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**Small Scale Industries in Developing Counties:
Empirical Evidence and Policy Implications**

By

Carl Leidholm and Donald Mead

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**Department of Agricultural Economics
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I INTRODUCTION

The role of small scale industries in providing productive employment and earning opportunities has emerged as an important concern among policy-makers, international donor agencies, and researchers. During the 1970's, a heightened interest in these activities paralleled the increased concern for equity and employment objectives. There was also the growing realization that the large scale, "modern" industrialization strategies of the previous decade generally had failed to solve the problems of underemployment and poverty. More recently, enhancing small scale industries has been viewed as an effective way of fostering the private sector's contribution to both the growth and equity objectives of developing countries.

Yet, until recently relatively little has been known about small firms in most developing countries, particularly those enterprises at the lower end of the size spectrum. Most such firms elude the standard statistical nets and exist frequently unobserved in the underground economy. Reviewing the existing literature on what was known about small scale industry in 1974, Morawetz concluded that "remarkably little is known about its composition and characteristics." Consequently, government policy-makers and donors have generally been forced, of necessity, to make decisions in this area "unencumbered by information."

This paper is designed to fill some of the missing pieces of the small industry mosaic. It is based primarily on the findings generated from a set of studies financed by USAID and conducted jointly by Michigan State University and local scholars to uncover, describe, and analyze small scale industrial enterprises in a dozen countries. In six of these countries--

Sierra Leone, Jamaica, Thailand, Honduras, Egypt, and Bangladesh--comprehensive, in-depth surveys and analyses of small industries were undertaken; in the remaining six--Haiti, Burkina Fasso, Zambia, Botswana, Indonesia, and Kenya--less extensive studies were conducted. The key findings from these studies as well as their implications for policy and programs provide the main focus of this paper.

1.1 Definitions

Before proceeding, a clarification of several of the terms used in this paper is in order. "Small scale," "industry," and "rural" deserve particular attention.

What is "small scale"? There is no common agreement about what constitutes a small scale firm. A survey of 75 countries conducted in 1975 revealed that over fifty different definitions were being used (Auciello et al., 1975). Some were quantitative involving such measures as assets employed (maximum ranging from \$25,000 to \$2 million), number of employees (maximum ranging from 15 to 500), sales turnover or some combination of these, while others were more qualitative, such as being "within the reach of people" (Harper, 1978). The World Bank's (1978a) working definition of small scale included firms with up to a maximum of \$250,000 of fixed assets excluding land in 1976.

Such a diversity is not surprising, since there is no universally best way to define the term. "Small" is a relative concept, and what is considered small in one country may be considered large in another. Moreover, definitions will vary depending on the purpose for which they were designed in a particular country. Within every country there is a continuous spectrum of firm sizes and characteristics, ranging from a woman

weaving baskets in a farm household, to a collective of journeymen making furniture in a rural market town, to an automated brewery employing thousands of workers. Consequently any boundary creates, of necessity, an arbitrary dividing line between firms. Since no single measure is ideal, one must search for and use the "least objectionable" concept.

With this caveat in mind, small scale has been defined in our studies as those enterprises with less than fifty workers.¹ Employment was used because it is simple, relatively easy to measure accurately, and a readily available indicator of size that can be compared across countries.² Fifty has been chosen as the arbitrary upper size limit because it would exclude most foreign-owned firms as well as most of those more complex, specialized factories that have privileged access to capital or other inputs. No lower size limit has been imposed.³ Since there are important differences in the characteristics of the firms in the "small scale" category, however, alternative ways of grouping these firms for analytical and policy purposes will be examined in Section 3.

1. The one exception is in Jamaica, where 25 workers or less was the cut-off.

2. Some of the limitations of this measure are the seasonality of labor, and its relative inappropriateness as a measure when employment promotion is a policy or program objective.

3. Some countries (e.g. India) and some analysts (Steel, 1983) do, however, exclude from the "small scale" category firms at the lowest end of the size spectrum. These are frequently called "micro" enterprises (PICES--no hired workers; World Bank--less than 10 employees and total assets of \$20,000 or less; Blayney and Otero (1985)--5 workers or less and with fixed assets less than \$10,000). These smallest firms are also variously called: "tiny" (India -- with invested capital less than Rs. 100,000 [\$12,500] or 26 employees); "handicraft" (Indonesia -- employing less than 5), "cottage shop" [home] (Philippine -- assets less than P. 0.1 million [\$13,500] or 20 workers) or (Colombia -- less than 5 workers), "household" (Anderson, 1982), or "dwarf" (Hoselitz [1959] -- less than 5 workers). Steel argues that there must be some human or physical capital entry barriers before a firm could be classified as "small."

What is meant by "industry?" Although the term industry is sometimes used in a generic sense (as in the "tourism industry"), it is usually associated with manufacturing. The primary focus of our studies has been on these manufacturing activities (ISIC codes 31-39) as well as the repair of manufactured goods (ISIC 95), a treatment that is consistent with most manufacturing censuses and studies. In some instances, data on small scale trading and service activities have been collected, but, for the most part, these data are sketchy. Consequently, most of the analysis in this paper is confined to manufacturing and related repair activities.

Finally, what is considered to be "rural?" The dividing line between urban and rural is arbitrary, and definitions vary from country to country. Frequently, they are framed in terms of administrative or infrastructure characteristics rather than minimum size or occupational structure with the result that settlements of a few thousand inhabitants are sometimes classified as urban. The U.N. defines rural as those localities with less than 20,000 inhabitants. This broader definition, which includes small and medium sized towns, is the one used in this paper.

1.2 Data

The paucity of reliable data on small scale enterprises in developing countries is inextricably linked to many of the characteristics of the enterprises themselves. Their numbers are vast, their locations are widely dispersed and often impermanent, problems of classification are intricate and proprietors' incentives to cooperate are weak. Moreover, much of this activity is invisible from the road and can only be seen by those who penetrate the privacy of the household or farm compound. In addition, most

small proprietors do not keep written records, which means reliance must be placed on the accuracy of their memory recall.

1.2.1 Primary Data Sources

A unique, two phase (stage) data collection strategy has consequently been developed by Michigan State University and local scholars taking into account these small enterprise characteristics. In Phase I, a careful census of the entire population of small firms was conducted in the selected survey areas. In Phase II, a sample of firms uncovered in Phase I was interviewed repeatedly over the course of a year to generate many of the flow variables.

This two phase data collection strategy was followed in six countries. The survey strategy was first tested and applied in Sierra Leone in 1974-75 (Chuta and Liedholm, 1975).⁴ With refinements and additions, it was later applied in Bangladesh in 1978 (BIDS, 1981), Jamaica in 1978 (Fisseha and Davies, 1981), Honduras in 1979 (Stallmann, 1983), Thailand in 1979 (Narongchai, et.al., 1983), and Egypt in 1981 (Davies, et. al., 1984). The surveys in Sierra Leone and Jamaica were designed to be representative of the entire country, while in the others the coverage was only partial. Eleven thanas (regions) were covered in Bangladesh, four regions in Honduras, four provinces in Thailand, and two governorates in Egypt.⁵ More details of these surveys are provided in Table 1.

4. A follow up study was subsequently conducted in 1980 (Chuta, et. al., 1981) to examine the dynamic changes in small industries in Sierra Leone.

5. See appendix A for details on the localities chosen.

Table 1

Primary Data Sources: Survey Details

Aspect	Country					
	Jamaica	Thailand	Honduras	Egypt	Sierra Leone	Bangladesh
A. Scope of Study						
1. Year of Study	1978-80	1979-81	1979-80	1981-82	1974-75	1978-80
2. Country Coverage	complete	partial	partial	partial	complete	partial
3. Characteristics of covered locations	rural & urban	rural & urban	rural	rural & urban	rural & urban	rural & urban
4. Population share of enumerated areas (% of total country)	40.7	0.8	7.2	5.7	18.5	3.0
B. Phase I						
1. Primary sampling area	entire country	four provinces	four regions	two governorates	entire country	eleven thanas
2. Secondary sampling area	stratified comp.cluster	purposive	stratified comp.cluster	stratified comp.cluster	stratified comp.cluster	100%
3. Elementary unit sampling	100%	100%	100%	100%	100%	100%
4. Activities covered ^a	manufacturing & services	manufacturing & commerce	manufacturing	manufacturing & dairy products	manufacturing & services	manufacturing
5. Size of firms ^b	<26	all	<51	<51	<50	<51
6. Number of enterprises enumerated (contacted) ^c	9,500	5,545	2,120	35,818	9,195	57,184
7. Manufacturing ^c firms:						
- number	3,484	4,686	2,120	15,880	5,135	57,184
- % of total	37	85	100	44	56	100
8. Average employment for manufacturing firms ^d	2.2	5.5 (2.8)	1.6	1.6	1.9	3.8
C. Phase II						
1. Elementary unit sampling	random	random & purposive	random & purposive	random & purposive	random & purposive	random & purposive
2. Sample size ^d	200	147 (424)	495	426	366	1,300
3. Firm size	<26	<50	<50	<50	<50	<50

Sources: Study reports of respective countries (see bibliography).

Notes: ^a19,938 village producers of dairy products were enumerated in Egypt. They will be excluded from this report henceforth.

^bThere were no size limitations for Thailand Phase I study; still only a handful of large scale manufacturing firms were encountered

^cExcludes large-scale enterprises (LSE's) except in Thailand.

^dThe pair of numbers for Thailand refer respectively to the "Town" and ("Village") surveys.

1.2.2 Sample Design

The data collection strategy adopted in these six countries involved the utilization of sample survey techniques. Sample surveys, in which a sub-set of the universe of enterprises is selected using formal sampling procedures, permit inferences to be made about the total universe of enterprises in the area.⁶ Although many types of sample surveys exist, a stratified, two stage, "compact cluster" sample design was typically employed in these studies.

Stratification, which involved dividing the entire population of enterprises in the survey areas into sub-groups or strata that are relatively homogeneous, was based on the size of localities.⁷ Such a stratification variable was appropriate because not only do the number and characteristics of establishments vary importantly by size of settlement (Liedholm, 1973), but also because the required population data are generally available. In most countries, the locality sizes of the strata were: below 2,000 inhabitants, 2,000 - 20,000 inhabitants, 20,000 - 100,000 inhabitants and above 100,000 inhabitants.⁸

Within each stratum, a randomly selected group of localities (i.e. clusters) was chosen.⁹ A complete enumeration was then made of all the

6. The case study, another option, permits in-depth analysis, but since the firms are not usually chosen by a formal sampling process, generalizations to the total universe of firms is not possible. A complete census, another option, is usually too costly and time consuming.

7. The "guaranteed gains in precision" over simple random sampling results from the fact that strata are chosen so that variations between strata are as large as possible and the variations within strata are minimized. Computations based on the Sierra Leone data revealed that under random sampling 664 rather than 408 establishments under stratified (random) sampling would have been needed to yield the same precision of results (Liedholm and Chuta, 1981).

8. In Honduras, the strata were: less than 500 inhabitants; 500-1,999; and 2,000-20,000.

9. In Bangladesh, however, all the localities in the strata were

small firms operating in the chosen localities. This design feature, which is technically called "compact cluster sampling," facilitates the assembling of an accurate sample frame, and also reduces enumeration costs.¹⁰ The Phase I survey was conducted at this stage.

Finally, from each of the selected localities (clusters), a fixed number of small scale establishments (elementary sampling units) were randomly selected for more detailed scrutiny.¹¹ These second stage or Phase II firms were enumerated once or twice-weekly over a twelve month period.

The sample sizes randomly chosen in each country were determined on the basis of the available budget, the estimates of the variance of the key parameter to be analyzed, and the desired levels of precision.¹² Variance

enumerated in Phase I (BIDS, 1981). In Thailand, the localities were selected not at random, but on a purposive basis; consequently inferences could not easily be made about the universe of enterprises in the area. 10. If the enterprises within the cluster, however, are more homogeneous than the population of enterprises in the entire strata, the cluster results become less precise. Fortunately, analysis of the Sierra Leone data indicated that loss of precision due to the use of clusters was minimal. The intra-cluster coefficient on the labor variable, for example, in the Sierra Leone study was .037. A value of +1 indicates perfect homogeneity, while a value of 0 indicates that there is no imprecision when using clusters. For more details see Liedholm and Chuta, (1981).

11. In each country, some firms were also selected on a purposive basis so that the complete array of production techniques could be examined. They were not included in the general analysis, however, which was based on the randomly chosen firms.

12. The target or desired levels of precision relate to the margin of error around the mean estimate of the variable as well as to the probabilities that the actual error is larger than the specified margin of error. Typically, a 5 to 10 percent margin of error on the mean sample estimates at a 95 percent confidence level was targeted. For instance, in Sierra Leone it was determined that a sample size of 222 randomly selected small enterprises in Phase II would yield a 5 percent margin of error at a probability level of 95 percent. To reduce the margin of error by half, both the sample size and variable costs of the field survey would have to double. For more details and findings relating to the trade-offs, see Liedholm and Chuta, (1981). The attrition rate of firms participating in these surveys also had to be taken into account in determining the sample size.

estimates were typically obtained from pilot studies undertaken prior to the launching of the surveys. The sample sizes ultimately chosen in the various countries are summarized in Table 1.

1.2.3 Phase I Survey

In the selected "compact clusters" or other areas selected for Phase I canvassing, a complete census of all the small establishments was undertaken. Teams of carefully supervised enumerators went street-by-street to obtain quickly from each enterprise--many of which were operating out of their homes--information on the type of activity, the number of workers, and the number of machines. The data provided the basis not only for estimating the magnitude and composition of small enterprises in the area, but also produced a reliable sample frame for the subsequent Phase II survey. The number of small enterprises actually enumerated during Phase I in each country was quite sizeable, ranging from 2,120 in Honduras to 57,184 in Bangladesh (see Table 1).

1.2.4 Phase II Survey

From those small firms selected for enumeration during the Phase II surveys, a detailed array of information was generated. Two major types of data collection methods were used. A one-shot (single point in time) survey procedure was used to obtain from the proprietor stock type information, such as figures on building, tools, equipment, furniture, and inventories as well as the socio-economic characteristics of the proprietor. A multiple-visit (or cost route) survey approach, in which the proprietor was interviewed as frequently as twice-weekly over a twelve

month period, was used to obtain data on sales, outputs, labor used, material purchased and other flow variables.

Although time-consuming and costly, the multiple-visit approach was used to minimize the "non-sampling errors" that can be potentially acute in small enterprise data collection exercises. Since most small scale firms do not keep records, one must rely on the memory recall of the proprietor. The frequent yet irregular nature of the small firm flow transactions, however, makes it difficult for proprietors to remember them accurately over long periods of time. Tests of memory recall accuracy conducted in Honduras and Jamaica revealed that the measurement errors associated with one-shot surveys of flow variables were intolerably high.¹³ Consequently, the multiple visit approach was deemed essential if measurement errors were to be kept within reasonable bounds.

1.2.5 Economic Environment in the Primary Data Source Countries

A brief review of the economic environment in the six countries provides a context for interpreting and understanding the findings of these small enterprise surveys. A few salient national statistics for these countries, arrayed by level of per-capita income, are provided in Table 2.

An examination of the aggregate data reveals the wide array of economic conditions represented in these six countries. The aggregate levels of per-capita G.D.P in 1980, for example, ranged from \$1,212 in Jamaica--a "middle-income economy"--to \$143 in Bangladesh--one of the

13. In Honduras, the "estimated" mean value of yearly sales based on the one-shot recall was 85 percent higher than that derived from the twice-weekly, year long enumeration. Moreover, the variation was high; only 25 percent of the one-shot responses were within ± 25 percent of the enumerated values. For more details, see Liedholm, (1986b).

Table 2
National Socio-Economic Statistics

Indicator	Units	Country					
		Jamaica	Thailand	Honduras	Egypt	Sierra Leone	Bangladesh
I. STATIC DATA:							
1. Per capita GDP (1980)	US\$	1212	702	674	464	374	143
2. Agriculture percent of GDP	%	8	25	25	19	31	47
3. Industry percent of GDP	%	16	20	14	12	7	10
4. Manufacturing employment in total non-agricultural labour force	%	17	26	27	27	11	38
5. Area	10 ³ km ²	11.0	514.0	112.1	1001.4	71.7	144.0
6. Population density (1980)	pers/km ²	200.0	91.4	33.0	42.2	48.8	614.6
7. Population							
Total number in 1980	10 ⁶	2.2	47.0	3.7	39.8	3.5	88.5
Rural, in 1980	%	50.0	82.0	70.0	49.0	83.0	92.0
Average life expectancy 1975-80	Years	70	60	57	55	46	46
Literacy rates	%	96	79	57	38	7	26
II. DYNAMIC DATA (Annual growth rates)							
1. GDP 1970-80							
a) Total, real growth	%	-1.1	7.2	4.7	6.5	2.4	6.0
b) Per-capita, real growth	%	-2.6	4.5	1.2	3.9	-0.1	3.4
2. Agricultural output (1970-80)	%	0.7	4.7	1.5	2.7	2.2	2.2
3. Manufacturing output (1970-80)	%	-2.2	10.6	5.4	8.0	3.8	11.8
4. Consumer price index (1970-80)	%	18.7	10.1	8.1	9.9	12.8	19.0
5. Gross population (1970-80)	%	1.5	2.6	3.4	2.4	2.6	2.5

Sources: United Nations (1983). United Nations (1984). World Bank (1982).

Notes: Many figures have been rounded off.

poorest of the "low income economies." The relative importance of manufacturing also varied, ranging from 7 percent of G.D.P. in Sierra Leone to 20 percent in Thailand.

Substantial variation in growth rates also were exhibited. Two countries, Sierra Leone and Jamaica, experienced negative increases in real per-capita income from 1970 to 1980, while in Thailand, Egypt, and Bangladesh the annual per-capita growth rate exceeded 3 percent. Although manufacturing output increased in five of the six countries during the 1970's, employment in large scale manufacturing firms did not keep pace in any of them. Indeed, employment in such firms actually declined during this period in both Sierra Leone (Chuta and Liedholm, 1985) and Jamaica (Fisseha, 1982).

1.2.6 Other Data Sources

In addition to the six countries where the two phase surveys were conducted, M.S.U. and host country scholars have also generated information on small scale industries in six other countries. In three of them, Phase I type surveys were undertaken, while in the remaining three, a particular facet of small scale firms was examined.

Phase I surveys were conducted in Haiti, Zambia, and Burkina Fasso. In Haiti, a one-shot survey of small manufacturing firms in 36 localities was undertaken in 1979 (Haggblade, 1979). In Burkina Fasso, 637 villages in the Eastern O.R.D. were enumerated to ascertain the number and basic characteristics of small enterprises in that region; the one-shot survey was conducted in 1980 (Wilcox and Chuta, 1982). Finally, in Zambia, a complete enumeration of small enterprises located in randomly selected

rural and semi-urban localities of all provinces except the Copperbelt and Lusaka was carried out in 1985 (Milimo and Fisseha, 1986).

The other small industry studies were conducted in Botswana, Indonesia, and Kenya. In Botswana, a detailed examination of the small scale sorghum beer industry was undertaken (Haggblade, 1984); in Indonesia, sub-contracting in Central Java was studied (Mead, 1984); in Kenya, the existing data on small industry were reviewed and synthesized (Kilby, 1982).

The findings from other studies of small scale industry in developing countries have also been incorporated into this report. Included were studies undertaken by governmental statistical agencies, international donor agencies and research units, as well as by individual scholars.

1.3 Organization of Paper

The paper is organized into three main sections. Section II provides a descriptive profile or overview of small scale industries in developing countries and sets forth what is known about their magnitude, composition, input structure and growth. Section III examines the determinants of the demand for and supply of the goods and services produced by such enterprises. The major policy and program issues relating to enhancing the role of small scale industrial firms are then reviewed in Section IV.

II DESCRIPTIVE PROFILE

2.1 Introduction

This section, drawing primarily on the research studies discussed in the previous section, presents a descriptive profile of small scale manufacturing enterprises in developing countries. Specific aspects to be scrutinized include the magnitude, composition, location, and size distribution of these activities. In addition, the anatomy of their two primary inputs--capital and labor--are examined. The section concludes with a review of how these activities have changed over time.

2.2 Overall Magnitude and Importance

How important are small scale industries in developing countries? A marshalling of available evidence indicates that small scale firms are a significant and frequently dominant component of the industrial sector. Table 3 indicates that in thirteen of the fourteen listed countries, small scale firms account for more than 50 percent of total industrial employment. For these countries, a mean of 71 percent of all industrial employment was generated by small enterprises.¹

Most of the employment was concentrated at the smallest end of the size spectrum. Approximately, two-thirds of the manufacturing enterprises in these fourteen countries employed fewer than 10 persons. The paucity of

1. This percentage is somewhat higher than the 52 percent figure for mean small enterprise employment reported by Banerji (1978) in his review of data from 21 developing countries during the 1960's. Many of the "developing" countries reported in his study, however, had relatively high per-capita incomes (e.g. Spain, Kuwait, Singapore, Israel). If number of enterprises rather than employment had been compared, small scale firms would have accounted for 91% of the total manufacturing enterprises.

Table 3

Distribution of Employment in Manufacturing by Firm Size -- Percentage

Country and date	Per capita Income (\$) 1982	Firm Size (number of workers)		
		Small Scale		Large Scale
		Below 10 employed	10-49 employed	50 or more employed
India-1971	\$260	42%	20%	38%
Tanzania-1967	\$280	56% ^a	7%	37%
Ghana-1970	\$360	84% ^a	1%	15%
Kenya-1969	\$390	49% ^a	10%	41%
Sierra Leone-1974^b	\$390	90%	5%	5%
Indonesia-1977	\$580	77%	7%	16%
Zambia-1985	\$640	83%	1%	16%
Honduras-1979	\$660	68%	8%	24%
Thailand-1978	\$790	58% ^a	11%	31%
Philippines-1974	\$820	66%	5%	29%
Nigeria-1972	\$860	59% ^a	26%	15%
Jamaica-1978	\$1330	35%	16%	49%
Colombia-1973	\$1460	52%	13%	35%
Korea-1975	\$1910	40%	7%	53%

Note: ^a Computed as a residual, which is the difference between employment recorded in labor force or population surveys (includes all sources) and establishment surveys.

