

THE ROLE OF SMALL-SCALE INDUSTRIES IN EMPLOYMENT AND EXPORTS OF ASIAN DEVELOPING COUNTRIES

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Introduction

During the past decade, the industrial sector has made a substantial contribution to the economic development of numerous Asian countries by enhancing income growth, creating productive employment, and easing balance-of-payments problems. However, the importance of industrial sector growth to overall development varied substantially among developing Asian countries. This is especially true in terms of the effect of the industrial sector on employment and export growth. Generally, the evidence shows that the contribution of the industrial sector to development is closely related to the progress of small- and medium-scale industries.

A decade ago, it was argued that the rapid expansion of industrial manufacturing would not solve the unemployment and underemployment problem in most developing countries. Rather, it was felt that development efforts should concentrate in the agricultural sector as the best means of increasing food output and labor absorption.¹

With the exception of the newly industrialized countries (NICs), in most Asian developing countries, agricultural output has grown impressively. From 1973 to 1983, agricultural production grew at an average rate of approximately 3 percent annually in South Asia, and more than 4 percent in the countries in the Association of South East Asian Nations (ASEAN).² However, the growth of the agricultural labor force has been, for the most part, substantially lower than the rate of growth of the economically active as well as the general population. The agricultural component of the labor force and gross domestic product (GDP) has also decreased in the past decade. Thus, it has become increasingly clear that the farm sector cannot absorb the large increases in the labor force in developing

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¹ See, for example D. Morawetz, "Employment Implications of Industrialization in Developing Countries: A Survey," *Economic Journal*, September 1974, pp. 491-542.

² For the purposes of this paper, the NICs include Hong Kong, Singapore, South Korea, and Taiwan, while ASEAN includes Indonesia, Malaysia, the Philippines, and Thailand.

TABLE 1. AGRICULTURAL PROGRESS IN ASIAN DEVELOPING COUNTRIES

Countries	Share of Agri. in GDP (percent)		Share of Labor Force in Agriculture (percent)		Annual Growth Rate of Agricultural Production (percent)	
	1965	1983	1965	1981	1965-73	1973-83
<i>South Asia</i>						
Bangladesh	53	47	87	74	0.4	3.2
Burma	35	48	66 ^a	67	2.8	6.6
India	47	36	74	71	3.7	2.2
Nepal	65	59	95	93	1.5	1.0
Pakistan	40	27	67	57	4.7	3.4
Sri Lanka	28	27	56	54	2.7	4.1
<i>ASEAN</i>						
Indonesia	59	26	71	58	4.8	3.7
Malaysia	30	21	60	50	—	4.4
Philippines	26	22	57	46	4.1	4.3
Thailand	35	23	82	76	5.2	3.8
<i>NICs</i>						
Hong Kong	2	1	6	3	-0.6	1.1
Korea, Rep. of	38	14	58	34	2.9	1.5
Singapore	3	1	6	2	5.7	1.5
Taiwan	16	8	35	18	—	—

^a 1970

Sources: ADB, *Key Indicators of Developing Member Countries of ADB*, Vol. XV, April 1985. Country Tables.
IBRD, *World Development Report* 1985.

Asia (Table 1).³

Development scholars are now restressing the inability of agriculture to solve the employment problem.⁴ Harry Oshima, in a recent publication, argues that generation of off-farm employment will be one of the most critical development issues for the developing Asian countries in the remainder of the 1980s.⁵ When agricultural output and incomes are rising, markets for consumer goods as well as inputs and intermediate goods for agriculture (e.g., tools and fertilizer) are created. Small-scale industries can effectively respond to these demands from the agricultural sector while providing employment opportunities, especially to small farm households and landless laborers. It is therefore important that more attention be paid to the role of small-scale industries in the development process.

³ ADB's *Rural Asia: Challenge and Opportunity*, Praeger Publishers, 1977 based on the Second Asian Agricultural Survey, argues along these lines and suggests that off-farm employment in small-scale industries is one alternative worth pursuing. William James, "Asian Agriculture in Transition: Key Policy Issues," ADB Economics Staff Paper No. 19, September 1983, pp. 73-77, emphasizes the magnitude of this task. The average annual increment in the agricultural labor force of the 12 Asian developing countries was 2.57 million between 1970 and 1980.

⁴ S. K. Jayasuriya, and R. T. Shand, "Technical Change and Labour Absorption in Asian Agriculture: An Assessment," paper presented at the Conference on Off-Farm Employment in the Development of Rural Asia, Chiang Mai, Thailand, August 23-26, 1983.

⁵ H. T. Oshima, "The Significance of Off-Farm Employment and Incomes in Post-War East Asian Growth," paper prepared for the Conference on Off-Farm Employment in the Development of Rural Asia, Chiang Mai, Thailand, August 23-26, 1983.

Small-Scale Industries and Their Role in Development

“Small-scale industry” is an ambiguous term. There are numerous ways of measuring firm size, e.g., the number of persons employed and the volume of output or sales are commonly used.⁶ It is possible for a firm to be considered small according to one criterion and large by another. Although presumably there are functional differences between large and small firms in terms of market orientation, product quality, efficiency, and capital intensity, any boundary between the two is unavoidably arbitrary. The characteristics of enterprises change gradually with firm size.

