

ABSTRACT. During the last two decades small firms in developing countries have received more and more attention from researchers and policy makers. For this, several reasons have been brought forward. The decline in labour absorption in agriculture and the slow growth of employment opportunities in the other sectors of the economy, combined with the fact that the growth of the labour force has accelerated, have led to un- and under-employment problems in many of these countries.

Small firms are generally viewed as a useful means of alleviating these problems, because medium and large firms only would not help to solve the problems. However, from this study it can be concluded that the medium and large firms in the manufacturing sector in Indonesia are doing better in employment and income than generally anticipated.

The purpose of this study is to examine the relative pattern of change and development of small firms in the manufacturing sector in Indonesia in the last two decades and possible factors affecting their growth. Also the relative importance of small firms in terms of income generation will be assessed.

The study will use national data collected from the Department of Industry and Central Bureau of Statistic in Indonesia. Further, the study will be based, for its theoretical analysis, on relevant literature on the subject and on some empirical studies in Indonesia as well as in other developing countries.

I. Introduction

There has been an emphasis on industrialization in Indonesia since the introduction in 1969 of the country's First Five Year Plan, Repelita I. Large modern projects have been established since that date and the economy has grown considerably. The growth has been experienced by all sectors including agriculture where a range of measures

led to a substantial increase in production, particularly of food crops. Obviously, economic growth was greatly facilitated by the growth of the oil sector, especially during the international oil price increases of 1974 and 1979. Industrialization was originally perceived as an engine of productivity, growth and income generation that would have favourable effects on rural development, the balance of payments (through either import substitution or export diversification) and income distribution. Until the end of the 1970s little attention was paid by the Indonesian government to small firms in the country. During the worldwide recession of 1982 and exacerbated further by the weakening of oil prices, economic growth in the country has stagnated. Labour absorption in agriculture has declined, partly because of modernization in the sector and partly because of a decline in exports of some agricultural products. Meantime, the growth of the labour force has accelerated rapidly. All this had led to un- and underemployment problems in Indonesia, and this has drawn the attention of the Indonesian government to the need to promote the better utilization of labour for industrial development.

The consequent new emphasis on growth-cum-employment strategies has led to an increasing awareness of the development potential of small firms, especially in the manufacturing sector, not to substitute the role of medium and large firms in the sector, but to play apart in the process of development to bring higher employment opportunities in the country.

The role of small firms in economic development in Indonesia has also been given increased attention by many academics from various disciplines, and many field surveys and studies have been conducted in the past ten years. The first objective of this study is to examine the pattern of change and development of small firms in the manufacturing sector in Indonesia during the past two decades. The second objective is to assess the

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relative importance of small firms in terms of income generation. Finally, the third objective is to examine possible factors affecting the growth and development of small firms.

The organisation of this paper is as follows: Section II deals with the change and development of small firms in the manufacturing sector during the period 1974–86 in terms of number of establishments, employment, and value added. Section III deals with the relative importance of these small firms in terms of income generation. Section IV looks at possible policy and non-policy factors affecting the activities of these small firms. Conclusions are given in Section V.

The Central Bureau of Statistics (BPS) defines small firms in the manufacturing sector as production units that employ 1–19 workers regardless of whether or not they use power-driven machinery. The small firms are subdivided into cottage and household firms (CHIs) and small factory unit (SIs). CHIs are firms employing 1–4 workers, mostly family members; SIs employ 5–19 workers, mostly wage-labour. Production units that employ more than 19 workers are classified as medium and large firms (MLSIs).

II. Changes and development of small firms

In Indonesia, as in many other developing countries, small firms are a significant and frequently dominant component of the manufacturing sector in terms of the number of establishments as well as employment.

The relative importance of small firms is partly related to a country's level of per capita income. There are two different arguments with respect to this relationship between the importance of small firms in the manufacturing sector and the level of economic development. One argument says that such establishments, in particular the CHIs, have been found to be particularly prominent in lower-income countries; but they are less important, in terms of employment or number of establishments, in countries with higher incomes (Hoselitz, 1959; Anderson, 1982; Amjad, 1984; Page and Steel, 1984; and Liedholm and Mead, 1987). The possible counter argument is that the role of small firms increases (at least in terms of employment, value added, if not in terms of number of firms) with higher levels of economic development.

The validity of these arguments will be tested in this analysis.

II.1. *Employment and the number of establishments*

Tables I and II present some aggregated data by size group of production unit on employment and the number of establishments for 1974/75, 1979 and 1986 in the manufacturing sector. The tables show that small firms were very important in the manufacturing sector in Indonesia during the

TABLE I
Employment in manufacturing by size group of industry, 1974/75, 1979 and 1986

	1974/75 ^a	1979	1986
MLSIs	661,704 (13.49) ^b	870,019 (19.37)	1,691,726 (32.60)
SIs	343,208 (7.00)	827,015 (18.41)	769,923 (14.84)
CHIs	3,899,855 (79.51)	2,794,833 (62.22)	2,727,250 ^c (52.56)
Total	4,904,768 (100.00)	4,491,867 (100.00)	5,188,889 (100.00)

^a The MLSI-data are for 1974, the SI-data for 1975 and the CHI-data for 1974/75.

^b Figures inside brackets show the percentage distribution.

^c The CHIs-figure for 1986 is taken from the 1986 Home Industry Statistics (BPS).

Source: BPS, Jakarta.

TABLE II
Number of establishments by size group of industry, 1974/75, 1979 and 1986

	1974/75	1979	1986
MLSIs	7,091 (0.55)	7,960 (0.52)	12,765 (0.83)
SIs	48,183 (3.74)	113,020 (7.35)	94,509 (6.18)
CHIs	1,234,511 (95.71)	1,417,802 (92.14)	1,422,593 (92.99)
Total	1,289,785 (100.00)	1,538,782 (100.00)	1,529,867 (100.00)

Notes and source: See Table I.

period under review. Most of the firms and employment were concentrated in CHIs, but the tables also show that their shares have declined over time. In Table I it can be seen that in 1974, CHIs accounted for 80 percent of total manufacturing employment, but by 1986 this figure went down to 53 percent. In contrast, the shares of MLSIs have increased from 13 percent in 1974 to 33 percent in 1986. The SIs also strengthened their position in the manufacturing sector in terms of employment, although their role as compared to the CHIs and especially the MLSIs is still very small.

In terms of the number of establishments, Table II shows that the shares of CHIs have also declined slightly over time from 96 percent in 1974 to 93 percent in 1986. In contrast, the shares of both MLSIs and SIs have increased between 1974/75 and 1986.

