

Review Article

Long-term Development of Small-scale Industries in Relation to Economic Development: Looking for General Propositions

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The growing attention, in literature on economic development, towards the role of Small-scale Industries (SSIs) within the economy of the less developed countries (LDCs), is strongly associated with the recognised current economic and social problems of continuing imbalance in the labour market leading to high unemployment rates, the persistence of large intra- and inter-regional socio-economic inequalities; and the consolidation of extremely concentrated patterns of urbanisation, facing these countries. On the other hand, there is the notion stating that the importance of SSIs decreases with the course of economic development. The available empirical evidence on this issue diverges significantly from the afore-mentioned notion. In the background of this contradictory evidence, the paper aimed to discuss this issue and arrive at some general conclusions which would help in deriving a pattern from the available studies and evidence on the issue under reference. The conclusion of the paper suggests that no matter how far a country has developed, but as long as domestic problems of high rates of unemployment, mass poverty or unequal distribution of income exist, SSIs will continue to play an important role as a 'last resort' for the poor of the country.

I. INTRODUCTION

Much of the literature on economic development addresses the role and importance of small-scale industries (SSIs) within the economy of less developed countries (LDCs). This growing attention for SSIs in development studies is strongly associated with the well-recognised current economic and social problems facing these countries. The problems include the continuing imbalance in the labour market leading to high unemployment rates, especially for the category of people not highly educated; the persistence of large intra- and inter-regional socio-economic inequalities; and the consolidation of highly concentrated urbanisation.

However, there is a notion stating that the importance of SSIs decreases in the course of economic development. Finally, at the "later stage" of development,

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they will all disappear. While available empirical evidence on this issue diverges significantly, what seems clear is that SSI activities and employment have been expanding in many LDCs, rather than decreasing with development. This contradictory evidence is somewhat surprising for policy-makers.

Thus, the main research questions of this paper are: Is there a general, overall pattern of development of SSIs in LDCs? And what explains this pattern? This paper will discuss the issue bearing these questions in mind, and more specifically, try to find out what general conclusion about the pattern can be drawn from the existing studies and evidence.

II. SOME THEORETICAL THOUGHT

Although the relationship between firm size and the process of economic development has recently been explored by some authors through the analysis of historical stages of development, the theoretical literature on the issue of how the cottage and household industries (CHIs) and small factories (SIs) would be influenced by increases in per capita real income (as a proxy of economic development), or changes in the aggregate level of economic activity, is still rather silent.

Parker (1979) and Anderson (1982) have developed general growth phase typologies based on the experience of the industrialised nations to explain changes in the size structure of industry by region and over time in less developed countries (LDCs). According to this "stage" theory, in the course of industrial growth or economic development, the composition of manufacturing activities, when classified according to scale, appears to pass through three phases. In Phase One, at the early stage of industrial development, which may be characteristic of predominantly agrarian economies, non-factory/craft-based enterprises, usually called cottage and household industries (CHIs), are predominant in terms of their share in total manufacturing employment. At this stage, CHIs can account for as much as 50 to 75 percent of total industrial employment [Anderson (1982)]. Liedholm and Mead (1987) also provide data on this which indicate that CHIs are particularly prominent in lower-income countries.

This is a stage of industrialisation at which a large number of CHIs coexist with a very limited number of large-scale, foreign, or state-owned firms [Page (1979)]. The majority of people recorded as being in this form of employment belong to low-income, agriculturally-based economies (rural areas) [Anderson (1982)]. A study of Anderson and Leiserson (1980), using data from 1970s, shows that, for example, in India, roughly 75 percent of employment in CHIs was rural, while in East and West Africa it was over 75 percent, in Colombia and the Philippines over 50 percent, and in Korea (with higher income per capita than in the other countries mentioned above) roughly 40 percent.

At this stage, CHIs are predominant in activities named by, say, garment-makers, smiths, shoemakers, handicraftsmen, masons, carpenters, builders, and various crop-processing industry hands. These are closely related to agricultural production, as providers of rudimentary inputs to and of processing services for output from agriculture, and of the non-food needs of the rural population [Suarez-Villa (1989)]. Moreover, in LDCs these sub-sectors are characterised by substantial ease of entry. Particularly for clothing, food, and handicrafts industries, the initial capital requirements are very low and for the producers involved no high skills and special, separate workshops are really needed to carry out those activities. For example, in some very little developed African countries, the largest share of SSI employment was consistently found in the clothing industry, which accounts for between 30 and 50 percent of total SSI employment, followed by food processing industries and handicrafts [Steel (1977)].¹ Perhaps for this reason these activities are undertaken mostly by women and children as a part-time job or a secondary source of family income. Moreover, most enterprises in these activities are from "self-employment units". In African countries for which evidence exists, for instance, a majority of tailoring enterprises consist of one-person firms in which the owner undertakes all productive activity [Steel (1979)].

In Phase Two, in a more developed region with higher income per capita, more modern SSIs, usually named small factories (SIs), and medium-scale industries (MSIs), have been found to emerge and increase at a comparatively rapid rate, and act to displace CHIs in several sub-sectors of manufacturing. Steel (1979) emphasises the importance of a growing cash market for the expansion of SIs and MSIs: "Increased urbanisation and expanding cash markets give rise to a shift from traditional household activities to complete specialisation of the entrepreneur in small-scale production and increased use of apprentice and hired labour" (p. 9). The importance of markets generated by the growth of agriculture or rural incomes, in general, for the high rates of growth of SIs and other larger-sized establishments of industry is also pointed out by Anderson and Khambata (1981). Others, such as the introduction of diesel engines and the electrification of rural areas, have also been found to facilitate greatly the growth of SIs [World Bank (1975)].²

In Phase Three, at the "later" stage of development, large-scale industries (LSIs) become predominant, displacing the remaining CHIs, and also SIs, in some activities.³ Anderson (1982) draws attention to the fact that this phase is partly a

¹Such evidence is also shown by Liedholm and Chuta (1976); Child (1977) and Calloway (1973).

