

SMALL AND MEDIUM INDUSTRIES IN MALAYSIA: ECONOMIC EFFICIENCY AND ENTREPRENEURSHIP

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I. INTRODUCTION

THE global recession which besieged the free market economies in the early 1980s caused sharp declines in the prices of all of Malaysia's major commodities—rubber, palm oil, tin, and even petroleum—resulting in the gross domestic product (GDP) growth rate contracting from about 8 per cent per annum in 1982 to -1.0 per cent in 1986—the first negative growth rate in Malaysia's modern economic history. The consequent reduction in public expenditure and the contraction in business activities induced massive retrenchments of factory and office workers, resulting in the unemployment rate leaping to over 10 per cent by 1986, from under 5 per cent in 1980. Fortunately, through a series of austerity programmes and other prudent measures, accompanied by the recovery of the commodity prices, the economic slowdown was successfully reversed by 1987 with a GDP growth rate of 4.7 per cent; this increased further to 8.1 per cent by 1988, with the unemployment rate also declining to about 8.1 per cent.

The severe impact of the global recession on the Malaysian economy has highlighted that a major issue confronting the nation over the coming decade is the diversification of its economic structure—away from its predominant dependence on commodities to a broad-based industrial sector—so that the economy can become more self-reliant and be capable of sustaining moderate growth within the context of a global environment which is projected to experience only low to moderate growth rates. Policy planners realized that an important constraint limiting the economic diversification process is the absence of domestic entrepreneurship; the lack of local businessmen who have the ability to identify new market niches and innovate the needed products. The country's industrial sector has for too long been too dependent on foreign investments and foreign enterprises, to the extent that many of the domestic wholesale and retail opportunities have been captured by them. In short, there is an urgent need to encourage the development of local small and medium industries (SMI) with domestic entrepreneurship to facilitate fuller economic linkages between the modern (predominantly foreign) and the informal (domestic) sectors, so that the economic structure of the country could be more balanced and diversified, ultimately enabling the country to become less dependent on world economic conditions.

The focus of this paper is to analyze the development of SMI in Malaysia, in particular its economic efficiency in the use of economic resources and the role

played by this sector as a "seed-bed" of entrepreneurship development. It is only with the unequivocal demonstration of their relative economic efficiency and their contribution towards entrepreneurship development that public assistance extended for the promotion of SMI could be justified and supported by the people at large.

The structure of the paper is as follows; in the next section a brief perspective of the Malaysian economy is given. In Section III a description of the government policies towards SMI is presented. The impact of the policies on the growth and economic efficiency of SMI is discussed in Section IV. This is followed by an analysis of the impact of SMI and entrepreneurship in Section V. Finally, in Section VI a summary of conclusions and the relevant policy recommendations are provided.

II. MALAYSIAN ECONOMIC DEVELOPMENT

The major development strategy since 1957 has been diversification of the economy arising from its over dependence on rubber and tin—achieved through agricultural modernization and acceleration of industrialization. As a result, the range of economic activities and sources of economic growth became more spread out over the 1970s and 1980s. In 1957, the agricultural sector contributed about 46 per cent of the total GDP and about 62 per cent of total employment. However, by 1988 its contribution had declined to 21.1 per cent of the GDP and 31.2 per cent of total employment. On the other hand, in 1957 the manufacturing sector only contributed about 8 per cent of GDP and 6.4 per cent of the total employment. By 1988, these figures had increased to 24.1 per cent and 16.4 per cent respectively.

The value-added and employment profiles of the industrial sector for 1963–86 are presented in Table I. Prior to 1970, the major emphasis of Malaysian industrialization was import substitution—thus, we find that in 1963 the food, rubber, and wood products subsectors were major contributors to the total industrial value added. The basic metals, textiles, and electrical machinery groups grew most rapidly, with a growth rate of over 30 per cent per annum over the period 1963–74. Most of these increases were attributed to import substitution and the expansion of the domestic market.

By the early 1970s however, it became apparent that the Malaysian domestic market was becoming saturated; the government then shifted its emphasis to industrialization for exports through the implementation of export incentives under the 1968 Investment Incentives Act. Because of this, over the period 1974–86, there was a marked structural change within the industrial sector. By the early 1980s, a large number of new industries, especially export-oriented ones, had been established. Electrical machinery (mainly electronic products), for example, expanded from 1.1 per cent of industrial value added in 1963 to 10.9 per cent by 1978 and 21.1 per cent by 1986—by far the largest industrial subsector. In 1988, exports of manufactured goods accounted for 47.5 per cent of Malaysia's total exports. However, unfortunately, the country's manufactured exports have become over-concentrated on electrical and electronic machinery and textiles; in 1988

TABLE I
VALUE ADDED (VA) AND EMPLOYMENT (EMP) IN MANUFACTURING
INDUSTRIES, PENINSULAR MALAYSIA, 1963-86

| Sector | (%) | | | | | | | | | | | |
|------------------------------------|------|------|-------|------|-------|------|-------|------|--------|------|--------|------|
| | 1963 | | 1974 | | 1978 | | 1982 | | 1984 | | 1986 | |
| | VA | EMP | VA | EMP | VA | EMP | VA | EMP | VA | EMP | VA | EMP |
| Food products | 15.4 | 16.0 | 17.3 | 10.7 | 20.8 | 8.8 | 14.9* | 12.6 | 16.3 | 12.3 | 18.1 | 17.2 |
| Beverage & tobacco | 9.8 | 7.4 | 6.3 | 4.1 | 5.3 | 2.8 | 6.8 | 3.5 | 5.2 | 2.0 | 8.8 | 2.7 |
| Textiles | 1.9 | 2.7 | 5.3 | 13.3 | 8.0 | 14.7 | 6.3 | 12.8 | 5.4 | 12.8 | 5.1 | 8.1 |
| Timber-based products | 13.6 | 17.2 | 10.9 | 17.0 | 10.4 | 15.0 | 9.0 | 14.0 | 6.4 | 13.7 | 6.8 | 12.8 |
| Paper, leather & printing | 7.9 | 9.3 | 6.2 | 7.2 | 4.8 | 5.9 | 5.8 | 5.8 | 5.4 | 5.8 | 6.1 | 7.1 |
| Chemical products | — | 6.8 | — | 5.7 | — | 5.9 | 3.5 | 5.0 | 14.5 | 3.0 | 7.9 | 4.4 |
| Petroleum products | 10.0 | 4.8 | 1.8 | 4.0 | 3.3 | 3.4 | 2.1 | 0.2 | 2.0 | 0.4 | 4.8 | 0.4 |
| Rubber products | 17.2 | 19.7 | 12.7 | 10.3 | 9.9 | 8.6 | 7.7* | 6.7 | 5.4 | 6.0 | 9.0 | 9.4 |
| Other nonmetallic mineral products | 6.5 | 5.9 | 4.4 | 5.1 | 3.9 | 4.7 | 5.7 | 4.4 | 8.3 | 8.6 | 7.1 | 5.0 |
| Electrical machinery | 1.1 | 0.8 | 9.4 | 10.6 | 10.9 | 17.0 | 16.6 | 16.3 | 19.0 | 21.6 | 21.1 | 25.8 |
| Transport equipment | 1.4 | 1.9 | 3.2 | 1.4 | 3.0 | 3.6 | 4.5 | 3.9 | 4.6 | 4.1 | 3.8 | 4.1 |
| Other manufactures | 15.2 | 14.3 | 15.7 | 16.3 | 14.0 | 15.5 | 23.3 | 16.3 | 7.5 | 9.7 | 1.4 | 3.0 |
| Total (%) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Total VA (M\$ million) | 420 | | 2,756 | | 5,298 | | 8,523 | | 12,301 | | 14,907 | |
| Total EMP (1,000) | 81 | | 255 | | 356 | | 481 | | 495.8 | | 434.5 | |

Sources: [9, 1963 edition] [9, 1968 edition]; Malaysia, Department of Statistics, *Survey of Manufacturing Industries* (Kuala Lumpur), 1974 and 1978 editions; Malaysia, Department of Statistics, *Industrial Surveys, Malaysia, 1983* (Kuala Lumpur, 1985); Malaysia, *Fourth Malaysia Plan, 1981-85* (Kuala Lumpur, 1981).

Note: Manufacturing industries were reclassified after 1978. Processing of products offstates which was previously classified under food and rubber products was reclassified and for the purpose of this table, has been classified under other manufactures.