During this period, employment in MLSIs was greater than in SIs, though it was much lower as compared to total employment in CHIs. In comparison with SIs, there was a significant increase in number of persons engaged in MLSIs. While the number of these units using relatively modern technology and well organized ones increased by about 80 percent during 1974–86 (or 5 percent annually), there was a 156 percent increase in their number of employed people (or 8 percent annually). The increase in number of workers in MLSIs at a greater rate than in SIs indicates that the MLSIs are playing an increasingly important role in labour absorption even though they lag behind SIs and CHIs in terms of total number of establishments and persons employed. Employment in MLSIs has been created, to a significant extent, through the establishment of new enterprises, especially in the 1980s. Massive foreign investments and a wide range of economic reforms in the past ten years, which provided relatively more facilities to large well-established businesses than to small relatively poor units, are suggested by some analysts as the major impulses to the growth of MLSIs in the 1980s (Poot *et al.*, 1988; Kuyvenhoven and Poot, 1990). It should also be borne in mind that over time many small sized firms must have also grown into medium sized firms, causing a reduction in the number of SIs and adding to the number of MLSIs.

Thus, as Anderson points out, the recorded

growth of output and employment in MLSIs can be divided into: "(a) the growth of once small firms through the size structure, and (b) the expansion of already large domestic and foreign concerns" (1982, p. 914).

From the above tables, it can be concluded that the figures do not appear to provide sufficient evidence to accept the notion of dualistic development pattern in Indonesia's industry with the growing MLSIs and SIs on the one side and the deteriorating CHIs on the other side of the spectrum. Because, considering the data for CHIs, the tables show that their number of establishments has increased over time and their employment has not dropped dramatically as generally anticipated. These observations do not lend support for Anderson's (1982) proposition that CHIs and SIs tend to decline in favor of large production units in the course of the industrialization process.

The basic thought behind this proposition, based on experiences in a number of developing countries in the 1960s and 1970s, is that industrialization changes the structure of industry through the establishment of many new, mostly, large and modern industries, the introduction of new technologies and methods of production, and the attraction of massive foreign investment. Industrialization also opens fresh domestic markets through the emergence of new, more diversified demand patterns, as a result of rising incomes and changing tastes. These developments create challenges as well as opportunities for all economic units.

In the process of industrialization, the ability of small firms to compete against medium and large firms and imported goods in domestic markets, and foreign competitors in the export market, depends on whether they are flexible enough to transform themselves into highly efficient production units, capable of raising product quality for the expanding export market and able to fulfill the changing demands of domestic and foreign consumers. All this requires an up-grading of production technologies, management and other business practices, as well as adjustment of the output mix.

In addition, results of many studies confirm the key role which the nature of technology and the process of learning play in the intra-industry dynamics. Small firms that are able to implement a strategy of innovation and to successfully learn

and adapt will expand either by growing or emerging. The less fortunate small firms quickly decline and exit from the market in the course of industrialization (Gort and Klepper, 1982; Jovanovic, 1982; Pakes and Ericson, 1987; and Acs and Audretsch, 1989a, 1990a, b).

Thus, Anderson's argument was based on experiences in a number of developing countries showing that many efficient small sized firms have grown into medium sized firms, whereas other inefficient, less fortunate, small sized firms have declined or they are out of business (Anderson, 1982).

But Indonesia has a different experience in this respect and this may relate to the counter argument. With respect to this argument, there is a number of factors explaining why the importance of small firms increases in the course of industrialization. Among them are globalization of domestic markets, deregulation and new technology (Acs and Audretsch, 1989b). First, increased globalization has rendered domestic markets in Indonesia more subject to volatility, as a result of competition from foreign firms. Thus, "organizational and productive flexibility, which tend to be more within the domain of small firms than in that of their larger counterparts, is an increasingly valuable assets" (Acs and Audretsch, 1989b, p. 10). Secondly, the recent deregulation movement in Indonesia may also have contributed to the viability of small enterprises.

But the impact of this might be still small because in general much deregulation in the 1980s was still rather in favour of medium and large sized firms (Poot *et al.*, 1988; and Tambunan, 1989). Finally, new manufacturing technologies which have been revolutionized by the cost reduction of small-scale production relative to large-scale production and the degree of flexibility offered by these new technologies promote the relative viability of small firms (Carlsson, 1984; and Piore and Sable, 1983, 1984). The shifts in technologies from inflexible ones favouring standardized mass-produced goods to flexible ones favouring stylized and personalized products reduce scale economies and lead to smaller and more efficient plants and firms. At the same time the importance of efficiency in production processes increases the reliance of large firms in certain manufacturing sub-sectors on small firms

(this is made possible by these changes of technologies) for producing certain parts of products. All this increases the importance of small firms, though it is different among subsectors, and this might be one important reason why Indonesia has an experience that is in contradiction to the Anderson's proposition.

In Tables III and IV some data on employment and the number of establishments at the two-digit level of industrial classification are presented.

The figures in Table III illustrate that only in 'other' industries (ISIC 39) the MLSIs have lost some ground to the CHIs in terms of employment, relatively speaking. In other words, the contribution of the CHIs have declined in all other manufacturing sub-sectors, while the MLSIs have gained importance in these other sub-sectors (paper products and printing (ISIC 34) being the only exception). The SIs are showing a mixed picture. In four sub-sectors they experienced a lower share in 1986 (industries with ISIC code 34, 35, 38 and 39), while in the food industries (ISIC 31), clothing (ISIC 32), wood products (ISIC 33) and paper products (ISIC 34) they were able to increase their share.

Table IV shows almost an identical picture. In terms of the number of establishments, the CHIs have gained significance in paper, paper products, printing and publishing (ISIC 34), fabricated metal products, machinery and equipment (ISIC 38), and 'other' industries (ISIC 39). The MISIs have lost some importance in 'other' industries and in paper, paper products, etc.. The SIs have lost importance in those sub-sectors where the CHIs have made 'progress'.

The above figures suggest that the CHIs and to a lesser extent the SIs are losing some ground in some manufacturing sub-sectors, and to some extent displacement by the MLSIs has taken place during the period 1974/75–1986. There is also some indication that within the small sized firm segment intersectoral shifts have occurred in terms of employment as well as in terms of value added (Philipsen, 1990); though firm conclusions based on these data cannot be drawn.