^b Bolded countries are those where joint MSU-country surveys were conducted.

Sources: Africa: computed from Page (1979) and Chuta and Liedholm, (1985).

India: Mazumdar (1980);

Indonesia: computed from Snodgrass (1979);

Honduras: Stallmann (1983);

Thailand: World Bank (1983);

Philippines: Anderson and Khambata (1981);

Jamaica: Fisseha (1982);

Colombia: Berry and Pinell-Siles (1979);

Korea: Ho (1980).

Zambia: Milimo and Fisseha (1985).

firms in the 10-49 employee range should also be noted. Indeed, on average, less than 10 percent of industrial employment was generated by firms of this size. Except for Nigeria, the relationship between firm size and the magnitude of employment was "U-shaped".

The relative importance of small scale enterprises, however, is partly related to the country's overall level of per-capita income. Such firms are particularly prominent in lower income countries, playing a relatively smaller role in countries with higher incomes. Small scale enterprises, for example, accounted for 64 percent of industrial employment in those countries in Table 3 with lower than \$1,000 per capita income, but generated only 42 percent of such employment in those countries where per capita income exceeds \$1,000.²

Small firms also account for a significant portion of the value added generated by the manufacturing sector. Table 4 reveals that, for 7 countries with available data, a mean of 37 percent of manufacturing value added came from small scale firms.³ Although the small firms' relative value added contributions were less than their relative employment shares, their effect on the economy was, nevertheless, still substantial. Indeed, even as a percent of total Gross Domestic Product, the contribution of small enterprises ranged from 2.9 to 8.2 percent.

2. In Banerji's (1978) review, small enterprise employment in "low income" countries was 52 percent, but declined to 24 percent of total manufacturing employment in "high income" countries. Japan among others is an exception.

3. In Banerji's (1978) survey, small enterprises were responsible for 24 percent of the total manufacturing value added.

Table 4

Contribution of Small Scale Manufacturing to Gross Domestic Product

Country	Small Scale Manufacturing as a:	
	Percentage of Total Manufacturing GDP	Percent of Total GDP
Bangladesh (1977-78)	50%	4.6%
Burundi (1980)	64%	8.2%
Ghana (1970)	26%	2.9%
Pakistan (1979-80)	30%	4.6%
Sierra Leone (1975)	43%	2.9%
Indonesia (1974-75)	26%	NA
Jamaica (1978)	22%	3.5%

Source: Indonesia: Snodgrass, 1979 -- limited only to firms
employing 20 or less

Pakistan: Amjad, 1984, p. 15

Bangladesh: BIDS, 1981, p. 63

Jamaica: Fisseha and Davies, 1981

Sierra Leone: Liedholm and Chuta, 1976

Ghana: Steel, 1981

Burundi: Page and Steel, 1984

2.3 Composition

Small scale industrial activities tend to be concentrated in the production of "light" consumer goods. Three two-digit industry groups-- food/beverages (31), Textile/wearing apparel (32), and wood products (33)-- account, on average, for over 77 percent of small enterprise employment in the 10 countries reviewed in Table 5.⁴ Among these groups, clothing (primarily tailoring) predominates in most countries. With the conspicuous exception of Zambia, it accounts for no less than one-fifth and frequently greater than half of all small enterprise employment. Furniture and wood crafts tend to dominate within the wood category, while baking, beer brewing (in the rural areas of many African countries such as Zambia, Burkina Fasso, and Botswana) and agricultural processing are frequently important within the general food group. Other small enterprise activities typically found with regularity are car, electrical and bicycle repair, blacksmithing, and light engineering.

Only rarely are small enterprises found to be engaged in the "heavy", basic industries. Chemical, paper, cement, and basic metal products, for example, are almost totally in the province of the large scale producers.

2.4 Location

Where are most of the small industries located? A surprising yet important finding is that in most countries the vast majority are located in rural areas.⁵ Moreover, employment in small rural manufacturing

4. Banerji (1978), reports that 70 percent of small enterprise employment was concentrated in light industry (including non-metal minerals) in his 23 countries during the 1960's.

5. The U.N. definition of rural, localities with fewer than twenty thousand inhabitants, is used in this paper. The conclusions do not change markedly if other definitions are used.

Table 5
Composition of Employment in Small Scale Manufacturing Establishments
-- Percentage --

ITEM	AFRICA				ASIA			LATIN AMERICA		
	Sierra Leone	Nigeria ^a Mid- Western and Lagos States	Zambia all except Copperbelt and Lusaka Provinces	Egypt Two Rural Governor- ates	Bangladesh 11 Thanas	India 5 Northern States	Thailand Provincial Villages	Philippines entire country	Jamaica entire country	Honduras 3 Rural Provinces
	1975	1972	1985	1982	1980	1971	1980	1972	1979	1980
Food/Beverages (31)	5%	5%	55%	58%	23%	22%	2%	8%	7%	39%
Textiles/Wearing Apparel (32)	52	56	5	21	58	42	40	48	30	30
Wood Products (33)	18	11	33	9	13	10	26	6	35	15
Paper Products (34)	—	2	—	* ^b	*	*	—	—	*	—
Chemical Prod.(35)	—	—	—	*	1	*	—	—	*	—
Non-metal Prod.(36)	—	1	2	4	2	12	1	—	1	11
Basic Metal (37)	—	—	—	—	—	*	—	—	—	—
Other Metal Ind.(38)	20	15	4	6	2	6	*	16	11	3
Others ^c (39)	5	10	1	2	1	7	31	22	16	2
Total	100	100	100	100	100	100	100	100	100	100

Sources: Sierra Leone: Liedholm and Chuta (1976); Nigeria: Aluko *et. al.* (1972 and 1973); Zambia: Milimo and Fisseha (1985); Egypt: Davies *et. al.* (1984) -- includes dairy products; Bangladesh: BIDS (1981); India: Mazumdar (1980) -- household units only; Thailand: Narongchai *et. al.* (1983); Philippines: Anderson and Khambatia -- households plus establishments with fewer than 10 employees; Jamaica: Fisseha and Davies (1981); Honduras: Stallmann (1983).

Note: ^aBased on number of enterprises.

^bLess than one percent.

^cIncludes repair activities.

industries typically exceeds that generated by all urban manufacturing firms. In ten of the thirteen countries in Table 6, the rural areas accounted for more than half of total manufacturing employment. For all thirteen countries, 63 percent of the manufacturing employment, on average, was generated in rural areas.

Even these figures may understate the relative importance of rural industries in some of these countries. The typical rural enterprises do not have postal boxes, are widely dispersed and are frequently impermanent. Moreover they are often invisible, since much enterprise activity takes place within the farm compound and can be seen only by those who penetrate the privacy of the household. Consequently, "official" establishment censuses often overlook the smallest rural firms. Indeed, comparison of village by village enterprise censuses conducted by M.S.U. and local scholars with "official" censuses shows that the latter not infrequently undercounted the number of enterprises by a factor of two or more.⁶

2.5 Size

The overwhelming bulk of these firms are extremely small. Indeed, in five of the seven countries reviewed in Table 7, over half the small enterprises are one-person firms. Moreover, eighty-five percent or more of the firms in all of these countries employed fewer than six persons.⁷ In

6. In Sierra Leone (Chuta and Liedholm, 1985) and Honduras (Stallmann, 1983) actual small manufacturing employment was found to be double the official estimate, while in rural thanas in Bangladesh the discrepancy was estimated to be twenty times (Ahmed, Chuta, Rahman, 1978). It should be noted, however, that the part-time element is not reflected in these figures.

7. Similar results are found in Ghana (Ghana, 1965), Nigeria (Aluko, 1972), and rural Burkina Fasso (Chuta and Wilcox, 1982), where 95 percent

Table 6

Percentage of Manufacturing (Large and Small Scale) Employment
In Rural Areas

Sierra Leone^a — 1976	86
Indonesia ^b -- 1976	80
Sri Lanka ^c -- 1971	75
Jamaica^a — 1980	74
Ghana ⁱ -- 1973	72
Bangladesh^d — 1974	68
Zambia^h	64
Philippines ^e -- 1976	61
India ^a -- 1967	57
Pakistan ^f -- 1975	52
Taiwan ^g -- 1976	49
Malaysia ^a -- 1970	46
Korea ^f -- 1975	30

- Sources: a Chuta and Liedholm (1979)
 b Snodgrass (1979), p. 32
 c Sethuraman (1978), p. 62
 d BIDS (1981), p. 63
 e Anderson and Khambata (1981), p. 92
 f Amjad (1984), p. 18; rural defined as
 localities under 5000 inhabitants
 g Ho (1980), p. 21
 h Milimo and Fisseha (1975)
 i Checchi and Company (1976)

Note: rural defined as all localities under 20,000
inhabitants.

Table 7
Distribution of Small Scale Manufacturing Establishments by Size
-- Percentage --

Size (Number of Persons)	Bangladesh	India		Sierra Leone	Zambia	Honduras	Egypt	Jamaica
	11 Thanas 1980	Punjab Rural 1971	Haryana Rural 1971	All 1976	1985	3 Rural Provinces 1980	2 Rural Governorates 1982	All 1979
1	15	65	57	42	68	60	63	62
2 - 5	69	32	38	53	30	35	34	32
6 - 9	12	2	2	4	1	4	2	4
10 - 50	4	1	3	1	1	1	1	2

Source: MSU Country Studies plus:

India: computed from Gupta (1984, p. 79); includes "households" plus "establishments"

most countries, the number of small firms employing 6-9 or 10-50 persons are quite modest.⁸ Such findings indicate that most small firms in developing countries are tiny, indeed.

2.6 Labor Input

Labor is a major input for small scale enterprises. Our discussion focuses on the composition, magnitude, and characteristics of the labor force.

2.6.1 Composition of Employment

Table 8 reveals that proprietors and family workers account, on average, for over fifty percent of small enterprise employment. This figure reflects the predominant role played by the very small enterprises, particularly the one-person firm.

The relative significance of apprenticeship labor, on the other hand, varies widely. Apprentices are particularly important in West Africa and Haiti (with its West African roots), where they account for a major share of small enterprise employment. In these countries, the "informal" apprenticeship system, in which a young person serves a proprietor or master for a given period to learn a craft or trade, plays a key role in skill formation. The duration of apprenticeship varies markedly by type of enterprise, lasting, for example, in Sierra Leone (Chuta and Liedholm, 1985) from one year in gara (tie dyeing) to four years in metal working.

8. These results reinforce the conclusions on the size distribution of all firms described above. One explanation for the paucity of firms is that once they reach this size, taxes and government regulations begin to be applied either de jure or de facto; thus, there are incentives to either remain smaller or become "invisible" creating what is known as the "Barton Gap" (Barton, 1977).

Table 8
 Labor Force Characteristics of Small Scale Manufacturing Firms
 [Percentages]

Country	Proprietors and Family Workers	Hired Workers	Apprentices
Africa:			
Sierra Leone			
entire country [1976]	41	17	42
Nigeria			
Western Region [1970]	39	11	50
Mid-West Region [1971]	30	7	63
Lagos [1971]	33	10	57
Ghana			
Kumasi [1975]	29	6	65
Accra [1972]	39	9	52
Burkina Faso			
Eastern ORD [1980]	94	2	4
Tanzania			
Dar and 20 townships [1967]	52	41	7
Egypt			
Fayoum and Kalyubiya Governorates [1981]	64	27	9
Asia:			
Bangladesh			
11 Thanas [1980]	71	28	1
Thailand			
Rural towns [1980]	39	53	8
Latin America:			
Haiti [1979]	34	31	35
Honduras			
Rural Provinces [1980]	63	31	6
Jamaica			
entire country [1979]	57	32	10

Sources: Sierra Leone: Liedholm and Chuta, 1976; Nigeria: Aluko *et al.*, 1972 and 1973; Kumasi: Aryee, 1977; Accra: Steel, 1979; Burkina Faso: Wilcock and Chuta, 1982; Tanzania: Schadler, 1968; Egypt: Davies, *et al.*, 1984; Bangladesh: BIDS, 1981; Thailand: Narongchai *et al.*, 1983; Honduras: MSU country study, 1980; Jamaica: Fisseha and Davies, 1981; Haiti: Haggblade, 1979.

Approximately half the "masters" charged a learning fee, which in Sierra Leone averaged \$27 in 1975, while others provided their apprentices with room, board, and sometimes a modest wage payment.⁹

In other parts of the world, including East Africa, apprentices are much less important components of small enterprise employment. In some instances, such as in East Africa, this reflects the lack of a tradition of an organized, indigenous apprenticeship system; in others, in-firm training may occur, but those involved may not be formally called "apprentices".¹⁰

Hired workers typically form the smallest segment of small enterprise employment in most developing countries. These workers are frequently found in the more modern types of enterprises that operate on a somewhat larger scale, such as bricks and tiles, baking, repairs, and metal working.¹¹ They are typically paid weekly or monthly based on hours worked, although piece-work payment is not uncommon.¹² Although the wages paid to hired workers in small manufacturing vary quite widely, their average real wage is often on the order of half that paid to comparable hired workers in large scale enterprises.¹³ A good portion of this gap is due to policy interventions such as minimum wage and mandated fringe benefits that apply primarily to the larger firms; the ubiquitous smaller firms are usually either formally exempt or escape through

9. Paid apprentices received approximately one-third the wages of hired workers in Sierra Leone, Jamaica and Honduras.

10. In Honduras, government rules regulating apprenticeships frequently deter firms from calling workers "apprentices". In Egypt, many "apprentices" are included in either family or the hired worker categories.

11. In Egypt, for example, among rugs and tile producers, over fifty percent of the worker hours are supplied by hired labor (Davies *et. al.*, 1984), while in Bangladesh, hired labor predominates in tiles, bakers, jute baling, and metal working (BIDS), p. 80.

12. In Egypt, for example, piece-work, though not as prevalent, was found in 10 of the 13 industries studied.

13. See, for example, Berry and Sabot, (1978), Mazumdar, (1979) and Steel (1977).

nonenforcement. Indeed, small enterprise surveys conducted by M.S.U. and host country scholars indicate that few of the small enterprises felt they were directly affected by such legislation.¹⁴ The available evidence indicates that the wages for hired labor in small industry are relatively undistorted and generally reflect the underlying forces of demand and supply (Haggblade, Liedholm, and Mead, 1986).

2.6.2 Magnitude of Employment

The preceding discussion, which was based on the number of workers, may give an exaggerated picture of the employment magnitudes if that labor is also engaged in other activities or is idle during parts of the year. Even determining the number of part-time workers can be misleading, however, because such figures fail to reflect the extent of that part-time work as well as variations in the level of participation in small enterprise activity.¹⁵ The actual flow of labor hours over the year provides a more accurate measure of the labor input to small scale enterprise. Such flow data were collected in five of the country studies, and the findings are presented in Table 9.

The annual mean hours per person in small scale enterprises were found to vary widely, ranging from 1164 hours per year in Sierra Leone to 2,514 per year in Egypt. If one assumes that 2,400 hours per year represents full time employment,¹⁶ only in Egypt and Jamaica would the average workers

14. See, for example, Chuta and Liedholm (1985) for Sierra Leone, Fisseha for Jamaica (1981), Stallman for Honduras (1983) and Davies *et. al.* (1983) for Egypt. The largest of these firms were, however, sometimes subjected to formal or variable harassment.

15. In Bangladesh, 18 percent of the workers were considered part-time (BIDS, 1981).

16. Assumes eight hours per day, 6 days a week for 50 weeks.

Table 9

Annual Labor Inputs (Flow) in Small Scale Manufacturing Enterprises

ITEM	<u>Jamaica</u>	<u>Honduras</u>	<u>Egypt</u>	<u>Sierra Leone</u>	<u>Bangladesh</u>
Mean Annual "non-idle" hours per Person	1384	685	-- ^a	--	--
Mean Annual "Idle" Hours per Person	1089	713	--	--	--
Mean Annual Total Hours per Person	<u>2473</u>	<u>1398</u>	<u>2514</u>	<u>1164</u>	<u>1820</u>
Mean Annual Hours Per Person in Other Occupations	101	1209 ^b	--	--	--
Distribution of Proprietor's "non-idle" Time by Activity (%)					
Production & Repairs	95%	90%	85%	--	--
Marketing ^c	2%		8%	--	--
Supervision	3%	10%	7%	--	--

Sources: Jamaica: survey data; Honduras: survey data; Egypt: Davies et al.(1984); Sierra Leone: Chuta and Liedholm (1985); Bangladesh: (BIDS, 1984).

Notes: ^aNot measured.

^bProprietor's time only.

^cNot including "idle hours" waiting for customers.

be considered full-time. The average small enterprise worker is engaged in such activity less than 58 percent of full-time in Honduras, 49 percent in Sierra Leone, and 76 percent in Bangladesh. The part-time nature of small enterprise employment is more pronounced in rural than in urban areas. In Bangladesh, for example, the annual mean hours per person engaged in small enterprise activities in rural villages was 1,274, while the comparable figure in large towns was 2,204 (BIDS, 1981).

An important part of the explanation for these variations is that individuals, particularly those in rural areas, are frequently engaged in more than one activity over the year. In some instances, these other productive activities play a secondary role. In Jamaica, for example, persons engaged in small manufacturing activities devoted less than 10 percent of their non-idle time to other occupations¹⁷ (see Table 9). In other instances, however, the other productive activities were more important than small enterprise activities. In rural Honduras, for example, the average small enterprise worker spent almost twice as much time in other productive tasks, particularly farming (see Table 9), while in Zambian villages, two-thirds of the small manufacturing proprietors indicated that their enterprises were not the major income source (Milimo and Fisseha, 1986). The very close relationship between agriculture and small scale manufacturing activity during the year is a noteworthy feature of the rural areas of many developing countries. Farm and nonfarm employment often move in opposite directions over the year and are thus quite complementary. In Sierra Leone, for example, nonfarm labor use

¹⁷. In Bangladesh, a special study conducted in eleven villages revealed that those engaged in small enterprise activity devoted 41 percent of their "non-idle" time to other activities, primarily farming (BIDS, 1981).

during the slack agricultural months is nine times the use in peak agricultural periods. (Byerlee, et. al., 1977).

Even with these other occupations, however, there is evidence that the average worker still experiences "idle hours". Although difficult to define and measure precisely, information was collected in Honduras and Jamaica relating to the "hours waiting for work" of those working in small enterprises. A glance at Table 9, where these data are presented, reveals that the average person spent 44 percent (1,089 hours per year) of small enterprise related time in Jamaica and 51 percent of such time in Honduras simply waiting for work.¹⁸ While one could claim that "waiting for work" is a necessary "retailing" activity (i.e. someone must be present to receive orders),¹⁹ it does provide an indication of the magnitude of excess capacity and "idle hours" present in these enterprises.

2.6.3 Characteristics of the Proprietor

Proprietors, or owner-operators, play a key role in most small enterprises. In the six countries portrayed in Table 10, for example, 95 percent of the small firms were organized as sole proprietorships. Most of the remaining firms were partnerships; small firms were rarely organized as corporations, cooperatives or public entities.

A particularly significant finding is the importance of female manufacturing proprietors. Except for Bangladesh, the percentage of female proprietors in the six countries reviewed in Table 10 ranged from 37

¹⁸. If one adds together the time "waiting for work", the time engaged in small enterprise activity, and the time engaged in other productive activity by these individuals, the resulting total amounts to approximately 2,600 hours in both Honduras and Jamaica.

¹⁹. The majority of these enterprises produce for custom orders, not for inventory, and thus operate much like a job shop.

Table 10
 Ownership of Small Scale Manufacturing Enterprises
 -- Percentages --

Country	Public	Sole Proprietorship	Partnership	Corporation	Cooperative	Total	
						All	Female Ownership
<u>Africa:</u> Nigeria [three states]	---	98	1.4	0.2	0.4	100	NA
Egypt [two Governorates]	0.1	99.7	---	---	0.1	100	43
<u>Asia:</u> Bangladesh [11 Thanas]	---	98.7	1.0	0.2	0.1	100	3.3
Thailand [rural towns]	---	80.4	16.2	3.4	---	100	37
<u>Latin America:</u> Honduras [rural provinces]	---	98.7	1.2	0.1	0.3	100	61
Jamaica [entire country]	---	94.3	4.0	0.7	0.8	100	49

30

Source: Nigeria: Aluko *et al.*, 1972 and 1973; Egypt: Davies *et al.*, 1984; Bangladesh: BIDS, 1981; Thailand: Narongchai *et al.*, 1983; Honduras: MSU country study, 1980; Jamaica: Fisseha and Davies, 1981.

percent in Thailand to 61 percent in rural Honduras.²⁰ Although female proprietors tend to be concentrated in the handicraft, garment, and food-related industries, they are also found with some frequency in the furniture and non-metallic mineral industries. The female proprietorship percentages, again with the exception of Bangladesh, tend to be greater than the percentages of all females employed in the small industry labor force in these countries.²¹

Most of the proprietors' time, as Table 9 reveals, was devoted to the production of goods and services. Marketing and management activities together typically accounted for less than 15 percent of their time. Less quantifiable, but no less important were their roles in mobilizing funds and in investigating new opportunities.

An examination of the socio-economic characteristics of proprietors sheds some light on their ability to perform these various activities. Data on this subject from five countries are presented in Table 11. The geographic and occupational mobility of proprietors, for example, might provide a clue as to their responsiveness to opportunities. The available information indicates that the vast majority of proprietors were operating in the areas where they were born.²² Yet, relatively few were engaged in the same occupations as their fathers, many of whom had been farmers. Indeed, two-thirds or more of the proprietors in these countries had

20. If the ubiquitous and dominant dairy industry had been included, the Egyptian figure would have been 76% (Badr *et. al.*, 1982).