The number of persons employed by a firm is probably the most practical measure to use for international comparisons. Measurements in terms of monetary values are subject to exchange rate and price distortions and are more difficult to obtain. Moreover, studies have found that the number of persons employed is normally highly correlated with other parameters such as value of output.⁷

For analytical purposes, enterprises employing fewer than five persons can be considered to be cottage industries. Limited data on the size structure of firms in the manufacturing sector show that in countries at lower levels of per capita income and with smaller shares of manufactured output in GDP, very small firms employing fewer than five persons account for a large percentage of total manufacturing establishments (Table 2). Most of these firms employ traditional methods of production and often are considered to be outside the modern sector of the economy.⁸ The majority of the workers tend to be family members. Their relative contribution to employment is a good deal lower than the proportion of total manufacturing establishments they represent but still can be quite significant. Their relative share of manufacturing value added is, however, miniscule.

The prevailing notion is that the importance of these firms will decline relative to large establishments as levels of economic development rise. In particular, it is expected that as agricultural income rises, the traditional cottage industries will be replaced to a large degree by small but modern factories. The cross-section data, albeit limited, seem to support this view (Table 2).

Small- and medium-scale industrial firms are usually defined as those employing between 5 and 99 persons. They are characterized by some division of labor, with management becoming more specialized as size increases. The direct contribution of small- and medium-scale industries (SMI) to development involves the creation of employment and the generation of income, particularly for low-income groups. They employ a significant share of all manufacturing workers and produce an important percentage of the total manufactured output in even the most industrialized countries (Table 3).

Some empirical evidence has shown that small-scale industries use more labor-intensive

⁶ See Eugene Staley and Richard Morse, *Modern Small Industry of Developing Countries*, (New York, McGraw-Hill, 1965), Chapter 1.

⁷ S. Shalit and U. Sankor, “The Measurement of Firm Size,” *Review of Economics and Statistics*, Vol. 59, 1977, pp. 290-298.

⁸ It should be noted, however, that cottage industries are not necessarily concentrated in traditional craft industries. See Dennis Anderson, “Small Industry in Developing Countries,” World Bank Staff Working Papers, No. 518.

TABLE 2. RELATIVE IMPORTANCE OF COTTAGE INDUSTRIES IN THE MANUFACTURING SECTOR OF SELECTED COUNTRIES

Country	Year	GNP per Capital (US\$) 1976	Share of Establishments w / 4 and Less Persons Engaged in Total Manufacturing (percent)		
			Number of Establishments	No. of Persons Engaged	Value Added
<i>Low & Middle Income</i>					
Indonesia	1974/75	240	95.7	79.5	13.5
Thailand	1964	380	91.9	55.5	—
Philippines	1975	410	76.7	17.0	2.0
Korea, South	1973	670	73.4	11.9	3.2
Peru	1973	800	80.4	14.8	2.2
Malaysia, West	1973	860	58.0	8.3	2.4
Turkey	1970	990	92.7	33.3	9.3
Mexico	1975	1090	80.6	11.2	2.9
Greece	1973	2590	82.7	11.2	—
<i>Industrialized</i>					
Italy	1971	3050	77.1	13.5	—
Japan	1973	4910	48.6	7.1	2.7
Belgium	1970	6780	66.6	5.9	—
Germany (Federal Republic)	1970	7380	58.9	4.9	—

Source: Hiemenz, U. and Bruch, M., *Small and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives and Policy Issues*, ADB Economics Staff Paper No. 14, 1983.

TABLE 3. RELATIVE IMPORTANCE OF SMI IN THE MANUFACTURING SECTOR OF SELECTED COUNTRIES

Country	Year	Percent No. of Establishments			Percent No. of Persons Employed			Percent of Value Added		
		5-49	50-99	100+	5-49	50-99	100+	5-49	50-99	100+
Indonesia	1975/75	94.8	2.6	2.6	45.4	8.7	45.9	17.6	8.1	74.3
Malaysia, West	1973	77.2	10.9	11.9	25.4	13.0	61.6	16.7	14.4	68.9
Philippines	1975	91.9	3.4	4.7	28.0	7.4	64.6	8.6	5.8	85.6
Thailand	1964	95.6	0.6	3.8	55.7	10.6	33.7	—	—	—
	(1980) ^b	82.1	14.4	3.5	58.8		41.2	20.0	21.7	58.3
Korea	1973	85.9	5.9	8.2	20.4	8.4	71.2	10.2	6.7	83.1
Singapore	1973	81.1	8.9	10.0	19.1	9.9	71.0	13.7	9.2	77.1
Taiwan	1971 ^a	87.1	5.8	7.1	24.4	9.5	66.1	14.4	5.8	79.8
Japan	1973	90.6	5.0	4.4	38.0	11.5	50.5	26.0	9.4	64.6
USA	1972	69.5	13.0	17.5	13.7	10.0	76.3	11.6	8.3	80.1

^a 4-49.

^b From sample survey taken by Thailand's National Statistical Office, see Sanguanruang (1984).

Sources: Hiemenz & Bruch, *Small and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives & Policy Issues*, ADB Staff Paper No. 14, 1983.