Some studies suggest that displacement of small firms does not occur by medium/large firms only. It may be expected that the more efficient (using better technology and methods of production) and market-oriented small firms will displace their less

TABLE III
Employment in manufacturing by size group and by sub-sector, 1974/75 and 1986 (% share in total of sub-sector)

ISIC	Industry	Year	MLSIs	SIs	CHIs	Total
31	Food, beverages & tobacco	1974/75	18.2	10.3	71.5	100.0
		1986	25.9	15.9	58.3	100.0
32	Textile, wearing apparel & leather	1974/75	40.8	13.0	46.2	100.0
		1986	51.1	17.4	31.5	100.0
33	Wood, wood prod. & furniture	1974/75	2.4	4.4	93.2	100.0
		1986	16.6	9.7	73.7	100.0
34	Paper, paper prod. printing & publish.	1974/75	62.8	23.0	14.2	100.0
		1986	62.1	21.3	16.6	100.0
35	Chem., rubber & plastic products	1974/75	79.5	11.8	8.7	100.0
		1986	86.2	8.7	5.2	100.0
36	Non-metallic mineral products	1974/75	9.0	17.1	73.9	100.0
		1986	15.4	20.2	64.4	100.0
37	Basic metal industries	1974/75	100.0	0.0	0.0	100.0
		1986	100.0	0.0	0.0	100.0
38	Fabr. metal prod., machinery & equip.	1974/75	47.6	18.9	33.5	100.0
		1986	58.7	12.8	28.5	100.0
39	Other	1974/75	14.5	9.5	76.0	100.0
		1986	2.9	4.4	92.7	100.0
Total industry		1974/75	13.49	7.0	79.51	100.0
		1986	32.60	14.84	52.56	100.0

Source: Calculated by the author using data from BPS.

TABLE IV
Number of establishments by size group and by sub-sector, 1974/75 and 1986 (% share in total of sub-sector)

ISIC	Industry	Year	MLSIs	SIs	CHIs	Total
31	Food, beverages & tobacco	1974/75	0.5	5.3	94.2	100.0
		1986	0.7	7.4	91.9	100.0
32	Textile, wearing apparel & leather	1974/75	1.4	3.9	94.7	100.0
		1986	1.5	8.0	90.5	100.0
33	Wood, wood prod. & furniture	1974/75	0.1	1.0	98.9	100.0
		1986	0.2	2.8	97.0	100.0
34	Paper, paper prod., printing & publish.	1974/75	7.6	22.9	69.5	100.0
		1986	5.3	20.5	67.0	100.0
35	Chem., rubber & plastic products	1974/75	11.8	18.2	70.0	100.0
		1986	12.5	20.5	67.0	100.0
36	Non-metallic mineral products	1974/75	0.5	7.7	91.8	100.0
		1986	0.8	9.1	90.1	100.0
37	Basic metal industries	1974/75	100.0	0.0	0.0	100.0
		1986	100.0	0.0	0.0	100.0
38	Fabr. metal prod., machinery & equip.	1974/75	2.6	15.7	81.7	100.0
		1986	3.1	12.3	84.6	100.0
39	Other	1974/75	0.3	3.1	96.6	100.0
		1986	0.1	1.2	98.7	100.0
Total industry		1974/75	0.6	3.7	95.7	100.0
		1986	0.8	6.2	93.0	100.0

Source: See Table III.

efficient and less market-oriented small counterparts. Moreover, in some branches of industry displacement of existing small firms can also be due to imports from abroad (Philipsen, 1990). Within the small firms, the CHIs are not only experiencing fierce competition from the MLSIs, but also from the SIs, which mostly negative consequences for the CHIs (Anderson, 1982; Islam, 1987; and Bruch and Hiemenz, 1983).

Based on research into the circumstances which favour small factories, Staley and Morse (1965) have found that factories which process a dispersed raw material; products with strong local markets and relatively high transfer cost; and service industries are industries in which small firms have 'advantages of location'. Where as separable manufacturing operations; craft or precision handwork; and simple assembly, mixing, or finishing operation are industries in which small firms have 'advantages of processing'. Differentiated products having low scale economies and industry serving small total markets are markets in which small firms have 'advantages of market orientation'. According to Weijland (1983), the supply of cheap labour may also be an advantage for small firms. These small firms tend to prevail in some sub-sectors in which the production involves manufacturing operations that offer little scope for mechanization, and in which simple, traditional production techniques are used (Misra, 1985). It seems that different technological regimes can be seen as one important reason, among other possible factors (e.g., demand and competition), why small firms tend to prevail in some manufacturing subsectors, and increase their employment and value added shares in them, and not in others (Acs and Audretsch, 1990b).

II.2. Value added

Table V presents some aggregated BPS data by size group of industry on value added. A comparison of Tables I and V shows that the share of small firms in total manufacturing value added is much less significant when compared to their share in employment, reflecting their relatively low productivity.

In 1986, the share of CHIs in total manufacturing value added was greater than that of SIs, whereas in 1975 it was lower. The share of CHIs

TABLE V
Manufacturing value added by size group of industry in current prices (Rp. billion), 1974/75 and 1986

	1974/75	1986
MLSIs	631.8 (77.8)	10,197.3 (80.6)
SIs	97.4 (12.0)	899.4 (7.1)
CHI	82.6 (10.2)	1,555.7 (12.3)
Total	811.8 (100.0)	12,652.4 (100.0)

Notes and source: See, e.g., Table I.

in 1974 was about 10 percent while that of SIs was 12 percent. In 1986 the share of CHIs was 12.4 percent as compared to 7 percent for SIs.

One interesting finding from Table V is that the nominal value added growth was higher for CHIs (1783%) than for MLSIs (1514%) and for SIs (823%).

However, it is highly questionable whether this truly reflects the actual developments of the industries in terms of productivity or potential earnings. There are several reasons for this. Firstly, the price structure might be different among the size groups. MLSIs, the modern established business activities, usually determine their prices by adding a specified mark-up on their calculated average cost (the 'mark-up pricing system'). Many small firms, on the other hand, determine their price through negotiation with their buyers. As a consequence, in many cases firms pricing this way, especially CHIs (traditional, established business activities), cannot sell their products at prices much above the average cost because their consumers (who might be powerful money-lender or trader) are in a position to drive a hard bargain.

Secondly, annual production values and costs (and hence nominal value added) of a firm may be affected by not only annual rates of national inflation, but also by the different rates of inflation between rural and urban, depending on the structure of the economy in the area. This would lead to variable production values among different firms, or even within firms of the same size in

different locations. Most medium and large sized firms are concentrated in urban area whereas the majority of small sized firms are located in rural areas and sell products only to the local market. The price of a product produced and sold in an underdeveloped economy (rural area) would be expected to be lower than that asked for the same product produced and sold in a more developed economy (urban area).

Product prices in urban areas would be inflated by higher wage levels, higher purchasing power, and higher overheads, transport, and other infrastructure and administrative costs (see, for example, World Bank 1979). It can also be argued that product prices in rural areas are actually higher than in urban areas due to high transaction costs in transport, finance and marketing. But in general rural small firms produce simple goods and/or services only for local markets not far from production plants, and in fact they do not need sophisticated technologies, transport facilities, marketing system and other business practices as in urban areas (World Bank, 1979; Van Dijk, 1982; and Rietveld, 1984). It is generally known that living in rural areas is much cheaper than in urban or in big cities in developing countries as compared to that in Western industrialized countries because of the above market segmentation.