* Denotes 1983 figures.

exports of electrical and electronic machinery accounted for 52.3 per cent of total manufactured exports, and textiles another 10.3 per cent. In other words, electrical, electronic, and textiles goods constituted 62.6 per cent of the total manufactured exports. On the other hand, small domestic-oriented industries such as chemical,

nonmetallic products, and printing declined in importance over this period. Further, most of the resource-based agro-industries and domestic-oriented industries, in which SMI dominate, showed deceleration in the growth of employment, output and income during the second half of the 1970s. Even among the non-resource-based industrial groups, the more important engineering and machinery subsectors have remained small, and the metal product components of these subsectors—where SMI dominate—remain beset with considerable difficulties.

However, the adverse effects of the global recession on the manufacturing sector, in particular on the exporting industries dominated by large establishments in the mid-1980s, are clearly evident from Table I. While total manufacturing employment increased marginally from 481,000 to 495,000 over 1982–84, it contracted substantially to 434,500 by 1986. Total work force of the export-oriented textile subsector for example, plummeted from 63,500 in 1984 to 35,200 by 1986, while the work force in the timber-based subsector contracted from 67,900 to 55,600. Subsectors which are essentially domestic-oriented and dominated by SMI such as food products, paper, leather, and printing were less severely affected. The total work force of the food products subsector increased from 61,000 in 1984 to 74,700 by 1986; that for paper, leather, and printing from 28,800 to 30,900. Thus, although all manufacturing subsectors were affected by the global recession in the mid-1980s, the impact was more severe among the export-oriented subsectors dominated by large enterprises, and less severe among the domestic-oriented subsectors dominated by SMI. This indicates the importance of promoting SMI in the context of the pursuit of economic self-reliance.

III. SMI POLICY

Having discussed Malaysian industrial development, we shall now trace the evolution of SMI policies and then examine the impact of these policies on the growth of SMI.

A. *Definition of SMI*

There is no one comprehensive definition of SMI in Malaysia. Different government agencies adopt different definitions.

The Principal Guarantee Scheme (PGS)¹ defines a small industry as one in which the paid-up capital and reserves do not exceed M\$500,000. Similarly, for tax purposes the Ministry of Finance classifies a small-scale industry as one with a shareholders' fund (or net assets) of not more than M\$500,000.

The provisions of the Industrial Coordinating Act (ICA)² exempt a manufacturing establishment from applying for a manufacturing licence if it has less than

¹ A scheme set up by the government to guarantee the repayment of loans extended to small businesses at subsidized interest rates by commercial banks.

² When initially implemented in 1975, the act required all new or existing manufacturing establishment with shareholder's funds no less than M\$250,000 or employing a full-time work force no less than twenty-five workers to apply for manufacturing licences. In the issue of the licences the government could require the firms to comply with Bumiputera equity or work force targets as required by the New Economic Policy.

M\$2.5 million in shareholders' funds or employs less than seventy-five full-time workers. The Small Enterprise Division of the Ministry of Trade and Industry defines *small-scale industry* as one having a paid-up capital of up to M\$500,000, or employing a full-time work force of less than 20 workers, and a *medium-scale industry* as one having a paid-up capital of M\$500,000–M\$2.5 million or a full-time work force of 20–100 workers.

The different definitions of SMI serve different purposes for the respective agencies. Taking this into consideration, as well as the concept of SMI adopted in other countries (such as Taiwan and Korea) and the present stage of the Malaysian economy, the definitions of the Small Enterprise Division shall be adopted in this paper. Thus the term *small industry* refers to "a manufacturing enterprise which has a shareholders' fund of less than M\$500,000 or employs a full-time work force of less than 20 workers," and a *medium industry* refers to "a manufacturing establishment which has a shareholders' fund of M\$500,000–M\$2.5 million or employs a full-time work force of 20–100 workers."

B. *Evolvement of SMI Policy*

As a result of British colonial practices, economic function was differentiated by ethnicity in multiracial Malaysia. Agriculture, in particular padi and traditional agriculture, was kept as the preserve of the Malays. Foreign interests dominated the modern sectors of the economy such as plantation and mining. The Chinese were allowed to be active in small-scale mining and manufacturing as well as service activities such as wholesale and retail; while the Indians were employed mainly in the technical services and plantation sector.

The Malayan government at independence in 1957 realized the importance of promotion of manufacturing activities, particularly small industries, but felt that unabated promotion of these industries could also lead to the possible continued dominance of the Chinese in manufacturing. If this happened, it would accentuate the economic disparity between the Malays and the Chinese. Further, Malaysia was riding on the crest of a commodity boom in rubber and palm oil, and did not feel the need for an all-out industrialization drive. Thus, over the period 1957–68, although industrialization was promoted for import substitution, a major focus was to promote foreign investments; possibly as a "counterbalance" to Chinese dominance in the sector. Tariff protection for domestic manufacturing was set at moderate rates so that these industries would have to remain efficient and be able to compete with the more efficient foreign manufacturers.³

The government implemented several measures aimed at promoting small industries, with the main emphasis geared towards the promotion of Malay (later Bumiputera) small industries. In 1951 the government established the Rural Industrial Development Authority (later renamed the Council of Trust for the Indigenous People or MARA) to promote and develop Bumiputera small-scale industries and businesses.⁴ MARA's major objectives are to develop Bumiputera

³ For example, the effective rate of protection for manufacturing in the 1960s was 15 per cent in Malaysia. This was low compared to 51 per cent for Philippines. See [1] [6, p. 32].

⁴ See [5] for an excellent account of the role of MARA in the economic development of the Bumiputeras.

entrepreneurship, create productive employment, and in the process exploit the potential of resource-based sectors (such as food processing, wood-based products, light engineering, plastics, and ceramics) through the provision of financial assistance, and extension and consultancy services for organizational and managerial problems.

However, official ambivalence to adopt an all-out growth strategy for SMI is reflected in the policy measures implemented to promote industrialization as a whole. Over the period 1957–70, no specific incentives were provided to SMI. The incentives offered under the 1958 Pioneer Promotional Act for manufacturing activities were accorded mainly to capital-intensive and large-scale industries. This feature was preserved in the 1968 Investment Incentives Act, where investment incentives (such as tax-free holidays) were accorded in accordance with the size of capital investment.

The 1969 racial riots heightened awareness of the need to remove identification of ethnicity with economic functions. In 1970 the government implemented the New Economic Policy (NEP) with the two-pronged objective of eradicating poverty irrespective of race, and removing identification of race with economic functions in the context of growth [8, p. 1]. To achieve these objectives, all new industrial investments in the country would need to have at least 30 per cent Bumiputera equity and a work force that reflected the racial composition of the country. The 1968 Investment Incentives Act was used to aggressively seek out new investments, to provide the necessary “expanding cake” for the desired restructuring of society. Manufacturing enterprises producing a designated list of products and meeting NEP targets in terms of Bumiputera equity and work force structure were provided with generous incentives such as tax-free holidays or accelerated depreciation allowances. Further, since foreign ventures tend to be large-scale and hence could help raise Bumiputera equity more rapidly, wooing of foreign investments was given major emphasis.

The various types of industrial estates [such as Free Trade Zones (FTZs)] and physical infrastructural facilities for industries have also been designed in such a way that they benefit the formal large industrial establishments more than the small ones.⁵ This has forced many SMI to operate in residential areas as “back-yard factories” or in the urban informal areas where they are vulnerable to penalties for contravening zoning regulations.

As a result of these incentives and infrastructural support provided to large-scale manufacturing enterprises, investments in the manufacturing sector, in particular foreign investments, grew rapidly from 1970, and this helped significantly to propel the participation of the Bumiputeras in the sector.

However, notwithstanding the progress made in the creation of a Bumiputera entrepreneurial class over the period 1970–75, the government still felt that the expansion of Bumiputera corporate wealth was not being achieved fast enough, and a new legislation—the Industrial Coordination Act—was introduced in 1975.

⁵ For example, lot sizes in the estates are subdivided in accordance with the needs of the large industries. Flatted factories for SMI are generally not provided in these industrial estates.

This act required all new and existing manufacturing enterprises (with equity above M\$250,000 or a full-time work force of more than twenty-four persons) to apply for manufacturing licenses in order to commence or continue operations. In the issuing of the licenses, the government could require the companies concerned to comply with the NEP equity and work force targets. This meant that a vast proportion of the existing SMI, most of which were family-owned and self-managed enterprises would have to restructure their organizations to comply with the NEP targets if they wish to continue their operations. This created a great deal of uncertainty in the investment environment, and businessmen interpreted it as one with the primary aim of imposing government policy on all manufacturing ventures. The World Bank, in particular, asserted that this act "affected the willingness of local businessmen to invest or reinvest and of new foreign investors to come to Malaysia" [12, p. 185].

