EXECUTIVE SUMMARY:
ASIAN SMES AND GLOBALIZATION

1. AIM OF THE STUDIES

Large enterprises (LEs) and small and medium enterprises (SMEs) are the two important wheels of development in developing countries. While multinational enterprises (MNEs) and domestic LEs have been playing an important role in accelerating the industrialization process, SMEs provide the crucial industrial linkages to set off a chain reaction of broad-based industrial development. Without SMEs as subcontractors and suppliers of intermediate inputs to MNEs and domestic LEs, industrial growth in developing countries will not be able to realize sustainable increases in the domestic value added, employment, productivity, and industrial linkages.

In the globalizing era of a borderless world, buttressed by regionalization and liberalization, SMEs provide an important source of domestic employment creation, resilience against external economic fluctuations, and mechanism for local capacity-building. Indeed, SMEs are important in economic development of all countries.

This project aims to examine SME policies in Asian countries within the framework of globalization and to submit policy recommendations, taking into account the different stages of industrialization and business environment development in different participating countries.

2. STUDY METHODOLOGY

This project focuses on SMEs' manufacturing sector only. Although traditional cottage industries in rural areas are important in developing countries, such related analysis should come from the viewpoint of social policies and rural development.

Since this project tries to find effective ways to promote industrialization, traditional cottage industries are excluded.

This study covers the following countries: Cambodia, China, India, Indonesia, Japan, Laos, the Philippines, Singapore, Thailand, and Viet Nam. Each country-specific study has two components: secondary data analysis and field studies.

2.1 Analysis of the Secondary Data

SMEs in the 10 countries mentioned above were assessed from four viewpoints: innovativeness, market expansion, competitiveness, and networking. Innovativeness includes not only product and process innovation but also as an approach to access new business opportunity. Market expansion covers both domestic and export markets. Competitiveness is considered as a relative position of an SME in the production process by taking into account quality, price, and delivery time. Networking includes subcontracting between LEs and SMEs, collaboration among SMEs, and linkages with governments and other support agencies. The activation of agglomeration effects by promoting coordination among SMEs is becoming a major strategy of SME policies in developed countries.

2.2 Field Survey

Field surveys were conducted in order to strengthen and verify conclusions from the secondary data. Since data on SMEs are neither adequate nor comprehensive in many ASEAN countries, field surveys were necessary. Due to time constraints, the field surveys focused on only one of the above listed viewpoints—SME networking. The targets of the surveys were enterprises employing fewer than 100 workers.

3. FINDING AND CONCLUSIONS

3.1 Direction of SME Policies

In many cases, SME policies have tried to achieve contradicting objectives like protecting and promoting SMEs at the same time. Whereas a social safety net is necessary to protect jobs and production in SMEs, it must not mean providing long term

protection against competition. The private sector should take initiatives in the process of SME development. Intervention by government over time would create economic distortion and mis-allocation of scarce resources. The role of SME policies is to facilitate the smooth functioning of SME development. SME policies should be flexible enough for SMEs to be able to easily adjust to them.

3.2 Dynamic Change of Asian Economies

3.2.1 Subcontracting

Automobile and electrical industries consist of MNEs and foreign or joint venture subcontractors in the first tier in many Asian countries. As production volume increased in the Thai automobile industry, MNEs and foreign or joint venture subcontractors in the first tier began to procure components and parts from local companies. Local SMEs in the second and third tiers are formed to supply parts to the subcontractors in the first tier. At this stage technology is transferred from MNEs to local companies efficiently and agglomeration effects become useful.

3.2.2 Business Environment

MNEs are being strict at selecting subcontractors in ASEAN countries. Only a small number of local SMEs have the chance to be selected as subcontractors in the second tier. Hence, SME promotion policies, simultaneously, should improve competitiveness of existing non-subcontracting enterprises. Moreover, policies should consider the initiatives of the private sector and improve business environments rather than being directed to meet the specific targets defined by the government.

Labour intensive industries in Thailand are losing their competitiveness because of high wages. Analysis suggests that labour intensive industries may shift from Malaysia and Thailand, where wages are rising, to other countries in the future. Low wage is a consideration for international competitiveness in labour intensive industries like apparel. Improvements in the business environment, for example establishing a legal framework, bringing about stability of the macro economy and creating infrastructure is crucial for the development of SMEs in Cambodia and Laos. The importance of these factors is emphasized with increasing competition in international textiles and garment markets following the abolition of the Multi-fiber Agreement

(MFA) in January 2005. Similarly, for some countries like India and the Philippines, extending benefits to workers engaged in apparel global production networks (GPNs) requires policy attention.

3.2.3 Networking

Both China and India have experienced dynamic and rapid economic growth. Since domestic markets are expanding, subcontracting systems involving local LEs and SMEs have developed. Coordination and exchange of information among SMEs are very important to activate agglomeration effects of industrial clusters. Moreover, SMEs can play an important role to absorb increasing labour force and thereby reduce the problems of unemployment.

3.3 Country-wise Analysis

3.3.1 Cambodia

Majority of the Cambodian SMEs are still in a very early stage of development. In 2005, over 80 percent of Cambodian industrial SMEs were engaged in food, beverage, and tobacco industries. The SME sector is dominated by family businesses with fewer than 10 employees, processing primary produce for the domestic market. Cambodian SMEs typically use very basic technology and have low total factor and labour productivity. As globalization deepens they are struggling to compete with imported goods manufactured by SMEs in neighbouring countries. There are three key factors impeding the development of Cambodian SMEs: the country's weak regulatory and legal framework, SME access to finance, and lack of SME support facilities.

3.3.2 China

SME clusters have been formed in developed coastal areas. Each cluster consisting of one or more towns concentrates on one product. By obtaining economies of scale and scope, SMEs in the clusters can enhance efficiency and reduce costs. Field surveys were undertaken in the Guanlin cable cluster, Shengze textile cluster and Hengshan sewing machine cluster. In these clusters, cooperation among SMEs for procurement and marketing is found common. Division of labour among SMEs is also

observed in these clusters. Nevertheless, financing is a major constraint facing SMEs. Although the SME promotion policy was enacted in 2003, its impact has been limited.

3.3.3 India

Small enterprise promotion has continued to remain an important and integral part of Indian development strategy well before the First Five-Year Plan. Some of the most persisting constraints facing the sector, dominated by smaller units in the informal sector, include poor or non-availability of loan finance, low levels of technology, inadequate physical and economic infrastructure, and a policy of product reservation for small scale industries, which excludes entry of LEs. Poor monitoring of implementation and effect of various small firm policies has been an issue of concern. There has been a definite decline in the access to credit by small enterprises among SMEs. Given the large scale attempts to promote industrial clusters in the SME sector, cluster promotion in the Indian context must move beyond the 'sectoral' bind.

3.3.4 Indonesia

Whereas the local content policy succeeds in creating strong interdependence between SMEs and LEs due to the government's excessive interference, private sector-led subcontracting networks increase in some industries. There are two tiers of subcontracting in metalworking industry in Tegal—first, between large and medium enterprises, and second, between medium and small enterprises. Ample empirical evidence exists to establish that SMEs are able to undertake innovations. In the Tegal metalworking industry a group of entrepreneurs had successfully produced a hand tractor with its own design fit for the domestic market. However, productivity in SMEs is lower than that in LEs.

3.3.5 Japan

Japanese SMEs have stood on the crossroads since 1991. Many LEs shifted labour intensive processes from Japan to Asian countries and began not only to procure components and parts from local markets but also to import them into Japan from Asian countries. Moreover, long-term recession forced the machinery industries to review their procurement strategy. Automobile and electrical equipment manufacturers

changed ways of procurement at three points. They began to procure components from the companies under different groups, reduced component types, and raised the share of components and parts produced in-house. Rationalization of procurement by LEs led to the selection of only efficient subcontractors and ended transactions with inefficient ones. The change of procurement policy by LEs might have caused bipolarization among SMEs.

3.3.6 Laos

Not only the average wage for the Lao worker is lower than that in the neighbouring countries, the labour productivity is lower as well. The Generalized System of Preferences (GSP) granted by the EU has contributed to an increase of exports of handicrafts, silk, and textiles. The major obstacles for SMEs are mainly high tax, high inflation, unstable exchange rate, and lack of investment funds. In the garment industry, FDI provides opportunity to SMEs to increase their output through subcontracting production linkages. While foreign contractors lend sewing machines to garment units and provide advance payments, collaboration among garment SMEs is not common. Trade liberalization seems to have negative impact rather than positive impact on SMEs.

3.3.7 The Philippines

A decline in subcontracting ratios was observed in wearing apparel, machinery except electrical, electrical machinery, and transport industries from 1994 to 2003. This indicates that the local content of the country's leading exports has remained low and declined substantially. The deepening of high technology industries such as the electronics and auto parts and components in terms of the creation of backward linkages within the Philippine manufacturing industry has remained weak. In the Philippines, the most important factors for subcontractors in maintaining good relationship with the contractors are product quality, timely delivery, and low cost. The high levels of protection in the past explain the lack of competitiveness in many of the country's manufacturing industries.

3.3.8 Singapore

SPRING Singapore is the lead government organization to spearhead, plan, and assist SME development in Singapore. It has identified three key factors fundamental to the development of SMEs—human resources, technology, and financing. Financing is particularly critical in the early stage of SME development. The most challenging issues facing Singapore SMEs are increasing operation costs, competition both in domestic and external markets, shortage in qualified manpower, and technology upgrade to enhance access to the external market.

3.3.9 Thailand

In the Thai automobile industry, the transfer of production capabilities is moderately successful, while the more advanced capabilities such as design has been relatively limited. Since the abolition of the local content requirement policy in 2000 and liberalizing trade policy, many Japanese and US automobile assemblers and auto parts manufacturers have turned Thailand into a major export base for their global operations. The field survey revealed that interfirm technology transfer became more intensive than it had been in the past. The more active role of suppliers and their increased ability to take part in the product engineering process have become increasingly important.

3.3.10 Vietnam

SMEs have experienced a phenomenal growth in the number of registered enterprises and investment especially since 2000 when the Enterprise Law was promulgated. Vietnam's SMEs remain weak in terms of both internal and external networking, competitiveness, innovativeness, human resource, and readiness to go global. Apart from the overall development of SMEs from the beginning, these weaknesses have been largely due to the prolonged discrimination against the private sector regarding access to key factors of production, especially, credit and land, lack of a pro-private and competitive business environment, poor quality of human resource and poor availability of business development services.

4 POLICY RECOMMENDATIONS

Assistance to SMEs must be based on long-term comprehensive, coordinated and consistent policy. Often, empirical evidence shows that effective policy measures for SMEs in developing countries are not coordinated among relevant ministries, agencies, and organizations which in the long run are not even consistent. Therefore, we must develop "best practices" on business environment, subcontracting and networking, and monitoring mechanism to ensure that SME policies are efficiently and effectively carried out. Successful case studies invariably indicate that an effective collaboration between the government, trade associations, and educational or training institutes is important to reduce costs for human resource development. Likewise, disseminate information through the effective use of available information and communication technology (ICT).

4.1 Networking and Clustering

The development of SMEs often requires effective clustering and networking which are developed and made accessible by conscious effective government assistance programmes such as industrial incubators, industrial parks for SMEs, and industrial apartment (e.g., Kojyo apartment in Japanese). Effective cluster environment may create synergy and adequately compensate serious multifarious shortages of resources often faced by SMEs.

In many countries, central governments are taking the initiative of planning and implementing SME policies. Often, the critical role of local authorities and relevant agencies are absent or negligible. Effective implementation of SME policies must be undertaken and monitored by local governments, agencies, and organizations with adequate funding and support provided by national governments. Local government can play the critical role to create database of SMEs and set up a forum of SME owners and local governments.

4.2 Improving SMEs Database

There is a need to both streamline and improve the quality of database on SMEs and clusters. Through the use of ICT, these data sources can be made accessible to a wider group of users and be rendered policy responsive.

4.3 Enhancing Product and Process Quality

In most Asian countries, towards enhancing SME competitiveness, efforts can be made to introduce easier provisions for ensuring quality certification. Therefore, there is a need to establish local and regional product testing and quality standards institutes as public goods for SMEs.

4.4 Ensuring Competitive Domestic Market Structure

Anti-monopoly regulations should be enacted and implemented to ensure market access for SMEs. In this context, the establishment of SME "incubators" will be helpful to enhance new entry and competitive environment.

4.5 Subcontracting

The establishment of joint technology centers by major FDI countries will be a useful mechanism to disseminate information and training to local SMEs as part of capacity-building. An example is the establishment of Japan-Singapore Software Technology Center. In addition, the governments should encourage trade fairs for procurement to promote subcontracting between MNEs and SMEs. At the trade fairs, MNEs can exhibit components and parts which they are interested to procure.

Chapter 1

CAMBODIAN SMALL AND MEDIUM SIZED: ENTERPRISES: CONSTRAINTS, POLICIES AND PROPOSALS FOR THEIR DEVELOPMENT

Peter Baily

Abstract

In 2004 the Cambodian government formed the SME Sub-Committee and the SME Development Framework was created. The framework is the first attempt by the government of Cambodia to identify barriers and introduce measures specific to promoting development of the country's SMEs. Three main barriers to SME development have been identified; the weak regulatory and legal framework; limited SME access to finance; and a lack of SME support activities. A number of policies have been implemented and recommended to overcome these obstacles to SME development. These include policies to improve the Cambodian business environment.

INTRODUCTION

Small and Medium sized Enterprise (SME) development is crucial for sustained and equitable development of the Cambodian economy. Evidence from more economically developed Asian nations demonstrates that SMEs have considerable potential for driving economic growth. Under the right conditions, entrepreneurs, regardless of background, can start and grow SMEs, generating profits and creating employment opportunities. SMEs drive industrial progress, improve an economy's ability to deal with shocks and are recognised as breeding grounds of innovation.[1]

As elsewhere in Asia, SMEs make up the vast majority of businesses in Cambodia. Almost 40% of the nation's enterprises have between 10 and 100 employees, and almost 99 percent have between 1 and 100 workers.[2] It is estimated that SMEs provide about two thirds of the country's employment.[3]

With the expansion of globalisation, manufacturing SMEs everywhere are facing increasing international competition and need to improve quality and efficiency of output to international standards to survive. The Cambodian business environment needs improving, and SMEs need developing, to be able to compete with imports. Creating a level playing field and encouraging SME development will not only enable Cambodian SMEs to compete successfully in their domestic market; it will also pave the way for their involvement in exporting.

The Royal Government of Cambodia (RGC) has stated a commitment to private sector led growth and recognises the importance of SMEs for sustainable and equitable economic development. Although still at the very early stages of implementation, the government has introduced a range of policies focused on SME development. Key to organising SME development strategies has been the forming of the SME Sub-committee in 2004.

This paper reports on the growth and current status of Cambodian SMEs, and the main barriers they face to their development. It discusses a number of planned and implemented policies, and recommendations to encourage SME development.

2. CAMBODIAN INDUSTRIAL SMEs

2.1 History

Following independence from the French in 1954 there was a boom in the number of Cambodian industrial SMEs. According to a 1958 government report, in the mid 1950s there were 369 registered SMEs operating in Cambodia. By 1958 there were over 1000.[4] Included in this group were assembly plants for Citroen cars, motorcycles and sewing machines, two scooter factories, soap factories, weaving factories, paper and sugar mills and a canning factory.[5]

These factories along with much of the country's infrastructure were destroyed as Cambodia got dragged into the deepening regional conflict. During the Khmer Rouge (KR) regime's control of the country from 1975 to 1979 all enterprises were forbidden, and trade, markets and money were outlawed.[6]

2.2 Growth

The subsequent growth of Cambodian SMEs has been remarkable considering the level of devastation of infrastructure and institutions during the country's recent civil war, and the banning of commerce from 1975 to 1979 under the Khmer Rouge (KR). By the early 1980s agro-industry food processing activities, predominantly rice milling, had started taking place under the cooperative sector. By the mid 1980s a host of small private enterprises providing basic manufactured goods, such as fish sauce, had emerged to meet growing domestic demand.[7] Nationalised SMEs were sold or leased to the private sector from late 1989, and in 1991 the government introduced a full-scale privatisation programme. Macro-economic stability had been largely achieved by the late 1990s and basic infrastructure and institutions had been rebuilt providing the platform for growth of SMEs.[8]

The number of Cambodian manufacturing SMEs has increased steadily since the late 1980s. A National Institute of Statistics (NIS) survey of industrial firms shows that

Table 1: Registered SMEs by industry

Enterprise type	1998	1999	2000	2001	2002	2003	2004	2005
Food, beverage and tobacco	18,590	19,147	20,152	21,871	21,568	20,869	22,712	23,343
Textile wearing apparel leather	310	396	366	2382	1,417	1,406	1,672	1,662
Wood products including furniture	895	814	869	141	13	13	16	-
Paper products printing publishing	26	23	24	23	15	21	25	31
Chemicals petroleum coal plastics	55	67	297	277	275	96	120	153
Non-metallic mineral products	811	777	666	721	757	681	680	718
Fabricated metal products	1,375	1,647	1,824	1,454	1,899	1,850	2,239	2,222
Other manufacturing	2,035	1,356	1,208	1,286	976	1,049	667	618
Total	24,097	24,227	25,406	28,155	26,920	25,985	28,131	28,747

Notes: SMEs in this data set are defined as employing up to 50 people. There are very few enterprises that employ between 50 and 100 people in Cambodia, so not including this group still provides a reasonable estimation of enterprises with fewer than 100 employees.

Source: Cambodian Ministry of Industry Mines and Energy, *Cambodian National Institute of Statistics Yearbook 2006*

manufacturing SMEs in Cambodia doubled between 1993 and 2000, a compounded growth rate of over ten percent per annum.[9] By the late 1990s registered manufacturing SMEs in Cambodia had grown to number over 24,000, increasing to nearly 29,000 by 2005, (see Table 1).[10]

The number of registered enterprises is less than half of all Cambodian manufacturing SMEs. Due to barriers to registration and little perceived benefit of joining the formal sector, as discussed further below, many of Cambodia's enterprises have remained informal.

At a rough approximation there are over 60,000 industrial SMEs in Cambodia today. The Ministry of Industry Mines and Energy (MIME) estimated that there were at least 30,000 unregistered industrial enterprises in Cambodia in 2005. The Asian Development Bank (ADB) estimated informal industrial enterprises with fewer than 50 employees to number about 30,000 in 2003.[11] With these two estimates of informal industrial SMEs both close to 30,000 and MIME data showing a further 30,000 registered SMEs in 2005, it is likely that there are at least 60,000 registered and unregistered SMEs in Cambodian today.

2.3 Involvement in International trade

The growth of Cambodian exports has gained momentum as the country has stabilised and foreign investment has increase. Up until the mid 1990s the majority of exports were primary products, such as rubber and timber. Since 1993 there has been rapid growth in the garment industry. However Cambodian SME involvement in manufacturing exports remains minimal.[12]

Very few Cambodian manufacturing SMEs are involved in exporting. Rather than being processed in Cambodia, most of the country's primary goods, such as cashew nuts and rice paddy, are sent unprocessed to neighbouring countries, where production is more efficient, and then imported back into Cambodia as a finished product. There is a small cluster of SME garment manufacturers around Poipet on the Thai Cambodian border, exporting to Thai markets.[13] The only other manufactured

exports of any note are garments produced by large, typically foreign owned enterprises, with considerably more than 100 employees.[14]

Despite their lack of involvement in exports Cambodian SMEs are still competing with foreign producers. As Cambodia has moved towards a market economy and joined trade groups, including the Association of South East Asian Nations (ASEAN) and the World Trade Organisation (WTO), it has opened the door to international trade. Development of Cambodian domestic SMEs is taking place in an increasingly competitive international market place.

Many of the SMEs from Cambodia's neighbours are more competitive. Most have access to superior infrastructure, higher skilled human capital and face fewer bureaucratic barriers. In this context it is of crucial importance for Cambodia's economic development that the main issues hampering development of the country's SMEs are identified and addressed.

2.4 Definition

Up to 2005 Cambodia did not have a single official classification of an SME. The National Institute of Statistics (NIS) classified enterprises with fewer than 10 employees as small, and 11 or more as large. It also, at times, further segregated enterprises with between 11 and 100 employees as medium sized. MIME defined small enterprises as those with fewer than 50 employees. Some ministries use either or both of these definitions, while others use different definitions again, some based on asset value. This makes it difficult to compare SME data from different sources and, as definitions have been changed over time, from one period to the next.

In July 2005 the Cambodia SME sub-committee proposed the following definitions of enterprise size to be applied to all ministries, (see Table **2**). It is unclear whether definitions have been used consistently since.

For policy and statistical purposes the definition based on employee number is the preferred SME Sub-Committee option. When employee number is not suitable, such as when there is considerable variance over time in the number of employees at an enterprise, the definition based on financial assets should be used.[15]

Table 2: SME definition

	Employee number	Assets excluding land US$
Micro	Less than 11	50,000
Small	11 – 50	50,000 – 250,000
Medium	51 – 100	250,000 – 500,000
Large	Over 100	Over 500,000

Source: Royal Government of Cambodia Sub-committee on Small and Medium Enterprises SME Secretariat *Small and Medium Enterprise Development Framework 2005*

For the purpose of this report, unless otherwise stated, the classification SME refers to any enterprise with up to 100 employees.

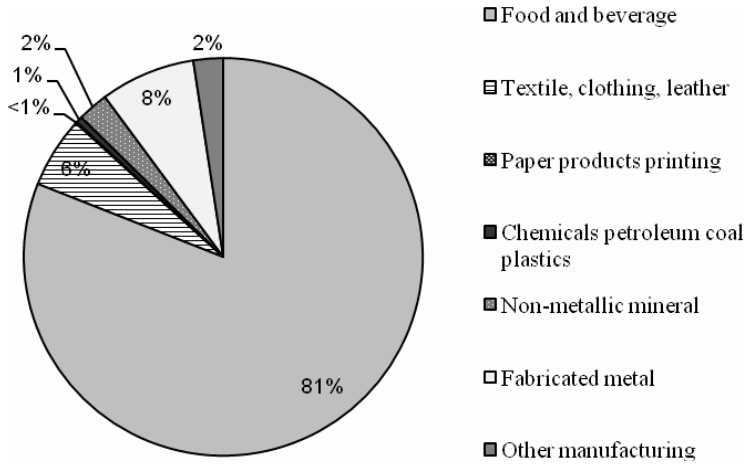
2.5 SMEs today

Today the vast majority of Cambodian manufacturing SMEs are small family run businesses, involved in basic processing of primary produce for the domestic market. There are very few who export directly or by supplying larger domestically based exporting firms. Few have formal contracts or more than basic interactions with other companies. A lot of commerce is based around personal relationships.

According to MIME data, in 2005 over 80 percent of Cambodian industrial SMEs were involved in food, beverage and tobacco industries, (see Figure1). NIS survey data from 2000 show similar findings, with close to 80 percent of manufacturing SMEs from a sample of nearly 8,000 businesses involved in food, beverages and tobacco. Furniture manufacturers made up a further seven percent of the sample. Small scale textile and garment, machinery and non-metallic mineral producers made up the bulk of the remaining 13 percent. There is also a small number of Cambodian SMEs involved in traditional handicrafts and chemicals.[16]

The high concentration of manufacturing in the early industries (food, beverages, tobacco: textiles and clothing) is unusual. By comparison in low income countries it is common for early industries to produce about half of manufacturing value

Figure 1: Industrial SMEs by sector 2005



Source: Cambodian Ministry of Industry Mines and Energy, *Cambodian National Institute of Statistics Yearbook 2006*

added. [17] The high percentage of manufacturing of textiles and garments in Cambodia distorts the relative involvement in manufacturing of other sectors. The dominance of this sector follows a boom in FDI in garment factories from the mid 1990s to take advantage of Cambodia's preferential access to US and EU markets.

Cambodian firms typically have simple structures. Over 98 percent of manufacturing SMEs are single establishments, with only one branch or factory. More than 90 percent are single proprietorship businesses, owned and controlled by an individual or family. With the exception of large garment manufacturers, over 95 percent of enterprises in Cambodia are owned by Khmers, with minimal or no association with foreign supply chains.[18]

Cambodian SMEs are generally very small. According to the NIS 2000 survey, within the manufacturing sector nearly 86 percent of SMEs had fewer than 10 employees. Five percent had between 10 and 19 employees and about three percent had between 20 to 99 workers. Less than seven percent of Cambodian firms surveyed by the NIS were large establishments with more than 100 employees. [19]

While it is not unusual for a country with a small population to have so many small SMEs, this may indicate barriers to enterprise development. Traditionally, in a well functioning economy micro-enterprises develop into small enterprises, some of which develop into medium sized and large enterprises. Few Cambodian companies have developed in this fashion.

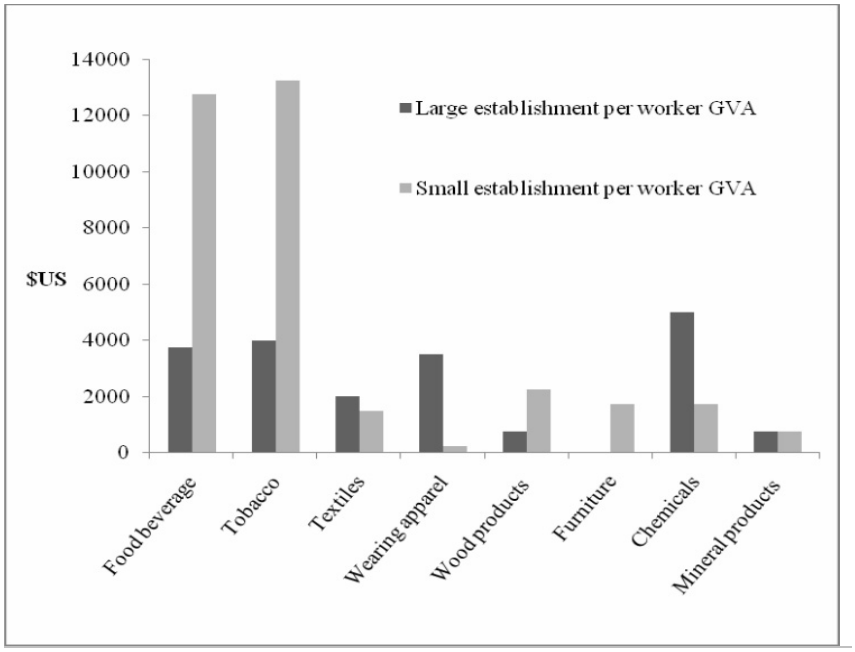
On the other hand, there is evidence that much of the growth in SME numbers, discussed above is due to increases in numbers of small as opposed to micro enterprises. Data from the Ministry of Planning (MoP) shows that the number of firms employing between 10 and 49 workers as a percentage of all firms, increased from 39 to 79 percent between 1993 and 2001. During the same period the number of firms employing fewer than 10 workers (micro enterprises) decreased as a percentage of all firms from 60 to 20 percent.[20] The SME survey associated with this report supports these findings, providing evidence of a number of firms developing from micro to small to medium sized enterprises.

2.6 SME performance

Within the manufacturing sector NIS data shows per worker output is almost always higher for small firms than it is for large firms.[21] In the manufacture of food and beverages gross output per worker is over twice as high for small as it is for large enterprises (see Figure 2).

However, Cambodian SMEs have low total factor and labour productivity relative to neighbouring countries. By both measures, productivity of Cambodian firms lags behind enterprises in almost all other Asian nations. A 2004 World Bank (WB) study shows Cambodian firms to have total factor productivity 18 percentage points below those of India and 24 percentage points below those of China. Labour productivity is 65 percentage points below that of India, and almost two thirds below that of China.[22]

Figure 2: Gross value added per worker in 2000



Notes: Small firms are defined here as having fewer than 10 employees
Source: *Cambodian National Institute of Statistics Yearbook 2006*

2.6.1 Physical capital

The productive capital used by Cambodian SMEs is often old and inefficient relative to that used in neighbouring countries. Companies are hampered in their abilities to upgrade due to an under-developed financial market. Many lenders simply increase the cost of credit to compensate for perceived risks. Investment is further hindered by a weak rule of law and weak institutions. It can cost considerably more than a loans value for a lender to seek legal recourse following a default.

To some extent the use of old and basic machinery also reflects a lack of human capital. Older machines are easier to repair with basic knowledge when they break-down.

2.6.2 Human capital

Cambodians generally have limited formal educated and training and have few opportunities to enhance their human capital. The World Bank reports that in 2003

nearly 97 percent of the country's manufacturing workers were unskilled and less than a quarter of Cambodian firms provided formal training to workers.[23]

Even a basic education is unavailable to many Khmers. There is a major shortage of qualified teachers and less than three percent of the country's GDP is spent on public education.[24] Although primary and junior high school education is officially free and compulsory, low official wages lead to teachers demanding fees from students, and families often remove children from school to help harvest and prepare family plots of land.

For students there is little motivation to study, as well-paying jobs are usually given based on family contacts, not ability.

3. THEORIES OF DEVELOPMENT

Very generally theories of Asian development can be classified into two groups. On one hand are accumulation theories, where the accumulation of physical capital and upgrading technology is vital for economic development. On the other hand are assimilation theories, where factors such as entrepreneurship, innovation and the ability to learn and adopt technology are of crucial importance for enterprise and economic development. The relevant importance of accumulation verses assimilation is debated, but it is obvious that some mix of both is required for nations and enterprises to develop. Empirically the high rates of growth in Asian economies has been characterised by high rates of growth in both physical and human capital.

Many of the following barriers and recommendations reflect the importance of physical and human capital. Providing a level playing field where Cambodian SMEs can access and upgrade capital would go a long way towards enabling these enterprises to develop.

The Small and Medium Industry Development Corporation of Malaysia (SMIDEC) have identified four stages of enterprise development. During the initial stage factors such as access to an adequate workforce and raw materials, and

satisfactory infrastructure are crucial for development. As the enterprise enters the second stage, standards and technical assistance, production processes and market development take on more importance. During the third stage, factors such as technological, ICT and managerial capabilities become basic requirements. During the fourth and final stage enterprises become globally competitive and factors such as design capability, brand name promotion and industry upgrading are basic concerns.[25]

In terms of SMIDEC's model Cambodian SMEs are all around the first two stages of enterprise development. This again emphasises the importance of physical and human capital accumulation, and underlying this, an enabling business environment for enterprise development.

4. AN ENABLING BUSINESS ENVIRONMENT

The uncertain business climate exasperates the problems of low levels of physical and human capital available to Cambodia SMEs. Corruption, poor governance, weak courts and poor infrastructure cause excessive costs and uncertainties for Cambodian enterprises.[26]

Over the last ten years the Royal Government of Cambodia has introduced a number of laws designed to promote commerce in general. These include financial sector laws, a land law to strengthen land rights and encourage the use of property for collateral, and amendments to the Law on Investment to encourage purchases of productive capital. The Law on Enterprise Accounting and Audit was introduced as a first step towards implementing improved accounting standards. The law on Commercial Enterprises and a law on Commercial Arbitration have recently been passed in an attempt to reduce risks associated with trading. There are a further eight major commercial laws currently being considered by the government.[27]

These policies address many barriers hampering commerce and therefore SME development. But it is only within the last few years that the government has focused on removing barriers specific to the development of SMEs.

4.1 SME promotion strategies

Up until 2004 there was no single department controlling SME promotion policies. As many as 25 different ministries and organisations have developed their own SME promotion strategies, regulations and policies focusing on achieving varying outcomes. This increases not only uncertainty regarding requirements and government assistance, but also the compliance cost to SMEs. An SME garment manufacturer headed by a female entrepreneur will be subject to regulations and policies from at least the Ministry of Commerce (MOC), the Ministry of Women's Affairs, and the Ministry of Environment.

None of the ministries officially coordinate SME promotion activities or share information. This results in considerable duplication of data collection and often redundant strategies. At the worst policies designed to promote SME development can contradict each other.[28]

In 2004 the SME Sub-committee was formed to coordinate and promote policies to develop SMEs. By coordinating the SME policies of different government departments and associations it is hoped duplicating and contradicting policies can be avoided.

4.1.1 The Rectangular Strategy

In July 2004 the Royal Government of Cambodia produced the Rectangular Strategy, with thirteen approaches to encouraging Cambodian commercial development, (see Table 3). The Rectangular Strategy was intended to promote economic growth, generate employment, and encourage efficiency through competition. One of the main focuses of the Rectangular strategy was to promote the development of Cambodian SMEs.[29] None of these thirteen approaches were implemented at the time, but the Rectangular Strategy has provided a foundation for the SME Development Framework.[30]

Table 3 Rectangular Strategy: 13 strategies for developing SMEs

1.Provide SMES with medium and long term finance	•Provide land titles and encourage use of collateral •Develop financial products and share credit information • Simplify SME accounting and taxation system
2. Suppress smuggling	•Strengthen capacity of anti-smuggling task force •Rationalise number of agencies involved at border checkpoints • Extend the single window concept to border checkpoints
3.Reduce registration and start-up procedures for SMEs	• Reduce administration and cost barriers to registering •Develop on-line registration, decentralise company registration •Link MOC, MEF tax and VAT registration, merge into one process
4. Facilitate export-import activities by simplifying processes	•Review licenses, introduce a single customs admin document •Single Window process at ports, and risk management •Enact the law on customs and develop implementing regulation
5. Support newly established industries for a period	•Foster private sector led incubator systems •One-stop window for all business licenses
6. Promote linkages between SMEs and large enterprises	•Encourage linkages between local clusters international orgs •Integrate SMEs clusters in global value chains
7. Assist SMEs enhance productivity and reduce production costs	•Develop toolkit packages for training and SME capacity building •Develop action plan to meet technology and training needs
8. Improve quality of domestic produce to international standards	•Encourage quality standards through ISO 9000 certificate • Encourage links between training, research institutions and SMEs
9.Establish national libraries to test quality and criteria of products	• Use existing public research institutes to enhance capacity for applied research and product quality testing •Strengthen the capacity of research institutes •Foster linkages between private sector and research institutes
10. Strengthen mechanism for the protection of industrial property rights	•Implement specific institution arrangement for effective intellectual property rights
11. Promote vocational skills/training domestically and foreign	•Promote learning networks and joint international marketing • Coordinate providers to identify needs and link with SMEs
12. Expand and accelerate the "one village one product" program	• Take a stock-take of clusters to identify number, size, products and locations • Cooperate with donors and associations to develop common service provisions and support for clusters
13. Strengthen the legal framework	•Enact laws on commercial enterprises, insolvency, secured transactions and contracts • Create specialised court to resolve commercial disputes •Extensive capacity building for commercial court system

Source: Workshop on SME Development Program, *SME Development Framework SME sector road map 2005*

4.2 The SME Development Framework

The SME Development Framework was created following the formation of the Cambodian SME Sub-committee. The framework is the first concerted effort by the government focused purely on promoting the development of Cambodian SMEs. The SME Development Framework uses the thirteen Rectangular Strategy approaches listed in Table 3 Rectangular Strategy as a foundation for advancing Cambodian SMEs.[31]

The SME Development Framework is a medium term strategy with two phases. The first stage intends to establish a business environment conducive to SME development. The second stage proposes to enhance and expand this business environment and assist SMEs to integrate into global networks. Phase one is being implemented from 2005 to 2007. The second phase is set to run from 2008 to 2010.[32]

The over-riding objective of the SME Development Framework is to reduce the cost to SMEs of doing business in Cambodia via four main approaches. [33]

1. establish how regulations impact on SMEs
2. make recommendations for streamlining regulatory requirements
3. provide a channel for the private sector to challenge official decisions
4. make legal and regulatory reform recommendations designed to reduce uncertainties and risk to SMEs.

5. BARRIERS AND RECOMMENDATIONS

A number of surveys conducted by different organisations have identified a similar set of barriers impeding development of Cambodian SMEs. A 2004 WB survey identified the main issues hampering the development of Cambodian business in general. The ADB and the Cambodian SME Sub-Committee have identified many of the same issues as specific to the development of Cambodian SMEs. Below are the three most important issues, and associated problems, as identified by the SME Sub-Committee (see Table 4).

The same three issues have been acknowledged as important by both the WB and the ADB for the country's commerce and SME development.[34]

Table 4: Barriers to SMEs doing business

1. Regulatory and Legal Framework	• Company registration • Licensing requirements • Commercial legal framework • Smuggling
2. Access to Finance	• Collateral and land titling • Leasing • Lack of information on borrowers • SME accounting
3. SME Support Activities	• Business development services • Access to markets • Technology and human resource upgrading • Improving linkages

Source: Royal Government of Cambodia Sub-committee on Small and Medium Enterprises SME Secretariat *Small and Medium Enterprise Development Framework 2005*

5.1 Regulatory and legal framework

Cambodian firms are exposed to burdensome and often unnecessary regulations with uncertain interpretations. Most firms surveyed by the WB in 2004 claimed that tax, customs and other regulations were at least a moderate constraint to their operations.

Cambodian enterprises are inspected by various government departments on average 16 times per year.[35] This compares to India at five inspections and Bangladesh at seven inspections per year. Each inspection imposes opportunity costs on the business manager, with some inspections lasting for up to two days. Inspections also provide officials with opportunities to demand bribes.

Almost half of Cambodian firms claimed that regulatory interpretations were inconsistent and unpredictable.[36] Frequently officials would charge an informal 'facilitation fee' for processing documents necessary for trading.

The Cambodian judicial system is widely considered to be inefficient at dealing with commercial issues. More than 90 percent of firms surveyed by the WB said that they believed the judicial system is usually unfair and biased. In the same survey, the judicial system ranks almost as poorly with regard to speed of dealing with cases, affordability and enforcement of decisions.[37] The WB Doing Business ratings support

these findings, claiming that it is difficult and expensive to enforce a contract in Cambodia. The country is awarded the lowest possible score in the Doing Business creditor rights index.[38]

There are four areas the SME-Sub-Committee identifies as being the most damaging to SME development under the category of regulatory and legal framework, as listed in Table 3.

1. company registration
2. business regulations
3. a weak legal commercial framework
4. a high incidence of smuggling.

5.1.1 Company registration

The SME Sub-Committee has identified the financial and time constraints of registering a company as a significant issue facing SMEs. Up until 2004 registering firms were required to have a minimum amount of capital of US$ 5,000. It took on average 94 days, 11 procedures and cost over 5 times per capita GDP for a Cambodian firm to register. This is among the highest cost in the region in terms of both time and financial burden. As a comparison, in Vietnam it took 63 days and 30 percent of per capita GDP, in Thailand it took 42 days, and seven percent of per capita GDP. In Singapore it took only eight days to start a business in 2003.[39]

These constraints motivate many firms to remain informal, which has negative implications for SME development. Unregistered firms have more trouble accessing formal credit and protecting their business from petty graft. Only registered firms are able to legally export or import goods. Unregistered firms are quite often unaware of, and therefore unable to take full advantage of the policies designed to benefit SMEs.

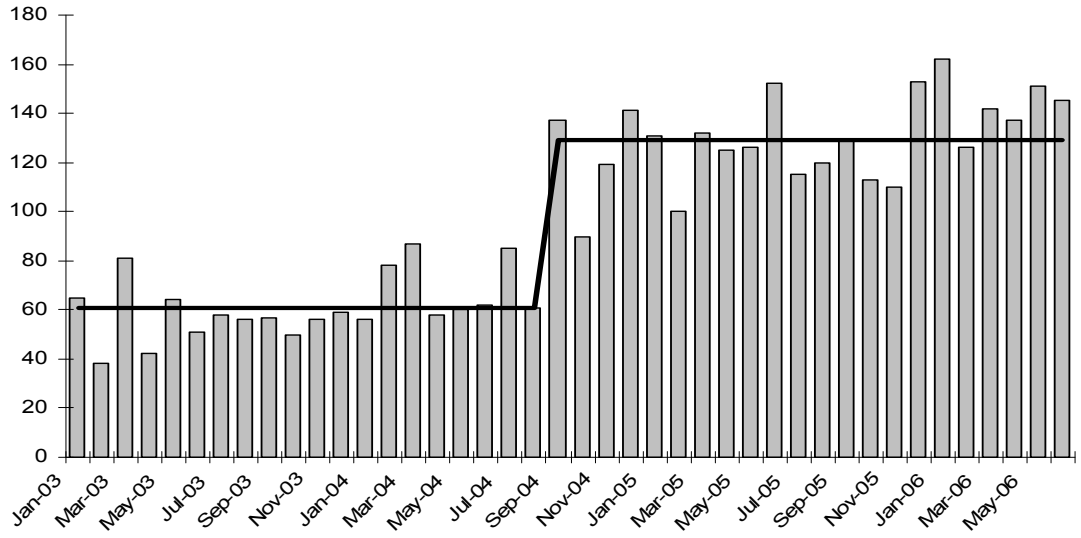
In addition, the large number of SMEs remaining informal limits policy makers' ability to understand the scale and scope of SMEs and the issues facing them. This hinders policy development and implementation.

Lowering barriers to company registration

Steps were taken to address the problems preventing business registration by the MOC in August 2004. The cost of registration was reduced from US$650 to US$177. The minimal capital requirement for incorporation was reduced from KHR 20 million to KHR four million (from US$5 thousand to US$1 thousand). The documents necessary to apply for registration were reduced, and information about these changes was widely disseminated.[40]

The average number of companies registering doubled immediately following the changes in late 2004, from 61 to 129 per month, [41](see Figure 3).

Figure 3: Monthly enterprise registration



Source: Cambodian Ministry of Commerce in Royal Government of Cambodia Sub-committee on Small and Medium Enterprises SME Secretariat *Small and Medium Enterprise Development Framework 2005*

While these efforts of the government should be applauded, more could be done to encourage registration. There are a number of potentially significant benefits to SMEs and government if registration is increased. Some of these benefits are mentioned above. Additionally by encouraging enterprises to register the formal sector will develop, and over time provide the government with increased tax revenues.

Both the time it takes and the financial costs of registration should be reduced further. It should be possible for an SME to register for amounts, as a percentage of GDP, closer to those charged in neighbouring countries.[42] If registration costs in Cambodia were reduced to 10 percent of GDP per capita, slightly more as a percentage than it is in Thailand, the nominal cost would be less than US$50. To be able to afford a reduction in the cost of registration government departments must become more efficient.

5.1.2 Business regulations

Gaining the licences necessary for legally trading in Cambodia is an inefficient and complicated process. Manufacturers require licences from MIME, MoC, the Ministry of the Interior (MOI), the Ministry of Health, the Ministry of Economy and Finance, the Ministry of Environment and the Ministry of Social Affairs, Labour and Vocational Training and Youth Rehabilitation (MOSALVY). There is much duplication of legal requirements. For example, manufacturing enterprises need to get operating permits from both the MIME and the MoC, safety inspections from MIME, MOI and MOSALVY and environmental checks from MIME and MoC.[43] Consolidation of requirements could reduce costs to both businesses and government.

Businesses are often unaware of the costs of licences or what is required of them. The lack of transparency leads to officials asking for 'facilitation fees' and other forms of bribery to provide a standard service.

Lowering business regulation barriers

Where they are necessary the required inspection and licensing requirements need to be streamlined and made transparent. The ADB recommend removing duplication and overlapping responsibilities.[44] To achieve this, the responsibilities of the different departments need to be clarified and compared to determine where redundancies exist. As a further step information on the processes for licensing and registration needs to be made easily available to Cambodian entrepreneurs. This should include providing clarity to businesses on what inspectors are entitled to do and to ask for.

The ADB recommend any citations should be made in writing and ample time allowed for enterprises to remedy violations[45]

To further reduce the opportunity for corruption, fines should be required to be paid at a central office rather than to the inspectors. Channels for reporting inspectors who ask for unofficial payment and for challenging citations should be introduced.

5.1.3 Commercial legal framework

The business community usually tries to resolve commercial disputes without using the country's courts. There is no commercial court or arbitration tribunal. Cambodia lacks laws covering many factors necessary for a healthy business environment. For example, there are no laws covering insolvent enterprises, secured transactions, industrial standards or commercial transactions.[46] This acts as a disincentive for enterprises to enter into contracts, or to seek legal recourse to business disputes.

The ADB identify a number of characteristics common to a good commercial legal framework. These include well trained, adequately compensated and impartial judges; a strictly enforced code of ethics; transparent laws and court decisions; and opportunities for parties to challenge the decisions made by judges.[47]

Improving the legal framework

Any suspicion of corruption needs to be removed from the courts. The ADB suggest a code of ethics be introduced, and that judges be required to declare their assets to increase transparency.[48] Increasing transparency through improved dissemination of laws and regulations to lawyers, businesses and citizens is recommended by the WB. The WB also recommends increasing public education and awareness of court decisions.[49]

In the long run, judges need to receive appropriate training and adequate compensation through formal channels. There also needs to be harsh punishments delivered to any judges who are found guilty of corrupt behaviour.

Both the SME Sub-Committee and the ADB recommend that the government establish a specialised court to resolve commercial disputes. They suggest intensive

training for a select group of judges in commercial law. By creating a strong and specialised commercial court, not only will commercial disputes be dealt with efficiently, enforcement of decisions will be more certain, and participants will have more confidence in decisions.[50]

The Law on Commercial Arbitration was adopted in 2006. This law is designed to safeguard the legal rights and interests of parties and facilitate impartial and prompt resolution of economic disputes.[51] There are a number of additional draft laws designed to replace other out-dated laws, and establish an effective commercial legal framework. These are part of Cambodia's commitments under WTO requirements and every effort should be made to enact them as soon as possible.

A further recommendation is that legal information is widely disseminated. The ADB recommend a website containing all commercial legal information is built to make such information widely available and accessible. While there are not many Cambodians who have direct access to the internet, information from a website could be disseminated through, for example business associations or NGOs. A further suggestion from the ADB is that a legal gazette should be regularly distributed and easily available to all businesses without internet access.[52]

5.1.4 Smuggling

As a result of the high transaction costs faced by firms transporting goods legally across Cambodian borders there is wide spread smuggling. This has been cited by a large number of SMEs as a form of unfair competition.[53] Firm face a myriad of costs and time delays importing inputs through formal channels. As a result, these firms face delays in production, more expensive inputs, and associated higher production costs relative to firms which smuggle goods across Cambodia's borders.

Reducing smuggling

The preferred way to prevent smuggling is to improve customs procedures to the stage where there is little or no benefit to moving goods illegally across the border. This

would not only reduce the costs of inputs for many Cambodian SMEs, it would also encourage their participation in exporting.

A second, short run approach involves increasing both the probability of being caught and the punishment for smuggling.

Customs procedures

There are an excessive number of procedures required to get goods through Cambodian customs. Imports and exports have to be cleared through four departments: Customs; Ministry of Transport border authorities; the Border Police; and the Cambodia Import Export Inspection and Fraud Repression Department (CAM control). On average, exports take up to 16 days to clear customs. Imports take 11 days. This compares with, for example, China at 8 and 7 days respectively.[54] More than 20 documents are needed to export or import goods.[55] Clearance requirements are unpredictable. This limits the ability of firms to commit to or to meet customer demands. It is generally agreed that the majority of export and import procedures are superfluous.[56]

Trade Facilitation Programme

A Trade Facilitation programme is being implemented to simplify and improve the process of moving goods across Cambodian borders. The primary instrument of the programme is a Single Administration Document (SAD). SAD removes the necessity of exporting and importing firms to fill out duplicate forms at different departments.[57] This step was recommended by both the ADB, and the SME Sub-Committee.

SAD is an electronics customs clearance and risk management system for importing and exporting.[58] Under the system importers and exporters would need to visit only one department and provide all necessary information in a single form, significantly reducing transaction costs.[59] The fewer departments SMEs need to deal with the lower their transaction costs will be.

The government has taken steps to lower the taxes on goods imported and exported for business purposes. Qualified Investment Projects (QIP), meeting government requirements for promoting commerce, are provided tax free importation of production, raw materials and intermediate goods. Approved export QIP are provided tax holidays or beneficial depreciation schemes.[60]

Preventing smuggling

To lessen the incentive to would be smugglers both the penalty and possibility of being caught could be increased. Cambodia has an anti-smuggling task force, but due to cultural norms and the low pay of officials, many smugglers get away with paying a bribe rather than significant penalties, even if caught. The capacity of the anti-smuggling task force needs to be strengthened. They need to have the ability and willingness to challenge anyone caught smuggling.

The ADB suggests a number of measures for improving the efficiency of the anti-smuggling task force. Employees of the task force should receive more training and, as with the judiciary, better formal rewards for doing their job. Controls at both borders and at product destinations, such as stores and markets, need to be strengthened. Regulations requiring Khmer labelling should be firmly enforced.[61]

5.2 Access to Finance

The 2006 World Bank Doing Business report ranks Cambodia at 174 out of 175 countries for ease of getting credit. This ranking was based on the strength of legal rights and the availability of credit information.[62]

Access to finance is also a primary issue as identified by a number of commentators, including the ADB and the Cambodian Development Resource Institute. Cambodian firms receive over 98 percent of their capital through informal sources.[63] In 2004, only about one percent of investment capital and slightly more than one percent of working capital was provided by commercial banks.[64] This increases the cost of capital, limits the size of loans, and reduces the period money can be borrowed for, restricting the ability of SMEs to purchase productive capital.

Data shows that loans are more common in the manufacturing sector, but this is likely a result of borrowing by large garment factories rather than SMEs.

According to the Cambodian Sub-Committee, SME access to finance is constrained by four main factors. [65]

1. a lack of collateral
2. an in-adequate legal framework and poor contract enforcement
3. a limited number of financial products on offer
4. an inability of SMEs to prepare basic financial statements.

5.2.1 Collateral and land titling

Banks are typically reluctant to extend credit unless the borrower can provide property as collateral for the loan. The weak legal system and a lack of traceability make banks unwilling to accept anything other than un-movable property as collateral. Unless the land has legal title transaction costs are increased by the banks efforts to verify ownership. These costs are passed onto the borrower in the form of higher interest rates.

The Ministry of Land Management Urban Planning and Construction, with help from international donors, are systematically issuing formal title on all land in Cambodia. Once SMEs have formal titles recognised by the courts the transaction costs associated with using land as collateral should decrease. However, as of 2005 less than ten percent of property had been issued with a title.[66] An optimistic estimate of the time needed to register formal title to all plots of land in Cambodia is ten years. Businesses without land are often constrained to expensive short term loans from informal sources.

5.2.2 Improving collateral

The need for land as collateral can be reduced by strengthening the legal system as discussed above in 0. With more specialised courts, contracts will become cheaper, speedier and easier to enforce. Lenders will have more confidence in forms of collateral other than land. The ability and willingness of SMEs to access formal long term credit should increase as the risks and costs of lending decrease.

Improving the judicial system to deal with commercial cases is a long term project, unlikely to benefit SMEs in the foreseeable future. In the short term, SME ability to access productive capital can be improved by providing other forms of financial services, such as leasing.

5.2.3 Leasing

There are very few financial services other than credit available to Cambodia SMEs. Leasing is common in many developing countries but has yet to become popular in Cambodia. This is probably, as with many of the problems facing SMEs, due to the difficulties enforcing contracts. Although banks have the authority to lease assets it seems the lack of legal protection discourages them from doing so.[67]

In 2000 the International Finance Corporation assessed the options for leasing in Cambodia. Their findings identified four main restrictions preventing leasing arrangements. One, the banking law restricted leasing to banks only. Two, the tax system discriminated against leasing arrangements. Three, the lack of traceability in Cambodia meant that banks were dependent on personal relationships with customers for securing repayments. And four, if there were payment defaults repossessing a leased asset was difficult.[68]

5.2.4 Improving access to leasing

To overcome these barriers the SME Sub-Committee recommend three major policy changes. One, enacting a leasing law enabling non-bank financial institutions to finance and operate leases; Two, amending tax legislation to encourage both banks and other financial institutions to provide leasing services; three, strengthening the legal framework to effectively address issues of payment defaults.[69]

5.2.5 Limit information on borrowers

One of the barriers to an effective financial sector in Cambodia is financial institutions' lack of traceability and knowledge about borrowers. Banks are often unwilling to extend credit unless they are aware of the potential borrower's credit history. With so few SMEs borrowing from the formal sector almost none have a credit history. Additionally, with such weak institutions it is easy for those with poor credit histories to hide this information.

5.2.6 Credit information sharing

The SME Sub-Committee has made a number of recommendations to reduce the risks to financial organisations of extending credit, and hence lower transaction costs. They suggest a credit information sharing system to increase the information on potential borrowers available to banks. In theory this will lower the risks to lenders and the cost of finance to credit worthy entrepreneurs.

The National Bank of Cambodia (NBC) and the Association of Banks in Cambodia (ABC) have designed a system for sharing credit information among banks. However, the system relies on prospective borrowers providing evidence of previous borrowing which can be collaborated by other financial institutions.[70] This may benefit those with a good credit history, but will provide no help to individuals who have never borrowed in the formal sector. Additionally those who have defaulted on loans are unlikely to admit to ever having taken a loan. Hence the potential benefits of such a system will be limited.

The willingness of financial institutions to extend credit to SMEs will improve as the enforcement of contracts is strengthened. Enacting laws on commercial enterprises, insolvency and secured transactions will help, as discussed in 0. Building a transactions registry easily accessible to lenders will also improve access to formal loans for credit worthy entrepreneurs.

5.2.7 SME accounting

Another barrier making banks reluctant to extend credit to SMEs is the basic or often total lack of financial statements kept by SMEs. Although this is not as big a problem for SMEs seeking formal credit as the issues discussed above it will become more important as the financial sector develops.

There are two main problems leading to poor SME financial reporting. One, managers often lack the skills to prepare even basic financial statements. And two, the financial reporting required by legislation is complex and provides little incentive for SME owner/managers to develop or improve their financial reporting abilities.[71]

Many SME owners do not know how to keep records of accounts. As noted earlier very few Cambodians receive more than a basic education, seldom including even rudimentary bookkeeping skills. According to the SME Sub-Committee, a survey of 300 Cambodian SMEs showed that almost no SMEs had access to accounting or bookkeeping training.[72] Few SMEs have access to, or know how to use computers with accounting software. Hiring an accountant is close to impossible for an SME, partially due to the lack of trained accountants in Cambodia, but mainly because of affordability.

The Law on Corporate Accounts, their Audit and Accounting Profession requires all enterprises, including SMEs, to keep accounting records, and to have them audited. Accounting records need to comply with Cambodian Accounting Standards, with, in theory, severe penalties for non-compliance. In 2003 15 Khmer accounting standards were approved based on international laws.[73] The English version of these standards is 223 pages long. This is too elaborate for almost all SMEs to understand. Most SMEs simply avoid the issue by not even attempting to comply with accounting laws.

5.2.8 Improving SME accounting

The National Accounting Council (NAC) of Cambodia recognises the need for simplified reporting standards and guidelines for SMEs. The SME Sub-Committee recommends that the NAC simplify existing reporting guidelines to increasing incentives for SMEs to comply with legislation.[74]

A subsequent recommendation is that the Ministry of Economy and Finance implement a training programme for SME business managers. Basic accounting and management skills can be taught through government sponsored training centres or business associations. Currently the Phnom Penh Small and Medium Industry Association (PPSMIA) offer accounting training courses and seminars to members.[75] More emphasise can be placed on teaching simple accounting skills as part of the school curriculum.

By simplifying requirements and training owners so they can meet these requirements, SMEs will benefit in three main ways. One, they will be in better

positions for approaching financial institutions for credit. Two, they will have a better understanding of the revenue and expenses of their enterprises. Three, good bookkeeping will make SME sales and attempts to partake in formal contracts much easier.

5.3 SME Support Activities

The Government recognises market failure due to an inadequate range of services offered to SMEs by the private sector. Particularly there is a lack of adequately trained private sector providers connecting buyers with sellers or providing employment specific training.

The SME Sub-Committee identify four main areas where SMEs do not have appropriate support.[76]

1. business development services
2. access to markets
3. competitive technology and quality human resources
4. linkages to value chains, government and other businesses.

5.3.1 Business development services

There are a number of government ministries and business associations, such as the PPSMIA, and the Phnom Penh Chamber of Commerce, which offer Business development services (BDS) to SMEs.[77] However, these services reach very few SMEs. In Cambodia about one percent of SMEs received BDS, compared with, for example, 15 percent in Sri Lanka, and 11 percent in Thailand.[78]

The lack of take up of BDS services is due to an unawareness of services on offer and a lack of interest in services which are not considered essential for running businesses.[79]

Improving access to BDS

The SME Sub-Committee has suggested three approaches for increasing SME use of BDS. One, the BDS on offer should be made widely known and available to all SMEs. Two, the benefits from such services should be emphasised to SME owners. And three, the specific BDS needs of SMEs should be identified along with the barriers preventing SMEs from using these services.[80]

Awareness of, and benefits from, BDS could be disseminated through relevant business associations and government departments. The media could also be used to spread this information. Once available services and their benefits are made obvious to a number of entrepreneurs, many more will learn of these services via word of mouth. The standard of BDS on offer needs to be kept high to develop a reputation as being worthwhile to SMEs.

To determine barriers and needs specific to SMEs, relevant associations could provide the government with information on the BDS requirements of their members. A BDS survey of SMEs and associated organisations would provide valuable information on requirements and barriers.

5.3.2 Access to markets

There are a number of organisations and government departments providing information for SMEs on domestic and international markets. Market information is provided by the Cambodian Development Review Institute, and other research groups, aid organisations and local media. Many Government Ministries produce free monthly or quarterly newsletters. However, the information contained in government publications is sometimes unreliable and generally of limited use, and information from other sources is not easily understood by a lot of SMEs.[81] Many SME owners are simply un-aware of the possibilities for expanding their markets.

Improving access to markets

To improve SME access to national and international markets the SME Sub-Committee recommends the government provide the following.[82]

1. more trade fairs
2. areas for SMEs to display their products
3. areas for SMEs to meet buyers
4. locations for SMEs to take part in short courses and training on markets

In theory trade fairs and areas to display products are good ideas for increasing information on Cambodian goods to would be buyers. However, in Cambodia, the buyers at trade fairs and visitors to product displays are typically members of the public. For Cambodian SMEs to develop they need to make businesses aware of their products and what they are capable of. More needs to be done to attract business buyers, both domestic and foreign, to these fairs and displays.

The government could better inform and provide incentives for businesses to increase their presence at these events. For a start, the government could provide widespread information on trade fairs and product displays to would be wholesale buyers. The government could make buyers aware of the advantages of purchasing goods produced in Cambodia. The government could also undertake research to determine where markets for Cambodian products exist and target events and advertising at these places.

Associations could increase marketing of Cambodian SME products through the internet. Currently PPSMIA have an informative website advertising members' goods.[83] For future consideration the SME Sub Committee suggest developing an SME portal site and promoting it to both SMEs and trade purchasers.

To improve market access SMEs need to be supplied with useful and timely information on factors such as prices and buyers. The SME Sub-Committee recommends improving the quality and reliability of information supplied by government ministries, speed of delivery and the format in which it is provided.[84]

Improving human capital as discussed below in 0, should increase SME owner's abilities to understand market information provided through other sources. Increasing SME access to the internet along with targeted training on how to source information through this medium would also be beneficial.

5.3.3 Technology and human resource upgrading

The state of human and physical capital is considered a major constraint to Cambodian SMEs' abilities to compete with their counterparts in neighbouring countries. Many Cambodian companies use old and inefficient machines, increasing their production costs. This also constrains SMEs' abilities to upgrade the quality of their output. Many SME owners are unaware of existing technology, how to use it, or how to access it.

As previously mentioned, standard education is rudimentary and there is little in the way of formal training. The limited on the job training that does exist in Cambodia is typically very basic.

Developing physical and human capital

To a large extent improving SMEs' physical capital is reliant on improving their ability to access finance and on lowering the cost of importing productive capital. Both of these issues are discussed above in 0 and 0. Upgrading physical capital is also dependent on training and developing human capital, ensuring SME owners are aware of what technology is available and how to source it.

There is a number of aid organisations involved in providing Cambodian SMEs with training. The ADB provides business training for owners of enterprises with fewer than 10 employees. The Mekong Private Sector Development Facility provides self-study workbooks in Khmer and funds training courses to teach production and operations, marketing and human resource management.[85] As mentioned above, the PPSMIA offer training and seminars to teach SME owners basic management and accounting skills

Human capital could be further improved by disseminating knowledge about the benefits of and increasing access to relevant training. As mentioned earlier, the SME Sub-Committee recommend that the Ministry of Economy and Finance implement a training programme for SME owners. As part of this programme SME owners could be made aware of the long run benefits to production and profits of providing training to staff. Training courses for all staff in the industries Cambodian SMEs are most active in could also be provided by Government Ministries. Incentives, such as tax breaks, could be offered to SME owners to send their staff on courses.

Due to the often specific human capital needs of different industries, the government could work with business associations to provide appropriate training. Additionally strengthening property rights, minimising corruption and keeping taxes and business costs to a reasonable level will encourage entrepreneurialism and provide incentive for people to partake in training and education.

5.3.4 Linkages

Linkages between SMEs and from SMEs to government and other enterprises tend to be weak in Cambodia. There are very few formal contracts between businesses and along supply chains. This is a product of the weak rule of law and the uncertainty Cambodian firms have had to deal with. Under these circumstances businesses are reliant on personal relationships, and are wary of doing business with anyone they do not know and cannot observe. A lack of trust and faith in other businesses and the courts discourages long term commitments to other enterprises.

Improving linkages

There are a growing number of associations and organisations involved in developing linkages between Cambodian SMEs. Several Cambodian trade associations, already mentioned in this report, are working to increase the sharing of information between SMEs. A number of aid organisations, including the US Agency for International Development and the United Nations Industrial Development Association are working to develop SME clusters.[86]

Government agencies are involved in developing relationships between themselves and SMEs. With coordination of these policies through the influence of the SME Sub-Committee there is a possibility that government SME links will be strengthened and developed in a mutually beneficial way.

6. CONCLUSION

Evidence from more economically developed Asian nations has demonstrated that SMEs have considerable potential for driving sustainable and equitable economic growth. Under the right conditions, entrepreneurs, regardless of background, can start and grow SMEs, generating profits and creating employment opportunities. SMEs drive industrial progress, improve an economy's ability to deal with shocks and are recognised as breeding grounds of innovation.

With the expansion of globalisation manufacturing SMEs in Cambodia are facing increasing international competition. These enterprises need to improve quality and efficiency of output to international standards to survive. A range of barriers are making it difficult for the nation's SMEs to compete with imports, and up until recently there has been little in the way of specific assistance for SME development.

In 2004 the Cambodian government formed the SME Sub-Committee and the SME Development Framework was created. This framework is the first attempt by the government of Cambodia to identify barriers and introduce measures specific to promoting development of the country's SMEs.

Three main barriers to SME development have been identified; weaknesses in the regulatory and legal framework; limited SME access to finance; and a lack of SME support activities. A number of policies have been implemented and recommended to overcome these obstacles to SME development. These include general policies to improve the Cambodian business environment.

As policies have been implemented and the Cambodian business environment has improved the country's SMEs have shown signs of developing. The number of SMEs in Cambodia as well as the size of many of these enterprises has increased since the mid 1990s.

To continue this trend and to further improve the competitiveness of the nation's SMEs the government needs to continue removing the barriers to doing

business which have been discussed above. A framework that rewards and protects the investment and work of entrepreneurs will increase investment in human and physical capital, further improving the competitiveness of Cambodian SMEs.

In the long run by increasing the activity of SMEs and their involvement in international trade the government will increase tax revenues. This will enable the government to upgrade infrastructure and supporting technology with flow on effects right through the economy. This will further encourage FDI and on-going business development. By establishing an enabling business environment and encouraging development of the nation's SMEs Cambodia will be able to maintain strong and equitable economic development.

NOTES

[1] Tilman Altenburg and Ute Eckhardt, 2006.
[2] Often definitions of SMEs have a lower boundary. In Cambodia firms with fewer than 10 employees are often defined as micro enterprises rather than SMEs. For the purpose of this report any enterprise with 100 or fewer workers is an SME.
[3] Ministry of Industry Mines and Energy, in Cambodian department of Statistics Yearbook, 2006.
[4] By noting registered SMEs only this figure probably under-estimates the total number of SMEs operating in the country.
[5] Sarthi A, Kim. S, Chap. S and Meach Y 2003.
[6] Chandler, D 1998.
[7] Sarthi A, Kim. S, Chap. S and Meach Y, 2003.
[8] Chandler, D, 1998.
[9] National Institute of Statistics, 2003.
[10] Ministry of Industry Mines and Energy data in Cambodian National Institute of Statistics 2006 Yearbook 2006.
[11] Asian Development Bank, 2003.
[12] The Council for the Development of Cambodia, 2007.
[13] Murshid and Sokphally, 2005
[14] Nearly 80 percent of Cambodian exports last year were clothing and related manufactured goods. Almost all of these exports were produced by enterprises employing, on average, over 1000 workers.
[15] Royal Government of Cambodia SME Sub-committee, 2005.
[16] National Institute of Statistics, 2003.
[17] Snodgrass. D. R & T Briggs 1996
[18] National Institute of Statistics, 2003 and MIME website.
[19] National Institute of Statistics, 2003.
[20] Definitions of SMEs used in official MoP statistics changed after 2001, so an ongoing comparison was not possible. Meas, W. H. 2004

[21] Small firms here are classified as those with fewer than 10 employees.
[22] World Bank, 2004.
[23] Unskilled workers are clerks, service and sales workers, craft and related trades workers, plant/machine operators and assemblers, armed forces and elementary occupations. World Bank 2004
[24] The Council for the Development of Cambodia, 2007.
[25] Saleh and Ndubisi 2006.
[26] World Bank, 2004.
[27] Royal Government of Cambodia Sub-committee of SMEs 2005. The RGC is behind it's own schedule for introducing SME promotion policies, as laid out in an implementation timetable it prepared for the WTO.
[28] Royal Government of Cambodia Sub-committee of SMEs 2005
[29] Rectangular Strategy for Growth, 2004.
[30] Royal Government of Cambodia Sub-committee of SMEs 2005
[31] Royal Government of Cambodia Sub-Committee on SMEs, 2005.
[32] Workshop on SME Development Program, 2005.
[33] Royal Government of Cambodia Sub-Committee on SMEs, 2005.
[34] Asian Development Bank, 2003 and World Bank, 2004.
[35] Visits from tax officials are the most common and time consuming, followed by visits from the police.
[36] World Bank, 2004.
[37] World Bank, 2004.
[38] World Bank Doing Business, 2006.
[39] World Bank, 2004.
[40] World Bank 2004. Royal Government of Cambodia SME Sub-Committee, 2005. There is some confusion here. The WB reports the original fee at US$650, while The Cambodian SME Sub-Committee report it to be US$280.
[41] Cambodian Ministry of Commerce in Royal Government of Cambodia SME Sub-Committee, 2005.
[42] If the data was available registration could be set as a percentage of average SME revenue.
[43] Asian Development Bank, 2003.
[44] Asian Development Bank, 2003.
[45] The Council for the Development of Cambodia, 2007.
[46] Royal Government of Cambodia SME Sub-Committee, 2005.
[47] Royal Government of Cambodia SME Sub-Committee, 2005.
[48] Asian Development Bank, 2003.
[49] World Bank 2004
[50] Asian Development Bank, 2003.
[51] The Council for the Development of Cambodia, 2007.
[52] Asian Development Bank, 2003.
[53] Asian Development Bank, 2003, World Bank, 2004.
[54] The World Bank Doing Business Report, in Economic Institute of Cambodia, 2007.
[55] The Council for the Development of Cambodia, 2007.
[56] The World Bank, 2004.
[57] The Council for the Development of Cambodia, 2007.
[58] The Risk Management System is a process for determining which goods and persons carry the most risk and hence should be examined at the border.
[59] The Council for the Development of Cambodia, 2007.
[60] The Council for the Development of Cambodia, 2007.
[61] Asian Development Bank, 2003.
[62] The World Bank Doing Business report, 2006, in Economic Institute of Cambodia 2007.

[63] World Bank, 2004.
[64] World Bank, 2004.
[65] Royal Government of Cambodia SME Sub-Committee, 2005.
[66] The incidence of legal title is much higher in Phnom Penh and other urban centres relative to rural areas.
[67] World Bank, 2004.
[68] International Finance Corporation.
[69] Royal Government of Cambodia SME Sub-Committee, 2005.
[70] Royal Government of Cambodia SME Sub-Committee, 2005.
[71] Royal Government of Cambodia SME Sub-Committee, 2005.
[72] Royal Government of Cambodia SME Sub-Committee, 2005.
[73] Royal Government of Cambodia SME Sub-Committee, 2005.
[74] Royal Government of Cambodia SME Sub-Committee, 2005.
[75] Phnom Penh Small and Medium sized Industry Association website, 2007.
[76] Royal Government of Cambodia SME Sub-Committee, 2005.
[77] Phnom Penh Small and Medium sized Industry Association website, 2007.
[78] World Bank, 2004.
[79] The SME Sub-Committee does not provide any additional information on this survey, such as when it was conducted, or by whom.
[80] Royal Government of Cambodia SME Sub-Committee, 2005.
[81] Royal Government of Cambodia SME Sub-Committee, 2005.
[82] Royal Government of Cambodia SME Sub-Committee, 2005.
[83] Phnom Penh Small and Medium sized Industry Association website, 2007.
[84] Royal Government of Cambodia SME Sub-Committee, 2005.
[85] Royal Government of Cambodia SME Sub-Committee 2005.
[86] The Council for the Development of Cambodia, 2007.

REFERENCES

Asian Development Bank (2003). *Asian Development Outlook: II. Economic Trends and Prospects in Developing Asia: South East Asia*

Berry, A (1997). *SME Competitiveness: The Power of Networking and Subcontracting.*

Chandler, D (1998). *A History of Cambodia*. Chiang Mai, Thailand: Silkworm books.

Cambodian Ministry of Commerce at http://www.moc.gov.kh/ sourced December 2007

Cambodian National Institute of Statistics (2006). *Cambodian National Institute of Statistics Yearbook 2006.* Ministry of Planning.

Cambodian National Institute of Statistics (2003). *Survey of Industrial Establishment 2000.* Ministry of Planning. Sponsored by the Asian Development Bank.

Economic Institute of Cambodia 2007, *Export diversification and value addition for human development.*

Hun Sen address (2004) *Rectangular Strategy for Growth, Employment, Equity and Efficiency.*

International Finance Corporation at http://www.ifc.org

Ministry of Industry Mines and Energy website at http://www.mime.gov.kh sourced December 2007

Murshid K.A.S and Tuot Sokphally 2006 *The cross border economy of Cambodia An exploratory study.* Cambodian Development Resource Institute working paper 32.

Phnom Penh Small and Medium sized Industrial Association at http://www.psmia.org/ sourced December 2007

Saleh A. S and N. O. Ndubisi 2006 *An Evaluation of SME Development in Malaysia* International Review of Business Research Papers. Vol.2. No.1 August 2006 pp.1-14

Sarthi A, Kim. S, Chap. S and Meach Y (2003) *Off-farm and Non-farm Employment: A Perspective on Job Creation in Cambodia.* Cambodian Development Resource Institute in collaboration with the Cambodian Institute for Cooperation and Peace working paper 26

Snodgrass. D. R & T Briggs (1996) *Industrialization and small Firm Patterns and Policies* A co-publication of the international Center for Economic Growth and Harvard Institute for International Development. San Francisco, California

Sok Chenda Sophea (2007) *Business and Investment Opportunities in Cambodia.* Council for the Development of Cambodia.

Royal Government of Cambodia Sub-committee on Small and Medium Enterprises SME Secretariat (2006) *Small and Medium Enterprise Annual Report 2006.*

Royal Government of Cambodia Sub-committee on Small and Medium Enterprises SME Secretariat (2005) *Small and Medium Enterprise Development Framework.*

The Council for the Development of Cambodia 2007, *Cambodia Investment Guidebook.*

Tilman Altenburg and Ute Eckhardt 2006 *Productivity enhancement and equitable development: challenges for SME development.* United Nations Industrial Development Organisation.

World Bank 2004. *Cambodia Seizing the Global Opportunity: Investment Climate Assessment and Reform Strategy.*

World Bank Doing Business at http://www.doingbusiness.org/economyrankings/ sourced December 2007

Workshop on SME Development Program (2005). *SME Development Framework SME sector road map.*

Chapter 2

SME DEVELOPMENT IN CHINA: A POLICY PERSPECTIVE ON SME INDUSTRIAL CLUSTERING

LIU Xiangfeng

Abstract

The small and medium enterprises (SMEs) in China have achieved rapid and sustainable growth in the past two decades. Such growth has increasingly contributed to China's economic development. Yet, weak linkages with external market, weak technological innovation, and limited SME financing have limited SMEs' growth. This brings to the fore the need for more efficient and professional government services to SMEs to enhance their competitiveness.

The absence of high-quality services for enterprises should prompt government to provide SMEs with services that are more professional, more convenient and more individualized to enhance their competitive capability.

SME clustering is crucial to addressing social and economic objectives, the achievement of which can make them more competitive in the global economy; generating and spreading innovations; creating employment; and distributing broad-based income and welfare. Convergence of 1) production (cable SEs), 2) market (textile industry SEs), and 3) production chain (sewing machine SEs) comprises the main patterns of SME clusters. This essentially reflects the "one village, one product" and "one town, one industry" concept.

Future policy should expand the range of government services to SMEs. Local governments could learn some lessons from the Jiangsu government and devote attention to promulgating supporting policies for the development of small enterprises. Government should also develop an industrial cluster plan for small enterprises, as well as a financing and technological innovation system for SMEs.

INTRODUCTION

Most SMEs in China came about in the last 15 years. With the opening up of China to market economy in the 1980s as part of the market-oriented reforms initiated by Chinese leader Deng Xiaoping, private SMEs were finally recognised as vital to the country's economic development.

The ensuing economic reforms involving state-owned enterprises (SOEs) in China, major SOEs rapidly changed into small and medium non-SOEs until the end of 2004. Meanwhile, more SMEs sprouted, spurred by the implementation of non-SOE promotion policy. Since then urban collective enterprises, town and village enterprises (TVE), alongside the private and self-employment sector, have been sprouting and thriving all over China.

The development of SMEs has increasingly contributed to China's economic growth. They make up over 99 percent of all enterprises in China today. The output value of SMEs accounts for at least 60 percent of the country's gross domestic product, generating more than 82 percent of employment opportunities in China.

SME clusters greatly enhance SMEs' global competitiveness, generate and spread innovations, and distribute broad-based benefits.

This paper seeks to analyze the development of SMEs and SME clusters in China. The first section describes the current state of SME in China while the next section analyzes the constraints to and weakness of SME development. The succeeding section discusses SME cluster as an important feature of SME. This is followed by a discussion on the results of a field survey, which are presented in this paper. The final section provides policy recommendations based on the foregoing discussion.

2. STATE OF SMEs IN CHINA

2.1 Definition of SME in China

The Interim Categorizing Criteria on Small and Medium-sized Enterprises (SMEs), published in 2003 and based on the SME Promotion Law of China, sets the guidelines for classifying SMEs. It replaced the old guidelines that came into effect in 1988, and the supplementary criteria of 1992.

Table 1: Definitions of SMEs in China

Size Category	Industries	Employment-based	Total assets	Business revenue
Small	Industry	< 300	<¥ 40million	< ¥ 30million
	Construction	< 600	<¥ 40million	<¥ 30million
	Wholesale	<100		<¥ 30million
	Retail	<100		<¥ 10million
	Transport	<500		<¥ 30million
	Post	<400		<¥ 30million
	Hotel & restaurant	<400		<¥ 30million
Medium	Industry	300- 2000	¥ 40million-400million	¥ 30million-300million
	Construction	600-3000	¥ 40million-400million	¥ 30million-300million
	Wholesale	100-200		¥ 30million-300million
	Retail	100-500		¥ 10million-150million
	Transport	500-3000		¥ 30million-300million
	Post	400-1000		¥ 30million-300million
	Hotel & restaurant	400-800		¥ 30million-150million

Note: SME meet one or more of the conditions. ME should meet three conditions, the others are SE.

Source: SME promotion law of China,2003.

The guidelines mainly cover the payrolls, revenue and total assets of enterprises (see Table 1). Specific criteria apply to the industrial sector, construction, transportation, wholesale and retail business, and hotels and restaurants. Guidelines for the industrial sector requires SMEs to employ a maximum 2,000 people, and to have an annual revenue not exceeding RMB300 million. Their total assets should not exceed RMB 400 million. Medium-sized enterprises should employ a minimum of 300 people. Their annual revenue and total assets should not exceeding RMB30 million and 40 million respectively. The rest are classified as small enterprises.

The definition of an SME in China is quite complex and can include relatively large firms. In APEC (Asia-Pacific Economic Cooperation) economies, the definition of an SME also varies, but is generally most commonly is based on the number of employees. SMEs commonly employ 100 to 500 people. But the vast bulk of SMEs, comprising around 70 percent, employ five people or less or are run by self-employed individuals.

SME definition in China depends on the industry category and is defined based on the number of employees, annual revenue, and total assets comprising a company.

An industrial SME is defined as having up has up to 2,000 employees; while a medium-sized business has between 301 and 2,000 employees; and a small business has less than 300. Consequently, what is regarded as an SME in China may be quite large relative to an SME in other countries. This paper mainly focuses on small enterprises (SEs), including the problems of SE, the field survey of SEs, and the policy recommendations for SEs.

2.2 Increasing Role of SMEs

SMEs are an important part of China's economy. In 2007 a total of 4,459 large companies accounted for 0.19 percent of the total number of enterprises registered in the country; 4,2291 medium-sized businesses, or 1.78 percent; and 2,327,969 small enterprises, or 98 percent, of the total. Overall, SMEs account made up for 99.7 percent of the total number of companies operating in China at the time.

Business revenue of SMEs accounts for 60.42 percent of total earnings; small enterprises, 6.54 trillion, or 23.70 percent. The industrial income of SMEs accounts for 66.28 percent; 11.77 trillion of the small enterprises are about 37.29 percent.

The SMEs are increasingly playing an important part role in employment generation. Large enterprises employ 20,877.8 thousand individuals, or 18.11 percent of the total employment; medium enterprises, 35,464.3, or 30.76 percent; small enterprises, 58,947.8, or 51.13 percent.

2.3 Distribution Feature of Small Enterprises

Based on regional distribution (see Table 2), 68.58 percent of SMEs are located in the eastern area part of China, 20.14 percent in the mid-area of China, 11.28 percent in the western part of China. Small enterprises in the top five provinces make up 48.4 percent of all small enterprises. These provinces are all located in the eastern area of China, namely, Jiangsu, Zhengjiang, Guandong, Shanghai, and Shandong, which account for 11.6 percent, 11 percent, 10.4 percent, 9.9 percent, 8.9 percent, and 7.6 percent of all SEs, respectively.

By industry distribution (see Table 3), the business revenue of manufacturing industry accounts for 52.8 percent, followed by the wholesale and retail industries (35.2 percent); construction (4.6 percent); and transportation and storage (2.6 percent), etc.

Table 2: Basic data of the incorporated SME (grouped by region)

Item Grouping	Unit¥ Legal Entity	Employment¥ person	Business Revenue of Whole Year¥ thousand	Total Assets¥thousand yuan
Total	2,327,969	58,947,778	6,535,425,319	7,229,524,125
Beijing	98,674	1,470,505	207,285,861	657,757,029
Tianjin	55,807	1,024,926	127,213,911	183,215,064
Hebei	87,605	2,696,972	278,018,746	260,643,092
Shanxi	49,637	1,477,966	117,159,956	161,678,971
Inner Mongolia	22,053	606,530	67,269,521	71,756,861
Liaoning	110,081	2,323,698	231,823,792	323,912,284
Jinlin	32,418	816,716	85,096,910	105,668,596
Heilongjiang	40,790	1,027,397	86,283,651	134,806,517
Shanghai	207,535	2,892,309	490,727,489	520,598,329
Jiangsu	270,669	6,563,781	885,977,068	741,983,051
Zhejiang	241,220	5,705,517	807,014,644	712,725,889
Anhui	59,902	1,758,246	151,277,230	148,582,691
Fujian	77,230	2,151,462	234,096,548	244,422,928
Jiangxi	43,605	1,424,390	110,038,669	108,360,418
Shandong	177,407	5,001,380	576,783,722	477,638,376
Henan	110,182	3,566,630	337,158,734	265,175,536
Hubei	51,682	1,621,358	139,841,497	175,295,610
Hunan	57,720	2,004,921	173,679,267	154,595,563
Guangdong	230,474	6,376,904	666,692,455	803,158,592
Guangxi	33,473	957,281	81,077,721	103,616,338
Hainan	7,836	147,402	15,204,345	33,739,621
Chongqing	34,683	1,143,975	105,127,683	97,136,789
Sichuan	75,330	2,138,436	200,793,576	271,805,434
Guizhou	19,134	647,977	47,661,656	62,891,774
Yunnan	29,160	837,651	72,241,664	108,011,660
Tibet	851	37,834	2,587,052	6,585,768
Shanxi	45,906	1,173,463	109,487,046	116,132,571
Gansu	23,879	677,594	50,300,257	66,582,624
Qinghai	4,693	141,599	9,363,128	16,833,170
Ningxia	4,693	141,599	9,363,128	16,833,170
Xinjiang	18,648	340,509	46,743,236	66,910,179

Source: the data from the first national economic census.

Table 3: Basic data of the incorporated SME

Item Grouping	Unit/Legal Entity	Employment/ person	Business revenue of whole year/million yuan	Total Assets/ thousand yuan
Total	2,327,969	58,947,778	6,535,425	7,229,524
Agriculture, Forestry, Animal Husbandry and Fishing	4	76	3	9
Mining	77,891	3,024,762	220,728	198,027
Manufacturing	1,228,354	38,325,314	3,612,196	3,337,852
Processing of food agriculture products	68,154	1,553,258	214,453	167,323
Manufacture of textile	77,944	3,191,356	307,665	256,836
Manufacture of textile wearing apparel,foodware and caps	47,569	2,532,159	150,835	121,334
manufacture of Raw chemical material and chemical products	72,459	1,961,833	239,781	22,847
Manufacture of plastics	69,400	1,826,806	201,139	179,242
manufacture of metal products	82,028	2,210,821	226,891	205,788
manufacture of general purpose machinery	112,752	3,011,552	328,035	299,384
manufacture of special purpose machinery	54,713	1,497,445	152,095	171,829
manufacture of transport equipment	51,576	1,512,932	149,955	147,745
manufacture of electrical machinery and equipment	56,889	1,746,124	193,540	192,538
Production and distribution of electricity, gas and heat power	34,041	666,073	42,347	131,282
Construction	107,186	7,157,427	436,184	556,532
Transport, storage and post	59,702	2,089,113	160,921	507,142
Information transmission,computer service and software	1,703	59,190	6,175	355,334
wholesale and retail trade	819,054	7,625,545	2,056,859	2,143,321
Hotel and restaurants	3	12	1	1
Financial intermediation	4	118	9	19
Leasing and business services	15	47	1	3
Scientific research, technical service and geologic prospecting	5	28	-	-
management of water conservancy, environment and public facilities	2	58	-	-
service to households and other services	1	-	-	-

Sources : the data from the first national economic census.

Table 4: basic data of the incorporated SMEs (by types enterprises of SME)

Item Grouping	Unit/Legal Entity	Employment/ person	Business Revenue of Whole Year/thousand	Total Assets/thousand yuan
Total	2,327,969	58,947,778	6,535,425,319	7,229,524,125
Domestic enterprises	2,237,185	53,951,581	6,044,526,465	6,550,301,584
Private enterprises	1,538,315	32,481,099	3,950,057,989	3,084,959,621
Enterprises with funds from Hongkong,Macao and Taiwan	46,315	2,814,528	246,579,103	340,220,847
Foreign funded enterprises	44,469	2,181,669	244,319,751	339,001,694

Sources: The data from the first national economic census.

Distribution of registered types of small enterprises (see Table 4) is as follows: domestic enterprises in mainland China make up 96.1 percent of the total; HK-, Macao- and Taiwan-based enterprises, 2 percent; and foreign enterprises, 1.9 percent. Meanwhile, private enterprises comprise 66.1 percent of all SEs.

Based on the number of small enterprises in the top three industries in the manufacturing sector (see Table 3), manufacture of general- purpose machinery leads with 9.2 percent, followed by metal products (6.7 percent), and textile (6.3 percent).

3. PROMOTIONAL POLICY OF SME AND THE PROBLEMS OF SME

3.1 SME Policies and Programs

The government tasked to oversee SMEs in China consists of four administrative departments: the National Development and Reform Commission, China Coordination Center for Cooperation of SMEs with Foreign Countries, China Association of SMEs, and local SMEs department in every province. Development policies and plans of governing SMEs were issued in 2003.

There are various ways by which government supports SMEs. First, the SME promotion law, enacted in January 2003, lays the groundwork for public support for small and medium enterprises. Under this law, the government protects the lawful investments of SMEs and their equity investors alongside their investment earnings.

Government administrative departments protect the legal rights of SMEs, including their rights to fair competition and fair trade. The state also identifies priority sectors for SME development through various means.

Second, in 2005, the government issued a document titled "State Council on Encouraging, Supporting and Guiding the Development of Private and Other Non-Public Owned Economies" (containing 36 Articles on Non-Public Owned Economies), which eased up market access conditions for non-public economies, thus according them broader development space.

Third, the government published the SME Growth Project in 2006.Its aims were as follows:

a. To promote the system building of policy and regulation for SMEs;
b. To cultivate the social service system of SME;
c. To facilitate SME structural adjustment;
d. To sustain the SME reforms;
e. To strengthen SME training;
f. To improve innovative ability;
g. To resolve financing difficulties affecting SMEs;
h. To encourage SMEs to expand offshore through the provision of FDI incentives, among others;
i. To improve the overall supervision of SMEs

The government also adopted a series of promotion regulations and measures in further support of SMEs. These are as follows:

Financing for SME development. The state-allocated budget for SME financing includes an item dedicated to supporting SME development. It also set up an SME development fund to encouraged donations through tax incentives extended to SMEs. The government also required financial institutions to improve the financing environment for SMEs, strengthen their support to SMEs in terms of enhanced credit and direct financing channels. It likewise enjoined various types of venture capital to increase investments in SMEs by giving them tax incentives.

SME financing. The relevant departments of government have since actively pursued the establishment of a credit guarantee system for SMEs, and provided tax incentives to encourage the establishment and growth of SMEs. Incentives, including tax reduction and income tax waivers, are given to SMEs that meet the state-stipulated number of jobs that are expected to be generated each year; SMEs operating in economically underdeveloped or impoverished areas, and SMEs which employ a prescribed number of physically challenged people.

Market access. Government also assists SMEs to improve their market access by helping them enhance their skills.

SMEs are enjoined to conscientiously implement the nation's industrial policies, industrial planning regulations, specifically those on market access. Such stipulations, among others, allow them to gain access to or avail themselves of vital services, such as those involving monopoly industries, public utilities and infrastructures, social undertakings, financial services, and national defense science and technology industries, which are now open to these enterprises, provided they secure prior government approval.

Existing regulations, rules and policy stipulations that tend to restrict market access for non-public economic sectors are currently under review by the applicable departments and local governments for possible revisions. Market competition mechanisms will also be introduced in the electric power sector, telecommunications, railway, civil aviation, petroleum and other industries and fields. At present, government procurement system tends to favor products and services generated by SMEs.

Government encourages SMEs to expand their markets by enforcing financial policies that allow, among others, imports and exports credit, export credit insurance, etc. It enjoins qualified SMEs to invest in foreign markets.

Networking with other enterprises. Government encourages qualified enterprises to expand their network. It also promotes specialization and coordination among SMEs so they can pursue collective development of materials supply, production, sale, and technological innovations in a bid toward market expansion. The state also promotes merger and acquisition activities among SMEs, alongside reorganization and optimized

resource utilization. Provision of government subsidy or loan facility is intended to support and encourage SME technological innovations with large enterprises.

Efficient SME supervision. Given the production and management characteristics of SME, the state is also working toward better management system. There are also efforts toward standardized charges collected by public organizations and institutions so as not to unduly burden SMEs.

Improved social services for SMEs. Government is vigorously developing various types of social intermediary service organizations, intensifying policy support for needed automatic funding of specific undertakings, supporting the conduct of trainings among enterprise personnel, strengthening services for science and technological innovations, supporting enterprises in opening up domestic and foreign markets, and actively pushing for the creation of a credit system for enterprises.

Other state undertakings, begun in 2004, are as follows:

a. Provision of innovation funds for technology-based SMEs
b. Administrative management of development of private and other non-public owned economies
c. Financing of technology-based SMEs
d. Regulation of entry of non-public investments into cultural industry
e. Entry of non-public investment into railway construction was published recently
f. Guiding opinion of development and reformation of commercial SME

Notwithstanding the foregoing efforts of the state, there are still some constraints in the government service system, which affect the SME operations. In recent years, some positive steps have been taken to improve the delivery of government services to SMEs. Admittedly, however, businesses do not just expect support and advice from the government. The former also want the latter to complement the private sector by filling gaps in supply and addressing market failures. For instance, problems of duplication and inconsistency in the quality and sources of services remain. Access to public funds is also difficult in terms of time and cost. At present, government services include advice, grants, skills and training and specific support for manufacturers, such as the

manufacturing advisory service. By providing these services, government hopes to make the target enterprises more competitive.

Businesses also report difficulty in accessing public funds, both in terms of time and cost (see Table 5). While there are signs of improvement in some services, there are still government agencies whose approach to business is poor. Much more work is required for government services to be become efficient and accessible to all enterprises considered coherent, accessible and of a high quality.

Table 5 also shows that business sector feedback on government services for SMEs is by and large poor. For instance, where state services in the areas of preferential policy, finance guarantee service, tax burden alleviation, market condition management, and public service are concerned, nearly all respondents to the survey (on which the data presented were based) said they were "too general" and that there were still many obstacles and constraints to the SMEs' pursuit of their business goals. One common cause of complaints is the lack of assistance catering to their different needs. These shows that government should provide small and medium enterprises with services that suited to SMEs needs.

Table 5: Valuation of government service

Approval	valuation		difficult	General	Easy
	ratio		9.4	58.4	32.2
Preferential policy	valuation		much	Less	few
	ratio		7.4	66.6	26
Finance guarantee service	valuation		good	General	Bad
	ratio		7.8	65.4	26.8
Tax burden	valuation		High	Fair	low
	ratio		52	45.4	2.6
Market condition management	valuation	Very good	good	General	Bad
	ratio	3.3	35.2	54.3	7.2
public service	valuation	Very good	good	General	Bad
	ratio	4.5	39.7	51.3	4.5

Source: Analysis of Questionnaire of SME financing in 2006. N=736.
Http://www.sme.gov.cn

3.2 Problems in SMEs' Operations

The following were identified as the specific concerns of SMEs**:**

Weak linkage with external market. SME contribution to China's total exports accounted for 62.3 percent of the total in 2006. Yet, the small enterprises contributed only between 5 and 10 percent to exports, according to data from *the China Private Economy Year Book* for 2004-2006 (see note 2). SEs' modest contribution to China's economy is further reinforced by the result of a survey conducted among 29 provinces and 10,000 enterprises in 29 provinces (of which 3,339 were qualified enterprises) during that period (see Table 6). The ratio of SE external market of small enterprises to total exports is only around 18 percent, significantly lower than that of the medium enterprises. The resulting data resulting from the survey showed that SE products are mainly focused on the domestic market.

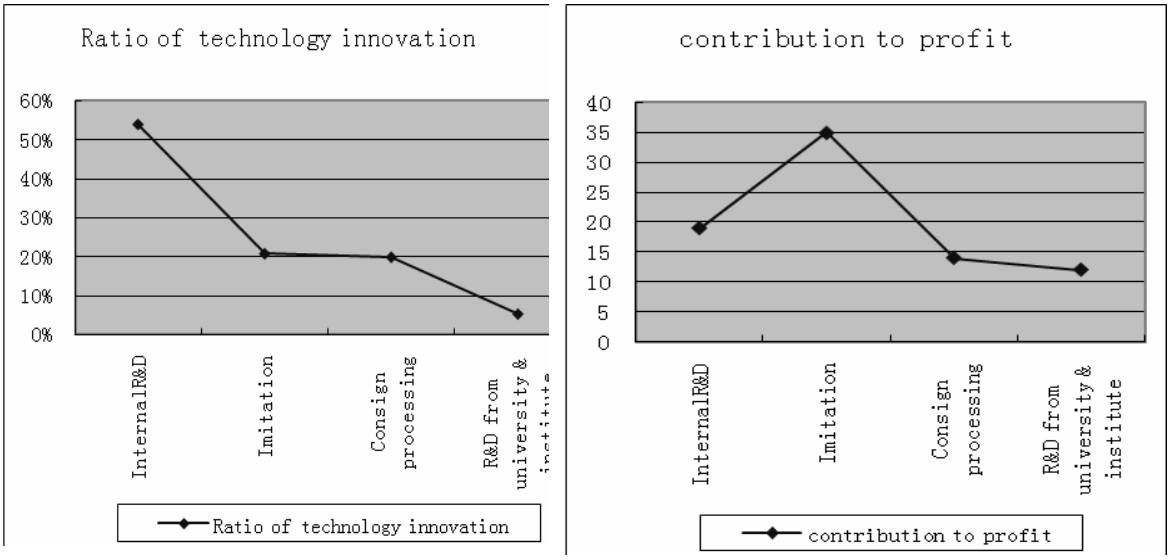
Table 6: Product distribution of SME in China based on enterprise number

	SME	ME	SE	Eastern area	Middle area	Western area
Province market	33.63	19.56	43.46	33.77	26.82	43.21
Other province market in China	39.65	41.68	38.38	34.69	48.5	39.94
World market	26.72	38.76	18.16	31.54	24.68	16.85

Source: Analysis of Questionnaire of SME financing in 2006. N=3339.
Http://www.sme.gov.cn

Weak technological innovation. Technological innovations among SMEs in China come in four ways: internal R&D, imitation, licensing of know-how, and university- (and related institution)-led R&D. Figure 1 shows that the ratio of internal R&D to technological innovations is 54 percent; those of other three are 20 percent, 19.9 percent and 5.3 percent, respectively. Contributing the highest to income generation is imitation technology, followed by internal R&D, licensing of know-how, and external R&D (or such efforts being pursued with university-based R&D and institute is the lowest. It appears that imitation is restricting the technological innovation of small enterprises, which in turn is borne of a inadequacy of funds (Liang 2007).