Saeng Sanguanruang, "Small and Medium Manufacturing Enterprises in Thailand," a paper presented at the Conference on Management Development of Small and Medium Enterprises in Asia, Tokyo, March 1984.

production technologies than large-scale enterprises, making them suitable to the capital-scarce, labor-abundant, developing countries. A World Bank study, for example, found that relative labor intensity was roughly 4 to 10 times higher for small firms in India, Colombia, Mexico, and the Philippines.⁹ Another World Bank study found that in Mexico, differences in the technologies used by small and large firms producing the same products were found even when they faced the same factor prices.¹⁰

Although small-scale industries tend to be more labor-intensive, it can not immediately be assumed that their total effect on the demand for labor is greater. Large firms may have more linkages in both the input and output markets and thus may make larger contributions to indirect employment generation. However, large enterprises have a greater propensity to import both capital goods and raw materials, while smaller firms usually require a lower proportion of imports than larger firms, making greater use of domestic resources. SMI are more likely to use relatively simple machinery in their production processes which can be produced domestically. Although few data are available, in general, it appears that SMI do have a greater overall, as well as direct, employment effect than large-scale industry.¹¹

It should also be noted that small-scale enterprises are technologically heterogeneous and not all are efficient in generating income and economizing on scarce resources. Inefficient small-scale industry should not be promoted simply on the grounds of higher labor absorption. In some cases, economies of scale and quality considerations may favor a more capital-intensive, large scale production process. Economic efficiency should be a primary consideration.

Some studies have found that small enterprises do indeed use capital productively. Evidence from a number of developing countries indicates that "small enterprises with a lower level of investment per worker tend to achieve a higher productivity of capital than do the larger, more capital intensive firms."¹² In addition, the World Bank data for Colombia, Ghana and Malaysia show higher ratios of value added to fixed assets in smaller firms than larger ones.¹³

Staley and Morse point out that three considerations determine which industries hold promise for small-scale manufacturing. These include process, locational, and market factors.¹⁴ First, SMI are likely to be found in industries where scale economies are not pronounced or where the production process is such that there is a positive advantage in small-scale operation. Some examples of this include: precision handwork, simple operations of assembly or finishing, and in particular, industries where subcontracting is possible.

As markets develop, opportunities for product differentiation and division of labor between establishments of different sizes are created. Small-scale industry can contribute significantly by supplying intermediate goods to large firms, thus providing an alternative to more costly imports. In this way, they add to the flexibility of the industrial structure

⁹ World Bank, Sectoral Policy Paper, "Employment and Development of Small Enterprises," Washington, D.C., February 1978, pp. 59-62.

¹⁰ World Bank, *Trade and Employment Policies for Industrial Development*, 1982, p. 40.

¹¹ World Bank, Sectoral Policy Paper, op. cit., pp. 59-62.

¹² United Nations Industrial Development Organization (UNIDO), "Small-Scale Industry in Latin America," Publication No. 11, B. 37, 1969, p. 56.

¹³ World Bank, 1982, p. 41.

¹⁴ Staley and Morse, op. cit., Chapter 5.

by complementing the activities of large-scale firms. It has been suggested that small firms in Japan evolved in this manner and seemed to shift naturally from activities that compete with large firms to complementary ones. At present, approximately 60 percent of the SMI are engaged in subcontracting for larger corporations.¹⁵

Second, small producers also have cost advantages for production in industries which favor spatial dispersion and hence smaller firm size than if the industry were geographically concentrated. For example, processors of raw materials are closely tied to the forest, farm, or the site of other spatially dispersed raw materials. In particular, SMI are important when dealing with perishable goods that are widely dispersed and are otherwise difficult to transport. This is particularly true in developing countries where the infrastructure is usually not well developed and transport and marketing costs are high.

Finally, industries characterized by small or differentiated markets are promising for SMI. For example, small-scale industries can serve as specialized export producers. In many cases, efficient small-scale industry can contribute substantially to exports, as the cases of Hong Kong, Singapore, and Japan well demonstrate.¹⁶ For example, in Japan, small and medium industries accounted for about half of all exports during the period of rapid industrial development.¹⁷ Most developing countries have not taken advantage of this opportunities to expand SMI exports.

In addition, industries that serve small, total, or relatively isolated markets (especially in the rural sector) such as food or printing are also good examples of market influences. Small-scale manufacturing may be more efficient particularly in the initial stages of development, when demand for consumer goods and agricultural inputs are increasing due to rising farm income and markets are relatively fragmented. Further increases in income and improvement in transportation will increase the size of the market and induce the entry of larger firms.

The rural sector thus provides several advantages for small-scale enterprises. For these reasons, it is not surprising that SMI are more likely to be located in the rural sector than large firms and can provide off-farm, rural employment. This addresses the problem faced in many developing countries of concentration of industrial activities in large cities and the large income differentials in the urban and rural sectors. The development of non-farm, small-scale industries in the rural sector may help to curb the migration of people to the cities.

An industrialization strategy that fosters development of efficient small-scale industries in low-income developing countries would provide some dynamic benefits. Such industries could begin to absorb resources now used in relatively inefficient cottage industries without reducing employment. By producing components for larger firms or for export, small-scale enterprises would also help to upgrade the general quality of the labor force and to diffuse modern technology. In addition, small- and medium-scale industries provide a testing ground for the development of entrepreneurial skills, which is widely agreed to be a relatively

¹⁵ World Bank, Sectoral Policy Paper, op. cit., p. 59-61.

¹⁶ The export potential of small-scale industries is harder to tap in less-developed countries where business infrastructure is weaker. In Japan and Hong Kong, large trading houses are able to organize marketing and distribution of products of small-scale industries very effectively.

¹⁷ See Saburo Okita, *The Developing Economies and Japan: Lessons in Growth*, University of Tokyo Press, 1980, p. 123.

scarce factor in developing countries. Moreover, small firms are able to mobilize savings of proprietors which would not otherwise be saved. It appears that these entrepreneurs are very highly motivated to save and invest.¹⁸

These aspects would also be compatible with the more equitable distribution of income and the reduction of extreme dualism. For these reasons, policy reforms beyond simply "getting prices right" to promote small-scale industries may be desirable, and promotion of small-scale industries may be justified as part of general industrialization strategy.