At the same time, to further promote the growth of Bumiputera SMI, agencies such as MARA, the Development Bank of Malaysia, and the National Productivity Centre set up special programs to provide training, advisory services, and guidance to small businesses, particularly Bumiputera small businesses. Better terms and conditions of financing and more favorable incentives were also made available to these industries. In this respect, the Credit Guarantee Corporation (M) Berhad (CGC) was incorporated in 1972 to encourage commercial banks to provide more loans to SMI. Basically, the scheme provided guarantees for credit facilities provided at subsidized interest rates by commercial banks to SMI. In the granting of the loans under the CGC, preferences were accorded to Bumiputera ventures through differentials in definitions of small industries,⁶ as well as differentials in interest rates granted to Bumiputera and non-Bumiputera enterprises. However, loan applicants had to provide suitable collateral as well as guarantors acceptable to the banks. This limited applicants to the relatively well-off ones, and deserving (but poor) applicants were unfortunately discriminated against. To rectify this the functions of the CGC were further expanded following the implementation of the Special Loan Scheme for small enterprises in 1981. Under the scheme, loans of up to M\$50,000 could be provided to small businesses without collateral, but on the basis of the viability of the project.

In 1980, the World Bank provided a loan of U.S.\$100 million to Malaysia specifically for the financing of Bumiputera small enterprises. The loan, managed by the Development Bank of Malaysia and the Malaysia Industrial Development Fund, was meant to further spearhead the growth of Bumiputera SMI.

In spite of the numerous incentives provided, however, Bumiputera small entrepreneurs were slow to respond. This was vividly demonstrated by the fact that the U.S.\$100 million World Bank loan for small industries achieved less than 10 per cent of its target by 1986; it had then to be liberalized so that non-Bumiputera small-scale businesses could also make use of the fund to ensure that the targets for the loan could be met.

⁶ M\$100,000 in net assets for Bumiputera enterprises and M\$200,000 for non-Bumiputera enterprises.

Further, by the mid-1980s the government also became acutely aware of the adverse consequences of the ICA on existing and new investments. In 1985, the operational ceiling for the act was increased to M\$1.0 million or a full-time work force of forty-nine workers; this was further relaxed to M\$2.5 million or seventy-four full-time workers in 1986. With this amendment, a significant proportion of the SMI now did not officially have to comply with NEP conditions.

To further liberalize the operational environment for SMI, the Promotion of Investment Act was implemented in 1986 as the successor to the 1968 Investment Incentives Act. Under this 1986 act, the discriminating nature of the 1968 act against SMI was removed, by the provision that the quantum of incentives granted (such as the length of tax-free holiday) would be independent of the size of investment and that new investments of all sizes were entitled to the incentives.

The incentives for SMI were further strengthened in the 1989 budget, under which pioneer incentives were accorded *automatically* to all SMI producing a designated list of products. A M\$890 million fund under the ASEAN-Japan Development Fund (AJDF) to be managed by four financial institutions was also specially assigned to provide financial assistance to SMI. Under this fund financial assistance to SMI was to be provided at concessionary terms of 6–7 per cent interest rate per annum. Although supposedly concessionary in nature, it must be pointed out that these interest rates were high by international comparison; in Thailand, Singapore, Korea, and Taiwan similar schemes levied interest rates of only 3–4 per cent per annum.⁷

The 1989 budget also addressed many other discriminations against SMI. For example, large-scale enterprises located in FTZs were allowed to import their inputs and components duty-free; such a privilege has not been accorded to domestic SMI. This distorts the costs to the extent that for MNCs, domestically produced components are actually more expensive than imported ones. The 1989 budget also exempted SMI from import duties for raw materials, components, and parts.

The CGC and Special Loan Scheme (both for subsidized financing of small industries) were replaced by the PGS from April 1989. Under the PGS the ceiling for definition of small industries was increased to M\$500,000 net assets for both Bumiputera and non-Bumiputera enterprises.

In summary, the Malaysian policy towards SMI has evolved from a relatively laissez-faire policy (with some specific assistance to Bumiputera SMI but no specific incentives for SMI in general) over the period 1957–70, to one of administrative requirements in compliance with Bumiputera targets among all SMI in excess of twenty-four workers (or shareholders' funds in excess of M\$250,000) since 1975, with the ceiling gradually being liberalized to seventy-four workers (or shareholders' funds of M\$2.5 million) by 1986. Further since 1988, more and more incentives were being accorded to all SMI, until by 1989 SMI began to operate in an environment which actually gave them *positive assistance* relative to the large industries.

⁷ See [3, p. 204].

TABLE
MANUFACTURING CHARACTERISTICS BY EMPLOYMENT

| Full-time Employment Size Group | 1968 | | | | No. |
|------------------------------------|-------|---------------------------|----------------------------|---------------------|--------|
| | No. | <i>K</i> (M\$ Million) | <i>VA</i> (M\$ Million) | <i>L</i> (1,000) | |
| No paid full-time employment | 3,347 | 4.4 | 12.3 | 0.9 | 3,148 |
| 1-4 | 2,738 | 14.2 | 29.1 | 7.3 | 3,270 |
| 5-9 | 957 | 18.5 | 27.3 | 7.0 | 1,352 |
| 10-19 | 738 | 37.9 | 44.4 | 10.8 | 1,079 |
| 20-29 | 394 | 35.0 | 41.0 | 10.0 | 564 |
| 30-49 | 334 | 78.2 | 69.6 | 12.9 | 590 |
| 50-99 | 275 | 94.0 | 119.0 | 19.2 | 503 |
| Subtotal: SMI | 8,783 | 282.3 | 342.7 | 68.1 | 10,506 |
| (%) | 97.5 | 31.7 | 39.2 | 54.1 | 95.0 |
| 100-199 | 133 | 204.7 | 189.1 | 18.6 | 288 |
| 200-499 | 77 | 258.1 | 187.5 | 22.6 | 190 |
| 500- | 20 | 145.2 | 154.6 | 16.6 | 76 |
| Subtotal: Large firms | 230 | 608.0 | 531.2 | 57.8 | 554 |
| (%) | 2.5 | 68.3 | 60.8 | 45.9 | 5.0 |
| Grand total | 9,013 | 890.4 | 873.9 | 125.9 | 11,060 |

Source: [9, various issues].

Note: *K*=fixed assets, *VA*=value added, *L*=full-time equivalent employment (i.e.,

IV. GROWTH OF SMI

The impact of the policies on the growth of SMI is analyzed in this section.

A. Macro-level Analysis

Macro-level data for analyzing the development of SMI are hard to come by. Although the Department of Statistics conducts an annual survey of industrial establishments, these surveys have excluded the smallest (informal) firms from their coverage; thus making these data not sufficiently comprehensive for examining the contribution of small industries. It was only in 1968, 1973, and 1981 that censuses of industrial establishments were conducted. Thus, we are constrained to use data for these three years to analyze the development and contributions of SMI.

Table II shows the profile of the manufacturing sector for Malaysia by number of establishments, fixed assets, value added, and employment over the period 1968-81.

Since 1968, small industries (i.e., firms with less than 20 full-time employees) and medium industries (i.e., establishments with 20-100 full-time employees) constituted more than 94 per cent of the manufacturing establishments; with a

II
SIZE IN MALAYSIA, 1968-81

| 1973 | | | 1981 | | | |
|--------------------|---------------------|--------------|---------|--------------------|---------------------|--------------|
| K (M\$ Million) | VA (M\$ Million) | L (1,000) | No. | K (M\$ Million) | VA (M\$ Million) | L (1,000) |
| 11.1 | 14.4 | 4.8 | } 8,816 | 101.2 | 80.2 | 15.3 |
| 30.5 | 41.0 | 11.3 | | 178.5 | 129.4 | 23.9 |
| 32.6 | 53.3 | 10.5 | 4,140 | 349.5 | 196.4 | 36.5 |
| 58.4 | 84.7 | 14.6 | 2,777 | 398.4 | 180.8 | 31.7 |
| 63.8 | 87.6 | 14.6 | 1,350 | 676.0 | 284.5 | 45.2 |
| 154.7 | 154.4 | 23.1 | 1,202 | 1,395.2 | 551.8 | 74.8 |
| 283.6 | 326.0 | 35.2 | 1,065 | | | |
| 634.8 | 761.5 | 115.9 | 19,350 | 3,098.7 | 1,423.1 | 227.4 |
| 27.7 | 32.7 | 41.0 | 94.7 | 29.7 | 29.8 | 40.0 |
| 388.3 | 382.0 | 39.5 | 615 | 2,085.3 | 815.1 | 84.8 |
| 712.8 | 575.4 | 57.8 | 306 | 2,250.4 | 863.6 | 91.7 |
| 558.7 | 608.1 | 69.9 | 158 | 3,003.7 | 1,672.0 | 163.7 |
| 1,659.8 | 1,565.4 | 167.2 | 1,079 | 7,339.3 | 3,350.7 | 340.2 |
| 72.3 | 67.3 | 59.0 | 5.3 | 70.3 | 70.2 | 60.0 |
| 2,294.6 | 2,326.9 | 283.0 | 20,429 | 10,438.0 | 4,773.8 | 567.5 |

two part-time workers=one full-time worker).

substantial number of these in the less-than-5-employee category. Since the majority of these establishments tended to be owner-established and staffed by family members, this indicates the importance of the SMI in terms of generation of self-employment and mobilizing human enterprise. In 1968 and 1973, over 30 per cent of the SMI did not have any paid full-time employees.