Finally, the value added figures in Table V have not at all dealt with the problem of extensive under-reporting of value added and output, especially in small firms. Value added or sales are often under-stated by entrepreneurs in MLSIs, especially for fiscal reasons, and family firms may not distinguish clearly between business and non-business accounts. Moreover, entrepreneurs in SIs and CHIs often do not have records of their income and expenses. Data relating to capital, value added, output and sales are often based on guesswork (Philipsen, 1990). Assuming that under-reporting of value added is greater in the case of the CHIs than SIs (and MLSIs), then the value added growth figure for the CHIs in Table V should only be seen as an indication that their value added has grown rapidly as compared to that of SIs and MLSIs.

All of the above problems, except under-reporting, could, in principle, be dealt with if the figures for each size group of industry could be adjusted with its own deflator. However, since no

such information is available, we have to be content with deflating all figures uniformly with the nationwide Wholesale Price Index (WPI). In spite of the drawback, such a procedure would at least give a somewhat more realistic idea of the physical growth performance of the three classes of industry.

Adjusting the figures with the WPIs for each particular year (Poot, 1988) yields the real value added growth estimates (average per annum) for MLSIs, SIs and CHIs by 15.1 percent, 9.4 percent and 16.7 percent respectively. These results show that even in real terms the growth of value added has been considerable in all three size groups; and the CHIs still perform better than the other two size groups.

II.3. *Labour and capital productivities*

Philipsen (1990) analyzes the productivity of labour and capital, in terms of value added-worker ratio (VA/L) and value added-capital ratio (VA/C) respectively, of SIs and MLSIs based on BPS data 1986 at five-digit level. The results are shown in Table VI.

For the Indonesian case, a more rigorous analysis of efficiency in using scarce factors (for example, capital) is, however, not possible since either macro or micro data on capital in industries are not yet available. The BPS data used by Philipsen in his analysis used horse power of prime movers and electric motors as a within-industry proxy for capital stock. Although this approach has some limitations, for example, many firms do not use power machinery, but use manual production techniques and it can be expected that, especially CHIs adopt more manual techniques than MLSIs, this proxy is generally used for the analysis of capital productivity of traditional industries in developing countries.

Differences in labour productivity either between SIs and MLSIs in a subsector or within a size group in different branches can be due to a number of factors. Maybe there are factor substitution within a given technology between plant sizes; industries of different sizes may use different technologies; differences in mechanization, in labour division, in specialization of work force, or differences in the efficiency of factor use (different methods of production).

TABLE VI
Value added per worker (VA/L) and per capital (VA/C) in manufacturing sub-sectors in which SIs are dominant, 1986

ISIC Code	Industry	VA/L		VA/C	
		SIs	MLSIs	SIs	MLSIs
31111	Slaughtering	4.98	4.26	47.24	1.73
31122	Ice cream	0.58	4.08	0.36	0.45
31140	Fish processing	0.96	3.32	1.92	1.43
31161	Rice milling	1.74	1.99	0.35	0.51
31169	Other grain mill prod.	1.93	0.88	0.52	1.48
31179	Bakeries	1.86	1.21	5.94	1.19
31181	White sugar	0.86	3.63	0.73	0.49
31182	Cane sugar	0.88	—	0.73	—
31210	Flour	0.71	2.31	0.49	0.60
31242	Tahu and tempe	0.94	2.98	1.51	4.23
31250	Krupuk and emping	0.57	0.91	21.10	5.81
31290	Other food products	0.76	1.65	4.35	2.15
32114	Batik	0.64	1.68	21.28	7.20
32330	Leather products	1.27	2.71	5.11	1.84
33112	Wooden building mat.	1.31	3.76	0.93	1.43
33120	Wooden boxes	0.70	3.96	1.55	3.69
33130	Bamboo and rattan	0.43	1.67	41.06	3.75
33140	Handicr. and wood carv.	1.06	1.30	6.19	493.31
332	Furniture	1.07	2.16	5.10	1.42
364	Bricks and tiles	0.45	1.05	1.75	0.75
38111	Agricul. and hand tools	1.43	1.32	12.50	1.60
38120	Metal furniture	0.89	2.15	2.63	3.09
39010	Jewellery	0.81	0.96	33.01	26.52
39040	Toys	0.68	0.46	2.46	6.84
Sub-total		0.97	2.47	0.94	0.68
Total industry		1.01	5.53	1.20	1.07
Average		1.15	2.10	9.12	24.85
Standard deviation		0.90	1.21	13.29	100.01

Source: Tables 24 and 25 (pp. 47 and 48, respectively) in Philipsen (1990).

Bruce and Hiemenz (1984) suggest that the cumulative result of factor substitutions and technological heterogeneity is the important explanation of the great variations in the labour productivity in different scales of industries in Indonesia, as in other ASEAN countries. This so-called 'structural heterogeneity' may imply inefficient factor use in industries of a certain size class.

In addition, based on a 1979 report of the World Bank, the relatively low level of labour productivity in CHIs in Indonesia, although there

are no completed data to be shown here, may perhaps be understood for following reasons: a) bad management and marketing; b) employment is dominated by unpaid family members who work irregularly or part time and for a limited number of days per year; c) the production process has strong seasonal fluctuations (or even varies from day to day); d) under-reporting by entrepreneurs who do not keep systematic records; e) different price structures in rural (most CHIs are located in rural areas) and in urban areas and different pricing systems between producers in CHIs and in

other size groups of industry; and f) a certain proportion of the output may be for self-consumption and is, therefore, not included in the reported value of output or sales (see also Poot, 1981).

The report indicates further that a larger part of the CHIs employment in food industries producing tahu, tempe, krupuk, emping, bakery and cattle feed, and in clothing and apparels is of a low productivity ('residual' nature). Such activities in rural areas are often characterized as being of a very low income type of nonfarm undertakings ('last resort') for rural poor with poor to moderate resource positions.

Within the SIs the VA/C ratio (capital productivity) is extremely high in branches such as bamboo and rattan, batik and krupuk, and very low in rice milling and flour. There are some large intersectoral differences in average values of VA/C: the standard deviation is much larger than the average VA/C for all branches. The standard deviation for MLSIs reveals that intersectoral differences within the industries are even higher than in the SIs.

A comparison of the VA/C ratios between SIs and MLSIs indicates that in some branches value added generated per unit of capital in MLSIs is higher than in SIs implying that SIs have relatively higher capital productivity, representing a more efficient use of capital (see Little, 1987, among others), does not apply in general for the SIs in Indonesia; at least not in this study based on data available only for one period of time and the proxy used with many weaknesses as a means to measure the capital stock in industries.