²Myint (1971) remarks the growth of SIs in Japan was greatly facilitated by access to cheap electric power.

³A hypothesis similar to Anderson's has been forwarded or adhered to by others such as Nanjundan (1989) and Little (1987), stating that increasing levels of economic development will inevitably bring about a replacement of SSIs, especially the traditional ones or the CHIs, by larger factories (MSIs or LSIs).

product of Phase Two, since the recorded growth of output and employment in LSIs can be divided into: (a) The growth of once-MSIs through the size structure; and (b) the expansion of already LSIs, including foreign concerns and some state enterprises. In this final phase, factors such as a greater scale of economies with respect to plant, management, marketing and distribution (depending on types of product and flexibility in production), superior technical and management efficiency, better productive coordination and access to supporting infrastructure services and external finance, and concessionary finance along with investment incentives, tariff structures, and government subsidies are powerful causes and incentives for firms with sufficient entrepreneurial motivation to grow larger. Anderson (1982) notes that these factors in practice favour larger/modern industries. So these factors explain the eventual performance of LSIs in advanced stages of industrialisation. For SSIs, only those which can take advantage of some or all of these factors can grow or, at least, survive against heavy competition from MLSIs [Schmitz (1982)].

While during this stage the growth of LSIs is very conspicuous and they account for a significant share of total manufacturing employment, it must be noted, however, that at the same time SIs and MSIs in some sub-sectors such as electronics in advanced nations have been found to be very significant as sources of invention, innovation, and efficiency. They have been found to be quite capable in the competition with LSIs, and even they improve their relative position these days.⁴ Recently, based on this experience of SSIs in developed countries, a new approach for studying SSIs in LDCs has been initiated by a group of researchers and "flexible specialisation" has become a new discussion-point in the ongoing debate of the role of SSIs in LDCs. The underlying argument of the flexible specialisation thesis can be described briefly as follows. For some sub-sectors these days large-scale production methods are out of date and the machines used for this scale are as obsolete as the steam engine. The numerically controlled tools and the computer (new technologies) have transferred the ability to meet changes in demand promptly, cheaply, and efficiently from the large to the small firms. These new technologies promote the relative viability of small firms, reduce scale economies, and lead to smaller and more efficient plants and firms.⁵

In the earlier studies of SSIs in LDCs, CHIs were commonly treated and in a way dismissed as tradition-bound, low-income, and economically backward activities, offering few and probably decreasing opportunities for raising incomes. Whereas in a long-term perspective, within the SSIs, SIs have generally been

⁴See, e.g., Piore and Sabel (1984); Suarez-Villa (1989); Acs and Audretsch (1990, 1990a) and Carlsson (1984).

⁵See, e.g., Goodman (1989); Brusco (1986); Sengenberger and Loveman (1987); Sengenberger (1988); Sengenberger *et al.* (1990) and Schmitz (1990).

considered to be a significant source of income with a serious future,⁶ Norcliffe and Freeman (1980) have found from their field survey in Kenya that CHIs were actively engaged in a much wider range of activities (including various resource-based and agro-processing activities) than only in traditional activities, producing "inferior" goods, as it is sometimes thought. Thus, this evidence may suggest that in the course of economic development not all CHIs will "die". Many of them are still in business and remain small and traditional while some others will even grow along with other, larger-sized establishments in the course of development and become SIs, then MSIs, and ultimately LSIs; which indicates that CHIs are interesting as a basis for becoming larger-sized enterprises.⁷

With respect to different performances of SSIs in different areas, comparative studies of SSIs between urban and rural areas are rather limited. Steel (1977) and Liedholm and Chuta (1976) are amongst the studies that exist on this issue. They found that the more "traditional" crafts (CHIs) such as black-smithing, weaving, and mat- and pottery-making were relatively more important in rural areas while SIs tended to predominate in urban areas.

Furthermore, rural SSIs (mostly CHIs) were characterised by a higher proportion of one-person firms. They also show that apprentice and wage-labour were the relatively more important components of total employment in SSIs in urban areas, while rural SSIs relied more heavily on family labour. They also found that SSIs in rural areas appeared to be less market-oriented, both in the sale of output and in the purchase of inputs, than their urban counterparts. In addition, Anderson (1982) has found that in rural areas, the larger share of employment in SSIs was a non-farm, part-time activity that peaks in the slack season in the farming activities.

The empirical evidence on the systematic pattern of structural change in SSIs, though still limited, is richer than the corresponding theoretical literature. Besides the works by Anderson and Parker, several other macro-level studies have also begun to identify the systematic pattern of change in industries in a large number of LDCs, not only in the size, as in the theory of Anderson and Parker, but also in the type and location of enterprises.

First, with regard to the size of enterprises, the overall pattern that has appeared in the empirical studies of various countries (cross-section analysis),⁸ such as from Banerji (1978) and Biggs and Oppenheim (1986), is that the average size of industrial establishments (in terms of the number of workers) tends to be larger in

⁶See, e.g., Hymer and Resnich (1969) and Staley and Morse (1965).