Factors that Retard the Growth of Small-Scale Industries

In spite of their advantages, the development of SMI has not progressed rapidly. They generally pay lower wages but usually have to pay higher prices for capital than large firms and thus often face higher capital-labor cost ratios than do large firms. Imported equipment and finance generally are more difficult to come by for smaller firms than for larger firms. Moreover, the interest rates charged for loans to small-scale industries tend to be higher than the rates charged to large industries as a result of higher transactions costs and risk. This shortage of capital, combined with low wages, induces the choice of capital-saving technologies, which may have undesirable effects on efficiency. Moreover, government policies often encourage excessive labor intensity on the part of small enterprises. Credit rationing and import restriction policies tend to favor large firms, making capital even more difficult to obtain for SMI, while at the same time, SMI are often not bound by minimum wage restrictions.

A by-product of heavily distorted factor prices is the accentuation of dualistic industrial development with a few very capital-intensive, large-scale firms in the "modern" sector and many labor-intensive cottage producers in the traditional sector—with almost nothing between the two extremes. Of course, such dualism is not due only to direct government interventions in pricing. It also arises because domestic factor markets for labor and financial capital are underdeveloped and highly segmented.

Many small producers also have problems obtaining intermediate goods. They have limited access to foreign and domestic materials and often settle for inferior supplies. Infrastructure and services available (including quality of labor) are often poor. SMI also lack knowledge of, or access to, improved production technologies.

It should be noted, however, that not all of the problems facing small-scale industries are external in nature. Deficiencies in entrepreneurial quality are a frequently observed handicap. Lack of appropriate accounting procedures as a basis for control and planning leads to inaccurate estimations of working capital needs and inhibits access to formal credit institutions. It can also lead to inefficient inventory holdings, overestimation of demand, and non-optimal use of factors of production. The effect is to limit the growth opportunities which may otherwise be possible.

The adoption of heavily protectionist policies in low-income countries has not favored the development of SMI. Import restrictions and licensing arrangements enforced by

¹⁸ According to a World Bank study, entrepreneurs of SMI reserve a greater proportion of their income for this purpose than does the general population. World Bank Sectoral Policy Paper, op. cit., p. 71.

centralized government bureaucracies tend to favor large-scale industries. Often small-scale firms do not have the resources or ability to apply for exemptions. Large firms are simply better equipped to circumvent or gain exemption from restrictions while taking advantage of subsidies and services. Incorrect policies will inhibit small-scale industries from playing their development role to full potential.

*Industrial Structure, Patterns in Growth of Output, and Employment*¹⁹

Before discussing the position of small industries in Asia, one must look at the industrial structure and recent experiences in developing Asian countries. The size and importance of the industrial sector varies greatly among developing Asian countries (Table 4). For example, in the four NICs of Hong Kong, South Korea, Singapore, and Taiwan, industry contributed on average nearly 40 percent of output and employment in 1983.²⁰ In the ASEAN countries (Indonesia, Malaysia, Philippines, Thailand), industry accounted for only 9 to 17 percent of employment while comprising between 27 and 39 percent of GDP. In South Asia, relatively smaller shares of output (ranging from 13 to 27 percent) were accounted for by industry, while employment shares were similar to those of ASEAN countries. The manufacturing sector (excluding mining, construction, and public utilities) is relatively large in Sri Lanka, India, and Pakistan, roughly equaling that of ASEAN countries (Table 4). Generally, however, the pace of growth of manufacturing output since 1970 was not matched by the growth in manufacturing employment and, particularly, exports except in the NICs (Table 5).

In the East and Southeast Asian countries, the industrial sector was a major cause of rapid economic development in the 1970s. It contributed more than 40 percent to total GDP growth. The NICs had industrial growth rates generally in excess of 10 percent annually. These rates significantly contributed to a virtual elimination of unemployment and underemployment, as well as to improvements in distributional equity. In Southeast Asia, however, rapid industrial expansion was, on average, based more on increased capital per worker than on employment creation. The rate of growth of industrial employment barely exceeded that of the labor force as a whole, and the share of industrial employment remained low. The performance of the industrial sector in the South Asian group of countries as a whole was below the average for the Asian region both in terms of output growth and employment generation.

Although each country faced a specific set of national and international problems, important differences in their industrial development during the 1970s can be traced to resource constraints and to the different industrialization strategies they pursued. Industrial development in all the countries was greatly influenced by direct and indirect government interventions in the product and factor markets. These interventions affected the structure of industrial production and factor use by influencing relative prices. In particular, a

¹⁹ This section draws heavily from the study by U. Hiemenz, "Industrial Growth and Employment in Developing Asian Countries: Issues and Perspectives for the Coming Decade," ADB Economics Staff Paper No. 7, March 1982.

²⁰ See S. Naya, *Developing Asia: The Importance of Domestic Policies*, ADB Economics Staff Paper No. 9, May 1982, especially Chapter IV, "The Industrial Sector," pp. 47-71.

