SMALL AND MEDIUM ENTERPRISES IN INDONESIA

Old Policy Challenges for a New Administration

Hal Hill

Small and medium enterprises (SMEs) are an important subject of study and policy analysis, both in general and for the administration of Indonesian President Abdurrahman Wahid, for a number of reasons.[1] First, SMEs in any country play a pivotal role in economic development. They typically employ 60% or more of a country's industrial workforce and generate up to half of the sector's output. SMEs are therefore an important component to any understanding of the broader industrialization process.

Secondly, SMEs are a clear and consistently enunciated Indonesian government priority. They feature prominently in key government documents, such as five-year plans (*Repelita*), the Broad Outlines of Government Policy (GBHN), and many official statements. This support has manifested itself in a separate ministry for SMEs (together with cooperatives) established in 1993. At Indonesia's instigation, for example, they were introduced into the

Hal Hill is Professor of Economics in the Division of Economics, Research School of Pacific and Asian Studies and Asia-Pacific School of Economics and Management, Australian National University, Canberra.

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1. Much has been written on SMEs around Asia. Some recent general surveys specifically about SMEs in Indonesia include Henry Sandee, "Innovation Adoption in Rural Industry: Technological Change in Roof Tile Clusters in Central Java, Indonesia" (Ph.D. thesis, Vrije Universiteit, Amsterdam, 1995); Mari Pangestu, ed., *Small-Scale Business Development and Competition Policy* (Jakarta: Centre for Strategic and International Studies, 1996); Peter van Diermen, *Small Business in Indonesia* (Aldershot, U.K.: Ashgate, 1997); and Tulus Tambunan, *Development of Small-scale Industries during the New Order Government in Indonesia* (Aldershot, U.K.: Ashgate, 2000).

Asia-Pacific Economic Cooperation forum process following the 1994 Bogor Summit. Official support for SMEs has been a feature of all post-Independence governments from Sukarno[2] to Wahid. Indeed, arguably their emphasis increased under both the Habibie and Wahid administrations, certainly as compared to under Soeharto.

Thirdly, SMEs assume particular importance in Indonesia owing to their link to equity issues. In particular, they are seen as a vehicle for promoting *pribumi* (indigenous Indonesian) business and therefore as a means of asset redistribution along ethnic lines. This constant, if unstated, tension between efficiency and distributional/welfare goals has always complicated official thinking and program implementation. While official statements have tended to emphasize the former, for most government officials (and a vocal *pribumi* constituency) the latter have been uppermost in their thinking. It is probably because ethnic relations are more sensitive in Indonesia than in any other East Asian country that the gap between official pronouncements and implementation with regard to SMEs is the widest.

More generally, there is a disjunction between the standard economist's approach to policy intervention, which emphasizes market-oriented solutions as the key to rapid economic development (aside from specific justifications for intervention such as public goods, market failure, and externalities) and a widespread popular sentiment according to which SMEs "need" special support on the grounds of social justice or because (it is alleged) these firms are inherently disadvantaged by the unfettered operation of markets.

Fourthly, it cannot be assumed that the same sorts of policies that are drawn up for larger industrial units will necessarily apply to SMEs. SMEs display a pronounced concentration in particular industrial activities. Spatially they generally exhibit a less pronounced concentration around major urban centers as compared to larger units. SMEs are less likely to be foreign (or government) owned and are believed to be less export-oriented, at least as concerns direct exports.

Fifthly, international experience suggests that an efficient SME sector is conducive to rapid industrial growth and a flexible industrial structure. Taiwan often is held out as an example of an economy built on the foundations of an efficient SME sector. Moreover, it is one that is regarded as preferable to the Korean model of large industrial conglomerates both on equity grounds and because it is more resilient in times of economic crisis. A particular strand of this argument emphasizes the importance of a well-developed SME

2. On which see, for example, Bruce Glassburner, "Economic Policy-Making in Indonesia, 1950–1957," in *The Economy of Indonesia*, ed. Bruce Glassburner (Ithaca, N.Y.: Cornell University Press, 1971), pp. 70–98.

sector in underpinning the key electronics, machine goods, and automotive industries through the establishment of subcontracting networks.

Finally, there is a particular current interest in SMEs in Indonesia since these firms appear to have weathered the economic crisis of 1997–98 better than larger industrial units. This proposition appears to be true both for intra-country comparisons (i.e., large and small firms within a given country) and across economies (e.g., the Korea-Taiwan comparison again).

This article begins with a review of the government's policy framework, together with some conceptual and analytical issues as they relate to SMEs. Next, the empirical evidence on SMEs is examined, referring both to aggregate, macro-level evidence and case studies, and including some of the emerging material on the impact of the recent crisis. The article then asks whether there is any special case for intervention in favor of SMEs and points to areas where government policy has and has not worked. Finally, it closes by highlighting gaps in the database and research material. Following much of the literature, the discussion focuses primarily on the industrial sector, although where relevant the net is cast more widely.

The Existing Policy Framework

Successive Indonesian governments have never enunciated a coherent, clearly defined, and prioritized SME policy and strategy. There are a plethora of programs designed to assist SMEs, but they have rarely amounted to much. Meanwhile, various other interventions have tended to cut across these SME programs and render them still less effective.

Table 1 provides a summary of various Indonesian government SME initiatives since the 1970s. Most official statements stress the importance of SMEs as a means of generating employment, achieving greater equality through a more diverse ownership structure in business, promoting rural and regional development, providing a basis for entrepreneurial development, and redressing the perceived ethnic imbalance in business ownership.

Policy instruments in pursuit of these goals may be broadly classified into three areas:

(1) *Financial assistance:* This is now relatively unimportant, but in the past many programs were introduced to assist SME firms. Some involved subsidized credit (whose importance peaked during the oil boom period 1973–82), others a requirement that banks allocate a certain percentage of their portfolio to these firms.

(2) *Technical assistance:* These typically have involved training schemes, industrial extension services, specialized vocational programs, and domestic and international marketing advisory services. The delivery mechanisms and conditions vary greatly. Some are provided free, although more commonly there is some cost-recovery component. Some are provided as part of an integrated package including financial and technical inputs.