⁷See Wickramanayake (1988) and Andersson (1987). They argued that the SSIs are important as an "economic seedbed" where entrepreneurship is fostered and new ideas are tried out first in these industries.

⁸Such as Japan, Argentina, Canada, USA, Brazil, Panama, Taiwan, Costa Rica, Korea, Mexico, Colombia, El Salvador, Peru, and many other high-middle- and low-income countries.

higher-income countries. This evidence indicates, statistically speaking, that many SIs have grown into MSIs, and some CHIs into SIs, or many CHIs have increased their scale of operation by enlarging their number of workers per unit of production.⁹ Banerji and Biggs as well as Oppenheim also tried to show that at a higher level of economic development (in terms of a higher income per capita), the larger-sized enterprises become more important than the smaller ones. Liedholm and Parker (1989), however, provide a rather different evidence. It appears from their study of SSI growth in Africa that the total number, and hence employment, of SSIs, especially in the one-person size category (self-employment units), is increasing. But the employment of SSIs is growing less rapidly than in the MLSIs; this tends to shift the relative balance of manufacturing employment from SSIs towards MLSIs.

As its empirical part, this section presents a collection of data from various sources (empirical studies and official statistics publications), as given in Table 1, and shows that the relative importance of CHIs and SIs varies greatly among selected countries with different levels of development (in terms of gross national income or product per capita). It can be seen that in countries with a higher GDP or GNP per capita than \$ 1,000, CHIs contributed from 5.6 percent to 35.0 percent of total manufacturing employment. In the lower-income group of countries, on the other hand, the share varies from 4.0 percent in Korea to 90.0 percent in Sierra Leone. Table 1 also shows that in higher-income countries the share of SIs tends to rise and become larger than the share of CHIs in total manufacturing employment.

The rate or pattern of transition from CHIs to SIs, or from SIs to MSIs, varies greatly not only within sub-sectors of manufacturing in a particular region, or between countries in the same sub-sector, but also between regions within a particular country and in the same sub-sector. In some activities, as also found in the studies by Norcliffe and Freeman (1980) and Anderson (1982), CHIs may be rising in both relative and absolute terms when industrialisation is proceeding rapidly. Anderson (1982) presents time series data from the late 1960s to the late 1970s from a number of countries, including Colombia, India, the Philippines, and Turkey. In the case of the Philippines, for instance, he has found that in food-processing industries CHIs declined rapidly, absolutely as well as relatively, as a consequence of the mechanisation of processing operations for some crops. In light engineering indus-

⁹However, based on such statistical data, there are many possible patterns of change and development of individual enterprises that may really occur. For example, in the course of development many new firms may enter the industry at a large size rather than starting from a very small scale, while at the smallest end of the size groups many firms die out. Or, individual enterprises could increase, while the average size of establishments stays the same. Hoselitz (1959) and Anderson (1982) also draw attention to this problem of gaining additional information from aggregate data on the birth and death processes of firms in different sizes of establishment.

Table 1

Relative Importance of CHIs and SIs in the Manufacturing Sector of Selected Countries

Country	Year	Current GNP per Capita (US\$)	Share of (%)			
			CHIs ² in Total		SIs in Total	
			Units	Manufacturing No of Workers	Units	Manufacturing No of Workers
Sierra Leone ³	1974	190	—	90.0 ⁴	—	5.0 ⁵
Nigeria ³	1972	210	—	59.0 ⁴	—	26.0 ⁵
Sri Lanka ²⁸	1980	260	—	—	86.0	30.0
Philippines ⁶	1975	340	76.7	66.0 ⁷	—	5.0 ⁸
Pakistan ⁹	1986	340	—	—	—	80.0
India ¹⁰	1988	340	—	—	—	29.8
Ghana ¹¹	1984	370	—	54.4	—	14.2
Zambia ³	1985	370	—	76.3	—	1.0 ⁵
Kenya ¹²	1989	370	—	83.0 ⁴	—	29.0
Turkey ¹³	1970	400	92.7	33.3	76.9	13.3 ¹⁴
Sudan ¹⁵	1982	450	—	—	—	27.2
Guatemala ¹⁶	1974	500	—	—	71.6	18.9
Indonesia ¹⁷	1986	530	93.0	52.6	6.2	14.8
Thailand ³	1978	530	—	58.0 ⁴	—	11.0 ⁵
Honduras ³	1979	600	—	68.0 ⁴	—	8.0 ⁵
Peru ¹⁹	1973	700	80.4	14.8	63.4	22.8 ²⁰
Panama ²¹	1973	840	—	—	48.2	12.4
Colombia ²²	1978	850	—	47.5	—	29.9 ²³
Korea ¹⁹	1977	910	37.4	4.0	—	22.0 ²⁰
Costa Rica ¹⁹	1975	950	—	6.4	—	27.3 ²⁰

Continued—

Table 1—(Continued)

Country	Year	Current GNP per Capita (US\$)	Share of (%)			
			CHIs ² in Total		SIs in Total	
			Units	Workers	Units	Workers
Brazil ¹⁹	1975	1,070	—	5.6	—	28.8 ²⁰
Malaysia ²⁶	1978	1,150	74.9	19.0	22.6	32.0 ²⁷
Mexico ¹⁹	1975	1,360	80.6	11.2	61.1	26.4 ²⁰
Jamaica ³	1978	1,420	—	35.0 ⁴	—	16.0 ⁵
Singapore ¹⁸	1973	1,580 ²⁴	—	—	61.3	9.4 ²⁵
Argentina ¹⁹	1974	1,630	—	14.9	—	26.3 ²⁰
Greece ¹³	1973	1,720	82.7	11.2	80.6	25.1 ¹⁴
Venezuela ¹³	1974	1,920	—	—	65.2	16.5 ¹⁴
Israel ¹⁸	1973	2,670 ²⁴	—	—	71.5	17.8 ²⁵
Japan ²²	1975	4,530	—	19.1 ⁷	—	36.6 ⁸
Canada ¹⁸	1973	5,530 ²⁴	—	—	46.0	5.9 ²⁵
USA ¹⁸	1972	5,800 ²⁴	—	—	44.0	5.0 ²⁵

