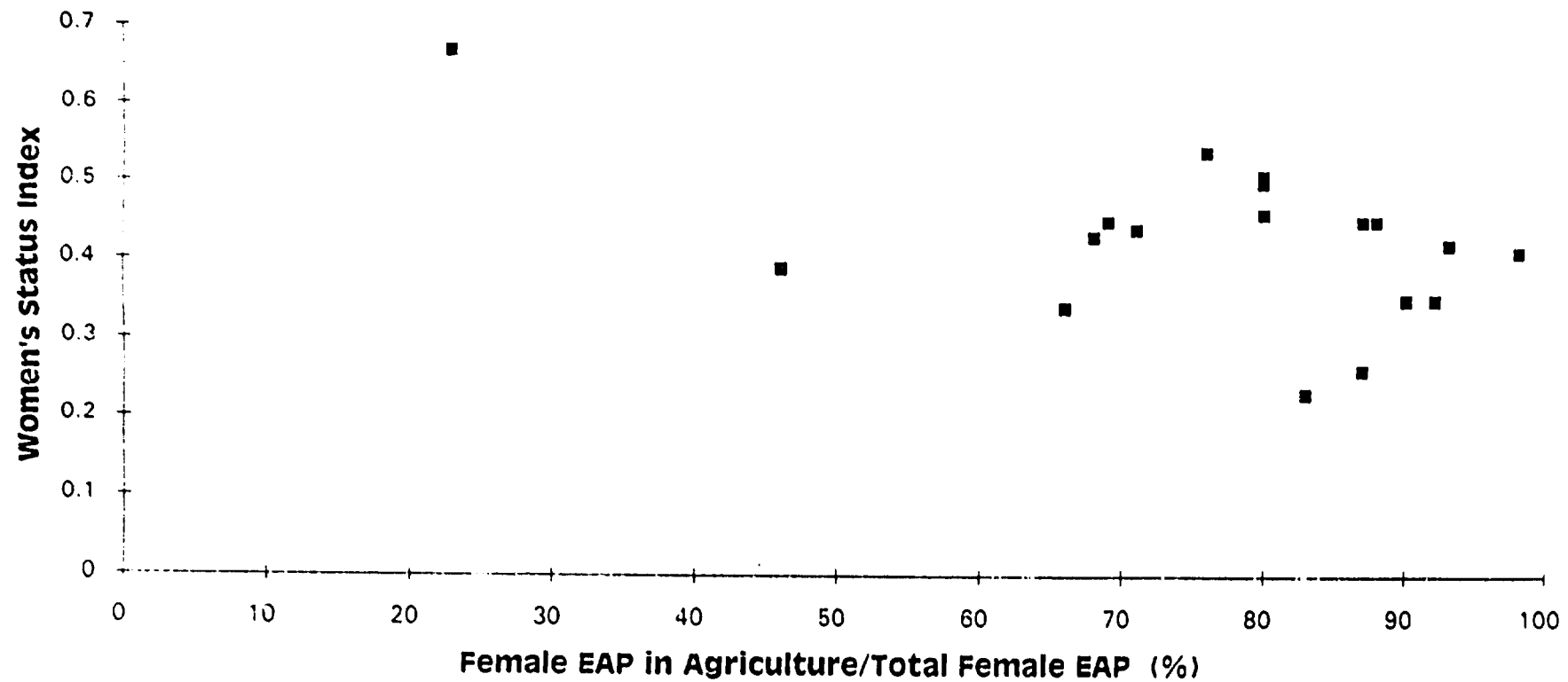
**Figure 4.3: WSI and Wage Labour in Manufacturing**

Figure 4.3: WSI and Wage Labour in Manufacturing



Sources: Employment, World Bank (1995b: 147-48); WST index, IFAD (1993a, 1993b).

**Figure 4.4 WSI by Percentage of Female Economically Active Population In Agriculture**



Sources: WSI, IFAD (1993a); Female EAP in agriculture UNIDO (1995A: 2).