TABLE 1 *SME Policy Initiatives in Indonesia*

(1) Technology Initiatives	
1969	Establishment of MIDC (Metal Industry Development Center).
1974	Establishment of BIPIK (Small Industries Development Program).
1979	As part of BIPIK, LIK (Small-Scale Industry Areas), and PIK (Small Industry Estates) were established and technical assistance to SMEs was intensified through the UPT (Technical Service Units), staffed by TPL (Extension Field Officers).
1994	BIPIK was replaced by PIKIM (Small-scale Enterprises Development Project).
(2) Marketing Initiatives	
1979	A reservation scheme was introduced to protect certain markets for SMEs.
1999	The anti-monopoly law included explicit provisions in support of SMEs.
(3) Finance Initiatives	
1971	PT ASKRINDO was established as a state-owned credit insurance company.
1973	KIK (Small Investment Credits) and KMKP (Working Capital Credits) were introduced to provide subsidized credit for SMEs.
1973	PT BAHANA, a state-owned venture capital company, was established.
1974	KK (Small Credits), administered by Bank Rakyat Indonesia, was launched; subsequently (1984) it was changed to the KUPEDES (General Rural Saving Program) scheme, aimed at promoting small business.
1989	SME loans from state-owned enterprises were mandated.
1990	The subsidized credit programs (KIK, KMKP) were abolished and the unsubsidized KUK (Small Business Credits) was introduced.
1999	Directed credit programs were transferred from the Central Bank to PT PNM (a state-owned corporation for SMEs) and Bank Ekspor Indonesia.
2000	All government credit programs for SMEs are to be abolished.
(4) General Initiatives	
1978	A Directorate General for Small-scale Industry was established in the Ministry of Industry.
1984	The Bapak Angkat ("foster parent") scheme was introduced to support SMEs. Later (1991) it was extended nationally.
1991	SENTRAs (groups of SMEs) in industrial clusters were organized under the KOPINKRA (Small-scale Handicraft Cooperatives).
1993	The Ministry of Cooperatives was assigned responsibility for small business development.
1995	The Basic Law for Promoting Small-scale Enterprises was enacted.
1997	The Bapak Angkat program was changed to become a Partnership (Kemitraan) program.
1998	The Ministry of Cooperatives and Small Business added medium-scale business to its responsibilities.
1998	Under Minister Adi Sasono, the promotion of SMEs as part of the People's Economy (Ekonomi Rakyat) became a national slogan.

SOURCE: Based on Thee Kian Wie, "Indonesia" in *Industrial Structures and the Development of Small and Medium Enterprise Linkages: Examples from East Asia*, ed. S. D. Meyanathan, EDI Seminar Series (Washington D.C.: World Bank, 1994), p. 121, and Mitsuhiro Hayashi, "Support Mechanisms for the Development of SMEs in Indonesia, with Special Reference to Inter-firm Linkages," Australian National University, Canberra, 2000.

(3) *Regulation and coercion:* The reforms of the 1980s meant that a regulatory approach to SME promotion is now out of favor. But the government has experimented with a variety of programs based on compulsion. These have included enforced subcontracting schemes (mainly in the automotive and electronic industries); so-called Bapak Angkat initiatives, whereby larger firms (particularly state enterprises) are required to sponsor and promote local SMEs; preferential government procurement programs; and reservation schemes in which only firms of a certain size are permitted to produce some goods. In addition, cooperatives have been promoted with varying degrees of vigor.

There has never, to this author's knowledge, been a comprehensive evaluation of these programs and their effectiveness. But almost all pieces of empirical research have concluded that the programs are largely ineffective: they lack resources; they lack a clear policy rationale; they—particularly the subsidized credit programs—have been beset by problems of corruption; they tend to be supply-driven, i.e., drawn up by bureaucrats without a clear incentives framework; and they rarely engage large firms and commercial services to support their objectives. I will return to some of these issues below.

The notion of a technologically progressive, outward-oriented SME sector has somehow fallen through the cracks in Indonesian official thinking. Depkop (Departemen Kooperasi dan Pembinaan Pengusaha Kecil, Department of Cooperatives and Development of Small Entrepreneurs) and other agencies in Indonesia responsible for SMEs frequently have a rationale and worldview that was popular in the 1960s. They tend to favor a paternalistic approach that involves protecting SMEs. They are suspicious of markets and economic liberalism. They tend to view the industrial sector in terms of various size compartments, with little firm mobility between these groupings. They tend to have a strong welfare orientation. Consequently, these agencies generally have not adapted easily to the post-1985 policy environment that emphasizes efficiency and outward orientation. Former president (and longtime research and technology minister) B. J. Habibie had a well-known skepticism toward SMEs, together with labor-intensive industries such as garments and textiles primary. Rather, his focus was on the major strategic industries, all of which were large in scale. Such a view also finds support in the government's technical departments, such as Industry and Trade, which at the senior echelons have a grand technological vision heavily influenced by their predominant engineering training. Finally, the Finance Ministry is generally uncomfortable with the approach of Depkop and like-minded agencies, with the consequence that the latter have not been centrally involved in major economic policy debates.

While, as noted, such agencies derive some popular political support from a welfare approach that favors the advancement of cooperatives, *ekonomi rakyat* (literally, "people's economy"), and *pribumi* business development, in

practice this rationale has complicated the task of efficient SME promotion. It has encouraged these agencies to base their advocacy on populist measures, developing a constituency—particularly during the period of Minister Adi Sasono, 1998–99—that expects subsidies, and it has diverted the government's attention from developing meaningful support programs.

In assessing the government's SME policy framework, it is important to distinguish between explicit or intended policies and effects and those which are unintended. The latter arguably are more important and further highlight the difficulty of defining, much less quantifying the effects of, government policy.

For all the government rhetoric concerning the importance of SMEs, paradoxically public policies in Indonesia often actually discriminate against SMEs in a number of ways.[3] First, trade policies have been biased against SMEs. There have always been considerable inter-industry variations in effective rates of protection in Indonesia. These do not have a particular scale objective. But, in practice, the major recipients have been industries dominated by large firms. Casual observation supports such a notion. The highly protected industries—automobiles, steel, aircraft, glass, and fertilizer—are all overwhelmingly populated by large-scale enterprises.[4] Conversely, the trade reforms of the past 15 years are progressively reducing such a bias—a point often overlooked by proponents of "SME first" strategies, who frequently also oppose trade liberalization.

A second more general instance where government policies often harm SMEs is the regulatory framework. This occurs both directly and indirectly. Directly, some government programs have a specific size requirement. For example, fiscal incentives may only apply to investments of a certain minimum size or exemptions to foreign investment restrictions may be waived only for projects larger than a specified threshold amount.

Financial regulations sometimes have worked against the interests of SMEs, although these are now much less common than previously was the case. For example, regulations imposing a ceiling on lending rates often penalized smaller enterprises. The per unit transaction costs in processing and

3. Mathias Bruch and Ulrich Hiemenz documented these "perverse interventions" in the Southeast Asian context in great detail up to the early 1980s. See *Small and Medium Scale Industries in the ASEAN Countries: Agents or Victims of Economic Development?* (Boulder, Colo.: Westview Press, 1984). Although their analysis is now rather dated, many of the conclusions remain valid.