Notwithstanding the large proportion of SMI in the manufacturing sector, their value-added contribution has been relatively small and declining since 1968. In 1968, value-added contribution from SMI was 39.2 per cent; this declined to 32.7 per cent in 1973 and 29.8 per cent in 1981. The low levels of value-added contribution could be ascribed to the lower levels of capital utilization by the SMI. In spite of the vastness of the SMI in numerical terms, Table II shows that with respect to fixed-asset accumulation, it harnessed only about 30 per cent of the total manufacturing fixed assets—indicating that the vast majority of the SMI still used traditional and low-level technologies.

SMI are labor-intensive; this is evident from the fact that although the SMI sector mobilized about 30 per cent of the fixed capital they generated 54.1 per cent of the total manufacturing employment in 1968, declining to about 40 per cent in 1973 and 1981.

In terms of growth rates, as a result of the emphasis of industrial policies on large-scale activities, the number of large manufacturing firms expanded at a more

TABLE III
SMI IN MALAYSIA, SINGAPORE, TAIWAN, THAILAND, AND KOREA

| Industrial Characteristics | (%) | | | | |
|--|--------------------|---------------------|------------------|--------------------|-----------------|
| | Malaysia (1981) | Singapore (1983) | Taiwan (1981) | Thailand (1978) | Korea (1984) |
| Contribution to total number of industrial establishments | 95 | 91 | 96 | 95 | 97 |
| Contribution to total industrial employment | 40 | 35 | 42 | 45 | 55 |
| Contribution to total industrial production | 31 | 26 | 27 | 25 | 35 |
| Contribution to total industrial value added | 30 | 22 | 26 | 25 | 35 |

Sources: For Malaysia, [9, 1981 edition]; for Singapore, Department of Statistics, *Report on the Census of Industrial Production, 1983* (Singapore, 1984); for Taiwan, Executive Yuan, Directorate-General of Budget, Accounting and Statistics, *The Report on 1981 Industrial and Commercial Census Taiwan-Fukien Area, the Republic of China* (Taipei, 1983); for Thailand, Busaba Kunasirin, *The Role of Small- and Medium-scale Industries in the Economic Development of Japan and Thailand: A Comparative Analysis*, VRF Series No. 109 Institute of Developing Economies, 1984); and for Korea, Korea Federation of Small Business, *The Status of Korean Small Business 1986* (Seoul, 1986).

Note: SMI is defined to be an manufacturing establishment with less than 100 full-time workers.

rapid rate; 12.7 per cent per annum over 1968–81, compared to only 5.6 per cent for SMI. In terms of fixed assets, value added, and employment generation, the large-scale manufacturing subsector has also been expanding more rapidly than the SMI.

B. *International Perspective of Malaysian SMI*

Using a common definition for SMI (i.e., all manufacturing establishments with work force less than 100), the position of Malaysian SMI in the context of its total economy is somewhat inferior to that of other Asian countries, particularly Korea. This is evident from Table III which summarizes the position of SMI in Malaysia relative to several other Asian countries in the early 1980s. In Taiwan and Korea, SMI constituted over 95 per cent of total establishments compared to about 95 per cent for Malaysia. In Singapore, a city-state noted for its large MNCs, SMI accounted for 91 per cent of all manufacturing enterprises. In terms of employment generation, SMI in Malaysia accounted for 40 per cent of total manufacturing employment compared to 55 per cent for Korea, 45 per cent for Thailand, and 42 per cent for Taiwan. However, in terms of production and value added, SMI in Malaysia have performed creditably. Its 30 per cent contribution to industrial value added is superior to the 22 per cent for Singapore, 25 per cent for Thailand, and 26 per cent for Taiwan, but is lower than the 35 per cent figure for Korea.

Of greater significance is the *trend* of SMI development in Malaysia. While

the contribution of SMI in Singapore, Taiwan, and Korea has been on the *increasing* trend,⁸ the role of SMI in Malaysia has declined. In terms of proportion of total establishment, Malaysian SMI's share has decreased from 97.5 per cent in 1968 to 95 per cent in 1973 and 94.4 per cent in 1981; similarly in value-added terms it declined from 39.4 per cent in 1968 to 32.9 per cent in 1973 and 29.8 per cent by 1981. On the reverse side, the proportion of SMI in terms of establishments expanded from 90.0 per cent in 1978 to 91.2 per cent by 1983 in Singapore, and 94.0 per cent in 1971 to 95.9 per cent by 1981 in Taiwan. Similarly in terms of value added, that for Singapore expanded from 23.1 per cent in 1978 to 26.6 per cent in 1983, while in Korea it improved from about 27 per cent in 1970 to over 35 per cent by 1983.

Thus, while other Asian countries have successfully implemented strategies since the mid-1970s to counter the declining trends of SMI in the context of their industrialization and these had in fact expanded the role of SMI, Malaysia has yet to see the effects of such promotional strategies. This is not surprising, since purposeful and comprehensive SMI promotional programs (as indicated in Section III) have been implemented in Malaysia only since 1988.

C. *Economic Efficiency of Malaysian SMI*

While Table II has shown that SMI are more labor-intensive than large ones, this by itself cannot constitute a rationale for the support of SMI. As Little has so succinctly explained, "It is clear...the productivity of unskilled labor must also be considered. If small enterprises used both more capital and labor per unit of output than larger enterprises, then investment in small enterprises would result in a smaller increase in output than investment in larger enterprises, and there would be no clear case for special investment in SSEs (small-scale enterprises). Similarly, it is not sufficient to show that SSEs use more labor and no more capital per unit of output than do larger enterprises. This being so, one could as well employ more workers to do nothing in larger factories...the case for promoting any particular type of enterprise is that it uses factors more efficiently, given their social costs" [7, pp.203-35].

This paper seeks to analyze the efficiency of SMI by evaluating their capital intensity, labor and capital productivity. This is done by using time-series data from the industrial censuses for 1968, 1973, and 1981.

The profile of capital intensity, as measured by the value of fixed assets per worker (K/L) for the manufacturing sector is presented in Table IV. Over the period 1968-81, SMI had a much lower K/L value than large firms; in 1973 for example, SMI had an average K/L of only M\$5,477 compared to M\$9,927 for large firms, a difference of more than 80 per cent. There is a strong positive relationship between firm size and the K/L ratio, indicating that large firms tended to use more capital-intensive technologies than small firms.⁹

⁸ See [3, pp.162-80] for an excellent account of this.

⁹ Representing employment size by an increasing ordinal index (i.e., 1=no full-time employees, 2=1-4 employees, etc.) the correlation coefficient for employment size and K/L for 1968, 1973, and 1981 are 0.88, 0.90, and 0.88. These are significantly different from zero at $p < 0.01$, one-tail test.

TABLE IV
CAPITAL INTENSITY AND LABOR PRODUCTIVITY BY EMPLOYMENT SIZE, 1968-81

| Category | Full-Time Employment | 1968 | | | 1973 | | | 1981 | | |
|-------------|------------------------------------|-------|-------|------|-------|------|------|-------|-------|------|
| | | K/L | V/L | V/K | K/L | V/L | V/K | K/L | V/L | V/K |
| 1 | No paid full-time employment | 4.87 | 13.44 | 2.76 | 2.30 | 2.99 | 1.30 | 6.61 | 5.25 | 0.79 |
| 2 | 1-4 | 1.96 | 3.99 | 2.04 | 2.69 | 3.62 | 1.35 | | | |
| 3 | 5-9 | 2.65 | 3.91 | 1.48 | 3.10 | 5.06 | 1.63 | 7.46 | 5.41 | 0.72 |
| 4 | 10-19 | 3.51 | 4.11 | 1.17 | 3.59 | 5.21 | 1.45 | 9.59 | 5.39 | 0.56 |
| 5 | 20-29 | 3.52 | 4.12 | 1.17 | 4.38 | 6.02 | 1.37 | 12.57 | 5.70 | 0.45 |
| 6 | 30-49 | 6.04 | 5.38 | 0.89 | 6.70 | 6.68 | 1.00 | 14.94 | 6.29 | 0.42 |
| 7 | 50-99 | 4.96 | 6.28 | 1.27 | 8.05 | 9.25 | 1.15 | 18.66 | 7.38 | 0.40 |
| 8 | 100-199 | 11.03 | 10.19 | 0.92 | 9.83 | 9.67 | 0.98 | 24.60 | 9.62 | 0.39 |
| 9 | 200-499 | 11.43 | 8.30 | 0.73 | 12.34 | 9.96 | 0.81 | 24.55 | 9.42 | 0.38 |
| 10 | 500- | 8.76 | 9.32 | 1.06 | 8.00 | 8.70 | 1.09 | 18.34 | 10.21 | 0.56 |
| Grand total | | 7.09 | 6.96 | 0.98 | 8.11 | 8.22 | 1.01 | 18.39 | 8.41 | 0.46 |

Source: [9, various issues].