21. The percentages of all females employed in the small scale industry labor forces were as follows: Egypt, 30%; Jamaica, 33%; Thailand, 37%; Bangladesh, 37%; Honduras, 4.5%. (Sources same as in Table 10.)

22. Harris (Kilby, 1971) reports similar findings in his study of Nigerian entrepreneurs outside of Lagos; less than 5 percent of the entrepreneurs were operating in regions other than that of their birth.

started their own business. Thus, the small enterprise proprietors were geographically immobile, but highly mobile in terms of occupation.

Such characteristics as the amounts of formal education and on-the-job-training, years of experience, and record-keeping practices of proprietors may provide an indication of their ability to operate these enterprises. Table 11 indicates that, except for Sierra Leone, the majority of proprietors had some formal education.²³ The percentage of proprietors receiving informal training either on-the-job or through the apprenticeship system varied widely, ranging from 25 percent in Bangladesh to 99 percent in Sierra Leone. The average proprietor, however, did have 13 years or more of experience in these countries. Finally, relatively few of the proprietors kept even a rudimentary set of business records. The percentage keeping records ranged from a high of 18 percent in Sierra Leone to a low of 6 percent in Egypt and Bangladesh. More detailed studies have indicated that the management skills of small scale proprietors, in general, are deficient.²⁴

2.7 Capital

Several aspects of capital used by small firms in developing countries deserve attention. Specifically, the magnitude and composition of this capital, the initial capital requirements to start a small enterprise, the sources of this capital, and its utilization will be considered.

23. The relationship between formal education and such variables as profit and technical efficiency in small enterprises is not always positive (see, for example, Chuta and Liedholm, 1983).

24. Fisseha (1981) reports, for example, that more than half the proprietors could not identify all their business costs, could not keep business and non-business funds separate, and did not assess their business performance as often as once a year.

Table 11

Socioeconomic Characteristics of
Small Scale Manufacturing Proprietors

	Jamaica	Sierra Leone	Honduras	Egypt	Bangladesh
Enterprise Operating in Area of Proprietor's Birth	82%	--	--	--	92%
Occupation Same as Father (%)	10%	--	13%	22%	45%
Father's Occupation was Farming (%)	64%	63%	--	26%	--
Started Own Business (%)	86%	--	85%	--	65%
Any Formal Education (%)	88%	23%	74%	--	59%
Formally Apprenticed (%)	75%	99%	26%	49%	25%
Years of Experience	13	13	--	23	18
Keeping Records (%)	16%	18%	14%	6%	6%

Sources: Jamaica: (Fisseha and Davies, 1981); Sierra Leone: (Chuta and Liedholm, 1985); Honduras: Stallmann (1983); Egypt: (Davies et. al. 1984); Bangladesh: (BIDS, 1981).

2.7.1 Magnitude and Composition

The data in Table 12 indicate that the total amount of capital used by the small enterprises in these countries was rather modest, ranging from \$654 per firm in Sierra Leone to \$4,225 in Jamaica.²⁵ The higher the country's level of per capita income, the higher was the value of the capital stock per firm.

The value of capital stock per firm also varied by type of enterprise and by location. In Sierra Leone, for example, it ranged from \$89 in gara (tie) dyeing to \$2,079 in metal working. Furthermore, within metal working the value of capital assets varied from \$180 in the smallest rural village to \$2600 in Freetown, the country's largest city (Chuta and Liedholm, 1985).²⁶ The capital stock per firm tended to increase as one moved from consumer to intermediate or capital goods enterprises and from rural to urban areas.

Fixed assets--buildings and equipment--form the largest component of small firms' capital stock. Equipment, which includes tools, machines, and furniture, typically accounted for the greatest share. The use of machines was not ubiquitous; when they were used they were frequently rudimentary and were often operated without power. Simple handtools were found in abundance. Buildings, which reflect the value of the structure and land

25. Compare these figures, for example, with the \$250,000 fixed asset (excluding land) criterion used by the World Bank (1979) to distinguish "small" from "medium" and "large" firms. The capital stock figures reported in our studies have been valued, however, at their original costs, and this yields a lower magnitude than if they had been valued at their current replacement price. Fisseha (1981) estimated, for example, that the replacement price was 2.5 times the original price of capital assets in Jamaica. Even if valued at replacement prices, however, the paucity of capital would still be apparent.

26. Analysis of variance indicated that locational and enterprise type differences in capital assets were significant at the 5 percent level in Sierra Leone (Chuta and Liedholm, 1985)

Table 12

Capital Inputs in Small Scale Enterprises

	Jamaica 1979	Honduras 1980	Egypt 1982	Sierra Leone 1975
1. <u>Fixed Assets Indicators</u>				
Percent of Enterprises Producing in Home	NA	NA	84%	84%
Percent of Enterprises with Machines	32%	NA	14%	63%
"Excess Capacity" ^a	35%	24%	18%	35%
Initial Capital Stock	\$1,140	\$354	NA	\$49
2. <u>Stock of Capital/Firm</u>				
Buildings	\$1,022	\$283	NA	\$359
Machinery & Equipment	1,985	445	83	245
Working Capital	1,217	81	28	50
Total	\$4,225	\$809	NA	\$654
3. <u>Annual Flow Cost of Capital/Firm</u>				
Building	\$263	\$57	NA	\$63
Machinery & Equipment	408	120	17	47
Working Capital	243	14	3	10
Total	\$914	\$191	NA	\$120
4. <u>Conversion Factors</u>				
Discount Rate (%)	20	20	10	20
Exchange Rate (U.S. \$1 =)	1.78	2	1.19	.91

Sources: Jamaica and Honduras, country studies; Egypt: (Davies *et. al.* 1984); Sierra Leone: (Chuta and Liedholm, 1985).

Notes: ^aSee Text, p. 40 for description of how this is measured.

used in the business, form the other important component of fixed assets. As Table 12 indicates, the majority of small firms in these countries operated out of the home, so the structure served as both a dwelling and a workshop.²⁷ For firms operating outside the home, the type of buildings varied from none -- as in the Sierra Leone gara tie-dyeing industry where production is undertaken outdoors--to rudimentary sheds of straw, to permanent structures constructed of cement or wood.

Working capital, which consists of cash, short-term securities, accounts receivables, and inventories, typically accounts for a smaller share of total capital than do the fixed assets. The variance in this share was quite wide in the countries reviewed in Table 12, ranging from 5% of the total in Honduras to 29 percent in Jamaica.²⁸ These figures understated the working capital contribution, however, because only the inventory component was included.²⁹ The relative importance of these inventories varies by type of enterprise. In Sierra Leone, for example, the inventory/sales ratio ranged from 1.5% in baking to 11% in carpentry.³⁰ Although quantitatively not the dominant element in the total capital stock, working capital shortages were frequently the most pressing problems perceived by small scale proprietors.³¹

27. Strassmann (1985) has examined in detail the performance of home-based businesses. See below for more details.

28. In Bangladesh, the working capital share of total capital stock was 30% (BIDS, 1981).

29. Data on the other components of working capital are very difficult to collect and thus are usually omitted from working capital figures. Inventories usually form the most important component of working capital in small enterprise. Data from India (Kilby, Liedholm, and Meyer, 1984) indicates that the inventories accounted for 60 percent of working capital.

30. For more details of the role of working capital see Kilby, Liedholm and Meyer, (1984).

31. See below for a discussion of problems facing small enterprise and programs designed to overcome them.

Although capital stock data are typically used to reflect the capital inputs, the flow of capital services stemming from this stock provides a more correct measure.³² Consequently, in the small enterprise studies conducted by M.S.U. and local scholars, the stock variables were also converted to flows using the capital recovery formula.³³ The resulting annual capital service flow is equivalent to the rental charge or "user cost" of capital and reflects both depreciation and the opportunity cost of capital.³⁴ The capital service flows for small enterprises are portrayed in Table 10 and ranged from \$120 per firm in Sierra Leone to \$914 per firm in Jamaica.

2.7.2 Initial Capital Stock

The data discussed to this point are based on the total size of the existing capital stock. They do not indicate the magnitude of the initial

32. Capital stock is only a good proxy for the capital input when firms do not rent their capital or buildings and when the capital stock components are of the same durability.

33. The capital recovery factor is:

$$R = \frac{rV}{1 - (1+r)^{-n}}$$

where:

- R = annual capital services
- V = original cost of the asset
- r = discount rate
- n = expected life of the asset

R is the annual rental price of capital and includes the annual opportunity cost (foregone interest) of funds tied up in the asset and a depreciation factor. The discount rates used in the calculation reflected the best estimate of the opportunity cost of capital in each country (i.e. 20 percent in Honduras, Sierra Leone, and Thailand, 10% in Egypt, and 20% in Jamaica - see individual country reports for details). The life expectancy of the capital stock was typically the mean expected life of each major capital component as reported by the proprietors. The capital assets were valued at their original cost.

34. The flow of working capital does not reflect depreciation, however, and is obtained by multiplying the stock of working capital by the discount rate.

capital stock installed at the time these firms were established and thus do not shed light on the extent to which this factor serves as an entry barrier for small enterprises. A review of the available evidence, summarized in Table 12, would indicate that the overall initial capital requirements were rather small, ranging from \$49 in Sierra Leone to \$1,104 in Jamaica. When compared with a country's average income, however, the relative magnitude can sometimes loom large. In Jamaica, for example, \$1,104 figure exceeded the country's annual per-capita income. These overall figures also masked the variations by enterprise type. In Jamaica, for example, metal working firms in Kingston required \$4,273 in initial capital, while rural craft firms needed only \$69 (Fisseha and Davies, 1981). There is also evidence, though more limited, that these capital entry barriers are higher for manufacturing than for most unskilled service and petty trade activities. For instance, Fisseha's (1986) recent survey of forest-based activities in rural Zambia revealed that the initial capital requirement for the major manufacturing activities were five times those for the service-related ones. Thus, while low, initial capital requirements of small manufacturing enterprises were often by no means insignificant.

2.7.3 Sources of Capital

The overwhelming bulk of the funds for establishing small firms were obtained from either personal savings or from friends or relatives (see Table 13). The paucity of funds obtained from either the government or from commercial sources is striking. Indeed, in the countries reviewed in Table 13, these sources contributed no more than one percent of the initial funds. The "informal" financial market was also a minor source of funds for small manufacturing enterprises. Although money lenders receive a vast

Table 13
Sources of Finance for Initial Investment by Small Enterprise
in Selected Countries
[Percentage by Source]

Source	Bangladesh 11 Thanas 1980	Nigeria 3 States 1970	Sierra Leone Entire Country 1976	Tanzania Rural Towns 1968	Haiti Port-au- Prince 1979
Own Savings	73	94	60	78	72
Relatives	2	4	20	15	9
Banks	**	1	1	1	1
Government	**	**	**	1	**
Money Lenders	1	**	1	**	1
Other*	23	**	18	6	16

Sources: Bangladesh: BIDS, 1981; Thailand: Apibunyopas, 1982; Nigeria: Aluko *et al.*, 1973; Sierra Leone: Liedholm and Chuta, 1976; Tanzania: Stadler, 1968; Haiti: Haggblade, 1979.

Notes: * includes nonresponses

** less than 1 percent

amount of attention, unfortunately often more exhortatory than investigative in nature, they contributed one percent or less of the initial capital in these countries.

For expansion, the vast majority of the funds were generated from reinvested profits. In Sierra Leone and Bangladesh, for example, 89 percent came from this source, while in Haiti, the figure was 81 percent (Haggblade, 1979). The remaining funds were obtained from money lenders, friends or relatives. These results highlight the nascent state of the financial markets in these countries and indicate the limited extent to which small firms were directly reached by formal credit institutions.

2.7.4 Excess Capacity

Measures of capital utilization and excess capacity are difficult to quantify precisely and studies in developing countries are particularly sparse, usually limited to larger urban firms.³⁵ On the basis of the responses of proprietors to the question of how many additional hours they would operate their firms if there were no demand or raw material constraints, a crude measure of "excess capacity" was generated in several of the small enterprise surveys under discussion. The results, summarized in Table 12, indicate that there is a substantial amount of "excess capacity" among these enterprises, ranging from 18 percent in Egypt to 35 percent in Jamaica and Sierra Leone.³⁶ Excess capacity did vary somewhat by industry and location, but rarely did it decline below 10 percent.

³⁵. See Bautista (1981) for a discussion of various studies as well as a treatment of the distinction between "excess capacity" (i.e. how close to its desired efficient level of output a firm is operating) and "capital utilization" (i.e. the proportion of the total time productive capital stock is operated).

³⁶. In Bangladesh, the small enterprises "excess capacity" was 42 percent, (BIDS, 1981).

Virtually no small firms in these countries operated more than a single shift. These results, plus those relating to proprietor's "idle hours," indicate that considerable scope exists among small enterprises for short-run supply responses.

2.8 Growth

Have the number of small scale establishments and employment in them been increasing? Systematic and consistent time series data on this subject are scarce and thus any conclusions derived must be treated with great caution.³⁷

The available evidence, summarized in Table 14, indicates that small enterprise employment was increasing in absolute terms in virtually all countries.³⁸ The annual rate of increase varied, however, ranging from 1.0 percent in the Philippines to 9.7 percent in India.

How do these employment growth rates compare with those of their larger scale counterparts? The evidence in this case is mixed. In four of the six cases examined in Table 14, large scale employment growth rates exceeded those of the small. Even when the small scale firms are growing at a lower rate than the large, however, the absolute increase in small scale employment can still be substantial, since small firms usually account for such a large portion of total manufacturing employment. In Ghana, although the large firm's employment growth rate was double that of their smaller scale counterparts during the 1960's, the smaller firms

37. Reference periods, sampling procedures, and definitions, for example, are usually not consistent from period to period; it is generally impossible to reconcile the differences precisely.

38. Data relating to currently developed countries also indicate that the numbers employed in small manufacturing activities have been increasing during most periods (see Bannock, 1976).

Table 14

Annual Growth of Manufacturing Employment by Size
(%)

<u>Country</u>	<u>Year</u>	<u>Small</u> ^a	<u>Large</u> ^b
India	1961-1971	9.7%	6.9%
Ghana	1962-1970	6.0%	13.0%
Sierra Leone	1974-1980	4.6%	2.4%
Turkey	1970-1977	3.4%	5.9%
Colombia	1953-1973	2.5%	5.9%
Philippines	1967-1975	1.0%	4.8%

Sources: India, Turkey, Colombia, and Philippines derived from Anderson (1982) and Anderson and Khambatia (1981); Sierra Leone: (Chuta and Liedholm, 1985); Ghana: (Steel, 1981)

Notes: ^aSmall = less than 50 workers.
^bLarge = 50 or more workers.

absorbed 5 times as many new manufacturing workers as did the larger ones (Steel, 1981).

The relative growth patterns reflected in Table 14 are consistent with Hoselitz's (1959) and Dennis Anderson's (1982) characterization of the changes in the size structure of manufacturing that accompany changes in the level of industrialization. In the early stage (Phase I) "household" activities predominate; in Phase II, small and medium scale activities emerge and increase at a rapid rate, displacing some of the household activities; in Phase III, large scale becomes predominant. The two countries in Table 14 where small scale employment growth exceeds the large--Sierra Leone and India--have the lowest level of per capital income and would appear to be located in the latter stages of Phase I. Indeed, in light of this framework, a further breakdown of growth performance by enterprise size and enterprise type would seem fruitful.

A more detailed breakdown of growth rates by enterprise size is only available for India (1961-71) and Sierra Leone (1974-1980). The findings presented in Table 15 are illuminating. First, the growth in the number of establishments is greatest in those firms with 10-49 workers followed by those with 2-9 workers. These two size groups increased faster than did the large scale (i.e. more than 50 workers). Particularly striking is the finding that the one-person firm was the slowest growing segment in both countries. Indeed, in Sierra Leone, the number of one-person firms actually declined. The downturn provides support for Dennis Anderson's (1982) observation that "household manufacturing tends to decline first in relative and then in absolute terms as industrialization proceeds." Second, there appears to be an important difference in rural and urban growth rates by size classes. In the smallest size groups (i.e. 1 and 2-9)

Table 15

Annual Growth Rates of Manufacturing Establishments by Size

Country	Years	Size of Establishment (number engaged)			
		1	2-9	10-49	50+
India	1961-1971	1.9	5.4	5.9	5.2
[rural]		[1.1]	[5.3]	[7.3]	[7.7]
Sierra Leone	1974-1980	-4.2	3.5	12.7	1.0
[rural]		[-9.4]	[2.6]	[13.0]	

Sources; India: computed from Mazumdar (1983, pp. 35, 36). Sierra Leone: computed from Chuta and Liedholm (1983).

the growth rates of urban firms exceeds those of their rural counterparts; yet, in the larger size groups (10-49 and 50+) the relative positions reverse and the rural exceed the urban growth rates.

By enterprise types, many of the small scale, light consumer good enterprises--particularly tailoring, dressmaking, and furniture making--have grown rapidly, even after large scale domestic factory production in these subsectors has begun. Moreover, with the structural changes in manufacturing associated with increases in a country's per capita income, several newer types of small enterprise activities--other metal products and machinery along with bicycle, auto and electrical repair--have also experienced rapid increases. On the other hand, more "traditional" activities such as spinning and weaving, basket making, pottery, and some types of food and beverage groups typically appear to have been declining in importance. These differential growth patterns are important to recognize in the design of policies and programs directed toward small scale enterprises.

III DETERMINANTS OF THE DEMAND FOR AND SUPPLY OF SMALL SCALE ENTERPRISE ACTIVITIES

What are the main determinants of the patterns of small scale enterprise activities in developing countries? This question can usefully be approached by focusing on the set of factors influencing the demand for and supply of goods and services generated by these enterprises.

3.1 Demand for Small Scale Enterprise Activities

The demand for goods and services produced by small scale enterprise derives from four sources. Foremost among these is the domestic demand for consumer goods and services stemming from the incomes of rural and urban households. A second source of demand arises from the backward and forward production linkages between small enterprises and other non-governmental producing units of the domestic economy. The government and foreign sectors provide the other two sources of demand for small enterprise activities.

3.1.1 Household Demand for Consumer Goods and Services

The overwhelming bulk of the items produced by small enterprises are light consumer goods and services demanded by rural and urban households. As discussed in Section II above, three consumer goods activities alone -- food (31), textiles/wearing apparel (32) and wood products (33) -- account for over 60 percent of the small scale manufacturing employment in all ten of the countries reviewed in Table 5. Most of these goods and services are sold directly to the final household consumer rather than through commercial intermediaries. In the four survey countries where relevant data were collected, direct sales to final consumer dominated, and, in

Table 16

Percentage Distribution of Small Manufacturing Enterprise
by Major Buyers

	Percentage Distribution of Enterprises			
	All Jamaica	Rural Honduras	Rural Egypt	Rural Bangladesh
Final Consumer	87%	89%	81%	51
Intermediaries ^a	12	NA ^b	17%	49
Government	1	* ^c	*	*
Export	*	NA	2%	*

Sources: Jamaica - Fisseha and Davies (1981), p. 39.

Honduras - Survey data.

Egypt - Survey data - only includes transactions for which a direct order was placed. "Final customer" responses are equated with final consumer.

Notes: ^a Includes wholesalers, retailers, traders, and industrial/agricultural purchasers of intermediate and capital goods.
^b Not available.
^c * = Less than 1%.

fact, exceeded 80 percent in three of the countries (see Table 16).¹ Typically, the household consumer places a specific order for a product or service with the small enterprise; production thus frequently takes on the characteristic of a job-shop operation.² Indeed, over seventy percent of the small manufacturing enterprises in Jamaica (Fisseha and Davies, 1981) and rural Egypt (Davies et. al., 1983) operated in this fashion. These figures also reflect how much these enterprises are tied to local markets.

Given the importance of the household consumer as a market for small enterprise products, one central issue is whether the demand for goods and services produced by small enterprise will increase as household incomes grow. On this issue there are some divergent views. For instance, Hymer and Resnik (1969) have argued that rural small scale non-farm activities ("Z-goods") are inferior goods, which means that the demand for them will decline as rural household incomes increase over time. Pack, in his review of the 1972 I.L.O. Mission to Kenya, also contends that increasing the incomes of the poor may have only a limited effect on the demand for goods and services of the informal sector. Various I.L.O. Missions (1972, 1974, 1976), Mellor (1976), Chuta and Liedholm (1979) among others, however, have contended that there is a strong positive relationship between household

1. A portion of the sales to intermediaries, which include wholesalers, retailers, traders as well as industrial/agricultural purchasers of intermediate and capital inputs, ultimately goes to households as well. This effect is somewhat offset, however, by the unintended inclusion of some agricultural/industrial intermediate and capital inputs in the final consumer category.

2. Job-shop operations provide some advantage for small producers. Working capital requirements are minimized by reducing final goods inventories and by having customers supply the raw materials. Such rudimentary marketing and production methods, however, may also restrict the growth potential of such firms. For a more detailed discussion of proposed implications for capital and marketing needs, see below, p. 98.

income and the demand for at least some types of small enterprise goods and services.

What is the empirical evidence? Although household expenditure studies are common, they typically do not distinguish the size or location of the enterprises providing the various types of consumer goods and services. Investigations that draw this distinction, however, have been carried out in Sierra Leone (King and Byerlee, 1978), Nigeria and Malaysia (Hazell and Roell, 1983), and Bangladesh (Deb and Houssain, 1984). Although the four studies focused only on rural households and differed somewhat in scope and purpose, they all yield valuable insights into the relationship between household expenditures and the demand for small enterprise goods and services.³

These empirical studies reveal a strong positive relationship between changes in rural household income and changes in the demand for rural small scale enterprise goods and services in all four countries. The expenditure elasticities for (small scale) rural non-farm activities are consistently high, ranging from +1.34 in Nigeria, to +1.40 in Sierra Leone and +2.05 in Malaysia.⁴ This means, for example, that a 10 percent increase in rural

3. The Malaysian study, which was based on a sample of 839 rural households in the Muda region, and the Nigerian study, which was based on a sample of 321 rural households in the Gusau region, focused on the location rather than the size of enterprise producing the consumer good or service (i.e. produced in the region or imported into the region). Since the overwhelming majority of the locally-produced goods in these regions were produced by small enterprises, the terms local and small can be virtually interchanged. The Sierra Leone study, which was a national survey of 203 rural households conducted in 1974, focused on both location and size. The Bangladesh study, which was based on a sample of 444 households located in villages in 11 thanas in 1979, focused only on the size of enterprises producing manufactured goods.