4. The empirical evidence linking inter-industry variations in effective protection and average firm size in Indonesia is mixed. M. Chatib Basri and Hal Hill, for example, found a negative relationship, significant at 5%, but it is probable that this variable also reflected related structural variables such as value added per worker and ownership. See "The Political Economy of Manufacturing Protection in LDCs: An Indonesian Case Study," *Oxford Development Studies*, 24:3 (October 1996), pp. 241–59.

screening loan applications inevitably decline with scale. (Default rates may be higher among SMEs, although this is not necessarily the case.) Banks need to build in these higher costs in their lending rates. If they are unable to because of regulation, they will be reluctant to lend to SME firms. Most country studies[5] cite this as a current problem, or one of the recent past. Innovatory financial reform of the type introduced in Indonesia in the late 1980s also dispels the myth that credit ceilings are necessary to help SMEs. Indeed, the detailed panel data assembled and examined by Miranda Goeltom demonstrate clearly that, following the 1980s financial reforms, smaller industrial enterprises obtained much better access to the formal financial market. Certainly, interest rates in the formal financial sector rose, but firms who were able to access such credit were better off since they were able to shift out of the very high-rate informal financial sector. She concluded that "for small establishments, the economic reforms have a positive effect on their overall performance . . . liberalization has helped to redistribute credit toward small firms."[6]

Indirectly, there are costs involved in all manner of transactions with government agencies. These are larger the more complex the regulatory regime and often are fixed cost in nature. It is the latter feature that may harm SMEs. For example, in applying for licenses and fiscal concessions, and in dealings with labor or taxation offices, the same bureaucratic procedures may be involved regardless of the scale of an investment. Research in Indonesia has indicated that these cost penalties may be sizeable, perhaps of the order of 5%–8% of operating costs, or Rp 15–24 billion in total.[7] In addition, and more generally, the political economy of regulation is such that personal connections with key government officials are very important, and inevitably the owners of large corporations are generally at an advantage in this respect.

Finally, the regulatory regime explicitly or implicitly has impeded the development of FDI-SME linkages, thereby denying these firms crucially important technological, financial, and marketing inputs. Until the mid-1990s, foreign investments that were below $1 million were either prohibited or denied facilities. Even though this restriction has been reduced, the Investment Coordinating Board (BKPM) implicitly encourages and provides expeditious

5. See, for example, those in S. D. Meyanathan, ed., *Industrial Structures and the Development of Small and Medium Enterprise Linkages: Examples from East Asia*, EDI Seminar Series (Washington D.C.: World Bank, 1994).

6. See Miranda Goeltom, *Indonesia's Financial Liberalization: An Empirical Analysis of 1981–88 Panel Data* (Singapore: Institute of Southeast Asian Studies, 1995), pp. 31–32.

7. See Thee Kian Wie, "Indonesia," in *Industrial Structures and the Development of Small and Medium Enterprise Linkages*, pp. 95–122. See also Hetifah Sjaifudian, "Graft and the Small Business," *Far Eastern Economic Review*, October 16, 1997.

treatment for larger units. SMEs also routinely experience difficulty with expatriate work permits.

Empirical Evidence

The following section reviews the empirical evidence on SMEs. It refers first to macro-level evidence, then follows with case studies and a consideration of the impact of the recent economic crisis. It should be noted in passing that there is no single official definition of SMEs. The Central Board of Statistics (BPS, Bada Pusat Statistik) defines small firms as having 5–19 employees and medium as having 20–99. Bank Indonesia has had definitions based on the value of assets, while technical ministries have their own measures. The issue of where precisely to draw the line is not of great importance, but for illustrative purposes the focus is generally on firms with less than 200 employees.

The Macro Picture

Secondary data offer a means for constructing a general profile of SMEs.[8] According to the last complete enumeration of firms, the 1986 Economic Census, SMEs (defined as firms with 5–199 workers) in Indonesia generated 21% of industrial output and employed 52% of the workforce. Using a more restrictive definition (5–49 workers), the shares fall to 10% and 39%, respectively. Perhaps surprisingly, the shares of SMEs in Indonesia are lower than that in most of its Association of Southeast Asian Nations (ASEAN) neighbors. There is no obvious explanation for such a difference, but two tentative explanations might be advanced. First, owing to its natural resource endowments and government policy, Indonesia has a larger share of capital-intensive (mainly resource-based) industries than would be expected on the basis of its per capita income. For example, the exclusion of petroleum processing (ISIC 353) alone increases the SME share of total manufacturing value added from 21% to 32%. The importance of industries such as cement, fertilizer, and pulp and paper further depresses the aggregate share of SMEs. Secondly, Indonesia (along with the Philippines) traditionally has been the most regulated and protected economy among the five founding ASEAN states. As noted above, it might be argued that the policy regime has also depressed the share of SMEs, to the extent that it has encouraged the development of scale-intensive activities.

Compared to its ASEAN neighbors (especially Malaysia and Singapore), Indonesian SMEs are also much more labor intensive relative to larger units.

8. Some of the comparative material in this paragraph draws on Hal Hill, "Small-Medium Enterprise and Rapid Industrialization: The ASEAN Experience," *Journal of Asian Business* 11:1 (1995), pp. 1–31.

This is a less surprising feature and is to be expected for a low-income economy. Factor markets are less well developed and there are stronger vestiges of dualism in firm characteristics. Policy distortions, particularly in the capital market, may have contributed, and industry structure is, again, probably relevant.

There has been a clear trend toward industrial agglomeration in Indonesian manufacturing. The average size of large and medium firms (defined as at least 20 employees) rose from 92 to 161 persons from 1974 to 1990. The increase since the mid–1960s would have been much greater still, but over the longer period there are no reliable data available that employ consistent definitions. What of trends in SME shares over time? The only reasonably complete secondary data come from the 1974/75 and 1986 Industrial Censuses. The data suggest that there was very little change in the size distribution of manufacturing, at least as far as employment patterns are concerned. The employment share of large- and medium-sized firms remained unchanged, that of small firms rose marginally, while the cottage sector declined very slightly. Cottage industry employment still accounts for over one-half of total employment. However, these figures need to be treated with great caution, as the cottage industry database is extremely weak. The picture is a good deal clearer for firms with a workforce of at least five employees. The evidence suggests that firms with a workforce of 5–19 employees grew nearly as quickly in terms of both output and employment as those with 20 or more employees during this inter-censal period.