A comparison between the overall average of the 24 branches and standard deviation shown in Table VI reveals that within group variation for SIs is not extremely large. The same result goes for the case of MLSIs. Spearman's rank correlation coefficient results in a very low positive value indicating that there is no relationship between the ranking of branches in the SIs and the ranking in the MLSIs. This illustrates the heterogeneity of the manufacturing sector in Indonesia.

III. Income generation

Small firms are also seen as an important income generator, either as primary or secondary source,

or as permanent or temporary source, for thousands of people, especially in rural areas, in Indonesia. This is one of the important reasons for the Indonesian government to support the development of small firms in the country more seriously. But to assess the importance of these firms, especially in rural areas, in terms of income generation or with respect to their impact on income distribution in rural areas or in the country as a whole, is not an easy task to do because of data problems. However, this section provides some picture of this issue based on national data made available by the BPS and a number (very limited) of case studies.

Incomes are not only different between small firms and medium and large firms (MLSIs) or between SIs and CHIs, but within a size group of firms incomes also vary from activity to activity. For example, food preparation, bamboo-weaving, and mattress-making are traditional activities with low remuneration. Such activities are usually carried out in household-based units (CHIs) usually employing only family labour. Their average weekly incomes range from Rp 5,000 to 6,500, depending on the nature and size of the enterprise. Most producers are not able to meet increased demand because of, for example, lack of capital. Therefore they can hardly increase their incomes, even when large demand exists. In such a market situation first they can increase their prices (incomes), but after that they do not have anything left to sell; and mostly the extra incomes from the increased prices are not enough to finance their needed capital for the continuation of their activity (Smyth, 1990). The literature on the subject indicates that incomes from handicrafts and many other traditional non-farm rural activities are normally low and generally below the wages of causal agricultural labourers. However, such activities provide an additional, rather than the sole, source of income for many household (White, 1976; and Heinen, 1987).

CHIs are also found in sub-sectors with reasonable earnings, and even in subsectors with growth potential (and hence higher incomes), such as wood and metal products. These have relatively low economies of scale but high earnings and growth potential. Van Dijk (1987), for example, notes that metal workers and carpenters stand out with average weekly incomes ranging from Rp

23,250 to 42,500; it is much higher than earned in food-preparation household industries. Other sub-sectors such as textile, leather and non-metallic mineral products, in which about 20.1% of CHIs employment was found, have, on average, lower but not dismally low earnings.

Incomes also vary among different firms within the same subsector, depending on the nature and size of the firms. SIs and MLSIs, being more developed than CHIs, earn more in all manufacturing sub-sectors for a number of reasons, among them skills and investment (van Dijk, 1987).

A case study in Aceh using a sample of 110 CHIs and 71 SIs reveals that yearly family incomes (defined as revenue of the units minus cost of hired workers, material and operations) are much higher in SIs than in CHIs, whereas the imputed profit rate (calculated by deducting from the owner's income, an equivalent labour income based on the average wage of hired workers in the sample as a whole) in CHIs is higher than in the SIs (Arian *et al.*, 1989). The existence of significant differences in yearly incomes and profit rates indicates a high degree of segmentation in the small firms in terms of employment, assets and value added.

The case study also found that the average income per man-day worked by the owner, permanent labour and temporary labour in small firms varies from one sub-sector to another. The average owner's income per man-day worked is relatively high in food and beverages and low in salt-making. This low value, according to the investigators, reflects the low value added per man-day in the saltmaking sector, which is quite labour-intensive (Arian and Dongelmans, 1985).

Permanent labour is paid relatively better in textiles and garments than in salt-making and wood product. The average income per man-day in the latter sectors is low because many CHIs fall within them (for instance, bamboo products).

Finally, the case study shows that the income per day of temporary labour in small firms does not differ significantly from the average pay of permanent labour. In sub-sectors such as wood products and non-metal products, its income is higher than that of permanent labour. It is also found that in these sub-sectors CHIs use hardly any temporary labour.

From BPS data, it can be noted here that the average earnings per workers in MLSIs were Rp 141,000 in 1974 and increased to Rp 1.377m by 1986. In SIs, on the other hand, they were Rp 47,500 and rose to Rp 298,500 by 1986. Corresponding data for CHIs are only available for 1974/75 and 1979. In 1974/75 the average earnings per worker were Rp 2,600 and in 1979 they were Rp 13,600. Again, as mentioned before, there are several reasons for the average earnings in CHIs being the lowest, among them: the employment in CHIs is dominated by unpaid family members; the average revenues are usually low in this size group of firms, because most of the firms are engaged in traditional low earned activities; and the wage employees (if any) usually have low skill levels.

Table VII shows these differences in average earnings per worker between the three size groups of firm in all manufacturing sub-sectors, only for the period 1974/75 and 1979 because there are no data for the CHIs in 1986. It shows that although in all sub-sectors as well as in average terms the average earnings per worker in CHIs are lower than that in the other two size groups of firm, the growth of the average is much higher in the CHIs than in the other two size groups. However, the wage gap between CHIs and SIs (as well as between small firms as a whole and MLSIs) has not narrowed over time. This may indicate that the productivity gap between CHIs and SIs (as well as between small firms and MLSIs) still exists due to the expectation that larger firms pay higher wages than do smaller firms, due to their generally higher labour productivity.

However, as in the case of value added before, it is highly questionable whether this truly reflects the actual developments of the firm in terms of potential earnings. Especially in the case of CHIs, it is difficult to collect data on profit or net earnings. The owners of these small family firms may not distinguish clearly between business and non-business accounts. Moreover, entrepreneurs in CHIs often do not have record of their income and expenses. Data relating to income and expenses are often based on quesswork (Philipsen, 1990).

TABLE VII

Average earnings per worker in manufacturing sub-sectors by each size group: 1974/75 and 1979 (in market prices) (000.Rp)

Sub-sector	Year	Size groups of industry			Average (all sizes)
		MLSI's	SI's	CHIs	
Food, beverages & tobacco	1974/75	110,41	38,37	2,85	21,66
	1979	271,81	61,80	11,82	58,76
Textiles, garment & leather	1974/75	116,44	31,66	1,66	34,25
	1979	269,93	82,45	8,05	66,96
Wood & wood products (incl. furniture)	1974/75	171,67	83,10	1,36	5,56
	1979	377,95	132,61	9,43	45,67
Paper, paper product, printing & publishing	1974/75	176,64	52,31	12,45	111,90
	1979	494,24	151,87	—	396,54
Chemicals, coal, petroleum, rubber & plastic product	1974/75	175,69	42,67	11,79	132,29
	1979	563,21	131,26	—	501,44
Non-metallic mineral (excl. petroleum & coal) products	1974/75	183,52	59,77	6,66	27,10
	1979	456,21	90,17	13,77	87,27
Basic metal products	1974/75	264,08	—	—	264,08
	1979	1000,61	—	—	1000,61
Fabricated metal products, machinery & equipment	1974,75	231,03	62,23	11,33	111,51
	1979	550,04	119,47	70,59	296,84
Other	1974/75	352,64	34,90	4,65	41,38
	1979	273,25	94,40	38,14	54,26
Averages	1974/75	140,99	47,49	2,57	24,39
	1979	368,82	84,72	13,59	95,68

Source: BPS.