4. In Nigeria and Malaysia a non-linear Engle curve, a modified form of the Working-Lesser model, was estimated, while in Sierra Leone a ratio semi-log inverse expenditure function was estimated. See King and Byerlee (1978) and Hazell and Roell (1983).

household income in Sierra Leone would lead to 14 percent jump in spending on rural small scale nonfarm activities. Moreover, in Nigeria and Malaysia, the expenditure elasticities for these activities are higher than those for comparable products purchased from enterprises outside the region. Thus, we have rather strong evidence that these small scale goods and services are not "inferior," at least in the short run, and have the potential to grow more rapidly than many other segments of these economies.

Individual components of the nonfarm products category have sharply differing expenditure elasticities. The highest elasticities are associated with services. Thus, in the case of Sierra Leone the figure for transport is 1.38 and for personal services and ceremonial outlays 2.38. By contrast the elasticity for manufactured products originating from small scale producers is 0.76. In Gusau and Muda the figures for housing construction and repair are 1.40 and 3.02, and for transportation 1.67 and 1.48.

Elasticities for specific manufactured goods are available for Sierra Leone and Bangladesh and are shown in Table 17. Particularly impressive in both countries are the higher income elasticities of demand for small scale manufacturing products relative to those produced by large scale, urban firms.

The results derived for these cross-section expenditure studies may differ somewhat from the expenditure patterns that actually develop over time. To the extent that substitute goods -- synthetic textiles, plastic utensils -- produced by large scale enterprises replace traditional products, the demand for small scale manufactured goods will fall.⁵

5. An important related issue is the degree to which this "substitution" is rooted in institutionally distorted consumer preferences (Stewart, 1972)

Table 17

Expenditure Elasticities of Rural Households for Various
Small and Large Enterprise Products

Products	Sierra Leone ^a (1974)	Bangladesh ^b (1980)
<u>Food:</u> Bread -- small	+0.69	+1.14^{*c}
<u>Clothing:</u> Dresses and pants (tailoring) - small	+0.72[*]	+0.96^{**}
Dresses and pants (clothing) - large	+0.59	--
Dresses and pants (imported)	+1.49	+0.29
Lungi (cotton clothing) - small	--	+1.61[*]
Lungi (cotton clothing) - large	--	+1.00 [*]
Sari - small	--	+2.00[*]
Sari - large	--	+0.63 ^{**}
Sari (synthetic) - large	--	+1.74 [*]
<u>Wood:</u> Furniture -- small	+1.61[*]	+2.00[*]
All Small Scale Industry^d	+0.76[*]	--
All Large Scale Industry^d	+0.33	--

Sources: Sierra Leone, King and Byerlee (1977); Bangladesh, BIDS (1981).

Notes: ^aIn Sierra Leone, data from 203 rural households were fitted into a modified form of a ratio semilog inverse expenditure function.

^bIn Bangladesh, data from 444 rural households were fitted into a semilog expenditure function with the values in table estimated at mean expenditure levels.

^c * estimated coefficients significant at 1% level;

** estimated coefficients significant at 5% level.

^dFrom King and Byerlee (1978)

Because this change -- along with other shifts in taste and relative prices -- occurs over time, it is not picked up in cross-section expenditure surveys, and hence the latter's expenditure coefficients may be somewhat of an overestimate. Expenditure studies may also be deficient with respect to small scale transport and trading activities, since most of these are embedded in the price of the consumer good. In so far as there is a shifting away from the village-produced goods to more distant sources, the share of these marketing services will rise. Hence, inferences from household expenditure patterns are likely to underestimate the actual growth in demand for these service activities.

3.1.2 Backward and Forward Production Linkages

A second source of demand for small scale enterprise goods and services stems from their backward and forward production linkages with other private sector producers in the domestic economy. Two sectors that have existing or potentially strong linkages with small enterprises are agriculture and large scale industry. As these sectors' output increases, their demand for intermediate and capital inputs can generate a "backward" linkage to small enterprises; the "forward" linkages from these sectors relate to the marketing and processing of their output. There are

rather than rational assessments of functional needs that reflect durability and quality attributes (Kilby, 1964). If, for example, the advertising of goods developed for high income countries creates "false" preferences not strictly related to consumer functional needs, there may be negative spillover effects (e.g. via increased raw material costs) on the smaller scale firms, which typically produce goods without these "attributes." Although small scale firms are thought to be particularly effective in producing goods with the bundle of attributes demanded by low income households (e.g. less durability, less precise specifications), they can and do, through their ability to custom produce, cater to the higher income consumers as well (Johnston and Kilby, 1975 and Page and Steel, 1984).

divergent opinions and varying empirical evidence on these production linkages that must now be examined.

Hirschman (1958) has contended that linkages between agriculture and other sectors, including small enterprises, are quite weak.⁶ Yet, Johnston and Kilby (1975) and Mellor (1976) argue that linkages with agriculture could be quite significant; indeed, these linkages are an essential ingredient in Mellor's "rural-led strategy of growth."

The empirical evidence on the linkages between agriculture and small scale enterprises is unfortunately still sparse. Relatively few of the input-output studies incorporate small scale enterprises, particularly those in rural areas, and thus tend to underestimate the linkages.⁷ One of the few studies to examine these linkages is a regional investigation of an irrigation project in the Muda region of Malaysia (Bell, Hazell and Slade, 1982). These investigators found that for each dollar of income created in agriculture by the project, 90 cents of value added was created indirectly in local nonfarm enterprises, the vast majority of which were small scale. One third of this indirectly created small scale activity was due to backward and forward linkages with agriculture, while the other two-thirds was attributable to increased consumption expenditures.

The size of backward production linkages from agriculture to small scale enterprises, however, is crucially related to the pattern of agricultural growth, which in turn determines the composition of the agricultural sector's demand for inputs. Johnston and Kilby (1975) have

6. There are two reasons why Hirschman may have perceived few linkages: 1) he was implicitly using a two sector model in which all rural activities are labeled "agriculture"; and 2) he was writing in the context of a technologically stagnant agriculture.

7. Exceptions include Krishna (1976), Byerlee (1973), and Mellor and Mudahar (1974).

argued, for example, that the size distribution of farms and the type of agricultural strategy adopted are crucial determinants of the demand for non-agricultural goods. Many of the inputs demanded by larger scale farmers - four wheel tractors, combines, cement for irrigation works, fertilizer and other chemicals - do not originate in the rural economy and are either imported or produced by large scale urban firms. The simple traditional tools, on the other hand, are typically provided by village artisans; and many farming inputs reflecting intermediate technology, such as improved implements, irrigation pumps and motors, and power tillers fabricated in light engineering workshops located in rural towns, are typically produced by small scale enterprises. In Pakistan, for example, Kilby and Johnston estimated that the large scale, fully mechanized farm with tractor and combine paid \$56.94 per acre per year in equipment costs, of which only \$19.89 reflected domestic manufacturing value added; only large scale, urban firms were engaged in this activity. Of the much smaller \$36.92 per acre paid for the equipment used by the traditional bullock farmer, a slightly larger \$21.56 represented domestic value added owing to a far lower import content and distribution mark-up that was generated entirely in small scale firms.⁸

A particularly noteworthy feature of the small scale production of farm equipment is its capacity for idiosyncratic design adaption. Johnston and Kilby (1975) outline how Taiwan's farm equipment industry successfully developed numerous variants of the harrow to reflect local topography, field size, soil substructure, and available construction materials. More

8. These rural input linkages are likely to be higher in Asia than in Africa, where irrigation (with its requirements for pumps and construction inputs) and the use of "intermediate" farm equipment are much less extensive.

dramatic idiosyncratic design adaptation by small firms include India and Pakistan's portable irrigation pump based on vertical high-speed diesel engines made in small engineering workshops (Child and Kaneda, 1975, and Cartiller, 1975), and Thailand's Prapadaeng power tiller. In Thailand, Japanese power tillers had not been widely adopted owing to their high purchase price, while a low-cost adaptation developed by IRRI in the Philippines also did not succeed largely because the design was too light for Thai soil conditions. The Prapadaeng tiller, however, was developed locally and improved through a constant iteration between local farmers and small scale equipment producers -- the forcing house of successful appropriate technology -- and is now manufactured by more than forty small firms (Kilby and Liedholm, 1986).

Forward linkages from agriculture to small enterprises reflect processing, transport, and marketing of agricultural activities; such linkages are frequently quite significant. Indeed, there is evidence that the small scale enterprise value added generated from these activities is significantly larger than that generated from providing agricultural inputs (World Bank, 1983). Most input-output studies do not capture the forward linkages to small scale enterprises. Falcon's (1967) study of agricultural-industrial interrelationships in Pakistan is an exception, however, and reveals that crop flows to small scale processing activities are more than five times the flow to large scale processors.

The strength of forward linkages depends crucially on the choice and location of processing technology involved. Although there is some indication that a range or mix of technologies will sometimes be optimal, most of the case studies of processing indicate that small-scale, rurally based processing activities generally are economically efficient in

developing countries. Studies of rice processing in Indonesia (Timmer, 1975) and Sierra Leone (Spencer, 1976) reveal the significant links between small, rural rice mills and rice production. Similar results for palm oil processing in Nigeria are reported by Miller (1965). In summary, these various empirical studies indicate the importance of backward and forward linkages between agriculture and small enterprises and point to the need for future research on the linkage question when analyzing sectoral interactions.

The empirical evidence of the production linkages between small and large scale enterprises is also somewhat sparse. Small scale enterprises, as noted previously, are rarely explicitly incorporated into input-output analyses. One exception is Meller and Marfan's (1981) investigation of the backward and forward employment linkages of large and small scale industries in Chile. Using a 1962 input-output table and disaggregating 20 two digit industries into large and small firms, they discovered that all small industry groups had more backward than forward linkages with the rest of the economy; the same was true of the majority of the large scale manufacturing firms. Unfortunately, the linkages between large and small enterprises were not explicitly investigated.

The backward linkages from large scale to small scale enterprises, where the large firms provide a demand for intermediate or capital goods, are most frequently discussed in terms of sub-contracting arrangements.⁹ Such sub-contracting arrangements have been particularly prevalent in

9. Although the term "sub-contracting" is used very ambiguously, its invariable feature is that the parent firm (usually a large manufacturer, wholesaler or retailer) formally requests another independent enterprise (the sub-contractor) to manufacture or process parts or the whole of the product it sells as its own.

Japan, where approximately 54 percent of all small scale units were sub-contractors to large firms in 1966 (Watanabe, 1972).

The limited evidence indicates that small enterprise sub-contracting is quite prevalent in Asia. In 1967, 21 percent of small enterprises in Korea were sub-contractors (Watanabe, 1972), while in India, subcontracting was estimated to represent about one percent of the total product of small scale industry (Vepa, 1971). Studies of sub-contracting in Bangladesh, Thailand, and Indonesia indicate that it was widely used among small producers in these countries as well (Mead, 1982 and 1985). The high percentage of intermediate buyers of small enterprise products in rural Bangladesh (49 percent) partially reflects the role played by sub-contracting in that country (see table 16). This sub-contracting activity between large and small enterprises, however, tends to occur in only a few product lines. In the countries investigated by Mead, for example, sub-contracting was found in only three of the nine two digit ISIC categories: textiles/wearing apparel/leather (32), wood and wood products (33) and fabricated metal products (38).¹⁰ Yet at the four digit level (i.e. at a finer level of industry detail), the particular activities within these industries undertaken through subcontracting differed markedly from country to country. Finally, such activities were found to reach into even remote rural areas. A detailed longitudinal study of 424 village households located in four regions of Thailand revealed, for example, that 7 percent of the total economically active time of adults was spent in sub-contracting activities (Mead, 1982).

10. A recent study of international trade involving sub-contracting and subsidiaries found an overwhelming share of the total concentrated in garments and electronics. Grunwald and Flam, 1985.

At the other extreme, it appears that in Africa sub-contracting and the backward linkages from large to small enterprises are rare. This may be due to the smaller markets as well as to the tendency of foreign-owned import substitution firms, which typically tend to dominate the large scale manufacturing sectors in Africa, to import a large share of their inputs (Page and Steel, 1984).¹¹

3.1.3 Government Demand

Governments have not been a major source of demand for small enterprise goods and services. The limited empirical evidence, some of which is summarized in Table 16, indicates that direct government purchases typically account for less than one percent of the total demand for small scale manufactured products. For individual firms in specific product lines (e.g. school uniforms, school desks), however, government purchases can loom large.

Several factors contribute to the minor role played by government purchases. Small entrepreneurs complain that "tendering" and formalities associated with government purchases are unduly arduous and time consuming; they also argue that governments are notoriously tardy in settling their accounts (Fisseha and Davies, 1981 and Kilby, 1982). The size and quality requirements of government orders may also serve to limit the participation of many small enterprises.

11. In Egypt, however small enterprises were found to be heavily involved in sub-contracting activities. See, for example, the description of the extensive sub-contracting system within Egypt's urban furniture industry (Mead 1982b) Small enterprise sub-contracting also existed in several small rural industries investigated in two Egyptian rural governorates (Davies *et.al.*, 1984). Indeed, one rural blacksmith supplied bolts to one of the large scale automobile plants in Cairo.

3.1.4 Foreign Demand

The final source of demand for small enterprise goods and services is the export market. Data limitations once again make it difficult to derive any solid conclusions about the nature and composition of this particular demand.

The available evidence indicates that exports typically do not provide a major source of demand for small scale enterprises. Although exports may have accounted for as much as 10 percent of total small producers' sales in Korea in 1975 (Ho, 1982), the direct export percentage of total sales tends more commonly to be only one percent or less (see Table 16).¹² For particular product groups, however, exports form an important portion of the total market. In Sierra Leone, for example, approximately 20 percent of the total production of the gara (tie-dye) industry is sold abroad (Chuta and Liedholm, 1985). Indeed, for many countries, the vast bulk of the products of the handicraft industry are exported. In Jamaica, virtually all crafts are exported (Fisseha and Davies, 1981), while in India, handicraft and handloom commodities accounted for 6 percent of the country's value of exports (Government of India, 1965).¹³

The evidence also supports the view that the international market could be a large component of demand for some types of small scale enterprise products. The only detailed study in this area has been undertaken by Huddle and Ho (1972), who examined the international demand for eighty-one different "culturally-oriented" products. Their study revealed that the overall income elasticity of demand exceed one in high

¹² Exports may be somewhat higher than indicated in this table because a portion of the "intermediate" purchasers may ultimately be exported.

¹³ Dhamija (1976) reported that handicrafts (including carpets) were Iran's second largest export, after oil.

income countries for products such as wood carving, brassware, and earthenware. Thus the overall demand for these products should increase as income in high-income countries rises. Little is known about the factors determining the proportion of the total market captured by individual countries. Such studies should help in the design of effective programs and policies enabling developing countries to take full advantage of this potentially important market.

3.2 Supply Issues

Supply issues also play key roles in determining both the current and future pattern of small scale enterprise activity in developing countries. Of central concern is the degree to which small enterprises are efficient users of economic resources. If, for example, some categories of small enterprises are found to be relatively more socially efficient (i.e. generate more real output per unit of real economic resources expended) than their larger scale counterparts, then policies or projects designed to divert resources from the larger to the smaller enterprises could increase both output and employment in these economies. In this section, the alternative methods of measuring economic efficiency will first be set forth. Empirical evidence of the relative economic efficiency of large and small scale enterprises is then examined using both partial and comprehensive measures. A more detailed examination of the empirical evidence on small enterprise efficiency in five of the M.S.U. project countries will conclude the section.

3.2.1 Measuring Economic Efficiency

Although various methods exist for measuring the economic efficiency of enterprises, they may usefully be grouped into two categories: partial and comprehensive measures. Each of these will be examined in more detail.

Partial efficiency measures are the ones most frequently encountered in enterprise studies in developing countries. These partial measures usually relate output or value added to one input only. Output-capital or output-labor ratios are often presented, with output being measured by value added and labor and capital usually in stock terms. Since output data are frequently weak or non-existent, capital-labor ratios are also calculated. These capital-labor ratios can provide a clue as to whether there may be a trade off between output and employment objectives (see Chuta and Liedholm, 1979).

The validity of these partial measures is dependent on some crucial assumptions. One of these is that there is only one scarce factor of production. Since in most developing countries it is argued that labor (particularly unskilled labor) is relatively abundant and capital is relatively scarce, output-capital and labor-capital (or their reciprocals) ratios are the partial productivity measures most often used. If other economic resources such as management and skilled labor are scarce and thus have non-zero opportunity costs, however, then these partial measures can yield misleading results.¹⁴

The comprehensive measures of economic efficiency are designed to overcome the limitations of the partial ones. Ideally, all scarce resources are included in the analysis, evaluated at shadow prices that reflect their scarcity value in the economy. The various comprehensive

¹⁴. See, for example, Morawetz (1968).

measures of economic efficiency can in turn be grouped into two general categories: total factor productivity and economic return measures.

Measures of total factor productivity relate the enterprise's value added to a weighted average of all its scarce factor inputs, where the weights ideally reflect the shadow prices of these factor inputs. Social benefit cost and frontier production analyses are two approaches that fall within this category.¹⁵

In the social benefit-cost approach, the ratio of an enterprise's value added to the cost of its capital and labor, both valued at their shadow prices, is used to measure economic efficiency. Since the denominator is thus a weighted average of the enterprise's factor inputs, it can be viewed as a type of total factor productivity measure.¹⁶

More specifically, the social benefit cost ratio (SBC) is calculated on the basis of the following formula:

$$\text{SBC} = \frac{\text{VA}}{r_s K + w_s L}$$

where:

VA = value added

r_s = shadow price (interest rate) of capital

K = total fixed and working capital

w_s = shadow price of labor

L = total labor hours, including family and apprentice hours

15. For a detailed review, see Biggs (1986).

16. The social benefit-cost measure is thus quite similar to the total factor productivity index used by Ho (1980) for Korea as well as the Christiansen-Jorgenson efficiency index (see Biggs, 1986).

A ratio greater than one means that an activity or enterprise has a positive effect on the total output of the economy, while a ratio less than one means it has a negative effect. If domestic rather than border prices are used to evaluate value added, the SBC can only be used to compare the productivity of enterprises in the same sector.¹⁷

The production frontier approach to the measurement of total factor productivity relates the enterprise's value added to its use of scarce inputs by means of a frontier production function. The approach permits one to decompose the comprehensive measure of economic efficiency into two components: technical efficiency (or inefficiency) and allocative efficiency (or inefficiency). Technical efficiency indicates the enterprise's ability to maximize output from a given set of inputs, while allocative (or price) efficiency effects an enterprise's ability to select optimal input levels given the existing factor prices. Details relating to theoretical issues and estimating options may be found in Biggs (1986) and Schmidt and Lovell (1979).

The net return measures of economic efficiency provide closely related and equally valid comprehensive measures of economic efficiency. With these approaches, the net economic return to one selected factor of production is computed and compared with its shadow price. In the numerator, all non-selected factor inputs are valued at their shadow prices and subtracted from value added; the denominator reflects only the quantity of the selected factor input. Consequently, when compared with the social benefit cost measures, it is seen that some additional factor inputs have been "netted out" from both the numerator and denominator. For an early but clear exposition of the approach, see Bruno (1965).

17. See Cortes et al., (1986).

The selection of a single factor of production to be used as a basis for the analysis in this approach is a matter of ease of calculation and ease of interpretation of results. It does not necessarily imply that the factor of production relative to which the calculations are made is the "most important" or the "most scarce". The most frequently used measures, however, are net returns to family labor, the net return to capital, and the "domestic resource cost," when the calculation is made in terms of foreign exchange as a factor of production.

The net return to family labor is one measure that has been used in several of the MSU small enterprise studies.¹⁸ The numerator measures value added minus all factor inputs except family labor, with all factor inputs valued at shadow prices. The denominator measures the number of hours of family labor used in the production process. This measure can then be compared to the shadow price or the opportunity cost of such family labor to determine whether the activity is more or less efficient than those in the optimal set for the economy.

Sometimes the "netting-out" process is carried one step further. Referred to as the "net economic profit" or simply "economic profit" from an activity, it measures output minus the cost of all inputs, whether factor or non-factor, with both inputs and outputs valued at shadow prices or opportunity costs. This measure of "economic profit", which is also used in several MSU small enterprise studies, is a relatively simple and easily understandable indication of whether a particular activity is economically desirable for the country. If the resulting figure is

18. A particular advantage in using family labor hours in small farm and enterprise studies is that since it is such a large component of value added, the net return to labor figures will be less sensitive to errors in the variables used to construct it.

positive, then its benefits exceed its costs, consequently, its pursuit is beneficial to the country. If the resulting figure is negative, by contrast, the opposite conclusion holds.

3.2.2 Partial Efficiency Measures: Large Versus Small Enterprises

The two partial efficiency measures most often presented in empirical studies of small enterprises in developing countries are the capital-labor (labor intensity) and the output-capital (capital productivity) ratios. In most of these studies, the ratios for all small producers are compared with those for all large enterprises.

3.2.2.1 Labor-Intensity

Most of the studies that have examined this issue have utilized the capital-labor ratio or its reciprocal and typically have used fixed capital as the capital proxy and number of workers as the labor proxy. Both theoretical and empirical difficulties surround such labor-intensity measures, so any conclusions must be interpreted with caution.¹⁹

The available empirical evidence does indicate that in the aggregate small manufacturing enterprises are more labor-intensive than the larger scale ones. Data on the fixed capital per worker from a dozen countries from all parts of the world are summarized in Table 18. In every instance, the small enterprises use less fixed capital per worker than their larger counterparts.