Sources and Notes:

¹World Bank (1992).^{2,4} or less workers.³Liedholm and Mead (1987).⁴Below 10 employed.⁵10–49 employed.⁶Anderson and Khambata (1981).⁷Establishments with 1–9 workers.⁸Establishments with 10–99 workers.⁹Hafeez (1987).¹⁰Sandesara (1988).¹¹Steel and Webster (1991).¹²Sverrisson (1992).¹³Hienmenz and Bruch (1983).¹⁴SIs in all establishments with 5 or more persons engaged.¹⁵Hansohm (1992).¹⁶United Nations (1979).¹⁷BPS: Industry statistics; Small Industry Statistics; Home Industry Statistics, 1986.¹⁸Naya (1984).¹⁹Biggs and Oppenheim (1986).²⁰5–99 workers.²¹World Bank (1978).²²Cortes *et al.* (1987).²³SIs and MLSIs.²⁴GNP.²⁵Establishments with 5–19 workers.²⁶ILO and ARPLA (1991).²⁷5–49 persons.

tries, they increased enormously in response to demand, while in clothing and footwear industries the employment in CHIs was sustained at a high level through "putting-out" undertaken by many rural households as their supplementary source of income, and through subcontracting. In these four sub-sectors, on the other hand, the shares of SIs and MLSIs in total manufacturing employment have been found to increase during that period. In addition, despite the fact that statistical data on changes of SSIs over time in Africa are non-existent, evidence from various surveys provides some insights into this matter. For instance, results from the studies by Liedholm and Chuta (1976) and van Dijk (1978) give some indication that SIs in clothing, baking, furniture, and carpentry activities have experienced substantial growth, while more traditional crafts (CHIs), such as blacksmithing, goldsmithing, and weaving may have exhibited more stable levels of employment and output.

Second, with respect to the location pattern of SSIs, evidence from a limited number of empirical studies suggests that the location of SSIs tends to shift as the economy evolves. Chuta and Liedholm (1985) in their survey in Sierra Leone found that the growth rates of the number of establishments and persons employed in SSIs were directly related to the size of the locality. Results from cross-section studies in Africa conducted by Haggblade and Hazell (1989) and Haggblade *et al.* (1989) also support the finding that the locus of SSI activities shifts gradually in terms of the number of units, employment density, and market-orientation from rural to urban areas. However, in some cases, it has been found that enterprises with different employment characteristics showed different patterns of change with respect to the location of enterprises. For instance, a recent study by Mead *et al.* (1990) in Nigeria shows that when only the SSIs that provide the primary source of employment/income to the owners and workers involved are taken into account, then the result will support the above finding. But when the analysis also includes SSIs providing part-time or secondary jobs for the persons engaged, then the "total" employment density in urban SSIs would be found to be much lower than that in SSIs in rural areas.¹⁰

Regarding this differentiation between rural and urban SSIs, or non-farm employment in general, Ho (1986) raised a question: "What happens to rural non-farm activities in the process of economic development?" "Do farm households become more involved in non-agricultural activities as the economy becomes more developed?" (p. 8). Some aggregate time series data from a number of LDCs suggest that the percentage of the rural labour force engaged in non-agricultural

¹⁰This implies that, first, the number of "part-time" or "secondary" workers is larger in the rural SSIs than in the urban ones. Second, the number of "full-time" workers is higher in the latter industries than in the former ones. Further, it can be expected that the "full-time" employment density in the urban SSIs (more in SIs rather than in CHIs) may increase over time more rapidly than the increase of the same type of employment density in the rural SSIs.

activities, including manufacturing industries, has increased over time. Cross-sectional evidence provided by Chuta and Liedholm (1979) suggests a positive relationship between the share of the rural labour force engaged in non-agricultural activities and the level of per capita income.

Finally, with respect to the type of SSI activities, a limited evidence shows that not only the size of establishments tends to rise or the location of enterprises tends to change, but the sectoral composition of SSIs also appears to shift with development. As income per capita increases, the activities of SSIs shift from "light" manufacturing with simple processing to intermediate and then to capital goods with more complicated processing ("heavy" manufacturing).^{11, 12} Within a sub-sector of manufacturing, SSIs also tend to shift from units producing more "traditional" goods (types of activities mainly dominated by women and family members as workers) to units making similar but more "modern" goods with the process of development. In other words, as development proceeds, the share of SSIs producing "traditional" goods as a percentage of total employment of SSIs in that particular manufacturing sub-sector declines [Liedholm and Parker (1989)]. Moreover, in Biggs and Oppenheim (1986), there is evidence that indicates that the sectoral shift or the shift within a sub-sector of manufacturing is accompanied by changes in firm-size, a transition from smaller to larger enterprises. To sum up, from all these studies discussed above, although there are some exceptions in certain regions or countries,¹³ a general trend seems to emerge, indicating that as income per capita increases, a systematic pattern of change and development occurs in SSIs as suggested by Anderson and others. This overall pattern of change and development consists of four important elements. First, within the group of SSIs itself, in the course of development the employment shares of CHIs and SIs, respectively, tend to decrease and increase. Second, the pattern of relative emphasis within the SSIs from CHIs to SIs or from SIs to MLSIs varies greatly not only within sub-sectors of manufacturing in a particular region, or between countries in the same sub-sector, but also between regions within a particular country in the same sub-sector. Third, as development proceeds, the location of SSI activities shifts gradually from rural to urban areas. Fourth, as income per capita increases, the activities of