- Notes: 1. K/L =capital / labor or capital intensity, V/L =value added / labor or labor productivity, V/K =value added / capital or capital productivity.
2. Labor is defined to be full-time labor, with two part-time workers defined to be equivalent to one full-time worker.

Labor productivity (as measured by V/L) for manufacturing establishments disaggregated by employment size, for the period 1968-81, is also presented in Table IV. Labor productivity for SMI is significantly lower than that of larger ones. For example, in 1968, the mean V/L for SMI was M\$5,054, and this was substantially lower than the corresponding figure for the large firms (M\$9,206).¹⁰ Notwithstanding the lower levels of labor productivity observed among SMI, it must be pointed out that it has grown at an annual growth rate of 1.8 per cent over the period 1968-81 compared to only 0.5 per cent for large industries. By 1981, the mean V/L for SMI reached M\$6,258 compared to M\$9,849 for large firms.

There is also a positive relationship between V/L and the size of firms. Firms which employ more workers tended to have higher labor productivity.¹¹ The lower labor productivity among SMI can be ascribed to the lower levels of capital intensity among these firms.

In terms of capital productivity, as measured by value-added fixed-assets ratio (V/K), there was no significant positive correlation between firm size and capital productivity. On the basis of the mean levels in 1968 and 1971, however, the mean V/K for small firms was significantly lower than that of the large firms at

¹⁰ These figures are computed from Table II.

¹¹ The correlation coefficient between employment size and V/L for 1968, 1973, and 1981 are 0.91, 0.92, and 0.96 respectively. These are significantly different from zero at $p < 0.01$, one-tail test.

$p < 0.01$; one-tail test. For 1981, the two mean values have no significant difference.

There was also a decline in V/K between 1973 and 1981 for both small and large firms mainly due to the considerable increase in the monetary value of fixed assets between 1973 and 1981 (induced by the rapid inflation rates experienced in Malaysia since 1973 as a consequence of the oil price hikes of 1973 and 1978), without a parallel increase in production capacity.

Labor productivity and capital intensity represent the productivity of a firm with respect to its two major inputs. As Table IV shows, SMI tend to be more capital-productive but less labor-productive, than large firms.

What is the implication of this on the efficiency of SMI? To answer the question, one has to use the concept of *Pareto optimality*.¹² A firm is Pareto optimal in its use of labor and capital, if for the same labor productivity there is no other firm with a higher level of capital productivity, or for the same capital productivity there is no other firm with a higher level of labor productivity. In other words, a firm is said to be Pareto optimal in its use of labor and capital if it is not dominated by any other firm on the capital productivity–labor productivity space. Figure 1 shows the scattergrams of labor productivity and capital productivity for the years 1968, 1973, and 1981, for the manufacturing sector broken down into categories according to employment size. It should be noted that in the scattergrams, the categories of SMI with no full-time employees have been excluded, since the definition of labor productivity is on the basis of full-time equivalent workers.

From the plots, it is clear that SMI are *Pareto optimal* in the sense that for the same level of labor productivity they are more capital-productive than the large firms. In other words, on the labor and capital productivity space they lie on the Pareto optimal frontier and are not dominated by the large firms. In fact in all the three Pareto optimal frontiers one end of the frontier is always determined by a group of SMI.

The above discussions centered on the concepts of *average* capital and labor productivity. It would be more meaningful to examine the *marginal* capital and labor productivities of SMI vis-à-vis large industries, since given the existence of both large and small enterprises, it would make more sense to analyze the use of capital and labor by these firms at the margin.

Assuming the manufacturing sector to be producing a homogeneous commodity V , the production process used by the small, medium, and large establishments to produce commodity V can be represented by the Cobb-Douglas production function:

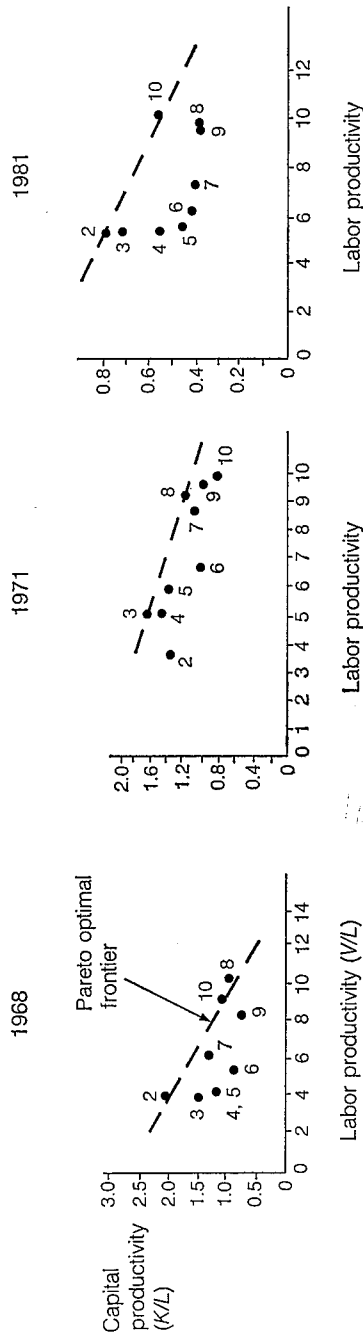
$$V_{it} = A_{it} e^{\lambda t} L_{it}^{\alpha} K_{it}^{1-\alpha}, \quad (1)$$

where

V_{it} = quantity of commodity V (measured in value-added terms) produced by

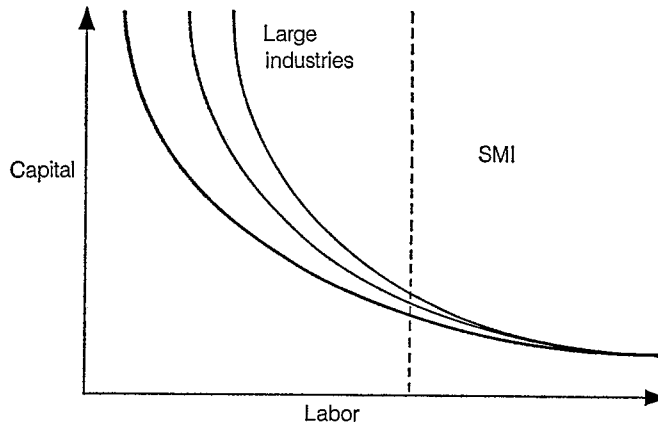
¹² See [2, p. 94].

Fig. 1. Efficiency of Manufacturing Activities in Peninsular Malaysia, 1968-81



Note: For classification of groups according to employment size groups see Table III. Categories 2, 3, and 4 are small industries; 6 and 7 medium industries; 8, 9, and 10 large industries. Category 1 (no full-time employment) is not included as full-time employment equivalent is used in the definition of labor productivity. A particular group of manufacturing establishments is Pareto optimal if it lies on the Pareto optimal frontier.

Fig. 2. Isoquants: SMI and Large Industries



manufacturing subsector i (i.e., $i = 1$ for small, 2 for medium, and 3 for large) at time t ,

A_{i0} = total productivity factor for manufacturing subsector i at initial period 0,

λ_i = technological progress factor for subsector i ,

L_{it} = total labor input for subsector i at time t ,

K_{it} = total capital input for subsector i at time t ,

α_i = elasticity of output (value added) with respect to labor for subsector i , and similarly $1 - \alpha_i$ is the elasticity of output with respect to capital.

Since SMI used more labor-intensive techniques, on the $K - L$ isoquant SMI tend to be in the portion of isoquant with high-labor (but low-capital) input as shown in Figure 2.

Due to the small-scale nature of their operations and low R & D, technological progress tends to be slower in SMI than among large industries. Thus the isoquant tend to shift more in the large industry portion. Despite the slower technological progress of SMI, an isoquant mapping out the production function of all possible efficient combinations of K and L in the production of commodity V would obviously also include efficient combinations in which L is used relatively more than K (i.e., production techniques used by SMI). However, because SMI lie in the portion of the isoquant where the rate of technical substitution (RTS) between K and L (i.e., $-\partial K/\partial L$) is relatively small, ceteris paribus, the capital productivity of SMI tends to be high, i.e.,

$RTS = -\partial K/\partial L = \text{marginal product of labor} / \text{marginal product of capital}$,
when RTS is small, for the same labor productivity, capital productivity tends to be high.