19. Such factors as excess capacity, heterogeneity of capital and labor, stock versus flow issues, and validation problems limit the validity of such measures, (see Bhalla, 1975).

These observed relationships do not necessarily always hold, however, when the figures are disaggregated into additional size categories or separate industries. Table 18 reveals, for example, that although the labor-intensity generally increases with size, the smallest size group (1-10 workers) was not the most labor intensive in one of the countries listed (Thailand). In addition, Ho's examination of the Korean Census indicates that at the industry specific level (four-digit level), the lowest labor intensity occurs no more frequently in large than in small scale industries. Such findings have led Little (1987) to conclude that small firms are not reliably more labor intensive than their larger counterparts.

3.2.2.2 Capital Productivity

Capital productivity can be considered as the least objectionable partial efficiency measure for comparing large and small enterprises in labor abundant developing countries. Most analysts have used value added per unit of fixed capital, although other capital proxies such as horsepower or combined fixed and working capital have also been employed. As with the labor-intensity measure, the capital-productivity measure is also plagued by theoretical and empirical problems; consequently results must be interpreted with caution.²⁰

A review of the available evidence presents a mixed picture of the relationship between capital productivity and size of enterprise. In the dozen countries for which aggregate country data exist (summarized in Table 19), capital productivity is highest for the small scale enterprise group

20. Among the problems with comparisons using the capital productivity measure are the ubiquitous valuation issues, stock versus flow considerations, as well as heterogeneity of products and the differing degrees of vertical integrations; see White (1978) for further discussion.

Table 18

Labor Intensity (K/L)^a by Size of Enterprise

Country	Size of Enterprise		
	1-10 workers	11-49 workers	50+ workers
	<u>Fixed Capital Per Worker (\$)</u>		
Africa: Kenya (1960)	\$772	\$986	\$3108
Sierra Leone (1974)	158	225 [15-19] ^b	1175 ^c [100+]
Ghana (1970)	1372	3742 [10-29]	6468 [100+]
Asia: Japan (1966)	934	1040 [30-49]	4333 [1000+]
India (1965)	278 ["small"]	557 ["medium"]	2450 ["large"]
Malaysia (1968)	521	997 [20-29]	2671 [500+]
Thailand (1970)	4280	3385	6355
Philippines	1020 ["small"]	2850 ["medium"]	8000 ["large"]
Korea (1968)	1096	1411	1796
Latin America:			
Mexico (1970)	3700 ["small"]	9500 ["medium"]	14,500 ["large"]
Honduras (1980)	125	250	2684
Colombia	3000	—	13,400

Sources: Japan: Okhawa and Tajima (1976); India: World Bank (1978b); Malaysia: Okhawa and Tajima (1976); Philippines: World Bank (1978b); Sierra Leone: Liedholm and Chuta (1976); Kenya: I.L.O. (1972); Ghana: Steel (1977); Mexico: World Bank (1978b); Colombia: World Bank (1978b); Korea: Ho (1980); Honduras: MSU country study. Thailand; Amjad, (1984).

Notes: ^a Fixed capital per worker

^b Numbers in brackets refer to size distribution for the figures immediately above when they differ from heading

^c Highlighted figures are maximum for each country

in nine. The countries where large scale industries possess the highest capital productivity figures are located in Asia: India, the Philippines and Korea.²¹ Within the small enterprise category, Okhawa and Tajima (1976) have argued that the capital productivity of the very smallest group (1-10 workers) is lower than the other size groups. This view is supported by Little (1987), who finds in his review of several small industry studies that capital productivity peaks in the "medium size" range of 20-200 workers. An examination of the data presented in Table 19, however, indicates that the smallest group possesses the highest capital productivity figures in seven of the twelve countries. Capital productivity was found to peak in the intermediate size category, (10-50) - the "inverted U" pattern - in only Japan and Honduras. At the industry-specific level, Ho (1979) found that in Korea capital productivity peaked in the 50 to 500 employment size range in two-thirds of the cases.

3.2.3 Comprehensive Efficiency Measures: Large Versus Small Enterprises

Only a few studies of small and large enterprises in developing countries have made use of the analytically more correct, comprehensive efficiency measures. Ho (1980) incorporated them in his study of large and small enterprises in Korea, while Cortes, Berry, and Ishaq (1987) have used them in their study of Colombian industry.²² In this section, their

21. In India, however, several scholars have argued that the capital productivity of small producers exceeds that of the large. See the debate between Mehta (1969) and Sandesara (1966, 1969).

22. In a related study, Page (1984), using frontier production function methods, only found a significant relationship between "technical efficiency" and size in one of five Indian industries he examines. See also Little *et. al.* (1987) for a discussion of the results of several World Bank sponsored studies, including those conducted by Ho (1980), Page (1984), Cortes *et.al.* (1987).

Table 19

Capital Productivity (Q/K)^a by Size of Enterprise

Country	Size of Enterprise		
	1-10 workers	11-49 workers	50+ workers
	Value Added Per Unit of Fixed Capital		
Africa: Sierra Leone (1974)	3.20^d	1.50	0.72
Ghana (1976)	0.60	0.30	0.60 [100+] ^b
Kenya ^c (1972)	5.60 [0-4]	2.60 [20-29]	1.10 [100+]
Asia: Japan (1966)	1.55	3.32 [30-49]	1.50 [500-999]
India (1953)	0.10 [1-19]	0.47 [20-49]	0.73 [500-999]
Pakistan (1960)	1.16	0.37 [20-49]	0.28 [100+]
Malaysia (1968)	2.01	1.32 [20-29]	1.02 [100-199]
Philippines (1960)	0.96 [5-19]	0.98 [20-49]	1.11 [500+]
Korea (1968)	0.66 [5-9]	0.66	1.16
Latin America:			
Mexico (1965)	1.34 [1-5]	0.64 [16-25]	0.61 [500+]
Honduras (1977)	3.57	4.38	0.28
Jamaica (1978)	1.8	---	1.44

Sources: Japan: Okhawa and Tajima (1976); India: Okhawa and Tajima (1976); Pakistan: Ranis (1961); Malaysia: Okhawa and Tajima (1976); Philippines: Okhawa and Tajima (1976); Sierra Leone: Liedholm and Chuta (1976); Ghana: Steel (1977); Mexico: Okhawa and Tajima (1976); Korea: Ho (1980); Honduras: MSU country study; Jamaica: MSU country study.

Notes: ^a Value added per unit of fixed capital

^b Numbers in brackets refer to size distribution when they differ from heading

^c Refers to distribution activities only

^d Highlighted figures are maximum for each country

findings will be briefly reviewed. The results of a comparison of large and small enterprises using comprehensive efficiency measures in three of the MSU country studies, Sierra Leone, Honduras, and Jamaica, will then be presented.

Ho's (1980) study of the Korean Census of Manufactures was one of the first attempts to examine large and small enterprises by means of a comprehensive measure of efficiency. Using a total factor productivity index²³ similar to that developed by Christiansen and Jorgenson (1970), Ho calculated the total factor productivity for different size classes (ranging from 5-9 persons to 500 and more persons employed) for a large number of narrowly defined four-digit Korean industries. A key finding from his study was that total factor productivity was highest for the large scale enterprises (50 or more persons employed) in over two-thirds of the four-digit industries examined. Total factor productivity was highest in the smallest size category (5-9 workers) in only 5 percent of the industries.

Cortes, Berry, and Ishaq, (1985) used private and social benefit cost analysis to examine the total factor productivity of metal-working and food processing firms ranging in size from 3 to 100 workers in Colombia. The social benefit cost calculations included adjustments for the shadow price of capital (assumed to be 12%) and labor. Domestic prices were used to evaluate outputs and material inputs, however, so efficiency comparisons were only made within enterprise groups. The main finding from this study

23. In this measure, the capital and labor productivity figures for enterprises are calculated using weights by the actual labor and capital shares in that industry or by the shadow prices of those factors. Ho used both methods using a 20 percent return on capital as the shadow price for capital and the actual wage paid as the labor shadow price.

was that the social benefit-cost ratios for both industries tended to increase with firms size; the ratio exceeded one, however, in all size categories.²⁴

In order to enlarge upon this limited set of findings, comprehensive efficiency measures have been used to compare large and small enterprises in three of our project countries where adequate data were available: Sierra Leone, Honduras, and Jamaica. In each country, a social benefit-cost approach was used to measure the efficiency of firms of various sizes. Since actual (i.e. domestic) rather than border (i.e. world) prices were used to evaluate outputs and raw material inputs, efficiency comparisons were only made between large and small firms operating in the same rather narrowly defined product groups. Comparisons of this type are particularly important for policy purposes, however, because it is in those industries where both small and large firms co-exist that significant shifts to smaller units may be possible without substantial changes in overall demand.²⁵

The primary data used to derive the social benefit-cost ratios were generated from the detailed small scale industry surveys conducted in these three countries.²⁶ The information on large scale enterprises was obtained from the worksheets of the Industrial Censuses in Sierra Leone and Honduras

24. For the metal working firms, the ratio ranged from 1.22 (1-10 workers) to 1.73 (61-100 workers), while for food processing firms it ranged from 1.72 to 2.85.

25. If, for example, small units produce only a limited range of products which large firms do not produce, then most of the increase in output of small firms must come from an increase in the demand for these particular items. Changes in the level and structure of demand are also important in their own right and policies play a key role. See below, p.95.

26. For details, see above p. 6.

and from the National Planning Agency's Industrial Survey in Jamaica.²⁷ In calculating the social benefit cost ratios, the "shadow" social price of capital was assumed to be 20 percent, while unpaid family labor was valued at the average price for skilled labor in small scale industry.²⁸

The key finding from the three-country analysis is that the small scale enterprises are found to be more efficient than their larger scale counterparts in the majority of the industry groups considered. The figures in Table 20 indicate that the social benefit-cost ratios are higher for small scale enterprises in 10 of the 12 industries examined. Only in the wearing apparel industries of Jamaica and Honduras do the larger sized enterprises show higher returns. The results from these three countries run counter to the relative efficiency findings for Korea and Colombia. Consequently, although it has been established that small enterprises are relatively more efficient than large scale ones in a sizeable number of industry groups in several countries, this finding is not universal.

One limitation shared by all the total factor productivity and social benefit-cost analysis is that domestic prices were used to evaluate outputs and material inputs. Consequently, efficiency comparisons with other segments of these economies or statements about the overall efficiency of small scale enterprises based on such studies must be treated with caution. For Sierra Leone, however, sufficient data were available to

27. The dates of the large and small industry surveys differed slightly in Jamaica and Honduras. Although the small enterprise surveys were both conducted in 1979, the large scale surveys covered 1977 in Jamaica and 1975 in Honduras. The economic conditions in these countries did not differ markedly between these periods, however, so the validity of comparisons should not be seriously vitiated.

28. The actual wages paid in large scale enterprises were included at 80%. For a justification of these adjustments, see Haggblade, Liedholm and Mead, 1986.

TABLE 20

Social Benefit-Cost Ratios (Domestic Prices)^a
for Various Large and Small Scale Industry Groups in
Africa and Latin America

<u>Country/Enterprise Group</u>	Small ^b Scale	Large ^c Scale
<u>Africa:</u>		
<u>Sierra Leone (1974-75)</u>		
Bakery	3.43	1.03
Wearing Apparel	1.93	0.53
Shoes	2.73	2.00
Furniture	1.83	0.87
Metal Products	1.75	1.61
<u>Latin America:</u>		
<u>Honduras (1979)</u>		
Wearing Apparel	0.82	0.89
Shoes	1.27	0.54
Furniture	1.44	0.84
Metal Products	1.21	0.74
<u>Jamaica (1979)</u>		
Wearing Apparel	1.13	1.79
Furniture	2.74	1.36
Metal Products	1.92	1.58

Source: Sierra Leone small scale enterprise data collected in 1974-75 survey reported in Chuta and Liedholm (1985); large scale data from worksheets for Census of Manufacturing figures of Central Planning Unit, Government of Sierra Leone, 1974-75. Honduras small scale enterprise data collected in 1979 enterprise survey in four regions reported in Stallman (1983); large scale industry data obtained from worksheets for the 1975 Census of Industry. Jamaica: small scale enterprises data collected in 1979 survey reported in Fisseha (1982); large scale data collected from worksheets for the National Planning Agency for their 1977 industrial survey.

Notes:

a. Gross output and purchased input values used to compute value added (numerator) are evaluated at actual (domestic) prices; hired labor evaluated at actual wages paid for small and at 0.8 of actual wages for large. Unpaid family (including proprietor) valued at skilled wage rate for small scale industry in each country (Le. 0.16 per hour in Sierra Leone, Lm. 0.71 per hour in Honduras and J\$ 1.50 per hour in Jamaica). Capital was evaluated at a shadow interest rate of 20% in each country. For a rationale for these particular shadow rates, see Haggblade, Liedholm, and Mead (1986).

b. Small scale firms employ less than 50 persons

c. Large scale firms employ fifty persons or more. With one exception, these firms are located in large urban areas.

enable computation to be made of enterprise social benefit cost ratios at world prices.

The results, summarized in Table 21, reveal that at world (i.e. border) prices, small scale enterprises continued to be more efficient than their larger scale counterparts in all the industry groups considered. The aggregate social benefit-cost ratio for small scale industries is +1.73, indicating that small scale industries overall are economically efficient and have a positive effect on the total output of the Sierra Leone economy. Moreover, the ratios for the individual industries all exceed one, indicating their positive contributions to the economy as well. By contrast, the social benefit-cost ratios for large scale industries is 0.49 overall, and exceeds one in only a single industry group, shoes. The large scale activities, consequently have a negative effect on the Sierra Leone economy. A shift from large to small industry would appear to make economic sense in this particular country.

3.3 Small Scale Enterprises Efficiency: **Country-Study Results**

We now proceed to analyze the efficiency of small enterprises in more detail. What types of small producers are most efficient in developing countries? What are the characteristics of these efficient firms? What are the characteristics of the inefficient ones? These issues will be examined using primarily the results from five of the countries where MSU and local researchers carried out detailed surveys: Jamaica, Honduras, Egypt, Sierra Leone and Bangladesh.²⁹ Only randomly selected enterprises in these country studies are included in this analysis.

²⁹. Due to data limitations, analyses involving Bangladesh have been limited to product group comparisons in this section.

Table 21
Social Benefit-Cost Ratios
Large^a and Small^b Scale Manufacturing Enterprises in
Sierra Leone -- 1974-75

Industry	Social Benefit Cost Ratio Domestic Prices ^c		Social Benefit Cost Ratio World Prices ^d	
	Small Scale	Large Scale	Small Scale	Large Scale
<u>Food</u>				
Bakeries	3.43	1.03	3.30	0.68
Beverages	-	1.79	-	0.89
Others	-	4.41	-	-2.46
<u>Textiles</u>				
Wearing Apparel	1.93	0.53	1.52	-0.30
Gara Cloth	4.80	-	3.67	-
Shoes	2.73	2.00	1.89	1.40
<u>Wood</u>				
Furniture	1.83	0.87	1.18	0.48
<u>Metal</u>				
Metal Products	1.75	1.61	1.25	0.90
<u>Repairs</u>	4.78	-	4.78	-
<u>All</u>	2.44	1.74	1.73	0.49

Sources: Small scale enterprise data collected in 1974-75 survey reported in Chuta and Liedholm (1985); large scale enterprise data obtained from Census of Manufacturing data collected by Central Planning Unit, Government of Sierra Leone 1974-75. Data were obtained from 15 of the 28 large industries; these 15 firms accounted for over 90 percent of the large industry value added. Customs data obtained from the Government. Specific tariffs converted to ad valorem rates based on current f.o.b. prices.

Notes:

a. Large firms employ fifty or more persons
b. Small firms employ less than fifty persons
c. For the social benefit-cost ratio (domestic prices), the gross output and purchased input values used to compute value added (numerator) are evaluated at actual prices in Sierra Leone; hired labor is evaluated at the market wage for small and at 0.8 of actual wage for the large; apprentice labor is evaluated at Le 0.06 per hour and family labor at Le .16 per hour; capital is evaluated at 20% using the capital recovery factor for the fixed component. For the rationale of these shadow price estimates, see Chuta and Liedholm (1985)

d. For the social benefit-cost ratio (world prices), the gross output and purchased input values at domestic prices were adjusted for the "nominal tariffs" on imported elements. Where quantitative restrictions applied, such as for flour, the difference between c.i.f. import prices and domestic prices were used.

The comprehensive efficiency results in this section are presented in terms of the net economic return measures, specifically the net return to family labor and economic profit. If the net return to family labor in an enterprise equals or exceeds the shadow wage³⁰ of that labor, that enterprise can be considered to be economically efficient. Likewise, if the economic profit of the enterprise is zero or above, it is economically efficient.³¹ Since output and raw materials have been measured at domestic prices, the usual caution in interpreting the results must apply.

3.3.1 Country - Overall Product

Data from studies in Jamaica, Honduras, Egypt, Sierra Leone, and Bangladesh indicate that taken in the aggregate, small enterprises in these countries appear to be economically efficient. An examination of the last two rows of Table 22 reveals that returns per hour of family labor for all small scale industries substantially exceeds the estimated shadow wage rate of that labor. Alternatively expressed, such activities also generate positive economic profits. Indeed, except for Honduras and Bangladesh, the return per hour is more than twice the estimated shadow wage rate. With the exception of Sierra Leone, the aggregate return per hour of family labor and the shadow wage vary directly with the level of per capita income in these countries.³²

30. The "shadow" wage is assumed in this analysis to equal the prevailing wage for small industry workers in each country, while large industry wages are valued at .8 of the actual amount paid. See Haggblade, Liedholm and Mead for justification.

31. See above p. 63 for more details of this method of analysis.

32. The countries are arrayed in the table from left to right according to levels of GDP/capita.

Table 22
 Net Return Per Hour of Family Labor and Economic Profit
 in Small Enterprises^a

[US \$/Hour]

<u>INDUSTRY</u>	Jamaica		Honduras		Egypt		Sierra Leone		Bangladesh	
	Return Per Hour	Econ. Profit Per Hour	Return Per Hour	Econ. Profit Per Hour						
<u>Food (31)</u>	\$0.50	-	\$0.64	+	\$0.48	+	\$0.81	+	\$0.15	+
Bakeries	2.34	+	0.64	+	NA ^b	NA	0.81	+	0.45	+
Other	-0.42	-	NA	NA	0.48	+	NA	NA	0.11	-
<u>Textiles (32)</u>	1.14	+	0.21	-	0.22	+	0.52	+	0.10	-
Tailoring	0.92	+	0.78	+	0.55	+	0.50	+	0.21	+
Dressmaking	NA	NA	0.09	-	0.18	0	1.02	+	0.10	-
Shoes	1.85	+	0.57	+	0.53	+	0.59	+	NA	NA
Mats	NA	NA	NA	NA	0.11	-	NA	NA	0.05	-
<u>Wood (33)</u>	3.68	+	0.60	+	0.39	+	0.63	+	0.16	+
Furniture	4.55	+	0.60	+	0.96	+	0.63	+	0.16	+
Crafts	0.21	-	NA	NA	0.04	-	NA	NA	NA	NA
<u>Non-Metallic</u>										
<u>Minerals (36)</u>	5.98	+	1.58	+	9.87	+	NA	NA	NA	NA
Tiles	5.98	+	4.96	+	9.87	+	NA	NA	NA	NA
Other	NA	NA	0.00	-	NA	NA	NA	NA	NA	NA
<u>Metals (37)</u>	3.88	+	0.67	+	0.59	+	+0.42	+	0.25	+
<u>Repairs</u>	5.40	+	2.54	+	NA	NA	+1.45	+	NA	NA
<u>All SSI</u>	\$2.71	+	\$0.51	+	\$0.38	+	\$0.57	+	\$0.16	+
<u>Shadow Wage^c</u>	\$0.84		\$0.36		\$0.18		\$0.17		\$0.12	

Source: MSU Survey Data

Note: ^aThe net return per hour of family labor was computed by subtracting from value added the hired labor costs, as well as the annual capital services valued at the shadow interest rate (i.e. capital recovery factor). The shadow interest rates used were Jamaica, 20%, Honduras 20%, Egypt 10%, Sierra Leone 20%, and Bangladesh 20%. The numerator was then divided into total hours of all family workers. The resulting return per hour figure can then be compared with the shadow price of labor, reflecting its scarcity value. If the return figure exceeds the shadow price of labor, then the activity could be considered to be economically viable. Economic profit can be obtained by subtracting from net family return the imputed value of the family labor inputs, valued at their "shadow" price. A marginal activity would generate zero economic profits.

^bNA = not applicable (no firms in cell).

^c"Shadow" wage reflects the prevailing hourly wage rate for small scale industry workers.

These aggregate figures mask substantial variations in economic efficiency depending on the type, size, location and other characteristics of the particular small scale industry. A more disaggregated examination is thus needed.

3.3.1.1 Two Digit ISIC Product Levels

An examination of economic viability by two digit ISIC (International Standard Industrial Classification) categories (see Table 22) reveals the variability in returns per hour of family labor among different industries. Although the majority of two-digit industries in these countries are economically efficient, some are not. Food production in Jamaica and textile production in Honduras and Bangladesh all generate returns per hour of family labor lower than the estimated shadow wage rate for such labor. Repair activities, non-metallic mineral production, and wood production consistently generate positive economic profits and usually generate the highest returns per hour to family labor in all five countries, while textiles (and sometimes food) tend to generate the lowest returns.

3.3.1.2 Three Digit ISIC Product Levels

Disaggregating these enterprise categories to the three digit ISIC level reveals that substantial variations in returns occur within the broader two digit aggregates. Within textiles, for example, shoes and tailoring consistently generate positive economic profits, while mats and dressmaking usually generate negative ones. Similarly, within wood products, furniture production appears to be economically efficient while craft production is not.