IV. Factors affecting the activities of small firms

IV.1. Industrialization policies

In Indonesia as in other developing countries, the process of industrialization and economic development in general involves strong government intervention through various policy measures. A wide array of government policies affects the behaviour of individual producers and their access to resources, technology and markets, through their effects on relative factor and product prices and the functioning of markets (Hagblade

and Liedholm, 1989; and Stewart and Ranis, 1989). In spite of the many economic reforms introduced by the government in the 1980s to encourage exports of manufacturers and increase industrial efficiency, the protection of domestic industries against foreign competition is still a dominant feature of industrialization in the country. Some observers have concluded that the macroeconomic climate continues to favour large-scale import-substituting industries (MLSI's), leading to a concentration of investments in specific sectors and at specific locations (McCawley, 1979;

Wong 1984; and Andriessen and Van den Broek, 1988).

An import-substitution policy usually means that nominal rates of protection are relatively low for imported capital goods, raw materials and intermediate products and relatively high for non-traditional consumer goods. This results in a structure of effective protection rates that discriminates against the domestic producers of intermediate, capital and traditional consumer goods, while favouring producer of non-traditional consumer goods. The highest average effective protection is granted to the relatively capital-intensive industries producing durable consumer goods (von Rabenau, 1976; and Pitt, 1981). Thus, effective protection tends to be particularly high in manufacturing sub-sectors where MLSIs, especially large ones, are concentrated; small firms are usually found in industries with relatively low or negative effective protection rates (Pitt, 1981). This suggests that the structure of protection tends to favour factor absorption and output growth in those Indonesian manufacturing sub-sectors in which MLSIs predominate.

In addition, information as the result of interviews with some people in the Department of Industry in Jakarta who are directly involved in programmes supporting small firms and from some unpublished data they collected, indicates that protection from imports and availability of cheap credit in Indonesia have provided an incentive to both domestic and foreign investors to establish large, capital-intensive production units that can crowd out smaller domestic producers in the long term. Selective measures also tend to aggravate the policy-induced discrimination against small firms within individual manufacturing sub-sectors. Such measures are comprised of foreign exchange and import controls, selective tariff protection on a case-by-case basis, exemptions from import duties, tax incentives, and subsidized export credit. MLSIs are likely to be more successful in arranging such measures than small firms, especially CHIs, due to their relative importance and better access to influential administrators (see, e.g., Hiemenz, 1982; and Sjahrir, 1985).

It has been observed that the protection system and additional selective measures in Indonesia

have had negative effects on small firms. They have impeded improvements in product quality and output mix, and reduce demand for small firms products whose equality in general is inferior to that of imports as well as exports of MLSIs (Hiemenz, 1982). The trade regime in Indonesia was still biased against exports of small firms and favoured MLSIs in both exportable and importable industries.

IV.2. *Direct support from the government*

Small firms fall within the jurisdiction of the Directorate General for Small Firms, Ministry of Industry, and encompass five sub-sectors: food, textile and leather, chemical and construction materials, and handicrafts and general goods industries (including sports equipment, musical instruments and electronics). The fourth Five Year Development Plan, beginning in April 1984, allocated a special place in medium- and long-term development to industry in general, and small firms in particular. The fourth plan constitutes the basic framework of small firms, whereas the fifth plan (1989–1994) is expected to strengthen that framework.

From the government's official statement small firms are important to the Indonesian economy mainly because they help to create employment and to generate income (especially for the poor) with lower capital cost than in longer firms, enable better allocation of local resources, permit wider participation of especially rural population in the economy by small, indigeneous entrepreneurs and contribute to export promotion of manufactured goods.

At the macro level, small firms are expected to play a significant role in the national economy; and this function is expected to be achieved through the promotion of backward as well as forward production linkages between small firms and MLSIs, on the one hand, and other sectors of the economy, especially agriculture, on the other. SSIs have to be involved to a greater degree in activities involving the building of manufacturing linkages. This will increase their contribution to the Gross Domestic Product.

But, despite these desirable points that make the government willing to give special attention to small firms, there are still many problems, such as lack of access to formal credit and to other

government facilities, lack of managerial and technical skills, that prevent small firms from realizing their full potential role and these need to be overcome during the Pelita V (the fifth Five Years' Development Plan: 1989–1994) period.

Another problem is posed by the fact that although some small firms have been successful up to now in the export market, most have not been able to produce goods of the requisite standard; obviously, there are still difficulties in acquiring modern technology and tools as well as capital and entrepreneurial and managerial skills. As mentioned before, the trade regime in Indonesia still has a bias in favour of MLSIs and this makes the above difficulties more possible.

The government has many types of programmes to help small firms to overcome these problems. The best known of these are: the establishment of clusters, the encouragement of production linkages (as in subcontracting) between small firms and MLSIs, and the provision of support in the form of equipment, machinery, raw materials, education and training (in management, marketing, finance, engineering, etc), extension service workers, information systems, product promotion and exhibition, technical skills and, most important, various credit schemes.

Credit. The most important credit schemes up to the end of 1989 were those providing loans for working capital and small-scale investment. These two concessional credit schemes were not only for small-scale establishments in industry, but also in other sectors such as agriculture and trade. During the 1980s, the Indonesian government launched a number of financial reforms in order to stimulate domestic savings and to promote efficient allocation of credit. In the early 1990s these were followed by an important measure that might, in the short run, be harmful to small businesses. In a bid to contain inflationary pressures and curb abuse of the credit program, Bank Indonesia (the central bank) has reduced the volume of subsidized credits it made available to selected areas of the economy. As a direct consequence of this decision, the high subsidized various credit schemes were abandoned at the end of 1989. To fill the resulting lending gaps, Bank Indonesia will require domestic (commercial as well as development) banks to direct 20 percent of their total

credits to small businesses (which are defined as those having less than Rp 600m in assets). The maximum credit to any business has been set at Rp 200m. Bank Indonesia will continue to offer some subsidized credit or liquidity loans to sectors it considers the most needy, but a greater proportion of its total loans will carry market rates of interest. This is rational decision from the point of view of factor scarcity; the rate of interest should reflect the scarcity of capital in a country such as Indonesia. However, small borrowers faced with restricted access to subsidized credit will now have to get loans at much higher rates of interest from domestic banks.