Figure 1: Technology Innovation of small enterprise



Source: Data from the questionnaire of Small enterprises, NDRC.N=592.Http://www.sme.gov.cn

Inadequate financing. Lack of financial support is a major stumbling block to SME development in China. In particular, SMEs are beset by poor credit guarantee system, dearth of financial institutions supporting SMEs, extremely high stock market threshold, and inability to obtain bank loans owing to imperfect management and poor accounting system that discourages banks from lending to them.

Based on a survey of 948 SEs on the issue of financing (Table 7), 73.3 percent of the respondents cited lack of a credit guarantee system (with an equivalent ratio of 36 percent relative to all other responses to the questionnaire) as their foremost concern, 73.3 of questionnaire SEs choose it (questionnaire enterprises can make several choices about the financing difficult of SEs).

Next to this is the lack of professional information on obtaining bank loans, with 24.7 percent and an equivalent ratio of 12 percent. The other responses were poor profit ability (11.5 percent), capital scarcity of banks (11.4 percent), poor bank valuation ability (10.20 percent), lack of credit history (8.9 percent), and lack inadequate credit institutions (7.1 percent), etc. Still another major barrier to the rapid development of the SME sector is the shortage of equity financing and a more supportive legal and regulatory environment.

Table 7: Difficulties of SE Financing

Reason of loan difficulties				Measure for SME financing			
Item	Number of replies N=1928	Share in total 948 enterprises (%)	Share of total 1928 Replies (%)	Item	Number of replies N=1928	Share in total 948 enterprises (%)	Share of total 1928 Replies (%)
lack guarantee system, though it has compensation ability	695	73.30%	36%	Increase policy loan	726	75.00%	28.90 %
Cannot offer the information that bank needs	234	24.70%	12%	Non-estate asset can be mortgage	413	42.70%	16.40 %
Poor profit ability	223	23.50%	11.50 %	need government support fund	320	33.10%	12.70 %
Capital scarcity of bank or financial institution	219	23.10%	11.40 %	Develop guarantee institution	301	31.10%	12%
Poor Valuation ability of bank or financial institution	198	20.90%	10.20 %	Develop SME bank	201	20.80%	8.00%
Lack Credit history	170	17.90%	8.90%	Promote business credit development	197	20.40%	7.80%
Lack credit institution	136	14.30%	7.10%	Improve law environment	151	15.60%	6%
Exceed Credit history	53	5.60%	2.70%	Develop venture capital	83	8.60%	3.30%
				Develop non-bank institution	74	7.60%	2.90%
				Develop second Board market	50	5.20%	2.00%

Notes: Due to multiple replies, 1928 replies was submitted from 948 enterprises.
Source: Analysis of Questionnaire of SME in 2006.N=592. Http://www.sme.gov.cn

4. INDUSTRIAL CLUSTERING AS AN IMPORTANT COMPONENT OF SME DEVELOPMENT

An important aspect of SME development is industrial clustering. This refers to various industrial colonies composed of enterprises in identical and closely connected industries in specific areas. SME clustering, in particular, is the centralization of SMEs in their location, considered an important feature of SME development.

4.1 Reinforcing SME Competitiveness

An SME cluster can maximize regional accessibility to produce and market by capitalizing on joint ventures, cooperation, and alliances. A specialized division in the cluster helps the enterprises not only to supply the consumers with diverse products but also reduce business expenditures by creating a commercial network and taking advantage of region accessibility, thus enhancing their competitive power.

Many enterprises belonging to one industry band themselves together into a SME cluster. These are mostly manufacturing enterprises along with allied industries. Doing so leads to higher economies of scale, which in turn enhances the host town's economic competitiveness. Take Zhejiang province, for example, which is one of the most vibrant areas in China. Its growth was fueled by the clustering of SMEs in the area into specialized industrial zones (Sheng et al. 2004).

According to a report titled *China's SMEs development for 2007*, there are 604 industrial zones in the province, with a combined output values exceeding 100 million yuan. Of these, 283 clusters (?) have an output of 1billion yuan; 35 clusters, about 10 billion yuan; and five clusters, more than 30 billion yuan. Cluster output accounts for about 50 percent of the total industrial output; taxes, 60 percent, export volume 70 percent, and employment 80 percent.

Many small towns in China depend on township enterprises for their economic growth. Such enterprises are expected to generate more employment opportunities for the rural surplus labor force. A small town's development must be supported by its industry. Such support can come from SME clusters of enterprises in the secondary and tertiary industry, could provide this kind of industry support, and attract rural surplus

labor force to enter into the small town, which could accelerate the transfer of the rural surplus labor force.

In Guangdong and Zhejiang provinces, typical SME clusters are mainly engaged in costume, textile, ceramics, hardware, household electric home appliances, among others and so on. These enterprises are basically traditional labor-intensive manufacturers, employing rural surplus labor force work (Shi 2004).

Most SMEs clusters are based in towns found in the developed areas along the eastern coastal areas of in China, such as small towns in the Pearl River Delta and Yangtze River Delta. Well established enterprise clusters have found that small enterprise clusters develop very well in Jiangsu, Zhengjiang and Guangdong provinces. The more small enterprise clusters are specialized, the more competitive they are. SME clusters in the in mid-area and western area of China (Zhang 2007) are still in the early stage of their development.

The more specialized small enterprise clusters are, the more competitive they are. A large number of SME clusters based on private enterprises are economic drivers for small towns.

The cluster economy is made up of professional towns and villages functioning as production hubs, with one or more towns focusing on one product. Some areas have set up large-scale specialized production and marketing, which shows great potential for success. This essentially illustrates the concept of “one village, one product” or “one town, one industry” as exemplified by provinces like Jiangsu, Zhejiang, and Guandong. The concentration of production of certain products in these areas has given rise to such catch phrases as Shengze textiles, Hengshan sewing machines, Ningbo costumes, Wenzhou shoes, Shaoxing synthetic textiles, Haining leather coats, Yiwu small commodities, Yongkang hardware, to name a few.

The SME cluster facilitates information exchange and knowledge extension sharing, which not only attracts talent and other vital components of production but also encourages the entry of new enterprises, or industry players, into the trade (Li 2006). Therefore, clustering has become a major strategic choice of key SMEs to enhance their competitiveness, which benefits their host small towns economically.

From a regional economics perspective, the drive for greater profit pushes SMEs to pursue industrial cluster formation. This results in a host of economic benefits to the

individual enterprises making up the cluster, which a single enterprise may not have. Through economies of scale, SMEs could enhance their efficiency and reduce their operational costs. Their collective presence in a small town pushes the latter to improve its infrastructure and develop new services that serve as incentive to existing enterprises and boost the town's development (Liu 2001). A cluster's development fuels the host town's competitive power.

4.2 Challenges to SME Clusters

Notwithstanding the potentials for small town growth that SME clusters fuel, certain problems still hound these enterprises, which limit such potentials for growth. SME clusters in Jiangsu Province, for instance, are burdened by limited financing or access to credit, especially for technological innovations (Zhao 2007).

Overall, the cost of doing business in industrial areas and host towns is high; physical infrastructure is poor; and operational costs are high. Furthermore, access to finance and information technology is limited. These problems are disincentives to doing business and restrict SMEs to organized clusters in the industrial towns. Infrastructure development depends only on small- and medium-sized enterprise clusters while small town economic development relies on private capital and government fiscal support.

Small enterprise clusters depend highly on local resources for their operation. SME operations are generally family run enterprises with limited, instead of large-scale, factory production. The industrial structure tends to be rigid, with limited entrepreneurial and managerial skills. Such factors inhibit the enterprises' competitiveness and result in a lack of enterprising spirit or willingness to take calculated risks, as well as management inefficiency (Zhao 2003), highlighting the need for training. The quality and cultural levels of the managers and the management systems of small enterprises have to be improved.

4.3 Survey of Small Enterprise Clusters in Jiangsu Province

The following examples highlight the challenges confronting industrial SME clusters, based on field surveys of three kinds of small enterprise clusters in Jiangsu province (see endnote 3).

4.4 One Product, One Town

Three towns clearly illustrate the concept of "one product, one town" in the Jiangsu province:

The Guanlin cable cluster (comprising 12 small cable enterprises), the Shengze textile cluster (including six small textile enterprises), and the Hengshan sewing machine cluster (consisting of six small sewing machine makers) are engaged in the manufacture of metal products, textiles, and general machinery, respectively. These comprise the top three industries of China.

The town of Guanlin is in Yixing City, Wuxi, Jiangsu Province. Started in the early 1980s, cable production in this town now boasts more than 200 cable enterprises, 20 of which have assets of at least 100 million yuan, and eight have assets of 10 billion yuan or more. Cable output and sales account for 78 percent of the total industrial output of the town. Sales of cable enterprises in Guanlin and its surrounding towns account for more than one-third of the entire economic output of Yixing City, the largest cable production base nationwide.

Inspired by the rapid development of the cable industry, its auxiliary enterprises engaged in non-ferrous metal processing increased rapidly. Today, there are around 200 enterprises forming a complete industrial chain engaged in the manufacture of machines, auxiliary materials, metal rolls and cable coils. Guanlin also prides itself on having some 100 types of cable products with about a thousand specifications and over 10,000 varieties, including high-quality products.

Shengze, known as the "silk town," has an extensive production line. It is one of four towns (the others being Suzhou, Hangzhou and Taihu) that were collectively called the major silk towns of China during the Ming and Qing Dynasties. The silk industry of Shengze has shifted from low- to high-quality materials, from textiles to R&D, from low to high-value added. Shengze has about 2,000 textile factories now, which have a combined 75,000 shuttleless looms. It has formed a textile production chain from silk reeling, polyester spinning, weaving, dyeing and finishing, deep processing of textiles to the manufacture of clothes and garments. It produces 2 million tons of polyester filaments, 6 billion meters of textiles, dyes and finishes, 2 billon meters of textiles; deep-processes 2 billion meters of textiles; and makes 50 million garments every year.

In 2006, the output value of Shengze's textile industry was 36.032 billion yuan, accounting for over 90 percent of the total output of the town. The industry's total taxes amounted to 600 million yuan, up 20.03 percent from 2005. Its employed personnel numbered 88,600, excluding 51,000 individuals working for it in the countryside.

The development of Shengze's textile industry also helped to establish textile enterprises in its surrounding areas. Today it boasts a highly competitive textile production base operating in the areas around Shengze, which include Wujiang City, Jiaxing in Zhejiang, and some towns in Huzhou.

The sewing machine industry in Wanping, Hengshan began in the 1970s, continued on till the 1980s, and developed in the 1990s. Since then, SME clusters have been formed, which are marked by a closely coordinated production chain, strong collaboration among the small enterprises involved, strong and independent R&D efforts, and orientation to the domestic and international markets. Today there are over 30 sewing machine manufacturers and 162 related spare parts makers, who rely on a full gamut of production operations. The output of middle standard and thick-material sewing machines in Hengshan accounts for 30 percent of the total national output. At least 4,000 varieties of spare parts are produced in this town. Now the industry in Hengshan has over 170 patents, of which 30 to 40 patents are used every year.

These small enterprise clusters are marked by the following:

Localization. Centralized production in a certain region at a considerable quantity is one distinctive feature of small enterprise clusters. SE clusters are driven by leading major enterprises, followed by affiliate enterprises, self-developed enterprises clusters, leading to the gradual evolution of the one industry, one region and one product, one town type of operation. Its regional reach has brought about expansion of production (Li Donglei 2005). The cable town in Guanlin, the silk town in Shengze, and the small sewing machine clusters in Hengshan exemplify the concept of such a regionalized layout.

The presence of a large number of related enterprises in the same region will facilitate skills upgrade and enhance competitiveness, which in turn could speed up the sector's pursuit of industrial clustering and technological innovation, as they take advantage of proximity, coordination, and ease of communication.

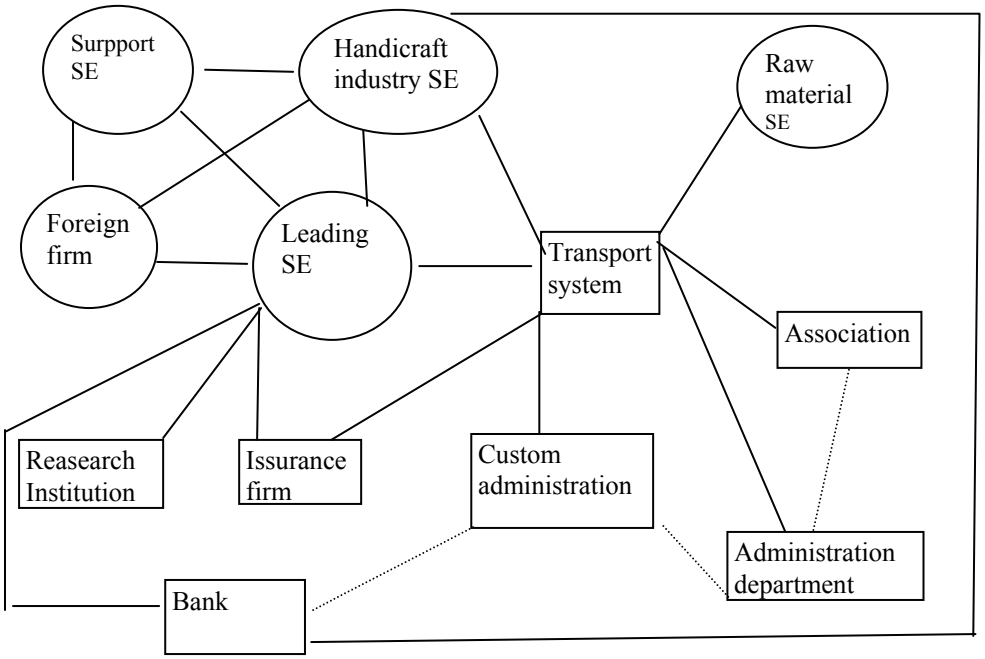
Specialization. Small enterprise clusters' specialized operations help ensure their steady progress. Specialization comes about when enterprises clusters develop to a certain degree, resulting in the creation of professional divisions and steadily improving coordination. Along the way, some definite production processes will be spun off and turn into affiliated enterprises for some special processing. Hengshan town, for instance, is the production base of sewing machines for medium and heavy-duty materials. What started out as a small number of companies have grown to 162 parts manufacturing enterprises that now comprise the clusters of enterprises possessing a high degree of specialization. These produce over 200 kinds of parts for sewing machines annually. They supply both the domestic and export markets. Enterprises in clusters can make fully utilize infrastructure because of a centralized regional layout, and lower the utilization cost of infrastructures and services under the same level of supplying.

Market-oriented interaction. Shengze, dubbed "Kingdom of Clothes and Quilts," has many enterprises producing textile and silk. It is also well known as an oriental silk market. This is an example of regional branding, a result of more efficiently run and more developed enterprises that have developed a niche for their extensive and sustainable brands. Thus mention thin silk lining or materials, and Shengze town in Wujiang easily readily comes to mind. The same is true for Hengshan town, which is known for its machines for medium and heavy materials; Wujin for its lamps; and Yangzhong in Jiangsu for its low-voltage electrical equipment.

The efficiency with which these manufacturers are run can be seen in reduced costs of operation and increased profit, as have been the experience of more than 200 IT companies operating on the 12 sq. km land in the developed zone of Wujiang city. This sector is also an example of a centralized cluster of enterprises that can easily obtain the latest technological information from the market and spread it efficiently through interpersonal channels. As such, enterprises could devote the a greater part of their time and resources to developing their markets (Zhang 2005).

Socialized coordination. Service-oriented enterprises have developed systems that make efficient and coordinated operations possible (see Figure 2). For example, Hengshan town in Wujiang city is widely known as the national hub for wool-sweater

Figure 2: Socialized Coordination of Small enterprises



production. Producing 100 million sweaters yearly, the cluster of enterprises operating in this town carries out all operations—from production to distribution—in its base of operation. Order, transaction, packing, and delivery systems services are all also provided in a coordinated manner by those service enterprises. One town, for instance, has 3,500 enterprises producing wool sweaters; 600 enterprises handle the nationwide distribution; 500 others are engaged in affiliated operations; 400 enterprises produce materials; 200 are engaged in transportation; 100 enterprises repair equipment, all of them form an enterprise cluster with firm connection.

Meanwhile, people, products, capital and information are all essential components of enterprises cluster, which collectively can accelerate the development of transportation, storage, telecommunications, restaurant, hotel, entertainment, education, sanitation, agency, financial insurance and real estate, etc.

Local government. Local government units provide an enabling environment through appropriate policies and regulations as well as vital infrastructure, which are all essential to business. Small enterprises located in the areas between Shanghai and Zhejiang enjoy the convenience of having these facilities, which allow them to do

business with local and foreign enterprises. Besides, local governments arrange for enterprise visits to other places, and organize them to participate in international trade exhibits every year. These governments also support various spare part associations and service companies and provide technical and R&D services.

4.5 Networking among Small Enterprises

Networking among 24 sample small enterprises was found to be strong, given their close coordination with other small enterprises for specific business operations. For instance, nearly all cable enterprises cooperate closely with other small enterprises to buy raw materials, purchase intermediate products, sell products to other small enterprises as well as introduce other small enterprises to customers when their orders exceed their production capacity. The same level of coordination applies to small textile enterprises. The small sewing machines enterprises cooperate very closely with other small enterprises.

4.6 Subcontracts with Big Enterprises in Textile Industry

Subcontracting among small enterprises, as another business strategy, is limited so far to the textile sector, with five out of six industry players having signed subcontracting arrangements with major companies, one of which has similar arrangements with big foreign firms at the same time.

The percentages of subcontracted products vary across the enterprises involved, ranging from 20 to 100 percent. In the sewing machine sector, five of them have signed subcontracts with big domestic enterprises and one of them has signed subcontracts with big international enterprises at the same time. Four of these five enterprises have had simultaneous subcontracting businesses and with many enterprises at the same time. Two big domestic companies signed subcontracts with these textile enterprises for quality, one for production capacity, and one for OEM.

Based on a survey conducted, five small textile enterprises selected product quality as the most important factor for establishing and engaging in conducting subcontracting business as they all hoped to receive proposals about quality management from such business.

All the 12 cable enterprises, however, have yet to sign subcontracts with big enterprises.

4.7 Export Competitiveness Ability and Higher Level of Technological Innovation

Export competitiveness among textile and sewing machine manufacturers is strong compared to other sectors. Aside from enjoying good domestic sales, the textile industry has also successfully tapped the export market. Proof of its strong performance abroad is that four out of six of its enterprises get 50 to 100 percent of their sales receipts from the international market. Similarly strong internationally are five of six sewing machine makers. Only the cable industry players make whole machines and serve the domestic market entirely.

The cable enterprises sell their products in the domestic market, which, based on a survey conducted, is so huge that serving the international market may have to wait for now.

Cable enterprises are technology-intensive enterprises, whereas the textile enterprises and sewing machine enterprises sectors are either technology- or labor-intensive businesses, depending on their stages of operation. Two cable enterprises have their own product patents.

Notwithstanding the strong export performance of some industries in the small enterprise sector, technological innovations are hampered by the scarcity of funds.

The cable makers among the small enterprises operating in the town have a combined labor force of at least 350 senior and middle engineers and over 20,000 production workers. Yet, these companies have to rely on foreign organizations for technological innovations owing to scarcity of funds and limited R&D capability. As for the textile sector, only one manufacturer has a product patent. They generally have joint R&D undertakings with domestic and international institutions.

The sewing machines cluster, though equally hobbled by lack of funds and limited R&D capability, have nonetheless enterprise-led R&D. In fact, three enterprises have their own product patents—proof of their strong and independent technological innovation ability as well as keen orientation toward the domestic and international markets.

The sewing machine industry in Hengshan presently has more than 1,000 professionals, or 8 percent of its total manpower, including 250 mid-level and senior engineers. It has forged partnerships with the Suzhou University and Jiangsu University of Science and Technology. Some of the spare part enterprises have become the training sites of these educational institutions.

Imitation is restricting technological innovation among standard small enterprises. Yet, the average R&D input accounts for 10 percent of the sales of the sewing machine and textile enterprises. This shows that small enterprise clusters in Jiangsu Province are more adept at technological innovation ability.

5. FIELD SURVEY

5.1 Objectives Field Survey

The field survey sought to analyze the 1) industrial clusters of small enterprises and subcontracting arrangements between small enterprises and large enterprises in typical industries in Jiangsu Province; and 2) to determine the extent of development and level of professionalization of the manufacturing industries. The survey was conducted in Jiangsu Province in November 2007.

5.2 Industrial Clusters of Small Enterprises: SE's Development Trend

Based on the survey, 30 percent of the respondent enterprises are doing affiliated production for large enterprises, 100 percent sell products in the local market, while 50 percent cater to the export market.

Small enterprises facilitate development. Jiangsu province takes the lead in the market economy. Adequate infrastructure such as information technologies, excellent geographical location, favorable investment policies, cheap labor, and rich natural resources have collectively enabled the SEs operating in the area to coordinate their production to global standards and attract foreign capital and technologies. Moreover, they get support from the local government and benefit from the collective efforts of all enterprises to pursue growth.

The survey shows that a fourth of the enterprises have established strategic alliances with relevant enterprises, 100 percent do production by themselves, sell products locally and have very good collaborative efforts with other SMEs. On the average, the enterprises maintain close relations with 14 enterprises among those that have market alliance, 50 percent of them in Jiangsu, Zhejiang and Shanghai. Each of the companies with technological development alliances with other firms keeps close relations with three enterprises; 55 percent concentrate in the same areas. Enterprises in the Changjiang Delta area in Jiangsu province also receive support from other enterprises.

Convergence of similar enterprises for production (in the cable industry), convergence of similar enterprises for the market (in the textile industry), and convergence of similar enterprises for the production chain (in the sewing machine industry) are characteristics of the main business development patterns among small enterprise clusters in the three industries, respectively. Hence these industries are technology- and labor-intensive, respectively.

Small cable enterprise clusters is the convergence of similar enterprises for production. Their production chain is short and product varieties abound. Similarly small enterprises converge horizontally and cooperate with both big enterprises and small enterprises. China's construction industry currently enjoys great demand amid efforts to boost the infrastructure in the countryside. Domestic cable products have a steady market share, which is mainly in China. The products mainly comprise midscale cables and lines. The skill level of enterprise employees is low, which prompts some companies to seek technical cooperation and development with research institutes or universities to facilitate skills upgrade. Prospects for such cooperation and development are still being explored.

Small textile enterprise clusters are the convergence of similar enterprises for the market. The textile industry is in the midways through the production chain.

The development pattern among small enterprise clusters in the Shengze Town in Jiangsu is typified as horizontal convergence, that is, across similar enterprises, or as vertical convergence, that is, they are in collaboration with big enterprises, i.e., working as subcontractors for them. Small and big enterprises cooperate closely mainly to

process and customize textiles for big European and American enterprises. Cooperation between small enterprises is also very close.

China's textile industry still has the advantage of low labor costs. Located in the Yangtze River Delta, these enterprises operating there have captured both the domestic and international markets, each of which accounts for 50 percent of their sales.

Increasing competition for a share of the market has prompted small enterprises to collaborate with research institutions or universities in pursuit of technical development. Others have gone into joint R&D undertakings with domestic scientific research institutes. The Shengze town's textile enterprises have formed such undertakings with partners conveniently located within 5 km of their base of operations.

Small sewing machine enterprise clusters is the convergence of similar enterprises for the production chain. The sewing machine industry belongs to the processing industry, which has an extensive production chain. The small sewing machine enterprises in the Hengshan Town of Wujiang in Jiangsu mainly cooperate vertically with big domestic enterprises and foreign enterprises while some small spare parts enterprises work closely with big enterprises. These cater mainly to big enterprises in Shanghai, Japan, South Korea, and Europe. Meanwhile, the small enterprises are in close coordination with one another, which has been a big boost to the expansion of their domestic and foreign markets. They are located in the Yangtze River Delta.

Hengshan Town, as the production hub of sewing machines suitable for medium and thick materials, has longer horizontal and vertical production chains than the former two industries as well as diversified features. It is a labor- and technology-intensive industry. These enterprises' R&D efforts are company-driven. Many of them have their own patented technologies. They collaborate with domestic scientific research institutes in R&D in varying degrees and their products are relatively well known locally and internationally.

5.3 Difficulties of Small Enterprises

Certain problems persist in the small enterprise industry: These are as follows:

a. Lack of core technologies and intellectual property rights
b. Poor cooperation between foreign companies and local enterprises

c. Lack of preferential policies and advantageous labor costs that are disincentives to foreign companies, some of which have moved from China to Vietnam, India and other Southeast and South Asian countries in recent years
d. Limited access to funding
e. Weak local government service system

6. POLICY RECOMMENDATIONS

6.1 Strengthen service quality among SMEs

The government must ensure that initiatives funded with public money are responsive to business demands, address market failure, and provide added value. It must also see to it that the business support network provides the targeted service to businesses. Policymakers, both at the national and regional levels, must recognize that the process of business growth has significant policy implications for government services, and determine ways to address these implications. Aside from ensuring that employers get high-quality training from colleges and private institutions providers brokerage services on training are often key for many small firms.

6.2 Learn from the Experience of Jiangsu Government

The Jiangsu government has promulgated supporting policies on the development of small enterprises. These mainly cover pioneering support, innovation promotion, market expansion, capital support, service guide, and rights protection.

Local government units should insist on reforming the property rights system, and encourage individual and private enterprises to become share holders or owners of state-owned and collective small enterprises. They must also develop joint-stock enterprises, advocate unequal stock ownership, and reform conditional joint-stock enterprises into standard company-system enterprises.

Local government should accelerate to encourage small enterprises to provide coordinative services for big companies, thus facilitating the pursuit of merger and acquisition activities. It should alleviate the burden of small enterprises, such as some charges in reorganization of enterprises can be deducted.

Then, too, local government should support the establishment of a technological innovation mechanism that, among others, would allow technological development costs to be incorporated into the corporate budget. If the cost increases 10 percent more than the previous year's, profit-making enterprises in national and collective industries can have a 50 percent tax cut.

Local government should expand financing channels. Commercial banks should set up credit organizations for small enterprises. Local place should found credit guarantee funds and venture capital. High-quality assets of small enterprises can come into market through equity and assets replacement, so as to realize direct capital market financing.

Local government should establish small enterprise-centered technological innovation service system, information consulting service center, management consulting center, and product distribution center.

6.3 Develop an Industrial Cluster Plan to Enhance SME Competitiveness

Government should provide a policy framework that would serve as a guide in the setting up of industrial clusters of small enterprises. Such a framework should indicate how such clusters could be formed, provide public funds for SME clusters, and set up promotional institutions that will enhance technological collaboration among SMEs, university and research institutions.

The same framework should provide business support, specifically for innovation; cultivate markets; and foster human resources, among others. It should also build financing institutions for SMEs.

Where SMEs are concerned, the countermeasures to develop SE clusters should be as follows:

- *Improve small town infrastructure.* Improved and low-cost infrastructure, such as energy, transportation, communications, and Internet, is vital to SE clustering.

  Small town infrastructure development could be pursued gradually but steadily while ensuring that SEs continue to produce and develop while getting the services that they need.

- *Develop the industry that has competitive power.* Small towns specializing in production, trade, and tourism industry should develop potentially competitive industries.

Undeveloped small towns should develop the industry using locally available resources and potential regional markets. This can be achieved through the industrial chain's extension and new product research and development, external scale economy and healthy competition and cooperation within the SE cluster.

Implement the macroeconomic regulation and supply the local government service. The government should draw up a preferential policy for the development of SEs, help SEs to choose appropriate region and adjust their development direction. The local government should help to cultivate entrepreneur spirit. The entrepreneurs of Small-medium sized enterprise cluster have been regarded as important human resources in the development of the enterprises. It is necessary to create a suitable environment for the entrepreneur development and supply a preferential policy, completed law system, fair market rules and so on. The point is to build a culture of the local society to promote competition and cooperation in order to cultivate an innovative entrepreneur efficiently,

6.4 Complete Financing System of SME

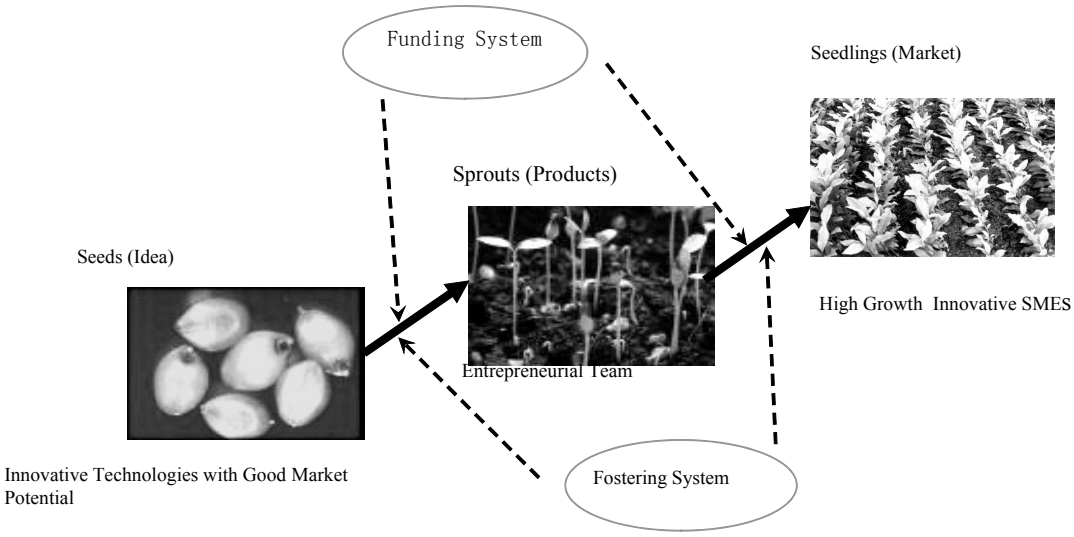
The policy for SE development should focus on financing. Following are some proposed measures toward this end:

- Expand the list of SE financing tools to include fiscal, banking, security market, commercial credit, and private financing sources
- Build policy bank of SE
- Develop a credit guarantee system
- Encourage utilization of foreign direct investment and expand external markets
- Develop a second board market
- Provide a finance and taxation support system for the promotion of SEs' technological innovation

6.5 Complete technological innovation system of SE

Support for technological innovation will be accorded to SEs that meet industry standards. This could take the following forms (see Figure 3):

Figure 3: "Growing Seedlings" of Technology Innovation of SME



- *Create innovation source* (e.g., "Growing Seedlings"). In particular, reinforce the development of technology-based SE community, and lower the risks and costs of innovation activities undertaken by technology-based SEs.
- *Develop innovation clusters and reforestation.* Guide the random innovation activities of SEs to follow the national development strategy so as to build up the innovation ecosystems representing national competitiveness.

Environment building is also important ("The Soil"). It should cover the following:

- Capital
- Technology
- People

Encourage the upgrading of the value chain, including technology-based export promotion, that is, from OEM **(**Original Equipment Manufacturing**)** to ODM (Own Design and Manufacturing) & OBM (Own Brand Manufacturing), etc.

Coordinate integrated fostering system. First, strengthen technological innovation system with enterprises as the core hub, and facilitate collaborative efforts among industry, university, and research institutions. Government should promote the networking, interaction and collaboration among key innovation players, foster technological innovation alliances, establishing innovation relay centers (otherwise known as CIRCs) to make it easier for SEs to access applicable innovation resources, lower their information, transaction, and organizational costs of innovation activities.

Second, promote the incubation mode of entrepreneurial tutor (or SCORE) combined with professional incubation promote joint innovation partnership between Chinese and foreign innovative SEs through cooperation with counterpart innovation agencies in other countries.

NOTES

1. Small enterprises have less than 300 employees and business revenue of no more than 30 million yuan. Total assets amount to less than 40 million yuan. Such enterprises are the focus of this paper. Individual industrial and commercial households are not covered by the statistical data for "Legal Persons."
2. Among small enterprises, private economy is nearly about 70 percent. The contribution of private economy to total export is about 3.6 percent (*China Private Economy* year book, 2004-2006) in 2005. Total SE contribution to total export is estimated at nearly 5 percent.
3. Sales of the leading enterprises in the Jiangsu Databank of Industrial Clusters Innovative Service Projects account for over 50 percent of the sales of industrial enterprises in such colonies. After expert appraisal, 241 enterprises are compiled into the databank.
4. The role of local governments is very different. Local governments in Jiangsu is very important for Small enterprises, government guide the enterprises and economic development. The local governments in Jiangsu concentrate on the development of basic infrastructure and optimize of investment environment. Local governments in Zhengjiang are the reverse, given their seeming inaction where the needs of the SMEs are concerned.

REFERENCES

Li, D. 2005. Review of SMEs' international cooperation in Southern SuZhou. *Business Modernization* 451: 33-35.

Li, Y. 2006. Review and experience of mode of SME clusters in Guangdong. *Business Economy* 7:58-59.

Liu, Q. 2001. Review of mode of Sunan, Wenzhou, Pearl river. *China Situation and National Power* 4: 23-24.

Liang, G. 2007. Policy System on promoting SME innovation and entrepreneurship in China. Torch High Technology Industry Development Center, Ministry of Science and Technology, China. [Online]. http://www.insme.info/documents/06_INSME2007_Liang.ppt [Accessed 27 December).

Sheng, S. and Y. Zheng. 2004. *Zhengjiang phenomenon: industrial clusters and regional economic development.* Beijing: Qinghua University Press.

Shi, J. 2004. *Evolution and Prospective of Wenzhou Mode. Hangzhou:* Zhejing Society Science Press.

Zhang, P. 2007. Studies of SME clusters in mid-area of China. *Productivity Studies* 8:128-129.

Zhao, X. 2007. Analysis of industrial cluster development stage in Guangdong Province. *Journal of Tianjin Manager College* 9: 33-34.

Zhang, X. 2005. Outward investment of industrial clusters: new way of SME international operation in China. *Technology Economy* 6:42-43.

Zhao, Y. 2003. Current situation, problems and countermeasures of internationalization of SME in Zhengjiang. *International economic cooperation* 10:41-42.

Chapter 3

SMEs IN INDIA: ISSUES AND POSSIBILITIES IN TIMES OF GLOBALISATION

Keshab Das

Abstract

With an impressive history of small firm development policy, in post-Independence India SMEs dominate the industrial scenario through its contribution to generation of employment and income as also tackling the problem of regional disparities. Given the imperatives of globalization, although in certain sectors strong external orientation could be observed even by the early 1980s, it is since 1991 that the small firm policy (and since late 2006, for the MSMEs, including the 'medium' for the first time) in India has been keenly pursuing policies that emphasize the importance of internationalization, trade and inter-dependence in the spheres of innovation, learning, market and business strategies. An examination of the performance of the small enterprises has been attempted here, underscoring the. unimpressive performance and composition of exports and the widespread efforts at SME cluster promotion without a sound regional development perspective. Despite an elaborate and dynamic policy framework, the progress of Indian SMEs continues to be hindered by some of the basic constraints as poor credit availability, low levels of technology (hence, low product quality and limited exportability) and inadequate or no basic infrastructure, both physical and economic. It is too early to assess the impact and effectiveness of a plethora of new policy measures, announced very recently. Through a brief case of the garment sector some of the concerns (including terms of employment) regarding linking with global production networks have been presented. A case for proper implementation and following up of numerous schemes has been made, as also to develop policy-sensitive database for both SMEs as well as clusters. The challenge to policy lies in broad-basing benefits to SMEs across space and sector and also keeping the decent employment generation role of SMEs in focus.

INTRODUCTION

Small enterprise promotion has continued to remain an important and integral part of Indian development strategy much before the First Five-Year Plan, even dating back to 1938 when the National Planning Committee documents were being prepared. The concerted policy emphasis upon small firms as a vital vehicle of progress draws upon this sector's crucial historical role in generating substantial employment and income at the regional level and acting as a shock-absorber during periods of economic crisis. The small enterprise sector has continued to contribute immensely in creating large scale job opportunities across space and, in the process, helped reduce inter-regional and rural-urban disparities in growth. The remarkably diverse range of products manufactured in this sector (estimated to a staggering over 8000 distinct products), often available at affordable prices, has successfully catered to a calibrated yet vast domestic market. Certain products in this sector have also been consistently figuring in the export basket during the recent decades, although the export performance in the global market has been unimpressive.

After pursuing at least four decades of 'controlled' industrialisation – protecting infant industry and supporting an import-substitution strategy – in 1991, through the formal pronouncement of economic reforms of the Indian economy, the hitherto protected small enterprise sector began to come to terms with the imperatives of globalization. An increasing emphasis upon external orientation, competitiveness and networking with agencies within and beyond the sector and nation seemed to have been the bedrock of current policy paradigm; the recent policy framework corroborates this notable shift in focus. It may, however, be pointed out at this stage that till as late as October 2006, by when the Micro, Small and Medium Enterprises Development (MSMED) Act came to be legislated, the 'medium' category never had been formally defined; albeit, especially, in certain sub-sectors and regions many dynamic small enterprises had been operating at a much higher level of investment in plant and machinery and market reach.

2. SIZE AND CONTRIBUTION

As per the most recent Third All India Census of Small Industries (GoI, 2004), the sector is dominated by smaller / tiny units. Of the total estimated size of the sector with over 10.5 million units (both registered and unregistered in both manufacturing and service enterprises), the tiny units account for 99.5 per cent of the so-called small-scale industry (SSI) units numbering over 4.4 million. In fact, as between the last two small industry censuses (the most recent one being for the year 2001-02 and the previous one for 1987-88), the average size of the firm in terms of employment has declined from 6.3 to 4.6, suggesting a rise in the smaller sized firms over the 15-year period.

Table 1: Definitional investment ceilings criteria for SSI in India, 1985-2006

Year	Upper limit of the historical/original value of plant and machinery (Rs. Million)				
	SSI	Ancillary	Tiny[1]	EOU[2]	SSSE/ SSSBE[3]
1985	3.5	4.5	0.2	-	0.2
1991	6.0	7.5	0.5	7.5	0.5
1997	30.0	30.0	2.5	30.0	0.5
1999	10.0	10.0	2.5	10.0	0.5
2001	10.0[4]	10.0	2.5	10.0	1.0
2006	10.0/ 50.0[5]	10.0	2.5	10.0	1.0/ 20.0[5]

Notes:

1 In 1980, these referred to the units located in rural areas or towns having a maximum population of 50,000 as per *Census of India 1971*. By 1985, the population limit increased to 0.5 million as per *Census of India* 1981. However, by 1991, the locational conditions had been dropped.

2 EOU – Export Oriented Unit; this category was introduced in 1991.

3 SSSE – Small Scale Service Establishment; introduced in 1985.

SSSBE – Small Scale Service and Business Enterprise; this category replaced SSSE since 1991.

4 Since October 2001, for 41 items of Hosiery and Hand Tools; since June 2003, for 23 more items of Stationery and Drugs and Pharmaceutical industry and since October 2004 for 7 more items of Sports Goods the upper limit of investment had been raised to Rs. 50 million.

5 Since February 2006, the investment limit for 69 new items of Food and Allied, Plastic, Chemicals, Glass and Ceramic and Auto Parts industries was raised to Rs. 50 million. Also for all items in the Drugs and Pharmaceuticals sector *(whether reserved or not)* the investment ceiling has been raised to Rs. 50 million. However, the Micro, Small and Medium Enterprises Development Act, 2006, being operational from 02 October 2006, fixed the ceiling for *all* small enterprises at Rs. 50 million and for SSSBEs at Rs. 20 million.

Source: Das (2008:217)

Table 2: Aspects of growth of SSI in India, 1990-2006

Year	Total SSI Units (in Million)		Fixed Investment (Rs. Million)		Production (Rs Million)				Employment (In Million)	
					Current Prices		Constant Prices (1993-94)			
1990-91	6.79		935,550		635,180		682,950		15.83	
1991-92	7.06	(4.07)	1,003,510	(7.26)	730,720	(15.04)	791,800	(15.94)	16.60	(4.83)
1992-93	7.35	(4.07)	1,096,230	(9.24)	855,810	(17.12)	935,230	(18.11)	17.48	(5.33)
1993-94	7.65	(4.07)	1,157,950	(5.63)	988,040	(15.45)	988,040	(5.65)	18.26	(4.46)
1994-95	7.96	(4.07)	1,237,900	(6.90)	1,222,100	(23.69)	1,091,160	(10.44)	19.14	(4.79)
1995-96	8.28	(4.07)	1,257,500	(1.58)	1,482,900	(21.34)	1,216,490	(11.49)	19.79	(3.42)
1996-97	8.62	(4.07)	1,305,600	(3.82)	1,684,130	(13.57)	1,353,800	(11.29)	20.59	(4.00)
1997-98	8.97	(4.07)	1,332,420	(2.05)	1,891,780	(12.33)	1,478,240	(9.19)	21.32	(3.55)
1998-99	9.34	(4.07)	1,354,820	(1.68)	2,129,010	(12.54)	1,594,070	(7.84)	22.06	(3.46)
1999-2000	9.72	(4.07)	1,399,820	(3.32)	2,342,550	(10.03)	1,707,090	(7.09)	22.91	(3.88)
2000-01	10.11	(4.07)	1,473,480	(5.26)	2,612,890	(11.54)	1,844,280	(8.04)	23.91	(4.36)
2001-02	10.52	(4.07)	1,543,490	(4.75)	2,822,700	(8.03)	1,956,130	(6.06)	24.93	(4.27)
2002-03	10.95	(4.07)	1,623,170	(5.16)	3,148,500	(11.54)	3,067,710 *	(8.68)	26.02	(4.36)
2003-04	11.34	(4.07)	1,702,190	(4.87)	3,645,470	(15.78)	3,363,440 *	(9.64)	27.14	(4.31)
2004-05	11.86	(4.07)	1,786,990	(4.98)	4,297,960	(17.90)	3,729,380	(10.88) *	28.26	(4.11)
2005-06	12.34	(4.07)	1,881,130	(5.27)	4,978,420	(15.83)	4,188,840	(12.32) *	29.49	(4.37)

Notes:* At 2001-02 prices, hence, strictly not comparable.

Figures in brackets show the percentage growth over the previous year.

Sources: Upto 2000-01 from http://www.ssi.gov.in/ssi-eng-2004-05.pdf and beyond from http://msme.gov.in/ssi-ar-eng-2006-07.pdf (accessed January 27, 2008).

Considering the preponderance (and rise) of smaller units, at least since the mid-1980s or so, the policy support seems to have been favouring relatively larger sized enterprises, as may be comprehended from Table 1. While such a massive raise in the investment ceiling (from Rs. 6 million in 1991 to Rs. 50 million in 2006) was supposed to dissuade small from being dependent upon concessional state funds, the measure also explicitly encouraged capital-intensive small enterprise development. Interestingly, as the size of employment has never been part of the criteria used for the official definition of small enterprises, the hike in investment ceiling in recent times could, gradually, render employment creation as a secondary or even non-issue for small enterprises.

Table 2 presents data on key variables concerning the small scale industries in India dusring the period 1990-2006. The figures (including their annual growth rates) do clearly indicate a consistently growing small enterprise sector, whether in terms of the number of units, output, investment or employment. The official data, nevertheless, have been subject to criticism on grounds of being 'grossly inflated' figures. If such bloated figures bring about a sense of complacency in policy circles, it is a matter of concern.

Source: Das (2006: 115)

This is especially the case with the performance of exports from the small firms sector. From Figure 1, it appears that exports from the SSI have not only fluctuated

heavily during the period of last 15 years or so, but also have suffered negative growth rates. Observers have commented that the share of exports from small enterprises to Total exports has been on the decline. Further, the composition of exports from small enterprises has remained practically the same during the period. As Table 3 establishes, about 90 per cent of value of exports have been contributed by the same six product groups during 1988-2003, the only additional product group in the latter period being that of electronics and computer software.

Table 3: Export of major product groups from the Indian SSI sector, 1988-2003

(Value in Rs. Million)

Sl. No.	Product Group	1988-91		2000-03	
		Value	%	Value	%
1	Readymade garments	31029	40.9	249751	33.0
2	Engineering goods	6573	8.7	94780	12.5
3	Basic chemicals, pharmaceuticals and cosmetics	10467	13.8	84642	11.2
4	Processed goods	3090	4.1	75970	10.0
5	Electronic and computer software	-	-	63850	8.4
6	Finished leather and leather products	15528	20.5	55025	7.3
7	Marine products	2681	3.5	28570	3.8
	Total	75932	100.0	756843	100.0

Sources: For the period 1988-91, estimated from Table 97, Government of India (1994: 189); and for the period 2000-03, estimated from Table 7.16, Government of India (2005: 183).

Given the vast range of products manufactured in the small scale sector, the nature of the export composition makes it amply clear that products from mostly tiny or smaller enterprises (which almost singularly dominate the SSI sector) have hardly improved quality or exportability through supportive interventions towards product / process innovations, diversification and larger market access. These items could easily be those falling under the so-called traditional / rural / artisanal (handicrafts and handlooms) / agro-based product groups. This state of affairs hints at the little impact of the policy instruments devised for upgrading technological capabilities of small firms as also promoting competitiveness and dynamic entrepreneurship, especially in rural and semi-urban areas.

3. CONSTRAINTS

As has been pointed out in many studies on small firm performance in India, some of the most persisting constraints facing the sector include poor / non-availability of loan finance; low levels of technology; inadequate physical and economic infrastructure; and a truncated policy of product reservation.

3.1 Loan finance

For decades, the most dominant constraint facing the small enterprise sector has remained access to loan finance, adequately and timely. This is despite clear instructions from the Reserve Bank of India (RBI) and the Ministry of Finance to encourage flow of funds (through what is called achieving 'priority sector' lending targets) from the commercial banks to small enterprises. As a national level study observed, "there are strong structural underpinnings to the inadequate flow: the organizational structure of banks, and processes within them, have taken them far from task orientation, and have created a specific bias against small loan portfolios" (Morris *et al*., 2001: 11). The ways of direction and supervision of banks by the RBI and an absence of performance-based incentive system for proactive bankers (those assessing loan eligibility) have all constricted easy flow of loan finance to small firms. The situation has been much more difficult for the tiny enterprise sector; this is despite the strict RBI guidelines not to insist upon collateral against a loan.

Further, it is observed that a particular problem of the Indian finance system is that there is no transparency regarding the financial conditions of SMEs. It could well be that some enterprise owners themselves may not grasp their financial conditions well. Under the condition, it is natural that banks hesitate to give loan to small scale units. In fact, there is evidence to establish that a fairly significant proportion of loans given to small enterprises in the past have compounded the problem of non-performing assets (NPAs). Unless fairly detailed information on small firms is available, banks would hesitate to take risk. They might, in fact, prefer relatively larger (including the now medium) enterprises in order to comply with the RBI regulations. Hence, securing

transparency of financial conditions, eventually, influences decisions on loan finance. Only recently, the credit guarantee system for SMEs has been introduced by commercial and other financial institutions. For instance, under the Credit Guarantee Fund Trust for MSEs (CGTMSE) life insurance cover for the chief promoters of enterprises is guaranteed. Moreover, a number of industry associations have signed MoUs with commercial banks and other financial institutions to offer collateral security to upcoming entrepreneurs for their credit requirements (Kondaiah, 1997: 7). The CGTMSE will function under the monitoring of the SIDBI. Unless the credit guarantee system is strengthened and streamlined smaller units would continue to suffer neglect in accessing the much needed credit for both inception and expansion.

An idea regarding credit flow to small and tiny units during the period 1990-2005 can be had from Table 4. A decline is discernible in case of the share of credit to SSI of the net bank credit (Figure 2). It has decreased from about 16 per cent in 1990-91 to just about 9 per cent in 2004-05. Considering the tiny sector, the decline in bank credit is obvious, since the mid 1990s. An abrupt jump in the share by 1999-2000 reflects the effect of change in the definition of the tiny sector in 1997 (from the

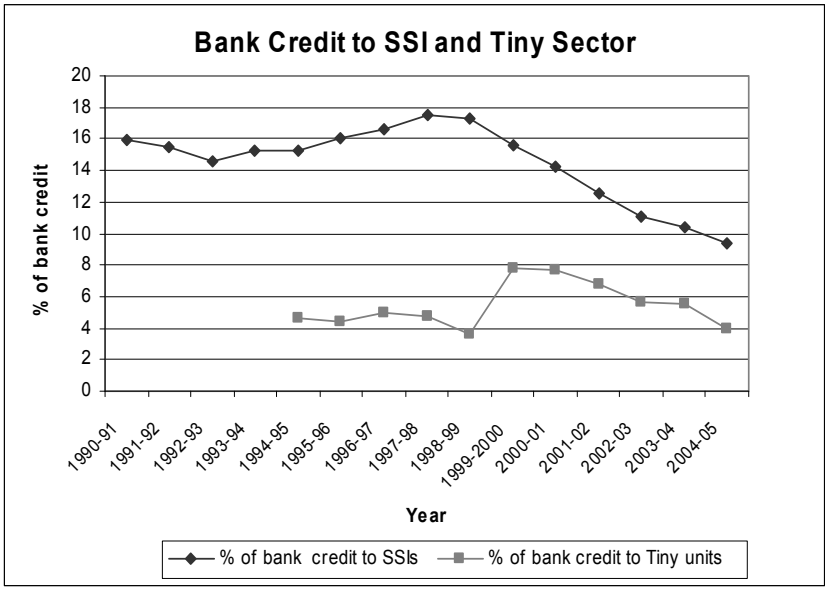
Table 4: Bank credit to SSI and tiny sector 1990-2005

(Rs. Million)

Year (as on end March)	Net Bank Credit	Credit to		Proportion of Credit of		
		SSI	Tiny Sector	SSI to Net Bank	Tiny to Net Bank	Tiny to SSI
1990-91	1,056,320	167,830		15.89		
1991-92	1,121,600	173,980		15.51		
1992-93	1,327,820	193,880		14.60		
1993-94	1,409,140	215,610		15.30		
1994-95	1,690,380	258,430	77,340	15.29	4.58	29.93
1995-96	1,843,810	294,850	81,830	15.99	4.44	27.76
1996-97	1,896,840	315,420	95,150	16.63	5.02	30.20
1997-98	2,182,190	381,090	102,730	17.46	4.71	27.00
1998-99	2,462,030	426,740	88,370	17.33	3.59	20.70
1999-2000	2,929,430	457,880	227,420	15.63	7.76	54.03
2000-01	3,408,880	484,450	260,190	14.21	7.63	53.70
2001-02	3,969,540	497,430	270,300	12.53	6.81	54.34
2002-03	4,778,990	529,880	269,370	11.09	5.64	50.84
2003-04*	5,588,490	582,780	308,260	10.43	5.52	52.89
2004-05*	7,187,220	676,340	280,630	9.41	3.90	41.49

Note: * Provisional

Source: http://www.laghu-udyog.com/thrustareas/CREDIT.htm (accessesd December 30, 2007).



Source: Same as in Table 4

previous investment ceiling of Rs. 0.5 million to a five-fold high of Rs. 2.5 million), rather than a particular concern for the marginalized sector. In fact, by raising the definitional limit, again, relatively larger units got the advantage of access to capital. Nonetheless, even this segment received falling shares as years went by; by 2004-05 the proportion had dropped from about 7.8 per cent in 1999-2000 to less than 4 per cent.

A related serious issue is the growing 'sickness' (inability of enterprises to repay the loan finance) in the small scale sector. At least since 1991, the proportion of sick units in the total (SSI and non-SSI) units, typically, has remained above 98 per cent and the loan amount outstanding has risen from about Rs. 28 million in 1991 to Rs. 57 million in 2003. The amount has shot up despite an effort to grossly underestimate the number of sick units by adopting a 'different' definition of sickness in 2001. While every possible reason could be cited as factors causing sickness, it is often not clear as to the future of these 'sick' units, i.e., if these revived at all through policy efforts.

3.2 Infrastructure

Much of the potential of small firms to grow and nurture innovativeness is shaped by the kind of infrastructure, both physical and economic, available and can be accessed at reasonable costs. Unfortunately, the ramifications of infrastructural constraint faced by small firms remain one of the most neglected areas of enquiry. Moreover, the nature and

implications of such infrastructural absence or inadequacy could be deeply varied as between small enterprises located in urban areas and those in rural and semi-urban areas.

The only comprehensive study in recent years that attempted to capture the infrastructural problems facing small enterprises, across the country, came up with a range of facilities / components those severely limit the functioning and growth of small firms. As shown in Table 5, access to dependable supply of electricity emerged the most crucial issue blocking the rise of productivity and output of small firms in all the 12 states surveyed. Similarly, poor transportation facilities, especially in rural and semi-urban areas have been cited as constraints encountered by small enterprises; access to newer and larger markets has been severely restricted due to this. This crucial infrastructure includes improved roads, railways and port facilities.

In addition to the generic infrastructure that boosts the local economy in general, there is need for enterprise specific infrastructure, viz., provision of common effluent treatment plants (CETPs), well-developed industrial estates / parks, common testing / quality check facilities, etc. Even provision of potable water to small enterprises was considered an important infrastructure that could add to productivity rise.

3.3 Product reservation

This rather long-standing and unusual policy of reserving certain products to be exclusively produced by the small scale sector has come to be interpreted as a bottleneck to productive efficiency pf the small enterprises. A long list of over 800 products (the list revised frequently, often on political considerations and without convincing reasons) seemed to have lost its original purpose of creating local employment using locally available resources within a ‘protective’ policy framework. Analysing the effect of this highly controversial policy, scholars have pointed out the issue of technical inefficiency of products manufactured under reserved category as compared to the non-reserved products (Sandesara, 1993; Balasubrahmanya, 1995; and Morris *et al.*, 2001). Studies have also referred to the impracticality and even irrelevance of the policy of reservation. “Some of the standard issues raised relate to the following: a. frequent changes (adding / deleting) in the products listed were not

Table 5: Status of infrastructure for SSI in Indian states

States	No. of Firms	All Infra-structure	Power	Trans-portation	Port Facilities	Industrial Estate Facilities	Commu-nication Facilities	Pollution Locally	Water Supply	Conges-tion in Nearby city	Lack of CETP	Industrial Security and Safety	Other
Assam	45	57.7	8.7	6.9	2.4	6.9	7.4	3.0	6.0	4.0	4.1	7.2	1.2
Bihar	40	47.3	8.0	4.8	1.1	5.2	6.1	4.1	4.5	3.6	3.2	5.8	0.8
Gujarat	70	39.1	9.2	5.2	1.5	3.3	4.6	3.1	5.8	1.2	2.3	2.7	0.2
Karnataka	56	52.8	9.8	5.4	1.7	5.2	7.7	4.1	5.8	3.1	3.7	5.9	0.4
Kerala	167	48.8	9.7	5.9	2.9	5.0	6.0	3.3	5.6	2.4	3.1	4.5	0.4
Maharashtra	231	51.0	8.4	5.3	1.8	6.1	6.5	3.9	5.4	3.2	3.0	6.7	0.5
Orissa	135	54.9	9.1	7.1	2.4	6.7	6.9	3.5	5.7	3.1	4.1	5.9	0.5
Punjab	42	60.8	8.7	6.7	3.2	5.8	7.7	5.3	7.1	4.8	4.1	6.6	0.7
Tamil Nadu	118	49.4	9.0	6.9	1.9	4.7	7.4	3.0	5.0	2.7	2.4	6.4	0.0
Uttar Pradesh	102	29.3	8.2	5.1	0.7	1.2	3.5	3.0	3.5	1.9	1.0	1.1	0.1
West Bengal	180	36.1	6.6	4.9	1.2	2.9	4.4	2.6	3.7	3.0	1.8	4.0	1.2
All States	1186	46.7	8.5	5.8	1.9	4.7	6.0	3.4	5.1	2.9	2.8	5.1	0.5

Notes: Estimated on the basis of simple average of firms' responses to a scale: 10 – very important; 5 – important; and 0 – unimportant. For all infrastructure, the score is the aggregate of the scores of each of the infrastructural areas.

Source: Based on Table 6.6 of Morris *et al*. (2001: 226).

always justified and supposed to have been influenced by political vested interests; b. a lackadaisical approach to the policy marked its broad-basing, as surveys found that producers engaged in manufacturing 'reserved' items had no clue about the policy; c. certain items continued to be produced by the medium and large scale firms as they had been doing so prior to the specific products were reserved; and d. the quality of reserved products was often not satisfactory" (Das, 2006: 116-117). Being a politically sensitive subject, it took much time and efforts to phase out the system; by March 2007 the list had a much reduced number of 114 products reserved.

4. RECENT POLICY FOCUS: AUGMENTING NETWORKS, COMPETITIVENESS AND EXPORTABILITY

With the recent pronouncement of the 'landmark' MSMED Act, 2006, the Indian government has explicitly recognized the dynamic role to be played by the MSMEs in an increasingly globalised world. The clear thrust of the recent policy initiatives has been three-fold: i) enhance competitiveness through encouraging an innovative ethos amongst firms and being quality conscious; ii) increase links with multiple stakeholders with a view to benefit from networks both nationally and globally; and iii) strive for a larger market presence beyond the domestic. The policy attaches importance to networking with stakeholders both upstream and downstream in the entire global value chain, from raw material procurement to processing/manufacturing to marketing to customer services. For one thing, the Act has identified the category of 'medium' enterprises as a vital section in the manufacturing stream and, for the other, it has taken special note of distinct roles to be played by what are termed business service enterprises.

In addition to the MSMED Act, a plethora of contemporary policy initiatives in various spheres, particularly concerning SMEs, can be identified. It important to state at this stage that these policy measures are fairly nascent in origin and there hardly exists any basis to be euphoric about their effectiveness. Rather one needs to be extremely cautious in extrapolating their impact, given that in the past many such policy measures with ample potential hardly have been translated into enhanced performance of the

MSMEs. Poor monitoring of implementation and effect of various small firm policies has been an issue of concern.

For the present purpose, it may be useful to discuss, briefly, the major policy initiatives in recent times aimed at rendering the SME sector dynamic.

4.1 Area I: Building competitiveness

In the policy circles there has been a growing recognition of both the criticality and possibility of enhancing SME competitiveness through reducing cost of production, improving product/service quality and targeting niche markets. The most explicit such initiative has been the creation of the National Manufacturing Competitiveness Council (NMCC), which would, basically, identify and focus on certain clusters and firms in certain promising sub-sectors. The interventions would include technology upgradation, design and IPR protection, marketing and sales promotion strategy and skill upgradation etc. Table 6 provides a list of the sub-schemes under the National Manufacturing Competitiveness Programme (NMCP).

Table 6: Sub-schemes under NMCP

#	Sub-Schemes under NMCP
1	National Programme on Application of Lean Manufacturing
2	Promotion of ICT in Indian manufacturing sector
3	Mini-Tool Rooms to be set up (by the Ministry of SSI)
4	Technology and Quality Upgradation Support for SMEs
5	Support for Entrepreneurial and Managerial Development of SMEs
6	Design Clinic scheme to bring design expertise to the manufacturing sector
7	Enabling manufacturing sector to be competitive through quality management standards and quality technology tools
8	National campaign for investment in Intellectual Property
9	Market assistance/SMEs and technology upgradation activities (the Ministry of SSI in co-operation with TIFAC/CSIR)
10	Marketing Support/Assistance to SMEs

Source: http://www.nmcc.nic.in/NMCP.aspx (accessed January 28, 2008).

The following four major areas have been proposed to be covered for appropriate intervention, based on the diagnostic studies and discrete requirements of the enterprises or cluster or industry:

- Manufacturing and engineering
- Marketing

- Financial and general management
- Information technology

The action plans would be implemented on a Public Private Partnership (PPP) basis with provision for fund sharing by the firms and the government. As has been clarified in the official website, "the government assistance would not be in the nature of subsidy but for implementing the concrete interventions identified to improve competitiveness." It also intends to link these initiatives with the existing schemes which promote competitiveness.

Another effort to encourage competitiveness in the SMEs has been the Visionary Leaders for Manufacturing Programme (VLMP), under the Indo-Japan Cooperation Agreement signed in December 2006. The target group of the VLMP has been to create a critical mass of 300 'visionary' managers, executives, CEOs and entrepreneurs through imparting advanced training and exposure of 'best practices' from Japanese experience. These trained business leaders would help transform Indian manufacturing by underscoring industry-academia linkages and other business practices that increases competitiveness.

4.2 Area II: Promoting innovativeness and awareness about quality

A key area of worry for SME development has been ensuring a business environment that generates an innovative ethos and a serious concern for product/service quality. While it is well recognized that product/service quality determines marketability, especially, in the global arena, Indian SMEs, with exceptions, are yet to gear up to face the challenge. While in certain sectors FDI in technology and services has been on the rise and are welcome as well, its broad-basing has remained a major issue; sub-contracting relations with MNEs has not been an automatic and unconditional mechanism to enhance innovativeness in domestic firms. Recent policy measures have attempted to address this issue of facilitating greater number of SMEs to improvise the level technology through accessing support from the recently created Technology Bureau for Small Enterprises (TBSE). This SIDBI arm has collaborative arrangement with the Asian and Pacific Centre for Transfer of Technology (of the UNESCAP) that would help enterprises to strengthen their capabilities to "develop, transfer, adapt and apply technology; improve the terms of transfer of technology; and identify and

promote the development and transfer of technologies relevant to the region" (http://www.apctt.org/). This would provide a good opportunity for SMEs to establish business collaboration with foreign firms as also to access professionally-managed acquisition of foreign technology.

Amongst various measures initiated to upgrade quality, an insistence upon obtaining ISO certification has been somewhat well responded to; with the provision of reimbursement of 75 per cent of costs in acquiring the certification, on an average, annually over 3000 enterprises have been availing this service close to 15 years now. Further, for aspiring MSEs, schemes to reimburse part of the expenses to units opting for bar coding and credit-linked capital subsidy for technology upgradation have been launched. A provision has been made to provide financial assistance by state governments (upto 50 per cent of total costs) to Entrepreneurship Development Institutes (EDIs) those creating training infrastructure. Similarly, government would partly contribute setting up of mini tool rooms and testing centres by industry associations. The emerging mechanism of providing microfinance for microenterprises is also visualized as a preliminary step in 'preparing' them to grow up with stronger technological abilities.

4.3 Area III: Enabling SMEs to participate in global value chains and markets

For Indian SMEs, participating in the global value chains to upgrade the technological capability and, quintessentially, expanding global market access have not been easy as constraints exist in terms these firms being WTO-IPR regulations compliant, awareness regarding appropriate steps involved in an international sub-contracting, familiarity with complex bureaucratic procedures in external trade and, not less importantly, conducting business through e-commerce. Contrary to previous 'protective' regime, there has been substantial relaxing of FDI norms that has, in fact, resulted in increasing interest of MNEs to invest in India, particularly, in the sphere of garments, automobiles, electronics, chemicals, etc. Although in its formative stages, government efforts are on to facilitate networking between SMEs and foreign firms. Advisory and other services are being made available to SMEs to link with global production networks (GPNs) towards activities such as joint procuring of inputs, joint selling and undertaking and benefiting from joint market research. Some of the steps in this direction include

starting of a number of business support services as awareness and training programmes for familiarizing firms with systems of patenting, norms under the IPR regime; the establishment the National Intellectual Property Organisation (NIPO) has been an effort in that direction.

So far as participating in external markets are concerned, there have been the Market Development Assistance (MDA) schemes of both the Ministry of Commerce and Ministry of MSME which offer funding support for participation in international fairs, study tours abroad, trade delegations, publicity, etc. Further, in its recently (April 2006) revised MDA scheme, the Ministry of Commerce has underscored the following aspects of business promotion by Indian SMEs abroad (http://commerce.nic.in/mda-guidelines. pdf):

- Assist exporters for export promotion activities abroad
- Assist Export Promotion Councils (EPCs) to undertake export promotion activities for their product(s) and commodities
- Assist approved organizations/trade bodies in undertaking exclusive nonrecurring innovative activities connected with export promotion efforts for their members
- Assist Focus export promotion programmes in specific regions abroad like FOCUS (LAC), Focus (Africa), Focus (CIS) and Focus (ASEAN + 2) programmes.
- Residual essential activities connected with marketing promotion efforts abroad.

As is well recognized, greater use of the information and communication technology (ICT) has emerged as the *sine qua non* of business networking and growth, both at home and abroad. Given that India has an added advantage in this aspect, policy efforts are being directed towards making the best use of this technology.

5. CLUSTER DEVELOPMENT: THE CELEBRATED STRATEGY OF MSME GROWTH

With the launching of the cluster development programme in India by the UNIDO in 1997, promoting clusters as a strategy to enhance the competitiveness and to participate in the global value chain has been almost a celebrated strategy countrywide. The surge of various cluster schemes can be observed since 2000 onwards. Numerous Government and quails-government documents have acknowledged cluster development as the most important initiative to improve the performance of the MSMEs in the country. For instance, the Draft 11th Five Year Plan document states that "A cluster approach can help increase viability by providing these units with infrastructure, information, credit and support services of better quality at lower costs, while also promoting their capacity for *effective management of their own collectives* (emphasis ours)" (Planning Commission, 2006: 35)."

The acknowledged traditional benefits of clustering, identified in the literature on agglomeration economies, include the following:

- Information / knowledge spillover at the enterprise level
- Sharing of inputs, services and technology
- Multi-skilling of labour improves job opportunities
- Attracts both customers as well as suppliers / wholesellers

The advent of globalization, however, has opened up newer spheres of networking and business spread. In addition to the above benefits, especially during the last 15 years or so, a range of advantages has been found to be associated with clusters. As listed in popular documents (e.g., Ecotech Research & Consulting, 2004: 5), some of these include:

- Increased levels of expertise. This provides sourcing companies with a greater depth to their supply chain and allows for the potential of inter-firm learning and co-operation.

- The ability of firms to draw together complementary skills in order to bid for large pieces of work that as individual units they would be unable to compete for.
- The potential for economies of scale to be realised by further specialising production within each firm, by joint purchasing of common raw materials to attract bulk discounts or by joint marketing.
- Strengthening social and other informal links, leading to the creation of new ideas and new businesses.
- Improved information flows within a cluster, for example, enabling finance providers to judge who the good entrepreneurs are and business people to find who provides good support services.
- Enabling the development of an infrastructure of professional, legal, financial and other specialist services. Clustering is one of the key drivers of economic growth in localities, cities and regions. However, adopting a cluster approach is not the only way of encouraging regional economic growth. Informal networking, developing supply chains and improving workforce skills all have a part to play in improving competitiveness and creating growth.

Some even claim that cluster development could be an approach to eradicate poverty as well. Cluster development has also attracted much attention in the policy circles as it has potential for broad-based networking amongst the government, private sector, academia and various support / service agencies, both within and outside the country. Some dynamic and modern sectors as garments, pharmaceuticals, IT based industries, leather goods and machine tools seem to have benefited extensively through following the cluster approach and there is redoubled enthusiasm to extend these advantages to the traditional and artisanal clusters spread across the country.

Given the vast range of goods produced in clusters, levels of technology and markets accessed, a recent policy-oriented study (Das *et al*. 2007: 12-13) has classified the clusters into: i) high-tech clusters (mostly knowledge-based and It-linked); ii) traditional manufacturing clusters (non-high-tech and non-micro sectors like leather goods, ceramics, garments, etc.); and iii) low-tech, poverty-intensive micro enterprise clusters (including handicrafts, handlooms and other labour intensive micro enterprises).

Table 7: Typology of clusters: significance to the national economy

Parameters	Micro enterprise Clusters	Traditional Manufacturing Clusters	High-tech Clusters
Number of Clusters	6000 (93.6%)	388 (6.1%)	20 approx. (0.3%)
Estimated Share of Employment (by cluster typology)	80%	14%	6%
Average Wage levels	Low	Medium	High
Likely growth rate (2002-07)	Negative or marginally positive	Positive (10-15%)	Positive (20-30%)

Source: Das *et al.* (2007: 12)

Despite major limitations of obtaining cluster-specific data, information on some key variables has been compiled in Table 7 There is, however, no useful database concerning the so-called service clusters.

It is important to note here that there exist a number of government schemes/ programmes to support various requirements of MSMEs, including provision of industrial estates, marketing support and concessional credit. Nevertheless, these schemes, typically, address the need at the enterprise level. The cluster approach, contrarily (and as mentioned earlier) focus on a range of activities, that concern collective issues, whether provision of common facility centres, cluster specific transport infrastructure, linking to the external markets, or encouraging participation in trade fairs. The most important advantage, however, is the potential of networking with an array of stakeholders in the business that widens scope for both enhancing roduct/process quality and operating gainfully in a larger market space. The synergy of collective action improves manifold as enterprises in the similar product line pursue certain common business goals.

Table 8 presents details of most schemes/programmes focusing on cluster development in India. These discrete initiatives have often defined clusters differently and are being implemented by a diverse set of agencies, including central government ministries, state governments, international agencies and other specialised institutions. These schemes, as may be seen from the table, have diverse agenda and support instruments and focus upon a specific group of products/clusters in different parts of or entire country.

Table 8: Schemes / programmes of cluster development institutions in India

#	Agency	Year of Inception of Scheme	Typology of Clusters assisted	Clusters assisted (2006-07)
Central Government				
	Ministry of Textiles			
1	Scheme for Integrated Textile Parks (SITP)	2005-06	Textiles (Handlooms & Powerlooms)	30
2	Baba Saheb Ambedkar Hastshilp Vikas Yojana Scheme (AHVY) – DC (Handicrafts)	2001-02	Handicrafts	684
3	Integrated Handloom Cluster Development Scheme (IHCDP) - DC (Handlooms)	2005-06	Handlooms	21
4	Textiles Committee of India	2002	Textiles (Handlooms & Powerlooms)	23
	Ministry of MSME			
5	Micro and Small Enterprises Cluster Development Programme (MSECDP)	1998	Traditional manufacturing & microenterprise	90
6	National Small Industries Corporation Ltd. (NSIC)	2002-03	Traditional manufacturing	30
7	National Programme for Rural Industrialisation (NPRI)	1999-2000	Microenterprises	100
8	Scheme of Fund for Regeneration of Traditional Industries (SFURTI)	2005-06	Microenterprises	100
	Ministry of Commerce and Industry			
9	Industrial Infrastructure Upgradation Scheme (IIUS)	2004-05	Traditional manufacturing	26
Other Institutions				
10	NMDFC Micro Financing Scheme through the Cluster Development Approach	2005-06	Microenterprises	5
11	SBI Project UPTECH	1987-88	Traditional manufacturing and microenterprises	28
12	SIDBI Technology Upgradation Programme (TUP)	1991	Traditional manufacturing and microenterprises	45
13	SIDBI- Financing and Development of SMEs	2006-07	Traditional manufacturing and microenterprise	3
14	NABARD Cluster Development Programme	2003-04	Microenterprises, Handloom and Handicrafts	48
15	NMCC- Project VIkas with Support from Microsoft	2006-07	Traditional manufacturing	7

16	NEDFI Cluster Development Programme	2004-05	Microenterprises	9
State Governments				
17	Margin Money Scheme for Cluster Development Activties (Government of Kerala)	2003	Traditional manufacturing and microenterprises	17
18	Grant Assistance to Cluster Development Activity (Government of Kerala)			
19	Gujarat Industrial Policy – 2000, Scheme for Assistance to Cluster Development	2000	Traditional manufacturing and microenterprises	19
20	Integrated Cluster Development Programme (Traditional products of Khadi & Village Industries, sericulture and crafts & handloom products) (Government of MP)	2004-05	Microenterprises, (Handlooms, Handicrafts)	6
21	Craft Village Scheme (Silpigram Yojana) (Government of Orissa)	2004-05	Handicrafts	30
22	Cluster Development Programme (Government of Rajasthan)	2005-06	Handlooms and Handicrafts	15
International Organisations				
23	UNIDO Cluster Development Programme, Delhi	1996	Traditional manufacturing and microenterprises	20
24	UNIDO Cluster Development Programme, Orissa	2005		
25	UNIDO Consolidated Project for SME Development in India	2007		
26	Boosting Employment through Small Enterprise Development (ILO)	2000	Handicrafts	2
	Total			1358

Source: Das *et al.* (2007: 21-22).

5.1 Clustering in India: Some Key Attributes for Policy Purposes

In order to distinguish cluster policy from policies for MSMEs, it is important to recognize that the quintessential cluster concept is multi-dimensional and encompasses aspects such as the sub-sector, space and its various linkages with agencies / institutions both internal and external to the site of production. Whereas the sub-sector represents the activity/services *per se*, space relates to the regional dynamics within which it works on location; the spatiality of clustering is not merely a reference to the *place*, that is, say, rural or urban, but indicates the level of local development that determines the cluster's access to both social and economic infrastructure. The variety of internal and external

linkages (whether in terms of intra-community ties, business associations, technology sharing, support from specialized institutions, trust, networking, cooperation, etc.) suggests the extent to which the sub-sectoral/regional policy and institutions are able to articulate the demand for developmental intervention or determine the path of the progress of the cluster.

The performance of a cluster, including its potential to move up in the value chain and be innovative, depends crucially upon these factors. These amply indicate the nature of policy intervention cluster promotion shall entail. Although a cluster is a meso-level entity, it is obvious that a combination of macroeconomic, sectoral and regional/ local policy instruments would effectively address complex and multiple issues facing its growth and competitiveness. In order to appreciate the need for a multi-pronged approach to promote clusters, it is essential to recognize the following key dimensions of clustering in India, first, market access and, second, the nature of informal processes (concerning product quality, technology, adherence to legal norms, labour use, etc.) that characterise the cluster dynamics.

Clusters in India cater to varied and substantial markets at local, regional, national and international levels; the sheer vast size of the domestic market necessitates distinct strategies to promote them. It is natural that the market for certain products could be limited by the locality or culture-specific need or absence of cost-competitiveness due to high material or transport cost; in such cases supportive interventions need to be made towards product diversification and upgrading local technological capabilities of these clusters. Exploring ways of rendering the products geared towards a high value adding export market through linking with the global value chains, thus, becomes an important policy focus. This is especially challenging as one deals with the specific cases of what may be classified as poverty clusters.

It needs to be acknowledged that a large number of industrial clusters in India often derive advantages through functioning in an informal / illegal manner as exemplified through poor labour standards, inferior input use, copying trademarks / designs, flouting of fiscal / environmental regulations, etc. These practices could, in the short run, enhance the net profit of the enterprise or even the cluster as a collective, but needs to be curbed / regulated through policy instruments.

6. CASE OF THE GARMENT SECTOR: NETWORKING AND CHALLENGES UNDER GLOBALISATION

With a long tradition of textiles in India, the garment sector, expectedly, has emerged as one of the most dynamic and forward-looking businesses in the SME domain. In fact, it has remained the foremost item in the manufacturing export basket from the SSI sector, accounting for a huge one-third of total value of exports during the recent decade or so. This sector began to emerge as a prominent activity by around the early 1980s, in response to growing urbanization and a fast rising middle class that derived major part of their income with the boost in the services sector. In addition to this, a gradual exposure to fashion trends (as promoted through fast advancements in the mass media, including the television and films). Moreover, there was growing demand for traditional Indian garments mostly from the upper class consumers based both in the country and also the south Asians in the US, Europe and Canada, in particular. Indian garment manufacturers began entering into the export market and with the specific advantage of low labour costs, by the turn of the century, the Indian garment sector had risen as a player to reckon with in the global market. The MFA regime had also ensured market access through the preferential quota system. An idea about the growing but heavily fluctuating exports from this sector can be obtained from Table 9.

Table 9: Exports of garments from India, 2001-06

Year	Value of exports			Growth (%)
	Articles of apparel and clothing accessories (knitted or crocheted)	Articles of apparel and clothing accessories (not knitted or crocheted)	Total	
2001-02	88898.36	149920.50	238818.86	-
2002-03	115502.99	162210.25	277713.24	16.27
2003-04	124148.99	162730.58	286879.56	3.30
2004-05	118676.99	176701.03	295378.01	2.96
2005-06	141282.35	240648.58	381930.93	29.30

Source:DGCIS, Kolkata as quoted at http://www.aepcindia.com/trade/Year%20wise% 20 India's%20RMG%20exports(Rs).htm (accessed December 28, 2007).

6.1 Challenges and Strategies

Based on cost competitiveness, though a section of the Indian garment manufacturers graduated to be integrated into the global market through customer driven commodity chain, the dismantling of the MFA regime (since the beginning of 2005) has posed huge challenges in accessing or improving their share of the global market. Faced with stiff competition from China, Vietnam, Bangladesh, Sri Lanka and Indonesia the Indian apparel sector has been concerned about focusing on higher productivity, economies of scale, advanced technology and an efficient supply chain to raise its market presence.

There is a special emphasis on product differentiation based upon unique designs, embroidery and workmanship to cater to niche markets both in the domestic and global arena. Increasing participation in the global market has also brought home the significance of maintaining lower cost, consistent quality of the product, frequent seasonal changes in designs and punctuality in delivery schedules.

As observed by industry experts, the only way to achieve these competitive advantages for the sector is to enhance supply chain efficiencies through proactive networking with different stakeholders in the business. There have been suggestions that even competing nations (as India and China) could collaborate in jointly sourcing/ sharing raw materials (cotton or silk) and designs for both finished garments and accessories. Further, as both the US and EU manufacturers do not consider imports from India as a threat (unlike from China, which has been a matter of concern for these major buying nations in the West), the Indian garment sector, it has been highlighted in informed deliberations, must work towards acquiring higher levels of technology and enhance the capabilities of existing specialized institutions providing training in textile design.

In order to cater to global demand, both in terms of volume and quality, the need for larger investment in both machinery and skill formation has been felt across the industry. This necessarily implied that much of the business can, eventually, be handled by relatively larger (mostly medium) enterprises and would not be feasible for the capital-strapped small units to pursue. It is in this context that there was severe criticism of the government policy of to include garments as a reserved item (for the small sector, exclusively).

Observing the progress of the sector in accessing newer markets through adapting to new technology and changing customer preferences, the central government has responded positively to a set of special requirements needed for its wider global reach. In a major move to support the private sector, the central Ministry of Textiles, during the last quarter of 2005, had signed a Memorandum of Understanding (MoU) with the Infrastructure Leasing and Financing Society (INFLS) to set up as many as 25 apparel parks across the country. While the central government offered to invest Rs. 400 million per park, the INFLS would enter into agreements with a 'Special Funding Vehicle' comprising promoters for different parks. Each park was proposed to be set up with an investment range of Rs. 1000 million–Rs. 4000 million depending upon the market response. Initial few parks were to commence in the states of Gujarat, Andhra Pradesh and Tamil Nadu. In addition to these initiatives, some state governments also have plans to promote similar apparel manufacturing facilities.

6.2 Key Constraints Facing the Garment Sector

Given the vast opportunities available to the Indian garment sector what are the major bottlenecks that confront its progress. The nature of the garment manufacturing is such that it involves substantial human skills, often for a majority of the processes women workers are preferred. As argued by entrepreneurs, this sector offers possibilities for massive employment, including in rural and semi-urban areas, where investing in a sewing machine at the household level could multiply job opportunities. Even with low levels of education, about six months of training would suffice for a worker to earn subsistence income. As hardly even 2 per cent of the working population in India is engaged in this industry, there remains tremendous scope for large number of workers to find employment in this sector (as, for example, is the case in neighbouring countries.as Pakistan and Bangladesh). Nevertheless, much of the employment would be seasonal in nature, depending upon swings in demand in certain periods of the year.

While the promise for mass employment is flagged by the achieving entrepreneurs, there have been serious concerns expressed by various labour and social organizations. It is argued that in the post-MFA regime, with foreign buyers looking for cheaper options, labour cost cutting would be most widely and easily adopted in the Indian conditions. With an estimated 3.5 million workers engaged in this sector there is

widespread incidence of contractualisation, informalisation and casualisation of the workforce. Instances exist to indicate that even stipulated minimum wages are not earned by many workers in this sector. Apart from large scale violation of labour laws, their informal status renders their work 'invisible' and social security benefits do not accrue to them. It seems essential that the networking efforts must include representatives of labour cause as important stakeholders. This would not only enhance labour productivity, but also upgrade the production system as a whole.

Further, the emphasis upon external orientation of this sector has also to encounter nagging issues in the export process itself. Most manufacturer-exporters have found the nitty-gritty of complex bureaucratic procedures involved in exports a major hassle; there is growing insistence upon shifting to simpler and liberal export procedures, including providing for a 'single-window' authority. There are other problems as long transit time in Indian ports, which run counter to shorter lead-time required by buyers, especially in the Us and European countries. Moreover, the provisioning of special economic zones (SEZs) (for promoting this sector, in this case) has not yet been politically a smooth process, as it involves the complex issue of transfer of land, often fertile, from the poor and needy at unreasonable terms of exchange.

7. CONCLUDING OBSERVATIONS

The SMEs the world over have been undergoing crucial changes in response to the manifold imperatives of globalization. The potential of neo-localism having been much emphasized, the SMEs in developing countries have often been split between national strategies and objectives of promoting this vital and most promising sector and the demands of a globalizing business environment. In India, the historical role of SMEs in creating ample opportunities for employment for the teeming millions has come to occupy secondary status in the face of novel strategies to ensure external orientation, achieving manufacturing competitiveness and emerge notable global player.

While there is much merit in recognizing the relative advantages and disadvantages of participating in a fervent global market, it is equally important to take stock of the ground realities that indicates a poor and inadequate infrastructure base for

SMEs; this situation is particularly worse in rural areas as even in small towns, where a major proportion of MSMEs function. Of the most vital infrastructure bottlenecks, access to adequate, reliable and reasonably priced power remains a challenge for SMEs progress and competitiveness. Further, poor transport network (whether roads, railways or ports) have emerged as important constraints to the development of SMEs in a dynamic fashion.

Despite decades of small industry policy making, even during the reforms period, there has been a definite decline in the access to credit by the small (and within it the so-called tiny sector) enterprises. It is clear that there is no dearth of capital available but there remain serious implementation snags, including complex and unhelpful procedural requirements, which, ultimately result in dwindling access to loan finance. The situation is similar when it comes to the intractable product reservation policy.

Given the large scale attempts to promote industrial clusters in the SME sector, it needs to be underscored that, despite the potential of neo-localism, cluster promotion in the Indian context must move beyond the 'sectoral' bind; a comprehensive regional development strategy needs to be woven into the cluster development policy.

While a plethora of new measures have been initiated in the recent MSMED Act, much would again depend upon how these function on ground. External orientation and a global outlook for the SME sector must first address persisting basic constraints facing the sector. The garment case brings out this point in some detail. In fact, as the Indian SMEs are looking forward to a newer and larger market space, with its numerous advantages of skills, raw materials and large domestic market as well, networking with various stakeholders both within and outside the country is a worthwhile attempt. To the extent such networking contributes to mutual benefit in terms of technology and market, the new initiatives are welcome. But complacency in such issues as employment creation and neglect of the vast segment of small and tiny units operating within a 'low-road' syndrome could be a major roadblock to the sector. If globalization and external orientation, including being connected to the global production networks or value chains, fail to be broad-based and, essentially, turns advantageous to a small section of a limited sectors of production, the strategy needs a serious rethink.

REFERENCES

Balasubrahmanya, M.H. (1995) "Reservation Policy for Small-Scale Industry: Has It Delivered the Goods?." *Economic and Political Weekly*, 30, no.21.

Das, K. (2008) "Indian Small Firms Under Globalization: Has Policy Helped?.", In *Small Firms, Global Markets: Competitive Challenges in the New Economy*, ed. J. Haar and J. Meyer-Stamer. Hampshire: Palgrave Macmillan.

Das, K. (2006) "Micro and Small Enterprises", in Alternative Survey Group, Alternative Economic Survey, India 2005-2006: Disempowering Masses, Daanish Books, Delhi.

Das, K. (2005a) "Industrial Clustering in India: Local Dynamics and the Global Debate." In *Indian Industrial Clusters*, ed. K. Das. Aldershot, UK: Ashgate.

Das, K. (2005b) "Can Firm Clusters Foster Non-farm Jobs? Policy Issues for Rural India." In *Rural Transformation in India: The Role of Non-farm Sector*, ed. R. Nayyar and A.N. Sharma. New Delhi: Institute for Human Development.

Das, K. (2005c) "Competition and Response in Small Firm Clusters: Two Cases from Western India." In *Indian Industrial Clusters*, ed. K. Das. Aldershot, UK: Ashgate.

Das, K. (2003) "Income and Employment in Informal Manufacturing: A Case Study." In *Informal Economy Centrestage: New Structures of Employment*, ed. R. Jhabvala, R. Sudarshan and J. Unni. New Delhi: Sage Publications.

Das, K. (2001) "Small Enterprises and Trade Policy.", In *Alternative Economic Survey 2000-2001, Second Generation Reforms: Delusion of Development*, ed. Alternative Survey Group. Delhi: Rainbow Publishers Limited.

Das, K.; M. Gulati; T. Sarkar; and S. Banerjee (2007) *Policy and Status Paper on Cluster Development in India*. New Delhi: Foundation for MSME Clusters.

Ecotec Research & Consulting (2004) *A Practical Guide to Cluster Development:. Report to the DTI and the English RDAs*. http://www.berr.gov.uk/files/file14008.pdf (accessed November 10, 2007).

Government of India (2005) *Handbook of Industrial Policy and Statistics 2003-2005*. New Delhi: Ministry of Industry.

Government of India (2004) *Final Results: Third All India Census of Small Scale Industries 2001-2002*. New Delhi: Development Commissioner (SSI), Ministry of Small Scale Industries,

Government of India (2001) *Report of the Study Group on Development of Small Scale Enterprises* (Chairman: S.P. Gupta). New Delhi: Planning Commission,.

Government of India (1997) *Report of the Expert Committee on Small Enterprises* (Chairman: Abid Hussain). New Delhi: National Council of Applied Economic Research.

Government of India (1994) *Handbook of Industrial Statistics 1993*. New Delhi: Ministry of Industry.

Goyal, S.K.; K.S.C. Rao; M.R. Murthy; and K.V.K. Ranganathan (2004) *Review of Existing Policies and Legislations of MSEs in India and Uttar Pradesh*. New Delhi: Institute for Studies in Industrial Development. (Mimeo).

Kondaiah, C. (2007) "Enhancing the Role of Micro & Small Enterprises (MSEs) in Global Value Chains: India's Initiatives." Paper presented at the 34th International Small Business Congress, Bangkok, Thailand, November 11-14. (Mimeo, unpublished).

Mohan, R. (2003) "Small-Scale Industry Policy in India: A Critical Evaluation." In *Economic Policy Reforms and the Indian Economy*, ed. A.O. Krueger. New Delhi: Oxford University Press.

Morris, S., and R. Basant (2005) "Role of Small Scale Industries in the Age of Liberalisation." http://www.adb.org/Documents/Reports/Consultant/TAR-IND-4066/Trade/morris-basant. pdf (accessed June 29, 2007).

Morris, S.; R. Basant; K. Das; K. Ramachandran; and A. Koshy (2001) *The Growth and Transformation of Small Firms in India*. New Delhi: Oxford University Press.

Planning Commission (2006) *Towards Faster and More Inclusive Growth: An Approach to the 11th Five Year Plan*. New Delhi: Government of India.

Sahu, P.P. (2005) "Employment in Small and Tiny Enterprises in India: Post-Reform Trends and Dimensions." In *Industrialization, Economic Reforms and Regional Development*, ed. S.K. Thorat, J.P. Pradhan and V. Abraham. New Delhi: Shipra Publication.

Sandesara, J.C. (1993) "Modern Small Industry, 1972 and 1987-88: Aspects of Growth and Structural Change." *Economic and Political Weekly*, 28 no. 6.

Small Industries Development Bank of India (SIDBI) (2000) *Report on Small-Scale Industries Sector 2000*. Lucknow: SIDBI.

Chapter 4

SME DEVELOPEMNT IN INDONESIA WITH REFERENCE TO NETWORKING, INNOVATIVENESS, MARKET EXPANSION AND GOVERNMENT POLICY

Tulus Tambunnan

Abstract

In Indonesia, small and medium enterprises (SMEs), firms with less than 100 workers, have historically been the main player in domestic economic activities, especially as the largest employment creator. Typically, SMEs in Indonesia account for more than 90% of all firms in all sectors. These enterprises are concentrated in agriculture, followed by trade, hotel and restaurants as the second and manufacturing industry as the third largest sector. In this latter sector, they are involved mainly in simple traditional manufacturing activities such as wood products, including furniture, textiles, garments, footwear, and food and beverages. Only a small portion of total SMEs are engaged in production of machinery, production tools and automotive components.

There is increasing empirical evidence that SMEs are able to do innovations. It was found in Tegal metalworking industry, for instance, a group of producers who has successfully produced a hand tractor with own design for the domestic market.. This is one example of the ability of small and medium producers in the country to do redesign or reverse engineering. However, lower productivity (as a proxy of innovativeness) in SMEs than in LEs suggest that in general SMEs in Indonesia are less innovated than their larger counterparts

In sectors like agriculture and services, SMEs are more capable to expand their domestic market share than in manufacturing industry. In the latter sector, SMEs have to compete with LEs and increasingly imported goods. In foreign market, SMEs' exports are limited, and their export are mainly wood products, including furniture, food and beverages, tobacco, fertilizers, chemicals and goods made from rubber. The majority of those who do export, they do not export directly, but indirectly through intermediaries such as traders, exporting companies, or trading houses.

The paper argues that existing paradigm of SME development should change, from "the successful SMEs development strategy is marked by the annual increase in number of units" and "SMEs are important because they create employment", to "the successful SMEs development strategy is marked by the annual increase in number of innovated and productive enterprises", and "SMEs are important because they generate high value added, export, and they form domestic competitive supporting industries".

INTRODUCTION

In Indonesia, small and medium enterprises (SMEs), i.e. firms with less than 100 workers, have historically been the main player in domestic economic activities, especially as a large provider of employment opportunities, and hence a generator of primary or secondary source of income for many households. Typically, SMEs in Indonesia account for more than 90% of all firms outside the agricultural sector, and thus the biggest source of employment, providing livelihood for over 90% of the country's workforce, especially women and the young. The majority of SMEs, especially micro enterprises (MIEs) and small enterprises (SEs), are scattered widely throughout the rural area and therefore they may play an important role as a starting point for development of villagers' talents, especially women, as entrepreneurs.

The main aim of this paper is to evaluate recent development of SMEs in Indonesia. It focuses on innovativeness, market expansion, and networking. For this purpose, literature study (i.e. previous case studies on SMEs in Indonesia) and analysis of secondary data on such as number of units, output, export and productivity in these enterprises have been conducted. Also, a small field survey has been conducted to assess how important are networks for SMEs from their own perspectives.

2. OVERVIEW OF SMEs DEVELOPMENT IN INDONESIA

Typically, SMEs in Indonesia account for more than 90% of all firms (Table 1), and they are the biggest employment creator. The majority of SMEs, especially MIEs, which are dominated by self-employment enterprises without hired paid workers, are scattered widely throughout the rural area. MIEs are the most traditional enterprises, generally with low levels of productivity, poor quality products, and serving small, localized markets. There is little or no technological dynamism in this group. The majority of these enterprises eke out bare subsistence. Some of them are economically viable over the long-term, but a large portion is not. Many MIEs face closure or very difficult upgrading especially with import liberalization, changing technology and the growing

Table 1: Total units of enterprises by size category: 1997-2006 (000 units)

Size Category	1997	1998	1999	2000	2001	2003	2004	2005	2006
∑ SEs	39,704.7	36,761.7	37,804.5	39705.2	39,883.1	43,372.9	44,684.4	47,006.9	48,822.9
∑ MEs	60.5	51.9	51.8	78.8	80.97	87.4	93.04	95.9	106.7
∑ LEs	2.1	1.8	1.8	5.7	5.9	6.5	6.7	6.8	7.2
Total	39,767.3	36,815.4	37,858.1	39789.7	39,970.0	43,466.8	44,784.1	47,109.6	48,936.8

Source: Menegkop & UKM (various issues).