3.3.1.3 Within Product Groups

More detailed analysis indicates that there is considerable diversity in returns for different types of products even within particular, narrowly-defined product groups. In Thailand, (Artkonghorn, 1981) for example, a substantial difference was found between high-cost vs. low-cost garments as follows:

Product Type	Returns to family per hour worked (\$ per hour)	Economic Profit
Shirts:		
Expensive	\$1.82	+
Low-Cost	\$-1.61	-
Dresses:		
Expensive	\$6.60	+
Low-Cost	\$-1.51	-
Trousers:		
Expensive	\$1.41	+
Low-Cost	\$0.23	-
"Shadow Wage"	\$0.56	

These figures make clear that even within narrowly-defined industry groups, there is a substantial difference between returns by quality of the product. Once again, this shows the problems of seeking to specify generalizations concerning economic efficiency for broad aggregates of small producers.

3.3.1.4 Degrees of Vertical Integration

One of the many problematic issues in the examination of economic efficiency among small producers concerns the varying degree of vertical integration in different firms. In a world of perfect knowledge and perfect resource mobility, such differences in the degree of vertical integration would be of no consequence, since competitive forces would

ensure that returns would be the same in each separable step in the production process. All firms in a particular industry (and in fact, in the whole economy) would earn the same return, no matter what their degree of vertical integration. In practice, we know that the world is not like that; market imperfections arising from a variety of sources impede such equalization across steps in a production process, as they do across industries. The result is that differences in measured efficiency between firms may simply reflect differing degrees of vertical integration among these firms rather than the efficiency with which any particular function is performed.

An example illustrates the point. From Haggblade's (1985) analysis of the sorghum beer industry in Botswana, the following estimates of the economic efficiency (using social benefit-cost ratios) of different enterprise channels can be derived:

	Social Benefit Cost Ratio
Channel 1: Integrated home producers engaged in malting, brewing, and retailing	3.66
Channel 2: Home brewers engaged in retailing, but buying trade malt:	
Malting	4.06
Home Brewing/retailing	4.30
Entire channel	4.24
Channel 3: Factory brewing, with trade malt and home retailing	
Malting	2.61
Factory Brewing	3.65
Home Retailing	3.71
Entire channel	2.84

If one compares home brewers/retailers in either the first or second channel with factory brewers operating in the third, the home brewers who buy trade malt dominate in efficiency, but there is virtually no difference

in efficiency between the integrated home brewers (3.66) and factory brewers (3.65). Yet this conclusion is heavily influenced by the differing levels of vertical integration among the various types of producers. Comparing the same set of activities (i.e. the entire channel), channel 2 still dominates, but now integrated home producers are clearly shown to be more efficient than factory brewing (3.66 vs. 2.84). Such an analysis points to the importance of making efficiency comparisons that take into consideration the differing degrees of vertical integration of activities.

3.3.2 Production Characteristics

Not only do returns vary depending on the industry and type of product, they also differ according to the firm's production characteristics. Firm size, input composition and location appear to be particularly important in this regard.

3.3.2.1 Size

Within the small category, there is evidence that a direct relationship exists between firm size and economic efficiency. This is revealed in Table 23, in which data from four countries on family returns per hour and economic profit are arrayed according to the number of workers (including family members) in the enterprise. Returns per hour are lowest for the one person firms in all four countries; except for Honduras, these returns then consistently rise as the number of workers increases, with these differences being significant at the one percent level.³³

33. Small scale industries generally dominated the large scale in the efficiency comparisons examined above in section 3.2. Consequently, it appears that if firms of all sizes were included, an inverted "U" shaped relationship would exist between efficiency and firm size.

Table 23

Net Return Per Hour of Family Labor and Economic Profit
by Number of Workers in SSI

<u>COUNTRY</u> ^a	1 Worker		2-5 Workers		6-9 Workers		10-49 Workers	
	Return Per Hour	Econ. Profit	Return Per Hour	Econ. Profit	Return Per Hour	Econ. Profit	Return Per Hour	Econ. Profit
Jamaica *** ^b	\$0.83 (n = 56) ^c	0	\$3.68 (n = 63)	+	\$7.85 (n = 13)	+	NA ^d	NA
Honduras ***	\$0.17 (n = 312)	-	\$0.98 (n = 86)	+	\$6.41 (n = 14)	+	\$5.00 (n = 3)	+
Egypt ***	\$0.11 (n = 107)	-	\$0.61 (n = 231)	+	\$2.81 (n = 22)	+	NA	NA
Sierra Leone ***	\$0.51 (n = 55)	+	\$0.59 (n = 49)	+	\$2.03 (n = 6)	+	\$2.17 (n = 2)	+

Sources : MSU Country Survey Data

- Notes: a. For disaggregation by industry, see Appendix B
b. *** Differences in size of group means within each country are significant at the 1 % level(F-test)
c. n = number of random firms
d. NA = not applicable - no random firms in cell

A similar picture emerges when these size figures for small scale enterprises are disaggregated by industry type. For almost every industry group in each country, returns per hour increase with the number of workers among the small producers (see Appendix B). As indicated in the Appendix, many of these relationships are also statistically significant at the one percent level.

Reinforcing these findings is the indication in all four countries that returns per hour are positively correlated with the value of production. Regression analyses indicate that for every 10 percent increase in the value of production for small enterprises (up to 50 workers), returns per hour increase by approximately 7 percent. A similar relationship was found between returns per hour and levels of production when the analysis was applied to individual industry groups as well.

A particularly important finding from the size analysis is the indication that one person firms in three of the four countries generate overall economic profits that are close to zero or even negative. Many firms in this portion of the small industry size spectrum would appear to be at the margin of economic viability.³⁴ Such a finding is consistent with the previously described relatively poor growth performance of this size category observed for Sierra Leone and India.

It should be noted, however, that at the disaggregated industry level, there are many examples of economically viable one-person industry groups

34. This conclusion seems to be robust even under alternative assumptions of the shadow wage. In Honduras, for example, the overall return to one-person firms of \$0.17 per hour is not only 53% below the hourly wage in small scale industry (the assumed shadow wage), but is also 11% below the prevailing agricultural wage rate (Stallman, 1983). In Egypt, the \$0.11 per hour return to one-person firms was only two thirds the prevailing agricultural wage (Davies, *et. al.*, 1984).

[e.g. tailoring, dressmaking, shoes, and furniture in Egypt; carpentry, metals, baking, and tiles in Honduras; carpentry in Jamaica; and tailoring in Sierra Leone (see appendix B). Moreover, if employment and income distribution objectives are also accorded weight, the position of and concern for the one-person firm looms larger. Nevertheless, the difference in the overall economic viability between the one-person firm and the other small industry firms is quite striking.³⁵

3.3.2.2 Hired Workers

A relatively easily obtained but illuminating indication of relative economic efficiency may be whether or not the small enterprise employs any hired workers at all. The results of an analysis of returns per hour of family labor and economic profit, arrayed by whether or not there were hired workers, are presented on Table 24. These figures indicate that in all four countries the returns per hour of family labor are higher in those firms with hired workers. This relationship is statistically significant at the one percent level in three of the four countries. Indeed, in two of the countries, Honduras and Egypt, the economic profitability of those firms hiring no workers is negative. Similar results were found for individual industry groups in these countries, although in several instances the relationships are not statistically significant (see Appendix C).

35. In all four countries, the overall returns per hour in firms with from two to five workers are more than double the estimated "shadow" wages.

Table 24

Net Return Per Hour of Family Labor and Economic Profit
by Whether or Not Hired Labor is Employed in SSI

<u>COUNTRY</u> ^a	No Hired Labor		Hired Labor	
	Return Per Hour	Economic Profit	Return Per Hour	Economic Profit
Jamaica *** ^b	\$1.01 (n = 57) ^c	+	\$4.21 (n = 77)	+
Honduras ***	\$0.18 (n = 327)	-	\$2.35 (n = 88)	+
Egypt ***	\$0.15 (n = 184)	-	\$1.05 (n = 176)	+
Sierra Leone	\$0.44 (n = 92)	+	\$0.93 (n = 20)	+

Source: MSU Country Survey Data

Notes: a. For disaggregation by industry, see Appendix C
b. *** Differences in size of means within each country are significant at the 1% level(F-test)
c.. n = number of random firms

3.3.2.3 Home Production

Whether or not production occurs in the home may also provide an indication of relative economic efficiency or viability. The data needed to examine this relationship are available only for Egypt and Sierra Leone. When returns per hour and economic profit are arrayed in this way (see Table 25), they reveal that the returns per hour of family labor among all small producers taken together are higher in those firms where production occurs away from the home. In Egypt, in fact, the overall economic profitability of firms operating at home is negative. This distinction is supported by data disaggregated by industry (See Appendix C). Many types of home-based activities, however, are economically viable.³⁶

3.3.2.4 Geographic Location

The geographic location of the firm may also have an effect on the economic viability of small enterprises. Data from the three countries where this relationship could be examined are presented in Table 26. The net returns per hour and economic profitability are arrayed depending on location of the enterprise: in small rural localities with less than 2000 inhabitants, in rural towns with 2,000 to 20,000 inhabitants or in urban towns and cities with more than 20,000 inhabitants. The results indicate a progressive increase in the returns per hour as one moves from enterprises

³⁶. Strassmann's (1986) surveys of home-based small enterprises in Sri Lanka, Peru, and Zambia reveal that home-based workers earned about the same as those with jobs in the "informal" sector, but about half that earned in the "formal" sector. The returns of home-based activities, however, were found to vary widely depending on the type of activity, the characteristics of the entrepreneur (e.g. male or female), and the type of neighborhood in which the products were sold.

Table 25

Net Return Per Hour of Family Labor and Economic Profit
by Whether or Not Production Occurs in Home

<u>COUNTRY</u> ^a	In The Home		Away From Home	
	Return Per Hour	Economic Profit	Return Per Hour	Economic Profit
Egypt *** ^b +	\$0.13 (n = 171) ^c	-	\$1.00 (n = 178)	
Sierra Leone	\$0.48 (n = 57)	+	\$0.70 (n = 24)	+

Source: MSU Country Survey Data

Note: a. For disaggregation by industry, see Appendix C
 b. *** Differences in group means within each country are significant at 1% level (F-test)
 c. n = number of random firms

Table 26

Net Return Per Hour of Family Labor and Economic Profit
by Geographic Location

<u>COUNTRY</u> ^a	SIZE OF LOCALITY					
	Below 2,000		2,000 - 20,000		Above 20,000	
	Net Return Per Hour	Econ. Profit	Net Return Per Hour	Econ. Profit	Net Return Per Hour	Econ. Profit
Sierra Leone *** ^b	\$0.33 (n = 24) ^c	+	\$0.44 (n = 32)	+	\$0.94 (n = 56)	+
Honduras ***	\$0.27 (n = 246)	0	\$1.17 (n = 169)	+	NA ^d	NA
Jamaica	\$1.12 (n = 34)	+	\$2.98 (n = 59)	+	\$4.49 (n = 41)	+

Source: MSU Country Survey Data

- Note:
- a. For disaggregation by industry, see Appendix D.
 - b. *** Differences in size group means within each country are significant at the 1% level(F-test)
 - c. n = number of random firms
 - d. NA = not applicable - no data collected in localities with more than 20,000 inhabitants in Honduras.

in the smallest rural areas to the larger localities. They also indicate that the overall economic profitability of firms found in those localities with fewer than 2,000 inhabitants is marginal in Honduras.³⁷

3.3.3 Summary

This review of the returns and economic profitability of small enterprises reveals that while in the aggregate they are efficient, their returns vary markedly among different types of producers. Nevertheless, some important patterns emerge. Small enterprises which are most likely to be economically viable tend to reflect some common patterns, many of which can be discerned on the basis of ocular evidence. Prominent among these are: (1) use of hired workers; (2) operation in workshops away from the home; (3) operation in larger localities; and (4) involvement in product lines with better economic prospects, such as tile, furniture, baking, and repair activities. Such characteristics do not, of course, insure success. Moreover, there are a plethora of small firms possessing none of these features that are economically viable. These characteristics do suggest, however, that some categories of producers have substantially better prospects than others. Judiciously and cautiously applied, these indicators provide the analyst with useful groupings of enterprises with relatively favorable prospects.

37. See Appendix D for disaggregation by industry.

IV POLICY AND PROJECT ISSUES

The preceding discussion makes clear that small enterprises are widespread and diverse in developing economies and that they are efficient in their use of resources. In view of their contributions to income and productive employment, it is appropriate that they should be the target of policy and project-focused attention from governments as well as international donors.

All of this leads to questions concerning the design and implementation of policies and projects to support the growth of small producers. In the discussion of this section, a distinction is made between general policies, designed to affect broad classes of producers, on the one hand, and projects based on a one-on-one relationship aimed at providing direct assistance to particular designated firms, on the other. The discussion deals first with policy issues: the policy context in which small firms currently operate, and ways in which these policies might be improved. It then turns to an examination of projects that have been adopted in the past for small industry development and makes suggestions concerning appropriate new project activities.

4.1 Policies

Past governmental efforts at encouraging the growth of small enterprises have generally concentrated primarily on project interventions, aimed at providing specific assistance to particular target groups. Yet such efforts have often been frustrated by a policy environment that is detrimental to the development of small producers. A recent publication by the World Bank has stated this clearly:

"until realistic exchange regimes were established and until changes took place in trade, investment and financial policies...it was difficult to effect a substantial development of SSEs along healthy economic lines. It is hardly feasible to press for the use of appropriate technologies and maximum employment creation in a situation where subsidized finance for equipment purchase is offered and where it is possible to operate in a protected market where profits are high enough to justify equipment used for only a small part of the time" (Levitsky, 1985, p. 33).

In most countries of the third world, the overall policy environment is skewed against small producers. This is primarily because policy is aimed at providing special benefits to larger manufacturing enterprises. These benefits are usually designed and implemented in such a way that they are not available to small producers, which thereby find themselves at a competitive disadvantage compared to their larger competitors.

There are large numbers of policy areas that matter significantly in this regard. In thinking about these issues, we have found it helpful to separate them into the effects of policies on input markets (particularly the factors of production, labor and capital), and their impacts on product markets.

4.1.1 Effects of Policies on Input Markets

4.1.1.1 Capital Markets

An array of policies influence the price and availability of capital to small producers. The most important of these include the following.

1. Subsidized credit. Such a policy makes it possible for firms that benefit from the program to undertake capital investments at below market

costs. This provides incentives for firms that benefit from such subsidized credit to adopt more capital-intensive production technologies than they otherwise would.

2. Interest rate ceilings. These are often aimed at protecting the borrower from unscrupulous lenders. Yet, lending to small producers often involves higher administrative costs per dollar lent as well as higher risks, compared to larger firms.¹ In this situation, interest ceilings may make it infeasible for financial institutions to lend at all to smaller borrowers. As a result, these firms may be forced to turn to informal markets, at rates which are often two or more times those offered by the formal financial institutions.

3. Import duties, quotas and exchange rates. A system of balance of payments regulations which is based on an overvalued exchange rate combined with tariffs and quotas on particular import categories has the effect of making non-restricted imports cheaper than they would be in the absence of such intervention. This is the pattern in many developing countries. Capital goods are almost always among the products that can be freely imported with minimal duties, thereby reducing their cost to the investor.

4. Tax incentives. A number of countries in both the developed and the developing world have adopted capital-based tax benefits, designed to provide tax incentives to encourage investment. Examples include accelerated depreciation schedules and tax holidays based on amounts invested.

All of these well intentioned policies - aimed at encouraging investment - have the effect of making capital cheaper for firms that

1. See below, p. 103.

benefit from them. Subsidized credit could conceivably be made available to selected small enterprises. The bulk of small producers, however, do not have access to such special lines of credit and must rely on informal sources of credit, at rates much higher than those in formal credit channels which serve the large firms. Similarly, large firms are likely to be importing larger pieces of capital equipment which would be recognized as such in the tariff code. Small producers, on the other hand, often find that their capital inputs are mistakenly classified as consumer goods and taxed at much higher rates. Sewing machines for small tailors and outboard motors for small fishermen are examples. The capital-based nature of the tax structure accentuates the capital price differential paid by small producers. Since small producers often escape the tax net while large firms are less able to do so, it is the large firms that face the capital deepening tax incentives. All of this means that the policy environment tends to make capital substantially cheaper for large producers than for their smaller competitors.

4.1.1.2 Labor Markets

Governments intervene in various ways in labor markets, generally in ways that push up the price of labor relative to a situation with less government involvement. The major policy instruments include the following.

1. Minimum wage legislation. Such legislation, which is designed to put a floor under wage rate, particularly affects the wages of unskilled labor.
2. Mandated fringe benefits, work rules, and other labor regulations. These instruments tend to be employed more frequently in Latin American than in Africa or Asia. In the same vein, governments may reinforce the

power of trade unions to demand benefits for their members, although in many countries the rights of union members to strike are severely circumscribed.

3. Public sector wage policy. In many countries of the third world, the government is the largest single employer of paid labor; its policies can set the pattern for many others, particularly for the larger private firms.

These interventions all have a tendency to raise the market wage rates above the levels that would obtain in the absence of policy intervention. As in the case of the capital market, they are particularly important for larger producers, leaving small firms relatively untouched. Minimum wage and other similar labor legislation generally either exempts small producers explicitly or else is enforced in such a way that the small firms escape the effects. While there is some interaction between all parts of the labor market, this is generally much closer between the public sector and larger private firms than between either of these and small enterprises, which often operate in more isolated and rural areas. The end result, then, is that the policy package pushes up wage costs especially in larger firms, leaving the labor market facing smaller producers relatively untouched.

4.1.1.3 Empirical Evidence of Magnitudes of Policy-Induced Distortions in Factor Markets

A number of empirical studies have examined these different dimensions of policy intervention.² Table 27 summarizes these data for seven countries for which the most comprehensive data exist. The evidence in the

2. For an extended review of these estimates, see Haggblade, Liedholm and Mead, 1986, pp. 13-34.

Table 27
 Policy-Induced Factor Price Distortions in Large
 and Small Non-Agricultural Enterprises
 Expressed as the Percent Difference in Large Firms' Costs Relative to Small Firms

Country	Period	Percent Difference in Labor Costs	Percent Difference in Capital Cost ^a Owing to:				Total Capital	Percent Difference in Wage/Capital Rental Rate
			Trade Regime	Interest Rate	Taxes	Total		
Asia:								
Hong Kong	1973	0	0	0	0	0	0	
Pakistan	1961-64	0	-38	-44	+22	-60	+150	
South Korea	1973	0	-5	-35	+10	-30	+43	
Africa:								
Ghana	1972	+25	-25	-42	+26	-41	+112	
Sierra Leone	1976	+20	-25	-60	+20	-65	+243	
Tunisia	1972	+20	-30	-33	NA ^b	NA	NA	
Latin America:								
Brazil	1968	+27	0	-33	NA	NA	NA	

Source: Haggblade, Liedholm, and Mead, 1986.

Notes: ^aAll capital related figures have been converted into the annual rental value of a unit of capital (or user costs) using a modification of capital recovery formula presented in Guisinger (1981, p. 329).

^bNA = data not available.

table indicates that the total effect of factor cost distortions has been quite sizeable in most of these countries. The labor market, trade regime, and domestic capital market factors have tended to induce higher labor costs and lower capital costs for larger enterprises when compared with their smaller counterparts, all leading in the direction of higher capital/labor ratios for the larger firms. Taxes operated in the opposite direction, but served only partially to offset these other factors. Although each of these sources of pricing disparity between large and small enterprises by itself can be important, operating together their effects are generally magnified. In Sierra Leone, Ghana, and Pakistan, for example, the wage/rental ratio facing large non-agricultural firms was more than twice that facing the smaller enterprises.

4.1.1.4 Effects of Policies on the Market for Other Inputs

In addition to their effects on capital and labor markets, the policy environment can have a significant impact on the price and availability of other inputs as well. A central issue here concerns imported raw materials and intermediate inputs. In countries with extensive government control and regulation of imports, such inputs may be directly allocated by centralized agencies or state trading firms. Unless special care is taken to ensure an adequate supply of such inputs to small producers, they are generally left at the end of the queue. This was a severe problem in Egypt, for example, until it was partially remedied through the establishment of a government agency created to channel imported inputs to small producers organized into cooperatives.

Another way in which policies impinge differentially on the price of imported inputs is through the tariff system. In several countries of the

world, large manufacturing firms can obtain exemptions from duties on raw material which they import for use in their own production process. Smaller producers, on the other hand, either are not entitled to such exemptions or do not find it economical to import directly themselves; rather they buy their imported inputs from merchants, who are not allowed the same duty free privileges. The result is that small producers must pay more for their imported raw materials than their larger scale competitors.

The tariff structure itself sometimes discriminates against small producers in their purchases of imported inputs. In Sierra Leone, for example, textile machinery used by large garment manufacturers was imported at a zero tariff rate. Yet, simple sewing machines, which are the basic items of capital for small tailors, were subjected to a high duty, on the argument that they were considered luxury consumer goods, (Chuta and Liedholm, 1985).

4.1.2 Effects of Policies on Product Markets

Numerous studies have shown that for most small producers, particularly those in rural areas, the most important problem which they face is one of finding markets for their output. Policies can have a major impact on their ability to meet this challenge. Among the most important are those affecting trade and agriculture.

4.1.2.1 Trade Policies

Our previous discussion explored the differential effects of the tariff structure on the price of imported inputs. Comparable considerations arise with regard to the level of tariff protection on finished products. Anderson and Khambata's (1981) study of small

enterprises in the Philippines, for example, found that sectors which provided over two-thirds of small scale employment had negative rates of effective protection, while sectors where large scale enterprises predominated had effective rates ranging from 25 to over 500 percent.

Two other studies have also examined the size issue with respect to effective protection. In Indonesia, Hieminz and Bruch (1983) found a negative correlation between the share of small enterprise production in an industry and the effective protection rate. For Malaysia, von Rabenau (1976) demonstrated that average plant size is much higher in highly protected industries (i.e., with effective protection rates above 100) than in less protected ones. The limited evidence that is available thus seems to indicate that the pattern of protection offered by the tariff structure provides encouragement disproportionately to large enterprises, with much more limited benefits for smaller producers.