TABLE 4. GROWTH OF REAL OUTPUT AND EMPLOYMENT IN ASIAN DEVELOPING COUNTRIES, 1965-73 AND 1973-83 (AVERAGE ANNUAL GROWTH RATES IN PERCENT)

Countries	Per capital GNP		Real Output				Labor Force						
	1983		GDP		Industry ^b		Manufacturing ^b		Total		Industrial ^c		
	1965-73	1973-83	1965-73	1973-83	1965-73	1973-83	1965-73	1973-83	1965-73	1973-83	1960-70	1973-83	
South Asia													
Bangladesh	130	0.0	5.2	8.1	—	(13)	8.1	10.1	2.3	2.8	2.5	(11)	4.6
Nepal	170	1.7	3.0	7.5 ^g	—	(14)	7.5 ^g	—	1.6	2.3	—	(2)	—
Burma	180	2.9	6.0	7.7	3.6	(13)	7.7	6.1	1.3	1.4	4.3	(10)	4.1
India	260	3.9	4.0	4.3	3.7	(26)	4.3	4.2	2.1	2.1	3.2	(13)	2.4
Sri Lanka	330	4.2	5.2	4.8	7.3	(26)	4.8	5.5	2.1	2.2	2.1	(14)	3.0 ^d
Pakistan	390	5.4	5.6	3.4	4.7	(27)	3.4	7.0	3.2	2.7	2.3	(20)	3.8
ASEAN													
Indonesia	560	8.1	7.0	8.6	13.4	(39)	8.6	9.0	1.9	2.3	4.1	(12)	3.3 ^d
Thailand	820	7.8	6.9	9.0	11.4	(27)	9.0	8.9	3.1	2.1	6.2	(9)	5.2 ^a
Philippines	760	5.4	5.4	7.4	6.4	(36)	6.4	8.5	3.0	2.5	2.7	(17)	4.2
Malaysia	1870	6.7	7.3	8.7	—	(35)	8.7	7.7	2.9	3.2	4.4	(16)	6.3
NICS													
Korea	2010	10.0	7.3	11.2	18.4	(39)	11.2	21.1	2.9	2.7	11.2	(29)	6.4
Taiwan	2670	9.2 ^r	7.3	8.3	16.4 ^r	(51)	8.3	17.3 ^r	8.4	3.0	—	(33)	4.8
Hong Kong	6000	7.9	9.3	8.2	8.4	(30)	8.2	—	3.6	4.1	3.7	(57)	3.4
Singapore	6620	13.0	8.2	8.5	17.6	(37)	8.5	19.5	3.4	2.3	5.4	(39)	5.5

^a 1973-82.

^b Figures in brackets refer to the 1983 share in GDP, the industrial sector comprises mining, manufacturing, construction and public utilities.

^c Figures in brackets refer to the 1981 share in total labor force.

^d 1970-78.

^e 1982.

^f 1960-70.

^g 1975-83.

Sources: ADB, *Key Indicators of Developing Member Countries*, Vol. XV, April, 1985. Country Tables and Table 4.

IBRD, *World Development Report*, 1985. Tables 2 and 19.

ILO, *Labor Force Estimates and Projections 1950-2000*, Vol. 1, Geneva, 1977.

TABLE 5. GROWTH OF MANUFACTURING PRODUCTION AND EMPLOYMENT (COMPOUND RATES AND ANNUAL PERCENTAGE CHANGES)

Countries	Manufacturing Production Index				Employment in Manufacturing				Share of Manufactured Exports ^a in GDP				
	1970-74	1974-78	1978-82	1982-83	1970-74	1974-78	1978-82	1982-83	1970	1974	1978	1982	1983
South Asia													
Bangladesh	17.1 ^b	3.0	1.1	—	9.1 ^b	3.9	3.4	3.6	—	4.0	3.1	3.0	—
Burma	1.6	6.0 ^e	8.1 ^h	—	2.9	2.9	3.6	—	0.2	0.6	0.7	—	—
India	4.4	6.6	3.1	—	10.7 ^c	2.7	1.9	-1.0	2.0	2.5	3.7	3.0 ^o	—
Pakistan	5.2	1.0	10.0 ⁱ	—	-2.8	5.1	5.7	-6.9	2.3 ^q	7.0	4.1	4.3	6.0
Sri Lanka	0.6	5.9 ^f	—	—	—	—	6.6 ⁱ	—	0.2	0.8	2.2	4.7	—
ASEAN													
Indonesia	—	13.4 ^e	9.9	—	7.8 ^m	2.1 ⁿ	5.2	—	0.2	1.1	1.0 ^m	1.3	—
Malaysia	13.6	9.2	5.7	7.9	8.3	12.6	4.6	1.3	12.8	12.4	14.4	13.0	—
Philippines	8.5	2.7	5.4	—	1.8	6.2	—	—	1.3	2.1	3.2 ^m	3.0 ^o	—
Thailand	12.9 ^e	13.1	5.9	—	16.9 ^d	-3.4	7.94	—	1.7	3.7	5.3	5.9	—
NICs													
Korea, Rep. of	24.1	23.8	7.0	15.9	11.9	10.6	0.3	7.5	7.7	24.8	23.6 ^m	29.2	—
Singapore	10.3 ^d	7.9	7.6	2.1	13.1	3.7	5.6	-3.6	22.8	45.6	59.5	63.6	—
Taiwan	15.9	18.0	4.8	14.7	12.0	6.7	3.1	6.3	19.4	32.4	41.4	42.1	48.4

^a Manufactured exports include

^o 1975-78.

ⁱ 1974-77.

^g Based on 12 mon. average beginning in July of the year stated.

^h 1979.

^h 1979.

^m Estimate.

ⁿ 1978-81.

^j 1979-82.

^k 1979-80.

^l 1971-80.

^m Estimate.

ⁿ 1976-78.

^o Preliminary.

^p 1974-76.

^q 1971.