¹¹Light manufacturing includes: food processing, beverages, wood, furniture, paper, printing and publishing, non-metallic mineral products, textiles, clothing, footwear, construction, metal fabrication, and leather. Heavy manufacturing includes: rubber, chemical industries, petroleum, basic metal, machines, and transport equipment.

¹²See, e.g., Chenery (1986); Syrquin (1989) and Biggs and Oppenheim (1986) for studies and evidence of this "structural transformation" of production within the manufacturing sector.

¹³Various studies that come with different empirical results, and hence conclusions, may be due to at least three important reasons. They may have differences in: (1) measuring; (2) period of coverage; and (3) areas studies with different basic socio-economic and geographical characteristics.

SSIs shift from light to heavy manufacturing.

III. MAIN FACTORS: DEMAND, SUPPLY, AND POLICY

Theoretically, the overall pattern of change and development of SSIs is the outcome of an extremely complex economic process. The forces which shape this overall pattern are the fundamental determinants of the role played by SSIs [Biggs and Oppenheim (1986)]. More specifically, the overall pattern of change and development of SSIs is affected by the interaction between demand, supply, and policy factors. In this section, however, each group of factors will be discussed briefly and separately.

Demand Factors

Systematic changes in the pattern of final and intermediate demand and the increases in competition from larger producers as per capita income rises are the two important demand factors often mentioned in the literature. As income increases, this total or domestic demand shifts gradually from food to non-food or manufactured goods (according to Engels' Law), and within the manufactured goods from simple (traditional) towards more sophisticated (modern) goods. This latter structural shift leads to the decrease in the market demand for industries (mainly CHIs) producing "inferior" goods and the increase in the market demand for industries (mainly MLSIs and, to a lower extent, SIs) producing high income-elasticity goods. Also, the higher the level of development or industrialisation, the higher is the industrial demand for sophisticated intermediate and capital goods.¹⁴ All these changes in demand lead to gradual changes in the sectoral composition of SSIs. In rural areas, decreased demand for the CHI, and, to a smaller extent, the SI goods¹⁵ also stems from the increases in the supplies of similar goods with better quality by urban based MLSIs in the local market as rural income increases. The entering of the urban larger producers into the rural markets, which were served fully or monopolised by only local SSIs formerly, however, is not only related to the increase of local income per capita, but also to the improvement of infrastructure in rural areas. Anderson and Khambata (1981) explain this as follows: In conditions

¹⁴The pattern studies of Kuznets (1976); Chenery and Syrquin (1975) and Chenery *et al.* (1986) all provide a wealth of evidence to support this proposition.

¹⁵Although it is often suggested in the literature that SIs produce goods with better quality than those from CHIs, it does not mean that all SIs manufacture "modern" goods. In other words, there are also SIs which make "inferior" goods; while, on the other hand, there are also CHIs (though not the majority of them) which produce "non-inferior" goods such as handicrafts for tourists. The problem here is that some of the literature discussed in this chapter states that "rural industries" usually make "inferior" goods without further making a clear distinction between goods produced by CHIs and those by SIs. Moreover, the difference between SIs and CHIs is only that the former have factories and employ wage-labour while the latter use mainly family-members as workers, who often work in the living-room.

where agricultural output and rural incomes are rising, the newly created markets for consumers and capital goods like machines, tools, and equipments for agriculture are highly dispersed. The creation of these new markets is a direct consequence of demand increases following the increase in incomes. In a rural area where infrastructure and transport services are poor, making it difficult to reach markets, the increase in local incomes, and hence local demand, induces a fragmented pattern of production in SSIs. In a condition like this, rural SSIs are under the protection of extremely fragmented spatial markets. When the infrastructure and transport facilities are improved—reducing the transport and marketing costs of many goods—not only do the rural markets for those goods become broadened but it also permits an increasing degree of entry by urban-based larger producers producing the same or similar goods. In addition, in time and with continued development in the rural areas (including improvements of infrastructure), the transport and marketing costs of goods from urban-based MLSIs to the rural markets will decline to the point where local SSIs producing similar goods no longer have a cost-advantage. The improvement of local infrastructure and transport facilities between the rural and urban areas will reduce all “natural” barriers for the urban-based MLSI goods to enter the rural markets significantly [Anderson (1982)].

Saith (1986) and Jhaveri (1981), who considered rural industries (mainly CHIs) as “inferior”, stated clearly in this respect that these industries could die with an expansion of modern industries from urban areas. They argue that in the course of development, with the ensuing encroachment of the culture and expenditure pattern and the improvement of infrastructure in the rural areas, together with rural income increases, preferences of many rural people change in favour of modern urban industries and imported goods, and so the competition from these modern urban industries becomes heavier. Also some studies on the economic potential of rural informal sector activities in several African countries have concluded that the growth potential for the majority of SSIs is, by and large, fully exploited, given the extent of infrastructure development, the policy biases towards MLSIs and imports, and the effective demands in favour of the MLSI and imported goods.¹⁶

A survey of the literature on this particular subject indicates that many authors use the argument of high transport and marketing costs and other elements of “location advantages” to explain the survival and the high rates of birth and growth of SSIs in rural areas where output and income in agriculture are rising.¹⁷

In rural areas, the increases in local income stem mainly from the output increases in agriculture. The rise in agricultural productivity (and hence in income)

¹⁶Unfortunately, many of these studies do not distinguish CHIs and SIs and analyse their potential separately. See, e.g., Mellor (1976) and Gasper (1989).