Consistent annual data are available only for firms with at least 20 employees. Shares for three major size groups for such firms are presented in Table 2. Here also, and focusing on current year series, the picture is one of little change.[9] The share of the smaller firms (those with a workforce of less than 100 persons) declined marginally since the late 1970s, but there was no clear trend. Similarly, for the largest group of firms (with a workforce over 500) the shares fluctuate around a broadly constant trend line. A similar conclusion holds for the medium-sized group. None of the changes is significant. It should be noted that these data exclude the oil and gas processing sector. Data on the size distribution of these firms are not available, but they almost certainly belong to the largest group. The inclusion of this declining sector would therefore result in a falling share for the large firms.

One important qualification to these data is that the results are sensitive to the manner in which size is defined. The first three columns ("current year") follow the conventional approach and classify firms by their size in the year

9. See Haryo Aswicahyono, Kelly Bird, and Hal Hill, "What Happens to Industrial Structure when Countries Liberalize? Indonesia Since the mid-1980s," *Journal of Development Studies* 32:3 (February 1996), pp. 340–63.

TABLE 2 *The Size Distribution of Manufacturing, 1977–91* (% of total value added)

	(A) Current Year Size Group (employment)			*(B) Initial Year Size Group (employment)*		
	20–99	*100–499*	*500+*	*20–99*	*100–499*	*500+*
1977	9.0	24.2	66.8	15.9	35.8	48.2
1978	8.8	25.2	66.1	16.7	34.3	49.1
1979	8.1	25.7	66.3	18.9	36.1	45.0
1980	7.3	25.0	67.7	20.3	33.6	46.1
1981	6.6	23.8	69.6	20.9	31.9	47.2
1982	6.9	25.1	68.1	23.1	32.4	44.5
1983	6.4	23.3	70.3	23.7	30.0	46.3
1984	6.4	22.7	70.8	25.4	28.8	45.8
1985	12.0	30.3	57.6	27.3	28.6	44.2
1986	8.4	27.3	64.3	27.5	28.3	44.2
1987	7.4	27.0	65.7	25.7	29.3	45.0
1988	9.1	28.6	62.3	27.3	30.8	42.0
1989	7.6	27.4	65.0	26.0	30.7	42.3
1990	7.0	27.3	65.7	25.4	32.9	41.7
1991	—	—	—	25.4	36.4	38.3

NOTE: Shares of value added are based on the three size groups. "Current Year" refers to shares for the relevant years. "Initial Year" refers to the shares of firms based on their size distribution at the commencement of the data series (1975) or when the firm commenced operations.

SOURCE: Haryo Aswicahyono, Kelly Bird, and Hal Hill, "What Happens to Industrial Structure when Countries Liberalize? Indonesia Since the mid 1980s," *Journal of Development Studies* 32:3 (February 1996), Table 5.

of enumeration. This is the simplest approach empirically, but analytically it is rather deficient. Ideally, one needs to know more about the industry dynamics: whether the changing size shares, small as they are, are explained mainly by differential growth rates among firms of different size, or whether they are the result of firms shifting among the size groups. The second set of columns offers insights on this issue. Firms in this case are classified throughout by their size in the base year (1975—the year the data set commences—or, if later, either the year the firm commenced operations, or entered the data set by reaching the employment level of 20 or more workers). That is, regardless of their size subsequently, for the purposes of measuring shares of the three size groups, firms remain in their initially classified group. The second set of data, prima facie, reveal a good deal of dynamism on the part of smaller firms, as shown by the fact that the share of the 20–99 group is consistently higher in the initial year series. For all three series using the initial year data, the differences between the two periods are highly significant.

Table 3 presents some comparative data on the relative importance of SMEs in major industry groups for Indonesia and two of its ASEAN neighbors. There are considerable inter-industry variations in SME shares in Indonesia, reflecting the interplay of industrial organization, public policy, and historical factors. That is, certain industries are more likely to be SME-intensive in virtually all countries,[10] but there are additional country-specific factors at work. As would be expected, in labor-intensive industries, where an ability to adapt to customer requirements is an advantage, and in which scale economies and brand names are not generally significant, SMEs are of above average importance in Indonesia. Examples include leather products, footwear, furniture, printing, rubber processing, plastic products, structural clay products, metal products, and miscellaneous manufactures. Conversely, below-average shares are found in tobacco products, petroleum refining, cement, fertilizer, basic metals, and electrical equipment, again to be expected.

Another variation that is often observable is the concentration of SMEs outside major urban and industrial centers. However, in Indonesia, such a pattern is hardly discernible.[11] The share of SMEs in Jakarta's industrial output is above the national average, though it is somewhat below in the case of employment. Some of the provinces that have a strong tradition of small-scale, off-farm rural enterprise—notably Central Java, Yogyakarta, and Bali—have higher SME shares, as do some of the more remote provinces such as Nusa Tenggara and parts of Sulawesi. But some distant, lightly industrialized provinces, such as those in Kalimantan, also have low SME shares. Part of the explanation for this unexpected pattern is that a small number of industries in which larger firms predominate—mostly fertilizer and plywood—account for much of the regional industrial value added. If these industries were not included, or if the small number of regional concentrations in which they are found were excluded, a more familiar pattern of SME dominance would emerge.

Related to the regional location of SMEs is the question of clustering, in the past decade an issue of considerable research and policy discussion.[12] Broadly speaking, clusters may be horizontally or vertically integrated collections of firms found in proximate spatial locations. The latter case deals with

10. See, for example, Ira N. Gang, "Small Firm 'Presence' in Indian Manufacturing," *World Development* 20:9 (September 1992), pp. 1377–89.

11. See Hal Hill, "Indonesia's Industrial Transformation," *Bulletin of Indonesian Economic Studies*, Part 1, 26:2 (August 1990), pp. 79–120, and Part 2, 26:3 (December 1990), pp. 75–120.

12. See, for example, Martin Klapwijk, "Rural Clusters in Central Java, Indonesia: An Empirical Assessment of Their Role in Rural Industrialization" (Ph.D. thesis, Vrije Universiteit, Amsterdam, 1997); Sandee, "Innovation Adoption in Rural Industry"; and Hermine Weijland, "Microenterprise Clusters in Rural Indonesia: Industrial Seedbed and Policy Target," *World Development* 27:9 (September 1999), pp. 1515–30.