Sources: ADB, *Key Indicators of Developing Member Countries of ADB*, Vol. X, No. 2, Oct. 1979. Country Tables.

ADB, *Key Indicators of Developing Member Countries of ADB*, Vol. XII, No. 1, April 1981. Country Tables.

ADB, *Key Indicators of Developing Member Countries of ADB*, Vol. XVI, April 1985. Table 19 and Country tables.

IBRD, *World Development Report 1985*. Table 3.

UN, *International Trade Statistics*, Vol. XXXV, No. 1, January 1981. Special Table C.

systematic bias in government industrial promotion policies in favor of large-scale, capital-intensive industries could be seen in a number of countries.

The "balanced" incentive system adopted by the NICs in the 1960s and early 1970s facilitated the transition from production for domestic markets to production for export. It encouraged the use of semi-skilled labor in light consumer goods industries and other labor-intensive industries, without negatively affecting agricultural development (in Taiwan and, more recently, in South Korea). After these NICs achieved full employment in the mid-1970s, production expanded into more skill- and capital-intensive manufactures, though with varying degrees of success. Problems arose when governments embarked upon over-ambitious restructuring programs (as in the case of South Korea) and distorted factor prices by offering substantial subsidies to investment in capital-intensive, heavy industries.

In the ASEAN countries, protectionism and repressive financial policies have encouraged the uneven concentration of investment, both sectorally and spatially, in so-called advanced sectors such as the large-scale production of chemicals and durable consumer items. This strategy of secondary import substitution has led to increased industrial output but has achieved little with respect to job creation, since the protected industries tended to be rather capital-intensive and have few linkages with the rest of the economy. For the most part, highly distorted product and factor prices were detrimental to expansion of manufactured exports. In Malaysia, however, inherent discrimination against labor-intensive export industries was offset by countervailing measures, and by the late 1970s, the Philippines and Thailand had achieved high growth rates of manufactured exports from a low base with the dismantling of some of these obstructive policies.

Policy-induced price distortions and direct government controls have had a major adverse impact on industrial development in South Asia. Characteristics of low-income countries, i.e., the lack of financial capital, entrepreneurial skills, infrastructure, and skilled labor, were reinforced, rather than mitigated, by the predominance of public sector enterprises, extensive administrative and licensing procedures, and protectionist policies designed to promote "self-sufficiency." This led to the reluctance of private businessmen (including foreigners) to invest, to debt accumulation, exacerbation of technological and managerial inefficiencies, a poor employment record, and severe under-utilization of industrial capacity.²¹

A Profile of Small- and Medium-Scale Industries in Asia

In any country, a significant part of manufacturing takes place in cottage industries. In Indonesia, the Philippines, and Thailand, cottage and household industries are especially important, accounting for more than 90 percent of all firms in manufacturing (Table 2). However, cottage industries account for a smaller share of enterprises in the other Asian countries. Moreover, with the exception of Indonesia and Thailand, the cottage industries account for a very small amount of total employment and value added.²²

²¹ Ulrich Hiemenz, op. cit., 1982, p. 8.

²² A survey taken by the National Statistical Office (NSO) found that in 1980, cottage industries (firms employing 1-9 workers) accounted for 63.2 percent of the total number of establishments in manufacturing, 13.6 percent of employment, and 9.76 percent of value added. Saeng Sanguanruang, "Small and Medium Manufacturing Enterprises in Thailand," paper presented at the Conference on Management Development of Small and Medium Enterprises in Asia, Tokyo, March 1984.

It appears that the importance of cottage industries has declined for most of the Asian countries as the economy developed, though SMI continued to be dominant. In Indonesia and the Philippines, however, the employment shares in cottage industries have remained fairly constant since the 1960s.²³ It is interesting to note that the per capita incomes of these two countries are low compared to most of the Asian countries for which data on cottage industries is available. In addition, both countries introduced import-substitution policies which tended to promote capital-intensive large industries. Because of the low labor absorption inherent in most of these firms and the inability of agriculture to provide sufficient employment opportunities, many of the unemployed resorted to informal, non-market activities.

Excluding cottage industries, SMI in Asian developing countries comprise over 90 percent of all manufacturing firms. However, except for Indonesia and Thailand, the share of employment and value added of small enterprises is lower than that of Japan (Table 3). In Indonesia, the employment share of large industries is high, but the share of value added of these firms is low. This reflects the more traditional character of the SMI in Indonesia, as well as the barriers in the economic environment to the development of nontraditional SMIs. The 1964 data for Thailand show a situation similar to that of Indonesia. The 1980 NSO survey, however, indicates that the predominance of SMI in terms of number of establishments and employment has decreased while their share of value added has increased.²⁴ In the Philippines, although there are many small firms, the shares of value added and, to a lesser degree, employment are very low relative to those of large-scale firms; they are even lower than those of the United States. This may be due again to the discriminatory policy in the postwar period. Since the 1960s, when the discrimination was reduced, employment and value added in the Philippines grew as fast in small industries as in large ones. By 1982, the situation had improved slightly in terms of employment with the SMI accounting for 40.2 percent of employment but only 7.2 percent of value added.²⁵

Of the Asian developing countries, Malaysia has both the lowest concentration in the number of SMI and the lowest percentage of value added attributed to large-scale firms. This is indicative of the relative efficiency of SMI in Malaysia and is similar to the Japanese pattern. The NICs take an intermediate position because of their many labor-intensive SMI.