¹⁷See, e.g., Staley and Morse (1965); Anderson and Leiserson (1980), and Anderson and Khambata (1981).

of hired agricultural labourers and farmers creates more demand for non-agricultural goods, implying that the demand constraint for the rural SSI products is very closely linked to the growth of agriculture [Islam (1987)]. Many authors have argued, however, that the increased demand comes more from the wealthier landowning classes than from the poor farm-households. The poor households spend a larger share of their incremental income on foodgrains than do the rich households. For example, Hazell and Roell (1983) in their study on the household expenditure patterns in Malaysia and Nigeria have found that the households of the larger farms have the more desirable expenditure patterns than the smaller farms to stimulate "secondary rounds" of growth in the local economy.¹⁸ This implies that as far as the consumption demand is concerned, not only the level but also the distribution of income is a crucial factor. Further, these demanded non-agricultural products can be either locally made by SSIs or manufactured by urban MLSIs or by foreign industries. So, it is an important question whether or not the demand for non-agricultural products manufactured by SSIs in rural areas will increase as a consequence of income increases in rural areas.

With respect to this question, an important argument put forward in the literature on the issue of "local" effects of agricultural growth linkages is that the increased agricultural production generates a higher demand for non-agricultural goods manufactured locally and so brings about increased rural non-farm employment.¹⁹ For example, Gibb (1974) found that each 1 percent increase in agricultural income in the Nueva Ecija Province of Central Luzon in the Philippines generated a 1 to 2 percent increase in employment in most sectors of the local non-farm economy. In their study of the Muda Irrigation Project in Malaysia, Bell *et al.* (1982) found that for each dollar of income created directly in agriculture by the project, an additional 80 cents of value-added was created indirectly in the local non-farm economy.

Income elasticities of demand for the SSI goods with respect to income increases in rural areas is an important factor to be studied in relation to the question above. Although cross-country empirical data on the expenditure behavioural pattern of rural households in relation to the demand for the rural SSI goods are scarce, and in many cases not very accurate, several studies, for instance, by King and Byerlee (1978) in Sierra Leone and by Simmon (1976) in the Zaria villages, show some evidence which indicates that the income elasticity of demand for rural-produced non-food products is greater than unity. Some earlier studies from Massell (1969); Mellor (1976), and Liedholm and Chuta (1976) also confirm that the income elasticity of demand by rural households for non-food products is greater

¹⁸See also Mellor (1976) and Siamwalla (1982).

¹⁹For example, this argument is given explicitly by Mellor (1976).

than one. Unfortunately, these latter studies do not differentiate non-food products produced in rural areas from those made in urban areas.

From all existing evidence or studies on income elasticity of demand for non-food goods in rural areas, a conclusion that can be drawn is that not all "rural industries" produce "inferior" goods. However, some have argued that the value of income elasticities of demand for rural manufactured "non-inferior" goods tends to decline progressively if long-term trends are considered and significant income increases take place. Moreover, it has also been found that in rural areas, construction, transport and services, including education and health-care, tend to have higher income elasticities of demand than most manufactured goods. Thus, there seems to be an indication that the rural consumption of manufactured products tends to be weaker than the demand for such items (mentioned above) as rural income grows.

Supply Factors

On the supply-side, labour supply (from agriculture), investment linkages between SSIs and agriculture, and production linkages between SSIs and MLSIs and agriculture are considered as important supply factors.

With respect to the supply of labour, there are two quite different types of conditions under which labour might shift out of agriculture into SSIs (or non-farm activities in general), and hence more supply of labour to the industries (or other rural non-farm activities). This affects the pattern of growth of rural SSIs. The first condition is a "pull" factor, while the second one is a "push" factor. In the first condition, labour is "pulled" or attracted out of agriculture into non-agricultural sectors because income in the latter is higher than in agriculture. Or, rich farm households undertake non-farm activities as an effort to diversify their investment (money surplus) outside their own farm. In this first condition, therefore, the supply of labour is expected to flow more to SIs (high income activities) than to CHIs (low income or "marginal" activities). In the second condition, on the other hand, labour is "pushed" or forced out of agriculture into relatively worse non-agricultural activities. This is caused by, e.g., a decrease of average labour productivity in agriculture, or income per worker in the sector is so low that many agricultural labourers and farmers are pushed to do non-farm activities to provide additional income. In other words, lower income per capita in agriculture would imply relatively worse employment opportunities in the sector and, consequently, more supply of labour to rural non-farm, low-income or "marginal" activities, such as in CHIs. In addition, a high mechanisation process in agriculture may also cause more outflow of labour from the sector.

A study of Weijland (1992) using provincial data for Indonesia shows that in the settled outer islands where the people are less poor, employment in rural CHIs is lower and these industries are less specialised, making for fewer work-days per

month and providing for less primary incomes than rural CHIs in the densely populated central provinces where the people are much poorer. Based on this evidence, she suggested that *over-supply* of labour for CHIs is related to very low average productivity of labour in agriculture, representing relatively worse earnings in the sector.