TABLE 3 *SME Shares in Major Industries* (% of SMEs in industry value added)

(ISIC)	*Industry*	*Indonesia*	*Malaysia*	*Philippines*
(311)	Food	37.3	53.1	19
(312)	products	69.5	—	—
(313)	Beverages	26.6	9.9	7
(314)	Tobacco	5.6	—	1
(321)	Textiles	20.4	—	14
(322)	Garments	57.3	24.5	12
(323)	Leather	93.3	—	38
(324)	Footwear	54.4	—	33
(331)	Wood products	23.6	69.2	25
(332)	Furniture	94.7	—	35
(341)	Paper products	16.5	51.1	15
(342)	Printing & publishing	71.9	—	55
(351)	Basic chemicals	20.0	58.8	49
(352)	Other chemicals	61.6	—	37
(353)	Petroleum products	0	1.1	0
(355)	Rubber products	31.8	48.7	28
(356)	Plastics	78.2	—	67
(361)	Ceramics	8.2	—	6
(362)	Glass products	3.0	39.5	41
(363	Cement	24.0	—	5
(364)	Bricks, tiles etc	93.7	—	n.a.
(369)	Other non-metallic minerals	74.8	—	44
(37)	Basic metals	1.4	32.9	10
(381)	Metal products	38.7	63.3	46
(382)	Non-electric machinery	33.0	69.8	32
(383)	Electrical equipment	18.2	20.5	12
(384)	Transport equipment	35.2	20.0	26
(385)	Professional equipment	95.2	n.a.	29
(39)	Other manufacturing	74.2	28.8	40
Total		20.5	38.7	21

NOTES: Excluding petroleum products (ISIC 353), the aggregate SME share for Indonesia rises from 20.5% to 36.1%. "n.a." indicates data not available. "—" indicates figure immediately above also refers to these industries.
SOURCE: Hal Hill, "Small-Medium Enterprise and Rapid Industrialization: The ASEAN Experience," *Journal of Asian Business* 11:1 (1995), Table 4.

subcontracting relationships, to be discussed further below. There is no doubt that, as in all economies, firms engaged in the same industry tend to cluster together. There may be common determining factors—e.g., proximity to inputs or markets, availability of physical infrastructure (especially road networks)—or there may be spillover (or demonstration) effects, whereby a successful firm induces new entrants to the industry. Sometimes government policies may have a direct influence on their establishment.

There are numerous and well-documented instances of industrial clustering in Indonesia, including (to mention just a few) *batik*, textiles, weaving, *kretek* cigarettes, furniture making, bricks and tiles, metal-working, machine goods, and automotive suppliers. Whether the existence of such clusters is conducive to efficient SME development is another matter, however. Some researchers (e.g., Sandee) have found a link between clustering and various external efficiencies, such as an improved capacity to innovate, and access to lower-cost inputs and services.[13] It may also be easier for governments to deliver services to a target group of firms in such cases. Other studies have cast doubt on these findings,[14] arguing that the pooling of technological and marketing resources is not so common. These results are not necessarily in conflict, of course, since they are based on micro-level studies and it is quite possible that diverse experiences are to be found. Further research in this area would be helpful, while recognizing that there may not be any immediate policy implications. Certainly, the government should not include clustering as a specific regulatory target or policy goal.

It also appears that small firms participated in the growth of manufactured exports that got underway in the mid-1980s. The database here also is rather weak, but estimates prepared by the Department of Industry suggest small industry exports rose from $137 million to $2.1 billion over the period 1983–92. According to these figures, small firms have kept pace with larger units in their export growth, and the share of the former has actually risen for the period as a whole. As with larger firms, textiles, clothing, and footwear have been extremely important and by 1992 constituted almost 60% of the SME total. Plywood, by contrast, has been unimportant, since most of the forest concessionaires have established plants that are larger than the official definition of small industry. Little is known about small enterprise export activity. The strong export performance does a priori question the conventional wisdom that pecuniary economies of scale are important in international markets.[15] It is likely though that a good deal of the garment exports are undertaken through international and domestic subcontracting networks involving larger firms.

13. Sandee, "Innovation Adoption in Rural Industry."

14. For example, Yuri Sato, "Linkage Formation by Small Firms: The Case of a Rural Cluster in Indonesia," *Bulletin of Indonesian Economic Studies* 36:1 (April 2000), pp. 137–66.

15. Based on a firm-level analysis of the 1986 Industrial Census, however, and lending support to this argument, Hal Hill and Kali Kalirajan found that export orientation was a significant correlate of firms' technical efficiency. See "Small Enterprise and Firm-Level Technical Efficiency in the Indonesian Garment Industry," *Applied Economics* 25:9 (1993), pp. 1137–44. Note in this context that the definitions of "small industry" employed by the Central Bureau of Statistics and the Department of Industry do differ.

Case Studies

Numerous case studies have investigated the dynamics of SMEs by way of firm surveys, finding as would be expected cases of both success and failure. It will be useful here to refer to some success stories, both for the lessons learned and the policy implications. Two sets of studies are of particular interest: Cole's study of the Bali garment export industry[16] and research on the export-oriented SME furniture manufacturers in the town of Jepara, northern Central Java, by several authors.[17]

The Bali garment industry, which grew spectacularly in the 1980s and almost exclusively based on small firms, was practically an accidental case of industrialization. Foreign tourists, mainly surfers wishing to support a recreational lifestyle, saw commercial opportunities in Balinese garments and its indigenous design capacity. They were able to act as marketing intermediaries, connecting local producers with retail outlets abroad, in the process dispensing important information on designs and production techniques. Later, as the island's fame spread, these links developed quickly and the industry mushroomed from its seasonal, cottage origins to larger production units and some local design capacity. The Jepara furniture industry had its origins further back, but it too began to grow quickly in the 1980s. The industry lacked the tourism connection, but it did have a good local skills base together with access to raw materials, and foreigners quickly saw the opportunities for profitable export as deregulation proceeded.

These studies suggest a model of successful and innovative SME development in which the following ingredients appear to be important:

- some basic industrial competence in a particular field of activity (e.g., as in these cases, garment or furniture manufacturing);
- a conducive macroeconomic environment, including especially a competitive exchange rate;
- reasonably good physical infrastructure, extending in these cases (but especially Denpasar) to proximity to import and export facilities that function without too much inconvenience; and

16. William Cole, "Bali's Garment Export Industry," in *Indonesia's Technological Challenge*, eds. Hal Hill and Thee Kian Wie (Singapore: Institute of Southeast Asian Studies, 1998), pp. 255–78.

17. See Albert Berry and Brian Levy, "Technical, Marketing and Financial Support for Indonesia's Small and Medium Industrial Exporters" in *Fulfilling the Export Potential of Small and Medium Firms*, eds. Brian Levy, Albert Berry, and Jeffrey B. Nugent (Dordrecht, The Netherlands: Kluwer Academic Publishers, 1999), pp. 31–72.; Henry Sandee, Roos K. Andadari, and Sri Sulandjari, "Small Firm Development during Good Times and Bad: The Jepara Furniture Industry" in *Indonesia in Transition: Social Aspects and Reformasi and Crisis*, eds. Chris Manning and Peter van Diermen (Singapore: Institute of Southeast Asian Studies, 2000), pp. 184–98; and James Schiller and Barbara Martin-Schiller, "Market, Culture and State in the Emergence of an Indonesian Export Furniture Industry," *Journal of Asian Business* 13:1 (1997), pp. 1–23.