Turning to the effects of policy on the competitive position of different types of producers in export markets, special incentives for the encouragement of exports have not always been offered in a size-neutral way. For example, in Korea, the regulations have been written in such a way as to preclude small producers from benefitting from them. Frank et.al. (1978) note that there were minimum export values before the firm could be registered and, therefore, eligible for subsidies. To maintain a privileged status, traders had to sustain annual exports exceeding \$20,000 per year for firms registered as exporters and \$100,000 for importers. Many small enterprises were unable to meet these volumes. Scitovsky (1985) argues that, perhaps as a result of this discrimination, large firms have played a major role in Korea's export boom. In Taiwan, on the other hand, where the policy stance has been less discriminating (and for a number of

other reasons as well), small firms have played a much larger role in industrial development as well as in exporting (see Haggblade et. al. 1986, pp. 39-40).

4.1.2.2 Agricultural Policies

Because of the strong linkages between agricultural and rural industrial activities, agricultural policies and programs, in particular, have a strong influence on rural small-scale enterprises. The analysis in an earlier section of this paper revealed that the primary demand for most rural industrial goods and services stems from agricultural and that this demand is transmitted through both income and production linkages. Since the available evidence indicates that the rural households' income elasticity of demand for rural industrial goods is positive and that agriculture generates the largest share of rural incomes, policies designed to increase agricultural output and or income have an important indirect effect on the demand for the products of rural small enterprises. Consequently, government actions ranging from improvements in the terms of trade between agriculture and large-scale manufacturing to investment programs and policies designed to increase agricultural production and income can generate an increased demand for a wide array of rural small scale industrial goods and services.

The nature and composition of these agricultural policies should also be considered, however, since they can vary substantially in their effects on the demand for products from small industries. There is some evidence that higher-income rural residents have a somewhat lower income elasticity of demand for rural industrial products than do lower-income individuals, the majority of whom are small scale farmers.³ Moreover, the agricultural

inputs such as tractors and fertilizers used by large scale, high income farmers are less likely to be produced in rural localities than are inputs used by small scale, low-income farmers. Consequently, policies and programs designed to benefit a larger number of small scale, low income farmers are likely to generate a greater demand for small industrial activities and services than those designed to benefit a few larger-scale farmers. These differential effects on small industrial activities must be recognized when designing agricultural policies or rural development strategies. These results also demonstrate that in reviewing the general policy environment for small firms it is necessary to transcend the traditional sphere of industrial policy and include agriculture, trade, foreign exchange and other related policies as well.

4.2 Projects

Projects rather than policy reforms have been the primary vehicle used in the past by governments and donor agencies to foster the development of small enterprises. In the 1950's and early 1960's, most of these projects focused on the provision of an integrated package of inputs to a relatively limited number of "modern" small businesses, following the "Indian model" developed and applied by Stanford Research Institute and the Ford Foundation (see Staley and Morse, 1965). After a hiatus of about a decade, interest in small industry reemerged in the garb of appropriate technology

3. King and Byerlee (1978). More generally, most studies have indicated that income redistribution policies designed to enhance the incomes of the poor, rural or urban, generate an increased demand for the products of small firms and lead to more employment. The magnitude of the effects of this income redistribution on employment and demand, however, tends to be small. For a summary of the evidence, see Morawetz (1974) and Haggblade et. al. (1986).

and in the informal sector. Currently, much of the focus of this interest is on firms at the lower end of the size distribution, typically with a rural orientation and involving subsidized assistance for a small minority of producers. Yet, many projects are still designed on the earlier model, with relatively high cost assistance being provided to a relatively small number of firms.

Small enterprises are difficult targets to reach through direct project assistance. The firms are numerous, widely dispersed and not easy to assist in a cost-effective manner. Indeed, virtually all small enterprises surveys reveal that only a tiny fraction of the entrepreneurs have heard of the programs intended for them and even fewer have been aided by them.⁴

Moreover, these same surveys have revealed that the constraints facing small scale enterprises vary from country to country and from industry to industry. Consequently, the types of direct project assistance needed correspondingly vary.

Various types of assistance measures have been used to promote small enterprises in developing countries. Prominent among them are the provision of finance, technical/production, management, marketing and infrastructure assistance (see Table 28). Most are designed to shift the firm's supply curve by lowering the cost of inputs or increasing productivity.⁵ Project interventions designed to provide financial assistance will be considered first, followed by a discussion of those providing non-financial assistance.

4. See references above, p. 25 and 39.

5. The exceptions are product marketing projects, which are designed to shift the firms' demand curves.

Table 28

Types of Assistance, Their Various Forms and Delivery Channels

Types of Assistance	Form	Delivery Channels
Credit	Loans in cash and/or kind for fixed assets and/or working capital	Commercial Banks Specialized Banks Finance Corporations Extension Agents Loan Boards Cooperatives Private Voluntary Organizations Informal Channels
Technical/ Production Assistance	Advice on processes, design of products, tools, equipment machines, quality control, plant layout	Vocational Train. Inst. Trade Centers Extension on-the-spot at Industrial Develop. Centers or through mobile workshops Appropriate tech. units Private Voluntary Org. Local entrepreneurs
Management Assistance	Bookkeeping Accounting Auditing Production planning Inventory Capital budgets, etc Personnel management Entrepreneurship development	Vocational Train. Inst. Management Dev. Inst. Extension on-the-spot at Industrial Development Centers or through mobile workshops Formal & informal meetings Newsletters Private Voluntary Org.
Marketing Assistance	Advice on packaging, merchandising, product demand Raw material procurement Emporia sales & displays at home & abroad Collection centers Sales on consignment Export service Credit insurance	Extension Services Trading Corporations Credit & Export Schemes Customer Service Cntrs. Handicraft Centers Display Centers Cooperatives Private Voluntary Org.
Common Facilities	Buildings Roads Engineering Workshops Electricity and Water	Industrial Estate, Areas or sites Workshop complexes Cooperatives

Source: Chuta and Liedholm (1979).

4.2.1 Financial Assistance

Credit projects have been the most commonly used method of providing direct assistance to individual small enterprises. One study has reported that as of 1980 approximately 90 percent of the small scale enterprise projects of the USAID, the World Bank and other major donor agencies possessed a finance component (Devres, 1981). The salient issues relating to the demand for and supply of credit to these enterprises must be examined.

The effective demand for finance on the part of small scale enterprises would at first glance appear to be quite sizeable. The proprietors themselves typically perceive capital to be their most pressing input constraint and one of their greatest assistance needs. Indeed, in six countries where proprietors were asked to list their most pressing problems, shortage of capital ranked first in four countries--Sierra Leone (Chuta and Liedholm, 1985), Haiti (Haggblade, et.al. 1979), Bangladesh (BIDS, 1981) and Honduras (Stallmann, 1983)--and second in the remaining two--Thailand (Narongchai, et. al., 1983) and Jamaica (Fisseha and Davies, 1981). Its relative importance as a perceived "pressing problem," however, varied by industry group within each country. The high economic rates of return generated by many types of small scale industrial firms reinforces the notion, however, that their potential demand for credit could be quite strong (see above, p. 76).

The bulk of this "perceived" demand is typically for working rather than fixed capital. For instance, in Jamaica, over 90 percent of the small scale enterprises' financial difficulties were reported to be related to working capital shortages (Fisseha and Davies, 1981). Similarly "cash shortages" were cited by the majority of Haitian small proprietors as their

most pressing financial problem (Haggblade, et. al., 1979). The demand for working capital, however, varied significantly by industry group and even by type of enterprise within such groups. For instance, that demand tended to be relatively low for "job-shop" tailors, where customers typically supply the material, but relatively high for factory-type furniture producers--where the production and marketing periods are lengthy. Working capital demands also appear to be relatively more important for the smaller firm.⁶

The true need for finance, particularly working capital, however, is lower than proprietor's perceived demand for it. This is because working capital shortages are often the symptom of some other problem. For instance, a raw-material delivery bottleneck may force proprietors to keep their raw material inventories at unduly high levels. Similarly, managerial inefficiencies, such as those that slow throughput, waste material, or siphon-off funds to non-business activities, can appear as a working capital shortage. Consequently, it is important that financial institutions be able to distinguish valid needs for working capital from the specious demands that only serve to sustain temporarily a fatally ill enterprise or reflect some other underlying problem.

With respect to the supply of this finance, a wide array of "formal" financial institutions have been used to deliver credit to small enterprises in developing countries. In some instances, new institutions have been created, such as the specialized small enterprise banks in Korea and Colombia. In other cases, existing development banks, development finance corporations, credit unions, cooperatives and workers' banks as

6. See Kilby et. al. (1984) for more details.

well as commercial banks have been utilized. Frequently, refinancing mechanisms, guarantees, and earmarking schemes are introduced to induce some of these "formal" institutions, particularly commercial banks, to expand their lending operations in this area. More recently private voluntary organizations have become heavily involved in providing funds to the smallest firms.⁷

Yet as the previous discussion makes clear, these "formal" financial institutions have been a meagre source of finance for small scale enterprises. Indeed, the vast majority of small proprietors have never applied for funds from such institutions.⁸ The number of financial schemes focusing on small scale enterprises is modest in relation to the number of such firms. Moreover, many of the specialized lending institutions themselves operate on a small scale, generally reaching fewer than 1,000 clients.⁹ Even the Grameen Bank in Bangladesh, which has made loans to over 58,000 small scale borrowers, reaches only a small fraction of the small enterprise population in that country (World Bank, 1985).

Financial institutions have been reluctant to expand their lending to small scale firms. While this may be partly a result of institutional inertia, it is also rooted in the frequently-held notion that the administrative costs and risks of lending to them are markedly higher than those associated with their regular, larger scale customers (World Bank, 1978).

7. See Farbman (1981) and Blayney and Otero (1985).

8. In Haiti, 94% had never applied (Haggblade, *et. al.*, 1979), while in Sierra Leone the figure was 96% (Chuta and Liedholm, 1985).

9. In Blayney and Otero's review (1985) of 19 small enterprise finance projects, only four had made more than 1000 loans. In the World Bank's Cameroon small enterprise project, only 31 loans were made over a five year period.

Several recent studies that have examined small scale enterprise credit projects, however, have yielded new insights into the efficacy of such schemes. Blayney and Otero's (1985) review of evaluations of 19 small enterprises projects revealed that these schemes' effect on the firms' profit, diversification, saving, and employment were positive in virtually all cases. Kilby and D'Zmura's (1985) examination of the direct and indirect benefits and cost of five small scale enterprise projects with financial components found the benefit-cost ratios of all the projects to be greater than one. Levitsky's (1985) review of 10 of the World Bank's small and medium enterprises lending projects found they had fared no worse, and in a few cases better, than the conventional loans to development finance institutions. Finally, Liedholm's examination of 11 small enterprise credit-only projects designed to provide small enterprise loans below \$5,000 found that the administrative costs per loan were below 10 percent for several schemes; moreover, the arrears rate were typically below 10 percent (see Table 29). In some instances, however, the arrears rates and administrative costs have exceeded 80% (Liedholm, 1985 and Kilby, et.al., 1984).

Many credit schemes would, thus, appear to have been quite successful in providing financial resources to even the smallest firms. What are the common characteristics of such schemes that should be taken into account when designing new interventions?

First, most of the successful schemes have provided primarily working rather than fixed capital. Those projects that have attempted to provide long-term, fixed asset lending to small firms have, with few exceptions, proved to be both unfruitful and high in administrative costs.¹⁰ This fixed capital emphasis, which was particularly prevalent in the early small

Table 29
Administrative Costs of Small Enterprise Credit Schemes

Credit Organization	Country	Type	Administrative Cost per Loan	Average Loan Value	Administrative Cost (% of loan)	Arrears (% of loans outstanding)
<u>A. Credit Only</u>						
Krishi ^a	Bangladesh	Government-owned Commercial Bank	\$5.00	\$126	4.0	10.5
Agrani ^a	Bangladesh	Government-owned Commercial Bank	\$5.27	\$101	5.2	4.3
BKK ^b	Indonesia	Government	\$2.37	\$44.43	5.3	6
Janata ^a	Bangladesh	Government-owned Commercial Bank	\$6.60	\$125	5.3	14.5
Rupali ^a	Bangladesh	Government-owned Commercial Bank	\$7.33	\$119	6.2	6.2
F.D.R./Peru ^f	Peru	Development Bank	\$531	\$5961	9.0	8
Banco de Pacifico ^d	Ecuador	Commercial Bank	\$140	\$1100	13.0	7.0
D.B. Mauritius ^d	Mauritius	Development Bank	\$108	\$830	13.0	NA
Uttara ^a	Bangladesh	Government-owned Commercial Bank (cooperative)	\$31.27	\$122	25.6	12.1
Bank Money Shops ^c	Philippines	Commercial Bank	\$197	\$687	28.0	NA
SEDCO ^e	Jamaica	Development Bank	\$843	\$280	275.0	NA
<u>B. Credit and Technical Assistance</u>						
DDF/Solidarity ^f	Dominican Republic	PVO	\$242	\$1267	19.1	33
IDH ^f	Honduras	PVO	\$561	\$1724	32.5	42
DDF/"Micro"	Dominican Republic	PVO	\$739	\$1680	44.0	42
UNO ^g	Brazil	PVO	\$1700	\$200	85.0	8
PrP/BF ^f	Burkina Faso	PVO	\$1238	\$670	185.0	23

Sources: ^aJ. Brown (1983); the credit organizations listed (e.g., Krishi) are government-owned commercial banks; ^bS. Goldmark and Rosengard (1983); BKK is the Badan Kredit Kecamatan (the sub-district credit body) program in Central Java; ^cM. Farbman (1981); ^dV. Raghaven and T. Timberg (1982); ^eM. Wilson (1981); SEDCO is the Small Enterprise Development Corporation; ^fP. Kilby and J. D'Zumura (1984); F.D.R./Peru is the Rural Development Fund Program of the Industrial Bank of Peru; DDF/Solidarity is the Solidarity Group component of the Dominican Development Foundation. I.D.H. is the Institute for Honduran Development; PrP/BF is the Partnership for Productivity Project in Burkina Faso; ^gJ. Tendler (1983); UNO is Northeast Union of Assistance to Small Business Project.

scale finance schemes, stemmed from donors' interest in lending schemes with high foreign exchange components, the orientation of academic economist towards fixed assets, and a paucity of requisite statistics. The findings from our small enterprise studies that pointed to the primacy of the working capital constraint facing small firms as well as to the existence of excess capacity in these firms reinforce the importance of a working capital focus, particularly for those firms at the lower end of the size spectrum.

Second, the delivery mechanisms of these successful projects differ significantly from those associated with conventional credit projects. Loans are screened quickly on the basis of character rather than on project feasibility or collateral. The institutions are locally-based with decentralized decision-making; the initial loans are small--from \$50 to \$1,000--for short periods--3 to 9 months--with new loans conditioned on the repayment of the existing loans.¹¹ Finally the interest rate is high enough to cover operating expenses including the cost of funds. Since these lending practices are closely akin to those of the informal credit institutions, it would appear that the closer banks and other formal lending agencies can come to the practices of informal lenders, the more likely it is that they are going to be successful in making loans to small scale firms.

Some additional steps might be considered to encourage formal financial institutions to enhance their lending to small firms. One would

10. See, for example, Kilby and D'Zmura (1985) and Liedholm (1985).

11. While private voluntary organizations (P.V.O.'s) are frequently the implementing agency, public institutions--such as in the Grameen Bank in Bangladesh and the BKK schemes in Indonesia--as well as private commercial banks--such as the Syndicate Banks in India--have also been effective.

be to help pay a share of the administrative cost for commercial banks or other financial institutions as well as loan guarantees while they learn more about lending to such firms. This could be done on a temporary basis, with the share of costs or magnitude of the guarantee covered from outside declining over time. In addition, considerations might be given to providing technical assistance to financial institutions to enable them to develop lower-cost screening mechanisms.

4.2.2 Nonfinancial Assistance

Nonfinancial assistance schemes have also been a popular method of providing direct support to small firms in developing countries. The types of non-financial services provided have varied widely and have included technical/production, management, marketing, and infrastructure assistance. In some instances they have been applied separately while in others they have been part of an integrated assistance package.¹² The key issues revolving around the demand for and supply of this non-financial assistance must be examined as well as the salient characteristics of successful schemes in this area.

The effective demand for most non-financial assistance would appear at first glance to be somewhat limited. Small proprietors are generally not aware of their need for this type of assistance and the benefits they may derive from it. Indeed, only marketing worries, which are often tied to perceived difficulties with product demand and inputs, appeared overall among the three most "pressing problems" cited by proprietors in the six

12. In those projects where P.V.O's are the major implementing agencies, both finance and various types of non-financial assistance are typically provided.

countries where our entrepreneurial surveys were conducted.¹³ Technical and managerial deficiencies were rarely mentioned as a problem by small proprietors.¹⁴

The true need for such assistance, however, may be greater than the proprietors' perceived need for it. As previously mentioned, working capital shortages are often a reflection of some other, more basic non-financial problems. In addition, several recent studies have indicated that there are wide variations in the level of managerial and technical efficiency both between industry groups as well as among small firms within an industry group.¹⁵ Thus more careful attention needs to be directed towards ascertaining the true need for various non-financial services on the part of the various small industry groups.

Many different types of institutions have been involved in supplying such assistance to small firms. Typically, public institutions such as industrial extension services, vocational training institutes, and small enterprise promotion agencies, have been used as delivery mechanisms. In recent years, private voluntary agencies, industry associations, commercial

13. The countries where such surveys were conducted included Bangladesh, Jamaica, Haiti, Honduras and Thailand (see above, p. 6 for citations). In some countries, product demand and input issues were paramount. Product demand was the most frequently cited problem in Jamaica, while in Honduras material input was the most frequently listed problem. It is difficult to disentangle, however, those aspects of the problem that were macro in origin and those that were of a micro nature and thus potentially capable of being ameliorated through project interventions.

14. The Economic Commission for Africa (1982) also has reported that "it must be kept in mind that most small scale enterprises are unaware of the need for such services." Proprietors may also be reluctant to admit that they are poor managers.

15. See, for example, the studies of technical and allocative efficiency of small firms by Page (1980), Tyler (1980), Pitt and Lee (1981), Fisseha (1982) and Seale (1985).

banks, and other non-governmental institutions have become increasingly active in providing non-financial assistance.

How effective are these schemes? It is frequently argued that non-financial assistance programs to small firms have concentrated a large volume of resources on a relatively limited clientele and that consequently their delivery costs per client are unduly high.¹⁶ It is also contended that there is still insufficient knowledge about how to provide this assistance effectively (Page and Steel, 1984).

Unfortunately there have been few systematic analyses of these small scale non-financial assistance schemes. Project benefits are difficult to quantify and most evaluations of these schemes provide only qualitative assessments or indicators of intermediate outputs, such as number of firms assisted.¹⁷ One notable exception is Kilby's (1979) evaluation of eleven ILO/UNDP small scale industry technical assistance projects. Using a benefit-cost analysis, he discovered that in only three of the projects did the benefits exceed the cost. More recently, Haggblade (1982) used the same benefit-cost analysis to evaluate seven technical assistance projects for small enterprises in Botswana; in this case, two of the seven schemes were found to generate benefits that exceeded costs. Thus, the non-financial assistance schemes evaluated in these studies overall did not appear to be particularly successful on the basis of these benefit-cost measures; nevertheless several schemes proved to be highly effective and provide some useful lessons for the design of such projects in the future.

16. See, for example, Kilby (1982) and Blayney and Otero (1985).

17. See, for example, the review of evaluations in Farbman (1981), Kilby and D'Zmura (1985), and Blayney and Otero (1985).

What were the common characteristics of those schemes that proved to be successful in providing non-financial assistance to small firms? Since the sample is small and non-random, any findings must be offered only in the form of tentative hypotheses. With this caveat, four important lessons about non-financial assistance projects can be distilled from a review of these estimates.

First, the successful projects have typically uncovered a situation where there was only a single "missing ingredient" that needed to be supplied to the firms. Peter Kilby (1979), who first developed this idea, found that those small enterprise schemes in which benefits exceeded costs provided a single missing item--an improved market outlet for Indonesian carvers, a substitution of cotton for wool as warp yarn in the carpet industry in the Malagasy Republic, and an improved leather tanning technology in Afghanistan. Where the intervention was to provide an integrated set of multiple ingredients, the results were largely failures.¹⁸ More recent studies have provided further confirmation of the efficacy of the "missing ingredient" notion.¹⁹ For instance, evaluation of the various Botswana mud oven training courses, which were designed to teach women to make mud ovens and bake bread for sale, revealed that the training schemes directed at women who had previous commercial baking experience generated benefits that exceeded costs. By contrast, the training schemes that took only women with no prior commercial baking background all failed; too many ingredients were missing in the latter cases (Haggblade, 1982). The other "successful" projects in Botswana also

18. Similar dismal results are reported in an evaluation of 10 integrated rural development projects (Richter, 1976).

19. See studies cited in Tendler (1982) as well as those reviewed in Kilby and D'Zmura (1985).

provided a single missing ingredient to existing producers.²⁰ An important corollary of the "single missing ingredient" characteristic is that schemes assisting existing firms are more likely to be successful than those that attempt to establish new small firms.²¹ Another related corollary is that "industrial estates" schemes typically have not been effective because too many missing ingredients--electricity, water, buildings, security, and sometimes technical assistance--are being provided at high cost to firms that may need only one or two of these services.²²

Second, the successful non-financial assistance schemes for small firms tended to be industry and task-specific. They were tailored to the needs of a particular product group rather than to a general and disparate group of small firms. In addition to the examples mentioned previously, one might cite the highly regarded training program in Botswana that imparted the missing joinery skills to commercial carpenters so they could successfully produce coffins for the local markets (Haggblade, 1982).