An important causation of low average productivity of labour in agriculture is the high population density caused by high annual rates of population growth in the rural areas. The effect of high population density on the supply of labour to SSIs can be indirect through its "first-round" effects on the labour productivity in agriculture (as discussed above), or more direct via the high rates of unemployment in the rural areas. In a situation where the capacities of MLSIs, other "formal", urban-based sectors and agriculture are too limited to absorb extra annual supply in the labour market, a higher rate of rural population growth may lead to a higher rate of growth in the supply of labour force to the "informal" sector, either in urban or in rural economy.²⁰

The second important supply variable is constituted by the capital (investment) linkages between agriculture and SSIs. In an agrarian economy and in relation to rural SSIs, agricultural income plays not only an important role via the demand side (as discussed before), but there will also be effects through the supply side. Some part of the income earned by land workers and farmers in agriculture may create rural saving, and this can be used for investments in local SSIs, [Rietveld (1989)], implying that a positive correlation in the development process between agriculture and rural SSIs exists via both the demand side and the supply side.

Finally, the relationships between SSIs and other sectors of the economy, in particular agriculture (inter-sectoral linkages), and MLSIs (inter-industry linkages) in terms of production linkages, both backward and forward, is the third important supply determinant variable of the growth of SSIs. There is some evidence on the inter-industry linkages between SSIs and MLSIs, but the linkages between agriculture and rural SSIs have been found, however, to be more extensive than those with the MLSIs.²¹ With respect to this latter form of linkages, the inter-industry relationships between MLSIs and SSIs are mainly in terms of the subcontracting system.

²⁰See, for example, Weijland (1992); Mukhopadhyay and Chee Peng Lim (1985), and Rietveld (1989).

²¹See, for example, Mwima-Mudeenya (1978) and Chuta and Liedholm (1979). In addition to all these demand and supply factors, discussed above, Chaudhry (1985) and Chuta and Liedholm (1979) have included other variables: the prices of the rural SSI (non-farm) output relative to the prices of substitutes; the relative productivity of the rural SSI activities in contrast to other economic activities especially in agriculture, urban MLSIs, and the service sectors; the state of technology (alternative production techniques); urban and foreign demand; profit, saving, and reinvestment rates for rural SSIs and the supply of entrepreneurship as the most promising factors for a comprehensive treatment of the subject under study.

Bose (1978), basing himself on his own study on the slum industries in Calcutta, suggests that with rapid changes in the market structure due to the process of development, the only way SSIs can gain access to the markets and stay there (survive) or even grow is through the subcontracting systems or by selling their products to the large commercial houses. Staley and Morse (1965) considered the growth of subcontracting and local assembly activities in LDCs as the second important explanation, after the "advantages of location" factor, for the growth of SSIs. Examples are to be found in a variety of machine-shop activities, forging, foundry work, agriculture tools and equipment, and various goods industries.²²

Policy Factors

The third main influence on the size distribution of firms and the pattern of change and development of SSIs is policy. Many studies give the issue of policy (the role of government) in relation to the development and growth of SSIs in LDCs a prominent place, mainly because it has been found that, in practice, policies in many of these countries have been more in favour of MLSIs, especially large ones.²³

In many LDCs, the role of the government with respect to the development of SSIs in particular, and the industrial sector in general, is characterised by paradoxes. In these countries, like other sectors of the economy, industry is highly regulated by the government, with a lot of plans, programmes, ordinances, laws, regulations, institutions, and many other kinds of intervention measures. Government intervention can have profound implications, directly (e.g., providing special credit schemes) as well as indirectly (e.g., monetary, fiscal, and trade policies)—both for the composition of industrial (manufacturing) activity. A wide array of these government policies affect the behaviour of individual small as well as large producers and their access to resources, technology, and markets, through their effects on the relative factor and product prices and the functioning of markets [Haggblade *et al.* (1986)].

In spite of many economic incentives introduced by the governments in LDCs to encourage exports of manufactures and increase industrial efficiency, the protection of domestic industries against foreign competition (i.e., import substitution policies) is still a dominant feature of industrialisation in many of these countries. Moreover, the macro-economic climate in these countries continues to favour

²²Cartillier (1975) provides evidence in the Indian State of Tamil Nadu of subcontracting in the production of electrically powered tubewell pump-sets. Van der Veen (1973) provides examples of strong production linkages, both backwards and forwards, between SIs and the rest of the economy of Gujarat State (India), while Kaneda (1980) reviews the Japanese experience in promoting subcontracting, and Ranis (1990) draws attention to the Taiwanese experience.

²³For more discussion on this, see ILO (1972); Di Tullio (1973); Page (1979); World Bank (1978a); de Melo (1977), and Steel and Takagi (1983).

large-scale import substituting industries, leading to a concentration of investments in specific sectors or sub-sectors of manufacturing and at specific locations (i.e., industrial estates or complexes), and to a "premature" shift of productive resources into sectors or industries which require more complex capital-intensive production processes.²⁴

Based on experiences in many LDCs, an import substitution policy usually means that nominal rates of protection are relatively low for imported capital goods, raw materials and intermediate products, and relatively high for non-traditional consumer goods. This results in a structure of effective protection rates (EPRs) that in fact discriminates against domestic producers of intermediate, capital, and traditional consumer goods, while favouring producers of non-traditional consumer goods [Tambunan (1991)]. Moreover, the highest average effective protection is granted to the relatively capital-intensive industries producing durable consumer goods [von Rabenau (1976)]. Thus, as also found in Indonesia, effective protection tends to be particularly high in manufacturing sub-sectors where MLSIs, especially LSIs, are concentrated; SSIs are usually found in industries with relatively low or negative EPRs [Pitt (1981)]. In other words, the structure of protection tends to favour factor absorption and output growth in manufacturing sub-sectors in which MLSIs, in particular large ones, predominate.