Table 2: Unit structure of SMEs by sector in Indonesia, 2000, 2005 and 2006 (%)

Sector	2000				2005				2006			
	SE	ME	LE	∑	SE	ME	LE	∑	SE	ME	LE	∑
1.Agriculture	99.99	0.01	0.00	100.0	99.99	0.01	0.00.	100.0	99.99	0.01	0.00	100.0
2.Mining	99.61	0.35	0.04	100.0	99.67	0.28	0.05	100.0	99.72	0.23	0.05	100.0
3.Manufacture	99.48	0.45	0.07	100.0	99.42	0.49	0.09	100.0	99.40	0.52	0.08	100.0
4. Elect, gas & water supply	93.19	5.59	1.22	100.0	92.47	6.18	1.35	100.0	92.50	6.14	1.36	100.0
5.Construction	97.57	2.24	0.19	100.0	97.43	2.40	0.17	100.0	97.55	2.26	0.19	100.0
6.Trade, hotel & restaurant	99.54	0.45	0.01	100.0	99.57	0.42	0.01	100.0	99.55	0.43	0.02	100.0
7.Transport & comm..	99.87	0.12	0.01	100.0	99.82	0.16	0.02	100.0	99.81	0.18	0.01	100.0
8.Finance, rent & service	83.42	14.63	1.95	100.0	83.65	14.67	1.68	100.0	85.11	13.37	1.52	100.0
9.Services	99.60	0.38	0.02	100.0	99.66	0.32	0.02	100.0	99.67	0.31	0.02	100.0
Total	99.79	0.20	0.01	100.0	99.78	0.20	0.02	100.0	99.77	0.22	0.01	100.0

Source: Menegkop & UKM (various issues).

Table 3: Unit distribution of SMEs by sector in Indonesia, 2000, 2005 and 2006 (%)

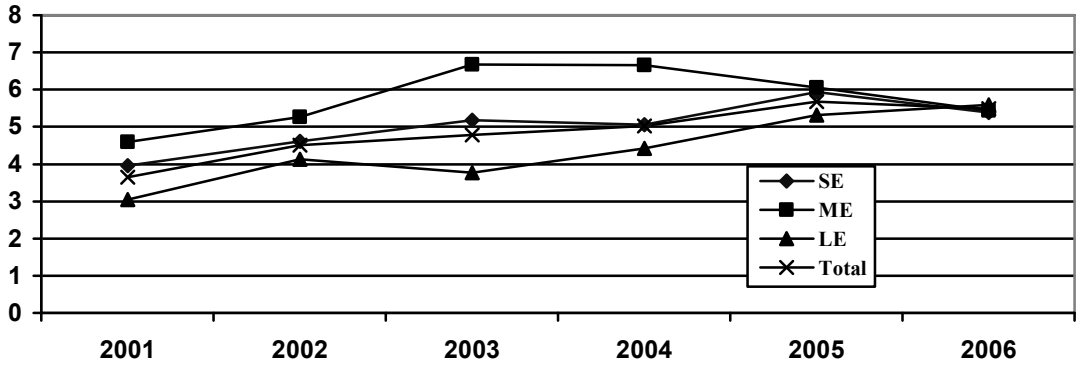
Sector	2000				2005				2006			
	SE	ME	LE	∑	SE	ME	LE	∑	SE	ME	LE	∑
1. Agriculture	59.23	2.22	1.20	59.11	55.86	1.74	0.85	55.75	53.68	1.57	0.74	53.56
2. Mining	0.38	0.67	1.18	0.38	0.50	0.69	1.60	0.50	0.54	0.58	1.67	0.54
3. Manufacture	6.57	14.91	33.57	6.59	5.95	14.30	36.98	5.97	6.56	15.82	35.47	6.58
4. Elect., gas & water supply	0.03	1.02	3.08	0.04	0.03	0.97	2.98	0.03	0.03	0.90	2.96	0.03
5. Construction	0.31	3.63	4.42	0.32	0.34	4.08	4.30	0.35	0.33	3.52	4.41	0.34
6. Trade, hotel & restaurant	24.37	55.36	24.95	24.43	25.89	53.38	21.83	25.95	27.13	54.03	24.11	27.19
7. Transport & communic.	4.70	2.89	3.88	4.70	5.54	4.48	4.67	5.53	5.52	4.46	4.47	5.52
8. Finance, rent & service	0.13	11.14	20.60	0.15	0.13	11.22	18.06	0.16	0.15	10.51	17.68	0.17
9. Services	4.28	8.17	7.12	4.29	5.76	9.13	8.72	5.77	6.06	8.60	8.50	6.06
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Menegkop & UKM (various issues).

demand for higher quality modern products. However, the existence or growth of this type of enterprise can be seen as an early phase of entrepreneurship development. (Tambunan, 2006).

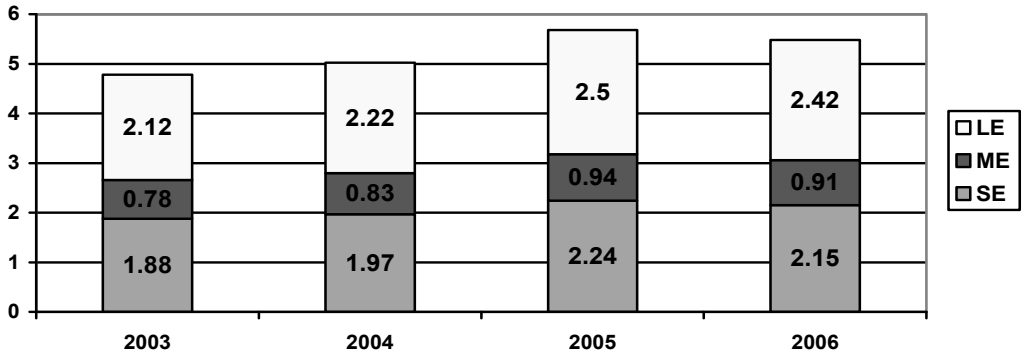
The unit structure of SMEs by sector indicates that the majority of enterprises in all sectors are from the category of SME with almost 100 percent in agriculture (Table 2). Whereas, the distribution of SMEs by sector shows that Indonesian SMEs are concentrated in agriculture, followed by trade, hotel and restaurants as the second and manufacturing industry as the third largest sector (Table 3). In this latter sector, they are involved mainly in simple traditional manufacturing activities such as wood products, including furniture, textiles, garments, footwear, and food and beverages. Only a small portion of total SMEs are engaged in production of machinery, production tools and automotive components. This is generally carried out through subcontracting systems

Figure 1: Output growth rates of SEs, MEs and LEs, 2001-2006 (%)



Source: Menegkop & UKM (various issues).

Figure 2: GDP growth contribution by size of firms, 2003-2006 (%)



Source: National Agency for Statistics (BPS)

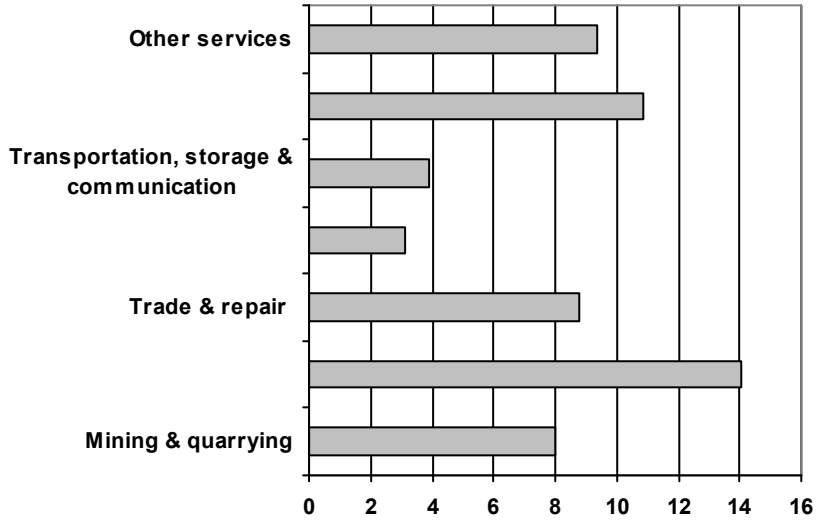
with several multinational car companies such as Toyota and Honda. This structure of industry reflects the current technological capability of Indonesian SMEs, which are not yet as strong in producing sophisticated technology-embodied products as their counterparts in other countries such as South Korea, Japan, and Taiwan.

With respect to output growth, the performance of SMEs is relatively good as compared to that of LEs (Figure 1). SMEs' contribution to the annual GDP growth is also higher than that of LEs (Figure 2).

3. INTERNAL AND EXTERNAL NETWORKS

The Integrated Business Survey on SEs and MIEs (SUSI; BPS).provide some data on SMEs' networks in Indonesia. It shows that in 2004, from more than 16 million firms covered by the survey, about 91.7% of them (15,725,192 units) have no partnership with others. However, the rate varies by sector. In the manufacturing industry, the rate of those having partnership is the highest at 14.02%. Whereas, from total firms doing partnership (1,420,052 units), the majority of them are found in the trade and repair sector (54.35%), followed by manufacturing industry (26.37%). Procurement of raw materials or inputs is the most favorite type of partnership, followed by marketing and financing (Figure3).

Figure 3: Firms doing partnership by sector, 2004
(% of total surveyed firms in the sector)



Source: BPS (SUSI)

Being member of a cooperative is also a form of network, and this survey shows that only 2.91% of total firms in the sample (499,506 units) are members of cooperative. Again, the rate also varies by sector with financial intermediate, real estate, ownership and business services as the biggest sector (11.45%), followed by transportation, storage and communication. However, from total firms being members of cooperative, the sector with the highest rate is trade and repair (47.56%), followed by transportation, storage and communication (14.89%).

Another source of data on SMEs' networks is from the National Survey on SEs and MIEs in manufacturing industry (BPS). This survey has questions on the Foster Parent (FP) program. In this national program introduced by the government in 1992 all state-owned enterprises and big private companies (LEs) are requested to assist SMEs through a partnership with capital, training, technical assistance, marketing, procurement of raw material, and many others.[1] The survey shows that from total SEs and MIEs surveyed, i.e. 235,851 and 2,406,058 units respectively, only 22.35% and 11.10% respectively have partnerships with LEs through this program. Within SEs and MIEs having partnership, the majority are MIEs (83.51%).

One important type of networks are subcontracting production linkages between SMEs and LEs. The Indonesian government's efforts to promote subcontracting are reflected by its special policies on subcontracting and local content. Legislation regulating local content and subcontracting in the Indonesian engineering industry dates back to 1976 when Ministerial Decree No.307 was announced specifying a 4-year program for the deletion of specified parts from the imported CKD packs for commercial motor vehicles. This decree was soon followed in 1977 by a similar decree applying to motorcycles and scooters. Subcontracting regulations were first introduced in the 1981 motorcycle decree which specified whether each nominated component could be made "in-house" (by the assembler), or must be made "out-house" (by a subcontractor). By January 1985 decrees on the local content of simple types of machine tool were announced. It is therefore not surprising that vertical inter-firm linkages and subcontracting networks in Indonesia have proliferated in the automotive industry, and to a lesser extent in the machinery industry. Generally speaking, the overwhelming emphasis of the deletion program decrees has been on local content, with subcontracting requirements forming only a minor part.

Further, in order to strengthen the industrial structure, during Repelita IV (five year plan), the government issued several measures to create horizontal and vertical industrial linkages involving SMEs and LEs. Although the role of especially SEs in manufacturing industry at that time was quite insignificant as measured by total value added and volume of production, Repelita IV stipulated that the role of SEs within Indonesia's manufacturing industry needs to be enhanced by developing MEs and LEs which should in turn stimulate the development of SEs in the industry through subcontracting linkages (MoI, 1985).

Prior to the first attempt to regulate subcontracting activities in the manufacturing industry as part of the deletion program, a system whereby LEs acted as parent companies in subcontracting arrangements with small and medium scale subcontractors was in operation. By 1980 there were some 30 big companies involved in what had become known as the Foster Parent system. Nine of these companies belonged to the engineering subsector (MoI, 1985): P.T. Krakatau Steel; P.T. Astra International (Toyota, Daihatsu, Honda, Komatsu); P.T. Kubota Indonesia; P.T. Semarang Makmur; P.T. Indonesia Steel Tube Works, Ltd.; P.T. Boma Bisma Indra, Surabaya; P.T. Rheem, Jakarta; Perusahaan Galangan Kapal, Palembang; and P.T. Krama Yudha Tiga Berlian (Mitsubishi).

In the last 5 to 10 years, many studies have been conducted explicitly or implicitly on the importance of subcontracting as a means for LEs/MNCs to transfer technology to SMEs in Indonesia. For instance, IMG Consultants Pty Ltd (Sydney) together with PT. Unecona Agung (Indonesia) conducted a survey on some of the above mentioned big companies and their subcontractors (MoI, 1985). They argued that SMEs can only get involved when the technology embodied in the parts is sufficiently simple to be mastered by an inexperienced and unsophisticated organization. Their findings show two best-developed subcontracting networks, namely those organized by P.T. Agrindo in Surabaya and P.T. Kubota Indonesia in Semarang. The first company manufactures agricultural machinery, mainly rice huskers and millers, in a very crowded factory shared with sister companies which, amongst other things, assemble small Mitsubishi diesel engines. The second company assembles small Kubota diesel engines competitive with the Mitsubishi and Yanmar products.

P.T. Agrindo uses SMEs (mostly SEs) extensively as its subcontractors to machine components for its agricultural machinery. The company provides detailed specifications for each component and trains the owners of these SMEs to produce parts to specification, often providing the necessary materials, and even the machine tools and gauges in some cases. They carry out 100 percent inspection on incoming parts and claim to have almost no assembly problems. The use of subcontractors allows the company to concentrate on its own task in-house and achieve high output from its subcontractors. P.T. Kubota Indonesia has also achieved higher local content than Mitsubishi and Yanmar for similar engines, and most of the local content is attributed to many SMEs as its subcontractors in the Semarang and Klaten areas of Central Java.[2]

However, industrial development in Indonesia did not follow the same pattern as in Japan. On the contrary, the local content policy resulted in a vertically integrated production system within LEs. The Asia Foundation (TAF, 2000) argues that the lack of success of this policy in creating strong interdependence between SEs, MEs and LEs was largely due to the government's excessive interference, aimed at replacing the market mechanisms.[3] Similarly, Thee (1990(b), 1997) argues that such production linkages did not develop smoothly during the New Order era because of market distortions and the lack of skills and low technological capabilities of local firms, especially SMEs.[4]

Although the mandatory deletion programs during the New Order era were largely unsuccessful in developing viable domestic supplier firms, successful private-led subcontracting networks did arise in some industries, with the evidence showing that these arrangements did successfully facilitate technological capacity building. For example is the case of PT Astra International or often called Astra Group, the Indonesia's largest integrated automotive company. Astra Group has been able to develop many SMEs into efficient and viable suppliers. As a result of the rigorous training which Astra Group provided to local suppliers with potential, overtime, these suppliers were able to produce a wide range of parts and components for cars and motorcycles according to the strict quality standards set by Astra Group, and also to meet its strict delivery schedules. In 2006, Astra Group has subcontracting linkages with 502 companies, including 171 SEs and 334 MEs.

The author has conducted a study on SMEs in metalworking industry in Tegal in the district of Tegal (*Kabupaten* Tegal), hereinafter Tegal. Tegal is part of the provincial government of Central Java located at the northern shore near the north coast of West Java on key trucking and rail routes. Tegal is among few areas in Indonesia with a long history of development in the metalworking industry clusters. It has been a metalworking center since the mid-1800s when it was the locus of several sugar processing factories and related enterprises including locomotive repair shops and metal processing factories. The industry continued, thriving particularly under the New Order's massive infrastructure and development agenda. In the beginning of the 1980s, as many FDIs, especially in the manufacturing industry, already entered the country, the first subcontracting activity started between local producers and a foreign affiliate company (Kubota), sparking government activity to develop the metal working industry.

The Tegal metalworking industry has about 30,029 workers out of 118,820 workers or approximately 25 % of total workers employed in the district's industrial sector. Based on information from Regional Office of Industry and Trade in Tegal, in 2006 there are around 2,811 metal workshops in the district, or about 10% of the total number of local enterprises in non-farm sectors.

Most of Tegal's metal workshops rely on the same basic metalworking technologies, e.g. casting, cutting, bending, drilling or stamping depending on product, machining, welding, and finishing (painting or electronic plating depending on product, and assembly). Most of the metal products are final consumer goods; metal craft, kitchenware, building fixtures, furniture, accessories and agricultural machinery and tools (sickle, shovel). Industrial goods range from various small items (nuts, bolts, washers, locks, hinges, door handles, some automotive components and ship parts) to hydrant pumps, hand tractor, coffee bean peeler and rice dryer. They have business linkages with some LEs through subcontracting, wholesale distributors mainly in Jakarta, housing developer in the region. Also the Tegal cluster links with other metalworking SME communities in Ceper (about 180 km to the south) and furniture producers in Jepara (about 100 km away to the East). Their comparative advantage has been in filling small orders for simple metal products or components. The small size of workshops gives them greater flexibility and Tegal's abundant cheap labor can

outweigh the productivity advantages of more capital-intensive production. There is often intense price competition between workshops.[5]

According to the size of production and level of production sophistication, there are two types of workshops in the Tegal metalworking industry: MEs and LEs as a modern type of metal workshops, and SEs as a traditional type of workshop. In addition, there are two types of subcontractors: workshops which receive orders for metal components directly from big companies such as FDI-based companies, state-owned companies or private firms outside the district, called *inti*, and workshops which do subcontracting arrangements with the *inti* workshops, called *plasma*. The first type of subcontractors consists mainly of MEs and some LEs and *plasma* workshops are dominated by SEs. Especially large *inti* workshops with total employees up to 100 men derive a majority of their income from sub-contracting work. There are several large foreign affiliate companies which subcontract work to Tegal metal workshops, including PT Komatsu Indonesia Tbk, PT. Daihatsu, and some divisions of the Astra Group such as PT. Sanwa and PT. Katshusiro. These companies often source metal components from several parts of the country, mostly in West Java. Among these companies, the most prominent one is PT Komatsu Indonesia Tbk (say from now on KI) which is a subsidiary of a Japanese company that has established subcontracting production linkages with Tegal metal workshops since 1998.[6] This company produces various equipments for construction and mining activities under the global trademark of Komatsu, such as hydraulic excavators, bulldozers, motor graders, frames and related components, steel cast products as well as off-highway dump tracks.

Plasma workshops usually hire cheap, unskilled labor or use family members (mainly men) as unpaid workers (helpers) and the owner passes basic metalworking skills on to his employees, leaving the technical capacity of the workshop highly dependent on the technical capacity of the owner. *Inti* workshops often sub-contract part of their production to *plasma* workshops.

Local workshops which have no subcontracting businesses with other firms manufacture entirely for the wholesalers and retailers or sell their products directly to local consumers. Many wholesalers and retailers purchase goods from Tegal metal workshops for resale in stores in cities in the country.

It was found, however, that not all local producers/workshops can easily establish subcontracting relations with these foreign companies (say LEs). To become subcontractors, local firms must have attained a certain level of technical and managerial capacity. They must proof that they have the capacity to produce high quality components and meet the stringent delivery times. An audit determines if they have the required machinery, manpower, facilities, legal standing and use of ISO standards. After that, then they are requested to produce a sample component from provided technical drawings. According to KI's *inti* workshop owners interviewed, before an agreement is signed, KI often ask for a trial run of the mass production process, subjecting the output to quality control tests. If they could produce a certain product item on a regular schedule and consistent quality, they would then be granted a license for manufacturing different product items, thereby expanding their product lines. In the last 2 years, many suppliers have been tested through a few initial batch orders, but, in the end, only four local enterprises were able to meet KI's satisfaction; two of them were included in the sample. Larger and more modern metal workshops are more likely to adopt new technologies in their bid to become subcontracting *inti* to LEs.

After winning a contract, an *inti* subcontractor has access to a significant level of technical training. According to a sub-contractor of KI, trainings directly addressed the technical needs of the workshop in meeting the production requirements of KI. Indonesian experts from the Jakarta Komatsu office leading the training used a teaching style that clearly delivered the necessary knowledge and emphasized practical application, with 90 percent of training time spent in hands-on experience. Trainers also help the workshop identify problems and troubleshoot.

During the survey, it was found that those who failed to become subcontractors, lack of capital, limited skill, and no access to information appeared to be the three most important constraints. They did not have enough money to purchase the required machinery and to hire many workers (generally, SEs are self-employment units without helpers or hired workers). They often use second-hand or homemade equipment. If they hire workers, often low-skilled workers with little or no experience and rely on shop owner's technical knowledge. Since many SE owners built their expertise through working in small shops and rarely have formal academic training, they have difficulties reading technical drawings and instead rely on copying samples, leading to less accurate

output. So, they lack the technical ability to produce complicated components with the precision required by LEs. Also, due to lack of information and no skill, they did not now how to meet ISO standards. They said that from the government they could not expect too much. The government did give some information, but they need direct assistance too.

Though less direct, the subcontracting system does provide some market opportunities for smaller workshops to benefit from the virtuous circle affecting *inti* capacity building. Subcontracting *plasma* gain from the incentive to produce higher quality for a higher price with technical coaching from *inti* clients in their own virtuous circle. *Inti* respondents for auto components, for instance, turn to *plasma* workshops to produce 10–15 percent of their orders from LEs, usually components of components or basic parts made more cheaply in small workshops while still passing the quality control requirements of LEs. Often soft loans are provided by *inti* to *plasma* to help them acquire new machines capable of higher quality output. *Inti* and *plasma* involved in subcontracting are more likely to use government sponsored facilities such as the UPT (i.e. technical service unit, including lab.), especially to test the quality of materials. They are more able to offset lab usage costs through the higher price paid by LEs for quality parts.

However, according to the owners of these two KI's *inti* workshops, the training does not seek to develop their capability to rise beyond their capacity as low-cost production centers for selected components. Moreover, KI does help them gain the capacity to manufacture component parts, but there has been little interest in upgrading from specialized parts manufacture to manufacture and assemblage of finished products.

For workshops who were rejected by KI (or other LEs) as *inti* subcontractors, the only source of technology or knowledge is from retail suppliers, or from *inti* subcontractors if they have subcontracting linkages as *plasma*, *plasma*, or they depend largely on un-targeted, irregularly publicized government programs, which may not be suit their needs. Some interviewed MIE owners who sell their products only to retail market said that strong competition among retail suppliers inhibits knowledge transfer and, instead, encourages production of low-quality, inexpensive products.

It was also found that inter-firm linkages inside this Tegal cluster exist to a certain extent. Notably, producers in the Tegal metal working industry have a tradition

of collaboration as indicated by the important role of recently initiated by Takaru cooperative. This cooperative specially established by producers in the cluster to stimulate strategic alliance among them. However, from the interviews, it appears that in general knowledge transfer among small workshops is often contingent on personal networks and conditioned by competition. Especially, among workshops producing for the retail market competition sometimes becoming "unhealthy" which has opposite effects, inhibiting knowledge diffusion among them.

4. INNOVATIVENESS

Formally, innovation is considered to be the successful development and application of new knowledge. In the literature, the concept of innovation is mostly based on Schumpeter's definition, i.e. as a new combination of the factors of production. However, the expression of innovation varies among scholars. For instance, for Edquist (2004), innovation in process is about how things are produced, while innovation in product is about what is produced. According to Jang (2007), in the present knowledge based economy, the Schumpeter's definition can be rephrased as a new combination of knowledge. So, he argues that there must be some relationship between the types of knowledge, i.e. codified and tacit knowledge (both analytical and synthetic) and types of innovation, i.e. product and process. As stated in Fagerberg (2004), another way to classify innovation is focus on its process. In this manner, he classifies innovation as "radical" or "incremental".

In Indonesia there is also increasing empirical evidence that SMEs that are parts of clusters are in a better position to adopt innovations when compared with their dispersed counterparts.[7] For instance, Sandee's (1994, 1995, 1996) studies of roof tile clusters in central Java province. Through the 1980s the demand for roof tiles increasingly shifted toward urban areas, where customers pay more attention to quality. This meant that upgrading was important to retain or increase demand. As a result, some clusters have stagnated and others have grown through a process of technological change or adaptation that encompasses changes in processes of production, in patterns of inter-firm cooperation, in employment conditions, and in the marketing of new output.

The range of experiences has been wide. In two cases (Mayong Lor and Klepu) the process was demand driven. The buyers, agents from urban building material shops, largely took care of the financial, technical, and marketing sides of the adoption and competed with each other to do so, a reflection of the expanding urban demand for press tiles. The pioneer adopters of the hand-press technology were young males who had used it elsewhere in rural Java. Since its introduction in the early 1970s, virtually all of the producers in these clusters have adopted the technology.

In producer-driven clusters such as Karanggeneng, networks of producers are at the heart of the process of technology upgrading. Producers organize to finance new equipment, share indivisible capital, and gain access to new markets. In buyer-driven clusters, collaboration among producers and traders obviates the need to form such producer networks. Urban building material shops play a key role in assuring demand but also provide loans for purchase of presses and renting out mixers. In both cases, innovation trickles down among an increasing number of producers. Diffusion is stimulated by the growing involvement of suppliers, *while the government principally contributes by improving the environment* (Sandee 1995: 170). In the producer-driven clusters, pioneer adopters remain the most important actors by stimulating innovation adoption by those producers whom they can trust and control, especially relatives. Urban building material shops get involved through establishing relationships with the pioneer adopters.

From Klapwijk's (1997) study, also on SMEs in rural central Java, it appears that an active involvement of traders and strong government initiative at the local level may be at work in central Java to render SME clusters in rural areas a fertile seedbed for technological change and thus a positive factor in rural industrialization. However, Berry et al, (2002) argue that technological change or innovation is more likely when the rural clusters are linked to urban or international markets.

Sandee's (1994, 1995, 1996) studies of a number of roof tile clusters in different areas in central Java also come with evidence of innovation in SMEs. Through the 1980s the demand for roof tiles increasingly shifted toward urban areas, where customers pay more attention to quality. This meant that upgrading was important to retain or increase demand. As a result, some clusters have stagnated and others have grown through a process of technological change or adaptation that encompasses

changes in processes of production, in patterns of inter-firm cooperation, in employment conditions, and in the marketing of new output. The range of experiences has been wide. In two cases (Mayong Lor and Klepu) the process was demand driven. The buyers, agents from urban building material shops, largely took care of the financial, technical, and marketing sides of the adoption and competed with each other to do so, a reflection of the expanding urban demand for press tiles. The pioneer adopters of the hand-press technology were young males who had used it elsewhere in rural Java. Since its introduction in the early 1970s, virtually all of the producers in these clusters have adopted the technology.

Sandee, *et al* (2002) provide a comprehensive review on two main important SME clusters of metal casting industries producing components and spare parts with subcontracting activities with LEs, namely the metal casting in Ceper, Klaten in Central Java and in Cibatu village in the Sukabumi regency. The first cluster is well-known in Indonesia. It is an active cluster since the colonial period and with a long history producing cooking utensils for local and nearby markets. The cluster encompasses a variety of metal casting firms ranging from SEs that produce basic utensils for local market to MEs that work exclusively on order from national big companies such as the railway and car-manufacturing firms. Recently, Ceper has been concentrated on the production of both final and intermediate products. Final products include household equipment and agricultural tools while main intermediate products are components for LEs through subcontracting production linkages. By late 2001 the cluster counted 332 production units that together employed 3875 workers. The cluster is spread out over several villages in the Batur district of the Klaten regency. The second cluster can be deemed as a typical example of a metal casting cluster that has gradually expanded its product range. Presently, the cluster manufactures agricultural equipment, household items and various products for military needs. Few firms make samurai swords and export them via traders to Japan. Besides samurai swords, other handicrafts produced in the clusters are also exported, and Japan is an important export market. An increasing number of firms producing spare parts and intermediate inputs are involved in subcontracting production relationships with LEs outside Sukabumi, mainly in the Jakarta area.

His study suggests that SME in clusters with strong inter-firm linkages and external networks with traders, inputs suppliers and LEs (including FDI) through subcontracting linkages are more able to improve their technology or to do innovations in product or production process than individual SMEs in dispersed locations. From their findings, Berry et al. (2002) also see that membership in a cluster has a significant influence on a firm's productivity and its ability to do innovations. This is simply because through inter-firm cooperation in a cluster, it is easier and cheaper for a firm to get information on new technologies or new methods of production and to carry out necessary steps to improve the quality of their products. However, they argue that technological change or innovation is more likely in rural clusters when the clusters are linked to urban or international markets.

The case of Tegal metalworking industry, as discussed before (see Section Networking), also show some innovation activities inside the cluster. As explained before, there are several large foreign affiliate companies which subcontract work to Tegal metal workshops, including PT Komatsu Indonesia Tbk, PT. Daihatsu, and some divisions of the Astra Group such as PT. Sanwa and PT. Katshusiro. These companies often source metal components from several parts of the country, mostly in West Java. Among these companies, the most prominent one is PT Komatsu Indonesia Tbk (say from now on KI) which is a subsidiary of a Japanese company that has established subcontracting production linkages with Tegal metal workshops since 1998.[8] This company produces various equipments for construction and mining activities under the global trademark of Komatsu, such as hydraulic excavators, bulldozers, motor graders, frames and related components, steel cast products as well as off-highway dump tracks. Two most successful local *inti* subcontractors to KI, which included in the survey are, PT. Prima Karya and PT. Karya Paduyasa. These companies able to do some innovations (see box).

In general, the technical capability of the Tegal metal industry has derived from a long history of family experience in metalworking or similar industries. With accumulated technical knowledge of over 20 years, since the first subcontracting activity started in the district, sparking government activity to develop the metal working industry, they are now capable of producing various kinds of agricultural and

BOX: Profiles and Histories of Two *Inti* suppliers to KI.

PT Prima Karya:

This company specializes in making parts and components for heavy equipment, and it was formally incorporated in 1983, beginning operations with the manufacture of spray cans and agriculture machinery such as hand tractors. Currently, the company has 50 employees, of which about more than 50% of them are high school graduates or under and two are university graduates. The company's first experience as a subcontractor started in 1985, as it won a contract with a large local conglomerate for manufacturing large quantities of 'coffee peeler' machines (but, the contract was later terminated due to the economic crisis in 1997/98). Currently, the company is one of the *inti* suppliers for KI, and also succeeded in becoming one of the prime local suppliers for Natra Raya (NR), an affiliate of U.S. Caterpillar, which came to Tegal in search of potential suppliers. It has managed to expand its product lines to more than 100 items supplied to KI and to NR on a regular basis. Total turnover in 1999 was Rp650 million per year and increased continuously though slightly in recent years. The company virtually was a manufacturer of heavy equipment parts, including engine tools, dashboards, and forklift parts. It expanded its operations to include the manufacture of pumps, agriculture equipment, parts for scales and door railings for sale to the general market. These jobs were merely incidental orders received along with the routine work the company did for KI and NR. Prospects for growth are extremely favourable. However, the company is chronically short of working capital because of the arrangement whereby payments are made only after the final products are manufactured and delivered.

The company has a great innovative capability. The fact that the company was able to advance from making relatively simple products to supplying metal components with higher grades of precision on a consistent basis demonstrates its ability to learn and increase its skills. This ability is largely attributable to the owner who has been vigilant in solving on-site technical problems. According to the owner, being accepted as a prime KI supplier was his company's first milestone, a role which requires in advance the ability to translate technical drawings and to work toward the final product. Another prerequisite fulfilled by PK as a prime KI supplier was a level of quality that ensured that no rejects were classified as fatal ones; the company was able to correct defects easily and ship the products back to KI.

The company reached the second milestone when it was presented with the challenge of supplying a large complex piece associated with engine hoods. Making the first sample proved to be quite difficult using the inappropriate machinery available at the time. Even with several days help by an expert from KI, the company was still unable to produce a satisfactory sample according to specifications. After several trials driven forward by the persistence of the owner, PK finally sent the finished sample to KI at the end of the week. Approval was achieved not long afterwards.

All jigs and fixtures that allow assemblage and welding on a consistent basis are built by the company itself. Much of the machinery is developed in house, such as large bending and pressing machines, with up to 70% local contents. This level of accomplishment demonstrates the experience and skills the company acquired, largely in tacit or unspoken form, as it overcame each major challenge. One of the benefits obtained by working with KI is the opportunity to send employees to be trained at KI's facility in Jakarta.

BOX (continued)

PT. Karya Paduyasa

The company has three plants, each with a specific production objective, namely for: (i) casting, principally hydrants and fire monitors; (ii) incidental job orders, usually in small lots; and (iii) a stamping process especially for large parts and automotive components. It began by making textile equipment and parts in Jakarta in the 1950's. After the company moved to Tegal, it diversified into making agriculture tools and machinery. While rapidly diversifying its product base, it improved its productive capability. Among the important achievements of the company was the development of the casting capability to produce hydrants. Hydrant manufacturing was driven by government contract. At the peak of production, the company made around 200 units per month.

One major milestone for the company was to be selected as one of the few local prime suppliers for heavy equipment for KI and NR. BOX (continued)
Furthermore, because of its ability to deliver the products in timely fashion with consistent acceptable quality, KP's base of product lines in the heavy equipment business expanded rapidly. However, the company manufactures less items as compared to that of PT Prima Karya for both KI and NR.

Recently, a sign of positive growth emerged as hydrant orders began to increase to 10-20 per month, with a similar increase in orders from KI and NR. However, because of the arrangement under which payments are sent only after the final products are manufactured and delivered, the company suffers from shortages of working capital, especially after the substantial layoff of workers.

The company has ample facilities for metalworking operations, which range from casting to welding to finishing, What is more impressive, however, is the company's ability to make an increasingly complex range of products as it acquires experience over time. As noted previously, this ability was a key factor in being chosen as one of the regular suppliers of KI and NR. The company's most recent accomplishment was its expansion into the manufacture of automobile components for an automaker. This move was soon followed by the construction of a plant dedicated to the stamping process. The company equipped the plant with its own dies and fixtures, and also set up a small crane to make a large heavy bottom piece for a tractor. It manufactures many of the machines and tools it uses in this plant. Its dedication to efficiency is also demonstrated by its efforts to minimize waste from paint spraying by constructing six large fans directed at a pool of water to capture paint droplets. The stamping plant's overall facilities are well organized and maintained.

Finally, the company devotes considerable attention to skill development. It provides incentives to employees to participate in various training activities at other locations by covering their travel and accommodation expenses.

Source: own survey and some written information from Iman and Nagata (2002),

industrial machinery as well as automotive and ship components . However, the quality of most of their products is low. Only in a few firms whose core businesses cater to such as KI does the need for consistent product quality become a concern. In such firms, the

ability to translate technical drawings and to manufacture products according to listed or drawn specifications is actively developed (Iman & Nagata 2002).

Tegal metal industry's main external technology providers are LEs, mostly foreign affiliate companies such as KI to their subcontractors (i.e. *inti* workshops), and to a lesser extent, local government. *Inti* subcontractors supply heavy equipment components to KI. Some domestic retail market suppliers also act as knowledge providers by informing metal workshops about consumer preferences, demand, and new innovations. One workshop owner interviewed stated that the retailers created new products and commissioned them from the local small workshops. While for KI, quality is the first priority, retailers generally emphasize low cost over quality. For small workshop owners (mostly from MIE category) who have no subcontracting links with KI, wholesale/retail market is their only choice to have business linkages. They sell to this market a limited range of simple final products, i.e. pulleys, ship windows. While these retailers may demand a sample product, there is much less emphasis on precision. Or, if they are lucky they can become *plasma* for KI's existing *inti* subcontractors.

It was also found that a group of producers has produced a hand tractor with own design for the domestic market. The production of this hand tractor involves 17 firms producing different parts. The Takaru cooperative organizes, assembles and performs quality control checks. The latter requires certification process and this has to be conducted by other institutions including government research laboratory. This is one example of the ability of producers in this cluster to do redesign or reverse engineering.

Unfortunately in Indonesia there are no national data on indicators of innovativeness in SMEs such as the percentage of total SMEs having ISO certificates or spending on R&D. As presented in Table 4, the Enterprise Survey 2007 from the International Finance Corporation (IFC) and the World Bank provides information on these two indicators in many countries, including Indonesia. But, no distinction is made between SMEs and LEs.

Alternatively, differences in productivity in different sizes of enterprises can be used as a proxy of innovativeness in SMEs. Table 5 presents labor productivity, measured by the ratio of total output value at constant prices in 2000 to total workers employed, in SEs, MEs and LEs. It may suggest that the larger the size of enterprises the more capable they are to do innovations, either in products or processes.

Table 4: Innovation at enterprises level in Selected Asian Countries

Country	ISO certificate ownership (%)	Spending on R&D (% sales)
Bangladesh (2002)	..	0.36
Cambodia (2003)	2.78	5.21
China (2003)	35.92	2.10
India (2006)	22.50	0.77
India (2002)	..	0.80
Indonesia (2003)	22.13	..
Korea (2005)	17.56	0.26
Lao PDR (2005)	3.27	..
Malaysia (2002)	31.43	1.38
Mongolia (2004)	19.46	2.14
Pakistan (2002)	17.01	0.98
Philippines (2003)	15.79	0.80
Sri Lanka (2004)	..	0.00
Thailand (2004)	44.63	0.25
Vietnam (2005)	37.84	2.21

Source: International Finance Corporation (IFC) and the World Bank (Enterprise Surveys 2007, World Bank Group, Private Sector Resources)

Table 5: Labor productivity and its annual growth by size of enterprises, 2003-2006

Year	Productivity (000 Rp)			Growth in productivity (%)		
	SE	ME	LE	SE	ME	LE
2003	7,942	64,358	222,857	-0.29	4.22	-0.45
2004	8,510	68,027	232,040	7.16	5.70	4.12
2005	8,721	68,603	240,017	2.48	0.85	3.44
2006	8,970	68,393	240,251	2.85	-0.31	0.10

Source: Mengkop & UKM

5. MARKET EXPANSION: DOMESTIC MARKET AND EXPORT

5.1 Domestic market

Since there are no data available on domestic market share of SMEs, as compared to those of LEs and imported goods, the output structure by size of enterprises can be used as an alternative indicator. As shown before (see Table 6), agriculture has always been the key sector for SEs, as they produce around 86 to 87 percent of total output in the sector. Given that SEs' exports on agricultural commodities are not significant and imported agricultural commodities can be assumed not so large, then it can easy to conclude that a larger part of domestic market for agricultural commodities is supplied by SEs.

Table 6: Structure of GDP by size of enterprises and sector, 2000-2006 (%)

Sec*	2000			2001			2002			2003			2004			2005			2006			
	SE	ME	LE	SE	ME	LE	SE	ME	LE	SE	ME	LE	SE	ME	LE	SE	ME	LE	SE	ME	LE	∑
1	86.5	9.0	4.5	87.1	8.7	4.2	87.6	8.4	4.1	87.5	8.5	4.0	87.4	8.6	4.1	87.3	8.6	4.1	86.8	8.9	4.3	100
2	5.6	2.7	91.8	6.2	2.8	90.9	8.3	3.2	88.4	9.2	3.5	87.3	8.5	3.3	88.3	7.0	3.0	90.0	8.2	3.2	88.6	100
3	13.3	12.6	74.2	15.6	12.4	73.9	13.7	12.6	73.7	13.9	12.6	73.6	13.3	12.2	74.5	12.7	11.6	75.8	12.5	11.3	76.3	100
4	0.6	8.9	90.5	0.6	8.1	91.4	0.6	9.1	90.3	0.6	8.4	91.1	0.5	7.4	92.0	0.5	7.6	91.9	0.5	7.6	91.9	100
5	44.6	21.8	33.7	44.8	21.8	33.4	44.3	21.8	33.9	44.6	21.8	33.6	44.0	21.7	34.3	44.3	21.8	33.9	44.2	21.8	34.0	100
6	74.8	21.5	3.8	74.4	21.8	3.9	75.8	20.5	3.7	75.2	21.0	3.8	74.9	21.2	3.9	75.7	20.7	3.7	76.1	20.3	3.6	100
7	34.8	25.3	39.9	35.2	26.2	38.6	32.8	24.9	42.3	32.0	24.9	43.1	29.1	24.4	46.5	28.8	24.0	47.2	29.8	23.5	46.7	100
8	18.0	47.2	34.8	18.1	46.7	35.3	17.9	47.3	34.8	17.2	46.7	36.1	17.2	47.0	35.8	17.0	47.0	36.1	16.7	46.9	36.4	100
9	36.8	7.6	55.5	36.7	7.6	55.8	39.4	7.9	52.7	38.9	7.8	53.3	38.9	7.8	53.3	40.8	8.2	51.1	40.2	8.0	51.8	100
GDP	38.9	15.8	45.3	39.0	15.8	45.2	40.8	16.2	43.1	40.5	16.3	43.2	39.2	16.2	44.6	37.8	15.7	46.5	37.7	15.6	46.7	100

Note: * = code of sector, see Table 2 or Table 3.
Source: National Agency for Statistics (BPS)

Table 7: Exports of SMEs and LEs, 2000-2006 (billion rupiah)

Sector*	2000		2001		2002		2003		2004		2005		2006	
	SME	LE	SME	LE	SME	LE	SME	LE	SME	LE	SME	LE	SME	LE
(1)	8,396	428	9,014	553	9,772	962	8,480	537	8,715	882	11,535	1,038	12,663	1,079
(2)	657	74,491	981	89,811	685	79,542	584	77,829	639	92,823	1,140	132,107	1,621	153,874
(3)	66,395	357,136	70,852	377,040	76,834	339,086	68,033	337,773	86,194	414,954	97,663	471,249	107,916	501,171
Total	75,449	432,054	80,847	467,404	87,290	419,590	77,097	416,139	95,548	508,658	110,338	604,395	122,200	656,124

Note: * = code of sector, see Table 2.
Source: Menegkop & UKM

The second important sector for this enterprises category is trade, hotel and restaurant with their annual share ranging from 74 to 76 percent. MEs, on the other hand has the largest output contribution in finance, rent & service at around 46 to 47 percent, followed by transportation and communication with a share ranging from the lowest 23.47 per cent in 2006 to the highest 26.22 percent in 2001. In manufacturing industry, both SEs and MEs are traditionally not so strong as compared to LEs.

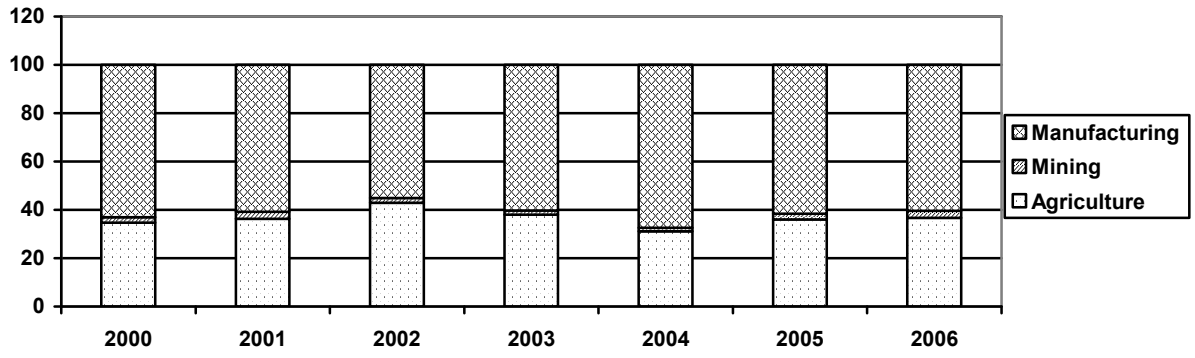
Overall, in sectors like agriculture, finance, rent and services, transportation and communications, SMEs are more capable to expand their domestic market share than in manufacturing industry. In the latter sector, SMEs have to compete with LEs and increasingly imported goods.

5.2 Export growth

In Indonesia, historically, export of SMEs are limited, although their export increases on average per year. As presented in Table 7, in 2000, total exports of these enterprises amounted to Rp75,448.6 billion and went up by more than 50 per cent to Rp.122,199.5 billion in 2006.

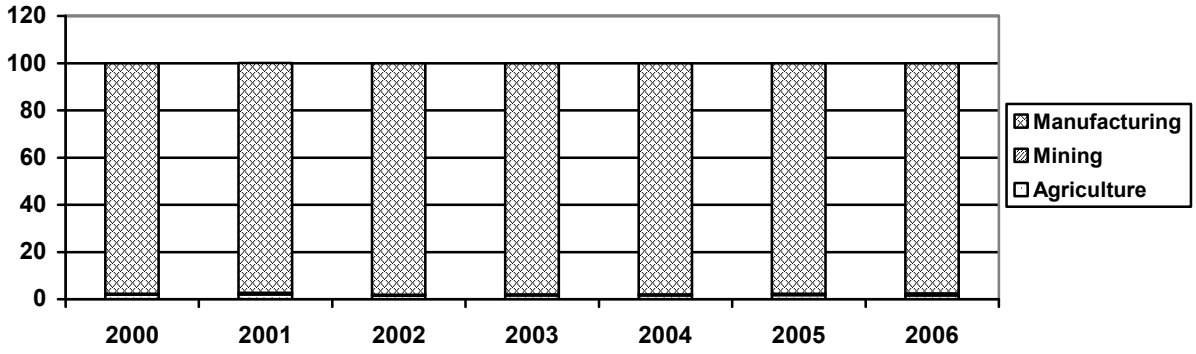
Table 7 shows that the majority of SMEs' export came from the manufacturing industry. Interestingly, the share of MEs' export originated from this sector is much higher than that of SEs (Figures 4A and 4B). This significant gap may suggest that in the manufacturing industry, the ability of MEs to export is higher than that of SEs. The difference can be explained by differences in such as access to capital and market information, skills, promotion facilities, and external networks. Naturally, MEs are in a

Figure 4A: Distribution of SEs' Export Value by Sector, 2000-2006 (%)



Source: Menegkop & UKM

Figure 4B: Distribution of MEs' Export Value by Sector, 2000-2006 (%)



Source: Menegkop & UKM

better position than SEs for all these factors, which are crucial in determining the successful of a firm in doing export.

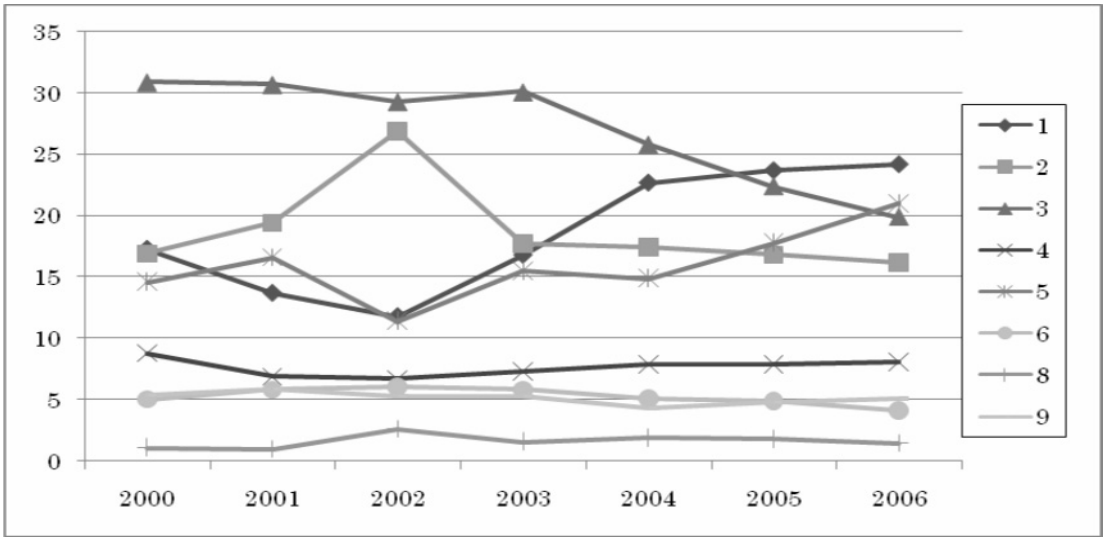
However, the share of SMEs in total export of manufacturing industry is much smaller than that of their larger counterparts. Within the group, MEs performed much better than their smaller counterparts. The share of SEs never reached 10 percent. In 2000 it was only 3.15 percent and slightly decreased to 3 percent in 2006. While during the same period, the export share of MEs was 12.53 percent and improved to 14.72 percent. Previously, such as Hill (1997, 2001), Tambunan (2006b), and Thee (1993) argue that, although on average per year the export contribution of SMEs in Indonesia's total manufacturing export is relatively small as compared to that of their larger counterparts, they seem to have shared nicely in the manufactured export boom in the 1980s and 1990s. Thee (1993) concludes that from the point of view of technology and adaptability, export growth of SMEs in manufacturing inudstry has been achieved substantially by finding niche markets and adapting costs and quality to market demand.

Further, from 9 industrial groups at two digit level within the manufacturing industry, i.e. food, beverages and tobacco (1); textile, leather and footwear (2); wood products (3); paper and publication (4); fertilizer, chemicals and rubber products (5); semen and non metal mining (6); basic metal, steel and iron (7); transportation means, machinery and its equipments (8); and others (9), SEs' exports are concentrated in wood products, including furniture, although recently their share declined and passed by exports of food, beverages and tobacco and fertilizers, chemicals and goods made from

rubber. SMEs do not export goods made from steel and iron (Figure 5). Whereas, MEs' exports are more or less equal distributed among the groups of industry; although their share in wood products went down constantly (Figure 6).

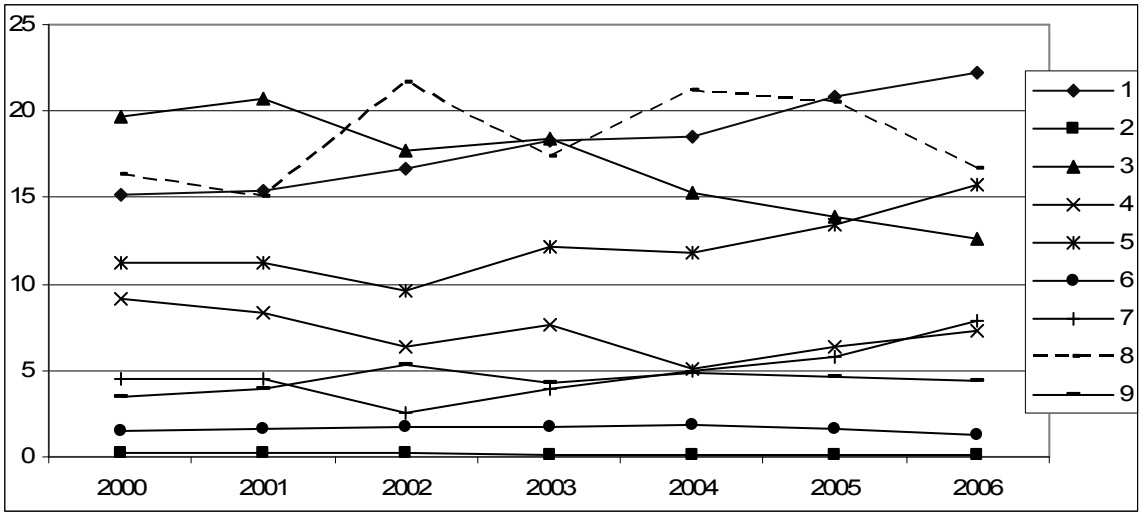
Data from BPS on SEs and MIEs in the manufacturing industry show that in 1999 from a total of 2,505,692 SEs and MIEs, only 0.36 percent of them did export, and it increased

Figure 5: SE's export of manufactured goods by industry, 2000-2006 (%)



Source: BPS

Figure 6: ME's export of manufactured goods by industry, 2000-2006 (%)



Source: BPS

to 0.79 percent of a total of 2,679,241 SEs and MIEs in 2004. So, the export intensity within this group has increased during that period. But, the ratio varies between SEs and MIEs. In 1999, the percentage was respectively 0.46 and 0.35 for MIEs and SEs, and the ratio changed significantly in 2004: 0.64 and 2.3, respectively. This indicates that SEs, i.e. better managed and organized units of production, are in a better position than MIEs in capturing increasing export opportunities generated by the reforms. However, not all of those involved in export activities are fully export oriented, in the sense that many of them only export small portions of their total products. In 1999, SEs and MIEs exported 80 percent or more of their total production are less than 50 percent, and increased to about 68 percent in 2004. The percentage, however, varies between SEs and MIEs.

There are at least two main reasons that many export-oriented SMEs in Indonesia could not conduct export activities directly. First, there are institutional and business constraints where SMEs cannot solve, due to (i) they do not have strong direct access to export market or no access to information on export market opportunities and requirements; (ii) they are not able to adjust to rapid changes in export market; (iii) high risk in payment and shipment; (iii) time lag in the payment, while the small exporters/producers need daily cash flow very badly; and (iv) high cost for direct export activity. Second, financial problem due to (i) capital owned by SME is limited, especially to investment capital; and (ii) lack of support from financing and guarantee institution to SME (Urata, 2000; Tambunan, 2006b).

Another important feature of the export-oriented SMEs in Indonesia is that the majority of those who do export, they do not export directly, but indirectly through intermediaries such as traders, exporting companies, or trading houses. Traders or trading companies usually collect products from or give orders to, regularly or irregularly, many producers. As an example, BPS data from Census of Small and Cottage Industry in 1996, show that with respect to the number of enterprise, the share of small exporters who did direct export was only 0.19 percent, while those who did indirect exports was 99.81 percent. In terms of export value, the share of those who did direct and indirect export was 0.98 and 99.02 percent respectively. Based on his own field survey on SMEs in a variety of industrial groups, Urata (2000) provides, however, a rather different figure.

6. POLICY IMPLICATION

The Indonesian government has advocated the importance of small and medium enterprises (SMEs) in many official statements. It has formulated and implemented various types of policies and measures aimed at the development of the SME sector. Almost all known types of government intervention to promote the development of SMEs have been tried at one time or another. These include subsidized credit, such as credit for small farmers and village cooperatives (KUD), small-scale credit (KIK, KMKP, KUK), and credit for village units (KUPEDES); development of small rural development banks (BKD); human resource development trainings such as in production technique, general management (MS/MUK), management quality systems ISO-9000, and entrepreneurship (CEFE, AMT); providing total quality control advice, technology and especially internet access (WARSI) and advisory extension workers, subsidized inputs, facilitation, setting up of Cooperatives of Small-Scale Industries (KOPINKRA) in clusters, development of infrastructure, building special small-scale industrial estates (LIK), partnership program (the Foster Parent scheme), Small Business Consultancy Clinics (KKB); establishment of the Export Support Board of Indonesia (DPE), establishment of common service facilities (UPT) in clusters, and implementation an incubator system for promoting the development of new entrepreneurs.

However, despite of all these efforts, Indonesian SMEs still face a number of problems which make them still difficult to performance as good as their larger counterparts in e.g. productivity, quality of products, and export, and to compete with imported goods. So, this study comes with the following policy implications:

1) The government indeed has a key role to play by facilitating or supporting capacity building in SMEs, especially SEs and MIEs so these enterprises can become subcontractors. The technological and managerial gaps between MNCs or LEs and their SME subcontractors or, within SMEs, between MEs, on one hand, and SEs and MIEs, on the other, can be bridged through capacity building. Within SMEs, MEs are more developed and better organized or managed than SEs and MIEs. So, MEs

are more ready as subcontractors than SEs and MIEs. Consequently, without government support for SE and MIEs, the subcontracting opportunities from the presence of MNCs or provided by domestic LEs will only open to MEs.

2) As said before, the government supports for SMEs have been in various forms, ranging from a variety of special credit schemes to technical assistance and various types of training and skill upgrading. The emphasis, however, has been given too much on financial aspect; much less attention has been given on technology development, innovation capability and skills development. This paradigm should change. The focus should be on the "hardware" of the capacity building, namely skills and technology upgrading. Capital or credit is indeed important, but, it is not the hardcore of the problem facing many SMEs in Indonesia: i.e. low competitiveness due to their low technology and skill capability. They need to be trained and assisted technically, and when they already have the knowledge and they are going to buy computers or new machines or production tools, then the government can help them by providing funds through a special scheme.

3) The existing paradigm of SME development should change, from "the successful SMEs development strategy is marked by the annual increase in number of units" and "SMEs are important because they create employment", to "the successful SMEs development strategy is marked by the annual increase in number of innovated and productive enterprises", and "SMEs are important because they generate high value added, export, and they form domestic competitive supporting industries".

4) Networks between SMEs and R&D institutes or universities are still less important compared to networks with LEs through subcontracting. This may indicate that in Indonesia R&D institutes or universities are not yet so important as a source of technology development, skill upgrading or innovation activities in SMEs. So, in efforts to support capacity building in SMEs, the government should promote closer integration between R&D institutes and universities and SMEs by facilitating their effort to build strong networks. The government can encourage the involvement of R&D institutes and universities in local SMEs' capacity building in their own district by providing a variety of facilities, ranging from a special fund scheme to finance R&D activities carry out by SMEs together with R&D institutes or

universities, tax facilities and "attractive" awards to the most active R&D institutes in supporting SMEs.

5) Globalization and trade and investment liberalization should also give opportunities to local SMEs to integrate into global production network. Subcontracting is one thing to facilitate this. To develop into highly competitive supporting industries or vendors supplying certain parts of global products is another way. For this too, the government has a very important role to play to support this development, not only through special designed schemes but also indirectly through creating "easy doing business" environment.

NOTES

[1] For example, with respect to marketing, the parent companies provided promotion facilities such as trade exhibitions and study tours for the supported enterprises or acted as a trading house. With respect to technology, the parent companies provided the supported enterprises with financial assistance for the purchase of new machines or provided them technical trainings or technicians during the innovation process.

[2] Studies on subcontracting between SMEs and LEs in Indonesia include Harianto (1996), Thee (1985, 1990a,b, 1997), Sato (1998, Supratikno (1998), Urata (2000), TAF (2000), Aswicahyono, *et al*. (2000), Berry and Levy (1999), Sandee *at al*. (2000), and Hayashi (2002a,b,c).

[3] The economic rationale behind the local content policy was to create a captive market for domestic products in order to increase the economic scale of production and thereby to increase efficiency. However, government interference went too far. The government decided which products were to get priority in this policy, and introduced fiscal incentives in line with the type of priority recipient products. The determination of priorities does not always appear to have been on economic considerations, such as SMEs' capacity for investment and absorption of technology

[4] See for example SRI International (1992), Harianto (1993), Kitabata (1988), Sato (2000), Supratikno (2001), and JICA (2000).

[5] Pantjadarma (2004) made a general assessment of the level of sophistication of the production facility in the *sentra* which was based on a capability to utilize high-precision equipment such as computer numerical control (CNC) machine for production, degree of order and cleanliness of the plants. Although, it is an imprecise technique, it provides some insights to the level of technological capabilities of the firms. It was observed that majority of firms are not "modern" enough. Also, only a few that has entered the export market. Nonetheless, as he concludes, it has sufficient technological capabilities to serve domestic market.

[6] In the current domestic Indonesian market, KI occupies the first rank with a 40% share of sales and is playing an indispensable role in the localization of production. KI also fulfills a crucial role in Komatsu's international business strategy, it serves as a construction machinery production base along with Komatsu's facilities in the U.S., Brazil, Germany and the U.K., and conducting global sourcing with other production bases (Iman and Nagata, 2002).

[7] More empirical studies shown in Sandee *et al*. (1994), Van Dierman (1997), Tambunan (1994, 2000), Supratikno (2002a), and Knorringa and Weijland (1993).

[8] In the current domestic Indonesian market, KI occupies the first rank with a 40% share of sales and is playing an indispensable role in the localization of production. KI also fulfills a crucial role in Komatsu's international business strategy, it serves as a construction machinery

production base along with Komatsu's facilities in the U.S., Brazil, Germany and the U.K., and conducting global sourcing with other production bases (Iman and Nagata, 2002).

REFERENCES

Aswicahyono, Haryo, M. Chatib Basri, and Hal Hill (2000), "How Not to Industrialise? Indonesia's Automotive Industry", *Bulletin of Indonesian Economic Study* 36, no. 1: 209-41.

Berry, Albert, and Brian Levy (1999), "Technical, Financial and Marketing Support for Indonesia's Small and Medium Industrial Exporters", in *Fulfilling the Export Potential of Small and Medium Firms*, ed. B. Levy, A. Berry and Jeffrey B. Nugent. Boston: Kluwer Academic Publishers.

Berry, Albert., E. Rodriguez and Henry Sandee (2002), "Firm and Group Dynamics in the Small and Medium Enterprise Sector in Indonesia", *Small Business Economics* 18, no.1–3:141–161.

Edquist, C. (2004), "Systems of Innovation Perspectives and Challenges", in *The Oxford Handbook of Innovation*, ed. Fagerberg, J., Mowery, D. and R. Nelson. Oxford: Oxford University Press.

Fagerberg, J., Mowery, D. and R. Nelson (eds.)(2004), *The Oxford Handbook of Innovation*, Oxford: Oxford University Press.

Harianto, Farid (1993), "Study on Subcontracting in Indonesian domestic firms", mimeo, Jakarta: PEP-LIPI.

Harianto, Farid. (1996), "Study on Subcontracting in Indonesian Domestic Firms," in *Small-scale Business Development and Competition Policy*, ed. M. Pangestu. Jakarta: Centre for Strategic and International Studies.

Hayashi, Mitsuhiro (2002a), "The Role of Subcontracting in SME Development in Indonesia: Micro-Level Evidence from the Metalworking and Machinery Industry", *Journal of Asian Economics* 13, no 1: 1-26.

Hayashi, Mitsuhiro (2002b),"SME Development and Subcontracting in Indonesia: A Comparison with Japan's Historical Experience", mimeo. Canberra: School of Economics, Faculty of Economics and Commerce, Australian National University.

Hayashi, Mitsuhiro (2002c)," Development of SMEs in the Indonesian Economy", mimeo. Canberra: School of Economics, Faculty of Economics and Commerce, Australian National University.

Hill, Hall (1997), *Indonesia's Industrial Transformation*, Singapore: Institute of Southeast Asian Studies, and Sydney: Allen and Unwin.

Hill, Hal (2001), "Small and Medium Enterprises in Indonesia: Old Policy Challenges for a New Administration", *Asian Survey* 41, no. 2: 67-80.

Iman, M. S. and Nagata, A. (2002), "Institutional Coordination Problem. An Obstruction to Promotion of Industrial Backward Linkages", mimeo. Japan: School of Knowledge Science Japan Advanced Institute of Science and Technology, Tatsunokuchi.

Jang, Jae-Hong (2007), "Regional Innovation System and the Policy Practice –The Korean Case-", mimeo, Seoul: Korea Institute for Industrial Economics and Trade.

JICA (2000), "Study on Inter-firm Linkages and Financial Needs for the Development of Small and Medium Scale Manufacturing Industry in Indonesia", Study Report. Jakarta: Japan International Cooperation Agency in cooperation with PT Kami Karya Nusantara.

Kitabata, T. (1988), "Report on the Subcontracting System in the Indonesian Machinery Industries", Study Report. Tokyo: Japan International Cooperation Agency (JICA).

Knorringa, Peter and Weijland, H. (1993), "Subcontracting - the incorporation of small producers in dynamic industrial networks", *Gender, Small-scale Industry and Development Policy*, eds. I.S.A. Baud and G.A. Bruijne. London: Intermediate Technology Publications.

Klapwijk, Martin (1997), "Rural Industry Clusters in Central Java, Indonesia. An Empirical Assessment of their Role in Rural Industrialization", Tinbergen Institute Research Series No.153. Amsterdam: Vrije Universiteit.

MoI (1985), "Subcontracting and Local Content Policies", Engineering Subsector Study, Report No.5, May, Jakarta: Directorate General of Machinery and Basic Metal Industry, Ministry of Industry.

Pantjadarma, Derry (2004), "The Potential Role for An ICT Entrepreneur in Accelerating SME Development in Indonesia: The Case of the Metal Working Industries in Tegal", *Journal of International Business and Entrepreneurship Development* 2, no.2 (Special Issue): 17-24.

Sandee, Henry (1994), "The Impact of Technological Change on Interfirm Linkages. A Case Study of Clustered Rural Small-Scale Roof Tile Enterprises in Central Java", in *Flexible Specialization. The Dynamics of Small-Scale Industries in the South*, eds. P.O. Pedersen, A. Sverrisson, and M.P. van Dijk. London: Intermediate Technology Publications.

Sandee, Henry (1995), "Innovation Adoption in Rural Industry: Technological Change in Roof Tile Clusters in Central Java, Indonesia", unpublished PhD dissertation. Amsterdam: Vrije Universiteit.

Sandee, Henry (1996), "Small-Scale and Cottage Industry Clusters in Central Java: Characteristics, Research Issues, and Policy Options", paper presented at the International Seminar on Small Scale and Micro Enterprises in Economic Development Anticipating Globalization and Free Trade, November 4-5. Salatiga: Satya Wacana Christian University.

Sandee, Henry, P. Rietveld, Hendrawan Supratikno, and P. Yuwono (1994), "Promoting Small Scale and Cottage Industries. An Impact Analysis for Central Java", *Bulletin of Indonesian Economic Studies* 30, no. 3: 115-142.

Sandee, Henry, Roos Kities Andadari and Sri Sulandjari (2000), "Small Firm Development during Good Times and Bad: The Jepara Furniture Industry", in *Indonesia in Transition: Social Aspects of Reformasi and Crisis*, eds. C. Manning and P. van Dierman. Canberra: Indonesia Assessment Series,

Research School of Pacific and Asian Studies, Australian National University, and Singapore: Institute of Southeast Asian Studies.

Sandee, Henry, B. Isdijoso, and Sri Sulandjari (2002), *SME clusters in Indonesia: An analysis of growth dynamics and employment conditions*, Jakarta: International Labor Office (ILO).

Sato, Yuri (1998a), "The transfer of Japanese management technology to Indonesia', in *Indonesia's Technological Challenge*, eds. Hill, Hal and Thee Kian. Canberra: Research School of Pacific and Asian Studies, Australian National University, and Singapore: Institute of Southeast Asian Studies.

Sato, Yuri (1998), "The Machinery Component Industry in Indonesia: Emerging Subcontracting Networks," in *Changing Industrial Structures and Business Strategies in Indonesia*, ed. Sato, Y. Tokyo: Institute of Developing Economies.

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

SRI International (1992), "Technology Development Plan for Indonesia's Engineering Industries", draft final report for the Ministry of Industry, Republic of Indonesia, Jakarta.

Supratikno, Hendrawan (1998), "Competitive Strategy, Production Organization and Inter-firm Collaboration: A Case Study of Subcontracting Arrangements in Three Manufacturing Firms in Indonesia", unpublished PhD thesis, Amsterdam: Vrije Universiteit.

Supratikno, Hendrawan (2001), "Subcontracting Relationship in Indonesian Manufacturing Firms", *Gadjah Mada International Journal of Business*, 3(2): 115-127

Supratikno, Hendrawan (2002), "The Strategies of Cluster Upgrading in Central Java", A Preliminary Report to Depperindag, Salatiga.

Sutton, John (1998), *Technology and Market Structure,* MIT Press.

Urata, Shujiro (2000), "Policy Recommendations for SME Promotion in Indonesia," report to the Coordination Ministry of Economy, Finance and Industry, Jakarta.

TAF (2000), "Strategic Alliances and Development of Small and Medium-Scale Enterprises in Indonesia", Final Report, May, Jakarta: The Asia Foundation.

Tambunan, Tulus T.H. (1994), *The Role of Small-Scale Industries in Rural Economic Development. A Case Study in Ciomas Subdistrict, Bogor District, West Java, Indonesia*, Amsterdam: Thesis Publishers.

Tambunan, Tulus T.H. (2000), *Development of Small-Scale Industries during the New Order Government in Indonesia*, Aldershot: Ashgate.

Tambunan, Tulus (2006), *Development of Small and Medium Enterprises in Indonesia from the Asia-Pacific Perspective*, Jakarta: LPFE-Usakti.

Thee Kian Wie (1985), "Kaitan-Kaitan Vertikal Antar Perusahaan dan Pengembangan Sistem Subkontraktor di Indonesia: Beberapa Hasil Studi Permulaan (Vertical Inter-firm Linkages and the Development of Subcontracting System in Indonesia: Some Case Studies)," *Masyarakat Indonesia* 12, no.3: 219-31.

Thee Kian Wie (1990a), “Indonesia: technology transfer in the manufacturing industry”, in *Technological Challenge in the Asia Pacific Economy*, eds. Hadi Soesastro and Mari Pangestu. Sydney, Allen & Unwin.

Thee Kian Wie (1990b), “Prospects for Cooperation in Technology”, in *Cooperation in Small and Medium-Scale Industries in ASEAN*, eds. Kim Seung Jin and Suh Jang Won. Kuala Lumpur: Asian and Pacific Development Centre.

Thee Kian Wie (1993), “Industrial Structure and Small and Medium Enterprises Development in Indonesia”, EDI Working Paper. Washington, D.C.: World Bank.

Thee Kian Wie (1997), “The Development of the Motor Cycle Industry in Indonesia”, in *Waves of Change in Indonesia's Manufacturing Industry*, eds. Mari E. Pangestu and Yuri Sato. Tokyo: Institute of Developing Economies (IDE).

Van Dierman , Peter (1997), *Small Business in Indonesia*, Aldershot: Ashgate Publishing.

Chapter 5

PRODUCTIVITY GROWTH, INNOVATION AND CATCHING-UP OF MEDIUM-SIZED ENTERPRISES IN INDONESHIA: A NONPARAMETRIC APPROACH

Kazuhiko Yokota

Abstract

This paper analyzes the productivity growth, technical efficiency, and technological changes in Indonesia's manufacturing sector. Using establishment-level industrial census, I showed the details of the productivity change, innovation, and catch-up performances of four sectors—apparel, general machinery, electric machinery, and motor vehicles. Then I identified the factors affecting the firms' performance. The results showed that globalization matters for mainly large enterprises in the electrical machinery and motor vehicle industries while medium-sized enterprises are not deeply affected by trade and investment liberalization.

INTRODUCTION

Although the relationship between small and medium-sized enterprises (SMEs) and economic growth is not obvious,[1] many industries in developing countries are SMEs, and the importance of SME policies has long been discussed. Among the proSME arguments are that SMEs are generally more productive than large firms, but the financial market for them is inadequate, which hampers their development. If this view is correct, enhancing competition and/or boosting entrepreneurship policies should benefit SMEs' productivity growth and efforts to innovate and catch up. SMEs, however, have been sluggish in many developing countries, and they have never been a driving force historically.

As Beck (2003) summarized, a growing body of microeconomic evidence does not support the view that SMEs are important in job creation and that they are more innovative than large enterprises. The latter view is consistent with the evidence in international trade literature that addresses the importance of openness to the world market for technology transfer. In other words, countries that are open to international trade tend to have larger firms than countries that are less open to the world market.

Economic theory advocates that market failure is the main economic reason for government intervention. Behind this rationale, there is the view that greater competitiveness leads to more efficient market structures. However, this "perfect competition" view is not observed even in developed countries. Therefore, sources of SME efficiency are particularly important for SME policy arguments.

Thus far, there is no concrete consensus on the relationship between SMEs and productivity. This paper analyzes the structure of SMEs in Indonesia's apparel, general machinery, electrical machinery, and motor vehicle industries in terms of productivity, innovativeness, and their catching-up processes. The study also shows the characteristics of firms in each sector in terms of ownership structure and degree of competition. Investigation of SMEs in four Indonesian manufacturing industries is the first purpose of the study while the second is to determine the productivity and innovation activities these SMEs undertake.

As mentioned above, SMEs, in general, have weak connections to the world market, so technical progress through technology transfer hardly happens in SMEs. This view is now becoming common among international economists. To test this hypothesis, I estimated the impact of international trade on productivity growth, technical change, and technical efficiency.

The remainder of the paper is organized as follows. I present the structure of the data and methodology used here in Section 1. Section 2 describes in greater detail the productivity growth, innovativeness, and catching-up effects in the apparel, general machinery, electric machinery, and motor vehicle industries. I also discuss the results of productivity growth in Section 2. Section 3 presents the empirical results and discusses what causes productivity growth and technical efficiency. Section 4 concludes. The detailed methodology is described in the appendix.

2. DATA AND METHODOLOGY

2.1 Data

The Indonesian economy has been sluggish since the Asian Crisis of 1997 and has not recovered to precrisis levels since then. The Asian Crisis had a severe impact on not only SMEs but also on large enterprises, including foreign companies. In Indonesia, more than 95 percent of businesses with less than five employees are microenterprises while SMEs account for 4.3 percent of the total economy.[2] This is a typical example of the "missing middle." As Harvie (2004) noted, this contrasts with the more developed economies where medium-sized enterprises contribute significantly to employment and are a major source of high growth. This is partly the reason why the promotion of SMEs is thought to be indispensable for economic growth in developing countries.

Indonesian manufacturing censuses have been compiled and provided by the Bureau of Statistics Indonesia. Although long series of Indonesian manufacturing censuses is available, the common identifier after 2001 exists only in years 2002 and 2003. In other words, panel data are available from 2002 to 2003. Since I am interested in productivity and efficiency *changes,* not the level of them, in this study, I made and used a panel data set from these two successive years.[3]

Unfortunately, however, the census does not provide information on enterprises with less than 20 employees, so this study deals with medium- (between 20 and 99 employees) and large-sized (more than or equal to 100 employees) establishments. I will use "ME" as an abbreviation for medium-sized enterprise hereafter. Table 1 shows the share of ME and the market concentration of the top four firms in each industry.

Table 1: Share of ME and Market Concentration

	Share of ME		Concentration Ratio
2003	Output Share	Employment Share	
Apparel	4.37%	9.33%	13.30%
Genaral Machinery	27.43%	20.45%	40.27%
Electronic Machinery	3.95%	6.25%	37.53%
Motor Vehicles	3.32%	6.11%	46.80%

Note: "Concentration Ratio" is the percentage of the top four establishments' output in the total output of each industry.

Reflecting the "missing middle," the shares of ME both in terms of output and employment are small.

Apparel industry has a relatively low concentration ratio, 13.3 percent, which indicates that the market is more competitive than other industries. It can be inferred that small (less than 20 employees) enterprises are dominant in this industry. The motor vehicle industry has the highest concentration ratio of 46.8 percent among the four industries. A few large enterprises consisting mainly of car assemblers dominate the market. Reflecting the high concentration, the shares of MEs are lowest among the four industries. On the other hand, the general machinery industry has a relatively high ME share of more than 20 percent both in terms of output and employment. The top four output concentration ratio is 40.27 percent in general machinery, which is the second highest in the sample industries.

2.2 Methodology

There are roughly two ways to calculate total factor productivity (TFP).[4] These are the nonfrontier and the frontier approaches. A typical method in nonfrontier approaches is the growth accounting method, including a Solow residual. In growth accounting TFP, there are no restrictions of profit maximization, perfect competition, or other optimality conditions on estimation. However, information about input factor shares is needed. This information is very difficult to obtain especially in developing countries.

On the other hand, frontier approaches estimate the "best practice" or "benchmarking performance" among decision making units (DMUs). The two ways to measure a "best practice" are through the data envelopment approach (DEA) and the stochastic frontier approach (SFA)[5] Assuming the existence of technical inefficiency for each DMU, the frontier approach provides a better methodology for benchmarking economic performance. DEA is a nonparametric method that does not need to assume any functional forms while SFA is a parametric method requiring one functional form for estimating a best practice.[6] DEA rather than SFA is used in this study since only a two-year (strongly balanced) panel data set is available, and this is too short to estimate reliable coefficients on production functions. DEA makes it possible to decompose TFP growth into efficiency change and technical change.[7]

2.3 Characteristics of Industries

To calculate the frontier in DEA, I used each establishment's value-added as output and labor and capital as inputs. Table 2 shows the growth rates of each variable from 2002 to 2003 for four industries by size of establishments. In the samples, the apparel industry absorbs more employees than the general machinery, electrical machinery, and motor vehicle industries. There are also more medium-sized firms than large-sized firms in the apparel and machinery industries. On the other hand, in the electrical machinery and motor vehicle industries, the number of large-sized firms is greater than that of medium-sized firms.[8] In the apparel industry, the growth rates of value-added in both medium- and large-sized firms are almost same (5.5 percent and 5.6 percent, respectively) while the growth rates of labor and capital are negative for both medium- and large-sized firms. This indicates that there must have been productivity progress from 2002 to 2003. Medium-sized firms in the general machinery industry have positive growth rates for value-added and labor but negative growth rates in capital. In the electrical machinery industry, the growth rates of value-added and capital were negative no matter how large the firms are. Negative growth rates in capital suggest the severe negative impact of the 1997 Asian Crisis. In fact, the Indonesian economy did not begin to recover from the crisis until after 2005. The growth rates of value-added and capital in the motor vehicle industry are relatively high. The growth rate of value-added in large-sized firms may largely be explained by capital investment rather than productivity improvement.

Table 3 shows the firms' status, such as trade and ownership structure, by industry. It is interesting to note that almost all of the medium-sized firms are national private while more than 45 percent of large-sized general and electrical machinery firms are foreign. Central or local government firms are very rare in Indonesia.

Table 2: Growth Rates of Value-added, Labor, and Capital, 2002-2003

		Value Added		Labor		Capital	
	Sample	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Apparel (Medium)	520	0.05660	0.54276	-0.01016	0.21888	-0.03926	0.54648
Apparel (Large)	218	0.05550	0.70398	-0.00282	0.22390	-0.13557	1.05563
General Machinery (Medium)	87	0.07062	0.51837	0.01803	0.13988	-0.05832	0.53048
General Machinery (Large)	53	-0.13294	0.70145	-0.00305	0.10232	-0.05738	0.41724
Electrical Machinery (Medium)	34	-0.01597	0.39077	0.01839	0.09192	0.08834	0.37595
Electrical Machinery (Large)	52	-0.01807	0.55584	0.01301	0.10945	-0.14145	0.97179
Motor Vehicles (Medium)	43	0.04617	0.55436	-0.02140	0.11535	0.11036	0.56887
Motor Vehicles (Large)	56	0.03218	0.47551	0.05196	0.22997	0.20849	0.98126

Source: Author's calculation from the industrial census of Indonesia 2002 and 2003, Badan Pusat Statistik.

Table 3: Firms' Ownership Structure by Industry in 2003

	Sample	Export	Import	Central Government	Local Government	Natioanl Private	Foreign
Apparel (Medium)	520	92	73	0	13	504	3
Share		17.7%	14.0%	0.0%	2.5%	96.9%	0.6%
Apparel (Large)	218	99	111	0	29	137	52
Share		45.4%	50.9%	0.0%	13.3%	62.8%	23.9%
General Machinery (Medium)	87	8	18	0	3	74	10
Share		9.2%	20.7%	0.0%	3.4%	85.1%	11.5%
General Machinery (Large)	53	8	36	2	7	20	24
Share		15.1%	67.9%	3.8%	13.2%	37.7%	45.3%
Electrical Machinery (Medium)	34	0	11	0	3	29	2
Share		0.0%	32.4%	0.0%	8.8%	85.3%	5.9%
Electrical Machinery (Large)	52	16	36	0	2	26	24
Share		30.8%	69.2%	0.0%	3.8%	50.0%	46.2%
Motor Vehicles (Medium)	43	1	5	0	0	40	3
Share		2.3%	11.6%	0.0%	0.0%	93.0%	7.0%
Motor Vehicles (Large)	56	5	34	0	4	36	16
Share		8.9%	60.7%	0.0%	7.1%	64.3%	28.6%

Source: Author's calculation from the industrial census of Indonesia 2002 and 2003, Badan Pusat Statistik.

3. PRODUCTIVITY CHANGE, INNOVATION, AND CATCHING-UP

The DEA method makes it possible to decompose TFP into efficiency change and technical change. The DEA results are reported in Table 4. TFP is measured using Malmquist production index in DEA panel data analysis. The details of DEA, Malmquist production index, and its decomposition are in the appendix. Values in TFP growth imply that medium-sized apparel firms, for example, grew 0.8 percent (1.008-1.000) from 2002 to 2003. The productivity of medium-sized firms in the apparel, general machinery, and motor vehicle industries improved from 2002 to 2003. On the other hand, the productivity of large-sized firms in the general machinery and motor vehicle industries deteriorated during the same period.

Malmquist TFP growth index can be decomposed into efficiency change and technical change. TFP is the product of efficiency change and technical change. Values in efficiency and technical changes imply that exceeding unity means improvement in efficiency and/or technical change. Table 4 shows that medium- and large-sized apparel firms improved TFP by 0.8 percent and 0.4 percent, respectively, which is due to improvements in efficiency. Technical change in the apparel industry actually shows negative growth because the values in technical change are less than unity. There is a sharp contrast between medium- and large-sized firms in the machinery industry. Medium-sized firms have a positive TFP growth on average, which is due to a positive efficiency change while large-sized firms have a negative TFP growth on average, which is due to a negative efficiency change. Medium-sized firms in the electrical machinery industry have a negative TFP growth on average, which can be attributed to the deterioration of efficiency. A positive TFP growth of 0.6 percent per annum in medium-sized firms in the motor vehicle industry is due mainly to the improvement in technical change.

The rate of change in efficiency indicates that the firm's performance is moving toward the best practice, namely, the frontier. In this sense, this improvement can be recognized as the process of "catching-up" or "diffusion of technology." On the other hand, the technical change component of productivity growth captures shifts in the

Table 4: Decomposition of Productivity Changes by Size

	Sample	TFP	Efficiency Change	Technical Change	Pure Efficiency Change	Scale Change
Apparel (Medium)	520	1.008	1.009	0.999	1.024	0.986
Apparel (Large)	218	1.004	1.017	0.988	1.028	0.989
General Machinery (Medium)	87	1.003	1.030	0.974	1.007	1.023
General Machinery (Large)	53	0.994	0.993	1.001	0.981	1.012
Electrical Machinery (Medium)	34	0.995	0.983	1.012	1.010	0.974
Electrical Machinery (Large)	52	1.000	1.001	0.999	1.000	1.002
Motor Vehicles (Medium)	43	1.006	0.993	1.013	0.992	1.001
Motor Vehicles (Large)	56	0.991	0.993	0.998	0.999	0.994

Note: TFP is measured by Malmquist productivity index. See the text for detailed explanation.

Source: Author's calculation

Table 5: Decomposition of Productivity Changes in Medium-Sized Enterprises by TFP Level

		Sample	TFP	Efficiency Change	Technical Change	Value Added	Labor	Capital
Apparel (Higher)	Mean	284	1.04124	1.04117	1.00017	0.27598	-0.06572	-0.15515
	Standard Deviation		0.04469	0.04559	0.01348	0.51953	0.23258	0.49503
Apparel (Lower)	Mean	236	0.96908	0.97089	0.99824	-0.20740	0.05670	0.10019
	Standard Deviation		0.03396	0.03534	0.00967	0.44431	0.18012	0.57330
General Machinery (Higher)	Mean	54	1.02867	1.05502	0.97513	0.29613	-0.01316	-0.13701
	Standard Deviation		0.02679	0.02872	0.00743	0.42375	0.10694	0.55660
General Machinery (Lower)	Mean	33	0.96336	0.99185	0.97130	-0.29840	0.06907	0.07044
	Standard Deviation		0.02570	0.02563	0.00698	0.44553	0.17122	0.46436
Electrical Machinery (Higher)	Mean	16	1.01488	1.00169	1.01338	0.19993	0.00306	-0.00842
	Standard Deviation		0.00658	0.00815	0.00622	0.25203	0.06761	0.15460
Electrical Machinery (Lower)	Mean	18	0.97817	0.96767	1.01089	-0.20789	0.03202	0.17436
	Standard Deviation		0.02844	0.02768	0.00611	0.39687	0.10931	0.48645
Motor Vehicles (Higher)	Mean	31	1.02587	1.01300	1.01281	0.24517	-0.01786	0.08452
	Standard Deviation		0.02813	0.03228	0.01139	0.39661	0.10947	0.60398
Motor Vehicles (Lower)	Mean	12	0.95775	0.94442	1.01433	-0.46791	-0.03054	0.17712
	Standard Deviation		0.04875	0.04954	0.01106	0.58693	0.13414	0.48373

Note: Values of ‘Value Added,’ ‘Labor,’ and ‘Capital’ are expressed in growth rates.

frontier of technology, providing a natural measure of "innovation." The catching-up process (positive efficiency change) can be observed in medium- and large-sized firms in the apparel industry, medium-sized firms in general machinery, and large-sized firms in electric machinery. On the other hand, innovation can be seen in large firms in general machinery, medium-sized firms in electrical machinery, and medium-sized firms in the motor vehicle industry.

Technical change can be further decomposed into two parts: pure efficiency change and scale change. The derivation of this decomposition is found in the appendix.

The result of decomposition of productivity growth of medium-sized firms by TFP level is in Table 5. As expected, industries with higher TFP also have higher efficiency change and higher technical change. However, the degree of the contribution of each factor (efficiency or technical change) varies across industries. For example, the high TFP growth in the apparel industry with higher TFP is attributed more to catching-up or efficiency change while the high TFP growth in electrical machinery is due to innovation or technical change.

Figures 1 to 4 plot the medium-sized firms' performance in TFP growth, efficiency change, and technical change by industry. The horizontal axis stands for each firm's TFP in ascending order. Figure 1 shows the case of the apparel industry. It clearly indicates that TFP growth for almost every firm came from innovation rather than catching-up. Figure 2 shows the trend in the general machinery industry. It is clear from the figure that efficiency changes, i.e., the catching-up effect, exceeds the TFP growth trend. Generally speaking, TFP growth in the general machinery industry is led by the catching-up effect rather than the innovation effect. In Figure 3 of the electrical machinery industry, TFP growth and efficiency changes exhibit a common trend, which indicates that most of the low TFP growth rate (TFP less than unity) is due to low catching-up effect. In other words, the catching-up effect influences the TFP growth of many medium-sized firms negatively in poorer performance firms. TFP growth of high performance firms in the electrical machinery industry is led by both innovation and catching-up effects. Figure 4 plots the TFP growth and two other effects in the motor vehicle industry, indicating that the innovation effect is stronger in firms with relatively lower TFP growth while the catching-up effect is stronger in firms with relatively higher TFP growth.

Figure 1: TFP, Efficiency, and Technological Changes in the Apparel Industry

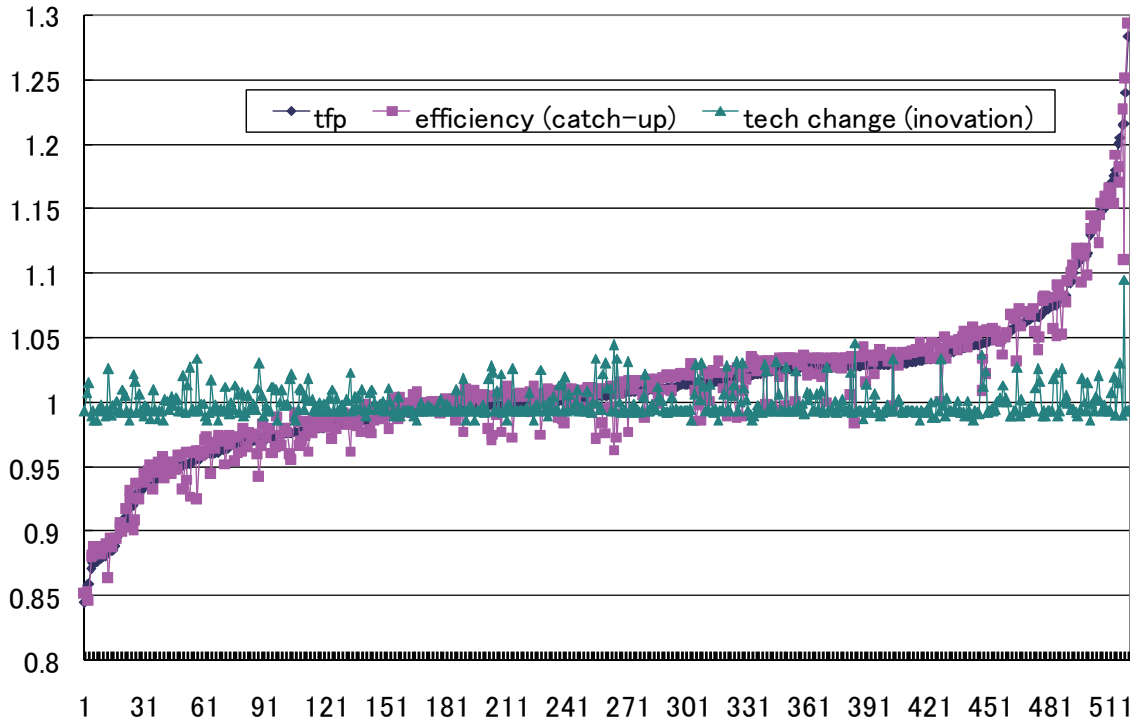


Figure 2: TFP, Efficiency, and Technological Changes in the General Machinery Industry

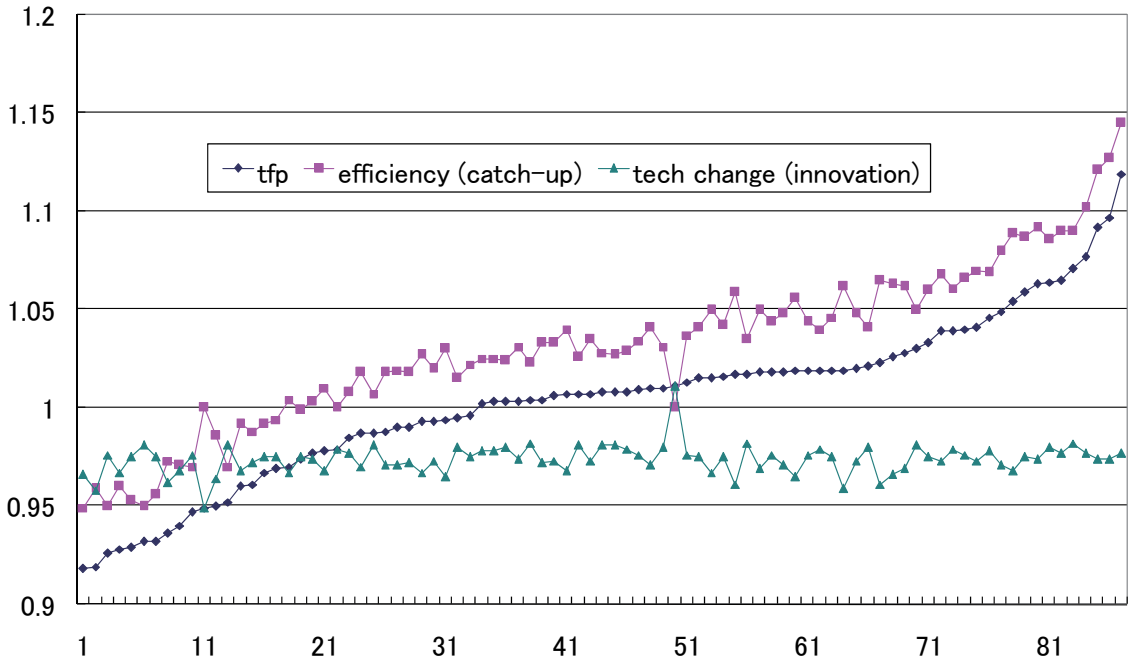


Figure 3: TFP, Efficiency, and Technological Changes in the Electrical Machinery Industry

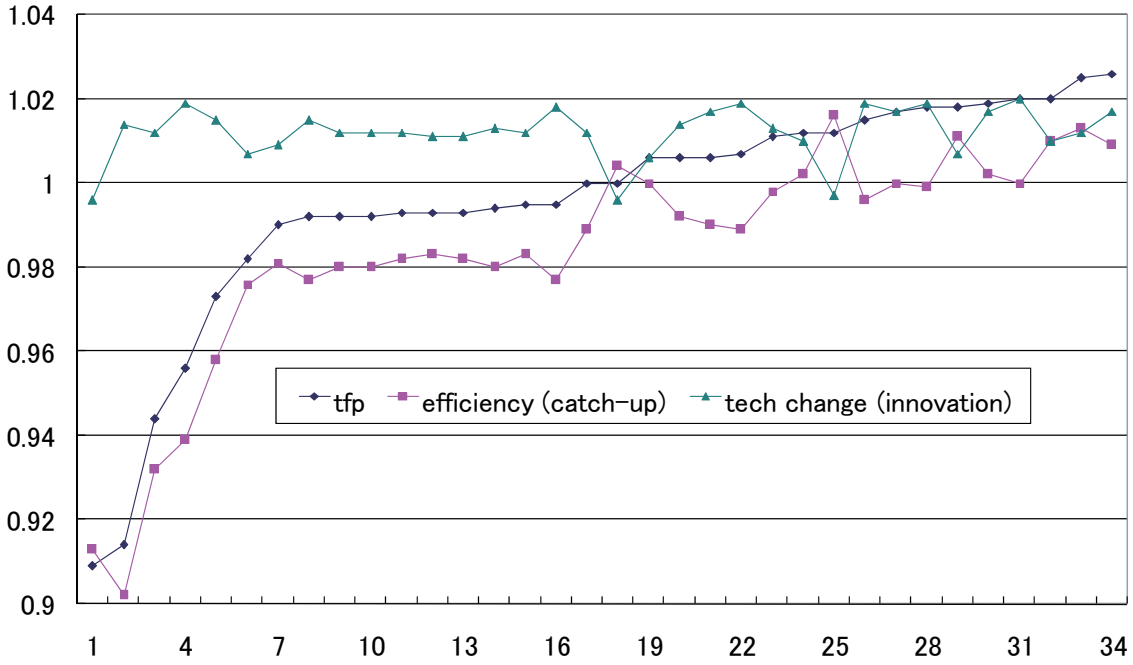
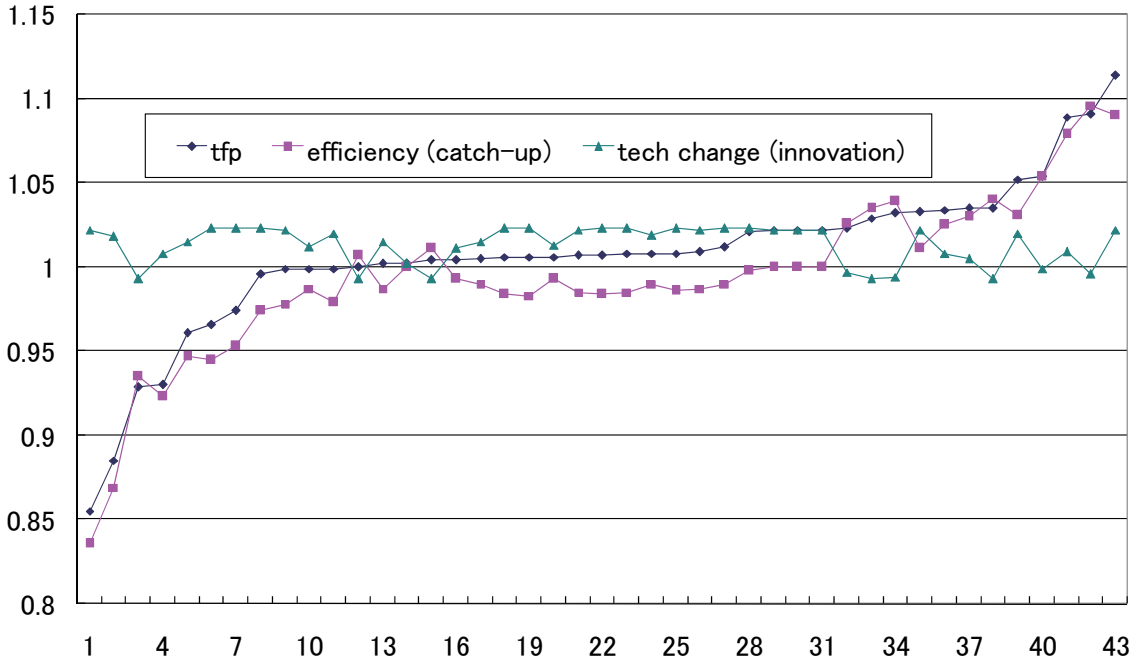


Figure 4: TFP, Efficiency, and Technological Changes in the Motor Vehicle Industry



4. WHAT DETERMINES THE FIRM'S PERFORMANCE?

Table 6 presents the ranking of TFP by each industry, the firms' international activities and ownership structure, and their TFP growth. In the apparel industry, all firms in the top and bottom 10 are national private and do not import. It is also clear that the ranking of TFP growth follows the ranking of efficiency change, namely, the catching-up effect.