20. The Botswana craft project provided the missing market link that was needed to support the commercial production of baskets in rural Botswana, while the Water Catchment Tank Training project provided local masons with the technical training needed to enable them to build the tanks that were being promoted to farmers by the government (Haggblade, 1983).

21. This finding applies to financial assistance projects as well. In the Philippines, for example, the risks of lending to new small firms were over ten times the risks of lending to existing small firms (Anderson, 1981). This corollary also perhaps explains why working capital projects work well, because one is dealing with existing firms in such cases. Kilby and D'Zmura (1985) also argue that working capital is frequently the single "missing ingredient."

22. In Botswana, all factory shell projects for small enterprises had benefits-cost ratios below 0.4 (Haggblade, 1983). Likewise, Kilby reports that the Kenya Industrial Estate schemes ended up concentrating a large volume of resources on a relatively small number of clients. An effective alternative to industrial estates would be zoning regulations that permit the grouping together in cities and town of firms producing similar products. With clusters of enterprises, non-financial assistance can be provided to groups of firms at relatively low cost.

Third, before successful projects were launched, prior surveys of the industries had been typically undertaken to uncover the effective demand for the proposed assistance and particularly the number and type of "missing ingredients."²³ Ideally, the starting point would be an intensive field reconnaissance in each of five to ten of the major small industries, carried out by perhaps an interagency team of professionals. They would undertake a subsector analysis of these industries and examine what the producers are doing, how the entire channel of related producers and suppliers operate, and the constraints that prevent the upgrading of products and production methods or the new skills from being absorbed. (See Boomgard et. al. (1985) and Appendix E for more details relating to subsector analysis.)

Fourth, the successful projects tended to be built upon existing institutions. In some cases, public institutions have been effective in delivering nonfinancial assistance to small enterprises;²⁴ frequently, however, the governmental units are staffed with inexperienced personnel, suffer from high management and staff turnover, and are subjected to political pressures, (Levitsky, 1985). Existing trade or industry associations, because of their industry-specific focus and their contact with large numbers of producers, are also potentially effective delivery vehicles (see Kilby, 1979 and 1986). The sub-contracting system is another

23. Attempts to introduce training or product design drawn from other countries with minimal adaptations to local conditions and local requirements have generally not worked. In Kenya, for instance, of the 75 imported "appropriate technology" prototypes that were introduced only two are still regularly made (Kilby, 1982). In Thailand, the Japanese power tiller and the low cost adaptation developed by IRRI did not succeed, but the locally-developed Prapadaeng tiller did (see above, p. 53).

24. See Kilby, 1979 and Haggblade, 1983. The effectiveness of PVO's in the area has not been evaluated rigorously.

alternative vehicle that could be effectively utilized to provide assistance to small firms (see Mead, 1985). Considerations also might be given in some instances to utilizing proven informal institutions, such as the indigenous apprenticeship systems in West Africa, to deliver non-financial assistance to small firms in developing countries.²⁵

25. See, for example, Mabawonku's (1979) study of the Nigerian indigenous apprenticeship system and Liedholm and Mead's (1986) discussion of the use of the apprenticeship systems as a delivery mechanism.

V SUMMARY

Many developing countries and international donor agencies have become aware in recent years of the important role that small enterprises can play in providing productive employment and earnings opportunities. Yet not a great deal has been known about small firms in most developing countries, particularly those at the lower end of the enterprise size spectrum. Most elude the standard statistical nets and frequently exist unobserved in an underground economy. Consequently, government policymakers and donors charged with formulating policies and projects to foster small scale enterprises have often been forced, of necessity, to make decisions "unencumbered by information."

This paper has sought to fill some of the missing pieces of the small industry mosaic. It has drawn primarily on the findings from a set of studies, conducted jointly by Michigan State University and host country scholars, that were designed to examine the magnitude, the anatomy and the growth of small scale industrial enterprises in a dozen developing countries.

Detailed, in depth studies were conducted in six countries: Sierra Leone, Jamaica, Thailand, Honduras, Egypt and Bangladesh. To obtain necessary data from small producers, who generally keep no records and frequently are invisible from the road, a unique two-phase data collection strategy was used. In Phase I, a careful census of the entire population of small firms was conducted in the selected survey areas. In Phase II, a random sample of firms was interviewed at least once a week for one year to generate many of the flow variables. The continuous interviewing was necessary to keep the "measurement" errors resulting from the proprietors' limited memory recall within reasonable bounds.

The major findings from these and other small industry studies as well as their policy and project implications have been considered in detail in the body of the paper. A summary of the main points follows.

First, small scale industries, which for the purpose of the paper are defined as those establishments with fewer than fifty workers engaged in manufacturing activities or related repair work, form a significant component of the industrial sector of most developing countries. Although these establishments are small, collectively they account for the vast bulk of industrial employment. They are generally engaged in the production of light consumer goods, primarily related to clothing, furniture, food and beverages.

A second significant finding is that in most developing countries the majority of industrial firms are located in rural areas (i.e. localities with less than 20,000 inhabitants). These are the producers that are most frequently invisible. Employment in these rural units frequently exceeds that generated by all urban industrial firms.

Third, the overwhelming majority of the industrial firms are not just small, but are very small. Indeed, there are a plethora of one person firms, and most employ fewer than five persons. In terms of their large numbers and relatively low incomes, they constitute a potentially important target group for policymakers concerned with the low end of the income distribution spectrum.

Fourth, virtually all of these small firms are privately owned and are mainly organized as sole proprietorships. In many countries, significant numbers of the small enterprise entrepreneurs are female.

Fifth, proprietors and family workers generally form the largest component of the small industry labor force. Apprenticeship labor, however, is also important in some areas, particularly in West Africa.

Sixth, in most countries, the average person engaged in small scale industry does not work full-time in that activity over the entire year. In many cases, these individuals also work part-time in other activities, frequently farming; nevertheless, there is evidence that many spend significant periods of time simply "waiting for customers."

Seventh, the amount of capital used by most small scale industrial firms is modest, as is their initial capital stock. Although low, however, the capital entry barriers to small scale industry are not insignificant, especially when compared with the capital required for petty trading or unskilled service activities or with per-capita income levels in those countries.

Eighth, most of the funds for establishing or expanding the small firm comes from personal savings, relatives, or retained earnings. The paucity of funds obtained from either the commercial banks, governments, or even informal financial sources such as moneylenders is striking.

Ninth, small scale industrial activity appears to have been increasing in absolute terms in most developing countries. Although systematic information on growth is limited, the available evidence indicates that it has been growing at a faster rate even than large scale industries in a few countries. Since small scale industries account for such a large portion of total industrial employment, the absolute increase in employment absorbed by the small scale private sector is substantial in virtually all developing countries. Among small producers there is evidence that the slowest growing segment is the one-person firm.

What are the main determinants of the existing and future patterns of small scale industry activity? Some illuminating insights can be obtained by focusing on the set of factors influencing the demand for and supply of small industry goods and services.

Most of the items produced by small industries are light consumer goods sold directly to urban and rural households. Consequently, a key issue is whether or not the demand for these goods and services increases as household income increases. Although some have argued that these are "inferior goods" (i.e. their quantity demanded declines as income increases), recent studies have revealed without exception a strong positive relationship between changes in household income and changes in the demand for a range of small scale industry goods and services.

A second source of demand for small industry products stems from their backward and forward production linkages with other sectors of the domestic economy, particularly with agriculture and large scale industry. Although empirical evidence on the linkages with agriculture is sparse, it appears that these linkages are often important. Their magnitude is related to the size distribution of farms and the type of agricultural strategy adopted. The capacity among small producers for "idiosyncratic design adaptation" to meet the equipment and tool needs of small farmers is particularly noteworthy. The evidence of linkages with large scale industry is also limited and is usually discussed in terms of sub-contracting arrangements between large and small firms. Sub-contracting is particularly prevalent in Asia, where it tends to be concentrated in a limited range of product types.

Government and foreign customers provide the final sources of demand for small industry goods and services. Although sometimes important for

particular product groups or for individual firms, overall these sources of demand are relatively minor.

With respect to supply, the key issue is whether or not small scale industrial firms in developing countries are efficient users of economic resources, particularly when compared with their larger scale counterparts. Both partial and comprehensive measures of economic efficiency have been used in attempting to answer this question.

The labor-capital (labor intensity) and the output-capital (capital productivity) ratios are the economic efficiency measures most frequently used in empirical studies. These partial efficiency measures are based on the assumption that labor is abundant and capital is the only scarce resource. Virtually all the aggregate and most industry studies reveal that small scale industries generate more employment per unit of scarce capital than their larger scale counterparts. The available evidence on relative capital productivities is somewhat limited and more mixed. Yet, in the majority of countries where such comparisons have been made, the output per unit of capital among small producers is found to exceed that generated by large industry.

Only a few studies have used one of the analytically more correct comprehensive economic efficiency measures, in which all scarce resources are included in the analysis and are evaluated at "shadow" or social prices that reflect their scarcity values in the economy. The findings of such studies are mixed. To assist in filling this void, a social benefit-cost analysis has been used to compare the relative efficiency of small and large industries in three of the in-depth survey countries (Sierra Leone, Honduras, and Jamaica). A key finding from this analysis is that in 10 of the 12 specific industrial groups examined, the social benefit-cost ratios

of the small firms not only exceed one, but also are greater than the comparable ratios for the large scale firms in those particular industries and countries. Consequently there is now accumulating evidence that at least for a significant range of products small scale industry is indeed economically efficient.

What types of small industries are most efficient and what are their characteristics? A review of the findings from five countries where in-depth surveys were conducted yields some useful insights.

Although the small scale industries in the aggregate are shown to be economically efficient in all five countries, there are wide variations in this efficiency by major industry groups as well as by more narrowly-defined product types. Efficiency is also shown to vary by the firm's production characteristics, particularly firm size, input composition, and location. Some important patterns emerge in this regard. Small firms most likely to be economically efficient tend to possess a number of characteristics, many of which can be discerned on the basis of ocular evidence. Such firms generally: 1) use hired workers; 2) operate in workshops away from the home; 3) operate in localities with more than 2,000 inhabitants; and 4) are involved in selected product lines with better economic prospects, such as tiles, furniture, baking and repair activities. A particularly striking finding is that the one-person firms are frequently on the margin of economic viability. Judiciously and cautiously applied, such indicators can provide the analyst with useful insights into those types of small scale industries most likely to be economically viable.

In light of the many favorable characteristics of small scale industries and the potential contributions they can make to the growth in

income and employment in developing countries, what can governments and donor agencies do to further enhance the role of small producers? Two major avenues are available. The first is through seeking changes in the general policy environment that broadly affects small private enterprises, while the second is through the implementation of specific projects designed to provide direct assistance to individual firms.

There are two major ways that the general policy environment can be made more supportive of small producers in developing countries. The first is through instituting a policy environment that is at least "neutral" with respect to enterprise size. In most developing countries, general policies are biased against smaller firms. Frequently, these biases result from the unintended side effects of investment, trade, credit and other policies implemented with the goal of promoting an expansion of large scale industries. Investment incentive laws frequently formally restrict the special tax concessions to large scale firms; where such overt restrictions do not occur, small firms are often ignorant of the concessions available or are unable to undertake the protracted bureaucratic procedures required to obtain them.

The credit policies of most developing countries have also tended to discriminate against smaller firms. Governments have often imposed interest rate ceilings or other types of credit controls that have tended to keep interest rates artificially low. Faced with excess demand for funds, the banks have responded by rationing the scarce funds to their traditional large scale clients. Consequently, small enterprises have been forced to obtain funds either from family members or from the informal market, where rates frequently exceed 100% per year. The removal of interest rate ceilings can constitute a step towards ensuring that interest

rates for borrowers of all sizes more closely approximate the opportunity cost of capital.

The second major way that general policies can effectively be used to support small scale enterprise growth is through enhancing the demand for their products. Studies have made clear that one of the key constraints facing small enterprises, particularly those located in rural areas, is the limited demand for their products. A significant share of the low-cost consumer goods sold in rural markets is produced by small firms in that same area. Furthermore, the demand for these products as well as agricultural inputs is particularly high among the small scale farming households. As a result, policies that promote rapid increases in agricultural income can provide a powerful stimulus for small scale enterprises. Agricultural policies such as pricing and other measures aimed at increasing the income of small farmers are important not only in their own right, but also because they can contribute in a major way to the growth of small scale non-agricultural activities. This fact also demonstrates that in reviewing the general policy environment for small firms, it is important to transcend the traditional sphere of industrial policy and include agricultural, trade, foreign exchange and other policies as well.

Projects rather than policy reforms have been the primary vehicles used to date by governments and international donor agencies for fostering small enterprise growth. Small enterprises are difficult targets to reach through direct project assistance, however. The firms are numerous, widely dispersed and not easy to assist in a cost-effective manner. Indeed, virtually all small enterprise surveys reveal that only a tiny fraction of the entrepreneurs have heard of the programs intended for them and even

fewer have been aided by them. These same studies indicate that the constraints facing these small firms and thus the types of direct assistance needed vary from industry to industry and from country to country.

Finance projects have been the most commonly used category of direct assistance to small industries. Although special credit programs have been designed specifically to reach small and medium size firms in several developing countries, the smallest firms generally end up receiving very little of the funds. Moreover, the administrative costs in such projects have often turned out to be quite high.

Several innovative credit schemes, however, appear to have been quite successful in providing financial resources to even the smallest private enterprises. There are several common characteristics of such schemes. First, loans are provided primarily for working capital rather than for fixed capital. Second, loans are screened in locally-based institutions on the basis of the borrower's character. Third, loans are initially made for small amounts and for short periods to encourage and facilitate high repayment rates. Since these lending practices are closely akin to those of the informal credit institutions, it would appear that the nearer banks and other formal institutions can come to the operating procedures of informal lenders, the more likely that they will be successful in making loans to small producers.

Nonfinancial direct assistance to small enterprises involves the delivery of such things as technical, managerial, marketing and infrastructure inputs. It is frequently argued that the small firm's demand for such service is generally quite small and that a large volume of resources end up being concentrated on a relatively limited clientele.

A review of the limited number of nonfinancial assistance projects indicates that most were not particularly successful in terms of benefit-cost analysis. Nevertheless, some were successful and these possessed several common characteristics. First, the projects addressed situations where a single "missing ingredient" needed to be supplied to the firm rather than an integrated set of multiple ingredients. An implication of this finding is that projects assisting existing firms are more likely to be successful than those attempting to establish new firms. Second, the successful projects were industry and task specific. Third, before these projects or schemes were launched, prior surveys were undertaken to uncover the demand for the activity and the number and type of "missing ingredients." Finally, successful projects tend to be built on proven existing institutions, even "informal" ones.

Small scale industry can be an important vehicle for meeting the growth and equity objectives of developing countries. The accumulating empirical evidence indicates that much of what is small is indeed beautiful. Improved policies and carefully crafted projects can play an important role in ensuring that the potential contribution of small enterprises to the development process is fully realized.

Appendix A

Details on Localities Covered in Small Enterprise Surveys

1. BANGLADESH -- The following thanas were included (a thana is a sub-division of a district):

<u>Division</u>	<u>District</u>	<u>Thana</u>
a. Chittagong	Sylhet	Barlekha
	Chittagong	Chandanaish
	Comilla	Muradnagar
b. Dacca	Jamalpur	Mymensingh
		Pourashava
		Sherpur
	Decca	Narsingdi
c. Khulna	Barisal	Swarupkati
	Jessore	Narail
d. Rajshahi	Rajshahi	Sgubganj
	Pabna	Kotwali
	Rangpur	Kaunia

2. EGYPT -- The following governorates were included in the survey:

- Fayoum
- Kalyubya (excluding Shubra El Khayma, a major urban area adjacent to Cairo).

3. HONDURAS -- The following regions were included in the survey:

- Ocotepeque
- Marcalla Goascoran
- Danli -- El Paraiso
- Olancho

4. JAMAICA -- The whole country was covered by the survey. The survey included four major towns (Kingston, Montego Bay, Spanish Town and May Pen), about 30 smaller or rural towns and about 90 randomly selected "enumeration districts" or rural localities.

5. SIERRA LEONE -- The whole country was surveyed. The survey included all five major towns (Freetown, Bo, Kenema, Makeni and Koidu), with populations above 20,000, two-thirds of the 35 towns with 2,000 to 20,000 inhabitants and 24 randomly selected enumeration areas, each with about 200 families, for "localities" below 2,000.

6. THAILAND -- The surveys were carried out in four provinces found in three regions:

<u>Region</u>	<u>Province</u>
a. North	Chiang Mai
b. North East	Khon Kaen and Roi Et
c. Central	Suphan Buri

Appendix B
Net Return per Hour of Family Labor by
Number of Workers and Enterprise Groups

	1 Worker	2-5 Workers	6-9 Workers	More than 10 Workers	Signif- icance
Jamaica					
Tailoring	J\$1.17 ^a (28) ^b	J\$1.90 (21)	J\$10.74 (1)	-	*** ^c
Carpentry	3.80 (11)	7.16 (14)	28.88 (4)	-	*
Shoes	1.09 (10)	5.69 (5)	-	-	-
Others	0.89 (10)	9.64 (21)	10.32 (7)	-	*
Honduras					
Tailoring	LM-0.00(186)	LM2.25 (31)	-	-	***
Carpentry	0.83 (26)	2.42 (18)	LM67 (4)	-	*
Metals	1.31 (7)	6.02 (4)	-	-	-
Baking	1.03 (42)	2.11 (14)	5.88 (3)	LM24.64 (1)	***
Mechanics	-	4.36 (3)	5.97 (2)	3.27 (1)	-
Shoes	0.61 (12)	2.92 (2)	-	-	***
Block & Tile	1.34 (3)	1.63 (5)	32.28 (4)	6.32 (1)	-
Pottery	0.12 (17)	-	-	-	-
Others	-0.29 (25)	6.86 (7)	12.04 (1)	-	**
Egypt					
Tiles	-	L3.82 (9)	L4.84 (13)	-	-
Dairy	L0.09 (23)	2.08 (7)	-	-	***
Hats, Mats & Baskets	0.03 (39)	0.13 (46)	-0.06 (1)	-	***
Tailors	0.40 (3)	0.56 (44)	1.88 (3)	-	***
Dressmakers	0.22 (11)	0.21 (28)	-	-	-
Shoes	0.36 (11)	0.66 (32)	0.94 (3)	-	-
Furniture	0.58 (3)	1.16 (2)	1.39 (1)	-	-
Machine Shops	-0.19 (2)	0.76 (23)	0.72 (1)	-	-
Others	0.14 (15)	0.73 (13)	-	-	**

Sources: Country Studies.

- Notes: ^aExpressed as returns per hour in local currency.
^bNumber of firms in cell.
^c*** - 1 percent level.
** - 5 percent level.
* - 10 percent level.

Appendix D
Net Return Per hour of Family Labor by
Geographic Location and Enterprise Groups

<u>Jamaica</u>	<u>Size of Locality</u>				
	100,000 or More	20,000 - 100,000	2,000 - 20,000	Below 2,000	
Tailoring	J\$2.78 ^a (11) ^b	2.49 (5)	1.36 (23)	0.83 (11)	* ^c
Carpentry	9.04 (5)	6.15 (5)	15.48 (12)	3.90 (7)	-
Shoes	12.73 (2)	-	0.54 (9)	2.26 (4)	**
Others	14.50 (6)	13.73 (7)	6.08 (15)	1.84 (12)	**
 <u>Honduras</u>					
Tailoring			LM0.25 (91)	LM0.37 (126)	-
Carpentry			1.96 (23)	0.92 (25)	-
Metals			5.78 (4)	1.45 (7)	-
Bakery			4.54 (14)	1.12 (46)	***
Mechanics			4.72 (6)	-	-
Shoes			1.43 (11)	0.65 (5)	-
Block & Tile			27.17 (5)	1.47 (8)	-
Pottery			0.22 (1)	0.12 (16)	-
Others			4.40 (14)	-0.47 (19)	*

Sources: Individual Country Studies.

- Notes: ^aExpressed as return per hour in local currency.
^bNumber of firms in cell.
^c*** Significant at - 1 percent level.
 ** Significant at - 5 percent level.
 * Significant at - 10 percent level.

Appendix E

Subsector Analysis

Considerable work has been done in recent years exploring small enterprises in a subsector context. Two aspects of this approach are important. One concerns the fact that small enterprises often perform only a limited range of functions out of many involved in transforming raw materials into finished products. Tailors in Egypt or foundries in Bangladesh buy inputs which have already undergone several stages of transformation; they may sell their products to other firms for further processing. Secondly, the systems in which small producers participate compete with alternative and differently-organized systems perhaps involving large-scale producers and/or imports. These facts suggest that the future prospects of small producers can best be explored in terms of i) the efficiency of the whole channel in which they participate, including up-stream and down-stream producers as well as the linkage mechanisms joining these different producers together; ii) the competitive position of that channel, relative to others supplying similar products in the same markets; and iii) the forces leading to change within the channel, which may increase or decrease the role of small producers.

Examples may be given of these issues. For small tailors in Egypt, technical efficiency in turning cloth into pajamas was not as important as their forward links to dynamic markets and their backward links to sources of cloth supply in determining their future prospects (see Davies et. al., 1984). Among furniture producers in Thailand, some small firms combined production activities with the marketing of products brought in from

producers elsewhere in the country. These marketing or linkage mechanisms were of central importance in providing information to the producer/retailers about products currently in demand, and the prices at which various alternative product types were available; this information enabled them to concentrate their production on products in which they had comparative advantage (see Boomgard, 1983). In both these examples (and indeed, for small enterprises in general), specificity of skills and of other assets limits the ability to move resources from one industry to another; except in a very long-run context, comparative efficiency or profitability of small tailors relative to small tile or furniture makers has a much smaller impact on resource allocation than the comparative efficiency of small tailors vs. large-scale garment manufacturers with which they compete (or more precisely, the efficiency in the full channels in which each participates). For a further elaboration of the subsector approach to small enterprise analysis, see Boomgard et. al., 1986.

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