All these distortions, as unintended consequences of a national aggregate policy, have a negative rather than a positive impact on domestic SSIs. Moreover, there is evidence in many LDCs that indicates that protection from imports and the availability of cheap credit in these countries have provided an incentive to both domestic and foreign investors to establish large, capital-intensive production units which can crowd out smaller domestic producers in the long run. Selective measures also tend to aggravate the policy-induced discrimination against SSIs within individual manufacturing sub-sectors. Such measures comprise foreign exchange and input controls, selective tariff protection on a case-by-case basis, exemptions from import duties, tax incentives, and subsidised export credit. MLSIs, especially large ones, are likely to be more successful in taking advantage of such measures than SSIs, especially CHIs, due to their relative importance and better access to influential administrators or the bureaucracy [Hieminz, (1982)].

It has been observed that the protection system and additional selectively supportive measures and a number of legal institutions ("inappropriate" policies) in many LDCs, including Indonesia, have had negative effects on domestic SSIs. All these have become a serious constraint for the smooth development of SSIs, and have impeded improvements in such areas as product quality and the output mix of these industries. Such policies have also reduced domestic final and intermediate

²⁴See Biggs and Oppenheim (1986) and Wong (1984).

demand for the less-protected domestic SSI products of which the quality in general is inferior to that of imports and domestic MLSIs [McCawley (1979)].

With respect to rural SSIs, the distortions to macro-economic policies, which weaken these industries on the one hand and rural the linkages on the other, include the customary system of import-licencing biased towards urban industry and other activities, credit markets similarly characterised by tight credit rationing in favour of urban sectors, (including industrial activities), tax incentive which are usually available only to firms with direct access to government officials at the centre, exchange rate overvaluation, and direct interventions in the internal terms of trade in favour of urban economy [Ranis (1989)].

Past governmental efforts at encouraging the growth of SSIs have generally concentrated primarily on project interventions, aimed at providing specific assistance to particular target groups [Liedholm and Mead (1987)]. Many empirical studies show, however, that such efforts have often been frustrated by a macro-economic policy environment that is harmful to the development of SSIs, and leads, unfortunately, to ineffectiveness of such direct governmental interventions.²⁵

Finally, many studies, for instance in Africa have found that credit rationing, often adopted in many LDCs, has led to the bulk of funds being allocated to MLSIs, especially large and most politically apt ones of the eligible recipients. Policies which reserve a portion of the loan portfolio of the commercial banks for SSIs appear to have resulted in a similar bias in favour of MLSIs.²⁶

To sum up, there are three different levels of policy: macro, meso, and micro. Macro-scale policy relates to policy measures taken by the government to control the national economy. Aspects which matter to the SSIs in particular are the level of general prices and taxation, interest levels, the improvement of the institutional and physical infrastructure, the availability of good credit facilities and market for output, the sustainable supply of raw materials and other inputs, and the rate of exchange. These policy measures have an indirect effect on the development of SSIs.

Meso-scale policy, for instance sector-oriented policy measures, "relates to ways in which the macro-scale policy affects the distribution of resources and influences various sectors of the economy. Whereas macro policy relates to the sum of the effects, meso policy has more to do with the way in which macro-scale policy stimulates or damps down a particular sector or income group." [DC (1992), p. 15]. These policy measures have also indirect effects on the development of SSIs, though at a lower degree than those from macro-scale policy measures.

Finally, micro-scale policy relates to concrete decisions which are taken on

²⁵ See, e.g., Tambunan (1990, 1991) and McCawley (1979).

²⁶ See, e.g., Steel (1977, 1979).

distribution, market research, investment, personnel policy, management, etc., within the enterprises themselves. So, these policy measures affect the development of SSIs in a direct way.

All these policies may strengthen or weaken or neutralise the effects of the supply and demand factors discussed above on SSIs. Most policies discussed in this section are, however, the macro and meso levels which have been found to have unintended negative effects on the development of SSIs.

IV. SOME CONCLUSIONS

Although there are some exceptions in certain regions or countries, the general trend indicates that as income per capita increases, there is a systematic pattern of change and development of SSIs. One important tendency shown by the evidence is that in the course of development the employment shares of CHIs and SIs, respectively, tend to decrease and increase. However, there is no evidence that SSIs, especially CHIs, have all disappeared even in more "advanced" developing countries. As discussed above, there is a relationship between the growth of SSIs, in particular CHIs, and the increase of population pressure or the decrease of labour productivity in agriculture. In other words, no matter how far a country has developed, as long as domestic problems of high rates of unemployment, mass poverty or unequal distribution of income exist, SSIs remain important as a "last resort" for the poor of the country.

The notion stating that in the course of development the importance of SSIs (especially CHIs) decreases is based, theoretically, on the "demand-side" of the process: the higher the level of development, the heavier the competition from large, modern industries (MLSIs)—and, as a result, the more SSIs out of business. But, in many cases, the "supply-side" has seemed to play a more dominant role than the "demand-side": the more people become poor the more supply of labour to SSIs, and thus the number of establishments of SSIs and the people employed in them increase. This dominant role of the supply-side may explain the continued growing of employment in SSIs in many LDCs despite the ongoing development processes in those countries.

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