- injections of technical, design, and marketing expertise that link small producers to new ideas and major markets.

With the possible exception of the first ingredient, all four elements are directly amenable to public policy. They may also be present in different institutional arrangements, as, for example, in the emerging subcontracting networks found in the automotive and machine goods industries.[18] And the general model developed here is equally applicable in agriculture and larger-scale industry, where barriers to the development of technology transfer channels are generally lower than in the case of SMEs. It might be argued that these examples are special cases, which are not easily transferred to the bulk of small firms, especially those operating in remote locations and catering to low income markets. But neither garments nor furniture could be regarded as niche markets; on the contrary, they are mass consumption goods. Admittedly, Bali has intense exposure to international markets through tourism, but Jepara is some distance from a major port (Semarang) and is not a tourist destination.

These case studies also have important implications for government policy. Neither resulted from any deliberate government promotional measures. The government did play an important role in providing a supportive macroeconomic environment and a rapidly improving infrastructure. In Bali, the local government generally adopted a fairly open policy toward the presence of foreign entrepreneurs, and export procedures were not unduly burdensome most of the time. The June 1994 reform of FDI regulations, lowering the minimum capital requirement from $1 million to $250,000, made it easier for small foreign investors to operate in the country without harassment. These, of course, hardly constitute contributions from government, except in the negative sense of avoiding a harshly restrictive regulatory regime. As Cole puts it, "Beyond these points, the role the government played seems more positive in its absence than in its actions."[19] By contrast, reports from Jepara in 1997 reveal that foreign workers, on whom the industry depends, were being harassed and mostly deported.

Cole's study is also important because the dynamics of the process of SME technological adoption do not appear to be of interest to, or understood by, the relevant government agencies. Former President Habibie, for example, frequently dismissed the garments industry as irrelevant for Indonesia's technological future even though, as these and other studies have shown, a good deal of dynamic innovation is evident. Moreover, the intellectual framework of Depkop is almost completely irrelevant to the needs of the Balinese gar-

18. See Farid Harianto, "Study of Subcontracting in Indonesian Domestic Firms," *Indonesian Quarterly* 21:3 (1993), pp. 331–43.

19. Cole, "Bali's Garment Export Industry," p. 277.

ment producers. Rather than Depkop's focus on partnership schemes (*Kemitraan*), subsidies, regulation, and protection from competition, these firms are more interested in efficiently functioning credit markets, good infrastructure, freedom from bureaucratic harassment, and perhaps some carefully targeted industrial extension support.

A second focus of case study research has been on subcontracting networks. The earlier work on this subject[20] found these networks to be rather limited and quite different from Japanese-style intense and durable arrangements, in which parent (or assembler) firms played a key role in fostering the development of SME suppliers. In contrast, Thee and colleagues concluded generally that, notwithstanding some government prodding, the networks were shallow, fluid, sometimes characterized by opportunistic behavior, and not providing much basis for viable SME growth. It is possible that these results reflected the nature of Indonesian industrialization through to the early 1980s. The country was still in its industrial infancy then and modern sector firms were moving rapidly into more sophisticated areas of industrialization, some beyond the supply capacity of SMEs.

A considerable amount of research has been conducted on this topic since the mid-1990s.[21] Putting aside the immediate impacts of the crisis, how does the picture look after 30 years of rapid industrialization? It is varied across industries and locations, as would be expected, but in general these linkages appear to be strengthening over time. Yuri Sato examined metal casting in the village of Ceper (Central Java), home to over 300 foundries of varying size. She found the following:

> A subcontracting system and a putting-out system coexist in this rural cluster. Subcontracting linkages with the urban modern machinery industry, with large assemblers at its apex, have reached top-layer firms in the cluster. At the same time, many firms have formed linkages with wholesalers outside the cluster.[22]

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20. See in particular Thee Kian Wie, ed., "Kaitan-Kaitan Vertikal Antarperusahaan dan Pengembangan Sistem Subkontraktor di Indonesia: Berberapa Studi Kasus" [Vertical interfirm linkages and the development of the subcontracting system in Indonesia: Several case studies], special issue of *Masyarakat Indonesia* 12:3 (1985), pp. 219–31.

21. See, for example, Miranda S. Goeltom, "Development and Challenges of the Machinery Industry in Indonesia," in *Waves of Change in Indonesia's Manufacturing Industry*, eds. Mari Pangestu and Yuri Sato (Tokyo: Institute of Developing Economies, 1997), pp. 137–79; Mitsuhiro Hayashi, "Support Mechanisms for the Development of SMEs in Indonesia, with Special Reference to Inter-firm Linkages," Australian National University, Canberra, 2000; Yuri Sato, "The Machinery Component Industry in Indonesia: Emerging Subcontracting Networks," in *Changing Industrial Structures and Business Strategies in Indonesia*, ed. Yuri Sato (Tokyo: Institute of Developing Economies, 1988), pp. 107–45; Sato, "Linkage Formation"; and Thee Kian Wie, "The Development of the Motor Cycle Industry in Indonesia" in *Waves of Change*, pp. 95–135.

22. Sato, "Linkage Formation," p. 159.

Assembler firms generally provided little assistance, but private business institutions and wholesalers are important means of channeling marketing, technology, and financial assistance to the smaller firms. Among the former, the activities of an offshoot of the Astra conglomerate in nurturing potential future suppliers were considered significant, particularly for larger firms within the sample. The government and foreign donors were not major factors. The former in particular was criticized for programs that did not meet SMEs' major needs and for concentrating more on targets than actual delivery.