In the machinery industry, firms with higher TFP ranking tend to have high efficiency change. In other words, the catching-up effect prevails in high-rank TFP firms. On the other hand, firms with the low TFP ranking tend to have low catching-up as well as low innovation effects. There seems to be no difference between firms with high and low TFP ranking in terms of trade and ownership structures. Foreign firms are included among those with higher and lower TFP rankings, and there is no clear evidence that foreign firms are more productive than local firms.

In the electrical machinery industry, innovation (technical change) is very high in both higher- and lower-ranking firms; hence, only the catching-up effect explains the level of TFP growth in this industry.

The ranking in the motor vehicle industry is interesting because it shows that firms with higher TFP growth are likely to have a relatively high innovation effect while the catching-up effect mainly explains the level of TFP growth.

Foreign factors including international trade and foreign direct investment (FDI) affect industry growth in many ways. Importing intermediate goods gives knowledge about new technology while import competition improves domestic market distortions. On the other hand, competition may drive inefficient local firms out of the market, producing temporary unemployment. As for the effects of export, there is no clear evidence that export improves productivity. Empirical results suggest that efficient firms export, but not vice versa. FDI has many channels to improve local firms' productivity. The spillover effect of technology transfer is most important especially for developing countries. However, a growing body of empirical studies suggests that the spillover effect may not exist between a developed country's FDI and a developing country's local firms. Other important effects of FDI include an expanding demand for local firms through the creation of backward linkages and jobs. Foreign firms

Table 6: Ranking of Productivity Apparel

Ranking	TFP	Eff Change	Tech Change	Pure Eff Change	Scale Eff Change	Export	Import	Central Government	Local Governmen t	National Private	Foreign
Top 10											
1	1.283	1.293	0.993	1.227	1.054	0	0	0	0	100	0
2	1.240	1.250	0.993	1.259	0.992	0	0	0	0	100	0
3	1.216	1.110	1.095	1.000	1.110	0	0	0	0	100	0
4	1.214	1.226	0.990	1.190	1.031	0	0	0	0	100	0
5	1.205	1.170	1.030	1.159	1.009	0	0	0	0	100	0
6	1.200	1.182	1.015	1.187	0.996	1	0	0	0	100	0
7	1.180	1.192	0.990	1.164	1.024	0	0	0	0	100	0
8	1.175	1.153	1.019	1.191	0.968	0	0	0	0	100	0
9	1.170	1.162	1.007	1.154	1.007	0	0	0	0	100	0
10	1.158	1.166	0.993	1.276	0.914	0	0	0	0	100	0
Bottom 10											
520	0.845	0.851	0.993	0.857	0.993	0	0	0	0	100	0
519	0.858	0.852	1.007	0.944	0.903	1	0	0	0	100	0
518	0.859	0.846	1.015	0.817	1.035	0	0	0	0	100	0
517	0.871	0.880	0.989	0.941	0.936	0	0	0	0	100	0
516	0.875	0.881	0.993	0.910	0.968	0	0	0	0	100	0
515	0.875	0.887	0.986	0.827	1.073	0	0	0	0	100	0
514	0.876	0.889	0.986	0.940	0.946	0	0	0	0	100	0
513	0.879	0.884	0.994	0.986	0.897	0	0	0	0	100	0
512	0.879	0.882	0.997	0.853	1.034	0	0	0	0	100	0
511	0.880	0.886	0.993	0.919	0.964	0	0	0	0	100	0

Table 6: Ranking of Productivity (cont.)

General Machinery

Ranking	TFP	Eff Change	Tech Change	Pure Eff Change	Scale Eff Change	Export	Import	Central Government	Local Government	National Private	Foreign
Top 10											
1	1.119	1.145	0.977	1.142	1.003	0	99.9	0	0	100	0
2	1.097	1.127	0.974	1.059	1.064	1	2.6	0	0	25	75
3	1.092	1.121	0.974	1.096	1.023	0	0	0	0	100	0
4	1.077	1.102	0.977	1.073	1.027	0	0	0	0	51	49
5	1.071	1.090	0.982	1.034	1.055	1	100.0	0	0	40	60
6	1.065	1.090	0.977	1.082	1.008	0	0	0	0	100	0
7	1.064	1.086	0.980	1.079	1.006	0	0	0	0	100	0
8	1.063	1.092	0.974	1.054	1.036	0	0	0	0	100	0
9	1.059	1.087	0.975	1.059	1.027	0	0	0	0	100	0
10	1.054	1.089	0.968	1.000	1.089	0	0	0	0	100	0
Bottom 10											
87	0.918	0.949	0.966	0.919	1.034	0	0	0	0	100	0
86	0.919	0.959	0.958	1.000	0.959		0	0	0	100	0
85	0.926	0.950	0.976	0.970	0.979		0	0	100	0	0
84	0.928	0.960	0.967	0.930	1.032	0	33.3	0	0	100	0
83	0.929	0.953	0.975	0.921	1.035		48.0	0	0	51	49
82	0.932	0.950	0.981	0.899	1.057		0	0	0	0	100
81	0.932	0.956	0.975	0.903	1.059		97.3	0	0	45	55
80	0.936	0.973	0.962	0.975	0.998	0	0	0	0	100	0
79	0.940	0.971	0.968	0.980	0.991	0	0	0	0	100	0
78	0.947	0.970	0.976	0.960	1.011	1	37.4	0	0	100	0

Table 6: Ranking of Productivity (cont.)

Electrical Machinery

Ranking	TFP	Eff Change	Tech Change	Pure Eff Change	Scale Eff Change	Export	Import	Central Government	Local Government	National Private	Foreign
Top 10											
1	1.026	1.009	1.017	1.000	1.009	0	0	0	0	100	0
2	1.025	1.013	1.012	1.060	0.956	0	45.7	0	0	100	0
3	1.020	1.000	1.020	1.000	1.000		100.0	0	0	0	100
4	1.020	1.010	1.010	1.010	1.000		0	0	0	100	0
5	1.019	1.002	1.017	1.069	0.937		62.2	0	0	100	0
6	1.018	0.999	1.019	1.072	0.932		62.7	0	0	100	0
7	1.018	1.011	1.007	1.060	0.954	0	0	0	0	100	0
8	1.017	1.000	1.017	1.000	1.000		0	0	100	0	0
9	1.015	0.996	1.019	1.053	0.946	0	0	0	0	100	0
10	1.012	1.016	0.997	0.991	1.025	0	0	0	0	100	0
Bottom 10											
34	0.909	0.913	0.996	0.971	0.940	0	8.0	0	0	100	0
33	0.914	0.902	1.014	0.914	0.987	0	0	0	0	100	0
32	0.944	0.932	1.012	1.035	0.901	0	48.5	0	0	100	0
31	0.956	0.939	1.019	0.995	0.944	0	0	0	0	100	0
30	0.973	0.958	1.015	0.998	0.960	0	71.7	0	0	100	0
29	0.982	0.976	1.007	1.040	0.938	0	0	0	0	100	0
28	0.990	0.981	1.009	1.018	0.964	0	0	0	0	100	0
27	0.992	0.977	1.015	0.974	1.003		0	0	0	100	0
26	0.992	0.980	1.012	0.994	0.985	0	0	0	0	100	0
25	0.992	0.980	1.012	1.012	0.968	0	0	0	0	100	0

Table 6: Ranking of Productivity (cont.)

Motor Vehicles

Ranking	TFP	Eff Change	Tech Change	Pure Eff Change	Scale Eff Change	Export	Import	Central Government	Local Government	National Private	Foreign
Top 10											
1	1.114	1.090	1.022	1.041	1.048	0	96.0	0	0	100	0
2	1.091	1.096	0.996	1.079	1.016	0	0	0	0	100	0
3	1.089	1.079	1.009	1.038	1.040	0	0	0	0	100	0
4	1.054	1.054	0.999	1.181	0.893	0	0	0	0	100	0
5	1.052	1.031	1.020	0.809	1.275	0	0	0	0	100	0
6	1.035	1.030	1.005	1.026	1.004	0	0	0	0	100	0
7	1.035	1.041	0.993	1.015	1.026	0	0	0	0	100	0
8	1.034	1.025	1.008	1.015	1.011	0	0	0	0	100	0
9	1.033	1.011	1.022	1.038	0.974	0	0	0	0	100	0
10	1.032	1.039	0.994	1.030	1.009	0	0	0	0	100	0
Bottom 10											
43	0.855	0.836	1.022	0.884	0.946	0	0	0	0	100	0
42	0.885	0.869	1.018	0.867	1.003	0	0	0	0	100	0
41	0.929	0.935	0.993	0.908	1.029	0	0	0	0	100	0
40	0.930	0.923	1.008	0.926	0.997	0	0	0	30	70	0
39	0.961	0.947	1.015	0.927	1.021	0	0	0	0	100	0
38	0.966	0.945	1.023	0.948	0.997	0	0	0	0	100	0
37	0.974	0.953	1.023	0.966	0.986	0	0	0	0	100	0
36	0.996	0.974	1.023	0.987	0.987	0	0	0	0	100	0
35	0.999	0.978	1.022	1.000	0.978		0	0	0	100	0
34	0.999	0.987	1.012	0.987	1.000	0	0	0	0	100	0

subcontract part of their production to local firms. However, foreign firms usually subcontract either to large local firms only or to subcontractors from the foreign firm's country. The last effect of FDI is that it drives inefficient, usually small- or medium-sized firms, out of the market. This makes the market more productive by enabling only the more efficient firms to survive. On the downside, this also causes frictional unemployment in which case the government should pay adjustment costs, such as education or training schemes for the unemployed.

The next question to be asked about the productivity of medium-sized enterprises is what factors determine the level of TFP growth. Table 7 reports the summary of regression results. Only estimated coefficients of the regression are reported. The regression equation used is as follows:

$$TFP_{it} = \beta_0 + \beta_1 Export_{it} + \beta_2 Import_{it} + \beta_4 Foreign_{it} + \varepsilon_{it},$$

where *TFP* stands for TFP growth rate; *Export* and *Import* are independent variables expressing the exporting and importing activities of a firm *i* at time *t*; and *Foreign* means a firm with more than 50 percent foreign shareholders for firm *i* and time *t*. The variable ε_{it} is the error term that satisfies ordinary conditions. Dependent variables include TFP growth, efficiency change, and technical change. The independent variable *Export* is measured 0-1, i.e., taking 1 if they export, 0 otherwise. The other independent variables, *Import* and *Foreign,* are also binary variables.

Table 7: Determinants of Productivity Changes (Significant Variables)

	TFP	Eff Change	Tech Change
Export	Electrical-Large (0.025)**	Electrical-Large (0.023)**	
Import			Apparel-Medium (0.006)** Apparel-Large (0.004)*
Foreign	Vehicle-Large (0.046)*	Vehicle-Large (0.047)**	

Note: Values in parentheses are coefficients of regression.
** statistically significant at the 1%;
* significant at the 5% level.

The results of the regression exercise can be summarized as follows:

1. Export and foreign ownership positively affect TFP and efficiency change only in large firms.
2. Import affects technical change in both medium- and large-sized firms in the apparel industry. However, the coefficients are very small.
3. Globalization can have a positive impact only on large-sized firms.

5. CONCLUSION AND GENERAL LESSONS

This paper examined the productivity growth of firms in Indonesia's apparel, machinery, electrical machinery, and motor vehicle industries in the period following the Asian Crisis of 1997. The main findings are that TFP growth in the apparel and machinery industries is determined mainly by catching-up effects while innovation does the same for the electrical machinery and motor vehicle industries. However, the liberalization of trade and investment has limited impact on TFP growth as well as on efficiency and technical changes. Trade and investment liberalization exerts an impact only on large-sized firms in the electrical machinery and motor vehicle industries. While importing materials affects technical change (innovation) in medium-sized apparel firms, the effect is very small.

Indonesian SMEs (and perhaps SMEs in many Asian developing countries as well) can be characterized as having a "missing middle," as "rarely exporting nor importing," and as operating under "local ownership." A growing body of empirical studies suggests that positive effects of globalization, including FDI, occur basically only for large-sized firms, not for SMEs. Based on this observation and the empirical results obtained from the study, the findings can be distilled thus: Catching-up effects dominate in the apparel and machinery industries while the innovation effect dominates in the electrical machinery and motor vehicle industries. This study recommends that the apparel and machinery industries improve efficiency by introducing quality control (QC) and providing appropriate training to workers. For the electrical machinery and motor vehicle industries, there is a need to promote research and development (R&D) and industry-university cooperation.

Because trade and investment liberalization impacts only large-sized firms, it is necessary for the government to pay the adjustment costs of globalization for dropped-out SMEs in order to restructure the economy.

APPENDIX

The frontier (either parametric or nonparametric) approach provides a better methodology for benchmarking economic performance because it shows both technical efficiency and technical progress. This appendix briefly explains the idea of the nonparametric frontier approach, that is, the data envelopment approach (DEA) to estimate total factor productivity (TFP). There are two methods to estimate TFP in the frontier approach. One is DEA and the other is the stochastic frontier approach (SFA). SFA is based on the parametric method while the DEA is not. Hence, SFA makes it possible to test the estimation results with statistical significance. However, while the SFA must assume some specific functional forms for estimating production (or cost) function, DEA does not need to. DEA's being completely free of specifications of functional forms is one of its attractive features.

The linear programming problem for DEA is described as follows:

$$\begin{aligned} &\min_{\theta,\lambda} \theta \\ &st \; -y_{it} + Y\lambda \geq 0, \\ &\theta x_{it} - X\lambda \geq 0, \\ &\lambda \geq 0 \end{aligned}$$

Where X is K by 1 vector of inputs, Y is M by 1 vector of outputs, y_{it} is the output of i-th and t-period decision making unit (DMU). A θ is a scalar and λ is a N by 1 vector of constants. A θ must satisfy $\theta \leq 1$ and $\theta \leq 1$ indicates a point on the frontier and the DMU producing a good at a technically efficient level. A distance function $D(x, y)$ can be calculated from this linear programming.

The output distance function is defined as

$$D_t(x_t, y_t) = \inf\{\theta : (x_t, y_t / \theta) \in S_t\},$$

where S_t is the production technology set of inputs $x_t \in \Re_+^K$ and of output $y_t \in \Re_+^M$

The output-based Malmquist productivity change index is defined as

$$M(x_{t+1}, y_{t+1}, x_t, y_t) = \left[\left(\frac{D_t(x_{t+1}, y_{t+1})}{D_t(x_t, y_t)}\right)\left(\frac{D_{t+1}(x_{t+1}, y_{t+1})}{D_{t+1}(x_t, y_t)}\right)\right]^{1/2}.$$

Following Fare et al. (1994), the index can be decomposed into two parts:

$$M(x_{t+1}, y_{t+1}, x_t, y_t) = \frac{D_{t+1}(x_{t+1}, y_{t+1})}{D_t(x_t, y_t)}\left[\left(\frac{D_t(x_{t+1}, y_{t+1})}{D_{t+1}(x_{t+1}, y_{t+1})}\right)\left(\frac{D_t(x_t, y_t)}{D_{t+1}(x_t, y_t)}\right)\right]^{1/2}.$$

The first term of the product on the right-hand side indicates the "efficiency change" and the second term (squire bracket) is "technical change" between time *t* and time *t+1*. In the extreme case, for example, if there is no change in inputs and output between the periods, i.e., $x_t = x_{t+1}$ and $y_t = y_{t+1}$, Malmquist index equals 1. In other words, if the Malmquist index is different from unity, productivity must have changed between the observed periods. If the index is greater than 1, the firm's productivity is regarded as having "increased" while if it is less than 1, one can say that productivity has declined from time *t* to time *t+1*. Hence, the Malmquist TFP index is the product of efficiency change and technical change, i.e., $TFP = te \times tc$.

The first term "efficiency" can be broken into two components, i.e., "pure efficiency change" and "scale change." To derive "scale change," an additional restriction (convexity constraint) is placed on the linear programming of distance functions.

$$\min_{\theta,\lambda} \theta$$
$$st \; -y_{it} + Y\lambda \geq 0,$$
$$\theta x_{it} - X\lambda \geq 0,$$
$$N'\lambda = 1$$
$$\lambda \geq 0$$

N is an N by 1 vector of ones. The scale inefficiency can be calculated from the difference between the variable returns to scale technical efficiency and the constant returns to scale technical efficiency scores. The relationship among a pure technical efficiency, scale efficiency, and technical efficiency is as follows:

$$te = pte \times se$$

Where *te* stand for technical efficiency, *pte* expresses pure technical efficiency, and *se* indicates scale efficiency, respectively. Combining this decomposition together with the decomposition of TFP defined above, we finally have the following decomposition formula:

$$TFP = te \times tc = pte \times se \times tc \; .$$

This is the decomposition formula used in this text. A *te* expresses overall inefficiency caused by the technical inefficient operation (*pte*) and at the same time by the disadvantageous scale condition (*se*). More detailed discussion about scale (in)efficiency is found in Cooper et al. (2006).

NOTES

[1] Beck et al. (2003) found that SMEs are associated with growth, but the results are not robust if they control for simultaneity.

[2] See Table 3 in Harvie (2004) and for policy implications of SME in Asia, see Wattanapruttipaisant (2002/2003).

[3] Tambunnan (2008) comprehensively describes Indonesian SMEs in terms of networking and innovativeness.

[4] Total factor productivity is a measure of productivity, considering all explicit input factors while 'partial' productivity is a measure that considers only limited input factors such as labor, capital, and son. A simple example of the latter is labor productivity. TFP is superior to partial productivity indexes for precise evaluations of firms' performance.

[5] Cooper et al. (2006) is an introductory textbook on DEA while Kumbhakar and Lovell (2000) is a detailed textbook for SFA.

[6] Mahadevan (2004) explains the advantages and disadvantages of DEA and SFA.

[7] I use Coelli's (1996) DEAP version 2.1 for calculating Malmquist index and efficiency measures.

[8] Recall that the data are strongly balanced-panel so that new entry and exit firms are not counted here.

REFERENCES

Beck, Thorsten; Demirguc-Kunt, Asli; Levine, Ross (2003), "Small and Medium Enterprises, Growth, and Poverty: Cross-Country Evidence." , World Bank Policy Research Working Paper 3178.

Coelli, Tim J. (1996), "A Guide to DEAP Version 2.1: A Data Envelopment Analysis (Computer) Program," Centre for Efficiency and Productivity Analysis (CEPA) Working Papers, No.8/96. http://www.une.edu.au/econometrics/cepawp.htm

Cooper, William W.; Seiford, Lawrence M.; Tone Kaoru (2006), *Introduction to Data Envelopment Analysis and Its Uses with DEA-Solver Software and References*, Springer.

Fare, Rolf; Grosskopf, Shawna; Norris, Mary; Zhang, Zhongyang (1994), "Productivity Growth, Technical Progress, and Efficiency Change in Industrialized Countries," *American Economic Review*, 84(1), 66-83.

Harvie, Charles (2004), "East Asian SME Capacity Building, Competitiveness and Market Opportunities in a Global Economy," University of Wollongong Economic Working Paper Series.

Kong, Nancy Y.; Tongzon, Jose (2006), "Estimating Total Factor Productivity Growth in Singapore at Sectoral level using Data Envelopment Analysis," *Applied Economics*, 38, 2299-2314.

Kumbhakar, Subal C.; Lovell C.A. Knox (2000), *Stochastic Frontier Analysis*, Cambridge University Press, Cambridge, UK.

Mahadevan, R. (2004), *The Economics of Productivity in Asia and Australia*, Edward Elgar, UK.

Tambunnan, Tulus (2008), "SME Development in Indonesia with Reference to Networking, Innovativeness, Market Expansion and Government Policy, Report for the ERIA Project, Bangkok.

Wattanapruttapasisant, Thitapha ((2002/2003), “Promoting SME Development: Some Issues and Suggestions for Policy Consideration”, Bulletin on Asia-Pacific Perspectives, 57-67.

Chapter 6

SMES UNDER RECESSION IN JAPAN

Shuji Uchikawa

Abstract

Japanese small and medium enterprises (SMEs) have stood at the crossroads since 1991. After the Japanese yen was appreciated under the Plaza agreement in 1985, many large enterprises (LEs) shifted their labour-intensive processes from Japan to Asian countries, mainly China, to take advantage of local resources like cheap labour. Japanese LEs began not only to procure components and parts from the local market but also to import them to Japan from Asian countries. While some SMEs set up their factories in Asian countries, some SMEs lost their business chance to supply products to LEs.

Long-term recession forced LEs of machinery industries to review their procurement strategy. Manufacturers of automobile and electrical equipment changed their procurement strategy in three ways: by procuring components from companies under different groups, by reducing items of components, and by raising the share of components and parts produced in house. This rationalization of procurement by LEs led to the selection of only the efficient subcontractors and the termination of transaction with the inefficient ones. This change in procurement policy by LEs might have caused the bipolarization among SMEs in the four machinery industries.

SME policies in Japan have promoted the modernization and diversification of business of SMEs to keep up with changes in the industrial structure. In the 1960s, the government imposed several strict conditions on the modernization scheme of SMEs. In the 1980s, the government paid attention to initiatives of SMEs for diversification.

The paper offers four policy recommendations based on the review of SME policies in the different periods. First, SME policies can facilitate private sector initiatives. The government should not force business models like modernization policies. SMEs have the ability to adjust to new economic environment. Second, the entry of SMEs should be encouraged by providing special privileges such as subsidies, low interest loan, and tax concession as these can contribute to employment creation and entry of new industries. Third, local governments should play an active role in stimulating the local economy by promoting the growth and entry of new SMEs through relevant SME policies. Fourth, the law should regulate unfair trade. Under recession, many subcontractors have been unfairly treated in business transactions.

INTRODUCTION

Japanese small and medium enterprises (SMEs) have stood at the crossroads since 1991. After the Japanese yen was appreciated under the Plaza agreement in 1985, many large enterprises (LEs) shifted their labour-intensive processes from Japan to Asian countries, mainly China, to take advantage of local resources particularly cheap labour. Japanese LEs thus began not only to procure components and parts from the local market but also to import them from Asian countries to Japan. While some SMEs set up their factories in Asian countries, some SMEs lost their business chance to supply products to LEs. Moreover, the long-term recession forced LEs to review their procurement strategy, resulting in the reduction of suppliers particularly inefficient SMEs. These phenomena have caused the bipolarization of SMEs and resulted in the decline in number of SMEs in Japan.

This paper reviews and analyzes the SME policies implemented in the machinery industries, which consist of general machinery, electrical machinery, transportation equipment, and precision machinery. These industries accounted for half of the value added of the manufacturing sector in 2005. Typical subcontracting is observed in the electrical appliances and automobile industries.

The SME policies in Japan have promoted the modernization and diversification of business in SMEs to keep up with changes in the industrial structure. This paper examines the trends of SME policies in the various decades and the best practice in each decade. The final section provides some policy recommendations.

2. BUSINESS ENVIRONMENT OF JAPANESE SMEs

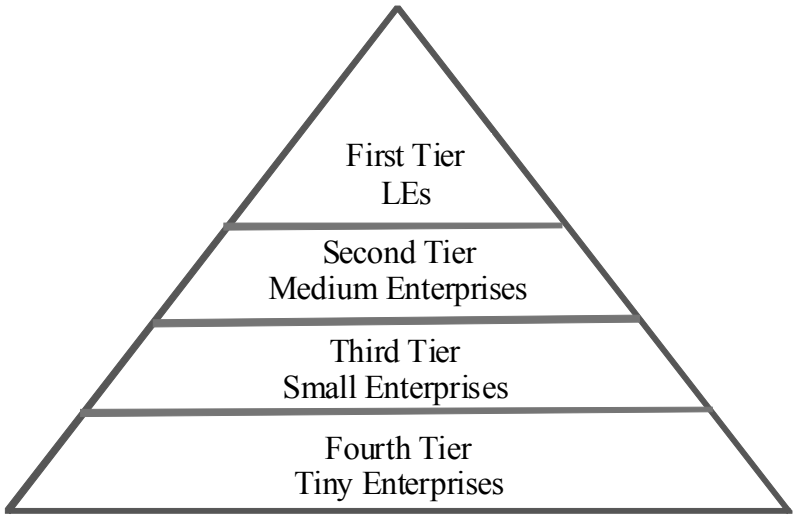
2.1 Trade with Asian countries and FDI by Japanese companies

In Japan, major electric, electronics, and automobile companies procure components and parts from three sources. First, they produce components and parts in their own factories using their own staff or resources. Second, they purchase components and parts from the market. The transactions with suppliers depend on market prices and are

usually short term in nature. Third, they purchase components and parts from subcontractors based on long-term relations. Subcontracting has played an important role in improving the efficiency of production systems. Each LE has established multitier subcontracting. This model has worked efficiently in Japan and can be considered the future of Japanese manufacturing.

Figure 1 shows a four-tier structure of subcontracting. In the top tier are the LEs, which include not only assemblers of electric appliances and automobiles but also manufacturers of complete components. They have factories assembling products in different areas. Clusters of SMEs specializing in specific products have been formed to supply to the factories of LEs. The rise and fall of clusters depend on the conditions of the factories.

Figure 1 Structure of subcontracting



Source: author

In the second tier are the medium enterprises that assemble components and supply them to LEs. Medium enterprises have three common abilities. First, medium enterprises have their own high technology, making them distinct from one another. Second, they can play a role of coordinator of small enterprises in the third tier. Medium enterprises procure parts from small enterprises and assemble these. As medium enterprises can control the quality and delivery of components and therefore can reduce

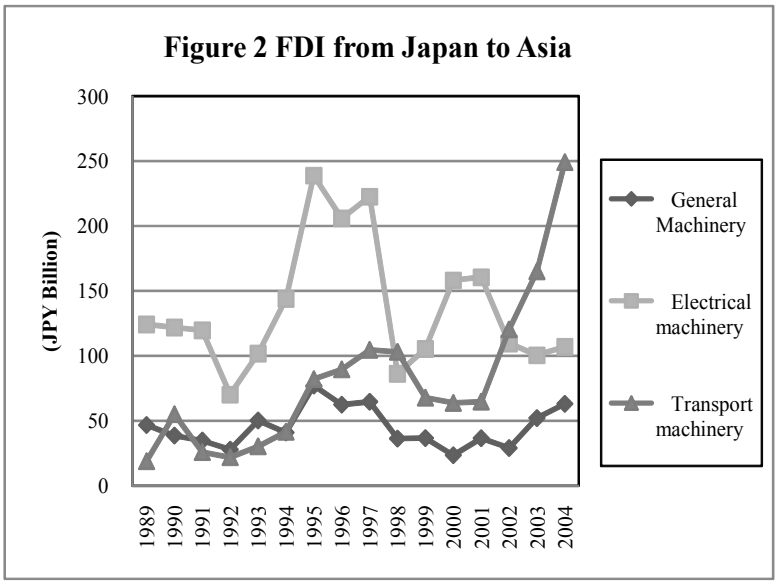
total production costs, LEs benefit by saving on overhead costs in controlling and coordinating small enterprises. In the case of Toyota, while more than 30,000 enterprises have an indirect linkage with it, it has a direct transaction with hundreds of enterprises. Third, medium enterprises have design ability. It is common for LEs to give rough designs to medium enterprises, which draw the specifications. LEs and medium enterprises codevelop components for new products in many cases.

Meanwhile, small enterprises in the third tier specialize in specific processes and produce parts. Tiny enterprises in the fourth tier are mostly family owned and managed, and take charge of relatively simple processes at low margin (Yoshida 1997). Due to their size, the management base of small and tiny enterprises is generally weak.

In the 1960s and 1970s, Asian countries pursued import-substitution policies. High tariff were levied on finished products of household electrical appliances and automobiles, and promotion policies were taken to develop domestic industries. Japanese LEs made use of joint ventures to establish knockdown plants in each country and targeted the local market.

In the 1980s, Asian countries switched to export-oriented industrial policies. Japanese manufacturers of electrical equipment and electronics increased investment to export processing zones in Korea and Taiwan and in Southeast Asia, as well as in special economic zones in China (SMEA 2006). Local content regulation and underdevelopment of supporting industries in Asian countries forced Japanese LEs to request subcontractors in the second tier to set up establishments near their factories in Asian countries. In this stage, SMEs in the third and fourth tiers were getting positive effects from foreign direct investment (FDI) because they could expand their supply to the LEs' domestic and overseas factories.

Japanese FDI to Asia increased dramatically after the appreciation of the yen in 1985. Some large LEs closed down their factories in Japan or shrunk production size. They also shifted their labour-intensive processes to Asian countries, mainly China, and began to import products processed in Asian countries and export to other Asian countries. Electrical machinery industries in Asia experienced a boom in FDI inflows in the mid-1990s while transport industries had it in the mid-2000s (Figure 2).



Source: Ministry of Finance, http://www.mof.go.jp/english/e1c008.htm (Accessed December 6, 2007).

Meanwhile, assemblers and manufacturers of components in the first tier began to procure parts and components from local and Japanese subcontractors within the same Asian countries and group companies in other Asian countries. Undoubtedly, as integration of the Asian economy progresses, the production network among Japanese, Korean and Taiwanese companies becomes interconnected resulting in the rise of robust interfirm trade among their factories in Asia.

The economic integration in Asia is reflected by the changes in trade pattern as can be observed in Japan, South Korea, and Taiwan (Table 1). They were importing raw material and exporting consumer goods in 1980 and importing consumer goods and components and parts and exporting components and parts in 2003. Between 1980 and 2003, while the share of raw material in total import and consumer goods in total exports went down clearly, that of components and parts in total imports and exports came up. The rapid increase of trade of components and parts among Asian countries suggests an increase of interfirm trade among factories of Japanese, Korean and Taiwanese LEs in Asian countries. Meanwhile, China is importing intermediate goods, including components and parts, and exporting capital and consumer goods. This indicates that China is assembling imported components and parts into final goods using cheap local labour and exporting them.

Table 1: Composition of trade goods in East Asian countries and regions according to production stage

(Percent)

Japan	Raw materials	Processed goods	Parts and Components	Capital goods	Consumer goods
Export in 1980	0.7	24.7	13.8	28.2	32.5
Export in 1990	0.4	17.5	22.9	35.6	23.6
Export in 2003	0.6	20.7	32.6	25.8	20.4
Import in 1980	58.7	24.6	2.2	5.9	8.6
Import in 1990	30.1	31.8	6.4	7.5	24.1
Import in 2003	19.9	25.2	15.3	13.2	26.4
China	Raw materials	Processed goods	Parts and Components	Capital goods	Consumer goods
Export in 1990	9.5	23.2	4.1	12.6	50.5
Export in 2003	2.3	16.9	15.1	23.8	41.9
Import in 1990	10	37.9	16.1	27.8	8.2
Import in 2003	11.9	34.5	27.2	21.8	4.6
South Korea	Raw materials	Processed goods	Parts and Components	Capital goods	Consumer goods
Export in 1980	3	30.2	8.7	11.4	46.7
Export in 1990	1.3	25.1	15.8	16.7	41.2
Export in 2003	0.4	27.3	28	26.8	17.5
Import in 1980	48	26.6	8.5	14.3	2.6
Import in 1990	19.6	32.5	16.6	25.4	5.9
Import in 2003	19.5	33	23	15.3	9.2
Taiwan	Raw materials	Processed goods	Parts and Components	Capital goods	Consumer goods
Export in 1990	0.8	27.6	16.9	19	35.7
Export in 2003	0.4	30.2	33.9	23.4	12.2
Import in 1990	16.3	37.2	17.9	17.6	11.1
Import in 2003	13.3	29.2	28.3	20.7	8.6

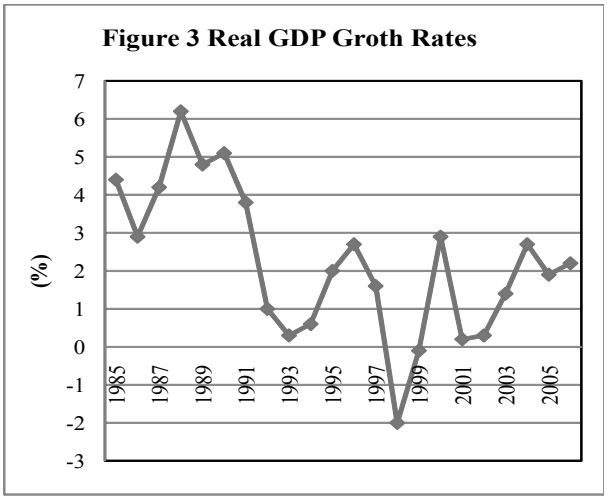
Notes: All trade goods are sorted by stage as raw materials, processed goods, parts and components, capital goods and consumer goods.

Source: METI (2005) *White Paper on International Economy and Trade 2005*.

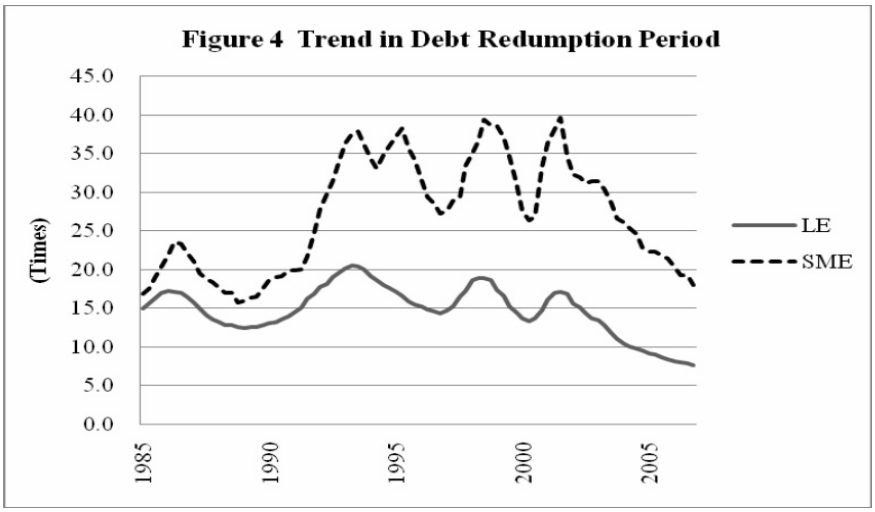
The increase of trade of components and parts may have different impacts on SMEs. Some SMEs can export their products and set up new factories in Asian countries to supply their products to overseas factories of Japanese LEs. However, some SMEs lack the capacity to do so. Many of them, in fact, have lost their customer base due to the closing down or shrinkage of LEs' factories in Japan. Some Japanese SMEs have lost their competitiveness in labour-intensive products due to the rise of wages and the appreciation of the yen.

2.2 Impacts of long-term recession

The Japanese economy has been facing long-term recession with deflation since 1991 (Figure 3). After the problem of nonperforming asset became serious, SMEs faced financial crunch due to the nonavailability of bank loan. The shrinkage of the domestic market affected the performance of the manufacturing sector. Reportedly, enterprises were burdened by the so-called "three excesses", namely, excess debt, excess capacity, and excess employment.



Source: Cabinet Office, http://www.esri.cao.go.jp/jp/sna/qe073/gdemenuja.html (Accessed December 6, 2007)



Notes: As the target of the Financial Statements Statistics of Corporations by Industry are companies with more than 1 million capital, it does not cover many SMEs.

Source: Ministry of Finance (2007), *Financial Statements Statistics of Corporations by Industry*, http://www.mof.go.jp/1c002.htm (Accessed December 6, 2007)

The interest-bearing debt redemption period of SMEs and LEs was 16.8 years and 15.0 years at the end of the first quarter of 1985 (Figure 4).[1] During the economic boom, the period went down after it reached a peak in the first quarter of 1986. The gap between SMEs and LEs was less. The economic boom encouraged banks to increase long-term loan to SMEs. While recession decreased ordinary profit, long-term debt rose continuously and the debt redemption period came up rapidly in the second half of 1992. Although the debt redemption period of LEs rose, it was kept at less than 21 years. Banks did not have intent to restrict themselves from loaning to SMEs so that their loan would not become nonperforming asset. The decease of long-term debt improved financial strength since 2001, suggesting that SMEs were forced to keep their capital investment within the scope of their cash flows due to financial institutions' unaccommodating lending attitude (SMEA 2006). It indicates, moreover, that with the accumulation of debt, some SME went bankrupt and ultimately disappeared from the statistics.

Table 2 suggests that tiny establishments in the fourth tier have declined. The number of establishments employing 4 to 29 employees declined from 380,892 in 1985 to 368,745 in 1991 or by 0.4 percent per annum. The trend accelerated after 1991 that it went down to 230,686 in 2005. Under the recession period after 1991, many establishments closed down. The number of smaller establishments decreased faster and even the number of establishments owned by LEs also went down. As expected, employment in SMEs also decreased; from 8.2 million in 1991, it went down to 5.8 million in 2005. Because SMEs accounted for a large share of establishments,

Table 2. Trends in labour productivity **(%)**

Size (Number of Employees)	Number of establishments		Number of employees		Value added		Labour productivity	
	1985 to 1991	1991 to 2005	1985 to 1991	1991 to 2005	1985 to 1991	1991 to 2005	1985 to 1991	1991 to 2005
4 to 29	-0.4	-3.6	0.1	-3.3	5.8	-2.1	5.7	1.3
30 to 99	0.9	-2.7	1.1	-2.5	6.5	-0.6	5.4	1.9
100 to 299	1.6	-1.4	1.7	-1.4	7.4	1.0	5.7	2.4
300 and above	0.8	-1.7	0.5	-2.8	0.8	-1.7	5.9	2.1
All	-0.2	-3.4	0.7	-2.6	6.5	-0.6	5.8	2.1

Source: METI, *Census of Manufactures* (various issues).

Table 3: Trends in employment in SMEs between 2001 and 2004

	Employment addition and reduction by existing establishment	Employment creation by newly organized establishment	Employment loss by abolished establishment	Change of employment
1 to 99	-231,495	367,582	710,239	-574,152
100 to 299	-57,692	118,371	160,149	-99,470
300 and above	-337,377	190,909	187,641	-334,109
Total	-626,564	676,862	1,058,029	-1,007,731

Source: MIAC (2006), *Establishment and Enterprise Census 2004.*

employment in manufacturing went down sharply from 11.4 million to 8.2 million during the same period. Conversely, labour productivity has grown in spite of the negative growth of value added.

The Establishment and Enterprise Census compared all private establishments in Japan between 2001 and 2004 and classified them into three categories: existing, newly organized, and abolished establishments.[2] During the period, employment by existing establishments decreased by 0.6 million (Table 3). While newly organized establishments created 0.7 million new employments, abolished establishments led to the displacement of 1.1 million employees. Small enterprises employing less than 100 employees and medium enterprises employing between 100 and 299 employees reduced employments mainly by abolishment. On the other hand, LEs employing 300 employees and more decreased employments mainly through the exit of existing enterprises. Exit of inefficient establishments improved labour productivity in SMEs while retrenchment of redundant labourers might have had the same effect on LEs.

Although many other factors have caused the decline in number of SMEs, long-term recession is still the main reason. Excess debt has seriously affected SMEs under the recession and made many SMEs to exit.

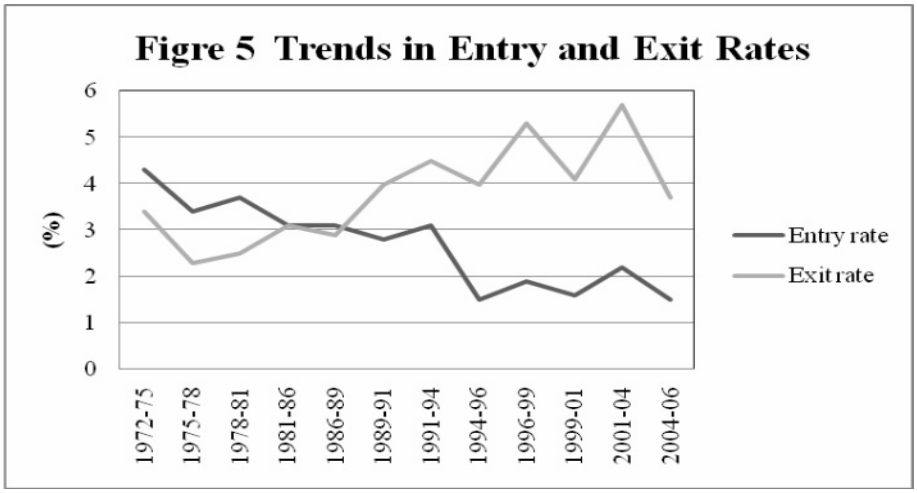
3. PROBLEMS OF JAPANESE SMES

3.1 Low entry rate and high exit rate[3]

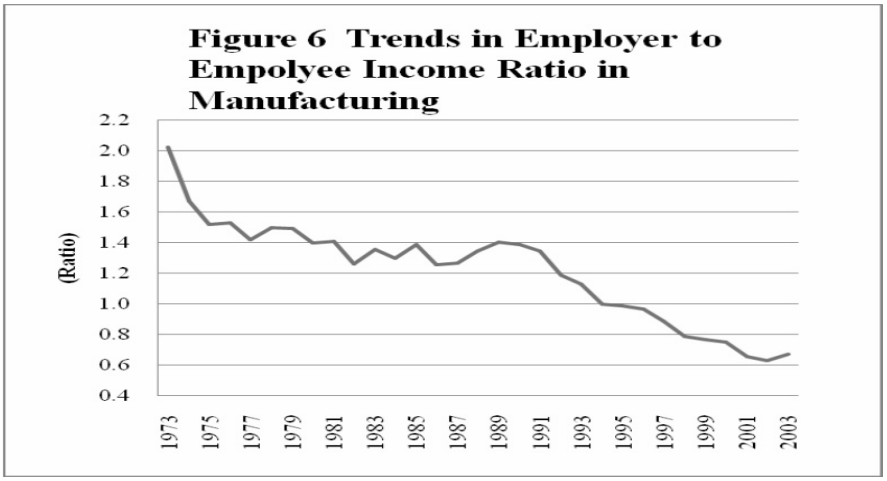
The entry and exit of SMEs create dynamism in economies. When labour-intensive industries decline in number due to the rise of wages, the entry of firms in capital-

intensive industries is expected. In Japan, SMEs have played an important role in changing the industrial structure. The sharp decline in number of establishments was caused not only by the abolishment of enterprises but also by the fewer number of enterprises entering the economy.

As shown in Figure 5, the entry rate experienced a prolonged decline since the 1970s. The main factor behind this appears to be the trend in sole proprietorship, which accounts for a huge number of Japanese enterprises. This phenomenon, however, should not be regarded entirely as a problem because sole proprietorships have the potential to grow and employ more persons.



Source: SMEA (2007) *White Paper on Small and Medium Enterprises in Japan 2007*
MIAC (2006) *Establishment and Enterprise Census 2004*



Source: SMEA (2005) *White Paper on Small and Medium Enterprises in Japan 2005*
MHLW *Basic Statistical Survey of Wage Structure* (various issues)
MIAC (2006) *Annual Report on the Unincoporated Enterprise Survey 2005*

The White Paper on Small and Medium Enterprises in Japan (SMEA 2005) points out a long-term downward trend in the employer-to-employee income ratio in manufacturing (Figure 6). It regards net operating profit per establishment as income of employers. The Ministry of Internal Affairs and Communications Annual Report on the Unincorporated Enterprise Survey has data on net operating profit including salaries for family workers per establishment. The Ministry of Health, Labour and Welfare's Basic Statistical Survey of Wage Structure has data on annual income of regular employees in establishments employing more than nine regular employees. Income of employees had risen in absolute level at enterprises of all sizes since 1974. This rise is more prominent than the rise in absolute level of entrepreneurs' incomes. The downturn in entrepreneurs' incomes in the 1990s accelerated the decline of the employer-to-employee income ratio. Annual net operating profit per establishment went down from JPY5.2 million in 1993 to JPY3.1 million in 2005. The relative decline in incomes of self-employed businesses appears to have reduced self-employment and decreased the entry rate.

Moreover, the young generation has been losing interest to set up enterprises or succeed in family business as it has a chance to get a high stable salary. The opportunity cost of entering a business varies according to each individual and to the time period as well. In the late 1960s and early 1970s, the peak of the age-wage curve for SMEs was the thirties age group. Many SME entrepreneurs set up their own factories in their thirties due to their meager salary (SMEA 1979). For many employees of SMEs who do not have a high education, starting their own business was a wise option as it was also difficult for them to get a job with a high stable salary. Entering a business was a chance to improve their income using their skills. Today, this generation is getting old but still many in that generation are still running their business as proprietors due to the absence of successors. In 2002, for instance, the age group 60 years old and above accounted for 43 percent of the total self-employed workers in Japan (MIAC 2003). Many SMEs have already abolished their establishments and some more are likely to follow owing to the lack of successors.

In addition, Japanese SMEs are facing stiff competition with cheap imported goods. Manufacturing SMEs cannot maintain their business without advanced technology and skill. The entry to manufacturing is thus becoming more difficult than it was during the 1960s.

3.2 Changing role of industrial clusters

As Japanese LEs transform into multinational companies, they become selective as to their place of investment because of their global strategy. Thus, regions throughout Japan have to compete with regions in Asia to attract investments. SMEs concentrate in some regions and form industrial clusters. The function performed by industrial clusters has also changed under the newly emerging international division of labour.

Industrial clusters can be grouped into four types according to how they were formed historically and according to their characteristics (SMEA 2006): (1) company town clusters, (2) production region clusters, (3) mixed urban clusters, and (4) mixed invitation clusters. The advantages of the business environment differ according to the type of cluster and have changed on the process of industrialization.

Company town clusters are formed by the agglomeration of numerous subcontractor groups around the mass production plant of a particular LE. A typical example is the area around Toyota city, which has Toyota Motor at its heart. Cluster regions have developed as a result of enterprises' minimization of the cost of expensive tasks such as production management and the acquisition of new customers, and their move to specialize in certain production processes. SMEs benefit from being within the same business groups with the LE. As clusters are affected by the difficulties experienced by LEs, SMEs are required to diversify their business. The traditional business model of being dependent on certain LEs and doing business within the cluster is not functioning as well as it used to be.

Production region clusters are formed by enterprises belonging to a specific industry such as consumer goods concentrating in a particular region, which have grown through their members' mutual use of raw materials and technologies that accumulated in that region. A typical example is Tsubame-Sanjyo region in Niigata Prefecture, where cutlery and blade manufacturers have clustered. SMEs receive orders through a joint order-taking system and have established a system of division of labour in the cluster to manufacture cheap, high-quality, mass-produced goods. However, tough competition with cheap goods produced in China have shrunk their domestic and export markets. The system of mass production, which has been a source of competitiveness before, appears to be performing less today. Heavy dependence on certain industries and the

highly segmented and specialized production processes prevent the clusters from adjusting to the new business environment.

Mixed urban clusters have formed in urban areas. There are many such clusters in the machinery and metalworking industries, and there often occurs division of labour between enterprises in the same cluster and business relations that cut across traditional industry groupings. Typical examples include Ota ward in Tokyo and Higashi-Osaka City. As it is difficult to establish systems of mass production in urban areas where cost of land and labour is relatively high, these clusters specialize in high value-added products. Production functions in such clusters are based on flexible divisions of labour as a result of the clustering of diverse industries and technologies. Consequently, the clusters have been able to respond flexibly to changes in the industrial structure under long-term recession. It is noteworthy that SMEs in the cluster have the production and process ability to deal with the product development and trial conducted by the LEs.

Mixed invitation clusters are formed as a result of local government efforts to attract enterprises and the implementation of industrial relocation plans. During the 1970s, the government regulated the size of factory sites in metropolitan areas and subsidized the transfer of factories to the rural areas. As many of the invited SMEs belong to industry groups outside the cluster, the collaboration within the clusters has not been very advanced. A typical example is the Kitakamigawa basin region. The clusters have developed because of labour-intensive plants locating in the region due to the attraction posed by orders they are getting from enterprises in that region and the comparatively cheaper labour there. Various SMEs have been added to these clusters such that they have become more complex and no longer dependent on a specific industry. However, some factories have withdrawn from the clusters due to the availability of cheaper labour in Asian counties. This shows that under globalization, cheap labour is fading as a competitive edge of clusters in Japan.

The above analysis suggests that diversification and collaboration that cut across traditional industry grouping are key points to establish flexible divisions of labour. Although the decline in number of SMEs has been a common phenomenon in all the clusters because of recession, some SME are still able to improve their profits by taking advantage of more flexible divisions of labour.

4. TRENDS IN THE JAPANESE MACHINERY INDUSTRY

Under long-term recession, electric and electronics companies like Sanyo and automobile companies such as Nissan, Mitsubishi, and Mazda faced serious financial difficulties so they closed down some of their factories. Many LEs of electric, electronics, and automobile industries changed their management strategy and reduced the size of weak and inefficient sections to focus more on the strong and efficient ones. This restructuring by LEs might have had an impact on SMEs in the machinery industries. In particular, the change in procurement strategy transformed the subcontracting system in Japan.

Japanese automobile companies, including major complete component manufacturers, changed their procurement strategy in three ways. First, they began to procure components from companies under different groups. Cross-group transaction among Japanese companies started in the US market. Denso in the US under Toyota began to supply fuel pump to Nissan in the US in 1990. Cross-group transaction then spread to the Japanese market. Moreover, automobile companies gave up their strategy of producing all components and parts within the same companies. They sold their nonearning subcontracting companies to other companies and concentrated on their performing sections.

Second, automobile manufacturers reduced items of components. During the economic boom in the second half of 1980s, they increased the number of models and items of components even in the same model to attract customers through product distinction. Naturally, this rose the man-hours in the assembly line, the research and development costs of components, and the production costs of components. Under recession, they tried to use common components for the different models to reduce items of components. Moreover, some companies tied up with different companies to share common components. In 1994, the government advised six manufacturers of the minicar to share common components. As the reduction of items induced the standardization of components, item-wise production lot increased and component manufacturers could enjoy economies of scale. Meanwhile, automobile assemblers

concentrated on efficient component manufacturers hence inefficient manufacturers began to lose clients.

Third, large automobile and component manufacturers raised the share of components and parts produced in house. They did this for several reasons (Yoshida 1997):

- The shrinkage of demand under the long-term recession made labourers redundant and their capacity underutilized. Thus, LEs which were previously outsourcing began to produce components and parts in house to use their redundant labourers.
- The standardization of components induced by the reduction of items made production of components in house more profitable due to economies of scale.
- The development of microelectronics reduced range of skill, which SMEs have an advantage on.
- Quality control and production management in house is easier. As development of technology reduced manhours in assembly lines, LEs got the needed space and labour force to produce components and parts in house.
- When LEs set up overseas factories, they may have difficulty in procuring components from local companies that follow the Japanese standard of cost, quality, and rigid delivery. They need experience to produce components by themselves. Thus, in the electronics and office machinery industries, some LEs raised the share of components and parts produced in house.

Table 4: Trends of labour productivity **(%)**

		Number of establishments		Number of employees		Value added		Labour productivity	
		1985 to 1991	1991 to 2005	1985 to 1991	1991 to 2005	1985 to 1991	1991 to 2005	1985 to 1991	1991 to 2005
General machinery	SME	1.3	-2.0	1.8	-1.4	7.6	0.3	5.8	1.7
	LE	2.2	-1.7	1.4	-2.4	6.6	-1.5	5.2	0.9
Electrical machinery	SME	1.1	-4.3	0.9	-3.3	10.2	3.9	9.4	7.3
	LE	1.9	-1.9	1.8	-3.5	10.9	3.5	9.1	6.9
Transportation machinery	SME	0.3	-1.8	1.1	-0.4	8.4	1.3	7.3	1.7
	LE	1.1	0	0.1	-0.7	7.2	2.9	7.1	3.7
Precision machinery	SME	-1.6	-3.1	-1.2	-2.6	3.8	-0.2	5	2.4
	LE	-1.3	-3.1	0.5	-4.7	2.1	0	1.7	4.7

Source: METI, *Census of Manufactures* (various issues).

The rationalization of procurement by LEs led to the selection of only the efficient subcontractors. They ended transaction with the inefficient ones. Efficient SMEs can get more orders and can invest to improve their capacity. The inefficient ones lost their business chance. As shown in Table 4, the value added of SMEs and LEs in electrical machinery and transportation machinery was growing between 1991 and 2005 in comparison with the other industries even under long-term recession. While the number of establishments and the number of employees decreased in the four industries between 1991 and 2005, labour productivity improved in both SMEs and LEs in the four industries. While the number of establishments in SMEs went down faster than that in LEs, the number of employees in SMEs declined slower than that in LEs. It is estimated that SMEs improved labour productivity mainly by the exit of inefficient companies while LEs did this mainly by retrenching employees. The change in procurement policy of LEs might have caused the bipolarization among SMEs in the four industries.

5. TRENDS OF SME POLICIES IN JAPAN

5.1 Basic tools of SME policies (1940s and 1950s)

Japan has a long history of SME policies. In the 19th century, policies were passed to protect cottage industries from imports. In 1947, the Act Concerning Prohibition of Private Monopoly and Maintenance of Fair Trade (the Japanese Antimonopoly Act) and the Law for Elimination of Excessive Concentration of Economic Power were enacted to implement measures for introducing a democratic economy. As part of the measures for SMEs and to prevent economic centralization, the Small and Medium Enterprise Agency was established in 1948 as an extra-ministerial bureau of the Ministry of Commerce and Industry. During the postwar recovery period, the basic tools for SME measures were prepared, including financial resources, cooperatives, and management consulting and guidance (SMEA 2007).

The government established three governmental SME financial institutions. The Shoko Chukin Bank was established in 1936, owned not only by the government but also by SME cooperatives, to provide comprehensive financial services to these

cooperatives and their members. The National Life Finance Corporation was established in 1949 to contribute toward development of the national economy and national life such as public health through the supply of small lot funds without collateral to small-scale enterprises. The Japan Finance Corporation for Small and Medium Enterprise (JASME) was established in 1953 to provide SMEs with fixed interest, long-term funds needed to promote SME projects but which general private institutions have difficulty of supplying.

Traditional financial institutions and cooperative financial institutions among SMEs were reorganized in 1951. The former became mutual loan and saving banks, which could operate as ordinal banks with limited regional operation and limited loan provision. The latter became Shinkin banks, which supply loan mainly for SMEs and can deal with deposits from nonmembers.

A Credit Guarantee Corporation (CGC) was established in each of the 45 prefectures and four major cities to make it easier for SMEs to raise funds from financial institutions by providing guarantees on loans. Under its loss compensation system, the CGCs compensate the financial institutions for losses incurred by financing SMEs under specific circumstances. The enactment of the Small Business Credit Insurance Law in 1950 made it possible for the government to directly insure loans to SMEs using government funds. In 1951, the Small Business Credit Insurance Law was partially revised, and credit insurance was used for the credit guarantees provided by CGCs. This led to the current Credit Supplementation System that combines credit guarantees with credit insurance. In 1953, the CGC Law was enacted, and this established the public status of CGCs as a government-backed corporation. The Small Business Credit Insurance Corporation was established in 1958 as a public corporation designed to reinsure guarantees of obligation by CGCs. The establishment of CGCs and injection of public funds into the CGCs have both contributed to the improvement and development of the Credit Supplementation System (National Federation of Credit Guarantee Corporations 2007). At present, JASME is taking over or guaranteeing outstanding loans to support money supply by general private financial institution and doing insurance for guaranteeing outstanding loans.

The SME Diagnosis System was introduced in 1948 to give advice to SMEs through state-qualified consultants. The government began to subsidize investment on

research institutes funded by prefecture and municipal governments from 1956, and training programmes for SMEs were organized by prefecture and municipal governments. The SME promotion system, which consisted of consulting, research and development (R&D), and training, was established.

Laws define the organization of SMEs. The Law on the Cooperative Association of Small and Medium Enterprise enacted in 1949 provides for a system for SMEs to complement insufficient business resources in technology, information, and human resources, among others, through the establishment of an organization and a joint approach to business based on the principle of mutual aid. On the other hand, the Law Concerning the Organization of Small and Medium Enterprise Organizations enacted in 1957 provides for commerce and industrial associations, which represent SMEs in the same industry as prefecture-wise trade association.

Considered best practice in this period was the introduction of the so-called "Blue Returns". Since the old official assessment was replaced by the self-assessed taxation system after the Second World War, SMEs were in chaos due to incomplete bookkeeping and the fear of overtaxation. To resolve this situation, the Blue Returns system was began in 1949, allowing certain tax merits if a tax return is made with a "certain formula of quick bookkeeping". This system resulted not only in the improvement of financial accounting but also in the strengthening of financing systems of SMEs (SMEA 2007).

5.2 SME modernization promotion in the 1960s

The Small and Medium Enterprise Basic Law was established in 1963 and considered the backbone of SME policies.[4] Its policy concept was to rectify the gap between SMEs and LEs in terms of labour productivity by upgrading the structure of SMEs and improving the conditions of trade. The government also recognized that SMEs could not introduce modern technology given their small size and the excessive competition among them.

To solve the problem, policies that encouraged to optimize the size of establishments and make arrangements for joint operation in manufacturing among SMEs were enacted. The SME Modernization Promotion Law established in 1963 regarded SMEs as industry-wise groups and promoted the modernization of the SME

industry as a whole. The government identified the important industries relevant to upgrade the industrial structure and to improve international competitiveness. It also implemented SME modernization schemes that included the target of optimal size, quality of products, and production costs. SMEs committed to the target could enjoy low-interest SME modernization loan from JASME as well as accelerated depreciation of equipment. In 1969, the law introduced an SME structural improvement policy scheme to encourage joint operation among SMEs. Commercial and industrial associations made plans of undertaking joint operation. Participating SMEs could obtain loans whose interests were even lower than the SME modernization loan and whose repayment period was much longer. The SME Upgrade Loan Scheme was likewise introduced to encourage joint operation among SMEs by financing. The coverage of the scheme was expanded in 1961 to include establishments of industrial estates. If 20 SMEs in the same industry organized cooperative associations and established industrial estates, they could get financial assistance under the scheme.

The policies of SME modernization were not spared from problems. Three factors were identified as reasons. First, the policies concentrated much on modernization of equipment. When sales did not increase enough to recover the SMEs' investment in the new equipment, the investment for modernization became a burden for them. The policies also did not consider intangible investments such as in human resources and in R&D. Second, only wealthier SMEs could meet the modernization target set by the government as it was too high for the modest SMEs to achieve. The modernization polices did not consider the differences among SMEs in the same industry. As a result, only the wealthier SMEs could enjoy the benefits of the policies. Third, the policies did not give enough importance to the initiatives of SMEs. The idea of joint operation among SMEs was not realistic. As each SME has expertise on production process, joint operation has become difficult. Thus, SMEs have not been actively involved in joint operation. In fact, the low-interest loan that was set aside for joint operation was spent not on improving the production process but on setting up joint facilities like common parking lots and common meeting rooms (Kurose 2006).

Moreover, to protect subcontracting SMEs, cumulative amendments to the Law on the Prevention of Delay in the Payment of Subcontracting Charges and Related Matters strengthened regulations. The law was enacted in 1956 to restrict unfair

practices by parent companies such as the delay or reduction of subcontractors' payment and infringement of benefits. Then, in 1966, the Law on Ensuring the Receipt of Orders from the Government and Other Public Agencies by Small and Medium Enterprises was enacted to correct the business disadvantages of SMEs by obliging the government to set a target quantity of order for SMEs year by year.

Considered best practice in this period of modernization promotion was the industrial apartment programme. Under this programme, prefecture and municipal governments constructed industrial apartments and distributed or rented these to SMEs that did not have enough funds to construct their own factories. The success of the programme was due to two reasons. First, the programme was aimed at improving the production environment. Since the operation of SMEs in the apartment was not regulated by law so they could keep their own ways of production. Second, as these apartments were usually small, they can be constructed in urban areas. National location policies regulated the size of factories in big cities and reallocated them from populated areas to depopulated ones by providing tax concessions and subsidies. Large- and middle-size establishments therefore moved out from metropolitan areas such as Tokyo and Osaka to the rural areas. Local governments constructed industrial apartments in the lots where these large- and middle-size establishments were previously located. The apartments were suitable for small enterprises because they did not have enough money to transfer to another location to improve production environment.

The foregoing discussion shows that while the government can contribute much to the improvement of the production environment, it should not intervene in the operation (Kurose 2006). The industrial apartment programme is an effective way for SME factories and residences to coexist in metropolitan cities.

5.3 Structural change in the 1970s

In the 1970s, international economies changed dramatically. The sudden appreciation of the Japanese yen and the rapid increase of oil prices triggered recession and inflation in the Japanese economy. Moreover, Korean and Taiwan were quickly catching up with Japan in the export market of labour-intensive goods like garments and footwear. To address this, industrial policies tried to encourage new leading industries like electronics and the formation of a knowledge-intensive industrial structure. SME policies followed

industrial policies and encouraged knowledge intensification. The SME Upgrade Loan Scheme was applied to promote joint operation in R&D among SMEs. However, the effects of the policy were limited as joint operation for knowledge intensification by industry-wise cooperative associations and commerce and industrial associations was difficult. Most of the association members also did not exhibit serious interest in R&D given that the results of R&D investments are not immediate.

Some SME policies also promoted changing of business to encourage SMEs to abandon declining industries and to shift to the more promising ones. The government thus specified the industries that were facing problems due to competition from developing countries, appreciation of the yen, shrinkage of demand, and pollution regulation. Low-interest loan and liberal treatment of depreciation were provided to SMEs in the specified industries to diversify their business. In this programme, a strict condition to get the loan was set: the existing business should be shrunk to less than half and the new business should be expanded to more than half. The programme was not applied to diversification without shrinkage of existing business. Although the Japan Small Business Promotion Corporation set up an information center in all the prefectures to collect information and data on business for the SMEs, many of them had difficulty in finding new business for diversification.

Considered best practice in this period was the programme on small amount and low interest loan provided by National Life Finance Corporation to small enterprises. In 1973, it began to provide collateral- and guarantor-fee loan to small enterprises on the condition that the owner would join the training programme organized by the commerce and industry associations and the chamber of commerce and industry for six months. In the beginning, only small enterprises employing less than six employees could apply for the loan. The applicable size was later raised to enterprises employing less than 21 employees. This policy was implemented from the viewpoint of social policies. At the same time, the promotion of small enterprises became important to create employment under recession (Kurose 2006).

5.4 Change of policy concept in the 1980s

In the 1980s, trade conflicts with the US forced the Japanese government to open the economy. Under the Plaza agreement in 1985, the Japanese yen was appreciated.

Industrial structural policies were aimed at upgrading knowledge intensification and shrinkage of comparatively disadvantaged industries like petrochemical and paper to adjust to international economic environment. In addition, local economy policies made much of the initiatives in the regions. The government supported techno police plans made by local governments. The plans tried to create new towns, which consisted of high technology industries, research institutes, and residential areas, with the Silicon Valley in California as their model. Although they could not obtain good results, these were a sign of local initiatives for development.

Moreover, the government paid attention to the positive aspects of SMEs to create and develop new industries. The Temporary Law Concerning Measures for Changing Business for Specific Small and Medium Enterprises was enacted in 1986 to specify the type of industry for SMEs and to help convert businesses. The Temporary Law Concerning Measures for Small and Medium Enterprises of Specific Regions was enacted to promote the conversion of businesses of SMEs in specific regions heavily influenced by the economic depression and yen revaluation in the same year (SMEA 2007).

SME policies during the 1980s were noteworthy at four points. First, they tried to encourage R&D in SMEs rather than the diffusion of existing technology. SMEs could get low-interest loan from government financial institutions after local governments approved the technology development plans in the high technology areas such as electronics and biotechnology. Subsidies and tax concession were provided to R&D activities of SMEs. Second, training programmes were strengthened. Nine SME institutes[5] were set up to give training to SME employers and employees during the 1980s. Third, the government recognized the effects of exchange and tie-ups among SMEs in different industries and began to encourage these. During the recession in the 1970s, SMEs in the machinery industry collaborated to produce high value-added products. The collaboration was effective for joint development of unit components. Thus, in 1981, the government started technology exchange plaza projects to organize exchange and tie-ups among SMEs in each prefecture. In 1988, the government began to subsidize and give tax concession to new technology development by cooperative associations among SMEs in different industries. Fourth, the government encouraged new project ideas. Prefecture and municipal governments and the private sector tied up

and set up business incubators to reactivate the declining local economy due to recession. Subsidy from the government and low-interest loan from government financial institutions were provided to incubator projects. However, the occupation ratio of incubator projects was low due to the high rents. This is because prefecture and municipal governments gave priority to the acquisition of subsidies from the government over careful examination on feasibility of projects.

5.5 Amendment to the Small and Medium Enterprise Basic Law

During the 1990s, business innovation and start-ups were emphasized in SME policies. The Temporary Law Concerning Measures for the Promotion of the Creative Business Activities of Small and Medium Enterprises was enacted in 1995. This law was designed to help SMEs and individuals start new business or invest in R&D without specifying any particular type of industry. The Small and Medium Enterprise Modernization Promotion Law and the Temporary Law Concerning Measures for Smooth Adaptation to Structural Changes in Economy by Advancement of Specific Small and Medium Enterprises to New Fields enacted in 1993 were integrated to become the new Law on Supporting Business Innovation of Small and Medium Enterprises in 1999. In this law, business innovation included not only the development and sale of new products and services, and the use of new production methods or product sales methods, but also the development and introduction of new business management methods. This law was not intended to direct SMEs to a specific direction in contrast to the Small and Medium Enterprise Modernization Promotion Law that forced SMEs to follow a uniform modernization scheme.

The Small and Medium Enterprise Basic Law was revised fundamentally in 1999. The policy concept had already been changed from modernization to business conversion in the 1980s. Moreover, business innovations and start-ups were encouraged in the 1990s. Amendment of the law confirmed the change of SME polices. The new Small and Medium Enterprise Basic Law was based on a new philosophy of promoting diverse and vigorous growth and the development of independent SMEs rather than rectifying the gaps. It has three key factors: promoting business innovation and new business start-ups, strengthening the management base of SMEs, and facilitating adaptation to economic and social changes. SME policies became competition oriented.

Moreover, the responsibility of municipal governments was defined in the law. Before the amendment, only the central and prefecture governments were involved in SME promotion.

In 2005, the Temporary Law Concerning Measures for the Promotion of the Creative Business Activities of Small and Medium Enterprises was enacted to promote business start-ups, business innovation, and exchange and tie-ups. Although the law superseded existing SME policies, the support system was strengthened. An expert team in each project was organized to support project planning and implementation. In addition, applicants may get low-interest loan automatically once the project has been approved by the ministry.

5.6 Role of the municipal government

SME policies cannot stop the long trend of SME decline under the recession. The exit of many SMEs has seriously affected the local economy. Some municipal governments have implemented local ordinance promoting SME development to activate the local economy. Municipal governments can play an important role in collecting information, interacting with SMEs, and organizing exchange among SMEs. Sumida ward was the first municipal government to implement a local ordinance on SME development in 1979. Sumida ward has been a cluster of apparel and machinery industries. The SME promotion policies of Sumida ward are unique at three points. First, the government set up a database containing pertinent information about SMEs in the ward. In 1977 and 1978, 180 employees of the ward office visited all 9,313 registered establishments to conduct a survey. They also carried out a hearing with personnel of the SMEs. The hearing was a good opportunity for employees of the ward office to understand the conditions of SMEs. The experience was useful in the development of a master plan of SME promotion in 1986, 1989, and 2003. Second, SME owners were given the opportunity to participate in policymaking. In 1980, the government set up the Industrial Promotion Committee, which consisted of SME owners, experts, and government employees. In consultation with the said committee, the government is running an SME center that has technical advisers and complete with expensive machine tools and instruments that SMEs in the ward can use. Third, SME promotion was strengthened by linking it to local tourism. The Industrial Promotion Committee recommended the

setting up of small museums to present the industry and culture of Sumida to local and foreign tourists as well as small shops at the corner of the factories to sell products made by Sumida SMEs. SME promotion thus became a part of policies to activate the local economy.

Some municipal governments have followed the best practice of Sumida. Based on the experience of Sumida, they have learned to give importance to SME promotion, tap local resources, and take into consideration the character of the local economy when making their plans. They likewise realized the importance of the interaction between the local government and SMEs to make their plans work.

6. RESULT OF FIELD SURVEY

The survey was conducted in Ota ward of Tokyo and in Southern Kyoto prefecture in May, June, and November of 2004. The target SMEs were selected mainly from the award-winning SMEs in Ota ward and Kyoto prefecture. Most of them are above-average SMEs in terms of standard qualities of SMEs and have unique traits. Table 5 shows the character of each company. Those in Ota ward have flexible divisions of labour as mentioned earlier. Although the government of Ota ward enacted local ordinance on SME development and has been actively promoting SME development, the number of SME establishments has declined beginning in the 1980s. After the factory sites in the metropolitan areas were regulated, some SMEs established their second factories for mass production in the rural areas while head factories concentrated on small-lot production related to R&D and trial. As South Kyoto is close to Osaka, subcontracting SMEs have developed in the area. Four points were found out from the survey.

First, most of the 20 SMEs have outstanding technology and special skills, and have established their brand name among their clients. With the high price of land and the high wages that are placing SMEs in the urban areas at a disadvantage, they must have unique sales points. Five SMEs have original products that other companies including LEs are not producing. Other SMEs also have special skills, which other t

Table 5: Characters of surveyed SMEs

Ota ward

Products	Number of regular employees	Main customers	Location	Participation in cooperation	Relation with LEs	Diversification	Overseas affiliates	Other establishments in Japan	Award
Plating	80	Automobile, Electrical equipment	Industrial estate (Modernizatio n Scheme)	Cooperative association (pollution control, R&D)	Supplier	Moulding		Ota ward	Excellent SME by Ota ward
Precise process	100	Electronics, Semiconductor	Own factory	Member of Tokyo Chamber of Commerce and Industry	Supplier	Second and Third factories		Rural area	Model of rationalization by SMEA
Electrical equipment	9	Power plant	One floor of private residence apartment		Subcontractin g		China (Planning)		Excellent SME by Ota ward
Die	5	Machine manufacturers	Industrial apartment in Industrial estate						
Metal process	8	Semiconductor	Industrial apartment owned by Ota ward		Subcontractin g				
Machine (Robot, etc.) manufacturing including R&D and software	12	Automobile	Industrial apartment owned by Ota ward	Joint R&D with SME and university	R&D on consignment	Development of new products		Rural area	

Products	Number of regular employees	Main customers	Location	Participation in cooperation	Relation with LEs	Diversification	Overseas affiliates	Other establishments in Japan	Award
Metal process	18	Electrical equipment	Own factory		Process of trial				
Metal process	45	Semiconductor	Own factory		Supplier				Excellent SME by Ota ward
Electrical equipment	25	Electrical equipment (R&D and sales)	Industrial apartment owned by Ota ward			Development of new products			
Precise process	20	Machine tool, Semiconductor	Own factory	Cooperative association	Subcontracting				Excellent SME by Ota ward
Metal process	46	Transportation equipment	Own factory		Subcontracting	heat treatment		Rural area	Excellent SME by Ota ward
Machine manufacturing	92	Automobile	Own factory		Supplier	Development of new products	Thailand		Excellent SME by Ota ward
Precise die and Press	120	Electrical equipment	Own factory	Joint R & D with university	Supplier	Production of machinery	Thailand Philippine China	Rural area	
Metal process	8	Semiconductor	Industrial apartment owned by Ota ward		Supplier				
Plating	12		Own factory						Excellent SME by Ota ward

Products	Number of regular employees	Main customers	Location	Participation in cooperation	Relation with LEs	Diversification	Overseas affiliates	Other establishments in Japan	Award
Machine manufacturing	11	Electrical equipment	Own factory		Supplier				Excellent SME by Ota ward
Machine manufacturing	37	Electrical equipment	Own factory		R&D on consignment	Engineering Production of trial			Excellent SME by Ota ward

Kyoto

Products	Number of regular employees	Main customers	Location	Participation in cooperation	Relation with LEs	Diversification	Overseas affiliates	Other establishments in Japan	Award
Precise die and Press	140	Semiconductor, Electrical equipment	Own factory	Exchange association among SMEs	Supplier	Production of machinery		Rural area	Model of rationalization by SMEA
Machine tool Manufacturing	48		Own factory		Supplier		China		Excellent technology of SME by Kyoto prefecture
Precise plastic mould	42	Electrical equipment	Own factory	Exchange association among SMEs	Supplier				

companies cannot imitate easily. Although a metal process SME has higher margin rates than other companies, because it can only process difficult-to-cut materials in the short term, it can get orders regularly. Originality and unique technology and skill are more important than production costs for SMEs in urban areas.

Second, three of the 20 SMEs are R&D-oriented business ventures that are concentrating on the design and development of new products. The first SME produces equipment for mechanization. It has obtained patents from Japan, Germany, UK, and US. The managing director pointed out the possibility of a development-oriented venture business. As LEs reduced the number of engineers, they must rely on outsourcing to develop peripheral equipment. The second SME also mentioned the same point. Since a small venture company is looking for niche markets, it has many opportunities to develop various products. Although experience is necessary for the development of new products, engineers cannot get many chances in LEs because they concentrate only on major projects. Meanwhile, the SME concentrates on product design, development, and sales, but is outsourcing manufacturing. The third SME is shifting to engineering company so it is likely that it will stop manufacturing in the future.

Third, four of the 17 SMEs in Ota ward were located in industrial apartments. They have factories in the lower floors and residences in the higher floors. It is noteworthy that two R&D-oriented business ventures are in the industrial apartments. It can be surmised that industrial apartments helped in the entry of new industry-oriented SMEs.

Forth, four of the 20 SMEs were subcontractors. Among them, three SMEs have transaction with other companies while only one depends on a parent company by 100 percent. The company is going to shift to China to follow its parent company. This shows that dependence on a parent company makes the management base of an SME fairly weak.

7. POLICY RECOMMENDATIONS

SME policies in Japan have promoted modernization and diversification of business to keep up with changes in the industrial structure. In the 1960s, the government imposed strict conditions on the modernization scheme of SMEs. In the 1980s, the government paid attention to the initiatives of SMEs for diversification. The analysis of SME policies in the different periods and the experience of SMEs may be summarized as follows:

- SME policies can facilitate private sector initiatives. The government should not force business models like modernization policies. SMEs have the ability to adjust to new economic environment.
- The entry of SMEs should be encouraged by providing privileges such as subsidies, low-interest loans, and tax concessions as these can contribute to employment creation and entry of new industries.
- Local governments should play an active role in stimulating the local economy by promoting the growth and entry of new SMEs through relevant SME policies.
- Unfair trade should be regulated by law. Under recession, many subcontractors have been facing unfair transaction. For example, parent companies demanded subcontractors to reduce prices of components after the agreement.

Moreover, lessons from the Japanese experience suggest three policy recommendations for Asian countries.

- A tax return, which is made with a certain formula of quick bookkeeping, is useful to improve the financial accounting and financing systems of SMEs.
- The construction of industrial apartment is a good way to make industry and residence coexist in a congested area. Many SMEs do not have enough funds to move out of their place.
- The experience of Sumida ward is stimulating. As local governments have more information on SMEs in the locality than the central government, it can make more effective plans for SME promotion, which take into consideration the character of

the local economy and available resources. It is also important for employees of local governments to determine the needs of SMEs in their locality so they know what type of assistance they need.

NOTES

[1] Interest-bearing debt redemption period is calculated by dividing outstanding interest-bearing debt by cash flow. Outstanding interest-bearing consists of short-term debt, long-term debt, and corporate bonds. Cash flow includes ordinary profit and depreciation. In this paper, we consider companies with between 1 million and 100 million capital as SMEs and companies with more than 100 million as LEs based on the previous Small and Medium Enterprise Basic Law that defined companies with less than 101 million capital or employing less than 301 employees as SMEs.

[2] Existing establishment represented an establishment that had been surviving at the same location since the date of the 2001 Census. Newly organized establishment represented an establishment that had been newly organized or had moved into the present location since the date of the Census. Abolished establishment represented an establishment that had moved to a different location or had been closed after the date of the Census.

[3] The entry rate indicates "(1) the average number of establishments newly established" during a particular period as a proportion of "(2) the number of establishments already n existence at the start of the period," and is calculated by dividing (1) by (2). The exit rate is calculated in a similar manner.

[4] The Small and Medium Enterprise Basic Law was amended in 1999. The amendment raised the capital size of SMEs from JPY100 million to JPY300 million.

[5] Although they are called SME universities, they are training institutes.

REFERENCES

Kurose N (2006) *Chushokigyo Sisaku* (Small and Medium Enterprise Policies). Tokyo: Nihon keizai hyouronsha.

National Federation of Credit Guarantee Corporations (2007) *Credit Guarantee System in Japan.* Tokyo.

Ministry of Economy, Trade and Industry (2005) *White Paper on International Economy and Trade 2005*. Tokyo.

Ministry of Internal Affairs and Communications (2004) *Employment Status Survey 2002*

Small and Medium Enterprise Agency (SMEA) (1979) *White Paper on Small and Medium Enterprises 1979* (Japanese version). Tokyo.

SMEA (2005) *White Paper on Small and Medium Enterprises in Japan 2005*. Tokyo.

SMEA (2006) *White Paper on Small and Medium Enterprises in Japan 2006*. Tokyo.

SMEA (2007) Japan's SME Policies in Relation to the Country's Economic Development http://www.chusho.meti.go.jp/sme_english/outline/01/01_01.html (Accessed December 14, 2007)

Yoshida K. 1997, *Tenkini Tatsu Chushokigyo* (Small and Medium Enterprises on the Cross Road). Tokyo: Shinhyouron.

Chapter 7

SME DEVELOPMENT IN LAO PDR

Phouphet Kyophilavong

Abstract

Small and medium-sized enterprises (SMEs) play a very important role in enhancing economic development in Laos. However, SMEs in Laos are small and lack competitiveness. The inflow of foreign direct investment (FDI) and trade liberalization in Laos bring opportunities and challenges for SMEs in Laos. Moreover, issues of SMEs and assessment of SMEs promotion policy are not well understood for lack of studies.

This paper study provides an overview of the current situation, issues, and policies confronting SMEs in Laos. It evaluates the impact of FDI and trade liberalization on SME development. Although the government of Laos has defined policies and strategy to support SMEs, it lacks specific programs that could flesh out these policies. SMEs are thus faced with the problems of high tax collection, high inflation, unstable exchange rate, and inadequate funding. Moreover, SMEs are confronted with problems of innovativeness, lack of competitiveness, limited market, and networking. FDI provides SMEs with opportunities to increase their production through subcontracting production linkages. The impact of trade liberalization on SMEs is not well understood but trade liberalization seems to have negative impact rather than positive impact on SMEs.

INTRODUCTION

Laos joined the Association of Southeast Nations (ASEAN) in 1997 and ASEAN Free Trade Area (AFTA) in 1998. As part of its commitment under the AFTA agreement, Laos has to reduce the tariff rates to 0 to 5 percent in 2008. Reducing tariff rates would increase imports, and have a negative impact on domestic economy.

Moreover, increasing FDI is expected to play an important role in increasing SME productivity. On the other hand, FDIs may reduce the number of domestic investments, especially those of SMEs. Most SMEs in Lao face challenges and constraints, such as lack of financial support and inadequate skilled labor, and low level of competitiveness.

It is widely accepted that SMEs play a very important role in Lao's economy. In 2004, medium enterprises numbered about 722 and small enterprises, 25,271. In term of employment, SMEs offer more than 60,000 job opportunities, which accounted for 40 percent of the country's total employment. To save Lao SMEs from the adverse impact of globalization, it is crucial to identify the issues confronting SMEs and evaluate the government policies and the impact of trade liberalization and FDIs on SMEs.

Notwithstanding the important role that garment SMEs play in SMEs in Laos, the termination of the Agreement on Textiles and Clothing (ATC) in December 2004 caused a shift in the global textile and garment industry in terms of trade and investment flows. The export value and employment of the garment industry was expected to decline (UNIDO 2003). Moreover, the safeguard policy will be eliminated in 2008 and China will pose an even greater obstacle to Lao garment exporters. The government of Laos (GoL) would do well to formulate appropriate policies to support garment SMEs and enhance their competitiveness.

For lack of studies, however, on SMEs and assessments of SMEs promotion policies in Laos, existing policies and programs toward SMEs are not well understood. In this regard, this paper provides an overview of SMEs in Laos and assesses SMEs promotion policies in Laos. The specific objectives of this paper are as follows:

a. To provide an overview of the government policies concerning SME development and their present situation
b. To study the innovativeness, market expansion, competitiveness and networking involving Lao SMEs;
c. To assess the impact of trade liberalization and FDI on SME development; and
d. To identify the factors affecting SMEs productivity.

This paper is divided into two sections. The first provides a general picture of SMEs, and an assessment of promotional policies, impact of trade liberalization, and FDI on SMEs, using secondary data and previous study results. General innovativeness, market expansion, competitiveness and networking of SMEs in Laos are also discussed in the section. The next section focuses on garment SMEs and presents primary data from surveys. Current situations and issues hounding garment SMEs are also explained alongside issues of innovativeness, market expansion, competitiveness and networking of garment SMEs.

2. LITERATURE REVIEW

SMEs in Laos have been the subject of quite a few studies. Kyophilavong et al. (2007) conducted a survey on SMEs in Laos using more than 16,000 samples. The study sought to find the factors determining the performance of SMEs in Vientiane and other provinces. The Logit model and multiple regressions were the main methods used in their analysis. The study found that unstable exchange rates, and domestic ownership have negative effects on the performance of SMEs while those of capital, labor, state-owned companies, and private companies are the reverse (Kyophilavong et al., 2007). However, the study could not show the performance of subsectors such as handicraft, wood processing, and the like. The Ministry of Industry and Handicraft and United Nations Development Organization (UNIDO 2001) conducted surveys on SMEs in Vientiane and other provinces with 200 of sample size. They showed that SMEs were still faced with many constraints such as lack of access to finance and production inefficiency. Furthermore, they recommended that SMEs should improve management and skills and technological capability to become more competitive. A combined study by the Asian Development Bank and the World Bank (2007) looked into the investment climate. This was based on an Investment Climate Survey (ICS) carried out in 2005. Still, there was no study on the Innovativeness, Market Expansion, Networking and Competitiveness of SME in Laos. Such is the gao that this paper aims to fill.

3. DEFINITION AND SMES PROMOTION POLICY

3.1 SME Definition

The definition of SMEs varies from country to country in terms of number of employees, value of total assets and total sales. A distinction is made between qualitative and quantitative definitions of SMEs. Quantitative approach uses the criteria of the number of workers or volume of sales, or a combination of both. These measures are simple and commonly used by developing countries. Qualitative approach is more flexible and relates to how enterprises differ in aspects of business development such as financial development, and technical or managerial capacity. For instance, if an enterprise has one or two persons responsible for managerial decisions it will usually be defined as a small firm. Qualitative definitions distinguish between different kinds of businesses and are more widely used in industrialized countries. In Laos, the definitions of SMEs have changed from time to time:

The Ministry of Industry and Handicraft (MIH) uses a quantitative definition to classify the size SMEs in Laos. In 1996, MIH-GTZ defined small enterprises as comprising one to nine workers, medium-sized enterprise 10 to 29 workers, and large enterprise more than 20 workers.

In 2000, MIH changed SMEs' definition when it gave definitions for factories in the processing industry. These defined 10 – 50 workers (or 10-50 horsepower) as small enterprise, 51-200 workers (or 51-200 horsepower) as medium-sized enterprise and more than 200 workers or 200 horsepower as large enterprise.

In 2000, the National Statistical Center echoed the then new definition put forth by the MIH, which has now become the standard among practitioners and academics working with micro/small enterprises in Laos. Based on its definition, small enterprises have one to nine workers, medium-sized enterprises 10 to 99, and large enterprises more than 99.

According to the Prime Minister's Office (2004), SMEs are independent enterprises that are legally registered and operating according to the prevailing laws of the Laos and are classified into the following size categories:

a. Small enterprises are those having an annual average number of employees not exceeding 19 people or total assets not exceeding two hundred and fifty million kip or an annual turnover not exceeding four hundred million kip, and

b. Medium sized enterprises are those having an annual average number of employees not exceeding 99 people or total assets not exceeding one billion two hundred million kip or an annual turnover not exceeding one billion kip (Table 1).

Table 1 Definition of SME

Enterprise category	Employees (person)	Annual Turnover (million kip)	Asset Value (million kip)
Micro	1 – 4	< 100	< 70
Small	5 – 19	< 400	< 250
Medium	20 – 99	< 2000	< 1200

Source: Prime Minister's Office (2004).

3.2 SME Promotional Policies

The Lao government began promoting gradual economic liberalization through the introduction of the New Market Mechanism in 1986. This was followed by the Law on Promotion and Management of Foreign Investment and Business Law in July 1994. To promote and provide more incentives to FDI, the Law on Promotion and Management of Foreign Investment was amended in October 2004. In addition, Lao government also began conducting the Business Forum in Laos to facilitate dialogues with the business sector.

Government efforts toward SME promotion were expressed in Primary Office Decree No. 42/PM, the goals of which were as follows: a) improve the regulatory environment; b) enhance the competitiveness of establishment; c) expand domestic and international market access; d) improve access to finance; e) encourage the development of business organization; f) enhance entrepreneurial attitudes and characteristics within the society.

The National Small and Medium Sized Enterprise Office (SMEPDO) was established by virtue of the Prime Minister's Decree No. 42/PM. Its main objective was to promote the establishment and sustainable development of Lao SMEs.

Even with the enactment of these policies, there were still no specific support programs to improve the managerial, technical, and entrepreneurial skills of SMEs alongside access to finance (GTZ 2006).

4. CURRENT SITUATION OF SMES

4.1 Performance and obstacles

In 2004, medium enterprises numbered about 722 and small enterprises 25,271. In terms of human development, SMEs have generated more than 60,000 job

Table 2 Obstacles of SMEs

	Vientiane Municipality		Other Provinces		Total	
	Count	%	Count	%	Count	%
Other	379	0.71	172	0.46	551	0.61
Lack of skilled labor	1451	2.72	856	2.30	2307	2.55
lack of labor	1300	2.44	1028	2.76	2328	2.57
Substitute production	1674	3.14	1090	2.93	2764	3.05
Suppliers of production factors	1866	3.50	1279	3.44	3145	3.47
Insufficient material	2004	3.76	1278	3.43	3282	3.62
Stric regulations	2084	3.91	1804	4.85	3888	4.29
Lack of market	2678	5.02	2319	6.23	4997	5.52
Expensiveraw material are	3588	6.73	1941	5.21	5529	6.10
Customers bargaing power	3212	6.02	2656	7.13	5868	6.48
New Competitors	4867	9.12	3136	8.42	8003	8.83
Competitor of the same business	5003	9.38	3489	9.37	8492	9.37
Unstable exchange rate	5572	10.44	3747	10.06	9319	10.29
Lack of fund	5564	10.43	4198	11.28	9762	10.78
High tax	5946	11.14	4222	11.34	10168	11.22
High inflation	6165	11.56	4017	10.79	10182	11.24
Total	53353	100.00	37232	100.00	90585	100.00

Source: Kyophilavong et al (2007).

opportunities, accounting for 40 percent of the total employment in Laos. According to Kyophilavong et. al (2007), about 10 percent of establishments are performing well in Vientiane Municipality (VTM) and Other Provinces (OTP). In addition, about 20 percent of the SMEs in VTM and 17 percent in OTP are optimistic about the future of their businesses, saying they anticipated better business prospects. These show that economic prospects in Laos are favorable.

Kyophilavong et. al (2007) said the obstacles to running business in VTM and OTP are the same as the top four obstacle among SMEs in Laos, namely, high tax, high inflation, unstable exchange rate, and lack of fund (Table 2). Based on interviews with SME owners, the tax collection system lacks transparency (Lord Montague 2006).

At the height of the Asia financial crisis during 1997-1998, Lao suffered like other affected countries in the region. Among the impacts on its economy were high currency (kip) depreciation that led to hyper inflation. SMEs, in particular, bore the brunt of the crisis (Naozi Okonjo-Iweala 1999). These problems continue to hound SMEs. Until now, no banks or financial institutions provide credit support to SMEs.

Table 3 Needs of Government Support

	Vientiane Municipality		Other province		Total	
	Count	%	Count	%	Count	%
Others	2382	20.24	2143	24.99	4525	22.25
Increase labor force	9	0.08	14	0.16	23	0.11
Decrease price of gas	16	0.14	8	0.09	24	0.12
Increase skilled labor	34	0.29	18	0.21	52	0.26
Provide the training	81	0.69	35	0.41	116	0.57
Stabilize exchange rate	161	1.37	77	0.90	238	1.17
Decrese stric regulations	183	1.56	69	0.80	252	1.24
Decrease price of water	268	2.28	103	1.20	371	1.82
Providing market information	350	2.97	171	1.99	521	2.56
Stabilize inflation rate	704	5.98	157	1.83	861	4.23
Decrease price of electricity	1018	8.65	321	3.74	1339	6.58
Capital support	2190	18.61	2301	26.84	4491	22.08
Decrease Tax	4370	37.14	3157	36.82	7527	37.01
Total	11766	100.00	8574	100.00	20340	100.00

Source: Kyophilavong et al (2007).

The banking sector in Laos is dominated by the state-owned Commercial Bank, which has limited assets and deposits, and offer no credit facilities to SMEs. Moreover, the banking sector does not have incentives to provide credit to SMEs (Kyophilavong 2008). Therefore, SMEs mainly depend on informal sectors for credit and funding. Based on the foregoing, what SMEs specifically need government to do is to ease their taxe burdens and provide them with capital support (Table 3).