An ADB study found that even at prevailing prices, uncorrected for possible distortions in favor of large-scale industry, small- and medium-scale establishments were more efficient than large-scale enterprises in about half of all industrial subsectors.²⁶ The fact that the smaller firms could compete effectively in nearly half of the industries indicates that they could contribute even more if distortions biasing competition for scarce factors in favor of large-scale firms were reduced.

In Singapore, where price distortions are minimal, SMI are highly efficient and contribute strongly to exports. Census data for Singapore reveal that in 1978, establishments

²³ U. Hiemenz and M. Bruch, *Small- and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives and Policy Issues*, ADB Economics Staff Paper No. 14, March 1983, p. 24.

²⁴ Saeng Sanguanruang, *op. cit.*, pp. 5-7.

²⁵ Maya A. Santiano, "Small and Medium Enterprises in the Philippines," paper presented at the conference on Management Development of Small and Medium Enterprises in Asia, Tokyo, March 5-7, 1984, pp. 6-8.

²⁶ Hiemenz and Bruch, *op. cit.*, pp. 35-66.

with 10–29 employees exported 24 percent of their total sales, while establishments with 30–49 workers exported 43 percent. These exports were primarily in food, leather, printing, and non-metallic mineral products.²⁷ However, SMI of the other Asian developing countries were not as successful as exporters. Even in the export-oriented economies such as Taiwan and South Korea, the demand for products of SMI is primarily from the domestic market. A 1975 survey found that less than 20 percent of the output of SMI in South Korea was exported, with increases in the share of exports as firm size increases. This is probably due to the relatively poor quality of the products produced by the SMI as well as the inability of the SMI to take advantage of export incentives and finding foreign markets for their goods due to their small size. Industries where exports by SMI were important in South Korea are: textiles (54 percent of output was exported), wearing apparel and leather footwear (24 percent), leather and leather products (63 percent), and other manufacturing industries (63 percent).²⁸ According to sample survey results, the SMI of Thailand and Malaysia were not far behind, with SMI exporting more than 20 percent of output in Thailand and approximately 12 percent in Malaysia. These exports, however, were concentrated in natural resource-based and craft industries.²⁹ Exports of SMI in the Philippines and Indonesia were negligible in size and concentrated in traditional craft industries, again reflecting the limited development of modern SMI.

Although large firms also serve as a potential market for output of SMI, except for Singapore, the SMI in Asian developing countries have not been accepted as subcontractors for large enterprises. Studies in Indonesia, Malaysia and the Philippines found that producers prefer to import their components rather than produce them locally. Reasons included low quality, poor linkages, as well as an incentive system biased toward imports.³⁰

It is interesting to note that even in Taiwan and South Korea, subcontracting is not prevalent. A survey in 1975 found that less than 20 percent of sales of SMI were contract sales to other firms in South Korea. Like exports, the percentage of sales to other firms increased with size, ranging from 8 percent for firms with 5–9 employees to 22 percent for those with 50–99 workers. In contrast to the Japanese situation, where many SMI serve exclusively as a subcontractor for one large firm, the South Korean SMI received orders from more than one firm, and such orders represented only a small percentage of their total sales. The evidence for South Korea indicates that there exists a large market for the poorer quality goods produced by SMI, thus there has been little incentive to increase the quality of the goods to serve the needs of large industries.³¹

In this context, SMI were not prevalent in industries where separable operations are possible in most Asian countries. For Malaysia, Indonesia, the Philippines, and Thailand, above average employment shares were found in industries that use relatively simple, labor-intensive techniques (e.g., leather, footwear, apparel, furniture, paper and metal products), where raw materials were spatially dispersed (food processing, wood products, and tobacco),

²⁷ Hiemenz and Bruch, op. cit., p. 34.

²⁸ Data on SMI in South Korea and Taiwan found in Samuel Ho, "Small-Scale Enterprises in South Korea and Taiwan," World Bank Staff Working Paper No. 384, April 1980, pp. 16–17.

²⁹ For information on exports of SMI of Malaysia, see Mathias Bruch, "Small Enterprises as Exporters of Manufactures: Tentative Evidence from Malaysia," *World Development*, Vol. 8, 1980, pp. 429–442.

³⁰ Chee Peng Lim, "Small Enterprises in ASEAN, Need for regional co-operation," *ASEAN Economic Bulletin*, Nov. 1984, p. 102.

³¹ See Ho, op. cit., p. 48.

and finally, in industries with small total markets (food and printing).

Ho found that for South Korea and Taiwan, locational factors, particularly high transport costs, were the most important sources of advantage for SMI in the early stages of development. As transport costs decreased, SMI moved into industries with simple production processes, but with the increase of the size of the market, large firms entered to take advantage of economies of scale. More recently, metal-working and machinery industries became important to the SMI and to the manufacturing sector as a whole, although little subcontracting occurred.³²

The importance of locational factors in industry determination implies that the regional distribution of the SMI in Asia is, for the most part, according to expectations. Indeed, large industries tend to be more concentrated in the urban areas in the Philippines (71 percent as compared to 56 percent for SMI), South Korea and Taiwan.³³ The concentration of both small and large industries in the metropolis is greater in South Korea than Taiwan. Ho suggests that this is due to the fact that the infrastructure was more evenly developed at the early stages of development in Taiwan.³⁴ In Thailand, however, almost 50 percent of SMI can be found in Bangkok, compared to 30 percent of large industries, due to the high cost of land in Bangkok and government measures to disperse industries away from the metropolis.³⁵

Policies and Programs for Small-Scale Industry Promotion

The severe and prolonged world recession of the early 1980s has had further negative repercussions on industrial development across the region. The stagnation of world trade between 1980 and 1982 brought economic growth rates down in all the East and Southeast Asian countries. The disinflationary policies adopted in the advanced OECD countries drove real interest rates to record levels which, coupled with terms of trade losses, led to balance of payments difficulties and then financial crises in heavily indebted developing countries. These developments, along with increased protectionism in the developed market economies, indicate difficulty for future industrial growth—particularly export-led growth relying on traditional trade partners of the Asian countries.³⁶ The reduced availability of official development assistance and sharp cutbacks in commercial bank lending coincide with worsening debt-service burdens in a number of Asian countries. Industrialization strategies must be adjusted to accord with changed conditions.³⁷ The importance of small-scale industries must be elevated in the course of this adjustment.