Hayashi, in research in progress based on 58 firms in the automotive and motorcycle industries, also detected quite well developed subcontracting networks. Perhaps reflecting his choice of industries and firm locations, he found stronger assembler-supplier relationships. About 80% of the suppliers interviewed reported that they had benefited in some form from the ties, most especially in the areas of technology and marketing, but not much in finance. Quality control techniques were an important example, as was practical shop-floor advice. He also found that the strength of the ties varied according to the size of the firm and the ethnicity of the owner, with larger and non-*pribumi* firms better able to utilize opportunities arising from subcontracting relationships. Smaller firms were thought to lack absorptive capacity and were more reliant on government programs.[23]

Impact of the Economic Crisis

Anecdotal evidence suggests that SMEs weathered the crisis somewhat better than many larger firms. This is to be expected: they are generally less exposed to the modern financial sector; they tend to produce necessities rather than luxuries; and they are generally more nimble and less burdened by expensive overheads. Indeed, some researchers have concluded that SMEs flourished during the crisis, with upbeat assessments suggesting the rebirth of a newly invigorated people's economy. Lea Jellinek and Bambang Rustanto provide an example of the latter:

> Indonesia's informal sector has picked up the slack and seems to be experiencing an economic boom. . . . Small enterprises, killed off during 20 years of economic boom of the New Order, are being revived. Old traditions of artisanship and trade are being rediscovered. Rich and middle class consumers who formerly bought from the formal sector are now buying from traditional markets. . . . In contrast to

23. Hayashi, "Support Mechanisms for the Development of SMEs in Indonesia." Regarding the example of quality control techniques, see also Yuri Sato, "The Transfer of Japanese Management Technology to Indonesia," in *Indonesia's Technological Challenge*, pp. 326–41.

the economic crash depicted in the official, national and international media, we are witnessing an unprecedented economic boom in the small-scale sector.[24]

Many SMEs are closely linked to the agricultural sector, in processing and distribution activities. Most presumably are doing quite well. A case study of SME furniture producers in the town of Jepara (referred to above) by Henry Sandee et al. concluded that these firms were actually expanding during the crisis.[25] In a more general survey, Peter van Diermen also reached a largely positive conclusion.[26] Nevertheless, it may simply be that export orientation is the key to success during the crisis, and that this—more than scale—is the critical variable in the Jepara and other case studies. Moreover, Jepara had a well-established, export capacity pre-crisis and its SME firms were therefore better placed than most to take advantage of the highly competitive exchange rate from late 1997.

More comprehensive data are required to reach firm conclusions. In the absence of such data, a deficiency to which attention is drawn in the conclusion, one simply makes speculative guesses. One additional point should be emphasized in this context: there is nothing inherently desirable in a rising SME share. Indeed, it may be undesirable, to the extent that SMEs are associated with poorly paid work and unsanitary working conditions. That is, rising SME shares could be a sign of involution and declining living standards.

A Case for Intervention?

The fundamental economic rationale for supporting an activity arises when that activity is socially profitable and where private and social costs and benefits diverge. In the case of enterprise of a particular scale (e.g., SMEs), there needs to be evidence that the target group for assistance exhibits higher social efficiency than other groups. As the previous section pointed out, there is no decisive empirical evidence to support SME on these grounds. The fact that SMEs appear to be more efficient users of capital is suggestive but not conclusive evidence in this respect. And, on the contrary, some studies show that small firms are less capital-efficient than medium or large units.[27] If one were to rely on this criterion alone, therefore, it is not obvious that small firms in particular would receive any special support.

24. Lea Jellinek and Bambang Rustanto, "Survival Strategies of the Javanese during the Economic Crisis," International Labor Organization, Jakarta, 1999, pp. 1–2.

25. Sandee, Andadari, and Sulandjari, "Small Firm Development."

26. Peter van Diermen, ed., *SME Policies in Indonesia: A New Direction* (Manila: Asian Development Bank, 2000).

27. See, for example, the evidence cited in Ian Little, Dipak Mazumdar, and John Page, *Small Manufacturing Enterprises: A Comparative Study of India and Other Economies* (New York: Oxford University Press for the World Bank, 1987).

A range of less technical arguments are sometimes advanced in favor of SMEs. These firms are said to justify support because they are more labor-intensive, spatially more dispersed, provide the basis for entrepreneurial development, or on the grounds of equity smaller units are inherently deserving of assistance. None of these arguments is persuasive.

If labor intensity were the goal, the appropriate strategy would be to subsidize labor use in all activities, perhaps employing tax instruments to further this end. But what is important in this context is the adoption of a labor-intensive growth path, which is export-oriented in nature, so as to enable a country to exploit its comparative advantage in labor abundant activities. There is a marked contrast in this regard between India, which has a long commitment to SME promotion but a poor record of employment generation, and the East Asian economies, which have not paid great attention to SME but have a superior employment record.

Similarly, it is not obvious that SME promotion per se is the most effective means of tackling poverty. For the poor, the most effective strategy is to provide productive employment opportunities, combined with the increased supply of public goods such as education, health, and housing. It needs to be noted, moreover, that employment conditions in SME frequently are poor—low wages, insecure employment, and unsanitary working conditions. Often, these units are small precisely because their owners wish to avoid surveillance by labor officials and trade unions. Most other arguments for SME also confuse means and ends. There may be a case for regional promotion and decentralization initiatives, but this will almost certainly be achieved more effectively by fiscal equalization measures or special grants in favor of the target regions, and by infrastructure development.

What Works?

The key to promoting an efficient and dynamic SME sector is to create an environment in which these firms may prosper without long-term dependence on government support. Such an approach requires that bottlenecks be removed and that governments and international development agencies play a catalytic role that does not necessarily imply a permanent institutional commitment. The previous section suggested some generalizable lessons from case studies of successful SMEs. This sub-section draws attention to some additional examples of policy creativity in leading to improved efficiency and/or equity outcomes.

The most frequently discussed obstacle to SME development is finance. Capital markets are regarded as being imperfect in the sense that there are information bottlenecks or uncompetitive market structures. Recent research and policy innovations in Southeast Asia have cast doubt on both these assertions.

One example concerns the nexus between clear land titles, the credit market, and agricultural productivity. Detailed research in Thailand by Feder et al. shows that those farmers having clear land titles are able to obtain credit at lower interest rates than those without such access. Programs of land titling and ownership demarcation can play an important role in linking small farmers into formal credit markets. These researchers suggest that the payoffs through this route will be greater than schemes that simply attempt to impose artificially low credit ceilings.[28] Although the focus here is on agriculture, there is little doubt that it has wider implications for SMEs. The smaller of these firms in rural areas frequently use land as collateral for borrowing. The key point here is that capital markets may indeed pose problems for SMEs, but the approach should be to identify the problems at source, rather than simply attempt to regulate them away. A related point here, of more general relevance, is that better physical infrastructure leads to more competitive product and factor markets, often to the substantial benefit of small firms and farmers, especially in remote areas.[29]

A second example of successful financial innovation comes from Indonesia, and draws on the research of Patten and Rosengard.[30] Indonesia operated a number of subsidized SME credit programs from the early 1970s, all in the context of a heavily regulated and state-dominated financial sector. By the early 1980s, however, there was a rethink of these policies, for at least two reasons. One was simply financial—with the collapse in oil prices, the government was no longer able to sustain the subsidies. But, in addition, there was much abuse in the schemes, and no conclusive evidence that access to subsidized credit was a crucial factor in SME success.[31] The government therefore introduced schemes that placed more emphasis on access and outreach and less on regulation and price. The main schemes were implemented by government banks and their agencies, the Bank Rakyat Indonesia and the Badan Kredit Kecamatan. They permitted the banks to recoup the higher costs of rural, small-scale lending—though nevertheless at rates well below those prevailing in the informal markets—and introduce mobile and flexible services. The programs have grown at a spectacular rate, their loss rate is

28. Gershon Feder et al., *Land Policies and Farm Productivity in Thailand* (Baltimore: Johns Hopkins University Press for the World Bank, 1988).