In other words, because SMI tend to operate in a capital-scarce situation, any additional unit of capital injected into SMI would result in high additional output relative to large industries where the capital constraint is generally nonbinding. With the framework of a linear programming model, this implies that at optimality the shadow price of capital tends to be higher for SMI than large industries. On the contrary, the shadow price of labor tends to be higher for large industries than SMI.

To test the above assertion we have to determine the marginal capital productivity for small, medium, and large industries. From equation (1) we have

$$\begin{aligned} \text{Marginal capital productivity} &= \partial V_{it} / \partial K_{it} = (1 - \alpha_i) A_{i0} e^{\lambda_i t} L_{it}^{\alpha_i} K_{it}^{1-\alpha_i} \\ &= (1 - \alpha_i) V_{it} / K_{it}. \end{aligned} \quad (2)$$

From equation (2), after having estimated α_i the capital productivity of small, medium, and large industries can be computed.

To estimate α_i and the technological progress parameter λ_i , from equation (1) we have

$$V_{it} / L_{it} = A_{i0} e^{\lambda_i t} (K_{it} / L_{it})^{1-\alpha_i}, \quad (3)$$

$$\therefore \ln V_{it} / L_{it} = \ln A_{i0} + \lambda_i t + (1 - \alpha_i) \ln (K_{it} / L_{it}). \quad (4)$$

Using time-series data available from the annual surveys (or census) of manufacturing industries¹³ for 1968 to 1986, λ_i and α_i could be estimated from equation (4) on the basis of multiple regression equations.

The equations derived are:

Small industries:

$$\begin{aligned} \ln V_{1t} / L_{1t} &= 0.418 + 0.048t + 0.745 \ln K_{1t} / L_{1t}, & (5) \\ & \quad (2.421) \quad (3.13) \\ R^2 &= 0.682, \quad N = 18, \end{aligned}$$

Medium industries:

$$\begin{aligned} \ln V_{2t} / L_{2t} &= 0.685 + 0.065t + 0.695 \ln K_{2t} / L_{2t}, & (6) \\ & \quad (2.51) \quad (3.62) \\ R^2 &= 0.602, \quad N = 18, \end{aligned}$$

Large industries:

$$\begin{aligned} \ln V_{3t} / L_{3t} &= 1.493 + 0.117t + 0.648 \ln K_{3t} / L_{3t}, & (7) \\ & \quad (1.85) \quad (3.81) \\ R^2 &= 0.842, \quad N = 18, \end{aligned}$$

where figures in parentheses are t -values.

The results of equations (5), (6), and (7) which show $\lambda_3 > \lambda_2 > \lambda_1$ confirm the theoretical assertion that the technological progress of SMI tends to be slower

¹³ Since equation (4) only requires data on labor productivity and capital intensity (i.e., ratio data) of small, medium, and large industries, the surveys of manufacturing industries which include some (but not all) small industries could still be used here.

| Year | Small | | Medium | | Large | |
|------|-------|---------------------|--------|---------------------|-------|---------------------|
| | V/K | $(1-\alpha_t)(V/K)$ | V/K | $(1-\alpha_t)(V/K)$ | V/K | $(1-\alpha_t)(V/K)$ |
| 1968 | 1.42 | 1.06 | 0.57 | 0.40 | 0.10 | 0.07 |
| 1973 | 1.47 | 1.10 | 1.13 | 0.79 | 0.94 | 0.61 |
| 1981 | 0.61 | 0.46 | 0.41 | 0.29 | 0.46 | 0.30 |
| 1986 | 0.62 | 0.46 | 0.67 | 0.47 | 0.55 | 0.36 |

Note: V/K =average capital productivity,
 $(1-\alpha_t)(V/K)$ =marginal capital productivity.

than that of large industries. However, because $\alpha_3 < \alpha_2 < \alpha_1$ the marginal capital productivities of SMI are higher than that for large ones as shown below:

From the above results, it is clear that SMI are superior to large industries from the viewpoints of both average as well as marginal capital productivity. This is in spite of the slower rate of technological progress of the SMI. Thus SMI in Malaysia can be said to be Pareto optimal users of economic resources, and should be promoted and supported through fiscal and monetary incentives.

V. SMI AND ENTREPRENEURSHIP

The major reason accounting for the higher capital productivity and Pareto optimality of SMI, notwithstanding their lower capital intensity, is entrepreneurship—the “X-efficiency factor” according to Stigler [11]. The entrepreneur has been recognized by economists as the economic agent who initiates all means of production and also maintains or organizes a business unit for the production or distribution of economic goods and services. His role as pointed out by McConnel, is critical to economic development because he performs four vital economic functions [10, p. 23]:

- (1) He takes the “initiative in combining the resources of land, capital, and labor in the production of a good or service. Both a sparkplug and a catalyst, the entrepreneur is at once the driving force behind production and the agent who combines the other resources in what he hopes will be a profitable venture.”
- (2) He has the “chore of making basic business-policy decisions, that is, those non-routine decisions which set the course of a business enterprise.”
- (3) He is an innovator, “the one who attempts to introduce on a commercial basis new products, new productive techniques, or even new forms of business organization.”
- (4) He is a risk bearer. “He has no guarantee that he will make a profit. The reward of his time, efforts, and abilities may be attractive profits or immediate losses and eventual bankruptcy. He risks not only his time, effort, and business reputation, but his invested funds, and those of his associates or stock-holders.”

In this section we shall analyze the entrepreneurship generation capability of SMI using micro-level data collected from a survey of SMI in 1986. As pointed

TABLE V
CHARACTERISTICS OF THE SMALL ENTERPRISES SURVEYED, 1985

| | Number of Firms | % |
|--------------------------------------|-----------------|------|
| 1. Location: | | |
| Selangor (including Kuala Lumpur) | 69 | 41.3 |
| Perak | 27 | 16.2 |
| Penang | 29 | 17.4 |
| Johore | 42 | 25.1 |
| 2. Type of ownership: | | |
| Single/sole proprietorship | 75 | 44.9 |
| Partnership | 33 | 19.8 |
| Corporation (limited company) | 56 | 19.8 |
| Others | 3 | 1.8 |
| 3. Type of manufacturing industries: | | |
| Food and beverages | 28 | 16.8 |
| Textiles and leather | 17 | 10.2 |
| Wood and paper products | 43 | 25.7 |
| Chemical products | 14 | 8.4 |
| Rubber products | 4 | 2.4 |
| Plastic products | 18 | 10.8 |
| Nonmetal products | 10 | 6.0 |
| Basic-metal products | 26 | 15.6 |
| Electrical machinery | 4 | 2.4 |
| Transport equipment | 3 | 1.8 |

Source: Survey of 167 small and medium industries, 1986.

out previously, micro-level data for SMI in Malaysia is acutely lacking. A sample survey of 167 SMI in Malaysia was specifically undertaken in 1986 to provide micro-level data to address the entrepreneurship issue.¹⁴

The International Standard Industrial Code (ISIC) framework was used as the basis of selection of the industries to be surveyed. Having selected the three-digit ISIC groups that had to be covered, the selection of the enterprises in these groups was done through random sampling from the list of SMI compiled by the Department of Statistics from the four major industrial states of Selangor, Perak, Penang, and Johore in Peninsular Malaysia.

The detailed characteristics of the sample are as shown in Table V. The surveyed establishments covered a wide range of manufacturing activities—from food manufacturing to transport equipment—ensuring that the sample could be as representative as possible of the country's SMI as a whole.

Using these data, the entrepreneurship generation capacity of SMI is analyzed through its ability:

¹⁴ This survey was sponsored by the Institute of Developing Economies, Tokyo, as part of their project on Changes in the Industrial Structure and the Role of Small and Medium Industries in Asian Countries. For a more detailed account of the survey, see [4].