Experience in the 1970s and 1980s shows that in spite of the establishment of many institutional lending programmes (Bank Pembangunan Daerah, Bank Pasar, Bank Desa Units, Development Bank of Indonesia (BAPINDO), Bank Umum Koperasi Indonesia (BUPOKIN) and lending programs by NGOs) and the availability of subsidized credits through commercial (private and state owned) banks, the majority of small firms, especially CHIs, are to a large extent still dependent on their own savings and loans informally supplied by money-lenders (see, e.g., Arief, 1981; Erquiga, 1987; and Tambunan, 1989).

A series of case studies of Indonesia villages (for example, McCleod, 1984) has concluded that one of the reasons why many small producers have to depend on their own saving or have to borrow from informal sources with a relatively higher interest rate than in the formal market despite these many institutional lending programmes is that the banks involved create many difficulties (such as high administrative costs and time-consuming formalities) for small borrowers. The interest rates in subsidized credit for small businesses are usually below those charged on large-scale industrial loans, lower than the rate of inflation and often even too low for banks to cover their transaction costs. Because of that, collateral requirements for small borrowers have become more stringent and banks have tended to concentrate on relatively few loans to low-risk, large corporate borrowers (Bruch and Hiemenz, 1984). More traders, farmers and medium-scale producers have benefited from these lending programmes than small industrialists because the former group is able to offer more security (Donges *et al.*, 1974;

Arndt, 1979; Hill, 1987; and Grizzell, 1988). At the same time, financial assistance given to small businesses by the government through special schemes coordinated by Bank Indonesia (such as credits schemes for working capital and small investment for short-run assistance) has remained too little in quantitative terms for small firms to offset the lack of access to commercial banks. This can be attributed to the country's monetary and credit policies.

Now, with the new policy, it will be more profitable for banks to lend to small borrowers. Collateral requirements and unnecessary formalities may reduce the risk of lending to small borrowers and can, to a certain extent, be compensated for by charging a higher rate of interest.

However, it remains to be seen whether small borrowers will take advantage of the easier access to bank credit, given the extra financial burden the higher interest would represent. Many studies indicate that interest rates charged by informal money-lenders are usually much higher than subsidized interest rates charged by formal banks (Donges *et al.*, 1974; and Tambunan, 1989). However, as mentioned before, many small borrowers have been reluctant so far to approach commercial or other formal banks. Factors such as distance from banks, complicated (thus time-consuming) application and repayment procedures, collateral requirements and the short period for which loans are given deter small borrowers from seeking bank loans. Also very important are the long-standing relationships between small borrowers and local informal money-lenders, which militate against complicated procedures, and the very low administrative costs of such lenders.

If the formal financial institutions do make it easier for small firms to borrow from them, it still cannot say that the future role of the informal credit market in relation to such businesses will certainly become less important. There are still other non-economic factors that create such relationships between local small producers and local informal money lenders. In rural areas or especially in small villages most small producers know very well their money lenders; they grew up in the same village and in the same primary school, and so on; thus they have personal and informal dealings with each other. Loan operations of

informal money lenders are more flexible than that of banks, and they adopt simple systems of maintaining accounts (Ghatak, 1981; and Tambunan, 1989).

IV.3. *Other determinants of the development of small firms: The role of effective demand*

The prospects of small firms depends much on the development of effective demand, especially domestic demand for consumer goods, mostly from relatively low-income groups, and that arising from backward linkages from other domestic non-government producing units. Regarding the demand for consumer goods, Rietveld (1984) found that agricultural income, among other factors, plays an important role in determining the level of small firms activities, which in Indonesia mostly takes place in rural areas for rural markets. In many provinces non-farm goods produced by rural small firms generally have an income elasticity well above unity; consequently, a rise in rural income leads to a more than proportionate increase in demand for small firms' products (Heinen, 1988).

Two sectors that have existing or potentially strong backward (and forward) linkages with small firms are agriculture and MLSIs. As output in these sectors increases, their demand for intermediate and capital inputs can generate backward linkages to small firms. The extent of backward linkages from agriculture to small firms is strongly related to the pattern of development in agriculture, which in turn determines the volume and composition of the agricultural sector's demand for inputs.

The backward linkages from MLSIs to small firms (the former providing a demand for intermediate or capital goods produced by the latter) are most frequently discussed in terms of subcontracting arrangements. In Indonesia subcontracting is used widely among small producers as well, particularly in textile, leather, wearing apparel, wood products and fabricated metal products (Mead, 1985; and Smyth, 1990). The extent of subcontracting is crucially related to the patterns of development and growth in MLSIs, and on technology and methods of production used in small firms. In addition, sub-contracting is rare where the domestic market is small or where

MLSIs, especially large ones, tend to import a substantial part of their inputs (Page and Steel, 1984).

For many small firms, the agricultural sector is important not only through its demand side, but also through its supply side (that is, in terms of forward linkages); this is especially true for food industries and other agriculture based industries. A study of rice processing in Indonesia shows significant forward linkages from field production to small, rural rice mills (Timmer, 1975). The extent of forward linkages from agriculture to small firms depends not only on the choice and location of the processing technology involved, but also on the development of agriculture itself, which in turn determines the supply of raw materials to small firms.

An example of the importance of production linkages among small firms, agriculture and MLSIs is given by Rietveld in a study of Boyolali, in which he reported that the negligible presence of industry, including small factories (SIs), is a consequence of a relatively very low real income per capita, which is related to poor agricultural performance in the region. Boyolali is too poor or too under-developed to sustain a local rural industrial sector. With local demand being mainly aimed at satisfying basic needs, CHIs supplying such products (for example, those preparing food) would probably survive while small factories producing goods that were not basic needs might find the going tough (Sandee, 1988). Thus, it is clear that production linkages between agriculture and MLSIs make the prospects of small firms dependent on the development in these two sectors; and also that they vary considerably among manufacturing subsectors.

The decline of small firms share in employment and numbers in the manufacturing sector during 1979–86 can, to a large extent, be attributed to a low agriculture growth rate in the 1980s. During that decade, especially in the early part, the Indonesian economy was hit severely by a number of adverse developments. Firstly, the international oil market suffered a serious depression and there was a general deterioration of the world economy; this resulted in declining prices for and lower volumes of Indonesia's traditional primary export commodities. Consequently, there was total economic stagnation in 1982. The sizes of the agricul-

tural, mining, and manufacturing sectors were reduced (Poot *et al.*, 1988). In agriculture and manufacturing, the rates of growth were 3.4 percent and 4.7 percent, respectively during the 1980s, compared to 3.8 percent and 15.2 percent, respectively, in the 1970s.