29. For an Indonesian case study demonstrating this point, see Yujiro Hayami and Toshihiko Kawagoe, *The Agrarian Origins of Commerce and Industry: A Study of Peasant Marketing in Indonesia* (New York: St Martin's Press, 1993).

30. Richard H. Patten and Jay K. Rosengard, *Progress with Profits: The Development of Rural Banking in Indonesia* (San Francisco: International Center for Economic Growth, 1991).

31. See Bruce Bolnick and Eric R. Nelson, "Evaluating the Impact of a Special Credit Programme: KIK/KMKP in Indonesia," *Journal of Development Studies* 26:2 (December 1990), pp. 299–312, for a detailed study of the impact of the schemes, and a comparison of recipient and other firms.

low, and they involve very little subsidy. Both the latter two features are in marked contrast to the programs they replaced.

A third example where intervention appears to have had some success is in the area of marketing support. In their case study of Indonesia, Berry and Levy show that private marketing channels work well for many SMEs, especially those having subcontracting relationships with larger firms and are non-*pribumi* owned. They found that, consistent with the argument above, most government support schemes have had little beneficial impact.[32] But one form of support apparently valued by smaller firms lacking knowledge of international (and even broader national) markets is participation in international trade fairs and other mechanisms that enable these enterprises to better connect to marketing channels. There appears to be a role for the public sector as a catalyst in assisting smaller firms to cross this threshold into commercial success. The assistance is likely to be short-term, perhaps even one-off, in nature, and will be more effective when there are already in existence well-functioning markets supplying other inputs such as finance and technology.

An Agenda for Policy-Oriented Research

SMEs will continue to receive policy emphasis in Indonesia. The policy challenge is to ensure that government interventions focus on genuine market failures, that is, identifying areas where the government can overcome market failures and thereby ensure that a more efficient SME sector can emerge, to facilitate the employment creation objectives and to provide a broad-based industrial sector. In the process, as has been argued above, it will be important to guard against overloading the SME policy program with equity objectives, which, commendable though they may be, are best addressed via alternative policy instruments.

Three areas commend themselves for further investigation and support. First is the secondary database. Though better than many other developing countries, it is still weak. Reasonably comprehensive data on very small units (less than 20 employees) are generated only on a decennial basis. Intercensal surveys of these units are not of high quality. The annual *Statistik Industri* (SI), which includes firms with 20 or more employees, has substantial under-enumeration, although it is considerably improved on the 1980s. It has not been possible, for example, to obtain a clear picture of the impact of the economic crisis upon firms of different size groups. Admittedly, it is difficult to collect data on very small cottage/household enterprises, but it should be possible to extend the surveys to firms with five or more employees. This could be achieved within given resources by reorganizing data col-

32. Berry and Levy, "Technical, Marketing and Financial Support."

lection procedures. First, the BPS currently collects much data in its SI series that are not essential on an annual basis. Examples include detailed data on raw material usage and capital transactions. This could be collected on a five-yearly basis, without any loss of relevance, and the data collection resources redeployed into a wider enumeration of industrial units but with a much simplified list of questions. Second, there is considerable overlap between the BPS and the relevant line ministries. Each collects its own database, and there appears to be little cooperation or sharing of data. This represents a wasteful duplication of effort, and imposes unnecessarily on firms. With greater coordination, more useful data could be collected without any increase in expenditures.

Secondly, industrial extension programs need to be reformed and invigorated, to provide services that are genuinely useful and likely to enhance firm-level productivity. It is doubtful whether this can be achieved within the existing policy framework and bureaucratic institutions, and therefore new structures independent of the government will most likely have to be created. Unlike some of those in agriculture, I am not aware of any major industrial extension scheme in Indonesia having been successful, in the sense of contributing to increased industrial efficiency in a cost-effective manner. It is puzzling that this is so, given all the talk about the need to develop SMEs and *pribumi* enterprise. The issue of efficient industrial promotion will become all the more important as other means of industrial promotion—tariffs, SOEs—are gradually stripped away.

Past policies have delivered little, as the case studies referred to above and other material have emphasized. Although resource constraints have been a factor, a more significant constraint has been the model adopted. The challenge is to develop a demand-driven, responsive approach that identifies obstacles to growth. These obstacles need to be highlighted on the basis of industry-level research in which knowledgeable respondents are involved in the process. It would draw on international best-practice, such as in Taiwan.[33] Cases of successful agricultural extension (e.g., the spectacular growth of rubber smallholders in Thailand) may also be relevant. The emphasis should not be on subsidies (although partial subsidies might be present) nor should it aim to guarantee the existence of all SMEs currently operating. Size per se should not be a criterion for such a program, although in practice it is likely that the majority of participants would be SMEs. It should certainly not attempt to be a *pribumi* development scheme, since the Chinese business community should be actively engaged in such programs.

33. Otto C. C. Lin, "Science and Technology Policy and Its Influence on Economic Development in Taiwan" in *Behind East Asian Growth: The Political and Social Foundations of Prosperity*, ed. Henry S. Rowen (London: Routledge, 1998), pp. 185–208.

Foreign donors might be involved in such schemes, but cautiously, since there is a danger that commercial interests or a priori models of industrialization might dilute the crucial demand-driven aspects of the programs. As industry associations develop in Indonesia, they could be involved more directly in the schemes. But this will be a medium-term goal, as they are currently very weak in most industries.

Thirdly, more micro-level SME case studies are required to understand SME dynamics and the major bottlenecks these units face (marketing, product design and innovation, production technology, and so on). There are already a limited number of case studies suggestive of the essential ingredients—a conducive commercial environment, good physical infrastructure, mechanisms facilitating access to foreign technologies and markets, avoidance of an intrusive government presence. But more case study work needs to be done to supplement this picture, and to discern whether there are cases of positive intervention. The evidence seems to suggest that these success stories were largely accidents and occurred *in spite of* the government. If bureaucratic reform is not possible, then the best advice might be a hands-off strategy in which the government does little more than provide an enabling environment.