4.2 Innovativeness

For purposes of this paper's discussion, innovativeness means the ability of the owner to develop new product or improve their production. Since SMEs in Laos are in the early stage of development, innovativeness lags behind neighboring countries. Worse, data generation on innovativeness is not yet well developed. A number of institutions exist to provide innovation training for SMEs, but their efforts are not enough to raise the level of SME innovativeness. They seen the need for SME owners to expand their product lines. These are the National University of Lao (NUOL), Science and Technology Environment Agency (STEA) and National Agriculture and Forestry Research Institution (NAFRI).

4.3 Competitiveness

Among SME products, only handicrafts appear competitive pricewise. The cost of handicraft product is cheaper than those of other countries in the ASEAN region, since labor costs in Laos are very low. The average wage of Lao worker is around US$ 30 a month while the average wage of Vietnamese worker and Cambodian worker is 40 US$ and US$ 35, respectively (ALGI 2002). However, the productivity of Lao workers is also lower compared to neighboring countries like Vietnam and Cambodia. Furthermore, the average labor wage in Laos may no longer competitive in given rising wages in recent years.

Having been accorded the Least Developed Country status, Lao enjoys preferential access to more than 44 countries. This status puts it in an advantageous position competition-wise. Under the Generalised System of Preferences (GSP), Lao enjoys access to the European Union market for certain export products, especially

handicrafts, silk and textile, wood crafts, etc. However, the GSP will be eliminated in 2008, which means some products will cease to be competitive.

In 2004, the U.S. granted the Normal Trade Relation to Laos, a preferential treatment that expanded the range of Lao's exports to the U.S. Even then, its exports to the former grew only slightly the last couple of years in the face of conditions and constraints that made it difficult for Lao to comply. Among the conditions imposed were that raw materials should be source from domestic sources and that the process of production should be according to international standards. These and similar constraints limited Lao's competitiveness in the global market.

4.4 Market expansion

In the absence of data on SME market share in the domestic market, this study opted to use the number of establishments as a measure of local market expansion. The number of new SME establishments could explain the expansion of the domestic market. In 2005 there were 77,651 registered establishments. Two years later, in 2007, SME establishments, according to SMEPDO, were estimated to number about 135,000. This translates to about 73.5 percent compared to 2005.

With preferential GSP treatment from other countries, Lao's opportunity for its SMEs to increase its production and enhance its exports, especially garments and handicrafts. In 2005, the garment export amount to 142 million US$. Garment SMEs share of total export was about 30 percent. Export market seems to have expanded compared to the previous year.

4.5 Networking

In theory, firms operate by transforming raw material into finished products. Final products depend on inputs (raw materials and intermediate goods) from several other firms. This comprises a network between firms. (This topic is further explained in a separate section.)

Past networking between SMEs, contractors, and suppliers seemed to be very poor. Many SMEs were run as family businesses. Some succeeded, but some failed.

With the advent of trade liberalization and FDI inflow, SME competitiveness was enhanced; so was networking between SMEs, contractor, and suppliers. Yet, the lack of supporting government and private institutes including banks do not bode well for SME development in Laos, even where networking is concerned. Hence, external networking of SMEs in Laos remains weak and need more support from government.

5. IMPACT OF FDI AND TRADE LIBERALIZATION ON SMES

5.1 Impact of FDIs on SMEs

FDIs have played a very important role in Lao economy. It can accelerate economic growth and income of the people. FDIs also help SMEs develop by facilitating the transfer of technology, improving knowledge and skills, among other benefits. (GTZ 2007).

This section presents two cases showing the link between FDI and SME development in Laos. The first case involves Lanexang Mineral Companies Ltd. (LXML) and the second, Lao Brewery.

LXML, a subsidiary company of Oxiana, Australia, operates gold and copper exploration at the Sepon site, Vilaybouly district, Savannkhet province. Given the limited technology and suppliers in Lao Most goods and services supplied to LXML are from overseas, and comprise 78 percent (equivalent to US$148 million a year) of its total requirements. On the other hand, a proportion of goods and service supplied by Lao firms to LXML account for 21 percent, or US$31 million, of the total in a year. Local (Vilaybouly district) business accounts for around 0.3 percent, Savanhnakhet firms, for 11.1 percent; and other Lao firms, 9.3 percent, or US$13.8 million. This means Lao companies have vast opportunities to supply goods and services to LXML.

The company's contribution to the economy is evident in the generation of jobs in its area of operation and increased income of the people in that area owing to its operations. According to GTZ (2007), employment generated by the companies which has business linkage with LXML about 10,000 peoples. In terms of income, there is no exact figure but the turnover of local business is expected to increase (GTZ 2007).

The Lao Brewery Ltd. began operating in 1973 as a joint venture between foreign firm and the Lao government. Today, the partners comprising the firm are Carlsberg Asia, TCC (Thai Co.), and Lao government. The present demand for beer in the Laos market exceeds the brewery's production. The Lao Brewery has thus decided to expand production in the near future. The company will launch two new factories in Vientiane province and Champasak province. This will increase the chances of SME to expand the market (GTZ 2007). Lao Brewery contracts services for beer transportation to the provinces to three transport and trucking companies at a value of US$4.3 million. The expansion of Lao beer production will increase transportation contract agreements and number of workers. Based on GTZ estimates in 2006, the number of employment in the linked business is projected to increase from about 35,000 to 45,000. In sum, FDI plays an important role in the SME development in Laos. However, it is important to consider negative impact of booming FDI (mining and hydro-power sector) on SMEs development, as called Dutch Disease in medium and long term.

5.2 Impact of Trade Liberalization on SMEs

The government of Laos continues to implement various trade reforms to increase growth. Tariff reduction is being pursued as part of the AFTA commitment. Furthermore, it plans to join the World Trade Organization by 2010.

Trade liberalization has positive and negative impacts on SMEs in four major ways: 1) by increasing competition; 2) by lowering production costs due to cheaper imported inputs; 3) by increasing export opportunities; and 4) by reducing availability of local inputs (Tulus 2007).

However, Lao SMEs are very small and not as competitive as those in neighboring countries. Therefore, trade liberalization might have negative impact on SMEs. On the other hand, Lao SMEs could increase their competitiveness by decreasing the cost of input and market expansion. However, debating this issue effectively needs more data and empirical studies to support the arguments. Unfortunately, there are very few studies on this issue. Kyophilavong (2006) employed the Computable General Equilibrium (CGE) model to investigated the impact of AFTA on Lao economy. The results showed that agriculture products decreased slightly. On other hand, non-

agricultural products increased. Exports and imports of the two sectors also increased. However, import of agricultural import was quite high. Welfare measured by Hicksian equivalent variation increased 1.88 percent, which means that the welfare of Laos will increase, but the percentage is small.

In sum, it is not clear if Lao SMEs will benefit from trade liberalization. Moreover, the benefits of trade liberalization will have a negative impact on SMEs if the government of Laos (GoL) neglects to promote SMEs to improve their comparative advantage for increasing exports and to reform the domestic tax and collection system. Moreover, as Laos is a landlocked country, transportation cost is one of the most important issues surrounding SMEs' competitiveness. It is important for GoL to find ways to reduce transportation costs.

6. GARMENT SMES

6.1 Current situation

The garment industry plays a very important role in the manufacturing sector since it has created employment opportunities, contributes to strong export growth, and generated more income for the Lao people. In 2006, it employed more than 25,000 workers and earned more than US$140 million. Given the significance of this sector to the Lao economy, a study of many aspects of its operations such as export potential, comparative advantage, competitiveness, and efficiency of production was conducted to determine appropriate policy measures that will help develop this sector (Wongpit 2006). In addition, the termination of China's safeguard policies in 2008 could reduce the volume of Lao garment exports to this country. This impact would hurt not only the Lao economy but also the efforts toward human development. Therefore, the government of Laos plans to assist other potential sectors to diversify this impact. SME garment is one of many subsectors which have high potential for development.

The value of garment export is increased from US$ 142 million in 2005 to US$ 145 million in 2006. On the same direction, the quantity of garment export in 2006 also grew about 10 percent compare to previous year (Table 4). The total number of export garment enterprises in Laos is 59, of which 17 enterprises are doing Free On

Table 4 Export and Subcontractors of Garment Establishment

Year	Number of Export Company	Subcontractor and Others	No. of Worker	Export Quantity		Value of Export	
				Piece-million	%	million US$	%
1998	58	10	17,200	27.06		76.15	
1999	55	18	18,000	25.93	-4.18	100.03	31.36
2000	53	26	19,000	25.56	-1.44	108.09	8.06
2001	52	26	20,000	26.96	5.46	103.49	-4.26
2002	53	27	21,462	23.11	-14.25	103.38	-0.10
2003	55	31	23,846	28.12	21.66	115.13	11.37
2004	57	43	26,000	31.91	13.47	131.73	14.41
2005	58	55	27,500	33.47	4.89	142.88	8.46
2006	59	57	25,700	35.58	6.31	151.81	6.25
2007	60	59	22,700	N/A		N/A	

Source: Association of the Lao Garment Industry, 2007

Board (FOB), 22 enterprises, FOB and Cut, Make and Trim (CMT), and the rest, only CMT. There are about 58 SME garments and the majority of them doing subcontractors. The export company employs more than 21,000 workers in 2007, down 10 percent from the previous year.

In the beginning of the garment development in Laos, there were only 10 factories and around 300 workers. Most SME garments are working as subcontractors of large enterprises. In 2007, the number of registered garment SMEs rose to 59 subcontractors, employing more than 1,600 workers. These absorbed the surplus production from large garment enterprises and employ about 7 percent of workers in the garment industry. Since the government of Lao has implemented the FDI promotion policy, a lot of FDI especially from the garment sector, has been coming to Laos. It has helped increases the number of large garment enterprises and enhances employment.

As the Agreement on Textiles and Clothing was eliminated in 2004, and the safeguard policy will cease by 2008, there are bound to negative impacts on garment SMEs in Laos. In addition, garment SMEs are confronted by issues of competitiveness, innovativeness, market expansion and networking. A survey was thus conducted to assess the current situation and identify the issues affecting garment SMEs, such as

those involving competitiveness, innovativeness, market expansion, and networking in garment SMEs.

6.2 Survey Method

For purposes of this study, primary and secondary data were obtained from domestic and international sources. Interviews were also conducted with the heads of the SMEPDO, GTZ, and SME researcher at the World Bank for an overview of the general situation of SMEs in Laos. There are about 50 subcontractors among garment SMEs in Vientiane, of whom only 20 garment SMEs were randomly chosen in December 2007 for face to face interviews between researchers and owner or mangers.

6.3 Results

6.3.1 Competitiveness.

As previously mentioned, garment SMEs are competitive because of wages among Lao workers are lower than those of Vietnam and Cambodia workers. However, most garment SMEs interviewed said Lao wages have increased 10 percent. There are couple reasons for this: a) new garment factories require more than 1,600 workers, resulting in labor shortage; b) many Lao laborers have migrated to Thailand.

The average labor productivity is about 1,350 pieces per person in a year. Despite the relatively low labor wage in Lao compared to China's, its average productivity is lower than the average Chinese worker. Thus the garment SMEs will cease to be competitive if their productivity does not increase. Furthermore, the production cost is increasing due to the increasing cost of electricity, tax, wage, and etc. Table 5 shows a 50 percent increase the cost of. Given these factors, it is difficult to say if garment SMEs in Laos are indeed competitiveness.

Table 5 Cost of Production Change

	No. Answer	Percentage
Increase	10	50%
No change	8	40%
Decrease	2	10%
Total	20	100%

Source: From Survey in 2007

6.3.2 Innovativeness

Of the 20 garment SMEs, only two factories have their own design while the rest follow customer's designs. The former produce for the domestic market. The majority of garment SMEs get orders from large enterprises prompting them to follow the latter's designs. It takes an average of one day to make a new product once sample designs are received from large enterprises. Most subcontractors show flexibility in creating many types of products when the order has changed such as T-shirts, polos, jackets, pants, etc. When a customer changes orders, SMEs take about a week to learn and increase their productivity in a month's time. Therefore, the innovativeness of the garment industry still lags behind other countries.

6.3.3 Market expansion

Based on the study, the two companies producing for domestic markets produce mainly student uniform such as shirts and pants. This year production for the domestic market has increased about 10 percent from last year due to the increased orders, including those from other provinces (Table 6).

Table 6 Revenue Change from 2006

	No. Answer	Percentage
Increase	3	15%
No Change	7	35%
Decrease	10	50%
Total	20	100%

Source: From survey in 2007

The external market for garment product has increased, according to data from ALGI (2006). In 2006, garment exports rose about 6 percent compared to the previous year. Compared to comparative data for 2003-2004, this growth rate is low. The total value of garment exports was placed at more than US$150 million for more than 35,000 pieces. Exports to the European Union were valued at US$131 million, or 80 percent of the total exports. Exports to the U.S. market in 2005 were placed at US$2 million. Between 2006 and 2007, exports to this market were valued at US$8 million and US$9

million, respectively. This was brought about by the Normal Trade Relations tariff treatment**.** Notwithstanding this increase, production of SME garments seems to have declined. The subcontractors are besieged by problems like decreasing orders, labor shortage, and expansion of large enterprises, which is posing stiff competition. At least 10 factories have decreasing their production while two factories have expanded their product lines, and seven others have not changed the level of their production at all.

6.3.4 Networking.

Based on the results of the same survey, there are 18 out of 20 garment SMEs with subcontracting arrangements (Table 7). They have very good relationships with contractors, who lend the former sewing machines orders increase significantly. At times they even advance payments to SME garments before the due date. The majority of SME garments do not exchange their orders, because they take order as their production capacity. If the garment SMEs cannot meet production on the due date, they pay a penalty. Only two SME garments exchange orders because their owners are relatives. SMEs usually trade information on order and price. They sometimes agree to promote a representative of SME garment to negotiate with large companies on the price. However, such negotiations do not always succeed, since the prices large companies quote have become more competitive recently.

Table 7 Internal Networking

	Yes	No	Total
Contractors Assistence	18	2	20
Exchange Order	2	18	20
Exchange Information	19	1	20

Source: From survey in 2007

Garment SMEs encounter many difficulties in their development. To address this issue, the government has implemented SME promotion policies. However, these policies do not really work. Of the 20 garment makers surveyed, 19 do not have get any assistance from the government. Furthermore, all respondents said that they do not have any assistance from ALGI (Table 8). They said they need government assistance in

obtaining more orderas, financial support, and training in view of fluctuating orders and the fact that some of them produce only three months a year. Access to funding is also crucial since they cannot expand their production. The majority of garment SMEs cannot take out a loan since banks require collaterals and the process of borrowing is complex and tedious.

Table 8 External Networking

	Yes	No	Total
Government including SMEPO	1	19	20
Association of Lao Garment Industry	0	20	20

Source: From survey in 2007

Garment SMEs also want the government to provide training for their workers. Institutions like JICA, GTZ, and UNIDO have funded some training programs but these were not continued, being only short-term. The ALGI also provides insufficient assistance to garment makers. All the firms sampled said they get little support from ALGI. This forces them to solve their business problems on their own while trying to stay afloat.

7. CONCLUSION AND POLICY SUGGESTIONS

7.1 Major ills confronting SMEs

This results of the study presented could be summarized as follows: SMEs play an important role in economic development in Laos. While the GoL has clear policies and strategies to support SME development, it lacks specific support programs. Such programs should help these enterprises hurdle the major obstacles to SME growth: high tax, high inflation, unstable exchange rate, and lack of funds.

In addition, Lao SMEs are confronted with issues of innovativeness, competitiveness, market expansion, and networking. FDIs also have an important role in the SME development. FDI provides sopportunity to SMEs to increase their product through subcontracting production linkages. However, the impact of trade liberalization

on SMEs is not well understood. Trade liberalization seems to have negative impact rather than positive impact on SMEs.

7.2 Proposed policy measures

Effective policy management toward SME development requires reliable statistics and information on SMEs. However, concerned government agencies seem to overlook this issue. They should pay more attention to collecting basis data and analyze them carefully before they can come up with well thought out plans and implement them. Although the SMEPDO has already begun implementing the SME promotional policy, those policies should translate to concrete results. In addition, SMEPDO should conduct an annual monitoring of policy implementation governing SMEs and determine if there are inappropriate regulations that need to be revised.

SMEs should develop capacity building measures such as productivity, quality, and quantity. As these may not be easily pursued, SMEs should work closely with SMEPDO, especially in the areas of training and learning management**.** SME themselves should send feedback to the SMEPDO, which can aid the latter in fulfilling its functions for the benefit of the concerned enterprises. The workers should have training so they can increase their productivity. The wage of worker may increase; nevertheless, they should increase productivity to keep the production cost stable.

Tax collection from government is one of the most serious problems in SMEs. Therefore, it is important to increase the efficiency of tax collection or provide tax incentive for SMEs. Laos has experienced economic instability during the previous years. Therefore, it is important to improve macroeconomic stability by controlling inflation and foreign exchange rate. GoL should provide finance to SMEs by setting SMEs Bank or Finance Institution Supported to SMEs.

Appendix: Factors Affecting Labor Productivity of SMEs

1. Model Specification and Variable Measurement

1.1Model specification.

Starting with the conventional Cobb-Douglas production function defined as:

$$Y_{it} = AK_{it}^{\alpha} L_{it}^{\beta} e^{x_{it}} \quad (1)$$

Where A is a constant term, Y_{it}, K_{it}, and L_{it} are total output, capital and labor for firm i at time t and x_{it} is a group of possible factors, which may affect labor productivity, respectively. α, β are elasticity coefficients of the production that is assumed to be constant across firms. Divided both side by L_{it}, then equation (1) can be rewritten as:

$$\left(\frac{Y_{it}}{L_{it}}\right) = A\left(\frac{K_{it}}{L_{it}}\right)^{\alpha} (L_{it})^{\alpha+\beta-1} e^{x_{it}} \quad (2)$$

Equation (2) shows that the level of labor productivity is explained by many factors: capital intensity, scale economy and X_{it} group. (α+β-1) is the coefficient of scale. If it is positive, it means there is increasing return to scale. If it is negative, there is decreasing return to scale. Differences in a firm's labor productivity can be explained through disparities in these factors. Taking of logarithm both sides of equation (2), then the equation becomes

$$\ln\left(\frac{Y_{it}}{L_{it}}\right) = \ln A + \alpha \ln\left(\frac{K_{it}}{L_{it}}\right) + (\alpha + \beta - 1)\ln(L_{it}) + X_{it} \quad (3)$$

According to Solow (1956), there are many factors affecting total factor productivity (TFP) such as technological progress, research activity, human capital, trade, firm's age and size, ownership and other unobservable factors. Owing to the limitation of data, gender, firm's age, ownership, and labor quality, and some other dummy variables are

assumed to be the main factors affecting TFP. Therefore, X_{it} can be written as another functional form, as shown below:

$$X_{it} = f(QUA, AGE, NA, D1, D2, D3, D4, D5) \quad (4)$$

Therefore, the linear regression model used in this paper is

$$\ln(LP_{it}) = \beta_0 + \beta_1 \ln(CAP_{it}) + \beta_2 \ln(SIZE_{it}) + \beta_3 QUA_{ti} + \beta_4 AGE_{it} + \beta_5 NA_{it} + \beta_6 D_1 + \beta_7 D_2 + \beta_8 D_3 + \beta_9 D_4 + \beta_{10} D_5 + \varepsilon \quad (5)$$

Where, $\beta_1 = \alpha$ and $\beta_2 = (\alpha+\beta-1)$ and ε is unobservable variable or error term

We use secondary data from GTZ (2005) in estimation of labor productivity in SMEs

1.2 Variable measurement

In the light of the above econometric model, the variables in this paper are expected to have an influence on manufacturers' labor productivity in the case of SMEs in Laos. These variables include CAP, SIZE, QUA, AGE, NA, D_1, D_2, D_3, D_4, and D_5

CAP is capital intensity (K/L) measured by the ratio of total fixed assets to the total number of employees in each firm. In general, enterprises with a large amount of capital intensity is expected to have higher labor productivity and workers are more productive when they have more or better capital to work with (Hsu and Chen 2000). Therefore, this variable is very important in influencing labor productivity. In this study, it is expected to have a positive impact on a firm's labor productivity.

SIZE is a firm's size (L) measured by the total number of employees. Following the theory of economies of scale, it suggests that a manufacturer should increase its size to achieve minimization of average cost. For empirical studies this variable can also be positive or negative and have an effect on firm's labor productivity.

QUA is a labor quality measured by the year of school attainments. This variable is anticipated to be positive in promoting labor productivity. According to previous studies, workers with higher labor quality should be more productive than those with lower labor quality. Moreover, workers with larger human capital stock are more adept at utilizing technology.

AGE is the age of ownership. This variable can be proxy as the experience of the ownership. Normally the experience has a good relationship with firm productivity. Therefore, this variable is expected to have a positive sign.

NA is nationality, which is measured by dummy variable. It takes value 1, if ownerships are foreigner and 0 other. Conventionally, this variable is expected to have positive impact on firms' labor productivity because it can be the source of technology transfer and spillover in terms of tangible or intangible term.

D_1 is dummy variable; its value is 1 if the owner manager completes any vocational and technical skills training and takes value 0 other. This variable is expected to have positive impact on firms' labor productivity

D_2 is dummy variable whose value is 1 if the management or office staff have finished any vocational or technical training and 0 for other. This variable is expected to have positive impact on firms' labor productivity

D_3 is dummy variable, it value 1 if the owner managers get any training after starting their business and takes value 0 other. This variable is expected to have positive impact on firms' labor productivity

D_4 is dummy variable, its value is 1 if the owner managers get any advice on developing their business and 0 for other. This variable is expected to have positive impact on firms' labor productivity

D_5 is dummy variable, its value is 1 if the owner managers want to learn any skills in order to improve their own business and 0 for other. This variable is expected to have positive impact on firms' labor productivity.

Dependent variable **LP (**labor productivity) is defined as the total sale value per worker. Owing to the fact that data on total output (physical term) is not available in all firms. The error ε is very important in this analysis; it is the sum of unobserved variable influencing on labor productivity.

2. Results and Discussions

To obtain the results, the paper employed pooled ordinary least squares (OLS) technique. In the pooled ordinary least squares regression analysis, the paper used all

variables in the regression and the results obtained by this technique are summarized in the table below.

Dependent Variable: LOG(LP)

Explanatory Variable	Coefficient	Std. Error	Significant Level
Constant	8.1710	1.0119	***
LOG(CAP)	0.3997	0.0558	***
LOG(SIZE)	0.1771	0.0873	***
QAU	0.1555	0.0235	***
AGE	0.0022	0.0075	-
NA	-0.2551	0.2970	-
D1	0.2406	0.1989	-
D2	0.0169	0.2071	-
D3	-0.4100	0.1737	**
D4	0.0865	0.1787	-
D5	-0.5594	0.2683	**
Adjusted R-Square			0.1772
No. Observation			339

Note: * *denotes significance at 5 percent; ***denotes significance at 1 percent

According to the results above, nearly all of the explanatory variables followed the expected sign. However, some variables are not followed an **anticipation sign** (?). Following the conventional finding documenting a strong relationship between the growth rates in capital per worker and the growth rate in labor productivity, the coefficient of capital intensity (CAP) has a positive sign and is statistically significant at 1 percent. This result implies that an increase in the capital-labor ratio leads to an increase in the firms' labor productivity. It is well known that the productivity of labor depends to a large extent upon the total quantity and quality of capital per worker. The greater the capital intensity per worker, the more leverage the worker has on productionbecause capital is the basic input in the production process.

The result for economies of scale, as measured by the number of employees/firm size (SIZE), has a positive sign and is statistically significant. This story perhaps starts with the standard microeconomic theory, specifically the portion dealing with

economies of scale. The theory suggests that a firm must increase its size in order to achieve minimization of average cost. Under this point of view, it can be regarded that large firms will perform better than small firms.

In this analysis, labor quality variable (QUA) reveals positive signs and is statistically significant at 1 percent. This result follows the conventional finding that labor quality plays a very important role in determining a firm's productivity because labor is one of the most important factors in the production process. This implies that education and experience of workers is at the core of improving productivity.

Analysis of age variable (AGE) found that the age of firms is not significant and has a positive sign. It means that firms' labor productivity in the Lao SMEs does not depend on the age of the firm. This may be because technology level used in SMEs is low and not much developed.

Concerning the ownership variable (NA), the result indicates a negative sign and is statistically insignificant. For the dummy variable like D_1, D_2 and D_4 are not significant. This means that the any of these factors—owner manager completes any vocational and technical skills training, the management or office staff have finished a vocational or technical training and the owner managers seek advice on developing their business—does not have any impact on firms' labor productivity. It could be because either of, or both, managers and official staff are not productive workers. They do not contribute much to the production process.

In contrast, the dummy variables like D_3 and D_5 have a negative sign but statistically significant at 5 percent. This indicates that if owner managers get some form of training after starting their business and the owner managers want to learn skills to improve their own business, there is bound to be a negative impact on the firm's labor productivity.

REFERENCES

ADB and World Bank. 2007. *Reducing investment climate constraints to higher growth.* A Joint Document of the Asian Development Bank and the World Bank. **Manila.**

German Development Cooperation/German Development Corporation. 2006. *Enterprise baseline survey*, Lao-German Programme on Human Resource Development Market Economy.

_____. SMEPDO 2007. *FDI- SME Linkages - Two Case Studies.* Committee of Planning and Investment, SME Promotion & Development Office and Lao National Chamber of Commerce and Industry. **GTZ, Vientiane.**

Inmyxai, S. 2003. *Small and Medium Enterprise (SME) Development Framework in Lao PDR*. Lao PDR: Ministry of Industry and Handicraft. **Vientiane:** Ministry of Industry and Handicraft

Kyophilavong Phouphet. 2008. Laos: Coping with Multi-currency. *Monetary and Exchange Rate Policies in Cambodia, Laos and Viet nam: Scope for Regional Cooperation*. Manila: Asian Development Bank. Forthcoming.

_____. 2006. *Analysis of the Impact of the AFTA on Lao Economy-A CGE (Computable General Equilibrium) Model Approach.* Final research project report, Place of publication: Korea Foundation for Advanced Studies (KFAS) International Scholar Exchange Fellowship Program.

_____, C. Sanesouphap, S. Suvannaphakdy and A. Nakiengchan. 2007. Determine the performance of SME in Vientiane and Other provinces. In *Lao journal of Economic and Business Management* 2:31-61.

Lord Montague, J. 2006. Lao PDR: Study on the Tax and Tax Administrative Burden on SMEs. Final report submitted to the European Commission.

Ministry of Industries and Handicraft. 2005. *A five-year Strategy and Action Plan for Industrial and Handicraft Development no. VI (2006-2010).* Vientiane: Ministry of Industry and Handicraft.

Naozi, O. I. , V. Kwakwa. El. 1999. Impact of Asia's financial crisis on Cambodia and the Lao PDR." *Finance & Development*.

Phimahasay, K. B, Sisouphanthong and P. (2007). *Addressing the Impacts of the phasing out of textiles and clothing quotas in Lao PDR: Human Development Assessment in post-agreement of textile and clothing in Lao PDR.* Vientiane: National Statistic Center.

Prime Minister's Office. 2004. Decree on the Promotion and Development of Small and Medium Sized Enterprises. Decree, Vientiane Capital, 20th April 2004**.**

Soudvannavong, O. 2006. Informatisation of SMEs in Lao PDR. SME Promotion and Development Committee. Vientiane: SMEPDO.

Small and Medium Enterprise Promotion and Development Office. 2007. *National development Strategy of Small and Medium Enterprise.* Vientiane: SMEPDO.

Shu, M. and Chen, B. L. (2000). Labor Productivity of Small and Large Manufacturing Firms: The case of Taiwan. *Contemporary Economic Policy*, 18(3), 270-283

Solow, R. M. 1956. A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics* 70:65-94.

Yotopoulos, P. A., and J. B. Nugent. 1976. *Economics of Development: Empirical Investigations*, New York: Harper & Row.

United Nations Industrial Development Organization (UNIDO). 2001. *Survey of Small Manufacturing Establishments in Lao PDR 1999*, UNIDO.

_____. 2003. *Lao PDR: Medium-term Strategy and Action Plan for Industrial Development.* Vientiane: UNIDO.

_____. 2003. *The Textile and Garment Industry in the Lao PDR,* Vientiane.

_____. 2005. *Lao PDR: Medium-term Strategy and Action Plan for Industrial Development.* Vientiane: UNIDO.

Wongpit, P. 2006. An empirical study of Economic Rationality: A test of Garment industry in Lao PDR. *Master diss. Kobe University.*

Yotopoulos, P. A., and J. B. Nugent. 1976. *Economics of Development: Empirical Investigations*, New York: Harper & Row.

Chapter 8

SMES IN THE PHILIPPINE MANUFACTURING INDUSTRY AND GLOBALIZATION: MEETING THE DEVELOPMENT CHALLENGES

Rafaelita M. Aldaba[1]

Abstract

In recognition of their substantial contribution to the economy both in terms of number of enterprises and workers, the Philippine government has put in place a number of policies and programs designed specifically to boost SME productivity and competitiveness in the country. However, the performance of SMEs in the last decade has not been vigorous enough to boost the Philippine manufacturing industry. As such, the deepening of high technology industries in terms of the creation of backward linkages has remained weak. While the country's exports of high technology products have grown rapidly, the value added of these exports is very low due to the limited links of large domestic and foreign companies to the domestic economy. Rapid changes in the international trade and the growing complexity of global production system, pose a significant challenge to Filipino SMEs.

This paper reviews existing government SME policies as well as recent developments in the manufacturing sector, within the context of the emerging global production network. The paper draws on the findings of a survey interview of SMEs in the automotive, electronics and garments sectors. The paper highlights the importance of creating a separate government office that would coordinate SME policies and programs to support the integration of SMEs in the global production chain.

INTRODUCTION

Marked disparities in income across regions have persisted in the Philippines. In the last five years 2002-2006, the mean real per capita regional income for the country's seventeen regions is around P14,000 (based on 1985 level). The highest is National Capital Region (NCR) with a real per capita income of P34,000 which is about 2.5 times the mean value and ten times the lowest value of P3,300 registered in the

Autonomous Region in Muslim Mindanao (ARMM) Region. Far second from NCR is Cordillera Administrative Region (CAR) with mean income of P18,000. Northern Mindanao and CALABARZON (Cavite, Laguna, Batangas, Rizal and Quezon) Region have around P14,000; DAVAO and CENTRAL VISAYAS with P13,000 while MIMAROPA (Mindoro, Marinduque, Romblon, and Palawan) Region follows with mean income of P12,000. Given the wide imbalances in regional incomes, gaps between regions increased from 0.06 in 2002 to 0.07 in 2006.

To reduce the regional income gaps and stimulate economic growth, the government strategy, as indicated in the Medium Term Philippine Development Plan (MTPDP), has focused on the development of urban centers outside NCR. These urban centers are encouraged to grow and become attractive investment destinations and alternative investment sites to NCR. To achieve this, the government will promote and develop small and medium enterprises (SMEs) which are seen as the key to boost the country's local and regional economies.

There is wide recognition that small and medium enterprises (SMEs) play a critical role in the economic growth and industrial development of developing countries worldwide. SMEs contribute substantially to the economy both in terms of number of enterprises and workers. Given the rising globalization trend and increasing economic integration in East Asia, SMEs could serve as potential suppliers of outsourced parts and services. As such, they could provide the link to the export sector and/or global production networks (GPNs) which have increasingly grown in sectors such as automotive, machineries, electronics, and garments. SMEs could also provide non-farm opportunities particularly through manufacturing activities making use of locally available inputs; thus strengthening the country's industrial structure.

Since SMEs compose the bulk of Philippine manufacturing enterprises, any improvement in their capabilities is important in both economic and social aspects. Strengthening the linkages between multinational corporations and SMEs can yield many benefits to the country particularly in increasing value added and employment as well as in diffusion of new technology, skills and management, and access to world markets. Linkages can also promote local supplier clusters, which are important in enhancing SME competitiveness and productivity.

The main objective of the research is to review existing government promotion policies and programs and assess their impact on SME competitiveness and performance. The paper also aims to examine the impact of these policies and programs on the creation of linkages between SMEs and multinational corporations (MNCs) along with regional production networks as well as SMEs and domestic large corporations. The National Statistics Office Census and Survey of Manufacturing Establishments are the main data used in the analysis. A survey-interview of SMEs was also conducted to bolster the findings.

The paper is structured as follows: section II presents the analytical framework while section III reviews government SME policies and programs that helped shape the development of SMEs in the Philippine manufacturing industry. Section IV assesses the economic performance of SMEs while section V looks at the creation of linkages with domestic large corporations, multinational corporations and global/regional production networks. Section VI analyzes the survey results and finally, section VII concludes the paper and recommends policy changes and measures that the government may implement to improve SME competitiveness and develop and strengthen SME linkages.

2. ANALYTICAL FRAMEWORK

There are two operational definitions of small and medium enterprises in the Philippines: employment-based definition and asset-based definition. The former is the most widely-used in the country and it defines the different size categories as follows:[2]

Small enterprises: 10-99 employees

Medium: 100-199 employees

Large: 200 or more employees

Enterprises with 1-9 workers are considered as micro enterprises and they are not covered by the SME definition.

As of January 2003, the SME Development Council defined the size categories in terms of total assets as follows:

Small enterprises: P3-15 million

Medium: P15-100 million

Large: P100 or more

Enterprises with P3 million or less are classified as micro enterprises.

FIGURE 1: ANALYTICAL FRAMEWORK

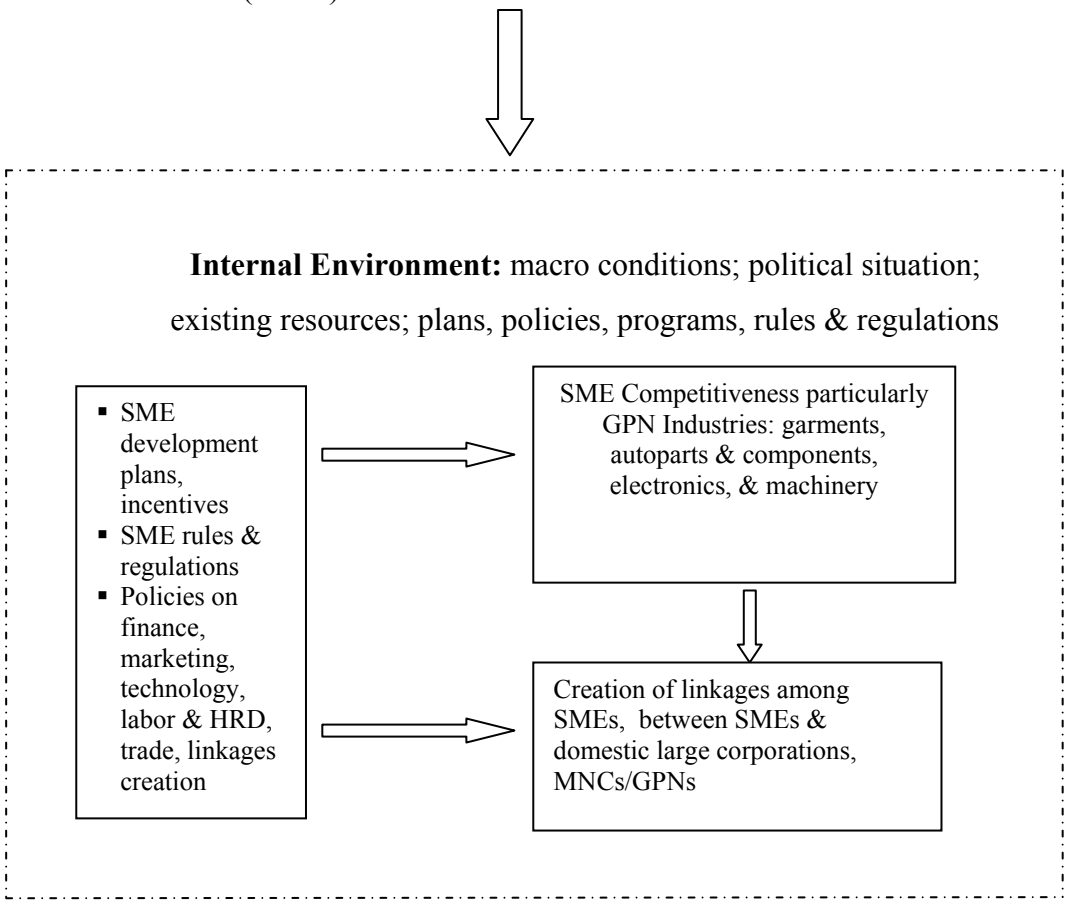


Figure 1 presents the general framework that will be used in the analysis. It should be pointed out that in order to take advantage of the opportunities arising from globalization, domestic firms must be linked with the global production networks of industries. The creation of these backward linkages would increase the domestic value added of MNCs and lead to significant contributions to the domestic economy. Meaningful participation in GPNs would require domestic firm competitiveness in

terms of price, quality, and delivery along with country level competitiveness in terms of providing adequate infrastructure and logistics support and good investment climate.

The growth and development of SMEs is affected by both the internal and external environment. The external environment refers to the rising globalization trend characterized by trade and investment liberalization along with the increasing economic integration through regional (ASEAN +3, ASEAN+6) and bilateral agreements (such as the Japan Philippines Economic Partnership Agreement).

In response to globalization, industrial organizations have been reorganized into regional/global production networks (GPNs). Under GPNs, the labor-intensive segments of technologically complex production are separated from the capital- and skill-intensive segments. These labor-intensive segments are located in developing countries linked through subcontracting or outsourcing arrangements. GPNs are commonly found in trade in automotive, electronics, machinery, and garments and textile industries. All these external developments can pose both risks and opportunities to SMEs. Outsourcing and subcontracting offer opportunities for developing countries to participate in the complex production chain. But at the same time, with the removal of trade and investment barriers, the entry of competing imports or more competitive global players in the domestic market would increase competition which might affect the survival of relatively smaller, less competitive and what used to be highly protected firms in the domestic economy.

Participation in GPNs can provide domestic firms not only access to markets but to newer technologies as well. To increase their overall competitiveness in international markets, lead multinational firms provide their local affiliates and local suppliers with more rapid technological upgrading and greater attention to quality control, cost control, and human resource development. This can in turn, encourage other foreign investors to cluster in the same area. The interplay of factors such as cutting-edge technology, exporting in competitive markets, and clustering of foreign investors can generate substantial spillovers and externalities (Moran, 1998)

While electronics and automotive are classic examples of producer-driven commodity chain, textiles and garments are buyer-driven commodity chain. Producer-driven commodity chains are characterized by capital- and technology-intensive

industries, where MNCs play the central role of coordinating production networks, including their backward and forward linkages. Production system is FDI-driven and multi-layered covering thousands of firms, from parent companies, subsidiaries and sub contractors. Each layer in the system is characterized by a specific production process located in a particular country (Gereffi, 2001; Austria, 2006).

On the other hand, buyer-driven commodity chains are characterized by globally dispersed production networks, predominantly locally owned and typically located in developing countries. Large retailers, branded marketers and branded manufacturers from developed countries play as strategic brokers in linking overseas factories to product niches in the consumer markets of developed economies (Gereffi, 2001). In the production system, marketers link retailers to manufacturers and this results in horizontal integration and trade in differentiated products (Austria, 2006).

The internal environment refers to the macroeconomic condition, political situation, resources, infrastructure, peace and order, and economic policies and regulation. All these comprise the overall business environment which is an important determinant of firm competitiveness and foreign direct investment. Changes in the internal environment will affect the operations, growth and development of SMEs as well as the creation of linkages with large domestic companies and MNCs.

SME policies and programs are formulated and implemented primarily by national government agencies. Local government units (LGU) also affect SMEs, in particular, they can provide incentives to SMEs by reducing taxes, fees, and other charges. Private sector groups, industry associations, and non governmental organizations also affect SME performance, operations and growth. Close coordination is important among these different groups in order to prevent duplication of efforts towards more efficient implementation of programs and policies.

In assessing the impact of SME policies; it should be noted that SMEs are not a homogeneous group and policies have different effects on different firms. SMEs may be classified into three depending on the firms' market orientation and international activity:

- Domestic oriented SMEs are firms that do not have international activity and are at risk if full trade liberalization is implemented, government needs to help them

improve their competitiveness and be able to compete in a market where there is no tariff protection;

- Internationalized subcontracting or supplier SMEs are firms that have links with MNCs or with large domestic companies that are export oriented. This group can become drivers of economic integration & transfer of skills & technology. The main challenge is how to expand existing links and develop new ones.
- Exporting SMEs are firms that export directly or thru intermediaries. The challenge is how to maintain their competitiveness and help them identify & take advantage of opportunities.

Existing SME programs and policies implemented by different national and local government agencies as well as private sector initiatives all affect SME competitiveness and linkage creation; especially with large domestic corporations, MNCs and production networks. The competitiveness of SMEs is also crucial in developing linkages with MNCs. In deciding whether to source locally, import, or bring in their foreign affiliates; MNCs' decision will depend on the existing and potential competitiveness of local suppliers relative to foreign ones. If SME costs are very high and the outcome is uncertain, MNCs would not be willing to enter into local linkages.

The initial base of technical and managerial capabilities and skills in local firms is therefore a crucial determinant of linkages. Also important is the willingness and ability of local firms to upgrade them. This depends not only on the firms but also on the support by government institutions and ability of suppliers to act jointly.

There are different types of linkages and spillovers that can be created between MNCs and domestic firms. Vertical linkages maybe backward or forward; backward linkages arise when firms source raw materials and intermediate products or services from domestic companies. On the other hand, forward linkages are created when domestic-based companies sell goods or services to other Philippine-based companies. Horizontal linkages arise when firms cooperate in production. Other spillover effects develop through best-practice demonstration and diffusion or when experienced workers move to local companies or form new Philippine-based spin-off firms (see Barry, 2005).

3. REVIEW OF THE GOVERNMENT'S SME PROMOTION POLICIES AND PROGRAMS

Since the 1970s, the Philippine government has devoted considerable effort to support and promote SME development through a variety of schemes and agencies and numerous programs and policies (see Tecson, 2004 and FINEX and ACERD study) on financing, market improvement, technology transfer, and entrepreneurship. During the seventies which were characterized by government protectionist policies such as high tariffs and import controls and restrictions, SMEs did not grow as substantial as large enterprises because of two major factors: (i) very few SMEs made use of the incentives and services[3] available to them; and (ii) formal lending bodies had very little involvement in SMEs because of the perceived risks and high costs associated in processing and supervising their projects.

In the eighties, SMEs started to confront a more competitive business environment due to the trade liberalization policies carried out by the government. During this period, the government adopted market improvement strategies to increase market access and expand the domestic market of SMEs. To achieve this, the government focused on the creation of subcontracting linkages, provision of financing and guarantees to exporters as well as common market facilities, market intelligence and information access, and identification of local market centers and rural transport facilities.

In the nineties, the government SME policy concentrated on market access, export expansion, identification of specialization, entrepreneurship and management, technology and quality systems and domestic linkages. The most important piece of SME legislation, the Magna Carta for Small Enterprises, was passed in January 1991. A landmark legislation, the Magna Carta aimed to consolidate all government programs for the promotion and development of SMEs into a unified institutional framework.

The Magna Carta had three important provisions, namely: (i) creation of the Small and Medium Enterprise Development (SMED) Council to consolidate incentives available for SMEs; (ii) creation of the Small Business Guarantee and Finance Corporation (SBGFC) to address SME financing needs; and (iii) allocation of credit

resources to SMEs by mandating all lending institutions to set aside 8% of their total loan portfolio to SMEs (6% for small and 2% for medium enterprises).

Notwithstanding the above support provided by the government in the previous decades, SMEs have continued to confront various challenges in the areas of human resource development, technology and R&D, and access to financing, among others. With the exception of a few export-oriented enterprises, the majority are characterized by low levels of productivity and efficiency, inability to attain economies of scale and power to influence prices, volumes, distributions and markets.

To address these concerns, the government has embarked on a comprehensive and integrated strategy with focus on critical factors such as technology, product development, finance, training/human resource development, and marketing. According to the 2004-2010 Medium Term Philippine Development Plan; credit, technology and marketing support for three million micro, small and medium enterprises (MSMEs) will be provided along with increased lending and cluster promotion through the "Big Brother-Small Brother" program. Clustering will also be pursued to develop SMEs in the rural areas.

The most recent SME Development Plan highlights the twin strategies of credit provision and product development. A "One Town-One Product "(OTOP) Program will be pursued to stimulate economic activity especially of the SMEs with every city or municipality in the country developing a product where it has competitive advantage.

The 2002-2004 Philippine Export Development Plan (PEDP) identified industry clustering as one of its key elements. In the 2005-2007 PEDP, the following national clusters were selected for development: micro electronics, motor vehicle parts & components, wearables, coconut products, marine & aquatic products, food products, home furnishings, holiday decor & giftwares, construction materials & services, organic & natural products & IT services.

The Department of Trade and Industry (DTI) is the primary coordinator for the development of the Philippine SMEs including micro enterprises. There are various government agencies set up as DTI-attached offices (14) and line bureaus (20) mandated to support SMEs and SME exporters. The Bureau of Small and Medium Enterprises Development (BSMED) acts as a "one-stop-shop" to guide SMEs to

specialized support agencies. The BSMED also acts as the secretariat to the SMED Council and is tasked to review policies and strategies for SME development. Another agency, the Center for International Trade Expositions and Missions (CITEM) was also set up to promote information and market access. DTI also has other line bureaus and support offices to assist SME exporters, such as the Product Development and Design Center (PDDC)to improve product quality and competitiveness; the Philippine Trade Training Center (PITC) to provide trainings on export/import management, entrepreneurial development and trade exhibition management; and Bureau of Export Trade Promotion (BETP) to enhance their capabilities as suppliers of quality goods.

In order to provide SMEs greater access to capital, the SBGFC developed a lending program, known as SME Unified Lending Opportunities for National Growth (SULONG), in 2003. The Program is a collaboration among government financial institutions such as the Land Bank of the Philippines, Development Bank of the Philippines, Small Business Corporation, Quedan and Rural Credit Corporation, Philippine Export-Import Credit Agency, and the National Livelihood Support Fund. Interest rates are fixed at 9% per annum for short-term loans, 11.25% per annum for medium-term loans and 12.75% per annum for long-term loans. More than PHP 35.3 billion (US640 million) in loans have been released to 368,000 SMEs since 2003. The Program has been credited with having increased credit available to SMEs, although as Tecson (2004) points out, its attractiveness has led to shortages in the supply of credit to SMEs.

Under the OTOP Program, the government allocates P1 million (US$ 18,200) for lending to SMEs in every locality, through identified funding sources. DTI, in coordination with local government units, identifies a product or service cluster for funding support. SMEs that offer such product or service are eligible to apply for a loan with a maximum effective interest rate of 10% per annum.

Various DTI agencies design marketing programs to promote SME products in the domestic and foreign markets. The DTI organizes local and international trade fairs; it holds an annual National Trade Fair (NTF) which is a five-day, order-taking and retail selling fair showcasing the best producers in the country. Participants, which are rigorously screened by DTI, are provided with assistance such as raw material

identification, product design, training, marketing, information dissemination, and promotion. The first NTF was organized in 1992 with 156 exhibitors; in 2004 there were 198 exhibitors featuring furniture products, toys, gifts and housewares, fashion accessories, holiday decor, and processed food.

The DTI also organizes international trade fairs like the Manila FAME International, an international exhibition for furniture, gifts and housewares, holiday decor, and fashion accessories. It also organizes the International Food Exhibition Philippines, a trade event that features the competitiveness of Filipino food products; and E-Services Philippines, an exhibition that focuses on IT and IT-enabled services industry.

The DTI also has training and entrepreneurship development programs to provide existing and potential entrepreneurs with the necessary skill and knowledge to become competitive players in both the domestic and international markets. Business counselors are assigned in SME Centers which are located in regional and provincial offices to provide assistance and information on government and private sector programs for SMEs. Business counselors are trained to assist entrepreneurs in their finance, marketing, technology, and HRD needs.

The Department of Science and Technology (DOST) is the main agency responsible for providing technology support. Through its Small Enterprises Technology Upgrading Program, it plans to help SMEs in the following areas: (i) technology needs assessment and technology sourcing; (ii) provision of seed funds for technology acquisition;(iii) technical training on hazard analysis and critical control points, good manufacturing practices, quality and environment management systems and other specific skills; (iv) technical and productivity consultancy services to participating firms; (v)establishment of product standards; (vi) development of networks of accredited regional product-testing laboratories; (vii) establishment of a packaging R&D center; and (viii) design and fabrication of cost-reducing equipment.

Various agencies are involved in providing product and package design development services and technology intervention. These include the following: Product Development and Design Center of the Philippines, Industrial Technology and Development Institute, Technology Application and Promotion Institute, Metals

Industry Research and Development Center, Forest Products Research and Development Institute, Philippine Textile Research Institute, Packaging Research and Design Center of the Philippines, Bureau of Food and Drugs, Bureau of Product Standards, and Food Development Center.

While there appears to be specific programs dealing with virtually all problems confronting SMEs, several deficiencies remain that continue to affect efficient implementation. The World Bank (2004) pointed out problems such as poor coordination and overlapping responsibilities across agencies and programs, conflict between social and economic goals in SME policy, and poor quality of the staff in some key positions. The proliferation of agencies with overlapping and unclear responsibilities as well as conflicting interests have led to ineffective implementation. For instance, a policy to streamline SME registration was prevented by some local government authorities because of the revenue losses that it would entail.

Moreover, since SME programs try to combine both social and economic objectives, many programs suffer from lack of focus in identifying key sectors along with financing constraints. For instance, in both the SME and Philippine Export Development Plans, the priority sectors identified range from MNC-dominated high to medium technology sectors such as electronics, IT services, and auto parts and components to micro-enterprise low technology sectors such as wearables, holiday decors and home furnishings. As the World Bank (2004) noted, it is difficult to imagine how one agency can allocate its limited budget and resources to such a wide range of industries in an efficient manner.

Similar issues are found in the DOST's science and technology support plan on 15 "leading edge" sectors, which Abrenica and Tecson (2003) described as an odd mixture of industries, processes, and technologies. The authors also pointed out that the plan itself lacked a clear framework, organization, and workable strategy. The World Bank (2004) concluded that while the STAND Program looks impressive, much of the effort remains on paper.

There are also problems with the quality of the staff in some key development planning and monitoring offices of the DTI as well as in the DOST. For instance, the DOST staff is poorly compensated and often tends to be out of touch with international

scientific trends and with research being done by counterparts abroad (Abrenica and Tecson, 2003).

Regarding training programs for SMEs, Fukumoto observed that many of these are only for entrepreneurs with little emphasis on productivity improvement which is crucial for improving SMEs' international competitiveness. These training programs do not necessarily result in increasing SME productivity. The range of these training programs has also been limited by insufficient financial sources and lack of appropriate trainers. Moreover, technology-related programs which are the most important programs for increasing productivity are not organized to target improvements based on productivity. Finally, the Technical Education and Skills Development Authority (TESDA), the country's main provider of training systems, is found to be ill-managed and under-financed. As Tecson (1999) noted, the curricula of engineering and technical schools do not address the technological needs of industry and hardly receive inputs from the industrial sector.

4. SMES IN THE PHILIPPINE MANUFACTURING INDUSTRY: STRUCTURE, PERFORMANCE, AND DEVELOPMENT CONSTRAINTS

4.1 Structure and Performance

In 2003, the Philippines had a little over 839,000 registered firms (see Table 1). Over 50 percent of the total number of SMEs are found in only two regions, namely; National Capital Region (NCR) and Calabarzon which accounts for 43 percent and 11 percent, respectively of the total number of SMEs in the Philippines. Microenterprises, on the other hand, are relatively less geographically concentrated. Like SMEs, large enterprises are geographically highly concentrated in the NCR and Calabarzon.

Most establishments are in the wholesale and retail trade sector, notably in the micro category. As Table 2 shows, this sector accounted for 53 percent of the total number of establishments, followed by manufacturing with a share of 15 percent. Hotels and restaurants is third with a share of 11 percent. Among SMEs, wholesale and retail trade also dominates with a share of 28 percent, followed by manufacturing with a share

Table 1: Total Number of Establishments in the Philippines By Region, 2003

REGION	TOTAL	MICRO	%	SMEs	%	LARGE	%
Ilocos Region	49,409	47,036	6	2,334	3	39	1
Cagayan Valley	25,393	24,337	3	1,032	1	24	1
Central Luzon	91,307	84,966	11	6,080	8	261	7
Calabarzon	119,934	110,884	15	8,185	11	865	23
Bicol Region	31,518	29,779	4	1,695	2	44	1
Western Visayas	47,213	43,489	6	3,600	5	124	3
Central Visayas	50,516	45,187	6	4,999	7	330	9
Eastern Visayas	22,444	21,076	3	1,335	2	33	1
Zamboanga Peninsula	28,910	27,290	4	1,580	2	40	1
Northern Mindanao	34,391	31,851	4	2,462	3	78	2
Davao Region	36,588	33,304	4	3,143	4	141	4
Soccsksargen	29,817	28,184	4	1,578	2	55	1
National Capital Region	203,316	170,446	22	31,257	43	1,613	43
Cordillera Administrative Region	14,767	13,918	2	821	1	28	1
Autonomous Region In Muslim Mindanao	9,966	9,631	1	316	0	19	1
Caraga	16,584	15,663	2	884	1	37	1
Mimaropa	26,941	25,532	3	1,395	2	14	0
TOTAL	839,014	762,573		72,696		3,745	

Source: National Statistics Office 2003 Survey of Manufacturing Establishments

Table 2: Number of Establishments in the Philippines by Industry, 2003

Industry Sector	TOTAL	%	MICRO	%	SMEs	%	LARGE	%
Agriculture, Hunting and Forestry	5,221	1	3,141	0	1,931	3	149	4
Fishery	1,834	0	984	0	818	1	32	1
Mining and Quarrying	533	0	320	0	197	0	16	0
Manufacturing	129,849	15	112,458	15	15,704	22	1,687	45
Electricity, Gas and Water	1,507	0	629	0	757	1	121	3
Construction	4,432	1	2,575	0	1,716	2	141	4
Wholesale and Retail Trade	442,312	53	421,488	55	20,465	28	359	10
Hotels and Restaurants	90,637	11	82,873	11	7,690	11	74	2
Transport, Storage and Communications	16,099	2	11,892	2	4,012	6	195	5
Financial Intermediation	25,258	3	19,136	3	6,003	8	119	3
Real Estate, Renting and Business Activities	41,482	5	35,952	5	5,082	7	448	12
Education	9,731	1	5,137	1	4,360	6	234	6
Health and Social Work	28,606	3	26,994	4	1,507	2	105	3
Other Community, Social and Personal Service Activities	41,513	5	38,994	5	2,454	3	65	2
TOTAL	839,014		762,573		72,696		3,745	

Source: National Statistics Office 2003 Survey of Manufacturing Establishments

of 22 percent of the total number of establishments. On the other hand, among large enterprises, manufacturing comprised the bulk at 45 percent of the total number of establishments.

Despite their relatively small number, SMEs employed 32 percent of the total number of workers in all establishments. Table 3 shows that manufacturing jobs accounted for 26 percent while wholesale and retail trade comprised 22 percent of total SME employment. Among large enterprises, manufacturing jobs comprised 48 percent of the total number of jobs generated by large enterprises. For microenterprises, jobs generated by the wholesale and retail trade consisted the bulk of the total. On the whole, the manufacturing sector generated most jobs with a share of 30 percent followed by wholesale and retail trade with a share of 27 percent of total employment.

Table 3: Total Employment in the Philippines By Size of Establishment, 2003

Industry Sector	TOTAL	%	MICRO	%	SMEs	%	LARGE	%
Agriculture, Hunting and Forestry	160,000	2	11,859	1	64,705	3	83,436	4
Fishery	37,917	1	3,454	0	20,327	1	14,136	1
Mining and Quarrying	23,605	0	1,509	0	8,774	0	13,322	1
Manufacturing	1,959,134	30	366,210	17	538,968	26	1,053,956	48
Electricity, Gas and Water	99,774	2	2,674	0	38,702	2	58,398	3
Construction	189,868	3	10,942	0	61,038	3	117,888	5
Wholesale and Retail Trade	1,768,269	27	1,125,461	51	456,237	22	186,571	8
Hotels and Restaurants	502,155	8	271,376	12	187,678	9	43,101	2
Transport, Storage and Communications	317,239	5	43,810	2	120,325	6	153,104	7
Financial Intermediation	277,039	4	79,702	4	118,243	6	79,094	4
Real Estate, Renting and Business Activities	491,483	8	107,876	5	163,573	8	220,034	10
Education	285,274	4	21,531	1	153,255	8	110,488	5
Health and Social Work	163,084	3	60,812	3	52,683	3	49,589	2
Other Community, Social and Personal Service Activities	199,953	3	107,062	5	57,589	3	35,302	2
TOTAL	6,474,794		2,214,278		2,042,097		2,218,419	

Source: National Statistics Office 2003 Survey of Manufacturing Establishments

Table 4 shows that within the manufacturing industry, the large bulk of Philippine enterprises are actually microenterprises, which comprise 87 percent in 2003, with SMEs accounting for only 12 percent of the total number of manufacturing enterprises. Large enterprises cover merely one percent of total enterprises.

Table 4: Number of Manufacturing Enterprises in the Philippines

Year	MICRO	%	SMALL	%	MEDIUM	%	LARGE	%	TOTAL
1983	50,313	90	4,512	8	505	1	717	1	56,047
1988	69,446	88	7,678	10	683	1	828	1	78,635
1994	81,554	88	9,061	10	752	1	913	1	92,280
1995	86,900	89	8,928	9	1,027	1	982	1	97,837
1999	113,861	87	14,611	11	1,137	1	1,322	1	130,931
2000	108,998	87	14,121	11	1,110	1	1,238	1	125,467
2001	108,986	88	12,627	10	988	1	1,194	1	123,795
2002	108,847	89	12,128	10	1,020	1	982	1	122,977
2003	112,458	87	14,448	11	1,256	1	1,687	1	129,849

Source: National Statistics Office Census and Survey of Manufacturing Establishments

Table 5: Manufacturing Employment by Size

Year	MICRO	%	SMALL	%	MEDIUM	%	LARGE	%	TOTAL
1983	186,735	21	127,450	14	70,884	8	503,498	57	888,567
1988	247,173	23	201,553	18	95,994	9	545,389	50	1,090,109
1994	287,630	24	213,979	18	105,464	9	575,809	49	1,182,882
1995	271,699	22	227,949	18	137,384	11	615,874	49	1,252,906
1999	366,689	22	361,514	22	154,992	9	791,277	47	1,674,472
2000	354,025	22	354,328	22	150,734	9	730,127	46	1,589,214
2001	353,415	23	309,952	20	136,648	9	734,088	48	1,534,103
2002	353,255	24	294,487	20	143,003	10	676,443	46	1,467,188
2003	366,210	19	363,756	19	175,212	9	1,053,956	54	1,959,134

Source: National Statistics Office Census and Survey of Manufacturing Establishments

The number of establishments in the manufacturing industry increased from 56,047 in 1983 to 130,931 in 1999. However, the total number of enterprises declined from 2000 up to 2002, although in 2003, this increased to roughly 130,000 establishments from 123,000 in 2002.

Despite their relatively small number, Table 5 indicates that SMEs employed around one-third of total employment in the manufacturing industry. In 2003, large enterprises contributed 54 percent while microenterprises accounted for 19 percent of total manufacturing employment. There was likewise a general decline in employment from 2000 to 2002, although a recovery is evident in 2003 as total employment rose from around 1.5 million workers in 2002 to around 2 million workers in 2003.

In terms of value added, the share of small and medium enterprises (SMEs) increased from 23 percent of the total manufacturing value added in 1994 to 28 percent

Table 6: Value Added Contribution 1994, 1998 and 2003 (in percent)

		1994		1998		2003	
		SMEs	Large	SMEs	Large	SMEs	Large
Total		23	77	28	72	21	79
311	Food Processing	35	65	41	59	26	74
312	Food Manufacturing	28	72	55	45	34	66
313	Beverages	17	83	7	93	18	82
314	Tobacco	0	100	0	100	0	100
321	Textiles	26	74	33	67	44	56
322	Wearing Apparel except Footwear	37	63	40	60	31	69
323	Leather and Leather Products	35	65	44	56	12	88
324	Leather Footwear	32	68	58	42	62	38
331	Wood and Cork Products	43	57	77	23	58	42
332	Furniture (wood & metal)	49	51	49	51	65	35
341	Paper and Paper Products	25	75	45	55	46	54
342	Printing and Publishing	49	51	39	61	54	46
351	Industrial Chemicals	62	38	65	35	65	35
352	Other Chemicals	16	84	25	75	22	78
353	Petroleum Refineries	0	100	1	99	0	100
354	Petroleum and Coal Products	100	0	82	18	100	0
355	Rubber Products	21	79	36	64	30	70
356	Plastic Products	66	34	49	51	50	50
361	Pottery, China and Earthenware	13	87	23	77	22	78
362	Glass and Glass Products	22	78	18	82	26	74
363	Cement	0	100	3	97	0	100
369	Other Nonmetallic Mineral Prods	47	53	43	57	56	44
371	Iron and Steel	25	75	47	53	57	43
372	Nonferrous Metal Products	5	95	23	77	19	81
381	Fabricated Metal Products	50	50	57	43	52	48
382	Machinery except Electrical	35	65	23	77	10	90
383	Electrical Machinery	9	91	8	92	8	92
384	Transport Equipment	28	72	24	76	19	81
385	Professional and Scientific Eqpt	26	74	19	81	7	93
386	Furniture of metal (1994 only)	44	56	-	-	-	-
390	Miscellaneous Manufacture	39	61	53	47	62	38
Value Added current prices (in million P)		324.2		664.2		738.95	
Value Added constant prices (in million P)		147.14		221.9		192.1	

Source: National Statistics Office Census and Survey of Manufacturing Establishments

in 1998 (see Table 6). However, this fell to 21 percent in 2003. Large firms contributed 79 percent of the total, an increase from its level of 72 percent contribution in 1998. In 2003, there were certain manufacturing sectors like leather footwear, wood and cork, furniture, printing/publishing, industrial chemicals, other nonmetallic, fabricated metal, and miscellaneous manufactures where SMEs' value added contribution exceeded 50 percent of their respective industry total value added.

In the garments industry, while the value added contribution of SMEs increased from 37 percent in 1994 to 40 percent in 1998, this dropped to 31 percent in 2003. For electrical machinery, the value added contribution of SMEs remained almost unchanged at 8 percent in 1998 and 2003. For transport, SMEs' contribution declined from 28 percent in 1994 to 24 percent in 1998 and to 19 percent in 2003.

Table 7: Value Added per Worker, 1994, 1998 and 2003 (in million pesos at 1985 prices)

		1994		1998		2003	
		SMEs	Large	SMEs	Large	SMEs	Large
Total		0.110	0.196	0.139	0.227	0.097	0.211
311	Food Processing	0.205	0.173	0.302	0.280	0.124	0.263
312	Food Manufacturing	0.114	0.174	0.340	0.191	0.089	0.185
313	Beverages	0.711	0.494	0.230	0.573	0.302	0.535
314	Tobacco	0.044	0.727	0.029	1.026	0.052	0.475
321	Textiles	0.063	0.075	0.054	0.070	0.070	0.074
322	Wearing Apparel except Footwear	0.076	0.058	0.066	0.061	0.040	0.046
323	Leather and Leather Products	0.030	0.040	0.050	0.032	0.088	0.137
324	Leather Footwear	0.021	0.044	0.040	0.035	0.024	0.025
331	Wood and Cork Products	0.057	0.062	0.085	0.041	0.041	0.044
332	Furniture except Metal	0.042	0.048	0.047	0.065	0.067	0.062
341	Paper and Paper Products	0.100	0.218	0.135	0.202	0.139	0.160
342	Printing and Publishing	0.066	0.203	0.061	0.326	0.042	0.184
351	Industrial Chemicals	0.320	0.358	0.214	0.364	0.327	0.420
352	Other Chemicals	0.209	0.669	0.226	0.734	0.177	0.580
353	Petroleum Refineries	0.000	4.438	1.289	9.973	0.000	28.643
354	Petroleum and Coal Products	0.100	0.000	0.052	0.023	0.280	0.000
355	Rubber Products	0.062	0.095	0.060	0.046	0.055	0.091
356	Plastic Products	0.125	0.096	0.097	0.119	0.076	0.085
361	Pottery, China and Earthenware	0.034	0.079	0.034	0.089	0.102	0.068
362	Glass and Glass Products	0.180	0.371	0.101	0.259	0.131	0.204
363	Cement	0.000	0.447	0.287	0.724	0.562	0.934
369	Other Nonmetallic Mineral Products	0.078	0.149	0.071	0.104	0.059	0.195
371	Iron and Steel	0.150	0.485	0.138	0.187	0.142	0.133
372	Nonferrous Metal Products	0.074	0.578	0.138	0.309	0.164	0.481
381	Fabricated Metal Products	0.082	0.110	0.072	0.104	0.108	0.083
382	Machinery except Electrical	0.053	0.105	0.076	0.229	0.061	0.198
383	Electrical Machinery	0.123	0.137	0.144	0.216	0.121	0.141
384	Transport Equipment	0.182	0.239	0.137	0.221	0.153	0.375
385	Professional and Scientific Equipment	0.159	0.056	0.099	0.054	0.091	0.110
386	Metal Furniture (1994 only)	0.038	0.049	-	-	-	-
390	Miscellaneous Manufacture	0.044	0.066	0.069	0.089	0.104	0.080

Source: National Statistics Office Census and Survey of Manufacturing Establishments

Table 7 presents labor productivity as measured by value added per worker in the manufacturing industry for the years 1994, 1998 and 2003. On the whole, though an increase in the labor productivity of both SMEs and large enterprises was registered between the years 1994 and 1998, the same fell in 2003. For SMEs, labor productivity dropped from P139,000 to P97,000 while for large enterprises, labor productivity declined from P227,000 to P211,000.

In general, the labor productivity of SMEs has remained only about half the labor productivity of large enterprises. Some narrowing of the gap was evident in 2003. Still, SMEs suffer from low productivity. According to the World Bank (2004), the value added per worker relative to all firms was approximately 46% in the Philippines as compared to 64% in Indonesia, 65% in Malaysia, and 84% in Thailand. A closer look at the manufacturing industries would reveal that in 2003, labor productivity of SMEs was higher than large enterprises in the following sectors: furniture; pottery, china, & earthenware; iron & steel; fabricated metal products; and miscellaneous manufactures. Note also that in the three industries garments, electrical machinery, and transportation equipment; labor productivity declined in the three years under study.

4.2 Obstacles to SME Growth and Development

Philippine SME studies have continued to highlight the same major constraints that affect SME development everywhere such as access to finance, technology, and skills along with information gaps and difficulties with product quality and marketing.

4.2.1 Lack of access to finance

The lack of access to financing is the most difficult constraint to SME growth. The problem seems not to lie in the supply of funds potentially available for SME lending but the difficulty of access to these funds. In theory, there should be sufficient funds for SME financing since banks are required by law to allocate 8 percent of their loan portfolios to SME financing. At the same time, government financial institutions have their own financing programs. Nevertheless, private banks are reluctant to lend to SMEs because of their general aversion to dealing with a larger number of smaller accounts (FINEX and ACERD). Moreover, many banks are still not aware of lending to

small businesses. Many SMEs cannot access available funds due to their limited track record, limited acceptable collateral, and inadequate financial statements and business plans.

The experience of Plantersbank shows that these challenges can be overcome (see Box 1). In lending to SMEs, Planters went beyond banking by providing non-financial services to help its SME clients strengthen their operations which include assistance in preparing accounting records, business advise, and networking. Planters customized and designed its products and services to suit the needs of SMEs. It simplified its loan documentation and tailor fitted loans to match borrowers' cash flow.

Box 1: Planters Development Bank Successful Case of SME Finance

Plantersbank is a commercial bank with 35 years of operations in the Philippines. Its experience in SME finance shows that lending to SMEs can be profitable and rewarding. Its manufacturing clients include SMEs from high-end clothing and accessories, parts for automotive and capital equipment, electrical component, furniture, and plastic packaging. Since SMEs are borrowing from a bank for the first time, Planters had to teach them how to access and properly use credit. Planters simplified its loan documentation process, tailor-fitted loans to match the SMEs' cash flow, and made the amortization schedules easy to remember. For long-term funds needed by SMEs, Planters developed the expertise to tap government special program funds to provide SMEs with stable and reasonably priced long-term funds.

Planters requires its loans to be secured by good collaterals. Where loan collaterals were inadequate, guarantees were taken from government agencies. In the early years when SME guarantee facilities were not yet available, Planters set up its own credit guarantee program. With its long years of lending to SMEs, Planters was able to create its own SME credit scoring system which led to improvements in its loan process system.

It assisted deserving applicants in the preparation of feasibility studies and reconstruction of accounting records. It also helped borrowers to correct business weaknesses that were uncovered in the course of project appraisal. Whenever opportunities arose, Planters referred its clients to prospective buyers and introduced them to suitable investors and business partners. Planters also offered the following services to its SME clients:

- Cash Management Services that were given by commercial banks only to large corporate accounts.
- Pool of consultants and business centers to provide services in the areas of marketing, accounting and finance, legal, human resources management and taxation.
- "Business Line" is a magazine to help sharpen business knowledge and skills of SMEs
- Regular symposiums and forums to bring together industry players, experts and resource persons, including those from the academe and regulatory agencies.

In partnership with the International Finance Corporation, Planters established SME.com.ph, an internet company, to allow its clients to sell their products to the local and world markets using web-based technology. SME.com designs and manages the websites of member-SMEs, provides a payment gateway for them and offers internet business solutions using the World Bank's SME Toolkit. A number of their clients increased their sales and successfully penetrated the export market via SME.com's facilities. To date, the SME.com.ph website gets an average of 36,000 hits per day.

Planters also introduced SME Proposition, a package of customized facilities offering financial services and technology solutions to help simplify the SMEs' daily administrative tasks. SME Proposition has practical accounting and time-keeping software to help SMEs automate their operations and enhance their productivity and efficiency. It comes bundled with a free desktop computer and printer to encourage SMEs to use technology in their businesses.

The Plantersbank SME Industrial Park, the country's first-ever industrial park dedicated to SMEs, was recently inaugurated. This SME Industrial Park offers a strategic location, the right physical facilities and attractive investment and fiscal incentives to small and medium entrepreneurs which before were only available to large companies. In partnership with the national and local governments, Plantersbank's vision is for the Park to become not only a regional center but also a center of SME excellence.

Source: Ma. Flordelis Aguenza, President, Planters Bank, "Pushing Philippine Manufacturing Towards Sustained Growth" November 2007 Philippine Economics Society Conference.

Table 8: Compliance of Banks to Mandatory Credit Allocation Loans to SMEs (in billion Pesos)

Year	1991	1992	1993	1994	1995	1996	1997	1998
Total Net Loan Portfolio	0.2	0.19	0.28	0.39	0.56	0.79	0.89	1.03
Direct Compliance	0.01	0.02	0.03	0.05	0.08	0.11	0.19	0.2
Indirect Compliance	0	0.01	0	0	0.01	0	0.03	0.04
Total Compliance	0.02	0.02	0.03	0.05	0.09	0.11	0.22	0.24
(in %)	*-8.35*	*-11.09*	*-12.38*	*-13.9*	*-15.72*	*-14.38*	*-24.69*	*-23.42*
Year	1999	2000	2001	2002	2003	2004	2005	2006*
Total Net Loan Portfolio	1	0.99	0.99	0.94	1.05	1.07	1.1	1.23
Direct Compliance	0.21	0.21	0.23	0.23	0.22	0.22	0.23	0.23
Indirect Compliance	0.03	0.02	0.02	0.04	0.01	0.01	0.01	0.01
Total Compliance	0.25	0.23	0.25	0.27	0.23	0.24	0.24	0.24
(in %)	*-24.78*	*-23.48*	*-25.05*	*-28.82*	*-22.39*	*-22.32*	*-21.99*	*-19.63*

Source: Central Bank of the Philippines as cited in Bureau of Small and Medium Enterprise Development-Department of Trade and Industry, SME Statistical Report (January 2007).

Table 8 shows that banks appear to be generally complying with the mandatory lending to SMEs with total compliance rate reaching almost 29 percent in 2002. However, anecdotal evidence shows that much of these funds do not actually go to SMEs but to some large firms that deliberately understate their assets to be classified as medium enterprises. As the FINEX and ACERD study reported, these loan funds particularly from large banks and financial institutions hardly benefited small firms. On the other hand, much of the funds from government sponsored lending programs are directed not to real SMEs but more toward livelihood and micro-enterprise projects, many of which fail to grow.

4.2.2 Lack of access to technology

Many firms are not knowledgeable on technology with most SMEs employing poor or low level of technology. Most small enterprises are labor-intensive, while the medium-sized ones are relatively more technology-intensive. With low level of technology, the production methods are generally inefficient which leads to inconsistent product quality, low level of productivity and lack of competitiveness. This is also manifested in high materials wastage, high rates of reworks, and inability to meet deadlines.

Regarding product quality and quality assurance of raw materials, this is better addressed if more firms will follow certified methods and undergo performance or quality tests. However, there is a lack of common support facilities like testing centers and standardization agencies, whether government or private-sector led. With respect to quality management systems standards such as ISO series, SMEs do not invest in these business standards due to the high costs involved along with the high degree of formalization and documentation required.

The FINEX and ACERD study identified the following factors that prevent SMEs from acquiring the necessary technology or engage in their research and development:

- *lack of funds*: technology including the machinery embodying the technology is expensive and many SMEs do not have the equity to acquire them. Lacking in

flexibility, loans are not viable. Financial institutions rarely offer long-term financing for SMEs. There are no available loans for R&D.

- *insufficient information*: the access of SMEs to information such as developments in product standards and scanning technology (assessing, quantifying, testing technology) is very limited due to their inadequate E-readiness; ICT is not optimally utilized, particularly e-commerce. Another reason is government institutions are not regarded as reliable sources of information and lack of information sharing among SMEs, which are characteristically protective of their "trade secrets".
- *lack of skills in evaluating alternative technologies*: weak technical and skill competencies of production people due to the overall deterioration in the quality of education and inability of the educational system to respond to the needs of the economy with the country unable to produce enough scientists and engineers.
- *difficulty in meeting government requirements for availing assistance*: government procedures and requirements for incentives like tax exemptions for R&D equipment and availing of loans for technology commercialization are found to be too complicated and tedious. Government institutions providing support for business and technology are also poorly staffed and their knowledge well below the level required (World Bank, 2004).

4.2.3 Availability of Inputs

SMEs are also confronted with supply chain management problems from the sourcing of their raw materials to problems in processing, packaging, and distribution. They also find it hard and more costly to access raw materials and inputs primarily due to the general problem of sourcing and transporting raw materials which can be attributed to infrastructure and communication problems. Government tariff policy also raises the costs of key intermediate inputs.

5. STRENGTHENING SME CAPABILITIES AND CREATING AND EXPANDING LINKAGES AND NETWORKS

5.1 Existing SME Linkages and Networks

SMEs represent a large part of manufacturing establishments in the Philippines. The gains from developing strong linkages and networks are greater in export activities than those focusing on the domestic market. Given the rising globalization trend and economic integration in East Asia, linking SMEs with large domestic enterprises and multinational corporations is very important to the economy. Aside from increasing domestic value added and export receipts, employment and tax revenues; linkages creation can help diffuse new technologies, skills and management practices as well as provide suppliers with better access to world markets. Linkages can also promote supplier clusters, inducing firms to locate close to MNC affiliates and strengthening the technological level and dynamism of existing clusters (World Bank, 2004). Clusters can enhance the competitiveness and productivity of firms, SMEs in particular.

It is also important to note that developing networks of competitive parts and components suppliers and subcontractors is crucial to the development of strong industries. The more competitive the country's suppliers are, the greater the potential for creating and sustaining deeper linkages with MNCs and for engaging in higher value added activities. MNCs, in general, prefer where possible to source their inputs locally. The costs of local vendors, particularly in developing countries, tend to be lower than those of imports. The proximity of local suppliers also adds to the flexibility in production and scheduling. In deciding whether to source locally, import, or bring in foreign affiliates; MNCs' decision will depend on the existing and potential competitiveness of local suppliers relative to foreign ones. Most supply contracts involve long-term relations based on knowledge of and confidence in vendors' reliability and technological competence. All the advantages of sourcing locally will be dissipated if local suppliers are unable to develop capacities to manufacture components at world-levels of quality, cost and reliability and to keep up with constantly changing technical specifications (World Bank, 2004).

The World Bank report indicated that apart from the initial base of technical and managerial capabilities and skills in local firms, the critical determinants of linkages also include the willingness and ability of firms to upgrade their competencies. This will be determined not only by the firms themselves but also by the level of institutional support such as technical extension, technology development, worker training, etc which are provided by the government. At the same time, this will also depend on the ability of suppliers to act jointly or cooperate in forming supplier clubs or using industry associations to carry out skill and technological development.

Raising productivity and competitiveness through technology upgrading (better machinery, improvements in workplace organization, inventory handling, product design, etc) can be achieved through various ways. The most popular mode in the Philippines is through outright sale of machinery and equipment. The other mechanisms involve licensing of technology, imitation of other products, licensing agreements, and direct purchase of technology. Subcontracting and clustering arrangements are seen as possible mechanisms to help improve the competitiveness of SMEs and ability to create and upgrade backward linkages. In subcontracting arrangements, larger companies provide subcontractors certain technologies through specific guidelines on the use of machines or production processes to follow.

In the Philippines, subcontracting appears to be low compared with other Asian economies (Berry and Rodriguez, 2001), especially Taiwan and South Korea. The high levels of protection in the past apparently did not improve the competitiveness of many manufacturing industries in the country. Table 9a shows the declining number of small, medium and large subcontractors . In 1994, small and medium subcontractors in manufacturing numbered 1,551 enterprises. In 1998, this went up to 1,210; but dropped to 278 enterprises in 2003. The same pattern is observed among large subcontractors which increased from 105 in 1994 to 153 in 1998, but fell to 45 enterprises in 2003. Micro subcontractors, meanwhile increased their number from 384 to 544 between 1994 and 1998, respectively. In 2003, the number of micro subcontractors increased to 7,684 the bulk of which were in garments and fabricated metal products.

Table 9a: Number of Subcontractors in the Philippine Manufacturing Industry

	1994				1998				2003			
Code	Micro	SMEs	Large	Total	Micro	SMEs	Large	Total	Micro	SMEs	Large	Total
Total	384	1551	105	2040	544	1810	153	2507	7684	278	45	8006
311	51	98	2	151	121	191	6	317	1193	20	2	1215
312	6	18	6	30	6	109	2	117	32	11	4	48
313		3	1	4		3		3		1	3	4
314		1	3	4		2	2	4		0	1	1
321	11	58	16	85	1	221	22	244	57	7	2	67
322	179	586	34	800	85	347	37	469	2469	30	8	2507
323	2	3	1	6		5	3	8		0		
324		6		6	1	22		23		0		
331	6	33		40		65	2	67		11	2	13
332	15	28	1	43	24	94	4	123	600	5		605
341		25	3	28	6	15	6	27		10	3	13
342	22	101	4	127	57	88	2	147		12	2	14
351		11		11		70	1	71		3		3
352		22	5	27		20	4	24		9	3	12
355	1	16	1	18		24		24	98	8		106
356	4	21	5	30		0	5	5		6	2	8
361		3	1	4		0				0		
362	2	5		7		2		2	12	1		13
369	5	13	1	18	23	32	22	76	230	2	1	233
371	1	16	1	18	22	54	1	77		57		57
372	3	8	1	12		3	2	5		1	1	2
381	9	87	1	97	40	157	5	202	2433	20	1	2454
382	46	262		308	127	172	1	300	335	22		357
383	1	23	8	32	10	32	14	56	2	20	5	27
384	12	63	8	83		62	8	70	116	17	5	138
386	1	7		8		3	2	5		0		
390	6	34	2	42	22	19	3	44	106	4		110

Source: National Statistics Office Census and Survey of Manufacturing Establishments (1994, 1998, and 2003).

Table 9b: Subcontracting in the Philippine Manufacturing Industry, 1994, 1998 & 2003

	Manufacturing Sector	SME sub- contracting work as % of SME value of output sold			SME sub-contracted work as% of industry value of output sold			Total sub-contracted work as % of industry value of output sold		
		1994	1998	2003	1994	1998	2003	1994	1998	2003
	Manufacturing	3.57	1.79	0.72	0.81	0.49	0.16	1.81	1.58	0.72
311	Food Processing	0.95	0.89	0.26	0.4	0.46	0.11	0.41	0.51	0.18
312	Food Manufacturing	0.11	0.32	0.65	0.03	0.13	0.31	0.12	0.27	0.36
313	Beverages	3.24	1.13	0.01	0.52	0.12	0	0.52	0.12	0.1
314	Tobacco	0.46	16.77	-	0.01	0.04	-	0.56	0.48	0.46
321	Textiles	3.26	6.74	1.21	0.87	2.29	0.5	1.48	4.85	0.61
322	Wearing Apparel ex Footwr	29.67	6.91	1.29	10.74	3.15	0.52	18.56	10.52	0.89
323	Leather & Leather Products	5.35	3.64	-	1.56	1.32	-	6.93	3.3	-
324	Leather Footwear	0.14	0.41	-	0.04	0.18	-	0.04	0.18	-
331	Wood and Cork Products	1.35	1.59	0.18	0.63	1.24	0.1	0.63	1.26	0.1
332	Furniture except Metal	0.83	1.59	0.22	0.46	0.85	0.14	0.55	1.18	0.14
341	Paper and Paper Products	2.26	0.76	2.28	0.63	0.37	1.09	0.66	1.24	1.87
342	Printing and Publishing	6.15	3.02	0.25	3.41	1.12	0.14	19.73	1.13	0.64
351	Industrial Chemicals	0.39	1.64	0.04	0.2	1	0.03	0.2	1.08	0.03
352	Other Chemicals	1.08	0.47	1.77	0.26	0.13	0.59	1.35	0.42	7.94
353	Petroleum Refineries	-	0	-	-	0	-	-	0	-
354	Petroleum and Coal Products	-	0	-	-	0	-	-	0	-
355	Rubber Products	2.99	10.82	0.82	0.75	3.47	0.31	0.99	3.47	0.31
356	Plastic Products	0.33	0	0.06	0.21	0	0.03	1.32	0.56	0.24
361	Pottery, China and Earthenware	0.68	0	-	0.11	0	-	0.13	0	-
362	Glass and Glass Products	0.19	0.14	2.48	0.05	0.04	0.51	0.05	0.04	0.51
363	Cement	-	0	-	-	0	-	-	0	-
369	Other Nonmetallic Mineral Prods	1.82	2.39	1.05	0.94	1.21	0.68	0.95	4.47	1.41
371	Iron and Steel	0.32	1.22	0.61	0.14	0.49	0.36	0.19	0.49	0.36
372	Nonferrous Metal Products	4.23	0.07	1.44	0.1	0.01	0.16	15.97	19.46	7.85
381	Fabricated Metal Products	5.93	4.78	0.85	2.39	3.01	0.5	2.92	8.39	0.51
382	Machinery except Electrical	29.99	5.52	1.17	5.81	0.54	0.08	5.81	0.55	0.08
383	Electrical Machinery	3.66	1.67	0.44	0.29	0.15	0.03	0.81	2.09	0.07
384	Transport Equipment	3.83	3.08	2.13	0.48	0.75	0.25	0.61	1.99	0.53
385	Professional &Scientific Eqpt	-	0.37	-	-	0.08	-	-	1.29	-
390	Miscellaneous Manufacture	3.85	1.9	0.26	1.33	1.11	0.17	2.83	3.47	0.17

Source: National Statistics Office Census and Survey of Manufacturing Establishments (1994, 1998, 2003).

Using the firm-level data from the survey and census of establishments, subcontracted work is measured as the percentage of industrial work carried out for others. Table 9b shows that in 1994, 1.8 percent of total manufacturing output sold was subcontracted by microenterprises, SMEs and large enterprises. This declined to 1.5 percent in 1998 and in 2003, the ratio further dropped to only 0.7 percent. Measured as percentage of industry value of output sold, micro and SME subcontracted work declined from 0.8 percent in 1994 to 0.5 percent in 1998 and to 0.2 percent in 2003.

For SMEs as a whole, 3.57 percent of their output sold was subcontracted in 1994, this, however, fell to 1.8 percent in 1998 and further to 0.7 percent in 2003. Across sectors in 2003; textiles, wearing apparel, paper & paper products, other chemicals, rubber, glass, other non-metallic mineral products, fabricated metal, machinery except electrical, and transport equipment have higher than average subcontracting activity. But note that a decline in subcontracting ratios was observed in the following GPN sectors: wearing apparel (from 30 percent to 1.3 percent), machinery except electrical (from 30 percent to 1.2 percent), electrical machinery (from 4 to 0.4 percent), and transport (from 4 percent to 2 percent).

These figures tend to indicate that the local content of the country's leading exports has remained low and has declined substantially during the period 1994 to 2003. It is important to point out that it is in these GPN industries where subcontracting could provide a promising route for SMEs to access export markets. Linking with GPNs offer possibilities of technology transfer and quality control along with the creation of backward linkages leading to a deepening of our industrial structure.

Table 10 presents the export orientation of SMEs in the different manufacturing industries. On the whole, SMEs exported almost 19 percent of their value of output sold in both years 1994 and 1998. Wearing apparel dropped from 55 percent to 29 percent while textiles increased from 27 percent to 54 percent. Other sectors whose ratios went up significantly included fabricated metals from 4 percent to 23 percent, electrical machinery from 23 percent to 44, transport from 5 percent to 13 percent, and professional and scientific equipment from 26 to 39. Miscellaneous manufactures registered a high ratio of 55 but this dropped to 44 in 1998.

Table 10: Export Orientation of SMEs, 1994 and 1998

Code	Industry	SME exports as % of SME value of output sold		SME exports as% of industry exports		industry value of output sold	
		1994	1998	1994	1998	1994	1998
	Manufacturing	18.49	19.08	22.16	16.81	4.18	5.21
311	Food Processing	32.71	27.5	52.07	65.58	13.74	14.11
312	Food Manufacturing	3.21	1.27	21.83	17.9	0.87	0.52
313	Beverages	0.28	1.83	93.39	46.14	0.04	0.19
314	Tobacco	25.81		18.73		0.3	
321	Textiles	27.5	54.22	25.03	35.49	7.34	18.44
322	Wearing Apparel ex footwear	55.2	29.27	31.02	25.6	19.98	13.34
323	Leather and Leather Products	12.14	30.47	7.27	18.65	3.53	11.03
324	Leather Footwear	3.97	12.55	6.02	18.05	1.04	5.49
331	Wood and Cork Products	40.81	47.88	55.57	87.35	18.93	37.31
332	Furniture except Metal	53.73	47.47	46.45	44.58	29.75	25.39
341	Paper and Paper Products	16.5	9.53	64.14	35.27	4.58	4.59
342	Printing and Publishing	2.08		24.68		1.15	
351	Industrial Chemicals	16.38	19.36	33.67	41.95	8.58	11.82
352	Other Chemicals	4.09	6.11	40.4	53.17	0.98	1.7
353	Petroleum Refineries		13.16		21.12		0.37
354	Petroleum and Coal Products						
355	Rubber Products	11.79	38.41	11.53	19.65	2.96	12.3
356	Plastic Products	7.6	4.22	60.81	18.09	4.73	2.27
361	Pottery, China and Earthenware	63.83	20.93	21.7	18.73	10.3	5.28
362	Glass and Glass Products	16.42	71.44	33.71	69.94	4.05	18.62
363	Cement						
369	Other Nonmetallic Mineral Prods	14.53	20.42	60	89.98	7.55	10.3
371	Iron and Steel	4.7	10.53	34.52	56.32	2.1	4.21
372	Nonferrous Metal Products	28.16	26.55	62.43	3.17	0.64	2.45
381	Fabricated Metal Products	3.77	10.65	12.5	57.92	1.52	6.72
382	Machinery except Electrical	9.71	23.46	2.82	2.81	1.88	2.28
383	Electrical Machinery	23.01	43.82	3.2	4.67	1.84	3.98
384	Transport Equipment	5.1	12.83	14.9	26.23	0.64	3.13
385	Professional& Scientific Eqpt	25.57	38.93	13.59	14.61	9.71	8.91
386	Metal Furniture	39.53		18.38		14.35	
390	Miscellaneous Manufacture	54.99	43.62	32.64	49.96	19.05	25.4

Source: National Statistics Office Census and Survey of Manufacturing Establishments (1994, 1998)

The performance of SMEs in the last decade has not been vigorous enough to boost the Philippine manufacturing industry. As such, the deepening of high technology industries such as the electronics and auto parts and components in terms of the creation of backward linkages within the Philippine manufacturing industry has remained weak. Table 11 presents Philippine exports from 2003 to 2006. While the Philippines is a

small exporter by regional standards, its exports of high technology products have grown rapidly. However, as the table shows, the country's export structure is highly concentrated in a few products; hence, the country's exports are vulnerable to downturns in individual product exports and to location shifts by lead firms.

Table 11: Philippine Exports, 2003-2006 (in million US$)

Group	2006	2005	2004	2003	Average Share (%)
TOTAL EXPORTS	49,457	43,109	41,449	38,060	
GARMENTS	2,783	2,411	2,266	2,373	5.73
HOUSEWARES	169	176	187	208	0.44
HOLIDAY DECORATIONS	60	60	60	59	0.14
TOYS AND DOLLS	19	17	17	16	0.04
FASHION ACCESSORIES	274	242	228	261	0.59
FURNITURE	313	338	327	310	0.76
BUILDERS' WOODWORKS	655	118	100	119	0.54
WOOD PRODUCTS, NES	2	2	2	3	0.01
FOOTWEAR	26	28	37	49	0.09
GIFTWARE	101	100	94	84	0.22
OTHER CONSUMER MANUFACTURES	587	497	416	386	1.09
FOOD AND FOOD PREPARATIONS	2,302	2,097	1,989	1,962	4.87
ELECTRONICS	29,736	27,536	27,023	24,494	63.39
Components/Devices (Semiconductors)	22,461	20,336	18,833	17,152	45.78
Electronic Data Processing	5,612	5,575	6,309	5,786	13.68
Office Equipment	277	199	215	196	0.52
Medical/Industrial Instrumentation	13	7	4	4	0.02
Control And Instrumentation	18	16	10	5	0.03
Communication And Radar	238	274	456	345	0.78
Telecommunications	222	142	181	99	0.37
Automotive Electronics	419	401	384	348	0.91
Consumer Electronics	476	586	632	558	1.33
MACHINERIES/TRANSPORT EQUIPMENT/APPARATUS AND PARTS	2,718	2,694	2,495	1,918	5.7
Machineries/Equipment/Apparatus	127	105	124	101	0.27
Metal Machinery/Equipment/Apparatus	249	245	214	180	0.52
Transport Equipment	2,342	2,345	2,156	1,638	4.92
Motor Vehicles	92	171	161	158	0.35
Automotive Parts	2,142	1,964	1,811	1,382	4.22
Others	108	210	184	97	0.35
METAL MANUFACTURES	406	184	133	81	0.45
CONSTRUCTION MATERIALS	472	256	259	202	0.68
CHEMICALS	747	560	457	400	1.24
OTHER INDUSTRIAL MFRES	1,137	839	662	523	1.81
SPECIAL TRANSACTIONS	2,046	1,558	1,765	1,955	4.29

Source: Bureau of Export Trade Promotion-Department of Trade and Industry (processed based on data from the National Statistics Office)

Electronics comprised the bulk of Philippine exports with an average share of 63.4 percent, far second is garments with an average share of almost 6 percent followed by auto parts with an average share of 4 percent. Exporting in these industries is done mostly by large enterprises. SMEs comprise only a small share of total exports particularly in electronics and automotive parts, with shares of 4 percent and 3 percent, respectively (see Table 10).

In the electronics industry, our exports are mainly concentrated in semi conductors. Studies show that the country's participation in the global production network has hardly progressed beyond the lowest level of the production chain. Given the limited role of Philippine electronics in the labor-intensive assembly and testing segment of the production process, our electronics exports have become import dependent and hence, domestic value added is minimal. According to Austria (2006), backward linkages in the electronics industry remain weak because local suppliers are few and immature. Santiago (2005) attributed this to the following problems: unavailability of raw materials, difficulty of finding local suppliers, unreliability of local suppliers, high cost of local raw materials, failure to meet required quality standards. Given these constraints, MNCs are forced to import their intermediate inputs. As Tecson (1995) indicated, Japanese firms procure fewer inputs locally in the Philippines than in any other ASEAN countries where they operate.