It is logical to conclude that the low growth rates of the 1980s, particularly in agricultural and mining, will reduce annual earnings in these sectors; given the fact that the majority of mining employees and farmers are rural inhabitants, per capita rural real incomes will also drop. From the point of view of production linkages, it seems reasonable to expect that the lower rates of growth in agriculture, manufacturing and mining will depress the demand for small firm-made inputs in these sectors and thus lower small firm growth rates. Moreover, about 70 percent of economic development in Indonesia is financed from oil revenues, and since oil prices fell in the mid-1980s many projects have been abandoned, including those in agriculture. This has had negative effect on local employment.

However, it should be remembered that a depression in the economy at large is only one of the factors that have had a negative effect on the demand for small firms products. Rietveld and Gorter (1988) found that a general change in tastes in favour of 'modern' foods made by MLSIs, or towards imports, can also pose a threat to traditional food produced locally by small firms. Such a change took place, for instance, in the beverage sector where many small local producers of traditional soft drinks have disappeared because of competition of bottled drinks such as Coca Cola. Sandee and Heinen (1988), discovered that the number of small tile producers in Boyolali declined during 1980–86, supplanted by larger firms from outside the village who used much better production methods and had better skill and organisation (1988). The demand for tiles produced by Boyolali small firms using traditional methods of production stems mainly from dispersed neighbouring villages and a nearby rural market centre. The demand is therefore seasonal and dependent on fluctuating agricultural incomes.

Sandee and Heinen concluded that "dispersion and seasonality of demand has caused only small traders to enter marketing. This influences the

organisation and degree of specialization in tiles production as these small traders are lacking the means to provide producers with capital and raw materials." (1988, p. 13).

In the construction materials sector, as quality and standardization requirements rise (for example, for large public projects), production shifts towards industries with more advanced technology. Lacking access to better technology and raw materials, many small firms in this sector relied on simple technology (most of them not having any kind of machine) and so have been pushed out of the market (Rietveld, 1988).

Andriessen and Van den Broek (1988) found a similar development in the brick and roofing tile industry in Purworejo-Klampok. Many small factories (SIs) in this sector face threats from two sides: from corporate enterprises (MLSIs) from other regions, such as Kebuman, producing higher quality; and from CHIs producing poorer quality but at much lower costs (and hence price) than the local small factories. It would appear that local SIs lost their regional market to larger producers and their local market to CHIs. In many cases, the increasing competition from urban larger producers is attributable to the improvement of rural infrastructure such as transportation and roads.

Van Dijk found (1982) in Salatiga that most of his respondents (typically small producers such as makers of tahu and tempe) provided an indication that improved infrastructure had brought more competition from urban-based large industries and imported products.

A case study conducted by Arian and Dongel-mans (1989) in Aceh Utara and Aceh Tengah covering almost 5 percent of total small firms existing in the areas found that some of the striking differences among SIs and CHIs are with regard to problems of securing skills and tools which are more prevalent at the lower end. Competition, on the other hand, is quoted to be more problematic at the upper end. Further, the case study also shows that while the salt mining sub-sector is predominantly obstructed by the shortage of credit, almost in all other sub-sectors credit ranks high as a problem area scoring between 10 and 20 percent of all problems. Shortage of skilled labour scores high in textiles, whereas shortages of tools, energy, transport and purchasing power are marked in food. Shortage of raw material is a problem in the

metal sub-sector. Finally, the case study shows that workshops mostly located in rural areas suffer from high competition from MLSIs from nearby urban areas.

To sum up, many studies have shown that effective demand as well as supply side (credit, tools, skilled labour and raw materials) are indeed important factors in determining the prospects of small firms. The effective demand in turns depends on income, tastes, competition, government purchases, production linkages with other sectors and macroeconomic policy. The supply side depends especially on government facilities, macro as well as micro policies affecting inputs markets (their prices, quality and quantity) and relation with MLSIs (for example, through sub-contracting). As far as government support for small firms is concerned, available studies conclude that the effectiveness of a small firms-oriented policy affecting the supply side of the sector (for example, subsidized credits, technical assistance and the establishment of clusters) is still not really satisfied. The main problem seems to be in the different effects (may be because of different objectives) of small firms-oriented policies and macroeconomic policies (e.g., trade policy, fiscal policy, monetary policy, and investment policy) on activities of small firms. For example, the major aim of subsidized credit for small firms is to make them more easy to finance their production process and to expand, but sometimes macro-economic policy makes this impossible. For instance, inflation, which is usually a result of 'soft' monetary policy, increases production costs of small producers which undoes the expected positive effect of subsidized credit (see, e.g., Bruce and Hiemenz, 1983; Haggblade and Liedholm, 1984; Liedholm and Mead, 1987; and Stewart and Ranis, 1989).

V. Conclusions

Despite limited data and limited numbers of case studies in many regions, this analysis has shown that small firms in the manufacturing sector still provide the bulk of employment in the sector in Indonesia. However, there has been a decline over time in the CHIs' share of employment and number of units in the manufacturing sector. But this is not the reason to say that there would be no

CHIs any more in the foreseeable period of time. Unemployment and poverty, especially in rural areas and market availability for their products are important reasons why these small poor family firms will still continue to exist in Indonesia.

With respect to government incentives promoting small firms, a number of studies show that, for example, subsidized credit programs that rely on low interest rates to increase investment in small firms have not been particularly successful in reaching many small firms, especially CHIs, or in being sustainable. Credit at market rates (the new credit policy in 1990), at the same time improved processing of loans (including the selection procedure), for small producers are more likely to influence the growth of small firms positively. But, it must be said that the positive impact of this new credit policy on small firms will depend strongly on an appropriate combination of current macro, regional, sectoral and specific small firms-oriented policies. The experience of many developing countries indicates that one important reason for the failure of many specific incentive programmes is the divergence between macroeconomic policy and the objective of an small firms-oriented policy.

Therefore, what is needed to be done first is to find this 'appropriate' combination of policies to provide positive effects on both the demand side and the supply side of small firms. Subsidized credit may have a positive impact on the supply side but not on the demand side as long as macroeconomic policies shift demand from small firms' products to MLSIs' products or imported goods. Secondly, it seems necessary to review every incentives measure for small firms to find which measures are really needed and what are not. For example, policies against monopoly practices by multinational/large domestic firms either in output markets or in input markets are more needed and justified than the provision of subsidized credit, especially in a country like Indonesia where capital is a very scarce factor.

It is also necessary to divide production units in macroeconomic models into small, medium and large firms (which is hard to find in any model for developing countries) With this more disaggregated model development planners can simulate and see what is the expected impact on small firms if there is a change in policy.

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