Not only will greater reliance have to be placed on domestic resources, but all available investment funds will have to be allocated to maximize dynamic efficiency. Large-scale

³² Ho, op. cit., p. 48.

³³ On the Philippines, see Santiano, op. cit., p. 11, and on South Korea and Taiwan, Ho, op. cit., p. 23.

³⁴ Ho, op. cit., p. 23.

³⁵ Saeng, op. cit., p. 5.

³⁶ This point is stressed by Oshima (op. cit.).

³⁷ This is part of a more general reassessment of development strategies in Asia, and the reason why ADB convened a symposium on development strategies in Asia in early 1983. An overview of this is presented in S. Naya and M. K. Samuel, "Asian Development Strategies in a Changing World Economy," *Asian Development Review*, Vol. 1, No. 2, October 1983.

industrial projects of doubtful economic viability will have to be put off or abandoned altogether. More attention will have to be given to developing domestic markets, to increasing international competitiveness, and to expanding the scope for new trade and investment tie-ups on a subregional basis. In all of this, small-scale firms can play a pivotal role since they use less imported energy and capital, rely more on indigenous sources of finance, and can adapt technology to local resource bases better than most large-scale heavy enterprises.

Currently, a major handicap to the growth of small-scale industry in most developing Asian countries, as previously stressed, is the systematic bias of government policies favoring large-scale industry. Macroeconomic reforms will go a long way toward redressing the bias against efficient small-scale producers. Such reforms could include exchange rate adjustment, financial liberalization, and rationalization of effective protection rates to avoid the "cascading" tariff structure that offers heavy protection to producers of final goods for domestic markets while penalizing exporters and producers of domestic intermediate goods. Specific reforms aimed at reducing bureaucracy, subsidies, and controls will also be beneficial by enabling small firms to compete for inputs and markets on a more equal footing.

The elimination of the biases in macroeconomic policies will help to establish a labor-absorbing pattern of industrialization and in facilitating small-scale industrial development. But this ideal long-run solution fails to take into account a number of limitations that result from real world imperfections and rigidities. Adjustment of economic activities to match changing macroeconomic parameters takes place neither instantaneously nor with zero cost. Asian developing countries that have followed inward-looking industrial strategies in the past can only gradually rationalize their economies. The supply of specialized industrial services required by small-scale industries can not be expected to develop quickly, and adjustment of infrastructural facilities to accommodate the new economic environment takes considerable time. These problems seem to warrant supportive measures to overcome bottlenecks and shorten the transition period.

Active measures to promote small-scale industries, it must be remembered, do not preclude the necessity of restructuring the small-scale sector itself. Supportive measures need to be designed to promote efficient small-scale firms rather than to subsidize inefficient producers. Some general guidelines have emerged that can help policymakers in specific countries. In particular, infrastructure, finance, and extension services are areas that require attention.

First, physical infrastructure, including a reliable supply of power, water, sewerage, transportation, and communication facilities, is important for nontraditional small-scale firms. An economical way of providing such infrastructural facilities may be the establishment of industrial estates which allow economies of scale to be reached.

Second, limited access to finance at reasonable cost has been identified as one of the major constraints to the development of small-scale industries. Active programs of financial assistance are often necessary to meet the needs of small-scale industrial establishments. Incentives are needed to induce financial institutions to serve as intermediaries for small firms. In most developing countries, the removal of artificial controls on the cost of finance to preferred borrowers will, by itself, increase the availability of funds to efficient small firms. Credit guarantee schemes on loans given to small-scale enterprises may be introduced to reduce the high risk perceived by financial institutions not familiar with the operations

and funding needs of small-scale industry.

Third, extension services for promoting small-scale enterprises may be divided into two categories: pre-investment and post-investment. Pre-investment services relate to assessments of economic trends in the sector in which the small-scale enterprises operate, feasibility studies, and advice on basic business skills such as project preparation and procurement of goods and services for the project. Post-investment services generally are more technical in nature. Four types of specialized technical services are most appropriate for the small-scale industries: (1) marketing; (2) labor and management training; (3) product modernization; (4) research and development.

In theory, specialized private firms or, alternatively, a cooperative organization of small-scale industrial firms funded by its members can undertake the task of providing extension services, but in practice, government may have an important role to play in developing and maintaining such services. When such services must be provided publicly, the agencies concerned will have to charge appropriate fees for the services rendered to their clients.

In locating industrial estates, infrastructure facilities, and programs providing extension services, an added concern in many developing Asian countries is the desirability of promoting dispersion of industrial activities that are now highly centralized in relatively prosperous urban areas. There are cost incentives for small-scale industries to locate in rural towns since wage costs are generally lower. Appropriate planning of promotion programs and policies for small-scale industry can thus facilitate rural off-farm employment and locational balance of industry.

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