TABLE VI
PROFILE OF SMALL ENTREPRENEURS, 1985

| Characteristics | Number | % |
|--|--------|------|
| Started own firm?: | | |
| Yes | 144 | 86.2 |
| No | 23 | 13.8 |
| Reason for starting own firms: | | |
| Realize business potential and want self-actualization | 124 | 74.3 |
| Acquaintance with business partner and advice | 31 | 18.6 |
| Inheritance | 18 | 10.8 |
| Others | 5 | 3.0 |
| Year of operation: | | |
| <5 years | 33 | 19.8 |
| >5 years | 134 | 80.2 |
| Educational level: | | |
| Tertiary education | 19 | 11.4 |
| Senior high school | 21 | 42.5 |
| Junior high school | 50 | 29.9 |
| Elementary school | 21 | 12.6 |
| No formal education | 6 | 3.6 |
| Previous job experience: | | |
| Started the business immediately after graduation/school | 10 | 6.0 |
| Merchant/trader | 17 | 10.2 |
| Owner of another firm | 8 | 4.8 |
| Employee from same industry | 77 | 46.1 |
| Employee from different industry | 28 | 16.8 |
| Others | 1 | 8.6 |
| Current age: | | |
| 18-39 | 56 | 33.5 |
| 40-49 | 63 | 37.7 |
| 50-59 | 31 | 18.6 |
| 60 and above | 17 | 10.2 |

Source: Survey of 167 small industries, 1986.

- (i) to mobilize human enterprise and capital;
- (ii) to produce goods that meet the needs of people; and
- (iii) to enhance economic linkages and technology deepening.

A. *Mobilization of Human Enterprise*

SMI are intimately involved in the mobilization of human enterprises. Most of these establishments are operated mainly on a family basis, providing employment to the owner and family workers. Besides serving as channels for the harnessing of entrepreneurship, these industrial establishments also provide training grounds to the unpaid family members to acquire the relevant working experience and industrial discipline to enable them ultimately to be entrepreneurs themselves.

This fact is indicated quite clearly from the profile of the owners of the SMI surveyed, as shown in Table VI. Over 86 per cent of the sample firms surveyed

TABLE VII
COMPARISON OF SOURCES OF FUNDS FOR INITIAL YEAR AND 1985 AMONG SMI

| Funding Sources as % of Total Requirements | % of Firms ^a | |
|--|------------------------------|---------------------|
| | Initial Year of Operation | Currently (1985) |
| Own funds: | | |
| Less than 50% | 27.1 | 36.3 |
| 50% and more | 72.9 | 63.6 |
| Subtotal | (151) 100.0 | (162) 100.0 |
| Parents and relatives: | | |
| Less than 50% | 96.0 | 99.4 |
| 50% and more | 4.0 | 0.6 |
| Subtotal | (151) 100.0 | (162) 100.0 |
| Friends and acquaintance: | | |
| Less than 50% | 96.7 | 100.0 |
| 50% and more | 3.3 | — |
| Subtotal | (151) 100.0 | (162) 100.0 |
| Nonbank institutions and government agencies: | | |
| Less than 50% | 98.7 | 99.4 |
| 50% and more | 1.3 | 0.6 |
| Subtotal | (151) 100.0 | (162) 100.0 |
| Commercial banks: | | |
| Less than 50% | 88.7 | 75.3 |
| 50% and more | 11.3 | 24.2 |
| Subtotal | (151) 100.0 | (162) 100.0 |

Source: Survey of 167 small and medium industries, 1986.

^a On the basis of number of firms that responded to this question.

were started by the present owners, indicating the entrepreneurial ability of the owners as well as their ability to survive in the face of economic challenges.

The firms were mostly well-established enterprises. Over 80 per cent of them was established more than five years ago. Most of the entrepreneurs (74.3 per cent) started their manufacturing activities because they realized the economic potential and viability of their projects, and also as a means to satisfy their self-actualization efforts. Only 18.6 per cent of these entrepreneurs started their business because of their acquaintance with business partners and received advice from them. Interestingly, only 10.8 per cent of the present owners inherited their enterprises from their fathers.

The data thus indicate the extent to which SMI provided the avenues for the realization of the entrepreneurial and organizational ability of the owners. The entrepreneurs are relatively young, (71.2 per cent less than forty-nine years), fairly well-educated (42.5 per cent had senior high school education with another 11.4 per cent achieving tertiary-level education), and many of them (46.1 per cent) had previous job experience as employees in the same sectors as their present firms. The starting of their small-scale enterprises represents applications of their previous

job experiences in their quest for personal fulfilment of being independent and self-reliant—characteristics essential to an entrepreneur.

B. *Mobilization of Capital*

Entrepreneurship generation ability of SMI is also demonstrated by the ability of these activities in harnessing the utilization of “surplus” cash and “idle” capital in existence in households, particular in the informal sector which otherwise would not be utilized as productive investments.

Table VII shows that the vast majority of the surveyed firms (72.9 per cent) utilized their own funds to provide 50 per cent or more of the capital required to start their businesses. A further 7.3 per cent of the firms received help from their parents or friends in providing more than 50 per cent of the capital required for the initiation of these firms; while only 11.3 per cent received similar assistance from commercial banks and 1.3 per cent from nonbank institutions and government agencies.

These sources of funds have changed only marginally between the initial year of operation of the firms to 1985. By 1985, we still find 63.6 per cent of the firms in which the owners' own funds provided more than 50 per cent of the capital requirement. However, a significant development is that by 1985, commercial banks have emerged to be a relatively important source; they provided 50 per cent or more of the capital requirement to 24.2 per cent of the firms, compared to only 11.3 per cent at the time of commencement of operation of the firms.

These data have two important implications. They suggest that SMI are launched mainly by entrepreneurs using their own funds. This was still the case even several years after the initiation of the firms; although by then there is a significant increase in the amount of funds provided by commercial banks. SMI thus represent channels for the productive utilization of the savings of individuals; they enable the transformation of individual (and family) savings into manufacturing activities directly, often without the intervention of financial institutions.

Given the variety of incentives and subsidies the government has provided through its own agencies and banking institutions to SMI, the fact that only about 24.2 per cent of the surveyed establishments availed themselves of the facilities offered by the banks in 1985 indicate the absence of diffusion of government assistance to the SMI. In spite of the many assistance programs implemented, the vast majority of the firms still have to rely on their own funds to start and operate small industries; and this indicates a distinctive mismatch between the provision of assistance and the utilization of incentives.

C. *Goods and Needs*

One of the factors contributing to the Pareto efficiency of SMI is that they are directly managed by their owners making them more responsive to the needs of their clientele. Thus SMI can produce goods that meet the needs of these people at prices which are commensurate with their ability to pay.

In Table VIII, we have presented the final market destinations and the marketing channels of the SMI. About 62.7 per cent of the firms channelled more than 50 per cent of their output into the local markets; compared to 37.3 per cent which

TABLE VIII
DESTINATION OF OUTPUT OF SMI INDUSTRIES, 1985

| | Local/Same State | | Other Areas ^a | |
|---|------------------|---------------|--------------------------|--------------|
| | <50% | >50% | <50% | >50% |
| Industrial group: | | | | |
| Food and beverage | 12 | 15 | 14 | 12 |
| Textile, wearing apparel, and footwear | 4 | 13 | 12 | 5 |
| Wood, wood products, and furniture | 11 | 15 | 13 | 13 |
| Paper, paper products, and printing | 7 | 10 | 9 | 7 |
| Chemical products | 9 | 5 | 3 | 11 |
| Rubber products | 2 | 2 | 2 | 2 |
| Plastic products | 6 | 12 | 10 | 7 |
| Nonmetal products | 3 | 7 | 5 | 5 |
| Basic and fabricated metal | 6 | 20 | 18 | 8 |
| Electrical machinery, equipment, and appliances | 2 | 2 | 2 | 2 |
| Motor vehicle parts and accessories | — | 3 | 2 | 1 |
| Location: | | | | |
| Penang | 15 | 13 | 8 | 17 |
| Ipoh | 7 | 20 | 19 | 8 |
| Kuala Lumpur | 13 | 56 | 49 | 20 |
| Johore Bahru | 27 | 15 | 14 | 28 |
| All establishments | 62 (37.3) | 104 (62.7) | 90 (55.9) | 73 (44.8) |

Source: Survey of 167 small and medium industries, 1986.

Note: Figures in parentheses show percentage.

^a Other areas include other states in Peninsular Malaysia, Sabah, Sarawak, and overseas markets.

sold more than 50 per cent of their products outside their states. This observation is true for all types of firms, and for all localities. For example, fifty-six out of sixty-nine firms located in Kuala Lumpur marketed more than 50 per cent of their products in the Kuala Lumpur area.

Table VIII indicates that the majority of the SMI are not only domestic-oriented, but are also locality-oriented. While this shows that SMI could meet the needs of the local-market, in terms of long-term growth potential this could work against them since Table VIII also shows that SMI have concentrated on the locality-specific markets at the expense of the total domestic and world markets.

The distribution channel most commonly adopted by the SMI is direct sales. Table IX shows that about 67.9 per cent of domestic-oriented firms market their products through direct sales and about 29 per cent of the rest went through agencies. The export-oriented firms, on the other hand, exported their products either directly or through other agencies. Table IX reinforces the perception that SMI are generally owner-managed and owner-organized; even to the extent of conducting their own direct sale and marketing activities. There is, thus, no separation of manufacturing and sale functions among the SMI, in direct contrast to large-scale manufacturing establishments.