In the auto parts industry, the same problem of limited backward linkages confronts the industry. The linkage between the automotive assembly sector and local parts and components has remained weak. After almost three decades of import substitution which was centered on local content policy, a large part of the parts and components industry still remains underdeveloped. At best, the local content program only had a limited impact on the growth and development of the parts and components industry. As indicated earlier, very little parts and components are locally sourced with the domestic parts sector accounting for only 10 to 15 percent of the total number of parts and components needed by local assemblers. In contrast, the Thai auto industry sources close to 85-90 percent of their parts domestically.

While auto parts such as wiring harnesses and transmissions are among the country's major exports, no backward linkages develop because these exports are labor-

intensive and highly import-dependent. In other words, the link of MNEs to the domestic economy is limited and thus, the value added of these exports is low. There are risks in relying in this existing pattern of production, investment, and trade which depends largely on low-skilled, labor-intensive segment of the international production network of MNEs. Foreign investments in these activities are highly mobile and with the presence of competing locations offering relatively cheaper labor, the Philippines becomes less attractive.

For instance, the number of Japanese auto parts companies operating in the Philippines declined from 43 in 2001 to only 34 in 2005 while those located in our neighboring East Asian countries went up (Yamamoto, 2006). In 2001, Thailand was the preferred supply base of Japanese companies, although this has changed in 2005 with the supply base shifting to China. The number of Japanese auto parts in China increased from 134 to 294 between 2001 and 2005; in Thailand this went up from 151 to 185 during the same years. In Indonesia, this rose from 75 to 84; in Malaysia, from 38 to 43 companies.

In the case of the Philippine garments, the industry has been dominated in the past decades by the assembly portion of the production system with a relatively few firms like Luen Thai, Eastland, and Fil-Pacific providing full package supply or OEM (Antonio and Rodolfo, 2006). Basically, the industry is part of what is called triangle manufacturing (Gereffi, 2003), where a foreign buyer deals with an agent in a newly industrialized economy which then outsource production in the Philippines. The triangle is completed once the Philippine supplier ships the products to the buyer. In recent years, however, mass retailers have shifted from the Philippines to low labor cost countries such as Cambodia, Sri Lanka, China, and Vietnam.

The Philippines does not have an integrated textile industry that can support the requirements of the garments industry. In the absence of an integrated textile industry, textile millers in the Philippines also face difficulties sourcing their raw materials importing about 80 percent of their input requirements like polyester fiber, cotton, rayon, and acrylic. Given today's competitive environment, it is crucial that the Philippine garments industry be able to move up the value chain and work towards becoming OEM

and OBM by enhancing its capabilities. To do this, the following problems (Antonio and Rodolfo, 2006) must to be addressed:

- High cost of labor and power; labor cost in the Philippines is US$1.10 per hour, double of what Vietnam and Bangladesh offer
- Slow productivity growth due to lack (decline) of investments
- Lack of ICT applications (e-mail and internet)
- Lack of locally sourced quality raw materials and dependency on imported raw materials (fabrics and accessories) which leads to longer lead times; our buyers nominate suppliers of fabrics and accessories from China, Taiwan, Hong Kong, India
- Lack of design capabilities and minimal linkages between local designers and manufacturers

5.2 Initiatives To Create Linkages

Developing the domestic supplier industries would be crucial not only to increase the local content of MNCs in the country but also to ensure that the MNCs currently operating in the country will stay and expand their operations as well as to ensure the participation of the country in the global production network. In the automotive industry, an attempt to enhance the productivity of local auto parts suppliers is being made through a public-private program called ECOP-Big Enterprise Small Enterprise (EBESE). Toyota is the most active participating company and Ford to some extent. EBESE is a partnership among the Employers Confederation of the Philippines (ECOP), Department of Science & Technology (DOST), and Department of Trade & Industry (DTI).

EBESE aims to develop a network of partnership where big enterprises can mobilize their resources to help SMEs to learn and undertake productivity improvement strategies. This is carried out in two levels: the basic level teaches know-how in basic tools such as 5S or good housekeeping, process flow, plant layout and human values related to productivity improvement. The next level teaches Just-in-Time (JIT) concept of eliminating and preventing anything that does not add value to the product in compliance to QCD requirements of customers. So far, the Program has created

Box 2: EBESE-Toyota Cluster Development Program

In the automotive industry, suppliers are classified into three tiers with the first tier supplying to the assembler, the second tier supplies to the first, and so on. The Toyota Cluster aims to expand the supplier value chain by strengthening its suppliers down to the lowest level through improvements in their productivity, quality, productivity, efficiency, cost competitiveness, and waste reduction and elimination.

The program focuses on the 5S and productivity improvement concepts and takes between 6 to 8 months to be completed. After selection and business diagnosis of the participants recommended by first tier big enterprises, orientation and training follow. Plan implementation comes next, then monitoring and evaluation, after which project turnover is carried out. Through the Program, benchmarking and knowledge sharing activities are also carried out. Prior to plan implementation, the participants visit other companies for benchmarking and knowledge sharing purposes.

Starting in 2005, Toyota Motor Philippines joined the EBESE with 5 other big enterprises belonging to the first tier and 13 SMEs belonging to the second tier. In 2006, Toyota added two more big enterprises and 19 SMEs. In 2007, 1 more big enterprise was added along with 19 SMEs.

The following are the first tier big enterprises that are participating in the program: AICHI FORGING (Metal Casting/Forging), FUJITSU TEN(Audio/Electronics), PHILIPPINE AUTO COMPONENTS (Electrical/Meters), TECHNOL EIGHT (Metal Parts), TOKAI RICA PHILIPPINES (Electrical/Mechanical), TOYOTA AUTOPARTS PHILIPPINES (Transmission), TOYOTA BOSHOKU PHILIPPINES (Interiors / Seat Assembly), and TOYOTA MOTOR PHILPPINES (Auto Assembly).

So far, the Program has been successful in attaining its objectives. As of 2007, a total of 51 SMEs belonging to the second tier have benefited from the Program. In 2006, one SME (MMET) was able to graduate as a big enterprise. During the same year, one SME (Malugo Philippines), was able to move up and enter the third tier level.

K&K Molding Inc. is a manufacturer and assembler of plastic components for printer and automotive industries. Through the Program, the firm carried out some changes such as re-layout and product chute installation for its Bracket Turn finishing process. With these improvements, travel time is down from 24 sec/case to 4 sec/case: an 86% improvement. Output per man hour is up from 138pcs to 166pcs/man hour: 19% improvement. From 276 parts leftover per shift down to zero. In the Case Turn finishing process, the same improvements were achieved. Travel time is down from 26 sec/case to 5 sec/case: an 83% improvement. Output per man hour is up from 109pcs to 126pcs/manhour: an 16% improvement. From 218 parts leftover per shift down to zero.

Another SME, VJF Precision Tooling Corporation specializes in tool & die, carbide parts, jigs & fixtures and other precision machining. Through the Program, it was able to improve its lead time by adopting 5S in its stockroom area and providing demarcation lines in the production area to enclose exclusive areas for machines, walkways, and location of safety devices. Audits are conducted every month and further expansion of 5S into other areas. All these resulted in a significant reduction in cycle time and faster turnover which enabled the company to accept more orders for toolsets. With the reduction in manpower overhead cost per toolset due to the faster time to manufacture it, the company was able to increase its efficiency, reduce wastage, returns and rejects, which created a large impact on their revenues.

Source: Toyota Motors Philippines

significant impact in terms of productivity improvements and revenue increases among its SME participants (see Box 2).

The lack of information by SMEs on the opportunities available in MNCs and vice versa is perhaps the most important constraint to linkage development. The DTI's Bureau of SME Development is still in the process of creating its SME database. It is currently coordinating with the National Statistics Office to have access to the firm level data that NSO collects. Maintaining an SME database is important for matchmaking purposes.

In the electronics industry, trade fairs and industry associations provide opportunities for networking and linkage development. The industry association known as Semi-conductor and Electronic Industry of the Philippines, Inc. (SEIPI) maintains a database on suppliers to its member firms, although these are mostly large domestic and foreign owned companies. SEIPI has also set up a "Center for Excellence" – the Advanced Research and Competency Development Institute offering advanced training for electronics employees. Moreover, the presence of new companies like BayanTrade and Transprocure which specialize in supply chain management help in creating linkages across a range of industries (see Box 3).

Box 3: BayanTrade: Assisting Strategic Sourcing and e-Procurement

BayanTrade was founded in 2000 as a joint venture between six large conglomerates. Over the years, its business focus has shifted from electronic marketing to supply-chain optimization.

Though initially a buyers' club, Bayantrade now works on behalf of both buyers and sellers. It has around 2,500 suppliers on its books and some 260 buyers. 95 percent of bidding suppliers are based in the Philippines and around 85 percent are domestically-owned. Around 25 percent of purchasers are foreign-owned though almost all are based in the Philippines.

The company has an in-house supplier accreditation scheme. Firms failing to make it onto the list tend to suffer from problems of scale, financial health, track record or quality accreditation.

Suppliers register for free and are informed of upcoming relevant auctions, though they must pay if the server is to host their catalogue. Buyers pay a set-up charge and monthly subscription along with the fee arising from the auction.

The company has 65 employees and has managed more than 1500 e-bidding events, helping customers process close to US$700 million worth of commodities, sourced locally and globally.

Source: World Bank, 2005 and BayanTrade website.

In the garments industry, some garments manufacturers have teamed up with textile companies in order to address the negative impact of the absence of good quality domestic textiles on their competitiveness. These firms that have linked up with local yarn and textile producers and are now sourcing 10-20 percent of their textile requirements locally. Such clustering allows textile producers to niche and upgrade their capabilities.

6. SURVEY RESULTS

A survey[4] of twenty-three (23) companies in three manufacturing industries namely: electronics, auto parts, and garments was conducted to analyze the effects of the government's SME promotion policies on networking in the three industries. In particular, the survey aimed to elicit responses on the nature of the company's networking activities with the government, other SMEs, large domestic companies and MNCs. It also aimed to gather information on the effects of these networking activities on the company's growth and development.

Currently, there is no database containing a list of SMEs in the manufacturing industry, specifically those operating in GPN industries such as electronics, automotive parts, and garments. The DTI's Bureau of Small and Medium Enterprise Development (BSMED) has a compilation of members from various industry associations, however, this was prepared way back in the nineties and has not yet been updated. Moreover, BSMED, which is the designated center of assistance for the National SME Development Plan has no website (still under construction) which can easily be accessed for SME information.

The National Statistics Office has a list of SMEs based on the survey and census of manufacturing establishments that it regularly conducts, but the information could not be provided to us because this is treated as confidential. Industry associations could only provide the general listing of their members which included large enterprises.

More than seventy firms were invited to participate in the survey but only 23 responded positively, majority of which are from the garments sector with nine (9) respondents, nine (9) from automotive parts and components and five (5) from the

Table 12: Profile of All Company-respondents

Company	Year Founded	Number of Employees	Sales(Annually)	Major Products	Supply Chain Segment	% Equity	Legal Status
Firm A	1974	40	P 25 million in 2006	Systems for time and attendance	Downstream	100% domestic-owned	Corporation
Firm B	1994	85	2005-$900,000; 2006-$45,0000	Wiring harness for motors and robots and cable connectors	Mid-stream	100% foreign-owned	Corporation
Firm C	1991	120	Didn't give information	Energy saving devices, electronic scoreboards, electronic ballasts, Power on Delay (POD10)	Downstream	100% domestic-owned	Corporation
Firm D	1995	less than 30	less than P 10 million in 2005 and 2006	SMT diode marking machine, capping machine, electronic modules,	Mid-stream	100% domestic-owned	Corporation
Firm E	1981	55	Sales declined in 2005 but increased in 2007	electronic parts for auto and consumer electronics	Mid-stream	100% domestic-owned	Corporation
Firm F	1993	157	Didn't give information	Stamped auto parts	Mid-stream	100% domestic-owned	Corporation
Firm G	1999	78	Didn't give information	Precision tooling kits	Mid-stream	100% domestic-owned	Corporation
Firm H	1998	200	Didn't give information	Plastic	Mid-stream	100% foreign-owned	Partnership
Firm I	1980	75	2005-P64.3M; 2006-P62.7M; 2007-P77.1M	Brake and fuel tubes	Mid-stream	60%- Japanese and 40% Filipino	Corporation
Firm J	2000	30		Mag wheel caps for cars and motorcycles	Mid-stream	100% domestic-owned	Corporation
Firm K	1995	150	2005- P165M; 2006-P180M; 2007-P220M	seat frame and stamped auto parts	Mid-stream	100% domestic-owned	Corporation

Firm L	1992	90	2005-P80M; 2006-P65M; 2007-P55M	soft trim parts and stamped metal parts	Mid-stream	100% domestic-owned	Corporation
Firm M	1980	104	2005- P212M; 2006-P116M; 2007-P75M	shock absorbers, automotive exhaust and muffler systems	Mid-stream	100% domestic-owned	Corporation
Firm N	1988	42	2005- P10M; 2006-P9M; 2007-P11M	metal and rubber brackets	Mid-stream	100% domestic-owned	Corporation
Firm O	1971	175	≈P82M (2M USD)	Children's Wear	Downstream	100% domestic-owned	Corporation
Firm P	1994	24	P0.5-1M	Shorts, pants and t-shirts	Downstream	100% domestic-owned	Single Proprietorship
Firm Q	1984	15	-	T-shirts	Downstream	100% domestic-owned	Corporation
Firm R	1993	60	P 2.5M	Children's Wear	Downstream	100% domestic-owned	Corporation
Firm S	2005	35	P200,000	Sweaters	Downstream	100% domestic-owned	Corporation
Firm T	2007	5	-	Office Wears	Downstream	100% domestic-owned	Single Proprietorship
Firm U	1993	4	-	Pants and T-shirts	Downstream	100% domestic-owned	Single Proprietorship
Firm V	1995	135	-	Undergarments	Downstream	100% domestic-owned	Corporation
Firm W	1980	150	-	Children's Wear	Downstream	100% domestic-owned	Corporation

electronics industry. Interestingly, over 80 percent of the firms surveyed are engaged in subcontracting work, servicing largely big domestic companies and MNCs. The years of incorporation or the years when firms first started their operation vary, with 1971 as the earliest and 2007 as the most recent. Table 12 below presents a profile of the surveyed firms while Table 13 shows some basic characteristics of the subcontractors.

Table 13: Basic characteristics of Subcontractors

Subcontractor Name	Primary Customers	% of subcontracted work to total production	# of years working as subcontractor
Firm D	Large Domestic Firms and MNCs	100%	12
Firm E	Large Domestic Firms and MNCs	100%	26
Firm F	Large Domestic Firms and MNCs		15
Firm G	Large Domestic Firms and MNCs	100%	8
Firm H	Large Domestic Firms and MNCs	100%	9.5
Firm I	MNCs	100%	27
Firm K	Large Domestic Firms	100%	10
Firm L	MNCs	100%	15
Firm M	MNCs	60%	8
Firm N	MNCs	65%	20
Firm O	Large Domestic Firms and MNCs	100%	31
Firm P	Large Domestic Firms	100%	17
Firm Q	Large Domestic Firms	50%	23
Firm R	Large Domestic Firms	100%	2
Firm S	MNCs	100%	14
Firm T	Large Domestic Firms and MNCs	100%	1
Firm U	Large Domestic Firms	50%	14
Firm V	Large Domestic Firms and MNCs	100%	12
Firm W	MNCs	100%	27

Table 14 presents a summary of the firms' major responses to the questions on networking activities of SMEs. The major findings are discussed below:

Table 14: Summary of the firms' major responses

Electronics and Automotive Parts & Components	
(i) LARGE COMPANIES & MNCs	
Survey Question	Firm Responses
Strategies to diversify subcontracting activities	Strengthening automotive business transactions from 10 percent in 2006 to 50 percent in 2007 Reviewing its current production capacity
Main reasons for engaging in subcontracting activities	Long term growth and profitability Partnership with MNC Network of subcontractors Participate in government programs Knowledge of foreign market
Critical factors in maintaining good subcontracting relationship	Product Cost Delivery Quality
Support expected from contractor	Design support Technology Product development and innovations Increase in the volume of job orders Management and production techniques Improved networking
(ii) GOVERNMENT	
Survey Question	Firm Responses
Support received from the government	Worker's training such as 5S and productivity improvement Access to financing Tax credit Marketing and promotion programs
Effectiveness of government assistance in addressing needs of SMEs	Satisfactory
Ways to improve government SME programs	Creation of organization which will focus on SMEs New government department or bureau which will oversee the operation of manufacturing SMEs Protection from cheap imports Inviting more MNCs and making SMEs more visible Government support in sourcing raw materials and tapping new technology Database of buyers
Government programs linking SMEs with MNCs	EBESE and DTI-CICs search for proactive companies
Effectiveness of these linkage programs	No reply
Ways to improve these government linkage programs	One stop shop that provides information on export market opportunities, raw materials and new technology Clear and consistent government requirements, including fees and other relevant business documents

(iii) OTHER SMEs:	
Survey Question	Firm Responses
Cooperation programs among SMEs	EBESE, Toyota Cluster Development Program
Benefits from participating in these programs	Presence of suppliers of raw materials, parts and components Exchange of information with other SMEs Visibility to other MNCs Link with other SMEs and in some cases establish production agreements with them Exchange of information with other SMEs Access to market information and best practices Incentives like none payment of duties and taxes
Benefits from participating in these programs	Presence of suppliers of raw materials, parts and components

Garments	
(i) LARGE COMPANIES and MNCs	
Survey Question	Firm Responses
Strategies to diversify subcontracting activities	Maintain high quality products (since garment firms get orders mainly through referrals) Business registration & accreditation Creation of a subcontractors' database Creation of a database of all government registered & accredited subcontractors to be readily available to traders & buyers
Main reasons for engaging in subcontracting activities	Long-term growth & profitability Manageability Knowledge of the foreign market Dependence on contractor Minimal capital requirement Creation of jobs
Critical factors in maintaining good subcontracting relationship	Quality (avoid rejects) Delivery (on time) Product cost Quantity
Support expected from contractor	Management and production techniques Product innovation/development Improvement of technology Financial assistance Reasonable payment
(ii) GOVERNMENT	
Survey Question	Firm Responses
Support received from the government	Participation in trade fairs One-stop shops providing information on export market opportunities, raw materials Access to credit, financing Technical assistance
Effectiveness of government assistance in addressing needs of SMEs	Not effective

Ways to improve government SME programs	Advertise products through fairs by coordinating with the local government units Discourage free trade or globalization Easy access to credits Creation of laws or policies for subcontractors by protecting workers & wages Organizing venues where subcontractors can come together to discuss their concerns/problems and practical solutions
Government programs linking SMEs with MNCs	None
Ways to improve these government linkage programs	Promotion of products to other countries Government initiatives to link subcontractors with buyers Accreditation of subcontractors Creation of database which will be readily available to buyers
(iii) OTHER SMEs	
Survey Question	Firm Responses
Cooperation programs among SMEs	None
Benefits from participating in these programs	Participation in trade fairs Easy access to credits Availability of workers with specific skills

6.1 Networking of SMEs with large domestic corporations and MNCs

Most of the interviewed subcontractors gear 100% of their production to subcontracted work. They indicated that they engage in subcontracting work due to their knowledge about foreign markets and to attain long term growth and profitability. The most important factors in maintaining good relationship with contractors are product quality, on time delivery, and cost. They expect the following support from contractors: technology, management and production techniques, product innovation and financing. Respondents from the garment sector on the other hand, also expected MNCs and large domestic companies to provide them with financial assistance.

6.2 Networking of SMEs with the Government

In general, most firms in the three industries were able to receive some benefits from the government programs on SME financing and credit, trainings, participation in fairs and exhibits, and technical assistance. Majority of the respondents from the garments industry indicated that they did not receive any form of government assistance, but the primary reason for this seemed to be the firms' lack of awareness due to the absence of information about these programs. More needs to be done particularly in

improving training and human resource development programs of the government to become more useful and responsive to the needs of industry recipients.

It is evident from the firm interviews that the government programs linking small and medium enterprises/subcontractors with multinational corporations and large domestic corporations are apparently weak. Firms in the electronics, automotive parts, and garments are not aware of any government support program that links them with contractors and buyers in their respective industries. Most of the firms suggested that the government should formulate a program that would create these linkages to facilitate the seller and buyer matching process.

In the garments industry, the surveyed firms indicated that links are made based on a referral system which has been their standard practice in the industry. They have been doing this on their own and have not received any assistance from the government in establishing contacts and finding their buyers and contractors. The same referral system is also applied in the electronics and auto parts industries. One firm also indicated the need for a separate government office that would specifically handle the affairs and programs of export-oriented high-tech SMEs in the manufacturing industry.

6.3 Networking among SMEs

The survey showed that except in the automotive parts industry, where a government-private sector cooperation program known as EBESE is being implemented, clustering activities in the electronics and garments are still very limited. In the automotive industry's EBESE Program, a total of 51 SMEs belonging to the second tier benefitted from the Program. The sustainability of the Program, however, is an issue due to the reduction in the financial support from the DOST.

No SME or subcontractors' associations were found in any of the three industries. One interviewee noted that the lack of cooperation among SMEs may be due to the adversarial attitude with firms treating other companies as competitors. They are also not willing to share industry information with other SMEs, perhaps due to their characteristic of being protective of their own "trade secrets".

7. GOVERNMENT POLICY RECOMMENDATIONS

7.1 Separate Government Office to Implement and Coordinate SME Policies and Programs

The Department of Trade and Industry has an important role to play in meeting the many and complex development challenges confronting SMEs. It has to act not only as organizer and coordinator, but as a partner of the different players including academe and research, professional and industry associations, as well as the suppliers themselves. Currently, SME policies are guided by both social and economic objectives targeted at the poorest members of society. On the other hand, backward linkages programs aimed at developing SMEs as suppliers are driven by industrial efficiency and competitiveness targeted at the most capable SMEs. The survey interviews indicated that SME subcontractors feel that the government prioritizes the needs of microenterprises more.

Given its limited resources, the DTI should separate these two objectives and avoid lumping together traditional and non-traditional activities in designing its promotion policies and programs. The World Bank (2005) suggested that the Bureau of SME Development should focus only on microenterprises and a separate agency or bureau should be assigned solely to SMEs. The same suggestion also emerged from the survey results where firms expressed the need to create a separate office for export-oriented high-tech SMEs in the manufacturing industry. It is important to note that the needs and problems of traditional industries like food and home decors are different from those of non-traditional activities particularly the high-tech GPN industries where SME local suppliers play a crucial role in the growth and development of industries.

Creating a separate SME agency is important in order to address conflicting and overlapping lines of authority in implementing SME programs and policies as well as the fragmented overall policy responsibility and implementation among many different government agencies. In a number of countries including Thailand and Malaysia, SME responsibilities are concentrated in one office to ensure better coordination and greater coherence and consistency in SME policies and regulation. Equally important is the need to upgrade the people handling SME programs with professionals that have the appropriate skills, knowledge, and background.

7.2 Create and maintain a database on SMEs

This is crucial in formulating policies and programs as well as in matching firms to develop and expand linkages between SMEs and MNCs. The surveyed firms suggested using an accreditation system as an initial step in creating a directory of SMEs.

7.3 Promotion of Local Parts and Supplier Industries and Clustering

To upgrade the production process and capture a larger share of value added, the government should prioritize the development of the local parts and supplier industries. As Austria [2006] pointed out, this is the only avenue to increase the domestic content of MNCs operating in the country. The development of domestic suppliers would require a package of technical assistance, training to develop skills of local suppliers together with access and availability of finance along with increased linkages between SMEs and large enterprises.

The past years have witnessed efforts made by the government to address this problem by pursuing supplier clustering in export processing zones and industrial parks. Clustering, however, is still limited to foreign suppliers of parts and components. Fujitsu's experience in the Philippines shows that a large number of upstream suppliers from Japan and other developed countries established their affiliates here and supply the company's parts and components requirements [Kimura, 2001]. Austria [2006] noted the case of Wistron Infocom (formerly ACER International) which manufactures motherboards and computer notebooks for export. Located at the Subic Bay Industrial Park, the excellent infrastructure attracted its suppliers in Taiwan to follow and locate also in Subic. This enabled Wistron to overcome the unavailability of local suppliers for its parts and components. The foreign suppliers tried to establish linkage through outsourcing with local suppliers. However, minimal linkages were created due to the poor quality of output and high costs of outsourcing locally.

7.4 Promotion and development of outsourcing arrangements

The surveyed firms indicated that they engage in outsourcing/subcontracting arrangements due to their knowledge of foreign markets and as their way to attain long

term growth and profitability. They expect the following support from contractors: technology, management and production techniques, product innovation and financing.

Given the potential opportunities arising from the growth of GPN industries through subcontracting and outsourcing, policies aimed at improving these relationships between SMEs and large corporations and MNCs are crucial for SME development. Subcontracting and outsourcing arrangements can be promoted by linking up or matching up companies, providing subcontracting and outsourcing advice to SMEs, and organizing fairs for subcontractors.

7.5 Technology and industry upgrading to boost SME Competitiveness

Improving the competitiveness of SMEs is important in order to address capabilities gaps that currently hinder the development of linkages. As the surveyed firms indicated, product quality, cost, and delivery are the most important factors for maintaining a good relationship with MNCs. Improving SME competitiveness is thus necessary to ensure that existing MNCs will remain and expand operations as well as to attract new global players to locate in the country. The experiences of South Korea, Singapore, and Taiwan on how they successfully implemented technology upgrading, human resource development and training, and finance support programs are instructive (see Box 4).

Box 4: Learning from Neighboring Countries' Experiences

South Korea, Taiwan and Singapore set up central institutions to monitor and diffuse new technologies and provided technological services that SMEs could not provide themselves. These included material testing, inspection and certification of quality, instrument calibration, establishment of repositories of technical information, patent registration, research and design, and technical training. The Singapore Institute of Standards and Industrial Research has an incubator scheme that allows SMEs and innovators to make use of the institute's space, equipment and technical advice, and provides common facilities for firms to do R&D.

All three countries also provided training and management consultancy facilities for SMEs along with subsidized credit, tax incentives and financial guarantees to hurdle capital-market imperfections. As with technology upgrading, cost sharing was adopted to ensure that companies took the programs seriously. In Korea, the government also provided financial advice and legal and tax accounting services to SMEs. Subsidized loans were phased out gradually and replaced these with schemes where risks and profits were shared with enterprises.

Source: World Bank, 2005.

Given the presence of lower cost competitors in the East Asian Region (with stronger technological capabilities and well developed supply chains), it is important for the Philippines to move up the technology scale. This implies engaging in design and development tasks in all major export products, particularly in electronics.

Industrial upgrading would require a strong base of domestic knowledge. This would need the development of specialized skills and technological capabilities. One possible mechanism is to grant incentives to encourage researchers and university professors and students to closely interact with the electronics and automotive industries. This is being done in the electronics industry through the establishment of a technical training school to improve the technical competencies of workers. SEIPI's Advanced Research and Competency Development Institute (ARCDI) aims to make Philippine high-technology companies more competitive by providing a venue for world-class professional training, advanced research, development and engineering (RD&E), and new venture incubation. The ARCDI is led by private sector stakeholders, a visionary group of government industry promoters, and leading academic and RD&E institutions. Recently, the automotive industry has also created an Automotive Technology Excellence Center as a public-private partnership to serve as industry incubator and promote the continuous upgrading of the local parts and supplier industries.

The government also needs to implement substantial reforms in all stages of the education and training system to cope with rising competition from lower wage countries, particularly China. The quality and completion rates need to be improved and the length of the schooling be brought in line with international norms. Moreover, technical training schools should reorient their curricula to serve employer needs and requirements; to address specific skills needed by both traditional industries like garments and modern ones like electronics. The same need for government support in the training and development of workers was emphasized in the survey.

7.6 Addressing Infrastructure and Logistics Bottlenecks and Improvement of Overall Investment Climate

High-technology industries like electronics and automotive are dominated by foreign-owned MNCs. The ability to attract MNCs and FDI is critical to the long-term prospects of the Philippine in both sectors. The relatively poor FDI performance of the

Philippines can be attributed to the country's poor investment climate. While we implemented economic reforms similar to those carried out by our East Asian neighbors, what separates our investment climate is the low institutional quality and poor fiscal conditions. Since 2006, substantial fiscal reforms to address the country's huge fiscal deficit have been implemented. This has contributed to improving the country's economic outlook and overall business environment.

Equally important for the global/regional production network operations of MNCs is the presence of good infrastructure and logistics that lower production cost and facilitate the easy supply chain management from the procurement of inputs to the export of outputs. This implies reducing power and communication costs, providing sufficient port systems, reducing travel time and offering travel and shipment options. Allowing private sector participation in infrastructure and services provision is a step in the right direction. With the continuing fiscal reforms, the government will be able to invest more in physical infrastructures and utilities.

NOTES

[1] Senior Research Fellow, Philippine Institute for Development Studies. The author is grateful for the excellent research assistance provided by Ms. Fatima Del Prado.
[2] National Statistics Office and Small and Medium Enterprise Development Council Resolution No. 1, Series 2003.
[3] Note that investment incentives during this period were biased in favor of large enterprises.
[4] The author acknowledges the contributions of Fatima del Prado, Berna Silvano, Jennifer de Castro, Marilen Macasaquit and Liza Sonico in conducting the survey for the three industries.

REFERENCES

Aldaba, R.M. (2007) "Assessing the Competitiveness of the Philippine Auto Parts Industry". Philippine Institute for Development Studies Discussion Paper Series No. 2007-14. Makati, Philippines

ACERD and FINEX (undated) "Making SMEs Work, Making SMEs Create Work: Job Creation Through Small and Medium Enterprise Development". A joint paper by the Ateneo Center for Research and Development (ACERD) and the Financial Executives Institute of the Philippines (FINEX)

Abrenica, Joy V. and Tecson, R. Gwendolyn (2003) "Can the Philippines Ever Catch Up in Competitiveness" in Sanjaya Lall, Shūjiro (editor) *Foreign Direct*

Investment and Technological Activity in East Asia: Washington D.C: World Bank

Austria, M. (2006) "Foreign Direct Investment and Economic Development: The Case of the Philippines" in Shujiro Urata, Chia Siow Yue and Fukunari Kimura (editors), *Foreign Direct Investment and Economic Development: Lessons from East Asian Experience,* Washington D.C: World Bank

Austria, Myrna (1996) "The Effects of the MFA Phase Out on the Philippine Garments and Textiles Industries." Philippine Institute for Development Studies Discussion Paper Series No. 96-07. Makati, Philippines

Agarwalla, Gokul (2005) "Study of Linkages in the Philippines Electronics Industry." Power Point Presentation. Manila, Philippines

Antonio, Emilio Jr. and Rodolfo, Ma. Cherry Lyn (2006) "Assessment of Competitiveness and Logistics Infrastructure of the Philippine Garments Industry." Philippine Institute for Development Studies Discussion Paper Series No. 96-07. Makati, Philippines

Barry, Frank (2005) "Meeting Challenges In Philippines Electronics And It Services" Workshop On Policies To Strengthen Productivity In The Philippines. Department Of Economics, University College Dublin

Berry, Albert and Rodriguez, Edgard (2001) " Dynamics of Small and Medium Enterprises in a Slow-Growth Economy: The Philippines in the 1990s." Washington, D.C. USA: The International Bank for Reconstruction and Development/The World Bank

Chaminade, Cristina and Vang, Jan (2006) "Innovation policy for Asian SMEs: Exploring Cluster Differences." CIRCLE Electronic Working Paper Series. Lund Sweden.:CIRCLE Lund University

Department of Trade and Industry, SME Development Plan 2004-2010.

Dhungana, Bhavani (2004) "Strengthening The Competitiveness Of Small And Medium Enterprises In The Globalization Process: Prospects And Challenges."

Export Development Council and Department of Trade and Industry, Philippine Export Development Plan 2005-2007.

Foreign Investment Advisory Service, World Bank And International Finance Corporation (2005) "Fostering Linkages Between Multinational and Domestic Firms in the Philippines" In a Conference: Policies to Strengthen Productivity in The Philippines

Fukumoto, Mayumi (1998) "Development Policies for Small and Medium Enterprises in APEC-In the case of the Philippines" APEC Study Center Institute of Developing Economies

Gereffi, Gary (2003) "The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries?" Vienna Australia: United Nations Industrial Development Organization

Gereffi, Gary (2001) "Global Sourcing in the U.S. Apparel Industry." *Journal of Textile and Apparel, Technology and Management.* Volume 2, Issue 1

Gimenez, A. (1994) "An Assessment of the Automotive Parts Manufacturing Industry in the Philippines" an unpublished report.

Japan International Cooperation Agency (2007) "Effective Approaches on the Promotion of Small and Medium Enterprises (SMEs)." http://www.jica.go.jp/english/index.html (Accessed December 2007)

Lee, Peter (2005) "A Tale of Two (Philippine) Industries." Economic Research Center Discussion Paper. Economic Research Center School of Economics Nagoya University

Kimura, F. (2001) "Intrafirm Fragmentation: Fujitsu Ltd.'s Production of Hard Disk Drives" in L. Cheng and H. Kierzkowski, eds., Global Production and Trade in East Asia, Norwell: Kluwer Academic Publishers, 2001:289-293.

Moran, Theodore H. (1998) *"*The New Policy Agenda for Developing Countries and Economies in Transition*"* in *Foreign Direct Investment and Development.* Washington, DC: Institute for International Economics.

Santiago, Ernie (2005) "About the Philippine Electronics Industry: A Snapshot." Power Point Presentation. Manila, Philippines

Small and Medium Enterprise Development for Sustainable Employment Program (2006) Analysis of Business Registration and Licensing in the Philippines" Power Point Presentation. Makati, Philippines

Tamangan, R., F. Josef and Cielito Habito (2004) "Small and Medium Enterprise Development Experience and Policy in Japan and the Philippines: Lessons and Policy Implications", PIDS Discussion Paper Series No. 2004-30, Makati City Philippines.

Tecson, Gwendolyn (2004) "Review of Existing Policies Affecting Micro, Small and Medium Enterprises (MSMEs) In the Philippines" Makati Philippines.: Small and Medium Enterprises and Development for Sustainable Employment Program

_____ (1999) "The Hard Disk Drive Industry in the Philippines" Report 99-01, Information Storage Industry Center" Graduate School of International Relations and Pacific Studies, University of California, San Diego.

_____ (1995). "Desiderata for Future Philippine-Japan Economic Relations", University of the Philippines-School of Economics, Quezon City.

Tenorio, A. and Lugo, L. (2002) "Automotive Parts Making: A Dying Industry." Business World.

World Bank (2004) "Fostering linkages between multinational and domestic firms in the Philippines", paper presented during the "Policies to Strengthen Productivity in the Philippines Conference", AIM Policy Center, Makati City.

Yamamoto (2006) "Benchmark Survey Project Competitiveness of ASEAN vs. China vs. India on Auto Parts Industry." Powerpoint Presentation.

Chapter 9

SMEs DEVELOPMENT POLICY ENVIRONMENT AND CHALLENGES IN SINGAPORE

Hank Lim

Abstract

The development of SMEs in the region is critical and vital as success in this collective and individual efforts will go a long way in reducing regional and domestic income gaps and in creating a balance of income and employment and securing a more sustainable human and social security in the midst of rapid economic growth in income and output. To achieve this, there is a need to improve SMEs' international competitiveness through SME promotion policies, finance system and tax system for SMEs. They can be sharpened in their ability to compete through improvement of competitiveness due to R&D, improvement of quality control, improvement of skill etc. SME promotion policies can also help to smoothen out non-availability of effective finance system for SMEs and facilitate their modernization process. This paper will examine the strategy and policy issues on SMEs in the East Asian context and utilize Singapore as an empirical by looking into general and regional policy issues.

Introduction

SMEs typically consist of: export-oriented industries like apparel, supporting industries like auto components and traditional cottage industries like handicrafts services. When domestic markets were protected by custom tariffs, governments could make SME promotion policies in considering domestic situations. However, after globalization started to progress and international production networks have been created, environments of SME changed dramatically. As export oriented units are facing severe competition in export markets, they are trying to reduce production and distribution costs and find new outlets.

While trade and investment liberalization and globalization are detrimental to the domestic growth of SMEs, there are counter policy measures which can be implemented to synergize, ameliorate the negative effects of globalisation and regionalization through a more dynamic, rapid and sustainable regional economic development. The development of SMEs in the region is critical and vital as success in this collective and individual efforts will go a long way in reducing regional and domestic income gaps and in creating a balance of income and employment and securing a more sustainable human and social security in the midst of rapid economic growth in income and output.

To achieve this, there is a need to improve SMEs' international competitiveness through SME promotion policies, finance system for SMEs and tax system for SMEs. SMEs can be sharpened in their ability to compete through improvement of competitiveness due to R&D, improvement of quality control, improvement of skill etc. SME promotion policies can also help to smoothen out non-availability of effective finance system for SMEs and facilitate their modernization process.

2. NEW CHALLENGES

Both the Japanese and Korean experiences suggest that a key ingredient in the development of a dense subcontracting network may be the pursuit of an industrial policy in which it is construed to play a significant role and in post-occupation Japan, MITI (now MTI) announced the state-led industry policy as a strategy for national industrial economic policy, with policy-making tools including governmental capital through semi-governmental banks, selective protectionism, and tax incentives. From then on, small business policy moved away from engaging in free market conditions through state help to plugging into subcontracting and efficiency/productivity increases.

Asian countries have promoted SMEs to progress industrialization since the 1980s. Even when factories are set up by foreign direct investment, if components are imported from foreign countries, the effects of these factories on GDP and employment creation are limited and growth of imports may be induced. It is necessary to promote supporting industries to expand backward effects. When domestic markets were

protected by custom tariffs, governments could make SME promotion policies considering domestic situations.

However, after globalization started to progress and international production networks have been created, environments of SME changed dramatically. As export oriented units are facing severe competition in export markets, they are trying to reduce production and distribution costs and find new outlets. While supporting industries may lose outlets because related big firms change procurement policy and import components, they can export easily. At present, the effects of SME promotion policy need to be reviewed. This paper will examine the strategy and policy issues on SMEs in the East Asian context and utilize Singapore as an empirical by looking into general and regional policy issues.

2.1 Major SME policy framework amongst East Asian economies.

The Asian financial and economic crisis of 1997 has promoted East and Southeast Asian economies to return to the basics and focus on SMEs to create jobs for millions of unemployed victims of the crisis and widen opportunities for entrepreneurs to capitalize on the recovery which had to go through another period of economic upheaval in the 2001 global slowdown caused by SARS and the 911 attacks. This almost Pan-East Asian policy focus has been re-invigorated aid for the SME sector which benefited from Japan's leadership in providing financial resources through the Miyazawa Initiative.

Along with the funding provided by the New Miyazawa Initiative, the regional external environment has also grown favorable for incubating SMEs in the region. A larger proportion of global output is now exported with the ratio of world exports - even during the global economic slowdown of 2001, the value of world trade (exports) reached US$ 12.7 (US$ 6.2) trillion.[1] Within Southeast Asia, intra-ASEAN trade has also grown faster than ASEAN's total trade and the proportion of goods destined for trade within ASEAN is much higher than before the progressive and accelerated tariff reduction arrangements, starting in 1993, under the ASEAN Free Trade Area (AFTA) and, in addition, most wealth-creating assets such as finance and technologies can now be packaged, located and relocated with relative ease within and across economies and regions.[2]

There are greater opportunities for inter-firm linkages for enhanced efficiency, technological innovation, and competitiveness as a collective; especially in the growth complex systems of cross-border production and international supply chains for SME involvement. One way of strengthening inter-firm linkages is through clustering where members in better position within the cluster may extend their resources to help others within the cluster that are languishing, the interlocking mechanism then provides a form of security for the collective and this may promote the survival of the cluster as a whole. The cooperation between cluster members solidifies the common will to overcome problems.

The most dramatic type of small-small cooperation is represented by the clusters of firms which interact with each other in a number of mutually productive ways and geographic clustering tends to occur both in (i) craft industries, usually grouped in small towns or confined segments of larger cities, and (ii) in higher technology sectors like electronics, metal-working, computers and software, biotechnologies, etc, more frequently found in larger urban centers and, in developing countries the first category is the dominant one; sometimes the cooperating firms are few, say 5-15 members or so, and hence unlikely to place their stamp on the locality as do larger groups.[3]

Large gains in collective efficiency and flexibility through participation (whether or not at arm's length) in clusters of firms, or in networks of inter-linkages backward with suppliers, laterally with other producers and providers, and forward with users and consumers.[4] Subcontracting and outsourcing relationships include processing functions and manufacturing activities and high value services, and these may include comprehensive equipment production, one stop manufacturing and research functions to originate creative and innovative products.

Firms interact with each other through market mechanism but are also intertwined in relationships through informal agreements, networking and collective projects and agreements and these aspects are promoted when they are in close proximity to each other in clusters where informal exposure are crucial. Clusters can also promote market forces since cooperation ensures that like-minded firms producing similar products can work together to do the same thing while competition which also exists in the clusters ensures competitiveness and efficiency by inciting firms to re-

evaluate their relative strengths when churning out same or similar products. The latter is a form of checking system on inefficient or overproduction.

Horizontal cooperation among SMEs contributes to "collective efficiency" the competitive advantage derived from local external economies and joint action.[5] The advantage of collaboration among SMEs is the augmentation of economies of scale in distribution and sales, purchasing power, investments in facilities/equipment and in lobbying the government sector. It can also benefit from information flow and sharing as well as specialization and division of labor for collective efficiency.

Better information systems are important to SMEs since strategic information can be costly and access to such data can be hampered when small firms cannot afford it and this places them at a disadvantage in competing or complementing with big firms which enjoy the economy of scale in purchasing such data. Information can lead to opportunities in participation of trade events, government/state SME programs and other institutional participation and affiliation. SMEs themselves need not only technical and marketing information of the sort which must be provided by more specialized institutions, but also more general macroeconomic information on what is happening in the country, in world markets, in the financial sector, and in the composition of output and demand at home and abroad. While general informational satisfy some preview of technical information needs, they may not package it in a form that is directly usable and digestible by SMEs.

Finally, inter-firm cooperation are important in the context of state and public policy whereby opportunities can be spotted by state economic bureaucracies to give promising SMEs a little boost in terms of support so that they can take off and lead to a situation where there is cumulative expansion of such economic activities, as in the case of successful East Asian economies like Korea and Japan where SMEs have been propelled from a humble beginning to being a crucial part of the overall economy.

2.2 Strategy of Governmental Support for SME Growth.

The approach followed by the most successful East Asian economies is state-led industrial support to induce external industrial investment either to specific strategic sectors or to the national economy as a whole and this is coordinated with state policy and macroeconomic assistance and financial help to SMEs. Another approach involves

basic state help to SMEs in items such as industrial park allocation and infrastructure, credits and loans, technological help and state projects/contracts.

In general, however, SMEs will have to be nurtured for growth and proliferation so that it can gain a certain scale of economy and cumulative critical mass across a wide range of industries to empower and augment the dynamism of entrepreneurial pulses and energy to uplift the economy as a whole. Governmental support must target carefully strategic SME industries for nurturing due to the limitations of state budget and the global trend of governmental deregulation of former state industries and their asset divestment. Resources are limited and the state has to make the best use of it for SME empowerment. In this sense, firms and sectors that contribute strategically to the overall growth of the economy should draw greater help from the state if they are performing optimally and are lean and efficient.

The characteristics of these firms may include the following: first, such firms are likely to be very much fewer in number and so policy intervention would have a better chance of success as it would be more focused and manageable both administratively and financially; second, they will be more receptive to an efficiency-oriented and time-bound approach in policy support and facilitation and this approach is similar to the provision of fishing rods and related fishing skills to SMEs; it is thus different from the distribution of the fish itself to the target beneficiaries as has often been the case; third, they are also better placed for self-diagnosis and self-improvement after the initial provision of assistance and facilitation while partial cost recovery in cash and in kind, plus resource pooling, are comparatively more feasible among these target firms.[6]

Several types of support for inter-firm cooperation involving SMEs are solid candidates for best practice status, including (I) support for local and international fairs; subsidies to foreign buyers to visit fairs; subsidies to foreign buyers to visit fairs, producers' groups etc.; (ii) support for relevant business associations, sometimes umbrella SME associations, sometimes industry-specific ones, often local ones; (iii) practically oriented support for large-small linkages (iv) SME network support programmes; (v) support for education and training institutions and other types of infrastructure which could contribute to potential or actual groups of SMEs (vi) encouragement of SME suppliers through public sector purchasing (vii) subcontracting exchanges' though it is not clear whether they will often have a large payoff, their

modest costs makes them a logical component; (viii) collection and organization of information on the important SME sectors, relationships among firms, the leaders in each sector and region; serious monitoring of the programmes which are put into place.[7]

As far as possible, support from the public sector for SMEs should be given on a group or cluster bases so that the sector can benefit as a whole and the group/cluster can capitalize on the resource usage and build on intra-sector or inter-firm links. Such support should be short-lived, project-based or short-term to avoid overdependence on state help by such SMEs and also to avoid creating a government agency or budget allocation that is open-ended. Evaluation along the way is crucial to determine if and when the help should stop or be sustained if such help prove to be successful.

2.3 Strategy of Benchmarking.

The most dynamic SMEs are typically those that target the functions they perform for the market demand or for large firms and depend on market forces to provide products and services that they need for their overall operations. Good sources of information and precise data are therefore required for precision in targeting the outcome of SME development and to sieve out the top performers in strategic sectors. Good evaluation based on hard data and information is also needed for a precise evaluation of various SMEs' individual or group strong areas and weaknesses in capacity building and overall economic development as well as contribute to the national economy.

Evaluation of SME performance is necessary to track changes within SMEs and to benchmark them against quantifiable markers to measure the progress of top SMEs and to determine how best if needed to enhance their delivery capabilities to large companies or to supply transboundary production networks. These benchmarks approximate to precise evaluation of the effectiveness of SMEs policies and if successful can be a model for serving the needs of SMEs further down in the hierarchy. Thus, the most crucial component is to ensure systematic benchmarking, good informational tracking systems and record-keeping.

2.4 Strategy of Enhancing SME Competitiveness.

The rationale behind the cooperative relationship between large and small firms in the process of subcontracting is fundamentally based on the idea that small firms may be able to carry out certain functions more efficiently and effectively than larger firms. This can be a buyer-supplier relationship or more strategic tie-ups in terms of integrated manufacturing process. While smaller firms can accomplish specific and niched functions better than their larger counterpart, to make their comparative advantage apparent, they will need the guidance and collaborative help of their large partners to overcome the limitations of small firms. Such help could be in the form of access to information, stipulations of requirements for quality control, access to credit, guaranteed demand, etc. Quality is the key element in such mutually-beneficial collaboration. As the global market becomes more competitive and SMEs are competing in greater numbers, it may be useful for larger firms or even state or local governments to help out in such a process with the ultimate goal of enhancing quality control and improve research as well as design and other technical capabilities.

SMEs can be trained and nudged to competitiveness through enhancement programs and constantly learn from the best in competition in order to excel. This paradigm shift in SME competition require a strategic shift in mindset since SMEs generally are oriented towards traditional relationships and patterns of collaboration which may not be conducive to global competition. To begin with, there is little room for compromise with quality, and compliance with quality management systems recognized worldwide is through certification under the International Organization for Standardization (ISO) 9000 series of standards, ISO 9001 and 9002 especially. The ISO certification is fast becoming an actual prerequisite for the development of optimal business practices through regular audits, infrastructural capacity-building and other work systems, product warranties etc that are expected as normative procedures by large firm clients of small firm subcontracting.

Specifications spelt out by large firms or the industry in general in dealing with SME subcontractors became de facto guidelines or procedures that are expected of SMEs as well as upcoming young small firms. These guidelines then evolve to become industrial standards or codes of conduct that become prerequisites and qualifications for SME participation in subcontracting cooperative relationships and to determine if a

particular SME is ready for integration into large processes or global manufacturing networks. ISO certification is but one example of such de facto guidelines.

2.5 Strategy of Tapping into the Information and Communication Technology (ICT) revolution.

The ICT revolution has boosted productivity, efficiency in the global economy and its proliferation is also responsible for being a pre-requisite for an increased attention on e-commerce. Developing East Asian economies can tap into the bustling ICT commercial sector and online trading which has exhibited exponential growth. Such effects have trickled down to the SME sector where online activities and ICT have become permanent catchphrases for the SME sector, increasingly so for those located in developing economies. SMEs who do not follow this global trend are in danger of being overwhelmed by it. SMEs often require technical assistance to overhaul their workplace and also meeting production demands, both in the domestic sectors and export sectors but now increasingly in the online sector. Experts may be needed in this area to empower such SMEs, and if the situation dictates, foreign ones may have to be hired.

Efforts may have to be strengthened to help nurture the SME sector and its domestic market for ICT development to build up the infrastructure for e-business, especially in contentious and complicated areas like intellectual property rights (IPRs), technical support through the availability of state assistance and other forms of incentives. The most important component within this is the capacity-building process where SME can be empowered to increase the quality of their products and services through efficient and effective adaptation of ICT technologies. Training and education of staff and management are crucial in this.

3. CASE STUDY OF SME DEVELOPMENT IN SINGAPORE

The SME community contributes 42% of Singapore's GDP, and employs more than half of Singapore's workforce and as a group, the top 500 SMEs here have increased total turnover by 30% to $13.5 billion and almost doubled net profits to $630 million over the past 5 years.[8] Among the top 500 sales ranked SMEs, 53 companies (10.6%) have achieved a turnover of $50 million or more and furthermore, 30 (6.0%) of these companies have average monthly turnover of above $5 million per month, no small feat by most measure.[9]

The highest increase comes from the Manufacturing and Wholesale sectors, where the average number of employees in these two sectors increased by 33% and by 56% respectively compared to 2006 and, in term of employment, the top 500 sales ranked SMEs currently employ a total of 24,294 employees, representing a 41% increase compared to those ranked in 2006.[10] In their profit generating ability, SMEs in the Holdings, Finance and Property take the top three spots in terms of average profit margin and while the number of companies in these three sectors forms only a small percentage of the top SME500 ranking, they are able to generate an average net profit of $1.3 million and Singapore SMEs have done fairly well; over the years, SMEs have increased value-added by SMEs by a cumulative 7.4% over the last five years and account for 46% of total value added in the Singapore economy with many developing their competitive strategies broadly based on the "3MK" key success factors – Money, Markets, Management and Know-how.[11]

3.1 Money

Public policy is crucial in supplying technical training and help through courses and training for staff members and management of SMEs geared to raising technical knowledge and instilling the need to raise efficiency of small firms. Singapore is a global model in this. Singapore agency SPRING works closely with the Monetary Authority of Singapore or MAS and the financial services sector to catalyse financing programmes relevant to SMEs and launched the S$3 billion Loan Insurance Scheme or

LIS 3 in early 2007. With insurance, financial institutions lending to SMEs will be protected against loan defaults and SPRING and IE Singapore co-share half the insurance premium and, each year, SPRING – through its partner network of 14 banks and financial institutions – also lends some $600-700 million to more than 5,000 SMEs under the Local Enterprise Finance Scheme (LEFS) to finance their growth.[12]

3.2 Management and Know-how.

Some 87% of SMEs have expressed a need for training of staff, particularly in the areas of soft skills such as Leadership & Team Building, Marketing & Promotion and Business Planning and, in terms of management training for SMEs, the Singapore government through SPRING has launched the $20 million Management Development Programme or MDP in April this year to equip SME CEOs and Senior Managers through courses, which are customised to SMEs' needs, offered by NUS, NTU and SMU.[13] A National Retail Scholarships programme was also launched to groom future leaders for the retail sector and SPRING is also working with EDB and the industry association on a scholarship programme to attract talents into the Precision Engineering industry.

Given such strong characteristics of SMEs in Singapore, the Singapore government's strategy is to leverage on globalization by positioning Singapore as a Global SME and Entrepreneurship Hub to develop a pro-business environment where enterprises can succeed in 3 key areas: namely, Launch and develop their business operations seamlessly; Upgrade their capabilities and business innovation levels; and Expand their operations beyond Singapore.[14]

The primary agency to spearhead this initiative is SPRING Singapore. As the agency for enterprise development, SPRING Singapore aims to enhance the competitiveness of enterprises and help to nurture a pro-business environment, facilitate the growth of industries and enhance innovation and enterprise capabilities of small and medium enterprises for better access to markets and business opportunities. SPRING Singapore is also the national standards and conformance body to help lower technical barriers to trade, provide quality assurance for products and services and promote industry use of Singapore and international standards.

4. SME POLICIES IN SINGAPORE

4.1 Launch and Develop Business Operations Seamlessly.

Many SMEs face challenges in raising capital for growth. To improve access to financing for SMEs, the Government has established various schemes such as the 2005 SME Access Loan, a securitized loan scheme that has to-date generated $100 million of loans for some 400 SMEs and, apart from lowering corporate income tax rate to 18% from Year of Assessment 2008, the Singapore government has increased the current partial tax exemption threshold for companies from $100,000 to $300,000 while start-ups can also continue to enjoy full tax exemption on the first $100,000 of their chargeable income in the first 3 years of operation; as for online initiatives, the EnterpriseOne scheme comprises a web portal supported by telephone hotline and a network of Enterprise Development Centres (EDCs) which attracts about 37,000 unique visitors per month, and the EDCs assist about 900 SMEs per month.[15]

4.2 Upgrade SME's Capabilities and Levels of Business Innovation.

East Asia's SMEs beginning from the successful models of Japan enjoy strong state and bureaucratic systems which provide technical assistance through technology centers that are located over a wide geographical spread and have a variety of services. This model has been emulated by many countries through their Look East programs instituted in the 1980s and 1990s. Korea is one of them as it has also started a similar system with additional features of hiring important Japanese experts and other Western consultants if necessary.

Bureaucratic responsibility-sharing help to spread out the burden of SME assistance and capitalize on the varying comparative strengths and capabilities of each agency or technological centers. This is coordinated by a central governmental agency MITI (now MTI) which oversees how the system work and fine tune it according to national priorities. Being a city-state, Singapore does not face the same challenges in regional governments and can implement policies and technologies relatively faster and easier through central national agencies and this is helpful in getting SMEs to tap into

the strategies of enhancing competitiveness and utilization of technologies argued earlier in the paper.

A useful comparative case study of governmental support in SME development is found in South Korea. The development and augmentation of South Korea's subcontracting system allowed the SME sector to build its capabilities and expand their contributions to the national economy within a short period of time since the mid-1970s resulting in the sector's ability to shape the industrial sector and its contribution to spreading economic growth comparatively more evenly between large conglomerates and small firms. It also promoted inter-firm links which help to accumulate economic benefits for the SME sector as a whole.

The complex Korean subcontracting network was founded on a combination of cultural homogeneity, state policy and economic incentives to propagate inter-firm ties. Deliberate state policy is further augmented by social ties and traditional linkages and other forms of social relationships. While Singapore may not exhibit the same level of homogeneity in this respect, it shares similarities with Korean government policy and pressure in building up its SMEs.

Another difference between the Korean and Singaporean SME developmental experience is found in the transfer of production activities from large to smaller companies. The Korean model of SME development was boosted by state legislation in 1982 which targeted several priorities areas for promotion and staved off large firms from infringing into traditional sectors kept aside for SMEs and also promoted subcontracting work from the late 1980s to small firms. Unlike Korea, Singapore does not have many indigenous large manufacturing conglomerates and thus its strategy is to subcontract or serve the needs of global MNCs.

Singapore is also trying to achieve the same level of support that the Korean government provides for its SME firms but not through dividing work between large and small companies but through empowering local small enterprises so that they can compete more effectively with MNCs and large companies both within and outside Singapore. Under the Local Enterprise Association Development (LEAD) programme, the Government together with 14 industry associations have committed over $65 million for industry capability development projects. Other recent initiatives are the $35 million Capability Development Programme (CDP) that support SME-upgrading

projects in specific sectors; and the $150 million Technology Innovation Programme (TIP) that aims to enhance the technology infrastructure support for product and process innovations in SMEs.[16]

Another aspect of innovation is Process Automation & Infocomm Technology. This ties in with the strategy of tapping into the IT revolution argued earlier in the essay. More than two-fifths (43%) of SMEs have automated only less than 25% of their processes and functions but there is a good 26% who have automated more than 50% of their processes and, in terms of Research & Development, SME investment in R&D is low with 73% having no spending in this area. Only 3% of SMEs spend greater than $600,000 on R&D while, additionally, 50% of SMEs spend less than 1% of their annual turnover on R&D.[17]

Clustering as a strategy argued earlier in the essay is also implemented in Singapore. In August 2006, SPRING launched the $150 million Technology Innovation Programme (TIP). SPRING's TIP co-funds technology innovation projects by SMEs and supports the set up of Centres of Innovation or COIs for industry clusters needing focused technology support and it also helps SMEs grow their businesses through the innovative use of infocomm technologies, for example: A food manufacturing SME can now leverage on the Food Innovation and Resource Centre (FIRC) at Singapore Polytechnic to develop innovative packaging or extend product shelf life. SPRING co-funds A*STAR's Get-Up (Growing Enterprises with Technology Upgrade) programme launched in 2003 to help SMEs acquire new technologies(Over the past three years, more than 130 A*STAR research scientists/engineers have been seconded to 100 companies under this initiative).[18]

4.3 Expanding into New Markets.

The experience of Taiwan and Hong Kong, and even more that of Korea, suggest that the value of an export push which heavily involves SMEs as, for example, Hong Kong and Taiwan's manufactured production activities and growth were based mostly on SMEs while Korea focused on large conglomerates called chaebols for export-oriented activities and economic growth, but in the mid 1970s, a movement began for encourage local SME growth and their integration into production networks of chaebols and other large firms to spur employment and economic development.

Taiwan and HK which are often cited as successful economies with vibrant and bustling SME sectors tend to be export-focused and for them access to hinterlands and large economies are extremely important as are the quality of their goods and their timely development. Such priorities and needs put their firms under pressure for cooperation and collaboration which in turn attract the governments to link up with these firms for the optimal inter-linkage between and within SME sectors to boost the overall national economy.

In Singapore, the SME Development Survey 2005 conducted by DP Information Group shows that 36% of the SMEs have turnover of over $10 million, with 18% of these companies making profit of more than $1 million while 69% of the 1002 respondents have components of their revenue coming from overseas, making them part of the companies that is contributing to the 14% external trade growth in 2005 and, according to the 2006 SME Development Survey report by DP Information Group, the percentage of respondents who had revenues originating from outside Singapore fell from 69% in 2005, to 59% in 2006.[19] There remains significant potential for SMEs to expand their businesses overseas. With India, for example, the Singapore government has in place a Comprehensive Economic Cooperation Agreement (CECA). Eubiq – a local manufacturer of plastic plugs and power supply systems – is a beneficiary of the agreement and, since December 2005, Eubiq has been exporting its products to India under CECA's preferential tariff rates and has seen its export sales to India increase by 15% from 2005-2006.[20]

4.4 Training programs.

Government assistance and state policies are also important in the ability to provide access to technical and technological as well as management education through short courses and other training methodologies. There is a need for erecting a good track record which can convince other firms, especially large ones, for partnership and this may pose as a problem for some firms as they are traditionally not used to making accurate and precise or realistic cost estimates, or assessing and ensuring the quality and needs of being a subcontractor or dealing with others or even instituting effective training systems both on the job as well as classroom training. In Japan, the capacities of subcontracting was built up vertically with technicians and managers of larger firms

passing on skills to smaller firms where technical skills are less competent, sometimes this transfer of information may be facilitated by foreign expertise if necessary due to the exigency of the situation or the scenario whereby existing technical skills are lacking in a particular country.

In Singapore's case, the government steps in to provide this training. For example, in the area of understanding and opening access to overseas economies and market, the Singapore government provides training session as well as the necessary networking opportunities organized by IE or BuySingapore online to business-match Singapore SMEs with overseas buyers, suppliers, sellers or large firms. Currently, BuySingapore has attracted over 6 000 foreign companies to register at the portal and has generated more than 9 000 foreign trade leads and, among its range of programmes to meet key challenges, IE Singapore administers the International Business Fellowship Programme (IBF) which has set aside up to S$10 million over the next 4 years to enable companies to train their employees in emerging markets allowing them to gain first-hand knowledge of the new business environment and has set up the iadvisory Portal, where SMEs can log on, and get access to advice from 180 international experts for all their overseas expansion needs, ranging from market setup to legal, tax and financial advice. [21]

Tax systems should also be retooled for SMEs so that they are not encumbered by bureaucratic red tape, corruption payments, tax burdens that would discourage small firms from working with them government and operate in a legal manner that complement the government's economic priorities.

There are also earlier information initiatives. Launched in 2003, IE Singapore's International Partners or iPartners Programme helps companies' competitiveness in overseas markets by overcoming limitations in size and service offerings by encouraging companies to band together to venture abroad and the current 29 iPartners consortiums supported under the iPartners programme comprise 150 companies and are expected to generate over S$2.9 billion in combined overseas sales by 2011.[22]

5. CONCLUDING REMARKS: CHALLENGES FOR SMEs.

Based on 2007 SMEs survey done by DP organization, the most challenging issues facing Singapore SMEs are increasing operating costs, competition both in domestic and external markets, shortage of qualified manpower and technology upgrading to expand to external market and the 2007 SME Development Survey (SMEDS) conducted by Singapore's leading credit and business information provider, DP Information Group reported a record number (1,206) of respondents to the annual survey that reaches out to 10,000 Singapore small and medium enterprises (SMEs); both at home and abroad, SMEs cited their biggest concern to be competition, with 58% of respondents indicated that it is a major restraint on their ability to grow – up from 45% in 2006.[23]

The fastest growing concern among SMEs is rising operational costs, nominated by 53% of SMEs compared to just 34% last year and, when asked what was causing these costs pressures, SMEs cited labour costs (61%), the cost of materials (55%) and rental (37%) as the three largest contributors to the rising cost of doing business but, despite rising costs and increased competition Singapore's SMEs are still capable of making money. 2007's survey has a record 27% of SMEs enjoying accelerated annual growth of 10% or more, compared to 20% last year, and just 13% five years ago and there are fewer loss making companies compared to last year (21% in 2007, 23% in 2006) and, furthermore, there was an increase in SMEs generating more than $5 million in profit (6% in 2007, 4% in 2006).[24]

With rising costs as the fastest growing concern, it is not surprising that achieving cost efficiency and productivity is the most popular business strategy for SMEs with the number of SMEs adopting this approach doubling since 2006, from 22% in 2006 to 43% in 2007 and the next most popular business strategy, entering New Overseas Markets, is the choice of 21% of SMEs and there are two components to capturing overseas markets. First, Customer Service as a means of driving growth is the choice of 9% of companies and, second, 3% of companies nominated Branding as their growth strategy.[25]

70% of SMEs are doing business outside of Singapore, compared to 59% in 2006; the majority of them have been doing so for more than 3 years and the top 2 countries that are experiencing the highest year-on-year change in presence are Vietnam (73%) and the Philippines (64%), in comparison to 2006.Vietnam (36%) and India (28%) are the most nominated target markets for expansion in the coming12 month s from Mid 2007 onwards but while SMEs credited their overseas success to Having the Right Overseas Partners (61%), Overseas Market Knowledge (57%), and Being Adaptive to Local Business Practices (56%), most have also expressed concerns with regards to Strong Overseas Competition (58%) and Manpower (50%).SME Pay Comparable to Market Average.[26]

NOTES

[1] Wattanapruttipaisan, Thitapha, "Promoting SME Development: Some Issues and Suggestions For Policy Consideration" in the Bulletin on Asia Pacific Perspectives 2002/03, p. 58.
[2] Wattanapruttipaisan, Thitapha, "Promoting SME Development: Some Issues and Suggestions For Policy Consideration" in the Bulletin on Asia Pacific Perspectives 2002/03, p. 58.
[3] Berry, Albert, SME Competitiveness: The Power of Networking and Subcontracting [Washington DC, Jan 1997 - No. IFM -105], p. 11.
[4] Wattanapruttipaisan, Thitapha, "Promoting SME Development: Some Issues and Suggestions For Policy Consideration" in the Bulletin on Asia Pacific Perspectives 2002/03, p. 60
[5] Berry, Albert, SME Competitiveness: The Power of Networking and Subcontracting [Washington DC, Jan 1997 - No. IFM -105], p. 8.
[6] Wattanapruttipaisan, Thitapha, "Promoting SME Development: Some Issues and Suggestions For Policy Consideration" in the Bulletin on Asia Pacific Perspectives 2002/03, p. 62.
[7] Berry, Albert, SME Competitiveness: The Power of Networking and Subcontracting [Washington DC, Jan 1997 - No. IFM -105], p. 3.
[8] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 APRIL 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[9] Enterprise Today SPRING Singapore, "Happenings The Stronger Face of Singapore's SMEs" in Enterprise Today website dated March/April 2006 [downloaded on 1 Dec 2007], available at http://www.spring.gov.sg/newsarchive/epublications/et/2006_03/index12.html
[10] Enterprise Today SPRING Singapore, "Happenings The Stronger Face of Singapore's SMEs" in Enterprise Today website dated March/April 2006 [downloaded on 1 Dec 2007], available at http://www.spring.gov.sg/newsarchive/epublications/et/2006_03/index12.html
[11] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[12] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007

in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[13] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[14] Lim, Hwee Hua, "OPENING Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[15] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[16] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[17] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[18] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[19] Enterprise Today SPRING Singapore, "Happenings The Stronger Face of Singapore's SMEs" in Enterprise Today website dated March/April 2006 [downloaded on 1 Dec 2007], available at http://www.spring.gov.sg/newsarchive/epublications/et/2006_03/index12.html and Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[20] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[21] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[22] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[23] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192
[24] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007

in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192

[25] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192

[26] Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192

REFERENCES

Berry, Albert, SME Competitiveness: The Power of Networking and Subcontracting [Washington DC, Jan 1997 - No. IFM -105]

Enterprise Today SPRING Singapore, "Happenings The Stronger Face of Singapore's SMEs" in Enterprise Today website dated March/April 2006 [downloaded on 1 Dec 2007], available at http://www.spring.gov.sg/newsarchive/epublications/et/2006_03/index12.html

Lim, Hwee Hua, "Opening Remarks By Mrs Lim Hwee Hua, Minister Of State For Finance And Transport At The 3rd SME Credit Bureau Conference, 13 April 2007" dated 13 April 2007 in the Ministry of Finance website [downloaded on 1 Dec 2007], available at http://app.mof.gov.sg/news_speeches/speechdetails.asp?speechid=192

SPRING Singapore, "About SPRING Singapore" in the SPRING Singapore website [downloaded on 1 Dec 2007], available at http://www.spring.gov.sg/Content/WebPage.aspx?id=0a84ffd1-6ceb-4cf0-b9e4-b97ccc45b762

Tambunan, Tulus, "Recent Development of SMEs and SME Promotion Policies" [Paper prepared for the first meeting of the Asian SME Project, IDE Jetro, Bangkok, June 2007].

Wattanapruttipaisan, Thitapha, "Promoting SME Development: Some Issues and Suggestions For Policy Consideration" in the Bulletin on Asia Pacific Perspectives 2002/03, pp. 57-68

Chapter 10

SMES IN THE THAI MANUFACTURING INDUSTRY: LINKING WITH MNES

Chaiyuth Punyasavatsut[1]

Abstract

This paper examines recent policies and programs in Thailand governing small and medium-sized enterprises (SME). It also explores creations of Thai SMEs/MN (multinational enterprise) networks and their implications for technical development of SMEs in two selected industries: automobile and clothing. The nature and patterns of knowledge transfer are also explored in greater detail through case studies of both industries. Our findings support the idea that under the closer integration into global production network, subcontracting, and networking with MNEs can enable SMEs to upgrade their technological and managerial abilities under favorable circumstances.

A review of government support programs for capacity building suggests a new holistic approach to integrating all players, including supporting public policies, to enhance inter-firm linkages. The paper highlights an urgent need to strengthen the absorptive capabilities of Thai manufacturers and workforce to maximize the benefits of global integration, and to soften the impact of structural adjustments on the labor-intensive sector.

INTRODUCTION

Thailand is a lower middle-income country and a reasonably open economy. In the 1980s and much of the 1990s, Thailand was one of the fastest growing economies in the world. During the 1987-1996, a boom period, real GDP grew by 9.5 percent. During the 1997-1998 financial crisis, real GDP growth fell to negative. Since then, Thailand had been growing at an average of 4.7 percent until 2006.

Exports and foreign direct investment (FDI) had been the main driving forces behind Thailand's industrialization. Manufacturing share in GDP gradually increased

from 26 percent in 1987 to 34.8 percent in 2006. Foreign direct investment stock in manufacturing GDP increased from merely 8.9 percent in 1985 to 37.7 percent in 2000. Most FDI was funneled to Thailand due to low wages, not for the availability of a skilled workforce and other knowledge-intensive factors, thus being confined to relatively knowledge-intensive sectors, such automobile, electrical and electronics, machinery, and general machinery (Ramstetter et al. 2006).

The role of multinational enterprises (MNEs), as reflected in the amount of FDI inflow, has been prevalent in those sectors. Productivity and technological capabilities of foreign companies far exceed those of local companies. Thus, activities that are technologically complex are mostly performed by foreign companies. Because of these gaps, foreign companies are reluctant to link up with local suppliers and research institutions (Altenburg et al. 2004).

Numerous past studies viewed MNEs as potential agents of the development of small and medium-sized enterprises (SMEs).[2] They are sources of knowledge and technologies, some of which may be copied or transferred to domestic suppliers, thereby raising the standards and productivity of many domestic enterprises, including SMEs. The existence of many MNEs in Thai manufacturing also provides opportunities to reassess the MNE-SME linkage and their impact on SME development.

In 2006, SMEs in Thailand accounted for about 34 percent of the manufacturing GDP and 67 percent of the manufacturing workforce. Most Thai SMEs, as in other developing countries, are not yet modernized. Recognizing rapid changes in globalization and more intense competition from lowered labor cost countries, the Thai government's vision is to create dynamic and knowledge-based SMEs, as described in the current SME Promotion Plan. Activities to enhance business linkage and networking, as well as capacity building, are currently employed.

This chapter reviews recent Thai SME promotion policies and programs, and provides some assessments. It also cites instances of business networking between SMEs and MNEs/LEs and relevant government activities. In this study, two major industries, automobile and clothing, are selected as case studies. The Thai automobile industry is highly relevant as it has been under pressure to increase linkages with MNEs, being the biggest clusters of parts and materials for Japanese automakers in ASEAN. While the automobile sector provides a case study of producer-driven value chain,

clothing is an ideal industry for examining the impacts of the dynamics of marketing (buyer-driven) value chains on Thai SMEs. Interviews with companies were conducted in 2007 to support the analyses.

Much evidence from firm interviews indicates that linkages and spillovers between MNEs and local suppliers in automobile and part industry are significantly improved compared to the past. Networking among lower-tier local suppliers becomes more important under the current global production network. In the clothing industry, subcontracting with MNEs similarly helps local firms gain better access to technology, marketing information, and moving up quality ladder. In contrast to vertical linkages and networking, horizontal networking among lower-tiers SMEs are found to be weak in both industries. In short, our findings support the idea that networking and subcontracting with large enterprises/MNEs could provide a short cut to enhancing SME competitiveness, as proposed earlier by many previous studies.[3] This chapter is organized as follows. The next section begins with a discussion on the growing importance of SME in Thai industrial structure, followed by a series of reviews of recent SME policies and assessments of their effectiveness. The succeeding section cites evidences and rationales for establishing MNE-SME linkages in the automobile and clothing industries. The next one revolves around government activities to create linkages and spillovers and their impact on SME development. The last section concludes the chapter.

2. SIGNIFICANCE OF MANUFACTURING SMES

Thai manufacturing SMEs are defined as firms with less than 200 employees and fixed capital of 200 million baht (equivalent to 5.6 million USD; see details in Table 1). In 2006, the number of registered establishments in manufacturing sector was 675,398, down from 691,926 in 2004. Manufacturing SMEs accounted for 29.6 percent of the total. In 2006, SMEs employed around 3.5 millions employees, or 66.9 percent of the manufacturing workforce, and generated 33.7 percent of manufacturing value-added (see Table 2 and 3). SME valued-added in manufacturing GDP rose 8 percent on average during 2002-2006.

Table 1. Definition of Thai SMEs

Manufacturing	Employment (persons)	Value of Fixed Assets
Small	50 or fewer	50 or less Million Baht (USD 1.4)
Medium	51-200	50-200 million Baht (USD 1.4-5.6)

Source: OSMEP
Note: Exchange rate at 36 Baht: 1 US dollar.

Table 2. Manufacturing Value-Added and Shares of SMEs 2002-2006

	2002	2003	2004	2005	2006
GDP (Million Baht)					
Whole Kingdom	5,450,643	5,917,368	6,489,847	7,087,660	7,816,474
Manufacturing	1,836,083	2,061,572	2,238,222	2,466,180	2,739,534
- SMEs	604,306	682,088	753,220	829,934	921,924
• Small Enterprises	255,892	289,446	304,924	335,980	373,220
• Medium Enterprises	348,414	392,642	448,296	493,954	548,705
- Large Enterprises	1,231,777	1,379,484	1,485,002	1,636,246	1,817,610
Manufacturing Share in GDP	33.7	34.8	34.5	34.8	35.0
Share in Manufacturing GDP (percent)					
- SMEs	32.9	33.1	33.7	33.7	33.7
• Small Enterprises	13.9	14.0	13.6	13.6	13.6
• Medium Enterprises	19.0	19.0	20.0	20.0	20.0
- Large Enterprises	67.1	66.9	66.3	66.3	66.3

Source: OSMEP (2007). SME Situation Report 2006 and Outlook in 2007.

Table 3. Manufacturing Employment and Shares of SMEs 2004- 2006

	2004	2005	2006
Manufacturing employment	5,143,277	5,193,482	5,228,190
SMEs	3,431,553	3,459,096	3,496,202
Share	66.7	66.6	66.9

Source: OSMEP (2007). SME Situation Report 2006 and Outlook for 2007.

Table 4 Value-Added and Shares of SMEs in Manufacturing in 2006, Classified by ISIC

		SMALL			Medium			SMEs			Large		
ISIC	Industry	Percent in Row industry	Value (M. Baht)	Percent in Total	Percent in Row industry	Value (M. Baht)	Percent in Total	Percent in Row industry	Value (M. Baht)	Percent in Total	Percent in Row industry	Value (M. Baht)	Percent in Total
15	Food Products and Beverages	14.1	66709.8	17.9	19.1	90182.2	16.4	33.2	156892.0	17.0	66.8	315361.1	17.4
34	Motor Vehicles and parts	0.9	2432.7	0.7	1.9	5299.1	1.0	2.7	7731.8	0.8	97.3	275550.7	15.2
18	Wearing Apparel	12.5	26107.4	7.0	22.2	46492.5	8.5	34.6	72599.9	7.9	65.4	137078.1	7.5
36	Furniture n.e.c	16.5	34480.2	9.2	40.7	85294.9	15.5	57.2	119775.1	13.0	42.8	89745.4	4.9
24	Chemical and chemical products	12.7	21956.4	5.9	52.9	91330.2	16.6	65.6	113286.7	12.3	34.4	59436.4	3.3
32	Television and communication	4.1	7084.7	1.9	7.2	12353.1	2.3	11.3	19437.8	2.1	88.7	153251.1	8.4
17	Textiles	9.5	14166.2	3.8	21.7	32348.2	5.9	31.3	46514.4	5.0	68.7	102219.6	5.6
30	Office	2.2	3101.6	0.8	3.6	5044.4	0.9	5.8	8146.0	0.9	94.2	131906.3	7.3
29	Machinery and equipment, n.e.c.	31.6	39833.7	10.7	13.9	17551.6	3.2	45.6	57385.3	6.2	54.4	68541.4	3.8
26	Non-metallic mineral products	15.2	18349.9	4.9	12.2	14743.4	2.7	27.3	33093.4	3.6	72.7	87930.3	4.8
23	Petroleum and coal products	38.9	45300.7	12.1	4.2	4853.6	0.9	43.1	50154.3	5.4	56.9	66162.8	3.6
25	Rubber and Plastics products	13.4	15457.5	4.1	31.0	35820.2	6.5	44.3	51277.6	5.6	55.7	64403.4	3.5
19	Leather products	18.2	15780.6	4.2	29.5	25610.7	4.7	47.7	41391.3	4.5	52.3	45354.8	2.5
28	Metal products	22.7	18561.0	5.0	22.0	17976.8	3.3	44.7	36537.8	4.0	55.3	45261.3	2.5
21	Paper and paper products	11.5	5637.9	1.5	12.0	5899.5	1.1	23.5	11537.4	1.3	76.5	37632.4	2.1

ISIC	Industry	SMALL			Medium			SMEs			Large		
		Percent in Row industry	Value (M. Baht)	Percent in Total	Percent in Row industry	Value (M. Baht)	Percent in Total	Percent in Row industry	Value (M. Baht)	Percent in Total	Percent in Row industry	Value (M. Baht)	Percent in Total
16	Tobacco products	0.4	168.5	0.0	0.7	323.1	0.1	1.0	491.6	0.1	99.0	46896.9	2.6
31	Electrical machinery and apparatus n.e.c.	20.7	9641.7	2.6	35.4	16523.2	3.0	56.1	26164.9	2.8	43.9	20494.8	1.1
35	Transport equipments	12.1	5120.7	1.4	28.4	12024.8	2.2	40.5	17145.5	1.9	59.5	25172.7	1.4
27	Basic Metals	14.3	4797.8	1.3	45.3	15251.4	2.8	59.6	20049.2	2.2	40.4	13588.6	0.7
22	Publishing	53.5	11978.7	3.2	26.3	5888.0	1.1	79.9	17866.7	1.9	20.1	4503.6	0.2
33	Medical equipments	10.5	3081.7	0.8	9.2	2715.3	0.5	19.7	5797.0	0.6	80.3	23583.5	1.3
20	Wood and wood products	28.5	3470.9	0.9	42.5	5178.9	0.9	71.0	8649.8	0.9	29.0	3534.6	0.2
	Total	13.6	373220.0	100	20.0	548704.5	100	33.7	921924.4	100	66.3	1817609.6	100

Source: OSMEP (2007). SME Situation Report 2006 and Outlook for 2007, Table 3.10

In terms of sectoral composition, sectors occupying the top three highest shares of SME value-added are food products and beverage (ISIC15)[4], furniture (ISIC 36), and chemicals and chemical products (ISIC24). SME value-added shares in manufacturing in wearing apparel (ISIC18), and motor vehicles and parts (ISIC34) accounted for only 7.9 percent and 0.8 percent in 2006, respectively (Table 4).

In terms of exports, export value by SMEs was 38,173 million USD and increased by 16.5 percent in 2006 (Table 5). The share of SME exports to total exports was 29 percent, or 47.3 percent of the GDP generated by SMEs (Table 6).

Table 5. Values and Growths of Exports and Imports by SMEs 2004-2006

	2004	2005	2006
SMEs Export (million USD)	28,416.5	32,765.2	38,173.9
SMEs Import (million USD)	30,351.5	38,601.1	42,254.9
Balance (million USD)	-1,935.0	-5,835.9	-4,081.0
SMES Export Growth		15.30 %	16.5 %
SMES Import Growth		27.20 %	9.50 %
TOTAL EXPORT (million USD)	94,025.7	110,505.8	131,301.0
TOTAL IMPORT (million USD)	92,166.4	118,954.3	129,136.5
BALANCE (million USD)	1,859.3	-8,448.5	2,164.5
TOTAL EXPORT GROWTH		17.5 %	18.80 %
TOTAL IMPORT GROWTH		29.10 %	8.60 %
Exchange Rate (annual average) (Baht: 1 $US)	40.07	40.07	37.73
Brent Oil Price ($ US per barrel)	38.3	54.4	64.1

Source: Custom Department, quoted in OSMEP (2007) Table 4.2

Table 6. Shares of Exports and Imports by SMEs 2004-2006

(%)

	2004	**2005**	**2006**
Share of SMEs EXPORT to TOTAL EXPORT	30.2	29.7	29.1
Share of SMEs IMPORT to TOTAL IMPORT	32.9	32.4	32.7
Share of SMEs EXPORT to GDP SMEs	45.1	46.7	47.3
Share of TOTAL EXPORT to GDP	59.6	62.5	63.3

Source: Custom Department, quoted in OSMEP (2007) Table 4.3.

Recent studies on overall performance of Thai manufacturing SMEs were somewhat limited.[5] Many of these relied on the 1996 industrial census for TFP or labour productivity calculations. Total factor productivity (TFP) index of SMEs in many subsectors was found higher than that of LE. Ramstetter (2004) showed that MNEs tended to have higher average labour productivity and had lower average capital productivity than the local plants in most industries. Using their own firm survey data in five industries in 1997-98, Dollar et al. (1998) found that there was a clear tendency for productivity to increase with company size, but only up to a point. In addition, they found that a) foreign-invested firms have higher productivity and much lower dispersion of productivity levels; b) Thai firms that license technology are 100 percent more productive than those that do not. Higher productivity in Thai firms is associated with formal in-house training programs and with subcontracting for other producers.

Overall problems of Thai manufacturing SMEs are not different from those of other developing countries. Recent studies highlighted various common limitations of SME operations: lack of management capabilities, limited access to market information and promotional services by government agencies, shortage of working capital, inadequate skilled labor, and uncertainties in governmental support programs. However, different manufacturing subsectors face different sets and degrees of problems. Thus, sector-specific strategies for SMEs development may be more appropriated. For a comprehensive review of current Thai SMEs situations, see Tambunlertchai et al. (2007).

In Thailand, there is no country statistics on numbers of subcontractors. The annual industrial survey by the Ministry of Industry, however, reports amount of subcontract cost (including resale of finished goods) in business operation. At best, this figure could indirectly reflect value of manufacturing output sold by SMEs and micro enterprises to large firms. Subcontracting cost shares among the top-ten manufacturing sub sectors were around 18-49 percent of total production cost in 2006.

3. SMES SUPPORTING POLICIES: REVIEW

Recent policy toward SME development in Thailand can classified into three periods.

3.1 Before 2000 and the 2000 SME Promotion Act

Before 2000, Thailand did not have a basic law on SMEs, which could have provided coordinated and explicit guidelines for the promotion and long-term development of SMEs. Instead, SME-related policies and measures were articulated and embodied in the National Economic and Social Development Plan and cabinet solutions. Various ministries then translated these policies into action plans. Due to lack of coordinating agencies, which could supervise the direction of SME development plans, and discontinuing emphases of SME significance for economic growth in the national plan, government programs toward SME development in these periods were fragmented and weak.

When the financial crisis occurred in 1997, reviving SMEs was seen as a good resolution to stimulate the economy. Owing to the growing importance of SMEs as an economic and political force, appropriate policy formulation is called for[6]. In 2000, the first SME Promotion Act was declared. The Office of SMEs Promotion was set up in the same year as a coordinating body among government agencies for SME development. Following were the main responsibilities of the then new office:

a. Formulating a SME promotion master plan and promotional policies.
b. Preparing an action plan for the promotion of regional/sectoral SMEs as well as micro and community enterprises.
c. Serving as the country's SME information center and the central organization for the conduct of research and studies on SME-related issues, including an early warning system.
d. Developing information systems and networks to support the operation of SMEs.
e. Administering the Venture Capital (VC) Fund for SMEs.

3.2 Under Thaksin's Regime 2001-2006 and the First SME Promotion Plan 2002-06

When Thai Prime Minister Thaksin Shinawatra came to power in 2001, a "dual-track" policy was pursued to recover the Thai economy from the 1997 financial crisis aftermath. Besides an export-led growth policy, stimulating a domestic economy and, more importantly, recognizing the developmental roles of SMEs and grass root communities, was a salient feature of his policy. This policy has been very popular and had brought about some promising changes in the development of the country's small business sector. Several SME development-related measures have been introduced along with financial support schemes. Some of the popular supportive financial measures were the village funds, the People's Bank, and "One-TAMBON-One-Product" (OTOP). The OTOP project aims to support grassroots communities to use their local knowledge to develop their own products with some technical support from government agencies.

The First SME Promotion Plan (2002-2006) aimed to develop more entrepreneurs and enable SMEs to reach international standards. The plan specifically sought to enhance the efficiency and capacity of SME operators as well as other sectors to create a business environment where SMEs could thrive, to improve market efficiency and competitiveness, and to promote grassroots businesses so that they could play a more prominent role in income distribution and bring prosperity to the provinces.

Specifically, the objectives were a) a targeted growth in the SMEs business to a level of 50 percent of GDP by 2006; b) an increase in the workforce in the SME sector at an average of 181,700 persons annually; c) a boost of the export value of 6 percent per year or to about Bt 436.5 billion by 2006; d) an increase in the number of new entrepreneurs by 50,000 per year, and an increase in the number of people who can run a business by not less than 10 percent annually of which there will be a total of 6,300 groups by 2006. Moreover, some industry groups were also targeted to be promoted. For example, food processing and fashion industries, automotive parts, electrical and electronics components.

The plan incorporates seven strategies, namely, a) managerial and technological upgrading; b) human resource development; c) expanding market; e) strengthening financial capabilities; f) improving the business environment; (g cultivating and micro

enterprises and grassroots communities business; and h) establishing comprehensive linkages of enterprises.

In all, the government's first SME promotion policy has three main planks: investment promotion, financial assistance, and technical and management consultancy. Investment promotion for SME and LE operates under the supervision of the Board of Investment (BOI) agency. The BOI was established in 1977 under the Investment Promotion Act as a tool to help promote foreign and domestic investment. In 2006, a total of 582 SME investment projects were approved by the BOI. Of these, 443 projects, or 76.1 percent of the total, were approved for small enterprises. In 2006 the value of SME investment projects promoted by the BOI was Bt 30,139 million. About 62.5 percent were investment projects by small enterprises.

In compliance with the SME Promotion Act, the Small and Medium Enterprise (or SME) Development Bank of Thailand was founded in 2002. The new bank was an upgraded version of the Small Industry Finance Corporation, a small 50:50 financial joint venture between the government and the private sector. The SME Bank assumed the role of assisting SMEs in securing sources of funds, preparing business plans and providing advice on business operations.

In addition, the government instructed other specialized-financial institutes and state banks, including Krung Thai Bank and Siam City Bank, to provide loan support to SMEs. In 2002, seven financial institutions[7] provided lending and credit guarantees to SMEs, which had a combined worth of Bt 52 billion, up 28 percent from the year before. In 2003, the SME Bank alone provided Bt 27 billion to 6,179 SMEs. Among the loan recipients, 23 percent were new firms, being first-time registered companies. The rapid growth in lending to SMEs by special-purpose and state banks had also attracted loans from private commercial banks that were previously reluctant to approve SMEs loans despite huge excess liquidity. At the end of 2003, the SME Bank expanded its customer base throughout the country using aggressive public relations and marketing campaigns.

Yet, some critics expressed their concerns about the effectiveness of SME financial support programs. They said forcing state banks to provide cheap and easy credit to many small businesses without a careful review was bound to promote misuse of resource allocation. Moreover, many popular programs were suspected of having some hidden political agenda. Finally, many programs were approved without sound

rationale and without paying sufficient attention to improving the quality and standard of production, marketing and accounting. In 2004, the SME Bank reported that its non-performing SME loans comprised around 22 percent of total credit outstanding, higher than the average of 16-17 percent for the financial sector as a whole. At the end of 2006, its NPL had risen to 43 percent, or Bt 20 billion, the highest among state-owned specialized financial institutions.

Another key SME development by the Thaksin government was the establishment in 2003 of a venture capital fund worth Bt 5 billion, aimed at creating joint ventures with SME projects. The fund was used in conjunction with an existing SME venture capital fund worth Bt 1 billion established by the Democrat-led government. The latter is now being managed by the One Asset Management Corporation. Poapongsakorn and Tangkitvanich (2004) argued that the Ministry of Finance's Venture Capital Fund was unlikely to succeed because returns to SMEs investment were unlikely to generate more returns than investments in larger companies. Moreover, embedded risk in the venture fund makes it less attractive to investors with no prior experience. So far, the total value of the existing funds is far below the target.

As for technical and management consultancy measures, the New Entrepreneurs Creation program (NEC) under the Ministry of Industry in 2002 was another initiative intended to encourage people to create their own businesses. Under the NEC program, the SME bank provided business counseling and training to resolve problems and further develop their businesses. Combing with other measures, which offers financial, production and marketing training as well as fund accessing advice, the plan had led to a gross increase of 226,757 new entrepreneurs, or on average 44,550 per year during the plan. Although impressive, the creation of new entrepreneurs was yet behind the plan target aiming at additional 50,000 entrepreneurs per annual. During the whole plan, SME employment increased by 3.8 million, well above the target.

Toward the completion of the first plan, SMEs GDP accounted for 39.8 percent of aggregate GDP, a bit below the target of 40 percent. In addition, growths of both SME value-added and exports were still below those of LE. Judging from these key performance indicators, we could evaluate overall SME policies with a moderate success. During this plan, government contributions to the Thai SME development

tended to focus in the areas of financial assistance, entrepreneurial activities, and information access.

Arguably, recently formulated Thai SME policies and measures have been more vivid and formulated as an integral component of industrial policy. It was the first time under the Thaksin government that the Ministry of Industry had come up with policy guidelines emphasizing the development of SMEs, as well as addressing targeted industries in the industrial restructuring master plan.[8] As a result, Thailand's industrial policy tends to adopt more interventionist approach as a basis for her SME policy.

3.3 The 2nd SME Promotion Plan 2007-2011

In September 2006, the staging of a coup d'etat in Thailand brought about a new military government. To some extent, the new interim government led by former bureaucrats helped to end the political impasses and improve fiscal transparency. By reviewing the previously off-budget schemes of the Thaksin government, the interim government suspended many of Thaksin's initiatives, especially popular policies for helping the poor and SMEs. The new interim government was accused to be weak and uncoordinated due to lacks of supports from local politics.[9] An unstable political environment and rising cost due to persistently high oil-price during 2006-2007 has seriously curbed down domestic demand, and shrunk investment confidence, as a result hurting many SMEs. The Thai economy grew 5 percent in 2006, and was expected to grow only 4.3 percent in 2007. In 2007, the SME Bank's non-performing loans (NPLs) had remained at the high level of more than 40 percent, translating to Bt19 million. According to the SME Bank's report, about 75 percent of these loans were to businesses suffering from genuine liquidity problems while the other 25 percent constitute strategic NPLs that have elected not to make payments.

The current SME policy guidelines are contained in the Second SME Promotion Plan 2007-2011. The plan's vision is to enable SMEs to grow with continuity, strength, and sustainability in terms of knowledge and skills. In line with the first plan, the second plan aims to achieve three economic targets: raise the share of SMEs in GDP to 42 percent; higher SMEs export shares than the total export growth; and an average 3 percent annual increase in the total factor productivity of SMEs, including a minimum of 5 percent labor productivity to growth per annum. The second plan remains targeted

at certain sectors such as auto and electronic parts, software, logistics, healthcare, education, tourism related industry, health foods, and rubber products.

Of the numerous measures employed in this plan, those related to manufacturing SMEs include a) product quality improvement; b) establishing business incubator centers in regional and local areas; c) trade fairs; d) setting up of exhibition centers for SME products throughout the country; e) improving logistics or distribution channels; f) creation of industrial clustering and networks.

4. BUSINESS LINKAGE AND NETWORKS IN THAILAND : CASE STUDIES

Business linkage and networking, including subcontracting, with MNEs or large enterprises**,** have attracted more attention following the Thai industrial (including SME) policy formulation recently. On the broad picture, a more liberalized trade and investment, as well as the rapid development and diffusion of information and communication technology (ICT), has fundamentally changed the global competitive environment in which MNEs operate. Subcontracting now covers high-value processing and manufacturing activities and more sophisticated technologies. These changes have widened the potential and avenues for SME involvement. Linkages with MNEs could provide a short cut for SMEs to overcome barriers and constraints (UNCTAD 2006, 2001, 2000; Wattanapruttipaisan 2002; Berry 1997). Subcontracting benefits to SMEs include enhanced skills, improved standards and capacity, access to technical support for product quality and upgrading, management support, financial support, and provision of large/stable orders. In addition, networking with MNEs and large enterprises can often be a valuable source of modern technologies as well as access to foreign markets, marketing and distribution channel information (Knorringa and Schmitz 2000).