TABLE IX
DISTRIBUTION CHANNELS OF SMI, 1985

| | (%) | |
|------------------|------------------------------|----------------------------|
| | Domestic Market ^a | Export Market ^b |
| Direct sales | 67.9 | 25.4 |
| Through agencies | 29.1 | 27.1 |
| Cooperatives | 0.4 | — |
| Others | 0.6 | — |
| No response | 2.0 | 47.5 |
| Total | 100.0 | 100.0 |

Source: Survey of 167 small and medium industries, 1986.

^a Computed on the basis of 167 establishments.

^b Computed on the basis of 48 establishments (among the 167 establishments) which exported their products.

TABLE X
REASONS FOR NOT SUBCONTRACTING AS PERCEIVED BY SMI, 1985

| | Number of Establishments ^a | % of Distribution |
|---|--|----------------------|
| Reasons for not subcontracting, 1985: | | |
| Sufficient domestic demand for large firms to subcontract | 37 | 22.1 |
| Unsuitable products | 28 | 16.8 |
| Low prices | 24 | 14.4 |
| Poor quality | 14 | 8.4 |
| Lack of knowledge on exports | 12 | 7.2 |
| Others | 13 | 7.8 |
| No response | 39 | 23.3 |
| Total | 167 | 100.0 |

Source: Survey of 167 small and medium industries, 1986.

Note: Data in the above table referred to the number of firms which responded to the questionnaire.

^a On the basis of 167 establishments.

D. Economic Linkage and Technology Upgrading

One of the major economic benefits of promoting of SMI is its role in facilitating economic linkages between the modern enterprises and the informal sector; and subsequently, of these linkages, the facilitation of the diffusion of technology and upgrading of the managerial and technological expertise throughout the country.

However, of the 167 firms surveyed, only 23 reported having some linkages with other large and foreign joint-venture firms in terms of subcontracting. This is a small proportion and indicates the absence of linkages between the formal sector and the SMI.

The reasons postulated by the vast majority of the SMI for not undertaking

TABLE XI
REASONS FOR NOT OFFERING SUBCONTRACTING TO SMALL FIRMS

| Reasons | (%) | |
|--|---------------------------------|------------------------------------|
| | Large Firm ^a (71) | Joint Venture ^b (56) |
| Delay in delivery | 2.8 | — |
| Lack of quality | 16.9 | 18.5 |
| Shortage of qualified small firms | 2.8 | 11.1 |
| Instability in management of the small firms | 2.8 | 3.7 |
| Sufficient self-production capacity | 25.4 | — |
| Others | 8.5 | 33.3 |
| Total | 100 | 100 |

Source: Survey of 167 small and medium industries, 1986.

^a Based on seventy-one large firms surveyed, 1986.

^b Based on fifty-six foreign joint-ventures surveyed, 1986.

subcontracts were insufficient domestic demand for the large firms to subcontract, low prices offered by the larger firms as well as low quality of the products produced by SMI (see Table X).

We also surveyed the reasons for the absence of subcontracting from the viewpoint of the large firms (Table XI). The majority of the large firms cited sufficient own-operating capacity, and inferiority in terms of quality and management of the SMI as the major reasons for not offering subcontracts.

The picture that emerged from Tables X and XI is that both the SMI and large firms viewed the SMI's products as inferior for subcontracting. As a result of this, SMI have to make do with producing for their own localized markets, and the large firms have to ensure sufficient self-production capacity for the supply of all its needed parts and final products. The lack of linkages between the SMI and the large firms is unfortunate and is an area which requires urgent attention.

VI. CONCLUSIONS AND POLICY IMPLICATIONS

SMI have not received as much official attention and promotion (as it should) in Malaysia. The provisions of the 1958 Pioneer Promotional Act and 1968 Investment Incentives Act actually discriminated against SMI. Under the 1968 act in particular, the quantum of investment incentives were granted in accordance with the size of investment. Large enterprises located in the FTZs were allowed to import their needed inputs duty-free; such a privilege was not extended to domestic SMI. Further, many of the products traditionally manufactured by SMI were not accorded priority for award of incentives. The ICA as implemented in 1975 also required a large majority of the SMI to apply for manufacturing licenses, thus stifling their flexibility to operate in a highly risky and competitive environment. A major reason for this restrictive practice on SMI is the government desire to ensure significant participation of Bumiputeras in the sector.

However, by the mid-1980s, as a result of the adverse impact of the global recession, the government became more acutely aware of the importance of promoting SMI to achieve industrial diversification that would enable the nation to be more self-reliant in the context of a projected moderate-growth world environment. This was reflected in its raising the ICA ceiling progressively, so that by 1986 the vast majority of the SMI have been exempted from the ICA. The 1986 Promotion of Investment Act also removed the capital-biasness of the previous investment incentives. Further, under the 1989 budget, pioneer incentives were to be *automatically* awarded to all SMI manufacturing a list of designated products. These SMI were also eligible to apply for duty-exemption for required inputs and new materials. The government also established a special fund under the AJDF scheme to provide capital financing to SMI. Thus by 1989, SMI in Malaysia were actually provided with positive assistance and incentives relative to the large firms, a reverse of the situation prior to 1985.

Data available for analyzing the development of SMI can reflect the effects of SMI policies only up to 1985. These data show that SMI has not been able to play as dynamic a role as in other Asian countries. For example, in 1981 SMI generated 40 per cent of manufacturing employment, compared to 55 per cent for Korea, and 30 per cent of manufacturing value added compared to 35 per cent for Korea. Of greater significance is the declining trend of SMI contribution to the manufacturing sector in Malaysia over 1968–87, compared to increasing trends in Singapore, Thailand, Taiwan, and Korea. For example, in manufacturing value-added terms, SMI's contribution has contracted from 39.4 per cent in 1968 to 29.8 per cent by 1981; the corresponding figures for Korea were 27 per cent in 1970 and 35 per cent by 1983.

Viewed in this perspective, the liberalization of the SMI operating environment, as well as the provision of specific incentives for the establishment of new SMI since 1986 are necessary policies to accelerate the growth of SMI in Malaysia. The need for the promotion of SMI through fiscal, monetary, and nonmonetary incentives is supported by the economic analysis which shows that Malaysian SMI are Pareto efficient in terms of their utilization of economic resources such as capital and labor.

Further, the firm-level data provided in this paper also indicate that SMI has played a very important role with respect to entrepreneurship generation; in particular in the ability of the SMI to provide opportunities for the harnessing of human enterprise and efforts, the mobilization of idle capital and the production of goods that closely match the needs of the consumers.

The numerous incentives provided for SMI development since 1986 thus deserve close monitoring and supervision to gauge to their effectiveness. The firm-level data in particular, indicated that in spite of the vast network of government agencies providing financial assistance, such assistance has not been utilized by the vast majority of the firms. Further, commercial banks (notwithstanding the CGC scheme and Special Loan Scheme) provided significant assistance to only about 11.3 per cent of SMI at their initial year of operation. This could be due to the stringent conditions required for such loans, as well as the relatively high interest

rates charged. For example, as under the AJDF scheme for SMI, loans are extended at 6–7 per cent interest rate per annum compared to rates of 3–4 per cent in Singapore, Thailand, Korea, and Taiwan. Further, collaterals are required for all loans extended. This condition effectively cutoff many good (but poor) firms from availing themselves of the loan facilities. The policy should be one of extending financial assistance to SMI on the basis of the viability of the projects, as opposed to the financial standing of the applicants.

There is also an urgent need for policy measures to be implemented to encourage SMI to manufacture for the total domestic and export market. In particular, SMI should be educated to shift their focus from one of total concentration on locality specific markets to the national and international markets. This would involve greater and more effective extension and advisory services, as well as the provision of specific incentives to encourage global focus with respect to marketing. For example, incentives such as double tax deduction could be accorded to SMI for their expenditures incurred on production for subcontract work for larger firms, or production of products to be marketed nationally or globally. SMI should also be encouraged to be more specialized. In particular, it would be more beneficial for SMI to focus their efforts on manufacturing quality products, and designate the area of marketing and sales to wholesalers or retailers who could (and would) do a more effective sales promotion job.

The incentives aimed at improving the manufacturing and technological capability of the SMI would not only promote the more rapid growth of SMI, but would also increase economic linkage between the small and large enterprises, and accelerate technology transfer in the domestic economy. This is particularly so since a major reason cited by the large enterprises for their reluctance to offer subcontracts to SMI is the lack of technical and managerial ability on the part of the SMI. In the medium to long term, the benefits derived from this improvement in technological deepening would more than compensate for the short-term social costs incurred by the provision of incentives and assistance to SMI.

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