The increased presence of MNEs and trade liberalization does not always benefit SMEs. The MNEs or its affiliates could out-compete local companies and crowd out investment. They do not necessarily choose local suppliers to provide them with products and services. Foreign affiliates could outsource from their own global supply

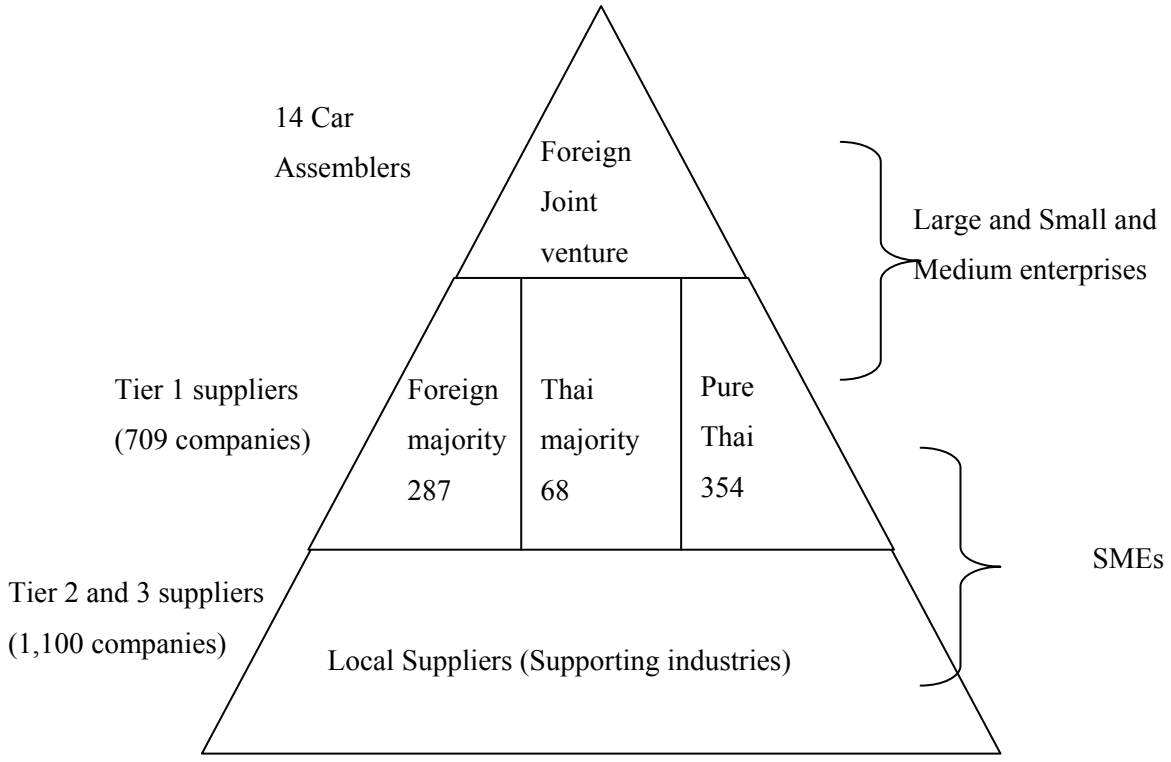
chains or other places, rather than sourcing domestically. SMEs are also faced with more intense competition internationally. In many sectors, competition has driven many SMEs out of business. Generally, SMEs are not well prepared for the new market condition and stronger competition in the export markets. Thus, only a few of them could benefit from globalization.

This section presents case studies of MNE-SME linkage in two manufacturing activities: automobile and clothing. Rationales for linkage formation and opportunities for technological upgrading are also discussed.

4.1 Automobile industry

The recently developed structure of the Thai automobile part industry can be shown in Figure 1. In 2002, there were about 1,800 local suppliers in Thailand, consisting of 700 tier-1 suppliers and 1,100 tier-2 and lower subcontractor suppliers. Among the first-tier suppliers were around 354 Thai-owned OEM suppliers.[10]

Figure 1. Structure of Thailand Auto Parts Suppliers in 2002



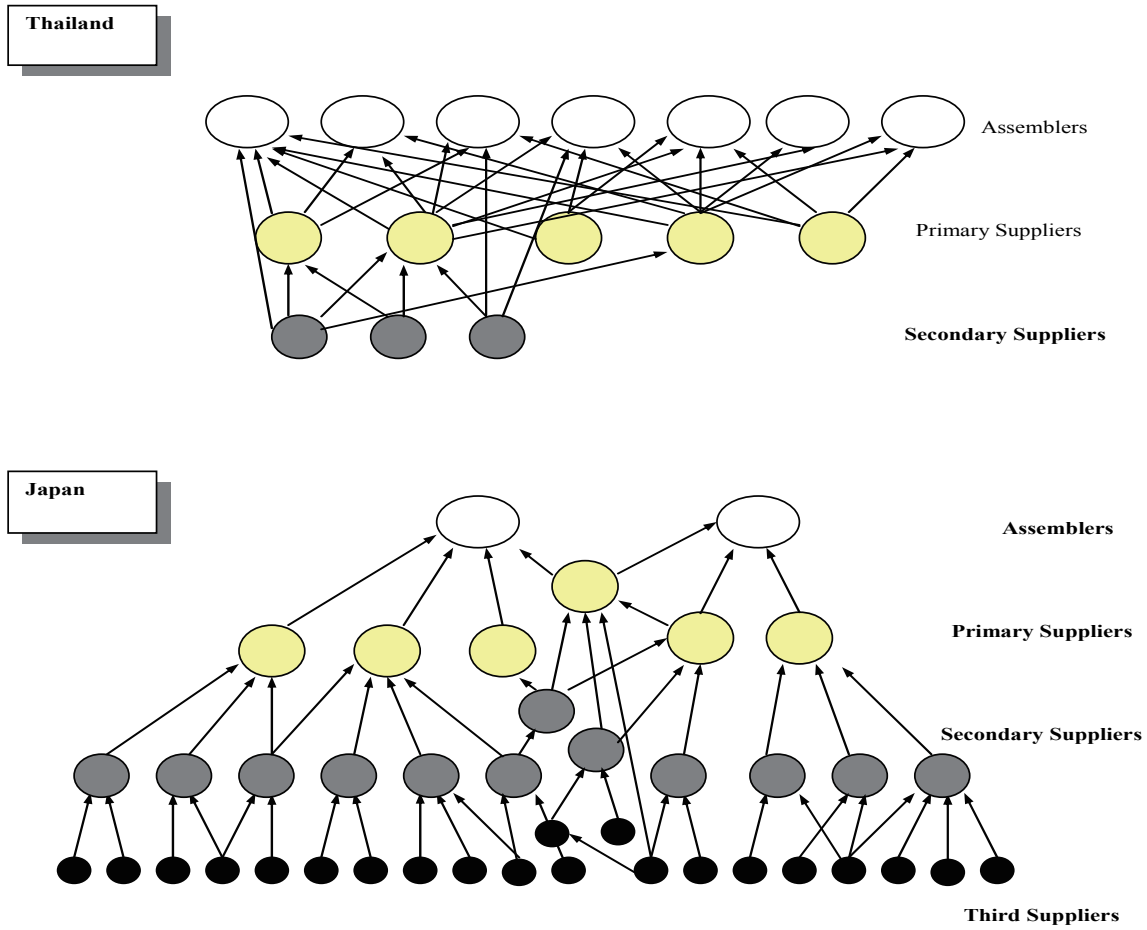
Source: Thai Automotive Industry Association (2003)

The 1978 local content policy was the critical factor behind the development of Thailand's components and parts industry. As far as numbers of firms were concerned, this policy did promote linkages between MNEs and local firms, which were mostly SMEs, through subcontracting arrangements. Even though the policy was seen to many as an obstacle to trade liberalization with the potential to create captive markets for components and parts producers, it generated opportunities for domestic firms and established supporting industries. The existence of dense networks of local suppliers in part helped attract automakers to Thailand in the 1990s. As a result of increased car production and large movements of Japanese component firms to Thailand, the local content gradually increased. As a result, stronger linkages between MNEs and local firms were established. The local content policy was abolished as planned in the beginning of 2000.

Since 2000 and following the liberalization of trade policy, the Thai automobile industry has expanded drastically. Many Japanese and U.S. automobile assemblers and auto parts manufacturers turn Thailand into a major export base for their global operations. In 2005, production volume of assembled vehicles exceeded 1 million units. Since 2004, the volume of export and import of vehicle and parts with ASEAN has increased significantly. The share of exports of vehicles from Thailand to ASEAN-10 rose from 11.9 percent in 2001 to 50.1 percent in 2005 (Kohpaiboon 2006b).

As a result of the local content policy, a part procurement system and networking in the automobile sector was developed. Networks between suppliers and assemblers are multipliers: a single supplier supplies parts to several assemblers (Maruhashi 1995). These cross-supplier networks are different from the *Keiretsu* system in Japan. Figure 2 compares the structures of supplier networks between the Thai and Japanese Automobile industry. The main reason for this type of networks is to allow part suppliers to achieve economies of scale (Higashi 1995). Such cross-supplier system has also generated spillover effects and extended beyond national boundaries (Fujita and Hill 1997).

Figure 2. Comparisons of Structures of Supplier Networks Between the Thai and Japanese Automobile Industry



Source: Thailand case from Maruhashi (1995) and Japan case from Smika (1991)

Before 2000, evidence of technological upgrading among parts suppliers was mixed (UNCTAD 2000). Kato (1992) concluded that the transfer of production capabilities was moderately successful, while the more advanced capabilities such as design were relatively limited. Foreign assemblers did provide technical assistance and training to their local suppliers to upgrade their production processes. Overall, technology deepening in parts suppliers was rather limited.

However, the recent networking of the supplier system may be changing due to changes in the export strategy of major Japanese car assemblers. For example, Toyota aimed to procure all parts and components locally at Toyota Motor Thailand (TMT) and

integrated Thailand into its global production network. Obviously, this integration created tremendous pressures on automobile part suppliers, particularly in the area of engineering capability. Since then, TMT has put exerted considerable efforts to enhance its local suppliers capabilities, thus fostering inter-firm networking.

To provide up-to-date illustrations of networking, 13 firms were purposively selected and interviewed in 2007 for this study. The choice of these firms was largely determined by accessibility and partly by its success in business. The interview samples cover Tier-1, Tier-2 and 3 suppliers in the industry.

4.1.1 Networking Between MNE and First-tier Suppliers[11]

After 2000, the Thai automobile industry became more liberalized. Many assemblers pursued the strategy of making Thailand their production and export base. Global sourcing and competitive bidding systems were adopted, and assemblers demanded their tier-1 suppliers in Thailand to provide a full component design and development capability, or at least to respond to engineering changes in the designs that might occur during the process prior to the mass production.

Evidence from firm interviews indicates that inter-firm technology transfer became more intensive than it had been in the past. The more active role of suppliers and their increased ability to take part in the product engineering process have become increasingly important. In other words, local suppliers must show their strong will to participate in such processes and possess sufficient engineering capability. Otherwise, they will not qualify as tier-1 suppliers and cannot benefit fully from inter-firm relationships. Given the rapid changes in the automobile industry, suppliers need to have a design capability.

Nevertheless, it takes time and resources to develop such capability. Suppliers are thus aware that there are other ways to meet the heightened technical requirements of automobile assemblers, especially those involving design and product development capabilities. Local suppliers may acquire technology from technology partners by, for instance, striking joint venture deals or technical assistance agreements to supply and assimilate the knowledge needed to retain their customer business. This will allow them to benefit from inter-firm technology transfer and provide them with the an opportunity to take part in the product-development stage with customers in the future.

There are a variety of instruments to promote networks between Japanese automakers and their suppliers in Thailand. Box 1 provides details of the Toyota Cooperation Club (TCC) operation showing MNEs' efforts to strengthen its local suppliers' capabilities. In addition, interviews with Toyota Motor Thailand (TMT) and domestic suppliers indicate that TMT has been actively promoting Toyota Production System (TPS) activity in recent years. Such activities help improve the managerial abilities of suppliers and facilitate knowledge sharing among TCC members.

Nevertheless, there are many difficulties to successfully implement the TPS activities. These include the a) lack of skilled labor and/or responsible organization of supplier company; b) lack of knowledge sharing within organizations; and (c) lack of efforts to maintain the system.

4.1.2 Networking Between First-tier and Lower-tier Suppliers

First-tier suppliers deal with a limited number of suppliers. Lower-tier suppliers supply simple components using non-sophisticated production techniques in stamping and casting processes. Technology transfer at this level occurs only at the production stage, including in-house production and plant management.

Since most intermediates and raw materials for parts are made to precise specifications, some form of cooperation to ensure quality is needed. Network relationships at this level come in the form of bilateral relationships. That is, technology is only transferred from first-tier suppliers to lower ones with no knowledge sharing among lower-tier suppliers involved. Therefore, under a bilateral relationship, the relationships among lower-tiers are weak, and only explicit knowledge is shared.[12]

Interviewed firms pointed out two key factors contributing to inter-firm technology transfer at this level: a) a more competitive environment and stringent requirements from part suppliers; and b) types of products, manufactured by lower-tier suppliers, that are used specially for automotive industry. Evidence was found of three channels through which technology transfers occurs at this level:

a. Technical supports by training visits at lower-tier plants
b. Organizing seminars at first-tier plant
c. Providing manuals to lower-tier suppliers

Due to differences in technological abilities of lower-tier suppliers, sending technicians on training visits are considered a better way to transfer tacit knowledge that is otherwise difficult to be codified. In addition, it helps to mitigate differences in the learning abilities of employees of lower-tier firms.

Interviews also brought out three main barriers to technological transfer to lower-tier suppliers:

a. Lack of motivation to join the supplier development program provided by the first-tier supplier

b. Difference in technological capabilities of lower-tier suppliers

c. Low absorptive capacity of employees of lower-tier firms

In sum, recent developments within the Thai automobile industry highlight the inter-firm networks that provide mutual benefits between MNEs and SMEs. With their reorientation toward global production network and having Thailand as a regional hub, MNE automakers need to modernize local part suppliers as well. In this process, Japanese carmakers induce their home-base suppliers to relocate to Thailand. As a result, many part supplier are foreign affiliated and joint-venture firms. At the same time, inefficient indigenous or wholly Thai-owned suppliers are being taken or crowded out. Yet, evidence from interviews also shows that first-tier suppliers do provide technical know-how and service to existing lower-tiers firms so they can meet their demands in terms of quality and management. The extent to which technological and managerial transfers occur is also related to lower-tier suppliers' absorptive capabilities and their willingness to undertake product upgrading besides corporate strategy of large enterprises.

Box 1. Linkages between MNE and Local suppliers: The Case of Toyota Cooperation Club[13]

TMT has established an extensive domestic network of linkages with Tier-1 suppliers. In 2006, TMT had 144 Tier-1 parts suppliers and 525 suppliers of intermediated inputs, such as raw materials, and service providers. The TCC has been employed by TMT to strengthen its local suppliers capabilities.

After organizing the TCC, TMT established a training center in 1982, when there were only about 25 to 35 members. In 2007, the number of Tier-1 supplier members increased to 109 members. Due to the scattering of suppliers over dispersed geographical areas, TMT could not simply adopt *kanban* system, which requires a prompt delivery of parts at the assembly plants. With 144 suppliers trying to deliver parts at specified schedules, there was congestion at the assembly plants. Thus, TMT adopted the milk-run system for parts delivery. The Samrong plant, which is the pick-up truck assembly, can make 360 trips a day, while the Gateway passenger-car plant receives 275 trips per day. In 2006, the TMT plants were operated at almost its full production capacity.

TMT achieved increased productivity through its successful implementation of a new efficient production management system on its suppliers, called Toyota Production System (TPS). The TMT's production network facilitates knowledge sharing among suppliers within the network, similar to what they did in the U.S.[14] The TCC is responsible for sharing explicit knowledge. Only suppliers who have maintained long-term relationships with TMT will be admitted as TCC members.

After becoming TCC members, suppliers can receive consulting services on the TPS free of charge, provided they can show their commitment to learning and improving their production management capabilities. Then, TMT will send well-trained consultants to transfer tacit know-how regarding the TPS at the suppliers' plants. This consulting service also helps create a norm of reciprocal knowledge sharing, and a feeling of indebtedness and openness within the supplier network (Dyer and Nobeoka 2000). There are about a dozen consulting projects in 2007. Currently, Thai staffs conduct the TPS training for the parts companies in other ASEAN countries.

In addition, TMT carefully organizes small learning teams to enhance the suppliers' skills and share specific tacit knowledge with other members. This group activity is very effective in developing strong ties among team members through the formal "core group" activities and informal social networks. This practice is quite unique for the case of TMT. Other Japanese firms seem to have less active supplier development activities. The American (GM and Ford) and European (BMW) carmakers do not have similar institutional methods of knowledge sharing. They provide necessary technical support required by the new car models.[15] Based on this observation, it can be argue that the Japanese automakers tend to rely extensively on multi-tiered supplier networks and have established a long-term relationship based on trust and rent sharing.

4.2 Clothing industry

The clothing industry has played a very important role in the industrialization process in Thailand. During the period 1988-1993, clothing was the top export item. Today, it remains a major Thai export. Promoting the clothing industry would generate a positive impact on economic development, especially employment and SME operations. In 2006, the clothing sector employed 548,068 employees, accounting for 13.2 percent of total manufacturing employment. Of these, 84 percent were employed by SMEs. By its nature of labor intensity as well as backward and forward linkages with other industries, its expansion would create significant employment generation.

Linking with MNEs in this industry is often described as the MNE buyer-driven channel (Gereffi and Memedovic 2003). Through this channel, large retailers, marketers, and branded manufacturers play important roles in creating production networks in various exporting countries. Large retailers and/or marketers supply the specifications for their goods. Tiered networks of contractors carry out production of finished goods. Thus, an MNE buyer channel can be classified as another specific form of subcontracting. These buyers have considerable influence on local suppliers or their subcontractors.

Previous studies argued that integrating into the global production networks of MNEs provides a short cut for export success in the clothing industry. The main

benefits of these networks are to lower the entry cost to foreign markets and to gain some export spillover. MNEs have better information on consumer tastes, distributing and marketing channels, and trade regulations. In addition, they undertake a large proportion of the world's total R&D and are principal bearers of technology across international borders. (Sjoholm 1997; Borensztein *et al.* 1998; Lipsey 2000; Vernon 2000). Local firms as subcontractors could possibly acquire knowledge about production technology and market information from the MNEs. Thus, relationships between local firms and MNE buyers can significantly contribute to international market penetration and product upgrading.

In the case of Thailand, knowledge about existing linkage between SME to MNE network in clothing industry is still limited.[16] To understand the implications of upgrading prospects (and other aspects including market expansion) from integration to the global chain, the study relied on primary information gathering from firm interviews. There are 10 samples covered in the interviews. They consist of seven clothing firms (two SMEs, five LEs), a fabric wholesaler for SMEs, an apparel agent, which sources local suppliers for several international brand owners, and the major companies making up the Thai Textile and Clothing industries. It covers some successful large firms that have an extensive export experience, which are relevant to other SMEs. Kohpaiboon (forthcoming) provides a background study of this section conclusion below.

4.2.1 Networking with MNEs via Buyer-Driven Channel

The pivotal role of MNEs in accommodating local firms to the global market in this industry is through a MNE buyer-driven channel. None of the firms interviewed mentioned the significant role of MNE affiliates. Unlike the producer-driven modes as in electronics industry, it is unlikely for MNEs to gain large benefits from establishing their affiliates abroad to employ cheap labor. Main profits come from combinations of high-value research, design, sales, marketing, and financial services that allow the MNEs to act as strategic brokers (Gereffi 1994). At the same time, local firms can easily access production technology. Thus entry barriers and profitability are also low. Evidence from firm interview supports this view. MNE involvement occurs either through the direct link with MNE buyers (based on the responses of half the samples) or the indirect link through the agent. Such a relationship resembles general arm's length

transaction where each other negotiates price, quantity, quality and delivery. Often, there is no explicit contract.

At the beginning, MNEs must look for potential suppliers in developing countries to manufacture tailor-made goods. Before placing orders, MNE buyers assess local suppliers' capability through their visits or from the product sample made by local suppliers. Chosen suppliers must show their potential to deliver the final goods at a given price. This requires them to posses a certain level of production skill and technological capability.

After finding potential local suppliers, the buyers provide technical information for improving existing facilities. One of the respondents to the study, a manager of a medium-sized exporting firm, revealed that his company's laser-cut machine was introduced by MNEs (through the agent) to enhance the firm's ability to manufacture more complicated orders. Without this advice, it would be far more costly for the company to acquire such information (trial and error process). This MNE involvement helps local suppliers to upgrade their production and becomes more efficient.

In addition, local enterprises must comply with all the requirements and apply the technical information. This becomes increasingly important in some export destinations in which consumers are concerned with how goods are manufactured (i.e., factory safety, labour standard, child labor, etc.). One firm stopped receiving orders from the MNEs buyer and eventually closed down owing to its inability to meet such requirements.

Linking up with MNEs also contributes to technological improvement among local suppliers. There are continuing pressures on local suppliers to constantly enhance their productivity. To ensure competitiveness and comply with regulations, MNEs require a factory audit (by some agencies) on a regular basis. Suppliers that perform better tend to get larger orders while those which under-perform receive less, prompting the latter to improve their productivity.

4.2.2 Innovation and Quality

MNEs play a crucial role in bringing in new types of clothing to their suppliers and help the latter gradually move to higher-quality products. Where international

marketing is concerned, MNEs are far more superior to their suppliers. Hence suppliers play a limited role in product innovation.

The types of apparel ordered by MNEs constantly change and become more and more complicated. This goes along with rising labour costs in Thailand. The survey found that MNEs must know their suppliers' competitiveness and place their orders accordingly. When their suppliers start losing competitiveness or are no longer competitive in one product category, MNEs will bring a new (more complicated) product category as well as provide guidance to ensure their suppliers can do them competitively.

Through their long-term relationships with MNEs, some Thai suppliers can undertake product development and cooperate with the former to develop products. To do so, local suppliers become large enterprises and the main supplier of MNEs. MNEs tend to adopt modular system and directly link with a limited first-tier supplier to cut their costs. First-tier local suppliers must acquire product design capability. Thus, R&D activities become more integrated.

4.2.3 Market Expansion and Exports

Regardless of firm size, when firms want to export successively (not one-off event), they must be integrated into the MNE network. The most crucial skill local suppliers lack is international marketing knowledge, including those dealing with designs, labeling, packaging, and distribution channels. Integration into the MNE network is regarded as a short cut for local firms to acquire such knowledge and successfully penetrate the global market.

It seems that exporting firms are unlikely to remain SMEs. Once they become part of the MNE global production network, they tend to expand their production capacity. Expansion of production capacity is a proposal of MNEs. One plausible explanation is that MNEs want to cut transaction costs (particularly monitoring costs) incurred as a consequence of dealing with suppliers.

In general, MNEs have full control over product marketing and their order is relatively large compared to suppliers' production capacity. One company said that orders from a given MNE could already account for more than 50 percent of the total production capacity of a large supplier. The proportion is even bigger among smaller

suppliers. Hence, once suppliers are integrated into their production network, they are unlikely to take orders from other buyers.

While involvement with MNEs implies greater production opportunity for SMEs, it also limits their flexibility in controlling their usual business operation. Interviews showed that this kind of situation is a disincentive for many SMEs in clothing industry to become MNE subcontractors. Many SMEs also think that working as a subcontractor for MNEs is not a sustainable path. Once labor cost rises, MNEs may shift their orders to other countries where wages are lower. As a result, most SMEs prefer to sell their products in the local markets.

Based on the foregoing, evidence from firm interviews shows mixed results about the benefits of MNE-SME linkages. There is a considerable degree of MNE involvement in clothing export. Regardless of firm size, involvement with MNEs seems necessary for exports. Large and medium-sized local suppliers that act subcontractors who can provide full-package services to international traders and marketers said there are considerable benefits from networking with MNEs. This type of networks generates substantial backward linkage in the local market because subcontractors are expected to develop reliable local sources of supplies. However, such opportunities for enhanced technological and managerial knowledge from MNEs are not available to small enterprises in the clothing industry. SMEs are not well aware of the potential benefits of globalization, and prefer independence to working as subcontractors. Surprisingly, horizontal networking among SMEs in the clothing industry is somewhat weak despite increased global competition in the post-MFA (Multi-Fiber Agreement) era.

5. MEASURES TO ENHANCE LINKAGES BETWEEN MNES AND LOCAL SMES

Government policies and measures play an important role in enhancing linkages and spillovers. Policies to restrict FDI and to impose local content, technological licensing or equity requirements are considered counterproductive, as is the case of the Thai automobile industry. Yet, simply liberalizing investment policies and providing incentives to attract FDI are not enough to make the most out of potential networking

and linkages with MNEs. To enhance the benefits of linkages and spillovers between MNEs and local SMEs, specific policies aiming at fostering linkages with MNEs are very necessary.

In Thailand, improving performance of manufacturing SMEs or SMIs is part of the policies promoting supporting industries. Two major government units that play important roles in fostering business linkage and promoting supporting industries are the Bureau of Supporting Industries Development (BSID) under the Ministry of Industry, and the Board of Investment (BOI).

Beginning in 1994, the Bureau of Supporting Industries Development (BSID) under the Ministry of Industry has been strongly urged by the Japanese government to promote the supporting industries in Thailand. The supporting industries cover a wide range of production activities providing goods and services for other industries. Often, numerous firms among supporting industries are small in size and have subcontracting arrangements with buyers, who are mostly large companies or MNEs.

The BSID's main activities are a) providing technical assistance and training for the supporting industries, b) designing and developing prototype products, such as knockdown electronics for the heat treatment of steel, and c) promoting subcontracting systems, such as organizing the Buyer's Village. In promoting supporting industries, the BSID focuses mainly on the auto parts industry and the industry that makes parts for electrical and electronic appliances and machinery, particularly mold-and-die and casting products. For the development of mold industry, with the support of the Japanese government, the BSID has organized a "Tool and Mold Technology Development Project," which seeks to provide assistance in terms of data generation, marketing, technology, investment promotion, and coordination.

Another BSID research projects is "The Development of Easy Injection Molding Control Technology for Engineering Plastics." Recently, the Japan International Cooperation Agency agreed to provide equipment for the production of plastic molds for training and the services of Japanese experts to the BSID. The private sector, however, has yet to see the effectiveness of BSID programs, specifically those involving guidance services, testing and inspection,

The Board of Investment (BOI) is the government agency responsible for administering incentives and encouraging investment in priority areas. The BOI Unit for

Industrial Linkage Development (BUILD) is a market-oriented service initiated in 1992 by the BOI. This unit was created to encourage large companies to source local parts and components, as well as to help local suppliers to improve quality, production efficiency, and productivity. Linkages between local parts suppliers and large companies, especially transnational corporations, both those located in Thailand and those in other countries, are initiated. The schemes employed by BUILD provide investors with no tax privileges but instead service-oriented incentives.

At the initial stage of the program implementation, the BOI gathers information on existing supporting industries in Thailand. Then, it analyzes inputs needed to start production factory in Thailand, and helps to establish transactions between those parties involved in the process. One of the successful activities by BUILD is the Vendors Meet Customers Program (VMC). The VMC program was created to stimulate domestic subcontracting of parts and components. After the 1997 crisis, the BUILD organized meetings and factory tours for BUILD registered suppliers and assemblers to help then initiate new deals. In the automobile industry, the assemblers who participate in the said program are General Motors (Thailand), Toyota Motor (Thailand), Auto Alliance (Thailand), and Mitsubishi Motor (Thailand). In electrical and electronics industry, they are Fujitsu (Thailand) and Delta Electronics (Thailand). The number of participating suppliers in each meeting varies. The largest number so far has been 91, at the meeting with General Motors (Thailand), in January 1998. Since 1999, local suppliers who participate in this program have organized a "Subcontracting Promotion Club" (SPC). Its members consist of about 40 BUILD-registered suppliers, who are mainly Tier 2 and 3 suppliers for the electrical and electronics industry and the automobile industry. In 2003, this club became the Thai Subcontracting Promotion Association. At present, the association has around 250 members from four industries: metal parts (casting, stamping and pressing), plastic, polymer and rubber products, electrical and electronic parts, and packing, logistic, and others.

In addition, the BUILD is responsible for developing and disseminating the ASEAN Supporting Industry Database. This database helps to promote linkages between the ASEAN member countries and the global market. In August 2007, the number of listed companies in ASID is 20,198 firms. Among these companies, 13,534 companies are suppliers in Thailand. ASID classifies firms into five main industries,

automotive, electrical and electronics, mold and dies, petrochemical and plastic, among others. Thailand's supporting industries consist of 1,419 companies, which are suppliers for the automobile industry, and 1,393 companies for electrical and electronics industries, 2,141 in petrochemical and plastic industries, 616 in mold and dies, and 7,965 in other industries.

Another successful measure to promote business linkages between regional and worldwide final product manufacturers and local suppliers is organizing the first Subcontracting Exhibition, called "SUBCON Thailand." In 2007, the exhibition generated about 1,000 business deals valuing Bt 1,200 million. Since then there has been a plan to organize SUBCON Thailand every year. BUILD also encourages local suppliers to promote their products abroad by providing them with financial support.

Given these activities, BUILD has gained a good reputation and been seen as an effective organization by both the private and public sectors. It plays an important role as an intermediary, facilitator, and informant for interfirm linkages. Notwithstanding its success, the impact of the BUILD program is still limited because of the small size of its operational units and limited budget.

Aside from relevant government programs, industry associations and individual firms have launched supplier development programs. For example , the Thailand Automotive Institute (TAI) and the Electrical and Electronics Institute (EEI), established in July 1998 as an independent and non-profit institute under the Industrial Development Foundation of the Ministry of Industry, conducts tests on parts and raw materials, and offers information, consultation and training services to producers, especially domestic ones. In addition, they coordinate with related agencies in the government and private sector, and with both local and international agencies, for industrial development. Recently, TAI led a project to develop human resources in the automotive sector, or Automotive Human Resource Development Project (AHRDP).[17] This project is essentially a "training the trainer" program in which firms agree on specific skill certification standards and focuses on specific competencies. The AHRDP is expected to upgrade and strengthen the quality of supporting industries as a whole.

The Institute for SME Development objective seeks to disseminate knowledge and support services to SMEs nationwide so they can upgrade their personnel. It collaborates with the Department of Industrial Promotion and a number of foreign

organizations such as Japan External Trade Organization, Japan International Cooperation Agency, and Japan Sustainable Building Consortium), and provides training and advisory methods and tools to SMEs.

Several SMEs have decided to set up the Subcontracting Promotion Club (SPC) with the initial support of BUILD. This private sector initiative creates networks among Thai SMEs in the electronics, plastics, metal and polymer industries to enhance their capabilities to serve MNE demands. Activities in the club include directed to information sharing, resource pooling, and marketing and distribution improvements.

It is worth noting that linkages promotion programs, as seen in the case of Thailand, have highlighted the role played by many facilitating agencies in upgrading the potential of local suppliers or supporting industries. To create a concerted program, some intermediary entity must be addressed. In Thailand, the Office of SME Promotion (OSMEP) assumes these roles[18] and has been active in coordinating all parties involving in SMEs promotion. However, as far as business linkage creations are concerned, much work remains to be done.

Firstly, Thailand needs sustained support to develop the capability of SMEs or indigenous suppliers to upgrade their product quality. Altenburg et al. (2004) argued that BUILD's activities are mainly limited to awareness building and matching between SMEs and MNEs. To create more meaningful programs, joint programs with MNEs for assisting promising suppliers are urgently needed. The establishment of long-term relationships between MNE-SME calls for a strong commitment to increasing the competitiveness of potential suppliers. This is far beyond the introductory phase of matching and organizing suppliers. Programs with some incentives to induce large companies to support local partners may be necessary and worth doing. Spillover effects from MNEs activities could justify those program costs.

Secondly, because government resources are always limited, programs should also be increasingly geared toward creation of vertical linkages than horizontal linkages, as in the case of the OTOP program. That is, if technological upgrading is to be accorded the needed priority.

Thirdly. In addition to fostering business linkage through many institutions, Thailand need to strengthen absorptive capabilities of SMEs. This is especially important for Thailand. Recent capability-building programs provided by the Thai

government included funding for technology development, establishing skill development centers and producing enough skilled manpower in response to industry demand, giving financial assistances, as well as providing marketing and exporting information.

Examining the best practices and initiatives in areas of capability building for Thai SME is beyond the scope of this chapter and deserves a separate study. At this point, policies for strengthening business linkages and the absorptive capabilities of domestic SMEs will need to be exercised in a coordinated manner. The challenge to Thai policymakers is to understand the source of benefits from enhanced inter-firm networking and linkages, the contexts, which help facilitate it, and the right policy instruments to create it.

6. CONCLUSION

This chapter highlights the need to incorporate large firms or MNEs as agents of change and as an key element of SME development strategies. Evidence from existing networks between MNE and local suppliers in the Thai automobile and clothing industries revealed greater benefits than what may have been obtained in the past. This is necessary because local suppliers operating within the network require higher technical and managerial skills demanded by large firms or MNEs. Local suppliers' willingness to meet the more stringent requirement is also of very important.

The Thai network case study of Toyota Motor Thailand is an example of an MNE initiative to bring in closer collaborative and technical ties with parts suppliers and local SME suppliers. While this restructuring helped lower the cost and enhance productive among large firms, it also opened up opportunities to SMEs for mutual benefits from technical collaboration. This example highlights the importance of MNEs involvement and long-term commitment to developing local SME suppliers.

The role of the government for network development of the reviewed industries varies across industries. In the case of the automobile industry, Thailand needs to strengthen the absorptive capabilities of SME manufacturers and to create matched workforce based on industry demand. The government must likewise take a proactive

role in supporting SMEs to upgrade their product quality. Greater MNE involvement in, and a holistic approach to integrate all players to promote, interfirm linkages are vital to designing a successful program.

In case of the clothing industry, horizontal networks among SMEs to disseminate information about marketing and products must be created. In addition, as Thailand international competitiveness is eroding in the labor-intensive sector, structural adjustment seems to be unavoidable in the near future. This is particularly important for numerous SMEs that cannot find their niche in the domestic or export markets. Raising awareness of intensified competition from globalization among SMEs and enabling them to adapt to the new rule of competition are policy challenges.

NOTES

[1] The author wishes to acknowledge the support of Archanun Kohpaiboon, Kriengkrai Techakanont, and Puree Sirasoontorn, who provided background papers. The views expressed in this paper are solely those of the author and do not necessarily reflect those of the Faculty of Economics.

[2] Among many, see UNCTAD(2006, 2001, 2000), Altenburg (2000).

[3] For example, see UNCTAD (2006, 2001, 2000), Dunning (1992) and Berry (1997).

[4] According to the Organization Economic Co-operation and Development, ISIC is the United Nations International Standard Industrial Classification of All Economic Activities. This classification is the international standard for the classification of productive economic activities. Its main purpose is to provide a standard set of economic activities so that entities can be classified according to the activity they carry out.

[5] The Office of SME Promotion officially reported labor productivity of SMEs only for some industries, but its coverage was quite small. Similar difficulties arise when using other source of manufacturing statistics to calculate productivity index by size. For example, the annual survey conducted by the Ministry of Industry, beginning in the year 2000, tends to be biased toward registered factories and do not represent a good coverage of the overall manufacturing industries. This indicates an urgent need for a more integrated database and comprehensive surveys on Thai SMEs.

[6] Sevilla and Soonthornthada (2000) provide a good historical background on SME policy formulation.

[7] They were the Government Savings Bank, Industrial Finance Corporation of Thailand, the Bank for Agriculture and Agricultural Co-operatives, the Export and Import Bank of Thailand, the Government Housing Bank, the Small Industry Credit Guarantee Corporation, and the SME Bank.

[8] Thirteen targeted industries in the industrial master plan are classified into four groups: (a) potential industry: electronics, automobile and parts, textile, rubber products, petrochemicals and plastic, processed foods; (b) improving Industry: electrical appliances, furniture, metal, pharmaceuticals; (c) survival industry: machinery, ship maintenance, and (d) New Wave industry: biofuels and bio-products. Industrial subsector development strategies are also documented in the plan.

[9] Many officials believe that policies became more integrated under Mr. Thaksin's watch. More importantly, decision making became faster and dialogue among concerned ministries was more effective under his term.

[10] Due to lack of more recent data, Techakanont and Terdudomtham (2004) speculated that numbers of Thai firms in Tier-1 suppliers would decline due to stronger competition posed by Japanese part suppliers. Kohpaiboon (2006b) argued that OEM suppliers had been dominated by affiliates of MNE part suppliers and the number of Thai-owned firms could be around 10.

[11] This part draws heavily from previous studies by Techakanont and Terdudomtham (2004) and Techakanont (2007a, 2007b), and Kohpaiboon (2006b)

[12] Explicit knowledge refers to **i**nformation, market trends, and production policies. Tacit knowledge refers to know-how, production process, and management proprietary.

[13] This part is taken from Techakanont (2007).

[14] Dyer and Nobeoka (2000) identified three institutional innovations in the creation of the network and in facilitating inter-firm knowledge sharing, i.e., supplier association, knowledge transfer consultants and small-group learning teams (or *jishuken*). Toyota Thailand also adopted similar institutions.

[15] However, based on interviews with several Thai suppliers, AAT was more open and willing to provide technical support to independent Thai suppliers, who had no parent company to support, in the new model.

[16] Kohpaiboon (2006a) provides excellent studies of the role of MNEs in processed food industry in Thailand.

[17] AHRDP is a collaboration among three assemblers (Toyota, Honda, and Nissan) and one first-tier supplier (Denso), each will provide training in specific competency; Toyota on production and management technology (Toyota Production System), Denso on part development and manufacturing skills, Honda on mold and die manufacturing, and Nissan on skill certification.

[18] Business associations are also important but not discussed here due to lacks of information.

REFERENCES

Altenburg, T., M. Gennes, A. Hatakoy, M, Herberg, J. Link, and S. Schoengen. 2004. Strengthening knowledge-based competitive advantages in Thailand. Reports and working papers 1/2004, German Development Institute, Bonn.

_____. 2000. Linkages and Spillovers Between Transnational Corporations and Small and Medium-Sized Enterprises in Developing Countries-Opportunities and Policies. Reports and Working Papers 5/2000, German Development Institute, Bonn.

Berry, A. 1997. SME Competitiveness: The Power of Networking and Subcontracting," Washington D.C. no. IFM-105.

Borensztein, E., J.D. Gregorio, and J.W. Lee.1998. How does Foreign Direct Investment Affect Economic Growth? In *Journal of International Economics*, 45.

Dollar, D. et al. (1998), "Short-Term and Long-Term Competitiveness Issues in Thai Industry, in Dollar, David and Mary Hallward-Driemeier, "Crisis, Adjustment, and Reform: Results from the Thailand Industrial Survey," Conference on Thailand's Dynamic Economic Recovery and Competitiveness, NESDB/World Bank, Bangkok, May.

Dunning, J. H. 1992. *Multinational Enterprises and the Global Economy*. Washington D.C.

Dyer, J. H. and K. Nobeoka. 2000. Creating and Managing a High-Performance Knowledge-Sharing Network: the Toyota Case," *Strategic Management Journal*, 21:345-367.

Fujita, K. and R.C. Hill. 1997. Auto Industrialization in Southeast Asia. National Strategies and Local Development," *ASEAN Economic Bulletin*, 13(3): 312-332.

Gereffi, G. and O. Memedovic. 2003. The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries? UNIDO.

_____.. 1994. The Organization of Buyer-Driven Global Commodity Chains: How United States Retailers Shape Overseas Production Networks," in G. Gereffi and M. Korzeniewicz (eds). *Commodity Chains and Global Capitalism* (Westport, Praeger).

Higashi, S. 1995. The Automotive Industry in Thailand: From Protective Promotion to Liberalization," IDE Spot Survey, *The Automotive Industry in Asia; The Great Leap Forward?* Tokyo, IDE.

Knorringa, P. and H. Schmitz. 2000. Learning from Global Buyers," *Journal of Development Economics*, 37(2): 177-205.

Kohpaiboon, A. 2006a. *Multinational Enterprises and Industrial Transformation: Evidence from Thailand,* Edward Elgar, Cheltenham.

_____. 2006b. Thai Automotive Industry: Multinational Enterprises and Global Integration," reported submitted for World Bank Office (Thailand), September.

_____. forthcoming. MNEs and Global Integration of Thai Clothing Industries: Policy Implication for SME Development, ERTC background paper, Faculty of Economics, Thammasat University.

Lipsey, R.E. 2000. Inward FDI and Economic Growth in Developing Countries' *Transnational Corporations*, 9(1), p.67-95.

Maruhashi, Hiroko. 1995. Japanese Subcontracting System in Thailand: A Case Study of the Thai Automobile Industry," Unpublished Master Thesis, Faculty of Economics, Thammasat University, Bangkok, Thailand.

OSMEP. 2007. Report on 2006 Small and Medium Enterprises Situation and Outlook for 2007", Bangkok.

Poapongsakorn, N. and S. Tangkitvanich. 2004. Industrial Restructuring in Thailand: A Critical Assessment,"

Ramstetter, E. D. and F. Sjoholm. 2006. *Multinational Corporations in Indonesia and Thailand*. Palgrave Macmillan.

Ramstetter, E.D. 2004. Labor Productivity, Wages, Nationality, and Foreign Ownership Shares in Thai Manufacturing, 1996-2000," *Journal of Asian Economics*, 14: 861-84.

Sevilla, R.C. and K. Soonthornthada. 2000. *SME Policy in Thailand: Vision and Challenges*, Institute for Population and Social Research, Mahidol University.

Sjöholm, F. (1997), R&D, International Spillovers and Productivity Growth. In Lund Economics Studies, Lund University, Lund.

Smitka, M.J. (1991). *Competitive Ties: Subcontracting in the Japanese Automotive Industry*. New York: Columbia University Press.

Tambunlertchai, S., K Techakanont, C. Tuntiwatsadakan, V. Tosanguan, and W. Wannanithikul**.** (2007). "Final Report on SMEs Restructuring Plan," Economic Research and Training Center, Thammasat University, March.

Techakanont, K. and T. Terdudomtham. 2004. Evolution of Inter-firm Technology Transfer and Technological Capability Formation of Local Parts Firms in the Thai Automobile Industry. In *Journal of Technology Innovation* 12:2, pp. 151-183.

Techakanont, K. 2007a. Development of Supporting Industries and Agglomeration of Automotive Cluster in Thailand," paper presented at JBIC's International Symposium: Promoting Regional Linkage to Enhance Asia's Competitiveness and Dynamism, Jakarta, Indonesia, August 30-31.

Techakanont, K. 2007b. Roles of Japanese Assemblers in Transferring Engineering and Production Management Capabilities to Production Network in Thailand," paper presented at the workshop of Kahenhi project of The Activities of Multinational Corporations (MNCs) in Asia and Their Impacts on Both Human Resource Development and Management.

UNCTAD. 2002. *World Investment Report 2002: Transnational Corporations and Export Competitiveness*, United Nations.

UNCTAD. 2001. *World Investment Report 2001: Promoting Linkages*, United Nations.

UNCTAD. 2000. *The Competitiveness Challenge: Transnational Corporations and Industrial Restructuring in Developing Countries*. United Nations.

Vernon, R. 2000. *In the Hurricane's Eye: the Troubled Prospects of Multinational Enterprises*, MIT Press, Cambridge.

Wattanapruttipaisan, T. 2002. SME Subcontracting as Bridgehead to Competitiveness: Framework for An Assessment of Supply-side Capabilities and Demand-side Requirements. In *Asia-Pacific Development Journal* 9:1, June.

Chapter 11

VIETNAM'S SMALL- AND MEDIUM–SIZED ENTERPRISES DEVELOPMENT: CHARACTERISTICS, CONSTRAINTS AND POLICY RECOMMENDATIONS

Tran Tien Cuong, Le Xuan Sang, and Nguyen Kim Anh

Abstract

After two decades of *Doimoi* (economic renovation), Vietnam has attained remarkable economic growth and sustainability, foreign trade expansion, attraction to foreign investment, poverty reduction, and human development.

In line with the country's economic reform and development, small- and medium-sized enterprises (SMEs) have experienced phenomenonal growth, especially since 2000 to date when the Enterprise Law was promulgated. However, despite this impressive achievement, Vietnam's SMEs remain weak in terms of internal and external networking, competitiveness, innovativeness, human resource, and readiness to globalization. Apart from the SMEs' low starting points, these shortcomings and weaknesses have been largely due to the prolonged discrimination against private sector access to capital or credit and land, lack of a pro-private and competitive business environment, and poor quality of human resource and business support development services.

To enhance SMEs networks, competitiveness, and innovativeness, Vietnam should abandon the advocacy for retaining the lead role of state-owned enterprises in the national economy. There is a pressing need to level the playing field, create solid supporting industries, enhance quality of human resource, and improve infrastructure.

Key words: SMEs, networks, innovativeness, business environment, Vietnam.

INTRODUCTION

Vietnam introduced officially the economic renovation *(Doi moi)* in 1986, but it was only in 1989 that it actually adopted a comprehensive and radical reform package aimed at stabilizing and opening the economy, as well as enhancing freedom of choice for economic units and competition. Nevertheless, during 1997-2000, the reforms were to a certain extent retarded, especially after the Asian financial crisis. Since 2000 to date, a new wave of economic reforms has been stirred up with emphasis on private sector development, further trade and investment liberalization with deeper international economic integration. The accession to the World Trade Organization (WTO) at the end of 2006 marked a new milestone in the country's economic reform and development. Through the market-oriented reforms and WTO–driven adjustments, Vietnam has achieved remarkable achievements in the country's economic growth and stability, foreign trade expansion, attraction to foreign investment, poverty reduction, and human development improvement.[1]

It is worth noting that the socioeconomic successes have been significantly attributed from the country's small- and medium-sized enterprises (SMEs). The SMEs occupy an overwhelming proportion in total number of country's enterprises accounting for 97 percent and 87 percent by regular workforce and registered capital criteria in 2005, respectively. They have contributed 39 percent of gross domestic product (GDP), 32 percent of total investment outlays in 2006 (Ho Sy Hung 2007), and about 85 percent of total corporate workforce in 2004 (Le Xuan Ba *et al*. 2006). Apart from being a relatively dynamic sector in the economy, SMEs have also played an important role in creating jobs, maintaining high mobility of the labor market, and narrowing development gaps among localities of the country.

The WTO accession is expected to bring about new opportunities for SMEs development like the creation of a level playing field, easier access to production factors and cheaper imported inputs in the domestic market, expansion of export markets, and facilitation of the national economy to engage more in-depth in regional and global production networks. After the WTO accession, Vietnamese SMEs anticipate

tremendous difficulties in both domestic and global markets because they lack a competitive edge over foreign rivals. Many SMEs experience high production costs, poor quality of products, and low degree of innovativeness. Moreover, capital shortage, lack of advance technology, management skills and expertise, and insufficient market information, and so on hindered these young SMEs to compete globally.

Strengthening SMEs networking with other stakeholders and developing supporting industries have long been considered as an effective way to enhance SMEs competitiveness or capability. To a significant extent, this strategy can accelerate the industrialization process in the country. Nevertheless, Vietnamese SMEs networks are still limited. Primary assessment suggests that, apart from weak internal networks, there has been not yet a close link between dynamic multinational corporations (MNCs) and non-integrated domestic SMEs (Ho Sy Hung 2007), import-substitution and export-oriented sectors (Ohno 2004), and upstream and downstream industries (Vo Tri Thanh *et al.* 2004).

The enormous endeavors of the government in nurturing the country's supporting industries have seemingly suffered fiasco, particularly the automobile industry. Up to date, local content or procurement ratios for most industries are low and far from being able to achieve the planned targets. According to Mori (2005), in 2003, the average of local parts procurement ratios in the manufacturing sector is around 22.6 percent at the value base which is significantly lower in other ASEAN countries[2]. After more than a decade of undertaking policy stance on localization, the local content ratio of the automobile industry remains low, ranging from 5-10 percent (Ohno 2004). A similar pattern can be seen in the garment and electronics sector (Vo Tri Thanh *et al.* 2004). The local procurement ratio of consumer-electronics sector has been encouraging for TVs but disappointing for PC peripherals. In 2003, it was around 20-40 pecernt for garment and 5-12 percent for electronics (Mori 2005).

Given the weaknesses of, and constraints for, Vietnamese SMEs development, there is an urgent need to shed lights on characteristics and factors of SMEs development (growth and dynamism) such as SMEs networking, innovativeness, markets extention, and effectiveness of policies and programs in promoting SMEs in the country.

This paper makes an attempt to analyze key characteristics of, and challenges to Vietnam's SMEs development focusing on networking with other stakeholders in the globalization era. The paper is structured as following. Section 1 provides analysis of Vietnam's SMEs development and characteristics focusing on domestic and export market, internal and external networking, and innovativeness. Section 2 discusses key factors of the country's SMEs development highlighting impacts of economic reforms, SMEs promotion policies and programs, especially identifying the constraints and challenges to further development. The last section suggests maior policy recommendations in fostering SMEs development in the context of economic integration.

2. SMES' ROLE IN VIETNAM'S ECONOMY

Vietnam's private sector had long been depressed and even eliminated in some economic domains in the northern part of the country during the wars against France and the United States of America (from 1945 to 1975) and countrywide after its unification (in 1976) to 1985. The genesis of the private sector development in unified Vietnam started in 1986 when the Government adopted the *Doi moi* (renovation) policy and recognized multistakeholder economy. Another bold step made was the revision of the 1992 Constitution recognizing the private sector in the economy along with the commitment to protect private ownership and restructuring of state-owned enterprises (SOEs). It is worth noting that the promulgation of the Enterprise Law (1999) has created a breakthrough for the private sector's development. To conform to WTO rules and provisions, many law documents were amended and newly promulgated, creating a fairer competition in the country. Furthermore, Vietnam has adopted more in-depth reforms as committed after recent WTO accession (2006) contributing to the establishment of a level playing field, which is considered to be very important for private sector development in the country.

It is worth noting that after 20 years of Doi moi introduction, it was only on November 2001 that Government Decree 90/2001/ND-CP, a first pro-SME development legal document, was born. The Decree provides the official definition of

an SME as *"a business establishment with registered capital of no more than* Vietnam dong (*VND) 10 billion (equivalent to USD 630,000) or with an workforce of no more than 300 regular employees."*

Before 1998, some provinces had defined their own SME criteria including: (1) number of regular laborers of less than 500; or (2) fixed assets of less than VND10 billion; or (3) mobilized capital or monthly revenue of less than VND 20 billion.

In June 1998, the Government issued Public Letter 681/CP-KCN on the policy and strategic directions in developing SMEs, according to which.SMEs are defined as establishments with a registered capital of less than VND 5 billion or regular workforce of less than 200 laborers. This legal document had laid an initial legal ground for implementing supporting measures to SMEs' development.

Recognizing that the SME grouping by Decree 90/2001/ND-CP is too general to provide useful data for policy formulation, hence, in June 2005, the Agency for SME Development (ASMED) introduced a further size segmentation in its SME Development Plan for 2006-2010 period. According to the new segmentation, SME is categorized into micro enterprises (less than 10 persons), small enterprises (10 to 49 persons) and medium-sized enterprises (50 to 299 persons).

It is important noting that the current SME categorization still suffers from some limitations. *First,* it doest not "separate" enterprise domains which may need different amount of capital for production activities or employ different number of workforce. For instance, the services sector does not normally need as much capital as the production sector. The limitation can be a possible reason explaining for the fact that SMEs operating in trade and repair services occupy a big proportion in total number of SMEs. *Second,* the registered capital criterion is not "effective" in the sense that, at the moment of categorization, enterprises' working capital would increase much more than the initially registered capital.

2.1 SMEs and the economy

SMEs have played an important role in the national economy. The sector has long been a major source of employment generation accounting for about 85 percent of the total corporate workforce in 2004 (Le Xuan Ba *et al*. 2006). SMEs are a main vehicle for poverty alleviation particularly in rural areas and narrowing development

gaps among provinces, urban, and rural areas. In addition, SMEs help maintain the high flexibility of the labor market. It also contributed significantly to absorb the "shocks" associated with the transition from a centrally planned economy to a market-oriented one especially the collapse of the socialist bloc in Eastern Europe (Le Xuan Sang 1997).

The contribution of the SMEs to economic growth is also important. They occupied a proportion of 39 percent of GDP in 2006 (Ho Sy Hung 2007). The "precise" trend of the SMEs proportion in overall GDP over the recent years, nevertheless, is hardly identified due to the lack of systematic and reliable statistical data. In comparison with the SOE sector, the SMEs have likely played a minor role as they account for only 32 percent of the total investment outlays while the former do more than 50 percent. In addition, the SMEs have very limited export and technological capability.

3. SMEs DEVELOPMENT CHARACTERISTICS

The radical reforms in the business environment since 2000 prompted Vietnam's private sector to experience a phenomenonal growth in the number of registered enterprises and capital. For the period of 2000-2007, about 250,000 new non-state companies were registered under the Enterprise Law alone increasing in five and half times compared to preceding 10-year period (1990-1999). In 2007, a year after the WTO accession, there are 54,000 units of registered enterprises making an increase of more than 120 percent of that 1990-1999 data. Similarly, the registered capital amount surged from VND 25,742 billion during 1991-1999 to VND 213.039 billion during 2000-2004. The investment proportion of non-state sector in total investment outlays increased steadily from 26.2 percent in 2002 to 32.6 percent in 2006 (CIEM 2007). Furthermore, the number of actual enterprises have grown at a quite high rate being 27.9 percent annually and adding 14,213 units on the average.

The number of registered enterprises and those that are operational differ. At the end of 2002, there were 62,908 enterprises in operation, much lower than the cumulative number of enterprises (100,292 units) registered during 1991-2002. This discrepancy maybe due to the following: (a) the figures are provided by different

government bodies[3]; and (b) some of the registered firms have not started any operations yet. Based on the World Bank database, Hakkala and Kokko (2007) argued that 8 percent of the registered firms did not get into tax code stage because they never actually started operation. There are cases where enterprises have registered to obtain invoices and books for the Value Added Tax (VAT) then sold to other enterprises. Some businesses close down their operation and simply exit. According to surveys conducted by Rand and Tarp (2007), the average annual exit rate ranged from 9 percent to 10 percent[4]; the average annual survival rate of SMEs during 2002-2005 was more than 91 percent, somewhat above that between 1997-2002.

3.1 SME distribution and development

Vietnam's SMEs account for an overwhelming proportion in the total corporate sector by both regular workforce and registered capital criteria. That sector represents for 95 percent, 97 percent by regular workforce criterion and 86 percent, 87 percent by registered capital criterion in 2002, 2005 respectively (Table 1). Majority of the large enterprises are SOEs and foreign-invested enterprises (FIEs). Notably, the increase of SMEs' share in the context of substantial growth in the number of registered firms implies that the newcomers are mostly SMEs.

By size of SMEs labor force, it should be noted that almost all of SMEs are micro- and small sized firms accounting for about 52 percent and about 35 percent on average in 2002, 2005, respectively. Medium- and large sized firms are very few having on average only 11 percent and 2 percent of the total number in the same period, accordingly (see Table 1).

However, that structure is only true for non-state SMEs since they occupied as much as 91-95 percent in 2002, 2005. Indeed, a majority of state-owned SMEs (about 73 percent) and most of FIEs (about 54 percent) are medium- and large-sized (Table 1). The declining proportion of medium-sized firms and the increasing proportion of micro- and small-sized ones imply that the increased number of SMEs is mostly contributed by the latter from non-state sector. Another feature is that mostly SMEs are concentrated in the forms of limited liability and sole proprietary companies, accounting for 47 percent and 32 percent in 2005 by workforce criterion respectively.

Table 1: SMEs distribution by size of employees and by type of enterprise (2002, 2005).

Corporate form	Year	Total number of enterprises by corporate form (unit)	As percentage of total number of SMEs by size segmentation (%)				Total number of SMEs (unit)	As percentage of total number of SMEs by corporate form (%)
			Less than 9 employees	10-49 employees	50-199 employees	200-299 employees		
TOTAL	**2002**	**62908**	**50.5**	**34.6**	**12.6**	**2.3**	**59831**	**100.0 (95.1)**
	2005	**112952**	**52.9**	**35.6**	**10.0**	**1.5**	**109338**	**100.0 (96.8)**
State-owned enterprise	2002	5364	1.4	26.2	55.8	16.5	3631	6.1
	2005	4086	1.6	25.4	56.3	16.7	2675	2.4
Non-state enterprise, *of which*	2002	55236	55.1	35.2	8.7	1.0	54400	90.9
	2005	105169	55.3	35.9	8.0	0.8	103794	94.9
*C*ooperative	2002	4104	36.8	48.7	13.0	1.5	4025	6.7
	2005	6334	52.5	39.2	7.4	0.8	6266	5.7
Sole proprietary	2002	24794	69.4	26.7	3.6	0.3	24716	41.3
	2005	34647	68.1	28.1	3.6	0.2	34537	31.6
Partnership	2002	24	50.0	41.7	8.3	0.0	24	0.01
	2005	37	35.9	53.8	5.1	5.1	39	0.01
Limited liability	2002	23485	46.0	41.3	11.4	1.3	23020	38.5
	2005	52506	50.4	39.6	9.0	1.0	51815	47.4
Joint- stock company having State capital	2002	557	1.9	26.6	59.3	12.2	425	0.7
	2005	1096	3.0	27.1	57.7	12.3	839	0.8
Joint- stock company having no State capital	2002	2272	34.2	43.3	19.9	2.6	2190	3.7
	2005	10549	43.3	41.9	13.5	1.4	10300	9.4
Foreign-invested enterprise, *Of which*	2002	2308	9.4	35.3	43.3	12.0	1800	3.0
	2005	3697	12.2	36.6	40.9	10.4	2869	2.6
100% foreign capital	2002	1561	9.3	35.3	42.2	13.2	1187	2.0
	2005	2852	12.9	36.5	40.3	10.4	2191	2.0
Joint venture	2002	747	9.6	35.2	45.5	9.6	613	1.0
	2005	845	10.0	37.0	42.6	10.3	678	0.6

Notes: Figures in parentheses represent for the proportion of SMEs in total number of enterprises.

Source: General Statistical Office (GSO) (2007).

By the size of registered capital, 90 percent of the firms have a registered capital less than VND 5 billion (about USD 330,000). Most types of SMEs fall well into the range of VND 1-5 billion.

By the averaged size of regular labor force, SMEs are small in size, too. In 2005, the labor force averaged to 32 laborers per enterprise. This is a very slight increase because in 2000, it was only 30 laborers per enterprise. During the same period, the average capital of SMEs increased from VND 3 billion to 7 billion.

By economic activities, SMEs are concentrated in trade, repair of motor vehicles and household goods (42-44 percent), manufacturing (19-21 percent), construction (12-13 percent) during 2002-2005. Within the manufacturing sector, food and beverage sector attracts more SMEs, with the largest proportion of more than 4 percent in 2005 (Table 2). There are new shifts of SMEs "employers" in the corresponding period. SMEs' proportions in manufacturing and construction sectors tended to decline while, trade, repair of motor vehicles, and household goods increases. One possible explanation for that situation is that in the third subsector, the entry and skill requirements are less stringent.

Table 2: SME distribution by size of employees and by kind of economic activity (2002, 2005)

Economic sector	Year	Total number of enterprises by economic sector (unit)	As percentage of total number of SMEs by size segmentation (%)				Total number of SMEs (unit)	As percentage of total number of SMEs by economic sector (%)
			Less than 9 employees	10-49 employees	50-199 employees	200-299 employees		
Total	**2002**	**62908**	**50.5**	**34.6**	**12.6**	**2.3**	**59831**	**100.0 (95.1)**
	2005	**112952**	**27.2**	**20.8**	**42.6**	**9.4**	**98233**	**100.0 (87.0)**
Agriculture and forestry	**2002**	**972**	14.6	38.5	40.1	6.8	821	**1.4**
	2005	**1071**	25.2	38.9	30.4	5.5	935	**1.0**
Fishing	**2002**	**2407**	42.5	53.4	4.0	0.0	2402	**4.0**
	2005	**1358**	29.6	62.7	7.3	0.4	1354	**1.4**
Mining and quarrying	**2002**	**879**	20.2	49.1	26.1	4.6	801	**1.3**
	2005	**1277**	19.9	54.2	23.5	2.5	1211	**1.2**
Manufacturing	**2002**	**14794**	28.5	43.1	23.6	4.8	13143	**22.0**
	2005	**24018**	30.2	44.9	20.9	4.0	21841	**22.2**

Manufacture of machine and other equipments	**2002**	**398**	16,53	47,66	29,75	6,06	363	**0.3**
	2005	**690**	27.0	49.6	20.4	3.1	653	**0.7**
Manufacture of office accounting and computing machinery	**2002**	**12**	40.0	50.0	10.0	0.0	10	**0.1**
	2005	**26**	31.8	40.9	22.7	4.5	22	**0.1**
Manufacture of engines and other electrical equipment	**2002**	**243**	15.6	50.5	29.2	4.7	212	**0.4**
	2005	**421**	26.9	44.0	24.0	5.1	375	**0.4**
Manufacture of radio, television and communicative equipment	**2002**	**121**	14.3	32.7	42.9	10.2	98	**0.2**
	2005	**212**	26.8	41.0	24.6	7.7	183	**0.2**
Manufacture of motor vehicles and trailers	**2002**	**273**	20.5	51.6	22.5	5.3	244	**0.4**
	2005	**377**	26.7	51.3	17.8	4.2	337	**0.3**
Electricity, gas and water supply	**2002**	**185**	42.5	25.1	24.0	8.4	167	**0.3**
	2005	**216**	53.6	20.3	18.2	7.8	192	**0.2**
Construction	**2002**	**7845**	24.1	51.2	21.2	3.4	7189	**12.0**
	2005	**15252**	32.1	48.8	17.0	2.1	14638	**14.9**
Trade, repair of motor vehicles and household goods	**2002**	**24794**	72.3	23.0	4.0	0.7	24578	**41.1**
	2005	**46847**	70.5	26.2	3.0	0.3	46644	**47.5**
Sale, maintenance and repair of motor vehicles and motorcycles	**2002**	**5007**	78.9	18.5	2.4	0.2	4980	**8.3**
	2005	**8616**	80.0	18.0	1.9	0.1	8594	**8.7**
Whole sale trade and contract basic (Except of motor vehicles)	**2002**	**24794**	72.3	23.0	4.0	0.7	24578	**41.1**
	2005	**24927**	62.3	33.3	4.1	0.4	24777	**25.2**
Repair of clothing, footwear and household goods	**2002**	**2843**	60,38	31,17	7,45	1,00	2804	**5.2**
	2005	**13304**	79.7	18.5	1.6	0.2	13273	**13.5**
Transport, storage and communications	**2002**	**3242**	34.3	44.5	18.3	3.0	3088	**5.2**
	2005	**6755**	34.1	31.9	11.4	22.7	8790	**8.9**
Financial intermediation	**2002**	**1043**	73.8	20.8	4.6	0.9	1025	**1.7**
	2005	**1139**	63.2	29.1	7.0	0.7	1105	**1.1**
Activities related to real estate business and consultancy	**2002**	**3235**	57.0	31.2	10.4	1.4	3185	**5.3**
	2005	**8674**	62.7	30.6	5.9	0.8	8600	**8.8**

Notes: Figures in parentheses represent for the proportion of SMEs in total number of enterprises. Some ("minor") economic sectors are excluded from Table 2.

Source: GSO (2007).

Table 3: SME distribution by size of employees and by province (2002, 2005)

Province/ region	Year	Total number of enterprises by province/ region (unit)	As percentage of total number of SMEs by size segmentation (%)				Total number of SMEs (unit)	As percentage of total number of SMEs by province/ region (%)
			Less than 9 employees	10-49 employees	50-199 employees	200-299 employees		
WHOLE COUNTRY	**2002**	**62908**	**50.5**	**34.6**	**12.6**	**2.3**	**59831**	**100.0 (95.1)**
	2005	**112952**	**52.9**	**35.6**	**10.0**	**1.5**	**109338**	**100.0 (96.8)**
Red river Delta	**2002**	15998	42.9	40.9	13.7	2.4	15156	**25.3**
	2005	30510	47.5	40.7	10.5	1.4	29530	**27.0**
Ha Noi	**2002**	9460	48.7	38.7	10.5	2.1	9023	**15.1**
	2005	18214	53.5	37.8	7.7	1.0	17696	**16.2**
Hai Phong	**2002**	1586	33.3	44.8	17.6	4.3	1458	**2.4**
	2005	3143	41.1	44.0	12.9	2.0	3000	**2.7**
North East	**2002**	3682	32.0	46.0	18.1	3.8	3455	**5.8**
	2005	7292	42.8	43.7	11.8	1.7	7086	**6.5**
North West	**2002**	607	24.4	45.1	27.6	2.9	579	**1.0**
	2005	1338	33.7	49.4	15.8	1.1	1306	**1.2**
North Central Coast	**2002**	3794	40.2	41.9	15.2	2.6	3622	**6.1**
	2005	7212	49.4	38.7	10.6	1.3	7045	**6.4**
South Central Coast	**2002**	4574	52.5	32.3	12.6	2.6	4332	**7.2**
	2005	7821	50.2	37.5	10.4	1.8	7554	**6.9**
Da Nang	**2002**	1397	55.3	31.5	10.8	2.4	1319	**2.2**
	2005	2622	54.7	35.5	8.5	1.3	2543	**2.3**
Central Highlands	**2002**	2142	49.1	35.0	13.6	2.3	2035	**3.4**
	2005	3564	51.4	36.4	10.6	1.6	3458	**3.2**
South East	**2002**	21008	53.4	30.5	13.6	2.4	19842	**33.2**
	2005	40793	56.8	31.1	10.4	1.7	39289	**35.9**
Binh Duong	**2002**	1704	31.5	35.0	27.5	5.9	1525	**2.5**
	2005	2918	30.1	38.6	26.4	5.0	2622	**2.4**
Dong Nai	**2002**	1750	47.4	30.6	18.7	3.3	1592	**2.7**
	2005	2820	46.9	33.4	16.8	2.8	2610	**2.4**
Ho Chi Minh City	**2002**	14506	20.8	36.1	30.6	12.5	13480	**22.5**
	2005	31292	60.4	29.9	8.4	1.3	30422	**27.8**
Mekong River Delta	**2002**	10900	66.6	27.3	5.3	0.8	10705	**17.9**
	2005	14258	64.0	29.7	5.5	0.8	14029	**12.8**
Others	**2002**	203	1.2	12.8	43.0	43.0	86	**0.1**
	2005	164	0.1	7.3	56.1	36.6	41	**0.1**

Notes: Figures in parentheses represent for the proportion of SMEs in total number of enterprises.
Source: GSO (2007).

By region, SMEs are mostly located in HCMC (23-28 percent), Ha Noi (15-16 percent) during 2002-2005. Other provinces or cities, as individual accounts, have a share of less than 4 percent (Table 3). SMEs are gradually 'moving' to HCMC, Ha Noi along with the provinces of Hai Phong and Da Nang. This may reflect*, inter alia*, the efforts of the provincial governments in improving business environment, particularly in attracting investment inflows through many kinds of incentives, even beyond what their authority can provide.

Nevertheless, the dynamics of SMEs in terms of employment transition is not high. According to surveys conducted by Rand and Tarp (2007), majority of micro-sized enterprises (88 percent) have tended to stay within their size category. In 2002, some 12 percent in this category remained as micro. But in 2005, some graduated to the small category only. A similar tendency can be observed on small- and medium-sized enterprises. Vice versa, enterprises in these categories appear to have a stronger tendency to move downward in the size distribution over 2002-2005 period (Table 4). Similarly, this tendency is also observed during the 1995-2000 period.

Table 4: Employment transition matrix

	Micro 2005	Small 2005	Medium 2005	Large 2005	Total	Percent
Micro 2002	578	76	4	0	658	(67.1)
	(87.8)	(11.6)	(0.6)	(0.0)	(100.0)	
Small 2002	56	188	26	0	270	(27.5)
	(20.7)	(69.6)	(9.6)	(0.0)	(100.0)	
Medium 2002	1	12	30	3	46	(4.7)
	(2.2)	(26.1)	(65.2)	(6.5)	(100.0)	
Large 2002	0	1	1	5	7	(0.7)
	(0.0)	(14.3)	(14.3)	(71.4)	(100.0)	
Total	635	277	61	8	981	(100.0)
Percent	(64.7)	(28.2)	(6.2)	(0.8)	(100.0)	

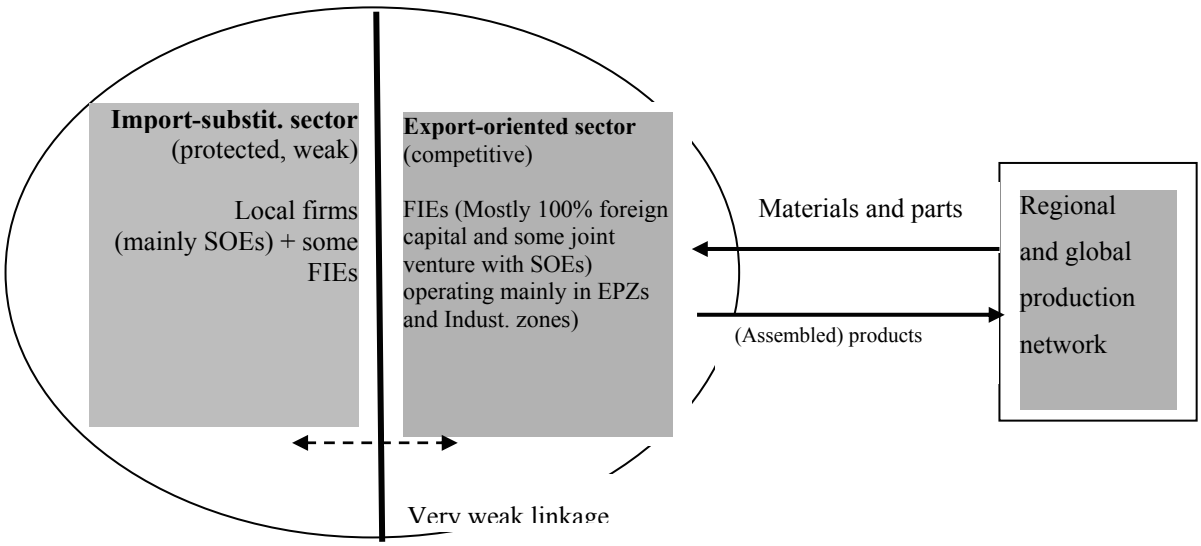
Note: Percentage in parenthesis. One missing observation in the size category in the 2002 data.
Source: Rand and Tarp (2007).

The last tendency can be partially interpreted by the practices that large firms generally appear to face greater scrutiny from tax and licensing officials (i.e., generating higher costs) (Hakkala and Kokko 2007) than do their smaller counterparts. There is also a number of anecdotal evidence that successful entrepreneurs in Vietnam prefer to spread their capital across multiple companies rather than concentrate on individual company growth, specifically in order to avoid what has been referred to as "the tall poppy syndrome" (Taussig 2005). Moreover, a significant number of firms decline to stay small in order to get more the tax incentives (Nguyen Xuan Trinh and Le Xuan Sang 2007).

3.2 SMEs networks

Interfirm networks among SMEs as well as external networks between them and large enterprises through subcontracting are generally weak. Incubators and clusters are still in their infant stage. Presently, there are four newly established incubators in operation.

Figure 1: Vietnamese industrial dualism



Source: Onhno (2004), Vo Tri Thanh *et al* (2004) and authors' modifications.

Almost all of Vietnam's clusters are concentrated in the countryside in the form of handicraft and industrial or trade villages. Though there are no vigorous and comprehensive studies on interfirm cooperation in the villages, internal network among SMEs (mostly household enterprises) is not close as it can be observed in many economic ties.

External networks between SMEs and multinational companies (MNCs) is not yet that strong. The weak linkage can be observed between upstream and downstream industries (Vo Tri Thanh *et al.* 2004), more evidently in import-substituting and export-oriented sectors (Ohno 2004), creating industrial dualism in the national economy. On the one hand, export-oriented manufacturing firms, especially the FIEs, have constituted a sector with global linkage and competitiveness. On the other hand, the import-substituting firms, especially the SOEs and some FIEs, have been weak and protected. These two sectors have very weak linkage between each other (Figure 1). This situation has been largely due to industrial and trade policies by which Vietnam has pursued for industrial protection for a long time.

The weak network between SMEs and large MNCs can be seen in the low level of subcontracting and localization. Proportion of SMEs engaged in subcontracting or assembling has been modest, being merely 14 percent in 2003 (Le Xuan Ba *et al.* 2006). It is worth noting that as subcontractors and assemblers, SMEs have tended to become marginalized at the lower/lowest end of the production supply chain.

Despite enormous efforts of the government in promoting localization, the local content or procurement ratios for some industries are still low and far from being achieved the planned targets. According to Mori (2005), the average of local parts procurement ratios in all the manufacturing sectors is around 22.6 percent in 2003 at the value base, which is significantly lower than in other ASEAN countries[5]. After a decade of the localization course, the local content ratio of automobile industry remains low ranging from 5 percent to 10 percent (Ohno 2004). A similar pattern can be seen in the garment and electronic sectors (Vo Tri Thanh *et al* 2004). The local procurement ratio of consumer-electronics sector has been encouraging for TVs (20-40 percent) but disappointing for PC peripherals (5-12 percent) (Mori 2005). Success in localization are solely evident in the motorcycle industry with an average local content ratio of 75 percent in recent years. The key reasons for the localization fiasco are:

1. lack of solid supporting industries;
2. low level of technology and absorptive capability of the SMEs; and
3. most SMEs cannot meet the MNCs requirements for quality and standards on goods and time delivery.

It is important to note that the weak linkage between foreign firms and local firms could obstruct FDI's spillover effects on the local economy and reduce the FDI efficiency.[6]

The informal network of owners and managers can help an enterprise do business easier. The social networks play a crucial role in many business aspects, such as the ease with which business licenses and permits are obtained, easier access to government contracts, easier access to preferred credit, lower tax, informal payments and so on. The research by Rand and Tarp (2007) reveals interesting features of specific formal and informal network ties. The share of owners—members of the Communist Party increases with enterprise size, with an average share 9 percent of all enterprises. Likewise, the share of enterprises having network ties with one or more bank officials is also increasing in enterprise size. A first glance at the differences in revenue growth rates between enterprises with and without network ties, however, does not show any significant differences in economic performance (Table 5). Thus, a more vigorous analysis is required to establish causality.

Table 5: SMEs' network ties

		All	Micro	Small	Medium	Large	*t*-test Member/No network	
Member of the Communist Party		9	6.2	12	18.1	43.8	0.023	(0.83)
Has an official position in a local cadre		6.1	5.2	8.2	5.2	6.3	-0.034	(1.04)
Manager/owner is a war veteran		7	6.6	7	10.5	6.3	0.024	(0.8)
Do you currently have regular contact with...(at least once every 3 months) which you find useful for your business operations	Bank officials?	34.1	25.3	43.3	66.7	81.3	0.005	(0.29)
	Mass organizations?	36.7	36.9	33.9	43.3	56.3	-0.018	(1.12)

Note: t-test performed on growth of real revenue per employee. *t*-stats in parenthesis.
Source: Rand and Tarp (2007).

Generally, SMEs do not buy services unless it is the only solution to a need. When they engage in one, they go for simple products first. To this end, demand-driven human resources training has been by far more popular than quality management consultancy. Many providers compete in providing supply-driven training services without thinking of moving into other business areas such as developing customized solutions. At present, the commonly available support services from domestic providers are training, partial consulting, marketing, and so on.

3.3 SMEs innovativeness

It should be noted that among the three stages of developing technology including adopting technology, mastering technology, and creating technology, to date, Vietnam is basically at the first stage. Technology creation requires efficient knowledge-intensive activities such as research and development (R&D), which are very limited in Vietnam. According to Dinh Van An and Vu Xuan Nguyet Hong (2004), investment value of SOEs in R&D accounts for merely 0.25 percent of their revenues, much less than developed countries (5-10 percent); private sector has virtually no investments in R&D.

The lack of technology-creating capability of Vietnamese private firms largely stemmed from the following:

1. Education and vocational training system have not been efficient with the university curricula being very theoretical. The private firms still pay inadequate attention to formal training of human resource (see, for example, Rand and Tarp (2007)[7]; and
2. Commercialization of technology products has been very limited due to the weak linkage among research institutions, universities, and enterprises. Additionally, majority of the labor force (70-75 percent) is unskilled causing the low absorptive capability of the domestic firms. Shortage in labor along with poor vocational training have significantly hindered every stage of technology development.

Making technology available for domestic firms is very important for many developing countries. Technological availability in Vietnam is varied. In the early 2000, Le Xuan Ba *et al.* (2006), found out that a significant number of Vietnam's SMEs used

old or outdated machines and equipment. Over the years, in Rand and Tarp's 2007 study, SMEs technological innovativeness revealed the availability of new machinery and equipment in which some 88 percent of these SMEs have equipment no more than 10 years old.

Table 6: Innovation rates

	Introduced new product	Introduced new technology
All	**40.6**	**29.5**
New entry	44.3	33.1
Incumbent	39.1	28
Micro	32.6	19.1
Small	51.1	42
Medium	62.9	63.8
Large	87.5	81.3
Urban	47.2	36.2
Rural	35.6	24.4
Male	43.6	30.5
Female	34	27.3

Source: Rand and Tarp (2007).

However, around 10 percent of the SMEs still use hand tools and 4 percent use manually operated machines. As much as 25 percent of the firms already use power-driven equipment. Furthermore, more than 61 percent of the technology was purchased new and around 34 percent was bought second hand. During the past three years, around 41 percent of the SMEs introduced some new products; while only 30 percent was able to introduce a new technology in the production process. Larger enterprises are more innovative and able to improve technological production processes more often (Table 6).

According to respondents, the key driving force for introducing new products are: (1) requirements by purchasing customers (62 percent); and (2) increasing competition from domestic producers (29 percent). The enterprises' adoption of new technology has been largely due to: (1) needed upgrading in order to face competition (37 percent); (2) buyers' requirements (32 percent); and (3) increase benefits (22 percent).

3.4 Domestic market

As noted earlier, there has been an increasing tendency of GDP growth rate of non-state sector in Vietnam (from 6.4 percent in 2001 to 8.7 percent in 2006) unless its share in overall GDP tended to decline steadily over the past six years (from 47.8 percent in 2001 to 45.6 percent in 2006) (CIEM 2007). According to General Statistics Office (GSO)'s data, SMEs' gross revenues have also grown at quite high rate: 28 percent annually during 2001-2005. However, non-state loss-makers in total number of enterprises increased steadily accounting for 20.4 percent in 2002 and 24.5 percent in 2004. If that trend is true for the SMEs, it can be said that their production efficiency has declined.

Rand and Tarp (2007) have shown a relative high level of Vietnam's SMEs' capacity utilization and technical efficiency[8] in manufacturing. In the question on how much enterprises would be able to increase their production from the present level using existing equipment or machinery, only around 17 percent of the sampled SMEs said they would not be able to increase production but around two-thirds said they could increase production by no more than 25 percent. The surveys also indicated that micro- and small-size enterprises are closer to producing at their optimal capacity than medium- and large-sized enterprises. Likewise, 7 percent of urban enterprises could expand two times or more than their existing production as compared to 1.6 percent in rural areas. The results of surveys also showed the technical efficiency level of 68 percent of Vietnam's manufacturing, which falls well within the best practice frontier for developing countries (60 percent-70 percent).

By sales structure, SMEs sell most important products largely to the domestic non-state firms as intermediate inputs comprising 58 percent of the total sale revenues. The fact that very small proportions of products were sold to SOEs (6 percent) and FIEs (0.7 percent) re-confirms the very loose linkage networks between the SMEs and large enterprises.

3.5 SMEs export market and readiness to go global

SMEs directly engaged in export activities are still limited. The studies by Kokko and Sjöholm (2004), Le Xuan Ba *et al.* (2006), and Rand and Tarp (2007) revealed that direct export covered 3-6 percent in 2002-2005. Notably, direct exports are

basically made on handicraft (ASMED 2006) and indirect exports are carried out through large (especially state trading) enterprises.

Moreover, Rand and Tarp (2007) found out that the larger the size of the enterprise, the higher is their probability of exporting. Additionally, on the average, the enterprises exported over 60 percent of sales. Exporting enterprises have relatively few foreign trading partners (i.e., only five foreign customers) when engaging in direct exports. Furthermore, around 72 percent of exporting enterprises are still much dependent on their foreign trading partners receiving product specifications, designs, or materials and 76 percent for technology or expertise. It is commonly agreed that Vietnam's SMEs lack international legal knowledge and expertise, nevertheless, only one-third of them use legal advisors when entering direct export contracts. Surprisingly, majority (two-thirds) of rural exporters seek legal advice before committing to an export contract (Table 7).

Vietnam has been a WTO member for only a year. SMEs' perception and knowledge of economic integration remain vague. Hence, readiness to inter-

Table 7: Details on exporting enterprises

	All	New Entrants	Incumbents	Urban	Rural
Observations	(119)	(44)	(75)	(87)	(32)
How many foreign customers does the enterprise have	5.1	5.1	5.1	4.8	5.9
What percent age of sales did the enterprise export	63.5	61.3	64.8	61.3	69.6
Receive product specifications, designs or materials from customer	71.7	78.1	68.1	69.5	77.4
Have long-term relations with your main foreign customer	86.6	84.1	88.0	86.2	87.5
Use legal advisors when entering direct export contracts	33.6	34.1	33.3	21.8	65.6
Foreign customers requested certification of your procedures/products	56.3	56.8	56	54	62.5
Cooperation with foreign partners provided technology or expertise directly	76.5	77.3	76	75.9	78.1

Notes: Figures in percentages (observations in parenthesis). Out of the 176 exporting enterprise only 119 enterprises provided information to the above questions.
Source: Rand and Tarp (2007).

nationalization is very limited although there are already a few enterprises which arepreparing. A 2003 survey[9] by Kokko and Sjöholm showed that SMEs' perception on internationalization revealed no expectation on any notable changes. Majority of the rural household enterprises (70 percent) do not know what liberalization means. A 2005 survey results[10] show a positive perception and knowledge on internationalization: 72 percent of the enterprises "have information on economic integration." However, there were 15 percent managers who do not know the challenges they are facing in the future, and 31 percent of firms who do not know WTO issues.

4. FACTORS OF SMES DEVELOPMENT

The rapid development of Vietnam's SMEs, especially the number of enterprises, has been supported by two groups of interrelated factors, namely (i) market-oriented and business environment reforms, and (ii) pro-SMEs policies and programs.

4.1 Market-oriented and business environment reforms

As stated earlier, in 1986 Vietnam officially embarked on Doimoi (Renovation). In 1989, the reforms were actually radicalized, especially in such areas as macroecomic and price stabilization, foreign trade, SOEs' sector, and money market. To a different extent, the economic reforms have had positive impacts on enterprises' development in general and SMEs in particular.

Vietnam's economic reforms can be regarded as bottom–up. This is particularly true for the first wave reforms for agriculture, private sector and SOEs. Since 1981, Vietnam introduced the farming contracting system through replacement of agricultural cooperatives by households as the basic decision-making units in production and security of tenure for farm households and then (1987) transferred to farmers durable land use (Box 1). The reform had been effective to the extent that from being a food-shortage country, Vietnam began to export rice and became the third in the world (behind Thailand and the United States). The successes of agricultural reforms have created an initial ground for non-agricultural cooperatives and infant private enterprises to survive and develop.

Box 1: Vietnam's key market – oriented economic reforms, 1986-2007.

Agricultural reforms

• Since 1981: introduction of farming contracting system through replacement of agricultural cooperatives by households as the basic decision-making units in production and security of tenure for farm families.

• Since 1987: transfer to farmers durable land use.

• In 1993, enacting Land Law and subsequent revision in 2003 creating a more solid legal ground for agriculture development.

Macroeconomic/price stabilization (during second half of 1980s and first half of 1990s)

• Almost completion of price liberalization, abolition of dual price system (1989-1991).

• Large devaluation and unification of the exchange rate (1991).

• Increased in interest rates to positive levels in real terms (positive real interest rates) to curb hyperinflation (1989).

Foreign trade and WTO-driven reforms

• Liberalization of external trade regime (eradicating SOEs monopoly in international trade. abolishing foreign trade right and licenses and trading authorization, and so on) (1989-1998).

• Building a more transparent and predictable export-import environment (2001).

• Reforming customs services.

• Further removing non-trade barriers (NTBs), lowering tariff rates and tariffication of NTBs to implement commitments in AFTA, VN-US BTA and so on).

• Since 2005, intensive efforts in amendment and newly promulgation of a huge number of legal documents to conform with WTO rules and provisions.

• Became WTO member in December 2006, began to implement WTO commitments in 2007.

Investment environment reforms

• Promulgation of Foreign Investment Law (1987) and making subsequent revisions in 1996, 2000 and 2002.

• Granting different kinds of incentives (especially taxation) to attract FDI inflows.

• Improving FDI environment significantly (streamlining administrative procedures; licensing, fairer treatment towards FIEs; expanding their scope of business; easing land clearance issues; and allowing FIEs to issue stocks and list in the stock market).

• Promulgation of Law on Promotion of domestic investment (for domestic companies) in 1999.

• Provision investment incentives provided by provinces for attraction of investment inflows.

Financial markets reforms

• Establishment of two foreign exchange trading centers in Ha Noi and HCMC (1991), inter-bank money market (1993) and inter-bank foreign exchange (1994).
• Liberalization of VND interest rate and foreign interest rates (2001).
• April 2001, commencement of state-owned commercial bank (SOCB) restructuring programmes, dealing with nonperforming loans (NPLs) by gradual reduction of policy lending practices to SOEs, increasing lending to private sector, and strengthening supervision and risks management.
• Establishment of official securities market in HCM in 2000, and second board (planned to be OTC) for SMEs in Ha Noi in 2005. In 2006, promulgation of Securities Law creating firm legal ground for the market development.
• Gradual opening more domestic market for foreign bank subsidiaries, especially as committed by Vietnam – US Bilateral Agreement and WTO accession.

SOEs reforms

• 1979 – 1988: giving SOEs more autonomy in business decision making.
• 1989–1990s, gradual reduction in subsidies to SOEs; since second half of 1990s, restructuring SOEs (through transforming, selling, leasing, contracting, and so on).
• Before 2004: Almost re-structured SOEs were small, with legal capital less than USD 600,000.
• Since 2004, putting more emphasis on aquitization (per se privatization) of medium and big SOEs; piloting/adoption of holding-subsidiary model and business group.
• Since 2005, encouraging/forcing more large equitized SOEs go to list in VSE.
• Since early 2007 more state corporations, especially SOCBs have prepared to IPO through Vietnam's Stock Exchange.

Non-state sector reforms

• Since 1986: recognition multi-stakeholder economy; since 1989, encouragement of the private sector as an economic component; revision of the 1992 Constitution to protect private capital.
• In 1997, enacting Cooperative Law to revitalize cooperatives as one pillar of market economy with socialist orientation.
• In 1999, promulgation of (Private) Enterprise Law (1999), allowing non-private in doing business in all lawful economic sectors/domains.
• In 2005, promulgation of (Common) Enterprise Law and (Unified) Investment Law creating a level playing field for every corporate forms (non-state, SOEs and FIEs).

Administrative reforms

• In 2001, the Government established its Public Administration Reform Master Program 2001-2010, with key reforms on legal and institutional framework, public organization, human resources, and public finance.
• Since 2006, application of one-stop-shop model for business registration to shorten business registration time.

Source: Compiled by the authors, and Vo Tri Thanh and Le Xuan Sang (2004).

The macroeconomic and price stabilization efforts also brought immediate effects on curbing hyperinflation (700 percent) during 1985-1986 down to single-digit inflation in 2006. The remedies involved the raising of interest rates to positive levels and abolishment of preferred interest rates for SOEs. This created easier access for non-state sector to borrowing interest rates.

SOEs reforms have been conducted through the gradual reduction in subsidies to SOEs and restructuring (transforming, selling, leasing, contracting, and equitization (*per se* privatization)). These efforts have, to a significant extent, put SOEs to equal footing with non-state sectors, and helped them to improve operation efficiency and performance. Bearing in mind that all state–owned SMEs established before 2004 stemmed from the SOEs restructuring.

Non-state sector reforms have been very meaningful to SMEs development. The status of that sector had been gradually improved by the enactment of the Enterprise Law in 1999 (Box 1). The private sector became one of the cornerstones of the national economy. In 2000, the Vietnamese Communist Party decision considered a member can own a private enterprise without any limitation of scale. The Enterprise Law has simplified the company registration process abolishing unnecessary business licenses and reducing business registration duration from 98days to 10 days. The cost was reduced from VND 10 million to VND 0.5 million (ADB 2007). The Enterprise Law has created a turning point in SMEs development in terms of the number of registered enterprises and capital. Recently, the WTO-driven reforms have also led to revisions and newly promulgated legal documents creating a more leveled playing field for both domestic (SOEs and non-state enterprises) and FIEs.

Foreign trade reforms have facilitated Vietnam's enterprises in general and SMEs in particular to expand export markets. During 1989-1998, gradual trade liberalization of external trade regime was carried out through eradicating SOEs' monopoly in international trade and trading authorization, abolishing foreign trade rights and licenses, and allowing enterprises of all kinds of ownership to engage *directly* in foreign trade activities. To comply with international commitments, efforts were geared toward building a more transparent and predictable export-import environment, reforming customs services, removing non-trade barriers (NTBs), lowering tariff rates and tariffication of NTBs to implement commitments in ASEAN Free Trade

Agreement (AFTA), the Bilateral Trade Agreement with the US (VN-US BTA), and ASEAN-China Free Trade Agreement (AC-FTA). The preparations for accession to the WTO, and its signature of VN-US BTA in 2001 have driven Vietnam to implement a full package of reforms including, *inter alia,* intellectual property protection, fair competition, commercial dispute resolution, judicial transparency, banking reform, and market access for foreign investors (ADB 2007). In 2007, Vietnam began to implement WTO commitments as scheduled.

Administrative reforms accelerated since 2001. The Government established its Public Administration Reform Master Program (2001-2010), with key reforms on legal and institutional framework, public organization, human resources, and public finance. These reforms, together with the application of one-stop-shop model for business registration streamlined significantly public administrative procedures and enabled non-state, especially private sector to shorten significantly business registration time limits and costs.

The efforts in improving investment environment are also noticeable. By granting different kinds of incentives (especially taxation), the promulgation of the Law on Promotion of domestic investment in 1999 is praised to be effective in terms of mobilizing local investment. It should be stressed that the provincial local authorities have an important role in creating an attractive business investment climate to promote private sector development[11]. Nevertheless, at countrywide level, a rationalization of incentives should be taken into account, as it should be in the best interests of the central government so as tax revenue is not foregone unnecessarily.

Financial market reforms have been meaningful for SMEs development in terms of the creation of easier access to banking and capital markets and a fairer business environment. Since 2001, the gradual reduction of policy lending practices to SOEs have not only enabled state-owned commercial banks (SOCBs) to dealing with non-performing loans (NPLs), but also strengthened supervision and risks management as well as re-channelling lending to the private sector, the share of which increased from about 35 percent to 55 percent during 1997-2005. The establishment of official securities market in HCMC in 2000 and second board (planned to be the over-the counter (OTC) for SMEs in Ha Noi in 2005 proved to be an effective way to mobilize

long-term capital for their development (through SOEs' equitization and initial public offer or IPO), especially during 2006-2007[12].

It is worth noting that these market-oriented and business environment reforms have resulted in quite impressive socioeconomic achievements. Vietnam is among a few transitional economies that have been managed to maintain high, sustainable economic growth rates over the recent two decades (around 8 percent annually). With a GDP growth rate of 8.44 percent and registered amount of FDI of 20.3 USD billion achieved after one year of WTO accession, it is believed that these achievements can be maintained at least in subsequent five years[13]. Furthermore, relative macroeconomic and political stability have been also maintained and expected to be achieved in the future. These achievements have significantly fostered SMEs development and vice versa.

In a nutshell, two decades of economic reforms have fostered the SMEs development mostly in respect to creating them easier access to factors of production and export markets, removing impediments to their development, and building up the level playing field. More importantly, there is a need for pro-SMEs specific policies and programmes.

4.2 Policies on and programs for promoting SMEs development

As mentioned earlier, before 2001, the market-oriented reforms and financial support to non-state enterprises had directly fostered the SMEs development. Just since that year, Vietnam's SMEs have received specific policies and programes from the government and international donors.

4.2.1 Vietnam's pro-SMEs' development institutions

Pro-SMEs legal framework and policy

On November 2001, for the first time, the Government issued Decree 90/2001/ND-CP on Supporting for Development of SMEs (hereafter Decree 90) defining officially SMEs in Vietnam. According to Decree 90, the Government objectives are to support and encourage SMEs development and covers the establishment of:

- an SME Promotion Council with cross-ministry membership to act as an advisory body to the Prime Minister; and

- the Agency for SME Development in the Ministry of Planning and Investment (MPI) to coordinate SME-related activities.

The key contents stipulated in Decree 90 include the following:

- the State encourages and creates favorable conditions for SMEs to bring into play their activeness and creativeness;
- enhance their managerial capability;
- develop sciences, technologies and human resources;
- expand their cooperation with enterprises of other forms and improve their business performance as well as competitiveness in the market; and
- create jobs for and improve the laborers' lives.

Key policy directions stipulated by Decree 90 are:

- Encouraging investment (applying financial and credit incentives for a certain period of time; and encouraging financial institutions, enterprises, and entities to contribute investment capital to SMEs);
- Setting up the Credit Guarantee Fund for SMEs (to provide them guarantee when they fail to acquire enough properties for mortgage or pledge to borrow capital from credit institutions).
- Creating favorable conditions for SMEs to have proper production ground (direct the reservation of land fund and implementation of promotion policies for the construction of industrial parks and clusters for SMEs to have grounds to build their production establishments or move from urban centers to outlying regions; ensuring SMEs enjoy preferential treatment policies regarding land lease, transfer, and mortgage as well as other land use-related rights as stipulated by law).
- Expanding markets for and raising competitiveness of SMEs (creating conditions for SMEs to gain access to information on markets and goods' prices and assist them to expand markets and sell their products; assisting in exhibiting, introducing, advertising, and marketing their potential products; facilitating participation in goods supply and service provision under the plans on goods procurement with State budget sources; prioritizing goods ordering and quota-regulated goods orders; creating conditions for innovation of technology, equipment and machinery).

- Encouraging SMEs to boost export and create conditions for them to cooperate with foreign partners, expand goods and service export markets. Through the export promotion-support program, partially funding SMEs' expenses for survey, study, exchange and cooperation activities, and participation in fairs and exhibitions to introduce their products and probe foreign markets (covered by the Export Support Fund).
- Providing information, consultancy, and human resource training (financial support for consultancy and human resource training to SMEs through training support programs; encouraging domestic and overseas organizations to support SMEs with the provision of information, consultancy, and human resource training; and encouraging the establishment of business incubators).

Improving quality of the human resource is critical for SMEs to enhance their competitiveness. On August 10, 2004, Decision 143/2004/QD-TTg on Approving the Program on Human Resource Training Support for SMEs in the 2004-2008 was promulgated. The key components of the Program are as follows:

- Training and enhancing human resources (training in the establishment of enterprises; enterprise administration training covers seven-day short-term training courses to enhance the SMEs' capabilities for elaboration of plans on, and management of, business and production activities through training courses on general business management, marketing capabilities, finance-accounting management capabilities, management of techniques, technologies, intellectual property, and quality standards.
- Enhancing quality of business support service providers (training in general consultancy and marketing skills for consultants, lecturers and creating opportunity for them to materialize the professional practice standards; training in start-up of enterprises, in general business management, marketing administration, finance-accounting administration, business planning, technical-technological management, and human resource administration).

On 22 September 2006, the Government issued Decree 108/2006/ND-CP providing detailed provisions and guidelines for implementing a number of articles

in the (Unified) Investment Law, of which there are three specific groups of measures to foster SMEs in such areas as:

- technology transfer (creation of favorable conditions for technology transfer, encourage the transfer of technologies into Vietnam and have policies to support SMEs to invest in research, development and transfer of technology);
- training (training support fund of enterprises are subject to tax exemptions and reductions; training expenses are accounted for as reasonable expenses for the purpose of determining taxable corporate income); and
- development investment and investment services (providers of investment support services such as establishment of design centers and testing centers to support the development of SMEs are encouraged and supported by the Government).

On 22 October 2006, the Prime Ministry promulgated Decision 236/2006/QD-TTg, on the Approval of the Five-Year SME Development Plan 2006-2010 (Development Plan). The Development Plan emphasized on the State's role in the creation of "a sound policy, legal, and institutional environment that ensures fair competition for SME, so as to mobilize all internal and external resources for development investment." The Development Plan stressed the viewpoints of developing SMEs so as to "realize the goal of contribution to employment generation, poverty reduction, ensuring social safety and security. SME development objectives are also to be integrated into national goals, and specific socioeconomic goals of every region and locality, encouraging agricultural industries, traditional trade villages with a focus on SME development in disadvantaged areas and regions". The Development Plan also stressed the importance of raising awareness for all-level authorities on the SME role. In addition, the support from Government is planned to be shifted from direct support to indirect support in the future.

The Development Plan provides 10 major tasks in SME development with 7 groups of measures to be taken by line ministries (Box 2).

The pro-SMEs policies have created key necessary grounds to support their development. The SME Development Plan 2006-2010 provides a framework needed for the planning and implementation of a "sector-wide approach" (SWAp) in promoting SMEs' development.

Box 2: Decision on Approval of the Five-year SME development plan 2006-2010

I. SME Development viewpoints

1. Realize consistently the policy of building a multi-stakeholder economy. Economic sectors that do business in compliance with legal regulations are all important constituent parts of a socialist oriented market economy with a vision of long term development, cooperation and healthy competition;
2. The State creates a sound policy, legal and institutional environment that ensures fair and healthy competition for SMEs and service providers of all economic sectors so as to mobilize all internal and external resources for development investment;
3. Develop SMEs in an active but sustainable way, enhancing the quality, increasing the quantity to have economic efficiency and realize the goal of contribution to employment generation, poverty reduction, ensuring social safety and security; SME development objectives are also to be integrated into national goals, and specific socioeconomic goals of every region and locality, encouraging agricultural industries, traditional trade villages with a focus on SME development in mountainous areas and regions having socioeconomic difficulties; SMEs owned by people of ethnic minority groups, women and the disabled…should be prioritized and supported, priorities should also be given to SMEs having production and investment in sectors that can be competitive;
4. State support will gradually shift from direct support to indirect support to enhance the capacity of SMEs;
5. The State will link business activities with environmental protection and assurance of social security and safety;
6. Raise awareness of governments of all levels about the role played by SMEs in socioeconomic development.

II. Goals of SME development

1. Overall objective:
   Boost the progress rate of SME development, creating environment for healthy competition,
   strengthening the national competitiveness, SMEs are to contribute more and more to the growth of the national economy.
2. Specific objectives:
   a) The number of newly established SMEs will be 320,000 (annual growth rate of 22 percent);
   b) The number of newly established SMEs in disadvantaged provinces will have increased by 15 percent by 2010;
   c) The ratio of SMEs having direct export is 3-6 percent;
   d) SMEs will create about 2.7 million new jobs in the period 2006-2010;
   e) There will be additionally 165,000 technical workers in SMEs.

III. Main tasks

1. The stability of the legal framework and the reform of the administrative procedures will be continued to be improved to create a transparent, stable, and equal business and investment environment for SME development;
2. Assess new policies' impacts on SMEs, organize periodical dialogues between public authorities and SMEs to give instructions and answers to pressing demands for business development;
3. The tax system is to be adapted to encourage start-ups, conduct the reform of the accounting system, and reporting requirements to simplify them and encourage the tax self assessment system that is both convenient to the enterprises and against the tax losses;

4. Improve the lack of work premises, and enhance the environment protection by formulating and publicizing the land master planning and land use plan; facilitate the development of industrial zones, industrial clusters of appropriate size with suitable land lease price for SMEs; support the relocation of polluting SMEs from residential and urban areas to industrial zones and industrial clusters;
5. Revise regulations to boost the establishment of SME credit guarantee funds at the local level; Take steps to restructure the state-owned banking sector, encourage the emergence of different forms of banking services, joint stock commercial banks for SMEs, including the development of the leasing service and the extension of non-collateralized finance for SMEs that have feasible business plans in order to satisfy the need of finance for investment and business;
6. Boost the implementation of support programs disseminating and applying modern technologies and advanced techniques for SMEs, enhancing technology management capacity; encourage the cooperation and sharing in technology among enterprises of different sizes; develop effectively research program that can be developed in reality; study, revise and issue the system of technical standards, quality assurance system and quality certification system in conformity with international standards. Encourage SMEs to participate in programs for industry linkages, regional linkages and developing supporting industry;
7. Accelerate the development of the business information system to have the background for the assessment of this sector's state, for the process of policy making and at the same time to provide business information to enterprises;
8. Conduct general information and awareness raising activities to disseminate entrepreneur spirit and the awareness of legal wealth creation to all. Carry out pilot projects of integrating specific enterprise-related training modules into education schemes at high schools, colleges and universities, technical high schools, vocational schools in order to foster entrepreneurial spirit and entrepreneur culture and create supporting social attitude towards legal business activities;
9. Develop market (both supply and demand) for business development services; improve the legal environment of business development services, with the focus on the management of service quality. Encourage associations to have business development services; implement actively SME support programs; participate in the policy making process of SME support policies and support programs in order to strengthen the supporting role of these associations and to make them really become the legal representative for SMEs' interests;
10. Improve the effectiveness in coordinating SME development support activities, enhance the role played by the SME Promotion Council; enhancing capacity at the local level in the management, promotion and development of SMEs.

SMEs supporting organizations

As stipulated by Decree 90/2001/ND-CP, the ASMED under the Ministry of Planning and Investment (MPI) is the authorized body responsible for policy–making in Vietnam's SME development. It oversees the implementation of all Government-funded SME support programs and international cooperation for SME promotion by allocating and balancing resources and raising external funds for SME assistance.

ASMED is the Secretariat of the SME Promotion Council, composed of 12 members (Vice-Minister-level officials, major province/city authorities, and associations/professional organizations). The Provincial Departments of Planning and Investment are assigned to be the focal agency for local SME development, covering policy works, support programs, and periodical updates on local SME status.

Vietnam has a multi-level system of SME support institutions with assigned mandates and functions. Table 8 presents current situation of different SME support institutions at different levels, namely:

Table 8: Levels/groups of SME support institutions in Vietnam

Group/ group	Institution name	Mandate/Functions	Operation's scale
I	SME Promotion Council	Advisor to the Prime Minister, public-private representation	National
I	Agency for SME Development (ASMED)	SME policy review, formulation, monitoring, provision of information on business regulations for SMEs, and similar responsibilities in business registration, SOE restructuring, and domestic investment encouragement, government agency for coordination, facilitation, does not get involved in direct service provision, expect in regulatory information	National
I	Provincial departments of planning and investment	SME policy at local levels, support programs at local levels and monitoring of SME state and needs at localities, local level policy coordination, does not get involved in BDS or financial service provision	Provincial
II	Sector- focused government agencies	-Provincial Industrial Promotion Agencies -Provincial Investment Promotion Agencies -Agriculture Encouragement Center of Ministry of Agriculture and Rural Development -Trade Promotion Agency under Ministry of Trade -Technical Assistance Centers (in Ha Noi and HCMC), ASMED/MPI -All agencies of this category that provide services to SMEs.	Provincial and national
III	Business associations	Of a general nature (VCCI, Young Entrepreneurs, Rural SME Association, Vietnam Cooperative Alliance, and so on) or sector-specific provision of BDS and advocacy functions	National and provincial
IV	Private BDS service providers and financial institutions	Training and consulting companies, independent consultants in BDS provision State- owned and joint stock banks and leasing companies in financial service provision	Throughout the country
V	Universities and research institutions	Provision of BDS to SMEs, through some SME Offices or Center, but mostly via their members acting as freelance consultants for SMEs	Throughout the country

Source: Nguyen Hoa Cuong (2007) and authors' modifications and supplements.

- SME Promotion Council, ASMED, and provincial departments of planning and investment;
- Sector-focused government agencies;
- Business associations;
- Private business development service (BDS) providers and financial institutions; and
- Universities and research institutions.

While institutions in Level I are responsible for policies and facilitation of market development in SME services, institutions in levels II-V have functions varying from advocacy to BDS and financial service provision to SMEs.

Before the Government sets up its own national and provincial SME support institutions, the business community had already established self-support systems. This includes mostly informal entrepreneur groups or clubs as well as independent service providers and business associations involved in training, consultancy, and facilitation. To date, approximately 200 major business associations are active in the country. Vietnam Chamber of Commerce and Industry (VCCI), Ha Noi and Ho Chi Minh City Union of Associations of Industries and Commerce (HUAIC), Young Entrepreneurs Association (YEA) are among the most prominent (Nguyen Hoa Cuong 2007).

SMEs' supporting funds and programs

SMEs have been, directly or indirectly, supported by the government and external supporting funds and programs. Before 2001, Vietnam's SMEs had partly benefited from the government's Export Support Fund and Development Assistance Fund. The Export Support Fund aims to: (1) cover interest costs on commercial banks' loans related to losses when the world market prices of agricultural products dropped sharply; (2) support for a number of export goods that suffer from high risk or low competitiveness; and (3) provide bonuses for works done in expansion export market, introducing products for export.

The Development Assistance Funds had provided long- and medium- term investment lending at preferential rate, post-investment interest subsidies, and credit

guarantee. However, majority of the funds' beneficiaries were exporting enterprises and SOEs, out of which SMEs accounts for a very small proportion.

Since 2001, SMEs have actually received support from the government through the Fund for SMEs Credit Guarantee as well as the Program on Human Resource Training Support for SMEs (with total amount of VND 119.4 billion or USD 72 million). Though there is no comprehensive and rigorous assessment of the funds' significance with regard to the SME development, nevertheless, the funds can ease SMEs difficulties as the former provides direct support to the latter.

Foreign organizations are indeed very important for Vietnam's SME in terms of funding. Again, there has been no comprehensive calculation of the donors' total funding amount for SMEs. There is a large number of aid agencies and nongovernment organizations active in promoting private sector development in Vietnam. According to ADB (2005), there were 58 existing projects with a total funding of nearly USD 840 million over a 10-year period (2001-2010).

Private sector development activities in Vietnam fall into three categories:

- Business Enabling Environment (BEE): legal/regulatory environment, government capacity, and business culture/entrepreneurship;
- Access To Finance (ATF): short/medium/long-term credit, micro-finance, equity finance, and other non-banking financial services such as leasing, guarantees, insurance, and so on; and
- Business Development Services (BDS): business services (legal, accounting, finance, marketing, IT, and so on), consulting, training, business linkages (clusters, associations, incubators, and other types of groupings to achieve economies of scale), information on domestic market, information on foreign markets (trade promotion), and technology transfer.

Regarding pro-SMEs projects, which have been implemented by ASMED (2004-2009), international donors have granted total funding amount of around USD 120 million and EURO 72 million (Nguyen Hoa Cuong 2007).

Over the years, foreign donors have not only provided funding for SMEs development, but also have brought into Vietnam concept, awareness and lessons learned from experiences in supporting SMEs. In the case of supporting private sector development, most pro-SMEs donors' interventions can be also classified as BEE, BDS,

and ATF. Under these broad categories, interventions either come under some subcategories such as direct support to policies through dialogue facilitation and research, institutional capacity building, and policy based lending, or a mixture.[14]

With regard to the "locations" or "levels", there tends to be a shift where donors have positioned their interventions. During 1990s, most donors preferred to deliver their support at central levels, especially in Ha Noi. Since 2000, many donors shifted interventions to local levels like the provinces. The shift is in tandem with the priorities of the government because policy formulation should be supported with policy implementation which mostly happens in provinces in Vietnam.

4.2.2 The effectiveness of pro-SME policies and programmes

As Vietnam's SMEs received different kinds of support, both direct and indirect, for their development, how effective were the above-mentioned polices and programs? This requires a comprehensive assessment and analysis through research. Some observations can be made from existing researches.

- The Enterprise Law is very effective in terms of creating a breakthrough for business registration removing impediments for SMEs start-up.
- Law on Promotion of Domestic Investment was effective in terms of encouraging SMEs to mobilize domestic investment capital.
- SMEs Credit Guarantee Fund has not been effective and poorly realized in practice due to poor feasibility and capital shortage of local authorities.
- Export Support Fund and Development Assistance Fund had very limited success in supporting SMEs due to their small proportion among the Fund beneficiaries.
- Only a few best practices from donors' technical intervention can facilitate SME development due to its crosscutting nature and the characteristics of individual economic sectors (Nguyen Hoa Cuong 2007).

In terms of availability of funding at the individual enterprise level, direct Vietnamese authorities played a significant role in promoting private sector development. The study by Rand and Tarp (2007) showed that direct government assistance is very important at the individual enterprise level. Indeed, as much as 60

percent enterprises received government assistance, with the lowest share of receivers in HCMC and Ha Noi (Table 9).

Table 9: Government and business assistance

	Direct Government Assistance	Trade Promotion Agency	SME Promotion Agency	Industrial Extension Agency
Ha Noi	51.8	5.0	5.7	1.3
Phu Tho	61.6	0.7	2.2	0.4
Ha Tay	72.7	5.1	4.1	2.5
Hai Phong	90.7	2.5	3.9	1.0
Nghe An	81.6	3.9	4.9	2.3
Quang Nam	65.5	1.8	7.6	1.2
Khanh Hoa	70.0	2.0	2.0	2.0
Lam Dong	86.2	0.0	0.0	0.0
HCMC	29.2	4.0	1.6	1.2
Long An	66.7	7.0	5.4	3.1
Total	**60.5**	**3.6**	**3.6**	**1.5**

Source: Rand and Tarp (2007).

Only 4 percent of enterprises received other kinds of business support from Trade Promotion, SME Promotion and Industrial Extension agencies, and programs. This direct government assistance to the enterprise is often consequential to a bribe or other non-monetary favors such as employing a family member of the government official to that particular company, or selling goods at a price below the market price.

4.2.3 Remaining constraints of and challenges to SMEs development in Vietnam

The analyses in previous sections show that, despite the surge in number of registered enterprises and capital, Vietnam's SMEs still have many shortcomings and constraints to develop further.

Before analyzing constraints for the SMEs development, it should be noted that, SMEs are still in their infant stage of development. Indeed, the SMEs have long been depressed and got *de jure* freedom of doing business since 2000. Furthermore, as Vietnam is a developing, low-income country, the underdevelopment of the SMEs is understandable.

First of all, a constraint for SMEs development lays on retaining inefficient and ailing SOEs that have been announced explicitly in many Party's documents and

national economic policies.[15] Since SOEs still play the *de-jure* leading role in national economy, private sector in general and the SMEs in particular are still discriminated and thus hindered to develop. In reality, continued subsidy and preferences to the SOEs in different forms has not only misallocated the state resources, but also erodes competition, which could stimulate and catalyze the business innovation. Additionally, the SMEs have been often crowded out from the government procurement biddings.[16]

Second, poor rule of law and unfavorable business climate hindered SMEs' development. Despite improvements since 2000, the legal framework still suffer overlapping, complexity, contradictions, implementation lagging, and absence of effective reliable mechanisms for resolution of commercial disputes. Additionally, Vietnam's overall business environment still ranks low in international rankings, and serves as an impediment to the development of higher value-added domestic industries. The cumbersome administrative procedures and poor rule of law have made the business environment less attractive despite being improved in recent years.[17] Together, these constraints create incentives for the SMEs to operate informally, placing themselves outside the formal credit and business networks (ADB 2007) and weakening the efficacy of the government's instruments for improving the business environment (Hakkala and Kokko 2007).

Third, there are still three "bottlenecks" to SMEs development—underdeveloped infrastructure, poor quality and insufficient human resource, and lack of solid supporting industries. The first two 'bottlenecks' have resulted in high costs of doing business, low competitiveness, and poor absorptive technology capability of the SMEs. The third bottleneck hinders SMEs from doing subcontracts from the large firms, especially FIEs.

Fourth, Vietnam's SMEs, like many other countries, suffer from "traditional" constraints of development such as limited or unequal access to production factors, absence of effective, reliable dispute resolution mechanisms, and underdevelopment of BDS market. A consensus can be seen in large number of researches that the most pressing common constraints for Vietnam's SMEs are the limited or unequal access to credit and capital and to suitable land or business premises.[18] Such is caused by persistent constraints like: (1) crowding out by SOEs, especially access to credit; (2) weak credit evaluation systems (i.e., few evaluation mechanisms of borrowers'

creditworthiness); (3) weak creditor rights regime (i.e., the cumbersome procedure to foreclose assets pledged against a loan have made banks reluctant to lend, or severely discount the value of assets pledged); and (4) cumbersome collateral requirements (i.e., land use right certificates).[19]

Fifth, the absence of effective and reliable dispute resolution mechanisms raises the risks of doing business[20] and drives foreign investors to either limit contracting with most SMEs or working with SOEs. Sometimes, commitments made in the absence of contracts are honored, thereby, restricting the development of domestic business networks.

Lastly, BDS market is still in its embryonic stage of development (equivalent to 1-2 percent GDP). It tends to be very highly fragmented and informal because of individual suppliers' reluctance to move beyond small circles of familiar buyers (Taussig 2005). A developed BDS market is believed to help SMEs reduce production-business costs, improve efficiency and competitiveness, and strengthen access to new markets.

Vietnam has made first steps into the global market after the WTO accession. Apart from having huge opportunities brought about by WTO accession, Vietnam SMEs likely face tougher challenges. Given their infant development and poor competitiveness, the SMEs are certainly confronted with many difficulties, particularly credit related. This calls for the urgent need in building the proper pro-SMEs policies and effective programs.

5. POLICY IMPLICATIONS FOR SMEs' DEVELOPMENT

As analyzed previously, for sustainable development of SME, a comprehensive, synchronized policy measures are needed; they are the following:

1) As Vietnam's market economy and SMEs are still in their infant stage of development, further promoting market-oriented, implementing WTO-driven reforms and improving business environment are vital for SMEs development. To implement this efficiently and effectively, Vietnam should abandon the advocacy for retaining the leading role of SOEs in the national economy. It is equally

important to level the playing field in reality by ensuring *equal* access to production factors (especially to credit and land), information on public investment plans, and procurement opportunities; and strengthening the public administration reform, with the emphasis on enhancing transparency, accountability, and wider adoption of one-stop shop model.

2) Developing internal and external SMEs' networks. To strengthen the internal networking it is important to foster the industrial clusters and wider establish (technology) business incubators. Closer linkages between domestic SMEs and FIEs can be achieved through the following ways:
   - Enhancing SMEs absorptive capability and creditworthiness by raising quality of human resource (with emphasis on strengthening practical engineering education, supporting and encouraging training programs, particularly collaborative training programs), developing credit valuation agencies, and improving SMEs financial and accounting standards;
   - Building up solid supporting industries and dealing with the industrial dualism efficiently (through lowering effective protection of highly protected sectors and inviting more foreign producers of intermediate inputs);
   - Encouraging long-term subcontracting system (between SMEs and SOEs, FIEs) and building up an effective framework or mechanism for business contracting and dispute resolution; and
   - Overcoming the information and perception gaps between SMEs and FIEs by establishing database on supporting industries, suppliers, and business broker services.
3) Implementing current SMEs' promotion policies and programs efficiently and effectively avoiding possible misuse and corruption; evaluating effectiveness, efficacy of the programs/policies; and enhancing business associations' role in sharing information, providing feedback to the effectiveness and efficacy of the government policies and offering solution to the problems that are possibly emerged.
4) Encouraging and supporting the creation of pro-SMEs business environments at the local level. The demonstrated best practices of those provinces with the highest business climate ratings should serve as a model for replication throughout the

country. The central government should play a role of the catalyst for improving countrywide business environment (for instance, developing further Provincial Competitiveness Index), meanwhile, preventing possible 'fence-breaking' practices (in offering tax or tariff incentives) and unnecessary budget revenues foregone.

NOTES

[1] Vietnam has sustained a relative high, stable growth rate of gross domestic product (GDP) (averaged at approximately over 7.5 percent) over 20 year of *Doi moi*. The hyperinflation (Consumer Price Index) occurred during the second half of 1980s was curbed down to double digits in 1990-1992 and thereafter to 2006 was kept at single digits. The value of foreign merchandize trade (export plus import) has substantially expanded over years and reached an equivalent to more 140 percent GDP in 2007, by doing so, this made Vietnam one of the most open amongst transition and developing economies. Vietnam has also been quite successful in attracting foreign direct investment (FDI) (more than 80 billion USD of the accumulated registered capital as at the year–end 2007). Thanks for high GDP growth, moderate inflation level, and low population growth rate, the real income of Vietnamese people has improved over years, contributing significantly to reduction of the poverty line from 58.5 percent in 1993 to about 20 percent in 2005.

[2] The local procurement ratios in Philippines, Indonesia, Malaysia and Thailand in 2003 were 28.3; 38.3; 45.0; and 47.9 percent, respectively (results from a survey conducted by Japan External Trade Organization (JETRO).

[3] The number of registered enterprises is provided by the National Business Information Center (under the MPI that are in operation: by GSO; the business census uses a business register that is updated through a link with Ministry of Finance database).

[4] The surveys on non-state manufacturing were conducted in 2002 and 2005 by the Institute for Labor Studies and Social Affairs (ILSSA), in collaboration with Department of Economics (DoE) at the University of Copenhagen. The number of enterprises interviewed was 2,821 and 1,392 respectively and operating in Ha Noi, Phu Tho, Ha Tay, Hai Phong, Nghe An, Quang Nam, Khanh Hoa, Lam Dong, HCMC, and Long An (Rand and Tarp 2007). A second series of surveys were conducted by ILSSA and Stockholm School of Economics (Kokko and Hakala 2007) for further information.

[5] The local procurement ratio in Philippines, Indonesia, Malaysia and Thailand in 2003 were 28.3; 38.3; 45.0; and 47.9 percent, respectively (result from a survey conducted by Japan External Trade Organization (JETRO).

[6] The UNCTAD's World Investment Report shows that, by FDI efficiency, out of 141 countries, Vietnam ranking were down from 46 in 2003 to 53 in 2005.

[7] Around 13 percent of enterprises formally train new employees and 6 percent offer training programs for existing workers.

[8] Technical efficiency is calculated using a stochastic frontier production model (value added as output measure), in which total employment and the value of physical capital is used as inputs. Technical efficiency indicates firm ability to produce the highest level of output from a given amount of labor and capital. A firm operating at the highest level of efficiency possible is expected to have a technical efficiency of 1.

[9] The total number of firms in the 2003 survey is about 1,600. The practical selection criterion for identifying SMEs has been total employment below 100 jobs.

[10] "Enterprises need more in information on economic integration", available online at URL: http://www.saigontimes.com.vn/tbktsg/detail.asp?SoTT=11&Sobao=805&muc=88).

[11] A study by ADB (2005) has shown that while some provinces have applied even shorter business registration time limits than that required by the Enterprises Law, others have yet to meet the Law's requirements. For instance, Binh Duong province were praised for attracting 50 percent more FDI inflow than its neighbor Dong Nai in 2001, and ten times more private domestic investment per capita. The province set up a "one-stop shop" to allow all administrative procedures associated with start-up of an enterprise to be processed by one office (at the Business Registration Office, Department for Planning and Investment). Binh Duong also worked to make credit more available by allowing 70 percent of capital goods purchased with a loan to count as collateral towards the loan used to purchase the goods.

[12] In 2006-2007, Vietnam's seven-year-old stock market had grown as one of the fastest development rate in the world—with the stock market index (VN-Index) surge in three times and total market capitalization increase of around two times.

[13] See, for example, CIEM's forecast (CIEM, 2006) on Vietnam medium- and long-term development perspectives.

[14] For example, European donors favor supporting measures to improve the business environment, while Japanese donors prefer direct technical support to Vietnamese partners (Nguyen Hoa Cuong 2007).

[15] For example, the *Strategy for Socioeconomic Development 2001-2010* proposed that "the leading role of the State economic sector is to be enhanced, governing key domains of the economy; State enterprises are to be renewed and developed, ensuring production and business efficiency". More specifically, State enterprise development is to take place in a range of domestic and international markets, "such as petroleum, electricity, coal, aviation, railways, high-way, and so on".

[16] For instance, ADB (2005) reveals that only about 10 percent of private enterprises were able to participate in publicly funded projects in the 2000-2002 periods.

[17] The World Bank's "Doing Business" survey (Doing Business, 2006) ranked Vietnam 104 out of 175 countries in terms of ease of doing business.

[18] See, for instance, Rand and Tarp (2007) and ADB (2005). The surveys by Rand and Tarp (2007) reveal that on the question of How can authorities best assist enterprises?, 26 percent of respondents stated that the State should provide easier access to credit and 22 percent needs in assistance with obtaining premises/land; similarly, most severe constraint when starting up new projects for 29.8 percent firms are lack of capital and 13.9 percent are difficulty in finding premises.

[19] See ADB (2005) for more details.

[20] Based on doing business 2005 database, the World Bank estimates that costs of enforcing contracts in Vietnam account for about 30 percent of debt, much higher than that in China, Thailand, and Singapore (25.5 percent, 13,4 percent and 9 percent of debt, respectively) (ADB, 2005).

REFERENCES

Asian Development Bank. 2005. *Vie: Private Sector Assessment. Strategy and Program Assessment*, final report. Available online at URL: www.adb.org/Documents/Reports/PSA/VIE/VIE-PSA.pdf.

Central Institute for Economic Management (CIEM). 2006. *Vietnam economy in 2005*. Finance Publishing House, Ha Noi.

_____. 2007, *Vietnam economy in 2006,* Finance Publishing House, Ha Noi.

General Statistical Office. 2007, *Yearly statistical book*. Statistics Publishing House: Ha Noi.

Hakkala, K. and A. Kokko. 2007, *The state and the private sector in Vietnam*. Working paper 236, June.

Ho Sy Hung. 2007. *Strengthening supporting industries in Vietnam: Linking Vietnamese SMEs into global value chains*. Agency for SME Development, Ministry of Planning and Investment, Ha Noi.

Ichikawa, K. 2005. *Building and strengthening supporting industries in Vietnam: A survey report*. JETRO, Ha Noi.

Kokko, A. and F. Sjöholm. 2004. *The internationalization of Vietnamese SMEs*, Stockholm School of Economics. Available online at URL http://ideas.repec.org/p/hhs/eijswp/0193.html

Kokko, A., P.G. Tingvall. 2005. Regional development and support to SMEs in Vietnam. *Country Economic Report 2005*. 5 September.

Le Xuan Ba, Tran Kim Hao, and Nguyen Huu Thang. 2006, *Vietnam's SMEs In The Context of Economic Integration.* Politics Publishing House, Ha Noi.

Le Xuan Sang. 1997. *Developing SMEs in transition economy: The case of Vietnam.* Unpublished Ph. D Thesis. Moscow National University, Russian Federation, Moscow.

Ministry of Industry. 2007. Decision 34/2007/QD-BCN on Approval of Developing supporting industries towards 2010 and vision of 2020.

Mori, J. 2005. Development of supporting industries for Vietnam's industrialization: increasing positive vertical externalities through collaborative training. Master of Arts in Law and Diplomacy Thesis, The Fletcher School, Tufts University.

Motorbike Joint Working Group. 2007. *For the sound development of the motorbike industry in Vietnam,* The Social Labour Publishing House: Ha Noi.

Nguyen Hoa Cuong. 2007. Donor coordination in SME development in Vietnam: What has been done and how can it be strengthened. *Vietnam Economic Management Review,* Volume 2, Number, pp 12-20.

Nguyen Xuan Trinh and Le Xuan Sang. 2007. *Adjusting tax and subsidy policy after WTO accession: concepts, international experiences and policy recommendations.* Finance Publishing House: Ha Noi.

Ohno, K. 2004. *Renovating industrial policy*. Paper presented at the Workshop on Strengthening Competitiveness of Vietnam's Industries organized jointly by the Embassy of Japan in Vietnam and the Ministry of Planning and Investment, Ha Noi, 22 November 2004.

Ohno, K., Editor. 2007. *Building supporting industries in Vietnam.* Vietnam Development Forum, (upcoming) (electronic version), Ha Noi.

Rand, J., F. Tarp, N.H. Dzung, and D.Q. Vinh. 2002. Documentation of the small and medium-scale enterprises survey in Vietnam for the year 2002. DANIDA research project, Ha Noi.

Rand, J. and F. Tarp. 2007. *Characteristics of the Vietnamese business environment: evidence from a SME survey in 2005*, Component 5 – Business Sector Research, Business sector program Support, CIEM, DoE, ILSSA, March.

Taussig, M. 2005. Domestic companies in Vietnam: challenges for development of Vietnam's most important SMEs. William Davidson Institute Policy Brief #34, May 2005. Available online at http://homepage.mac.com/markustaussig/FileSharing7.html

Vo Tri Thanh and Le Xuan Sang (editors). 2004. *Developing financial market in Vietnam: current situations, issues and policy recommendations.* Finance Publishing House: Ha Noi.

Vo Tri Thanh, Trinh Quang Long, and Dinh Hien Minh. 2005. Vietnam's regional economic linkages and industrial competitiveness: an analysis with the case studies of textile and garment, electronics, and automotive industries. Paper presented at the 6th Asian Development Research Forum General Meeting 7-8 June 2004, Bangkok, Thailand.

Chapter 12

The PROCUREMENT ACTIVITIES OF JAPANESE COMPANIES IN ASIAN COUNTRIES

Hironobu Kitagawa

Abstract

This paper makes a survey of the global activity of Japanese companies in Asian countries. In particular, it focuses on the procurement activities of Japanese companies that affect the operation of small and medium enterprises in Asia. It discusses the overseas operation of Japanese companies, reviews past researches on the overseas procurement activities of Japanese companies, tackles the results of interviews with Japanese companies regarding their procurement activities, and provides implications.

INTRODUCTION

This paper is an attempt to understand the overseas procurement activities of Japanese companies in Asia, especially those involved in the automobile, electronics, and electrical machinery industries. It also seeks to check the present condition of direct investment flows to Asia from Japanese companies and to reconfirm the so-called historical transition of direct investment to Asian countries.

The composition of this paper is as follows. The foreign direct investment (FDI) situation of Japanese companies, particularly in the manufacturing industry, is discussed first. Then, the future prospects of the car manufacturing and electronics industries in Asia is tackled next. This is followed by a discussion of the manufacturing activities of Japanese companies in Asia, mainly East Asia. A review of their procurement activities follows. The final section provides the conclusion.

2. RECENT SITUATION OF JAPAN'S OUTWARD FDI

2.1. Overview

The Research Institute for Development and Finance of the Japan Bank for International Cooperation (JBIC) reports that the overseas production ratio in fiscal year (FY) 2005 rose to a total of 29.1 percent in all industries, showing an increase over the previous year for seven consecutive years since 1999 (JBIC 2006). The estimates for FY 2006 and for the medium term up to FY 2009 stood at 30.4 percent and 34.9 percent, respectively, indicating the continued trend of many companies to enhance their overseas production.

When companies that are either conducting business or considering to open one in individual countries or regions were asked to cite where they want to strengthen or expand in the medium term, interesting results were gathered by JBIC (2006). For 2006, the region that got the highest percentage response for "strengthen or expanding" was Russia and other Commonwealth Independent States (CIS). Next to this were China, Central and Eastern Europe, other Asian countries/Oceania, and North America. These results indicate the growing strength of Russia, other CIS, Middle East, Latin America, and other Asian countries/Oceania as areas for expansion considered by Japanese companies. The growth in Latin America is due to an increasing number of Japanese companies wanting to expand in Brazil while the growth of other Asian countries/Oceania is due to the growing clamor for expansion in India and Vietnam. For China, on the other hand, JBIC (2006) reports that the highest response for "strengthening or expanding" was obtained in FY 2004 but for 2006, Russia and other CIS got a higher response thus overtaking China. The Japanese-Affiliated Manufacturers in Asia Survey 2006 (JETRO 2007) also reports that when Japanese companies were asked which country and area they consider as optimal ground to serve as production base of their enterprise in the medium to long term (5-10 years), majority selected Thailand then Vietnam and China.

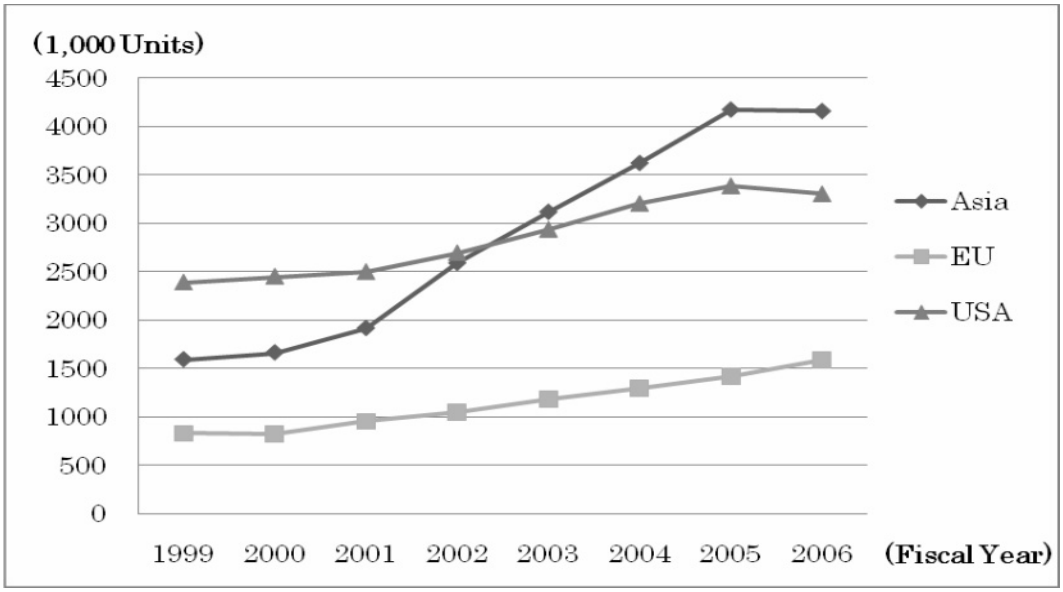
2.2. The Automobile Industry

Automobile manufacturers have a quite positive outlook on Thailand, South and Eastern China, and North America as areas for expansion or strengthening (JBIC 2006; JBIC 2005). However, with most companies wanting to strengthen and expand in Thailand, this country is increasingly overtaking South China and North America. While the increase in overseas operation of Japanese automobile companies in India and Northeast China is evident, that in North America, Indonesia, EU15, Central-Eastern Europe, and Africa is decreasing.

Moreover, JETRO (2006, 2007) reports that in terms of optimal ground evaluation of production base, Thailand was rated highest by Japanese companies, particularly in terms of "car and two-wheeled vehicle parts" and "electricity and electronics components."

Data from the Japan Automobile Manufacturers Association also show that the pace of expansion of overseas production slowed down a bit in FY 2005 but began to catch up in FY 2006 (Figure1).

Figure 1: Overseas Production of a Japanese Car Manufacturer



Source: Created by author from the Japan Automobile Manufacturers Association data

2.3. The Electronics Industry

JBIC (2006) notes that the electrical and electronics machinery, which is a key industry in Japan, holds a large propensity for expansion in East and South China. With respect to ASEAN4, Thailand has the strongest prospect as area for expansion while Indonesia has the weakest prospect.

Overseas production of electrical and electronics machinery decreased in 2006 in many areas but an increase was seen in Vietnam and Central-Eastern Europe. JETRO (2007) also indicates that Vietnam and China are highly evaluated as optimal production base of "electricity and electronics components," with Vietnam getting the highest commendation from Japanese companies.

3. FUTURE PROSPECTS OF THE AUTOMOBILE AND ELECTRONICS INDUSTRIES IN ASIA

Based on a trend quarterly survey of overseas subsidiaries conducted by the Ministry of Economy, Trade and Industry (METI) in April 2007, the sales track record in Asia of Japanese companies grew by 11.6 percent from last year. Meanwhile, transportation machinery, which includes car manufacturing, grew by 21.4 percent, and electrical machinery by 4.1 percent. On the future car demand in Asia, Okiyama and Minato (2007) of the Japan Automobile Research Institute note that car sales have a strong correlation with GDP. It is anticipated that car sales will change from this year through 2030 given the predicted pace of expansion of around five percent annually in Asian countries (IEA Energy Balance of OECD Countries 1971-2005). Therefore, the full-scale motorization of Asia is expected to progress. Moreover, as electronic products are supported by the penetration of emerging markets including India and China, IMF (2007) sees a very good picture in the intermediate term and also predicts that the price and technical innovation competition that intensify in one side will soon spread and eventually affect the performance of each country. Thus, the expansion of the electronics and automobile industries in Asia is expected.

4. HISTORICAL REVIEW OF MANUFACTURING ACTIVITIES OF JAPANESE COMPANIES IN ASIA

Various views are expressed by critics on the direct investment activities of Japanese and other East Asian companies in the automobile and electronics industries (Ikemoto et al. 1981; Okamoto 1998; Sasaki 1986; Nakajima 2000; Yasumuro 2007; Yoshihara et al. 1988; Yoshihara 1992). This paper reviews the trend in the automobile and electronics industries from the 1960s to the 2000s.

4.1. 1960s

In this period, each country took import substitution as an industrial policy. Importation was restricted by imposing high custom duties on finished imported products (Nakajima 2000). Thus, Japanese companies entered into joint ventures with local companies to develop the local industry. The reasons are two-fold: (1) product supply needed to be sustained and the only way to do this was to tap the local market, and (2) the domestic production policy was a widely occurring phenomenon taken by countries in East Asia (Amano 2004). Said policy was also implemented with support from the local government and thus, there were a lot of joint ventures with the local capital (Okamoto 1987).

Produced locally, almost all parts and components for automobile production were exported out of Japan and assembled in overseas factories—otherwise known as the semi knocked down (SKD) or knocked down (KD) process (Amano 2004; Nakajima 2000). However, KD production by commissioning the local market was also promoted by setting up local firms and joint corporations, which expanded the rate of the local content (Morimoto 2006; Tsuchiya et al. 2006)

Meanwhile, electronics, especially the household appliance industry, started the offshore production in Southeast Asia of electronic components (common parts), which are labor-intensive processes. Taking advantage of the cheap labor force, Japanese companies set up production bases in Taiwan and South Korea (Nakajima 2000). A Japan-US set maker established an assembly plant in an export processing zone (EPZ)

in Taiwan and this became the prototype of the electronics export industry in East Asia, which was dependent on capital goods and imported intermediate materials (Takeuchi 2004).

Meanwhile, Japanese household appliance industries also set up offshore companies. Among them are Matsushita Electric (Thailand, 1961), SANYO Electric (Malaysia, 1967), and Toshiba (Malaysia and Thailand, 1969). The investment of a Japanese company in Asia in those days was for the purpose of positioning through "an extension of export" (Amano 2004).

4.2. 1970s

In this period, Japan performed two currency exchange adjustments. It fixed the exchange rate to 308 yen per US dollar in 1971 and then shifted to a floating exchange rate system in 1973. Furthermore, the first oil crisis happened in 1973. The strong yen in 1971 affected the management of Japanese companies in Southeast Asia. Many companies implemented improvements in business modality, promoted rationalization, and endorsed the education of local engineers (Nakajima 2000).

The KD production in the automobile industry, which was the domestic production policy of each country in the 1960s, was continued. As time went by, the disadvantages of this type of production became obvious. It turned out to be inefficient as it does not consider the comparative economies of scale of each country. In Malaysia and Indonesia, their assembly automobile industry, which was tied up with foreign companies in Europe, US, and Japan, became flooded with various kinds of small-scale companies that made production inefficient. Although the ASEAN countries adopted the import-substitution-industrialization policy in the 1970s, even the autoparts manufacturer of ASEAN country was not brought up (Morimoto 2006). The automobile company that invested in this area early on was Toyota and Mitsubishi Motors (Shimokawa 1998). According to Morimoto (2006), Mitsubishi Motors developed the first Asian car in the Philippines in 1974.

In electronics, especially the household electrical products industry, many joint venture arrangements emerged. For example, Toshiba set up its semiconductor and electronic components assembly plant in Malaysia in 1973. By this time, the high labor cost in Japan, fluctuating exchange rates, and the negative effects of the oil crisis

prompted many Japanese companies to invest in Asia to maintain cost competitiveness. The variation in the cost of labor was a primary consideration in the choice of location. For example, when the labor cost in South Korea or Taiwan went up, the electronic components (common parts) production was transferred to Malaysia or Thailand, where the cost of labor was cheaper.

4.3. 1980s

The 1980s was the time when Japanese companies' FDI decisions changed significantly. The most influential factor driving this change was the appreciation of the yen following the Plaza Accord in 1985. In the automobile industry, production processes advanced to a great extent. Japanese companies observed that the Asian currencies are interconnected with the US dollar. Hence, they expanded their foreign investments in their production facilities in Asia and aimed for a production base equivalent to that in Japan. They developed the production base in Asia into a total production base for exports to the West (Tsuchiya et al. 2006). Moreover, toward the late 1980s, the industrialization level of ASEAN4 (Indonesia, Malaysia, Philippines, Thailand) went up. In addition, the automobile domestic plan of each country also began to get off the ground through the Brand to Brand Complementation Scheme (BBC). Under the BBC, a particular automobile company manufactures the parts of a specific brand type of car. Said scheme reduces the import duties of parts. Toyota, Mitsubishi, Nissan, and other car manufacturers began to utilize the BBC (Shimokawa 1998).

The sharp rise of the yen triggered the transfer of the production base from Japan to the newly industrialized countries (NICs) and Southeast Asia, especially the household electrical products industry. Thus, the production base in the NICs and Southeast Asia turned into a "re-export" and "part supply" base for advanced nations. This movement spread quickly to the household appliance and semiconductor sectors (Okamoto 1987). Japanese companies came to transfer low value added products and multi-use parts to the production base in Southeast Asia. This made many Japanese small and medium enterprises (SMEs) producing associated parts to invest in Asia. (Nakajima 2000) Moreover, with many countries affected by the high tariff barrier within East Asia, which affects the intermediate materials used for production of export

products, a break on custom duty was taken as an export promotion strategy. Intra-industry specialization progressed easily between processes (perpendicular target). Therefore, in the case of an electronic item with easy separation of a process, "fragmentation" progressed easily, and expansion of the intermediate goods trade within the area was promoted. (Takeuchi 2004)

4.4. 1990s

The global competitiveness of products exported from Japan declined remarkably with the strong yen after the Plaza Accord in 1985 and the significant rise of personnel expenses caused by the "bubble economy." Japanese companies thus transferred their production activities to East Asia, which has continued to industrialize. They either re-exported the products to advanced nations or expanded the route by returning them to Japan (re-import). The formation of such a route resulted in trade frictions with advanced nations and reduced roundabout export (Amano 2004).

The increase of direct investment of Japanese companies to East Asia in the 1990s was strengthened during the Asian currency crisis of 1997. In the automobile industry, onshore procurement of parts has advanced partially. The ASEAN concentrated in the production of parts such as transmission, steering gear, floor panel, and radiator, which it supplied to other countries. The automobile industry in East Asia is considered a "national industry" where the government intervenes, except in Singapore. Therefore, part import duties are in still at a higher level like in ASEAN. Moreover, the uncertainty that a future tariff rate is influenced by the government follows (Okamoto 1998).

Moreover, according to Shimokawa (1998): "The international division of labor in the automobile industry in the ASEAN has just started. Therefore, it is limited to division of work in parts or components. This can be attributed to the fact that the local content ratio of the parts in this area is still low, and there are many parts, and the materials and intermediate materials must be brought from Japan." Thus, although the aim was for a full-scale international division of labor, this is hampered by the difficulty of procurement in ASEAN.

Meanwhile, electronics, especially the household appliance industry of Japan, has expanded inter-firm trade among Asian local subsidiaries and head offices through

the 1990s. The network of various sales and supply has been simultaneously formed within Asia. With the onset of the Asian currency crisis in the summer of 1997, the possibility of export expansion of an affiliated company increased and the global competitiveness of local production activities was simultaneously strengthened by the fall of the local currency through the reconstruction of enterprises (Amano 2000a) Moreover, in most cases, the onshore procurement in the electrical machinery and electronics industry in Asia is made with suppliers outside the border. The transaction is done by the company's international procurement office or IPO (Okamoto 1998). In addition, subcontracting activities and location of labor-intensive processes in East Asia were promoted through the progress in modular production in the electronics industry. China became the biggest recipient. It appears that all aspects of producing an electronic product are attracted to China. (Takeuchi 2004)

4.5. After 2000

Amano (2004) noted that in the last 15 years, "the production shift to East Asia of Japanese companies was a structural adjustment through international division of labor rather than the hollowing out of Japanese industry." Although Japanese companies were performing measures of "internal resource utilization types," such as "maintenance of a new base," "localization of research and development," "introduction of a supply chain," and "reexamination of a procurement and sales" in Asia, management risk would still be quite high. Therefore, it is important that Japanese companies carry out a strategic alliance with the West and with Asian companies (Uchibori 2004).

Because of trade liberalization, the competition in the automobile industry has intensified globally. Thus, a car manufacturer has come to realize the positive effects from a global viewpoint of reorganizing his production base in Asia. There are new movements that include (a) the formation of an export base in Thailand, (b) further maintenance of regional division of labor, and (c) having a regional base for the ASEAN4. Japanese companies thus built regional division of labor to compensate for the constraints of ASEAN4 (i.e., their small domestic markets). They began to utilize this regional division of labor as a global strategy (Mori 2004).

Keeping in sync with current themes like "China market," "supply chain management (SCM)," and "environmental technology" is the key to the growth of the

Asian car manufacturing industry. Moreover, progress in the international division of labor within Asia by the Toyota IMV (Innovative International Multi-purpose Vehicle) design will be raised. From a procurement viewpoint, the auto parts suppliers in ASEAN will have a high possibility of being further exposed to the wave of selection strengthening (Yamada 2006) from now on. This is also likely to happen in the household electrical products industry. While economic growth was experienced by countries in East Asia in the 1990s, personnel expenditures in Japan soared due to the bubble economy and the appreciation of the yen. To expand the re-export for local selling or the third country in a Japanese company, or to avoid domestic cost overrun and to promote re-import, the local production base of a Japanese company was established and extended in East Asia. However, the inter-firm trade or international division of labor between the local base and the domestic base in Asia in machine industries other than electronics is not yet fully developed (Amano 2000a). Even if the international division of labor between the East Asian countries and Japan entails transferring of labor-intensive assembly process to countries in East Asia, such as China, most of the parts and components industry tends to stay at the domestic area for the moment; Japanese-made parts and components are assembled in East Asia, such as in South Korea and China, and then the finished products are re-exported to Japan (Onodera 2006). In general, however, the transfer of production to East Asia through increased direct investments of Japanese companies has developed the supply and distribution network that connects the investing country and the recipient country. This has also enhanced the trade of electronic products in East Asia. Therefore, a company should be selective in terms of choosing the right location for its production base while the government of each country should examine its current position and strive to achieve dominance through efforts to attain differentiation and distinction (Takeuchi 2004).

5. LITERATURE REVIEW OF PROCUREMENT ACTIVITIES OF JAPANESE COMPANIES IN ASIA

This chapter reviews past researches on the procurement activities in Asia of Japanese companies.

5.1. Automobile industry

In an article published in JAMAGAZINE (2001), Mr. Takemoto, former president of Toyota Motor Asia Pacific Pte Ltd., disclosed that Toyota's procurement policy has three directions:

(a) Aim for a 100 percent local content in ASEAN
(b) From a view of strengthening competitiveness, raise the second and third tiers that are locally situated.
(c) Advance specialization with sufficient balance in ASEAN; examine lengthening the supply ratio in ASEAN.

Meanwhile, Lecler (2002) studied the role of clustering in the development of the Thai car industry. He studied the business activity of Toyota, Mitsubishi, and The Summit Auto Group in Thailand. His findings are as follows:

(a) The move of a vehicle manufacturer to a new IE (Industrial Estate) immediately pushes its affiliated suppliers to follow. Such dynamism results in agglomeration of firms in the new location.
(b) Purely Thai suppliers are still too few to be directly involved. A tremendous improvement of the supporting industry and training (or education) of the labor force is needed. A broader transfer of technologies is on the agenda of Japanese buyers. The capacity of Thai SMEs to absorb new or more sophisticated technologies is still low.

Lecler's study is based on the argument of location predominance (company accumulation). It pointed out that the promotion of the parts industry has strongly influenced technology transfer.

Meanwhile, Ishida (2002) studied the auto parts supply strategy and technology transfer of Toyota. He sent the questionnaires to the suppliers in Indonesia (nine companies of Japanese origin and two local companies) in 2001. This author found two points:

(a) The automaker obtains convenience by using the ASEAN industrial cooperation (AICO) scheme. On the other hand, local auto parts manufacturers do not use the said scheme.

(b) Toyota has to support and raise the local auto parts manufacture as well as the companies of Japanese origin.

Although the practical use of the AICO scheme brought convenience to the assembler Ishida showed it has some disadvantages to companies (e.g., for the parts industry, etc.). For the improvement of the Indonesian part industry, it is important that Toyota should bring up local suppliers as well as support for the Japanese-parts manufacturer in Indonesia.

Kamo (2003) studied the Asian strategy of the Japanese automobile industry after 1998. This author reported that although the international division of labor within the area itself is favorable, the parts needed by Japanese companies were exported from Japan, and thus, whether the international division of labor could maintain the balance for each country is somewhat doubtful.

Mori (2004) studied the factors that strengthen the global inclination about the East Asia strategy of a Japanese automaker and identified the "unification of the East Asia market including China" and the "importance of promotion of cooperation." This author also predicted the expansion of the procurement of Japanese automakers in Thailand and China in the near future.

Tomozawa (2003) studied the evolution of the automobile industry in Asian countries principally focusing on Southeast Asia and India. This author found three important points:

(a) From the viewpoint of international division of labor, Thailand, Malaysia, and Indonesia have strong links with Japan. Japan is the most important country for them in terms of automobile-related investment and the origin of imports.

(b) It is expected that the flow of trade between Japan and these countries will become bilateral to some extent in the near future because of the incremental global procurement of car components by Japanese motor companies.

(c) An automaker applies the strategy of accumulating production in a specific place and practices economies of scale. Therefore, the automobile industry will change location when needed. As an example, Tomozawa mentioned the Toyota Kirloskar Motor. He also studied the location of a Japanese automobile company and the construction of a production system in India.

Takeno (2005) studied the changes in the auto parts procurement strategy. His contributions are as follows:

(a) First, he pointed out the six major movements in auto parts procurement, namely: (1) delivery with module parts and unit parts; (2) sharing and specializing in parts; (3) globalization of the materials market through information technology that enables networking; (4) globalization of procurement's physical distribution; (5) procuring "the proposal of the planning and reduction in cost" to carry out development concurrently; and (6) expansion of auto parts market's competition area through expansion of electronic parts procurement.

(b) Next, he noted that the automobile industry will change its business model from a multinational manufacturing enterprise to an SCM enterprise that can adopt to multiple markets and therefore, all related companies need a logistics management that merges the stock of the intermediate product and materials. The change in procurement that Takeo pointed out is practically important indication. Moreover, from the viewpoint of strategic theory, this sharply indicates the importance of corporate management not from an "assembly" viewpoint but from an SCM viewpoint.

Meawhile, Fukao et al. (2006) conducted an empirical analysis of Japanese firms that have failed to catch up in localization and a case study of the automobile industry in China. Their most important finding is that "Japanese assemblers may well be choosing business partners whom they expect to realize sustainable productivity increases in the future rather than focusing on present productivity levels." They continuously indicated the "evidence of business practices based on a long-term perspective characteristic of Japanese enterprises," which has a significant implication for business and academics.

Kishimoto (2006) studied the case of the component physical distribution of a Japanese automaker in China, particularly in Guangdong Province. He indicated the following points.

(a) The supplier tends to locate near the place of the finished product maker. However, the supplier also has dealings with customers in far-off places.

(b) Compared with production in Japan, there are much finished goods inventory for customer delivery and volume of inventories of the supply component from a secondary supplier. Therefore, it turned out that enforcement of just-in-time is very inconclusive.

(c) Located in Guangzhou, Guangdong's capital, are Honda, Nissan, and Toyota. Therefore, a Japanese parts maker has active dealings with several manufacturers, which is beyond the vertical relation in Japan.

Kishimoto also shared Tomozawa's (2004) findings that the automobile industry also takes into consideration factors such as economies of scale. He discovered in Guangzhou the same thing performed in India which was found the facts by Tomozawa (2004).

Finally, Nomura (2007) studied Toyota's IMV project in India through interviews with Toyota Kirloskar Motor and Toyota Kirloskar Autoparts in 2005 and 2006, respectively. He found out two points:

(a) The R-type transmission units are being manufactured in India under the Innovative International Multipurpose Vehicles (IMV) project.

(b) In India, the local content has attained 82 percent. Nomura noted that the supplier system to Tier2 level has been built, and that many Indian companies had participated in the supplier system. He praised the Toyota project in India for its dynamism.

In addition, Nomura showed the "gap of manufacturing and sale" in India which was not pointed out in past studies. This, he said, merits further evaluation.

5.2. Electronics Industry

Ohmori et al. (1999) studied the condition and strategic know-how of Matsushita Electric in terms of importing manufactured goods from Asia. They pointed out that

serious consideration should be given to the training of the local company that supplies the imported goods.

Meanwhile, Yamachika (1999) studied the importation from Asian countries and the international procurement process based on the experience of Toshiba. This author noted the improvement in the local content of Japanese companies and showed how this is affected by different business practices.

Ohyagi (2000) studied the optimal sourcing activities of Japanese electrical and electronics manufacturers in the Zhu Jiang delta area. She found that

(a) In the Zhu Jiang delta, only a few manufacturers are into online procurement, yet it is expected that the adoption rate will increase in the near future. When the merits of online procurement and industrial accumulation are compared, both are found to be beneficial in terms of cost reduction, acquisition of new transaction, etc.

(b) Industrial accumulation has its merits. On the design/development side, it facilitates exchange of ideas between the maker and the supplier in the neighborhood and this makes the execution of improvements and changes in specification easier. Furthermore, the face-to-face exchange between the maker and the supplier is an effective means to find out the suitable business contacts for carrying out an effective division of labor.

(c) Internet procurement is not yet dominant in the study area. Until now, most manufacturers use traditional ways of procurement.

Noda（2000) studied the direction of the future ASEAN activity of Japanese household appliance industry. His findings are as follows:

(a) At present, Japanese companies procure most of their materials from Japanese suppliers. However, it is anticipated that they will increase their procurement from local part makers as localization of design becomes more widely practiced.

(b) Japanese companies have achieved significant progress in making their procurement operation more efficient. They are doing this through the installation of IPOs in their production base in ASEAN. Another strategy is by localizing the design to reduce cost. Moreover, they localize the inspection function of the parts supplied within ASEAN. They are also making great strides in shortening the production time and reducing the production cost.

Iketani and Sasaki (2000) studied the distribution and procurement in the electrical machinery industry of ASEAN countries by focusing on supporting industries. They noted that an electrical machinery-related supporting industry should not only consider the important role that a parts supplier plays in the local assembly machinery industry but should likewise try to develop a good business relationship with the overseas export market in order to grow. They also suggested that research and development (R&D) is very crucial in achieving competitiveness. Particularly in the ASEAN, it is important to improve the R&D climate further and to train talented people to engage in R&D activities.

Kuwatsuka (2002) studied the placement of IPOs in Singapore by Japanese electronic firms and the consequent specialization of the purchasing function. His findings are as follows:

(a) The buyer-supplier relations formed by the IPOs in Singapore can be characterized by their close proximity in terms of both physical and "cultural" distance.

(b) Although it is recognized that many IPOs also conduct transactions in a Japanese way with their Japanese suppliers, the specialized relation between buyers and suppliers in Singapore can make purchasing operations smoother and steadier, and can help reduce the transaction costs for firms. In addition to the accessibility function of IPOs, Kuwatsuka said that cultural proximity enriches the procurement function further.

The Japan Finance Corporation for Small and Medium Enterprise (2003) compiled studies on the changes in the division-of-labor structure between Asian countries in the electrical and electronics industry and the compatibility of Japanese SMEs to international supply/production strategy. In general, the report noted the transfer of suppliers from ASEAN to China.

Yamachika (2003) contributed some insights based on his business experience with Toshiba and his study on the actual condition of the global procurement operation of Toshiba. His findings are as follows:

(a) Previously, the IPO of Toshiba performs the role of procuring exports solely for Japan. However, as of 2002, procurement that is not for Japan (or the Out-in-Out and Out-Out) was remarkable at 81 percent of the total global procurement of Toshiba.

(b) Second, the global procurement of Asian countries is characterized by the following: (1) in the case of the household appliance industry, it is labor intensive and utilizes an abundant labor force paid with low wages, (2) manufactures consigned goods (such as IT apparatus), and (3) re-import goods from a local manufacture base in China.

(c) Toshiba mainly procures from its Japanese maker in China. However, Yamachika predicted the increase of procurement from China's local brand item as outsourcing progresses.

Yoshimoto (2004) studied the actual condition of a household appliance production base within ASEAN. The basic parts production base supplies the finished goods production base of Japan, China, and ASEAN based on factors such as location, price and quality, and supply policy. Moreover, the finished goods activity and the basic parts activity are managed as separate subsidiaries in many cases. Yoshimoto also analyzed the production situation in detail for every product, which for him was necessary to effectively analyze the procurement activity of Japanese companies.

Yamachika (2004) wrote about the global SCM and procurement. He gave the following suggestions:

(a) Being compatible with global optimal production and procurement processes is inevitable. Global SCM, which makes operations seamless, has developed into a new management model that is now being implemented in many countries.

(b) Procurement is getting to the stage where it cannot be performed without information technology (IT). Companies should learn how to use IT in procurement.

(c) The move by Japanese companies to outsource activities came later compared with the European and American companies.

(d) In Japan, there is no technical book on procurement despite the big number of researchers in Japanese universities. It is important that researches on procurement be carried out, especially in Japan.

5.3. Automobile, Electronics and Other Industries

Yoneda (2001) studied the procurement and international standards of Japanese companies in the manufacturing industry (automobile and electronics). He said: "In the

auto industry, old *keiretsu* intra-group dealings were reorganized by 'modularization' and, as a result, 'organization reform' and 'corporate merger' were promoted in the auto industry. In the electronics industry, since construction of optimal production/procurement by Japanese companies is hurried in Asian countries, such as ASEAN, 'training' and 'improvement in technical capabilities' in the local supporting industry which contribute to Japanese companies are indispensable." Based on these, Yoneda gave six proposals for local companies: "the positiveness to reform," "heighten the added value," "cost reduction," "promise strict observance on price payment," "improvement in customer satisfaction (strengthening of technical capabilities)," and "international standards acquisition of ISO."

Baba (2005) pointed out some implications of the procurement structure and the development stage of the supporting industry of Asia. In his book titled "A Study on Supporting Industries in Asia," which is based on his doctoral dissertation at the University of Tokyo, he analyzed the international input-output table for ASEAN countries and wrote case studies on the automobile companies in Indonesia and Japan and the Die&Mold companies and organization in Japan. His findings are as follows:

(a) The car and motorcycle industry thinks that procurement from Japan is important. In contrast, the electronics industry is structurally dependent on overseas companies for procurement. Factors causing this are the "difference in the part's characteristics," "difference in the demand quality by the assembler," and "difference in policy."
(b) The introduction of digital technology affects the transfer of a supporting industry. In addition, it is important to consider the elements of "existence of the market beyond a fixed scale" and "training of talented people."

Baba also studied the procurement structure academically. Aside from pointing out the importance of technology transfer to a supporting industry, he also stressed the importance of the "existence of a market" and "personnel training."

Miyajima(2006) studied the broad-based trade liberalization in Asia and the procurement/production activity of a Japanese manufacturer through literature review and interview with Komatsu, Daikin, Denso, and Honda. This author clarified two important points:

(a) Procurement policies differ according to industry. In the construction equipment and airconditioning apparatus industry, the procurement and production functions of parts where technical core competence is needed are concentrated in Japan. This is to prevent disclosure of technical information. However, in the automobile industry, Japanese companies tend to procure more from China and ASEAN.

(b) ASEAN continues to build its strength as a core procurement point that is widely connected to South Korea, China, India, and Japan. Japanese companies carry out intensive procurement and production activities in ASEAN, in addition to China. Miyajima found that every type of industry (or business condition) has a different production activity and a different procurement policy. In particular, in the construction machinery and air-conditioning apparatus industry, Miyajima said that "priority is given to technical disclosure prevention particularly for the parts that require technical core competence."

Yukimoto and Lee (2007) studied six companies (two sewing machine companies, one automobile company, two electronics companies, one apparel company) in China, and did an exploratory research about the full-set-type localization of Japanese companies in China in terms of procurement/sales channel strategy. They found two points:

(a) In the China market, when building a consistent supply chain, continuity exists in "localization of materials procurement" and "many functions which consists of product planning and product development."

(b) In organizing "materials procurement," "mass-production preparation of a new product", and "sales organization" in China, a wide perception gap exists between the "person-in-charge," "goods designer," and "quality control person-in-charge" in the Japanese head office and in the Japanese representative in China. This fact is one element that bars smooth organization construction. Yukimoto and Lee also showed that a Japanese companies advanced to the industrial accumulation in China; therefore Japanese companies aggressively procure the goods in there. Furthermore, in order to expand the supplier base, the authors said that Japanese companies are giving their best effort to deal with Chinese companies.

6. RESEARCH OBJECTIVE AND METHODOLOGY

For the corporate strategic planning of SMEs in Asia, it would be useful to check the procurement policy in Asia of Japanese companies that affects the "multiplied effect " of SMEs or the spread of influence or growth of one SME to other SMEs.

However, the available data are mostly on production figures from each country and the economic organization. What are needed are useful indicators of the strategic planning of SMEs and the future improvement in technical capabilities to acquire from Japanese companies about the procurement policy in Asia. Therefore, to gather the needed data, interviews are conducted with the person in charge of procurement in the Japanese company's head office. The results for each company are discussed in the next section.

7. PERSPECTIVES ON PROCUREMENT ACTIVITIES IN ASIA OF JAPANESE COMPANIES

7.1. Case: "X" Company

7.1.1.Overview:

"X" is a one of the largest electronics companies in Japan that has a very broad product line. Its first overseas office was founded as a sales office in Asia in the early 1900s. Gaining positive result from this initial move, "X" established other overseas offices. Taiwan "X" was founded in the 1960s. In the same year, it established a joint venture company in the Philippines for local. "X" has employees numbering to hundreds of thousands. "X" hopes to capitalize on the continued growth of Asian countries, especially ASEAN, and thinks that China, India, and Vietnam will experience the most growth.

7.1.2 .Future prospect of global optimal procurement:

While overseas sales continue to increase, the local content will be required for the localization of production. “X” thinks that the optimal supply from a global viewpoint is further needed in connection with SCM.

7.1.3. Future prospect of procurement in Asia:

As a future short-term new supply market, “X” is seriously considering India and Vietnam. Except for the existing reclaimed market, “X” thinks that other countries are still difficult for procurement activities. “X” recognizes that some countries have a problem concerning their distribution system. Procurement may be influenced by the economic scale and the policy of each country. Fundamentally, maintenance of infrastructure is indispensable. Moreover, “X” recognizes that this is a problem at the level of the supporting industry.

7.1.4. Expectation for growth of local supplier:

The expansion of the sales market in a country is as follows. Export is started first. Next, KD production is performed there according to market size. Japanese companies train a local supplier in production, and promote the growth of the procurement market in this process. Although “X” knows that it should endorse the local procurement of Japanese companies, it recognizes the fact that for local procurement to become possible, the local industry itself must become strong. Moreover, an industry needs the support of other industries. Therefore, “X” believes that the supporting industries should grow as well in order for the local industry to grow.

7.1.5. Local supplier training policy:

“X” does not have a training that is limited to a specific field. When “X” starts dealing with a new supplier, the authorization to work is processed. However, while the authorization has not been issued yet, “X” may teach the supplier regarding the production. For example, the product is a heavy electric-related product which is an "integrated-type" product, and therefore, “X” needs to measure the ability of each supplier. Hence, even if the market has already opened, if training is required for the

selected supplier, "X" will dispatch an instructor to train that supplier. "X" performs cost judgment including the dispatch of such an instructor when "X" take the estimate of the purchase. In addition, for a standard of the supplier adoption, "X" regards the business results with the other Japanese makers as important.

7.1.6. Advice for local supplier and the local government from a procurement viewpoint:

The "construction of a stable legal system" and "the satisfactory application of the law" are necessary. Each country should also have a good educational system. Those at the worker level should have completed basic compulsory education. Those at the submanager level, meanwhile, should have a high education. It is also important that they can adapt to and understand the diverse work environment where they operate. Hence, to prepare them, the Japanese government should require the teaching of programs that will enrich Japanese people's knowledge of Asian countries.

7.2. Case: "Y" Company

7.2.1. Overview:

"Y" is a Japanese global company with over 200 related companies and over 100,000 employees worldwide. It established a branch in the United States in the 1950s and a production base in Taiwan in the 1970s. "Y" is an assembly type of industry and is mainly concerned with electrical machineries. "Y" thinks that the Asian region will continue to grow steadily, with China and Vietnam as key growth areas. "Y" thinks that China can firmly tackle production challenges given its high level of productive capacity. It also has a high regard for Vietnam for two reasons: its strong labor force, which "Y" believes is a source of Vietnam's competitiveness, and the industrious trait of the workers.

7.2.2 Future prospect of global optimal procurement:

In addition to the parameters of QCD (quality, cost, delivery), "Y" believes that being environment oriented is very important for optimizing procurement. Thus, adding a fourth element, "E", to represent the environment, the parameter thus becomes

"EQCD", which is also a required qualification at "Y" in the selection of supplier. The said parameter, in fact, is a global procurement standard. The supplier is also selected with fairness, justice, and transparency. "Y" also expects that the importance of green procurement is already understood by the supplier in each country.

7.2.3. Expectation for the growth of local suppliers:

"Y" also considers expanding the number of production items of a local supplier. However, there are cases (e.g., in Vietnam) when it could not find a supplier for a certain product. Y" recognizes that the productive capacity of a local supplier may not be adequate. Thus, when carrying out production expansion, "Y" considers many suppliers and not just a single supplier.

7.2.4. Local supplier training policy:

While advancing cooperation with a local supplier, "Y" performs the *kaizen* (a Japanese word which means "change for the better") and tries to eliminate waste. The *kaizen* is a quality strategy in the workplace and is often associated with the Toyota Production System. "Y" promotes voluntary production innovation by "factory diagnosis to a local supplier." For example, if "Y" receives a request from a supplier, "Y" will help the supplier. Actually, this production innovation has evolved long after "Y" invested in Thailand. The *kaizen* has not reached some countries, however, but "Y" is now trying to teach its local suppliers about *kaizen.*

7.2.5. Expectation from local government for the growth of local suppliers:

"Y" hopes for the promotion of engineering in schools to improve the manufacturing capability of Asian countries. In this regard, "Y" stresses the need for a good educational system for the engineering profession so as to increase the number of engineers. Support from the Japanese government for the improvement of technical capabilities in Asian countries is desirable (e.g., in spreading knowledge about "production innovation," etc.).

7.2.6. Advice for local supplier and the local government from a procurement viewpoint:

For “Y”, it is important that the local supplier satisfies the “EQCD“ requirement. The supplier should also be able to tackle production innovation and eliminate waste. Waste elimination may be achieved by requesting for training. The supplier should also practice the 5S [Seiri (tidiness), Seiton (orderliness), Seiso (cleanliness), Seiketsu (standards), and Shitsuke (sustaining discipline)]. 5S should be carried out not only in the factory but also in the office. It should tackle the *kaizen* activity thoroughly.

7.3. Case: “Z” Company

7.3.1. Overview:

“Z” is an automaker in Japan. Its overseas production started with a KD type of factory in Asia in the 1950s. Now, it has a broad production base in Asia. The sales of "Z" have been favorable in the past several years. Employees total more than 30,000 to date. "Z" believes that Asia will continue to be an important growth center, especially India, China, and Thailand. "Z" is planning an expansion of production in India. It expects that India will grow more as a supply base not only for Japan but for many other foreign countries as well. In the automobile industry, the trade scheme is already fixed to some extent in Asia. Therefore, “Z” thinks that the planned ASEAN free trade area may have some benefit to add to the conventional scheme.

7.3.2. Future prospect of global optimal procurement:

“Z” carries out procurement through a connection of production bases that are distributed worldwide. As for overseas deployment of “Z”, it was early that “Z” started production with KD factory form in Asia in the 1950s etc,. However, depending on the type of car, the parts needed, the quality, the regulation system in each country, and the physical distribution cost, the flow of supply may therefore differ from the main flows. Some auto parts may be produced only in a country with high manufacturing technique. Depending on the production type of a car or parts, “Z” determines the optimal procurement by carefully comparing cost, manufacturing technique, and quality of the

supplier in each country. In addition, in Asia, the local content is produced at a quite high level. Raising the supply of basic parts further is being planned.

7.3.3. Expectation for growth of local suppliers

"Z" concentrates eagerly in its production base in India, which is considered a high growth market. In this case, whether the supplier possesses the capability to produce within the agreed standard is important for "Z" .There are still many suppliers that do not have the capability that "Z" expects. In order to raise the supply level, "Z" and the supplier should cooperate in advancing efforts for improvement. "Z" deals with a supplier who can follow its conditions of quality and timeliness but is also willing to cooperate and help if the supplier cannot meet these conditions. In terms of cost reduction, "Z" is tackling the *kaizen* with the supplier. "Z" has also set up schemes for supporting suppliers. Because the capability level of suppliers in Asia is improving, "Z" would like to trade with various suppliers regardless of whether they have Japanese ties or not.

7.3.4. Expectation from local government for the growth of local suppliers

In the past, a local government-led program that raises the management capability of was carried out in the United States. It will be useful to take up a similar measure in ASEAN. This will also serve as a useful avenue to improve the skills and management capability of suppliers. The local government can implement various means to achieve this. For example, a special lecture may be taught in universities which may help lead excellent and talented people to the auto industry. "Z" is considering the implementation of a program that gives training to college graduates in Asia in the form of internship in Japanese companies.

7.3.5. Advice to local supplier and the local government from a procurement viewpoint:

Suppliers should take note that observance of cost, quality, and timely delivery, improvement in management capability, and the practice of the *kaizen* are important in dealing with "Z". However, "Z" is ready to assist in improving the capability of a supplier but the supplier should also do his part. The supplier must fully understand the elements required for dealing with "Z". If the supplier possesses the relevant

characteristics such as “QCD”, then “Z” is willing to cooperate. As an example, there was this local company that was not engaged in autoparts production but due to its self reliance, “Z” came and started to deal with that company. “Z” then contracted that company to be a production base. Given this example, “Z” expects that Asian suppliers should be self-reliant and should not wait for “Z” to come to them but instead, try hard to sell to “Z”.

8. CONCLUSION

The overseas development of Japanese companies has increased considerably. In particular, the activities in Asia will become more important in the future. This paper has shown the changes in activities and the future prospects of Japanese companies in Asian countries.

Quality and quantity are important qualities that Japanese companies expect from suppliers. Japanese companies consider Asian companies as a precious partner because they consider them indispensable for the development of their business activities. However, Asian companies should also be aware of new business processes and solutions aimed at quality improvement. For example, Japanese companies consider global SCM and green procurement as big elements that should be taken seriously. In addition, Japanese companies’ demand for quality, cost, and timely delivery has become even stronger. They are willing to deal with Asian companies that are willing to uphold these characteristics and are even ready for a long-term business relation. Therefore, Asian companies seeking to deal with Japanese companies should work hard to meet their high standards.

For both Asian and Japanese companies, they should continue to aspire for continued development, amid increasing international competition. Sony and Honda, which are known global companies today, started small about 60 years ago when management resources were very limited. But through their serious efforts to produce products of the highest quality, they were able to overcome competition. Thus, they are the global leaders at present. The stories show that enterprises in ASEAN also have chance to become MNC.

REFERENCES

Amano, T. 2000a. Zaiajiagenchihoujinno seisankatsudouga kigyounaibouekini ataerueikyou Nikkeidenkikikaimekano jisshoubunseki. [The influence that the production activity of Japanese companies in Asia gives intra-trade in company - Positive analysis of Japanese electronics companies] *Nihonkeizaikenkyu* 40:66-87.

Amano, T. 2000b. Kokusaibungyoto tenkankodo -Nikkeidenkimekano zaiajiagenchiseisankatsudoga kokunaiseisankatsudoto koyoniataerueikyo. [International division of labor and corporate restructuring: The impact of Asian production activities of Japanese subsidiaries on domestic productions and employment in electric machinery industry] *Organization Science* 33(3):76-96.

Amano, T. 2004. Higashiajiano kokusaibungyoto kigyouseichouenojosetsu-Ricchitobungyoga motarasukeizaikoukanotankyu [Internationalization into East Asia and the growth of Japanese firms: Understanding the economic effects of global allocation and division] MMRC Discussion Paper No. 8. University of Tokyo.

Asaka, T. 2006. Kironitasu Matsushitadenkino Global Keiei. [Global management of Matsushita Electrics at a crossroads] *Japan Academy of International Business Studies* 12:1-13.

Baba, T. 2005. *Ajiano susonosangyo – Chotatsukozoto hattendankainoteiryoka oyobi gijutsuitenno kantenyori. [A study on supporting industries in Asia]* Hakuto Shobo.

Bartlett, G. and H. Yoshihara. 1988. New challenges for Japanese multinationals: Is organization adaptation their Achilles heel?. *Human Resource Management* 27(1):19-43.

Belderbos, C. and K. Fukao. 2002. Local procurement by Japanese manufacturing affiliates abroad. In R.E.Lipsey and J.L.Mucchielli (eds.) *Multinational firms and impacts on employment, trade and technology*. Routledge: NY.

Dore,R.P., (1973) *British Factory-Japanese Factory The Origines of National Diversity in Industrial Relations*. University of California Press.

Fukao, K. and T. Amano. 1998. Taigaichokusetsutoshito seizogyono kudoka. [Foreign direct investment, and "Hollowing out" of the manufacturing industry] *The Economic Review* 49(3):259-276.

Fukao, I., L. Kabe and F. Takeuchi. 2006. Are Japanese firms failing to catch up in localization? An empirical analysis based on affiliate level data of Japanese firms and a case study of the automobile industry in China. JCER Discussion Paper No. 99. Japan Center for Economic Research.

Guiheux, G. and Y. Lecler. 2000. Japanese car manufacturers and component makers in the ASEAN region: A case of expatriation under duress - or a strategy of regionally integrated production?." In J. Humphrey, Y. Lecler and M.S. Salerno (eds.) *Global strategies and local realities the auto industry in emerging markets*. Macmillan Press Ltd.

Horaguchi, H. 2002. Japanese multinational enterprises and AFTA : Restructuring and market segmentation. In H. Horiguchi and K. Shimokawa (eds.). *Japanese foreign direct investment and the East Asian industrial system - Case studies from the automobile and electronics industries,* pp.69-95. Springer-Verlag: Tokyo.

Ikemoto, K., A. Ueno and K.Yasumuro. 1981. *Nihonkigyono Takokusekitenkai [Multinational development of Japanese companies]*. Yuhikaku.

Iketani, K. and K. Sasaki. 2000. ASEANniokeru denkikikaikogyono chotatsu/hanbaikozoto susonosangyono tenbou [A Study of distribution and procurement in the electrical machinery industry of ASEAN countries, focusing on supporting industries]. *Tonanajiakenkyunenpo [Annual Report of the Southeast Asia Research]* 41/42:31-64.

International Monetary Fund. 2007. *World Economic and Financial Surveys Regional Economic Outlook Asia and Pacific.* International Monetary Fund.

Ishida, Y. 2002. Toyota no jidoshabuhin senryaku to gijutuitennitsuite – Indonesia jidoshasangyoseisakutono kanrende- [About the auto parts supply strategy and technology transfer of Toyota – Related with Indonesian auto-industrial policy]. *The Review of Chiba University of Commerce* 39(4):221-245.

Ishii, M. 1992. *Nihonkigyono Kaigaijigyotenkai [Foreign-operations development of Japanese companies]*. Chuokeizaisha.

Japan Finance Corporation for Small and Medium Enterprise. 2003. *Denki/Denshisangyouniokeru ajiakakkokukannobungyokozonohenkato nikkeichushokigyonotaiou – Nikkeidaikigyouno kokusaitekichotatsu/seisansenryakuhenotaiou – [Change of the division-of-labor structure between Asian countries in electronics industry, and adaptation of Japanese small and medium-sized enterprises - Adaptation to international procurement / production strategy of Japanese MNCs]*. Japan Finance Corporation for Small and Medium Enterprise.

JBIC. 2005. *Survey Report on Overseas Business Operations by Japanese Manufacturing Companies - FY2005 (the 17th) Survey on Foreign Direct Investment.* Japan Bank for International Cooperation.

JBIC. 2006. *Survey Report on Overseas Business Operations by Japanese Manufacturing Companies - FY2006 (the 18th) Survey on Foreign Direct Investment.* Japan Bank for International Cooperation.

JETRO, 2007. *Zaiajianikkeiseizogyono keieijittai- ASEAN/India –Survey 2006- [Japanese-Affiliated Manufacturers in Asia -Survey 2006-].* Japan External Trade Organization.

Kamo, K. 2003. Nihonjidoshasangyo no ajiasenryaku – Kokusaibungyopatan no tokushitsuto 1998nen ikouno jokyohenka [The strategy for Asian countries of the Japanese auto industry - The special feature of an international-division-of-labor pattern and the change of a situation after 1998], In S. Ohara (ed.) *Chugokunotaitoto ajiashokokunokikaikanrensangyo –Aratanabijinesuchansuto bungyosaihenhenotaiou-* [*Chinese rise and machinery industry in Asia - a new business opportunity and division-of-work reorganization-],* pp.115-149. IDE-JETRO.

Kasuga, T., T. Oka, Y. Yamaguchi, M.Yamada and Y. Kato, 2004. Malaysia niokeru Nikkei/oubeikeidenki/denshimekanotoushikankyohyokano chosabunseki – Oubeikeikigyono ajiasinshutsujokyotowagakunikigyonotaiou (Phase 3) [Investigation and analysis of the investment environment evaluation of Japanese,European and American origin electrical machinery and electronics

manufacturers in Malaysia - Investigation about the situation of a European and American companies in Asia, and adaptation of Japanese Companies(Phase 3)]. *Journal of Research Institute for Development and Finance* 18:77-107.

Kino, R. 2000. Jidoshakigyoniokeru kobaiseiskunikansuru ichikousatsu –Nissan jidosha to Toyotajidoshatono hikaku- [One consideration about the purchasing policy in the car company - Comparison with Nissan and Toyota]. *The Ritsumeikan Business Review* 39(3):125-137.

Kishimoto, C. 2006. Chugoku ni okeru Nikkei jidosha mekano buzaibutsuryu-kantonshoukigyono jireiwo chushin ni- [The component distribution of a Japanese automaker in China –the case study of the companies in Guangdong]. *The International Centre for the Study of East Asian Development Working Paper Series* 17:1-34

Kobayashi, H. and T. Takeno (eds). 2005. *Higashiajia jidoshabuhinno gurobarurenkei [Global cooperation of the East Asia automotive parts industry]*, Bunshindo.

Kuwatsuka, K. 2002. Nihondenkikigyoniyoru kokusaichotatsunohaichito Singapore no buhinchotatsukyotenka [The placement of international procurement offices in Singapore by Japanese electronics firms and the consequent specialization of the purchasing function]. *Annual Report of Research Center for Regional Geography* 11:33-56.

Lecler, Y, 2002. The cluster role of in the development of the Thai car industry. *International Journal of Urban and Regional Research* 26(4):799-814.

METI. 2007. *Kaigaihoji Shihankichosa heisei19nen 1-3tsukiki chosa(Jisseki/DI) [Quarterly Survey of Overseas Subsidiaries – First Quarter, 2007]*. Ministry of Economy, Trade and Industry.

Miyajima, T. 2006. Ajianiokeru koikitekibouekijiyukato nikkeiseizoukigyono chotasu/seisanjigyotenkai [Broad-based trade liberalization in Asia and Procurement/production deployment of Japanese manufacturing companies]. *Management Review* 11:111-141.

Mori, M. 1999. New trends in ASEAN strategies of Japanese-affiliated automobile parts manufacturers – The role of exporting and priorities for the future. *RIM Pacific Business and Industries,* 1(43):12-27.

Mori, M. 2001. The formation and development of the automobile industrial cluster in Thailand. *RIM Pacific Business and Industries* 1(50):54-67.

Mori, M. 2004. Gurobaru shikouwo tsuyomeru wagakunijidoshamekano higashiajia senryaku [The strategy for East Asia of Japanese automaker which strengthens a global inclination], *RIM Taiheiyo Business Joho* 4(13)54-74.

Morimoto, H. 2006. Higashiajiashokokuno sangyoseisakuto nihonkigyono senryakutekikoudounoshinka -Jidoshakigyowojireinishite- [Interfirm differences of strategic behaviors among Japanese firms under the environment of East Asia: A case study of the Automobile firms], *Japan Academy of International Business Studies* 12:291-305.

Nakajima, J. 2000. *Nikkeitakokusekikigyou – Millennium henokiseki [Japanese MNCs - A trace to millennium],* Chiuokeizaisha.

Noda, H. 2002. Kaigaichokusetsutoshi Wagakuni kadensangyono kongonoASEANjigyonohoukousei [Foreign direct investment: Directivity of the future ASEAN activity of Japanese household appliance industry], *Journal of Research Institute for Development and Finance* 2:119-142.

Nomura, T. 1997. Indonesiano jidoshamekato buhin/genzairyochotatsu [Local content of automobile and component maker in Indonesia], *The Annual Review of Economics and Business Administration. Shokei Ronso* 47:23-69 .

Nomura, T. 2007. Toyotano IMV purojekutoniokeru indo-gurobarukato rokarukano shindankai-[Toyota's IMV project in India], *The Annual Review of Economics and Business Administration. Shokei Ronso* 57(41-70).

Ohmori,Y. K. Matsuzaki and H. Baba, 1999. Nihonkigyoniyoru ajiakarano seihinyunyusenryakunojittaito nouhau (Matsushitadenkino kesu) [The actual condition and know-how of an importation-of-manufactured-goods strategy from Asia by Japanese companies (case of Matsushita Electric)]. In S. Morogami and T. Sugita (eds.). *Ajiakarano yunyutochotatsu-henbousurunihonsijoutotainichibijinesusenryakuno yukue- [Import and Procurement from Asia -Whereabouts of the changing Japanese market and the business strategy with Japanese -] ,* pp.184-215.

Ohyagi, T. 2000. Saitekina buhinchotatsuwomezasu nikkeidenki/denshimeka – jukouderutachiikiwojireini- [Japanese electricity and electronics manufacturers who aim at the optimal sourcing - Case study in the Zhu Jiang delta area] *RIM Taiheiyo Business Joho* 4(51):20-33.

Okamoto, Y. 1987. Takokusekikigyoto nihonkigyonotakokusekika(1) [Multinational enterprise and the multinationalization of Japanese business enterprise] *The Journal of Economics* 53(1):2-37.

Okamoto, Y. (ed.). 1998. *Nikkeikigyo in higashiajia [Japanese companies in East Asia]* Yuhikaku.

Okiyama, K. and K. Minato. 2007. Ajianojidoshasijoudoko [Trends in Asian automobile market] *JARI Research Journal* 29(2): 31-34.

Onodera, N. 2006. Seakaikeizainogurobarukato takokusekikigyono yakuwari-Higashiajiashokokutono sougohokantekikokusaibungyono kouchikuwo mezashite [Globalization of the world economy and a role of multinational enterprise: Toward establishment of mutual complementary international division of labor relationship with East Asian countries] *Japan Academy of International Business Studies* 12:109-125.

Sasaki, K. 1986. *Nihongatatakokusekikigyo [Japanese model multinational enterprise]* Yuhikaku.

Shimokawa, K. 1998. Ajiachiikiniokeru nihonjidoshasangyonochokusetsutoshito kokusaibungyonotenkai – sonogijutsuitento koyokouzounohenkawochushinni- [Direct investment and the development of international division of labor in Japanese automobile companies in Asia] *The Hosei Journal of Business* 35(3): 45-60.

Shimokawa, K. 2002. Reevaliation of the international division of labor in Japan's automobile industry in Asia, In H. Horiguchi and K. Shimokawa (eds.) *Japanese foreign direct investment and the East Asian industrial system - Case studies from the automobile and electronics industries.* p. 225-253. Springer-Verlag: Tokyo

Takemoto, M. 2001. Kunitokunino kakinewo hikukushiyo-Toyotano Asean Opereshon sentatosite-[We will make a fence of the countries low- As Asean operation centre of Toyota-], *JAMAGAZINE* 35:22-27.

Takeno, T. 2005. Jidoshabuhinchotatsusenryaku no hendou to sapuraiya shusekichi no senryaku [Change of an auto parts procurement strategy and the strategy for the accumulation area of suppliers] In H.Kobayashi and T.Takeno (eds.), *Higashiajia jidoshabuhinno gurobarurenkei [Global cooperation of the East Asia automotive parts industry],* Bunshindo.

Takeuchi, J. 2004. Erekutoronikususeihinno gurobarukyoukyuto sijoutougou-Higashiajianiokeru bouekikakudaino mekanizumu [Global supply of electronics products and Integration of markets - The mechanism of the expansion of trade in East Asia] *RIM Taiheiyo Business Joho* 4(13):29-53.

Tomozawa, K. 2003. Ajianiokeru jidoshasangyono shintenkai-indowochushinni- [Evolution of the automobile industry in Asian countries: Principally focusing on Southeast Asia and India]. *Annual Report of Research Center for Regional Geography* 12:9-32.

Tomozawa, K. 2004. Indoniokeru nikkeijidoshakigyono rittito seisansisutemuno kouchiku -toyota kirurosuka motashawo jireitoshite-[Establishment of a Japanese-owned automobile company in India and construction of its production system: Principally focusing on Toyota Kirloskar Motor], *Geographical review of Japan. Chirigaku hyoron* 77(9):628-646.

Tsuchiya,Y., T. Ohshika and R. Inoue, 2006. *Ajiajidoushasangyonoyukue – sekaiwoseisuru"Asia Big 4"womeguru tatakai [The ability of the Asian auto industry - A fight over "Asian big 4" to win the world],* Daiyamondosha.

Uchibori, H. 2004. Nihonkigyono ajiasenryakusaikou: anketochosanimiru nihonkigyono ajiabijinesunogenjoto kongonotenbou [Reviewing the Asian strategy of Japanese companies: An analysis of the present state and future prospects of Asian business from the survey on Japanese companies] *Japan Academy of International Business Studies* 10:169-178.

Watanabe, H. 2003. Nikkeikadenmekaniokeru gurobarukanoshintentobungyosaihensei [Progress of the globalization in a Japanese home electronics maker and division-of-work reorganization]. In S. Ohara (ed.) *Chugokunotaitoto ajiashokokunokikaikanrensangyo –Aratanabijinesuchansuto bungyosaihenhenotaiou-* [*Chinese rise and machinery industry in Asia - a new*

business opportunity and division-of-work reorganization-], pp.91-113. IDE-JETRO.

Yamachika, T. 1999. Ajiashokokukarano yunyutokokusaichotatsu [Import and global procurement from Asian nations], In S. Morogami and T. Sugita (eds.), *Ajiakarano yunyutochotatsu-henbousurunihonsijoutotainichibijinesusenryakuno yukue- [Import and Procurement from Asia -Whereabouts of the changing Japanese market and the business strategy with Japanese -] ,* pp.140-181.

Yamachika, T. 2003. Denkimeka T shano gurobaruchotatsuno jittaitokadai [The actual condition and the subject of global procurement of an electrical equipment manufacturer: The Case of "T" company], *The Japanese Journal of Labour Studies. Nihon rodo kenkyu zasshi* 45(522) Special Issue:4-14.

Yamachika, T. 2004. GurobaruSCMto chotatsuhemukete–kotei purchase kara souzouteki purchase he- [It turns to global SCM and procurement. -From "fixed purchase" to "creative purchase] *JMA Management Review* 10(9): 9-13.

Yamada, Y. 2006. Ajiajidoshabuhinsangyono jitsuryokuwo hakaru-ASEAN,chugoku,indono kyosoryokuchosawo chushintoshite [Measuring ability of the Asian motor parts industry - Mainly on ASEAN, China, Indian competitive power investigation] *JETRO Sensor,* December 2006, 24-32.

Yasumuro, K.(ed.). 2007. *Shingurobarukeieiron [Newly global management theory],* Hakutoshobo.

Yoneda, K., 2001. Nikkeikigyo(seizogyo) no buhinchotatsuto kokusaihyojunnitsuite [About procurement and international standards of a Japanese manufacturer] *Studies of Business Administration. Keiei kenkyujo ronsyu* 24:259-275.

Yoshihara,H, K. Hayashi, and K.Yasumuro. 1988. *Nihonkigyonogurobarukeiei [Global management of a Japanese company]* Toyokeizaishinposha.

Yoshihara, H. (ed). 1992. *Nihonkigyonokokusaikeiei [The international management of the Japanese company]* Dobunkan.

Yoshimoto, T., 2004. Nikkeikigyono ASEAN ikinai kadenseisankyotenno jittai [Deployment of the Japanese electronics industry within ASEAN] *Doshisha University Worldwide Business Review* l5(2)134-150.

Yoshino, M. 1976. *Japan's multinational enterprises.* Harvard University Press.

Yukimoto, S. and R. Li. 2007. Zaichugokunikkeikigyono furusettogatagenchikanikansuru tansakutekikenkyu [An exploratory study of the localization of multi business function in Japanese affiliates in China : Focused on the analysis of procurement, sales and distribution process] *The Fudai keizai ronshu: The Journal of Economic Studies, Toyama University* 52(3):545-571.

Yun, C. 2002. Ajiakikigo zaitouajianikkeikigyono hanbai/chotatsukatsudoto kessaitsukac hosahoukoku [Report on sales, procurement, and invoice currency of Japanese companies in East Asia after the crisis] *Asian Economic Review* 61(3):279-291.