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Are Economies Moving in the Direction of Smaller Firms?

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I. Introduction

In the recent decade, there has been a proliferation of economic literature espousing the role of SMEs in domestic economies. A revival of public policy emphasis on SMEs has also occurred in both developing and developed economies. Since the drawing up of the SME Master Plan in 1989, policy orientation in Singapore has also shifted in this direction. This paper will assess the present situation of the SME sector in Singapore, and appraise its role in the future. Section A will provide a theoretical understanding of SMEs and an appreciation of why they deserve to be conceptualized as a separate economic entity. Section B will attempt to study if economies are indeed moving in the direction favoring smaller firms. It will be argued that forces at a global scale has increased the business opportunities for SMEs, and in that sense favoring smaller firms. While the trend of corporate downsizing may be increasing exponentially in recent years, it must not be misconstrued that the global economy has and will gravitate in a direction, away from large firms. With the above understanding, we will proceed in Section C, where the roles of the SMEs in Singapore's future economic development will be discussed. This will be followed by an empirical study in Section D. It will enable us to assess how the SME sector has been faring and the present role it is playing. In Section E, we will examine some pertinent issues related to the prospects of the SME sector, followed by the conclusion.

SECTION A

WHO ARE THE SMEs?

There is no clear operational definition for SMEs. SMEs may be defined in various ways, in terms of the country's stage of development and policy objectives. A 100-worker firm in a developing economy may be considered large, but ceases to be so in a developed economy. In a paper published by the World Bank (1978) there were as many as 60 different definitions of SMEs used in 75 countries. In Singapore, different definitions have been used for purposes of establishing criteria for government assistance. Based on the latest definition given by the Singapore Productivity and Standards Board (PSB), local SMEs are generally defined as having:

· At least 30% local equity
· Fixed productive assets (defined as net book value of factory building, machinery and equipment) not exceeding $15 million.
· Employment size not exceeding 200 workers for non-manufacturing companies

THE ECONOMICS OF SMEs.

SMEs are not merely 'scaled down' versions of their larger counterparts. By understanding the nature and particular characteristics of SMEs, we will be better equipped to undertake the analysis presented in the rest of this paper.

Large firms have traditionally been known to survive better, as they are usually able to reap economies of scale and scope, and have greater market power in both product and factor markets. As a result, they usually have easier access to credit, and more resources that enable them to compete. However, SMEs are formed and are able to persist for several reasons. Firstly, when SMEs are producing for domestic markets, natural barriers to trade may allow SMEs to compete with larger, more cost effective overseas firms. Within an economy, SMEs serving specific localities may survive, following the same rationale. Secondly, product differentiation may account for the existence of SMEs. Such industries may be characterized by specialized productions and small niche markets. Thirdly, the flexibility and adaptability of SMEs are attributes that can provide competitive advantage over larger firms. This flexibility may arise from lower overheads, fewer hierarchical structures and more personalized services. Fourthly, SMEs

can exist in industries where there are no significant economies of scale, and hence do not confer significant cost advantages for large scale productions.

It is observed that SMEs often do not grow into larger enterprises (Chew 1988 28-30). This can be explained in terms of the output-expansion path (OEP), with regards to the following constraints:

i) Input constraints. A binding capital constraint such as K1, that may arise as a result of capital market imperfections, will prevent the firm from producing 400 units along the OEP. Thus the firm has to produce 400 units at C rather than at B, and incur higher costs of production. The higher costs of production will hence limit output and the viable size of the firm. This will translate into economic inefficiency resulting from asymmetric information inherent in imperfect capital markets that tend to favor large firms with more assets and higher turnover. Likewise, other binding input constraints yield similar conclusions.

ii) Output constraints. A firm's size may be limited by small market demand, which only requires production of 300 units at A. Such firms remain economically efficient, and often exist in monopolistically competitive markets where a continuum of market segmentation occur.

iii) Entrepreneur constraints. The entrepreneur may desire to restrict firm size to retain sufficient management control. Such firms may still be economically efficient, in terms of producing along the OEP. However, the presence of economies of scale may imply efficiency gains from an enlargement of output and firm size.

RATIONALE BEHIND GOVERNMENT INTERVENTIONS

The rationale behind government's intervention in the development of SMEs are based on market failure arguments as follows:

1. SMEs promote greater competition that enhances economic efficiency. Large firms on the contrary reduce competitive elements.
2. SMEs contribute to innovations, yet are often discouraged to do so , due to the costliness of R&D as a proportion of their initial outlay. Moreover, lower bargaining power, attributed to their smallness in size, tend to reduce their ability to obtain favorable patents, and large firms, quick to follow, will free ride on their innovations.
3. Correcting for capital market failure (above mentioned) will lead to efficiency gains.

SECTION B

ARE ECONOMIES REALLY MOVING IN THAT DIRECTION?

With globalization, economies are increasingly integrated and affected by global forces. With the liberalization of trade and capital flows, production and markets are internationalized. Indeed, competition is rapidly shifting towards the global arena with MNCs leveraging on global resources and harnessing different comparative advantages in different economies for a greater competitive edge. On the premise that this trend towards a borderless global economy is irreversible, it is not possible that economies are gravitating towards smaller firms and away from the large MN corporate entities. Intense global competition has also meant narrower competition promoting an oligopolistic industrial structure. A glance through the daily periodicals, will evidently show that in many industries, size is still important. Even in the age of information technology(IT), it is giants like Microsoft and AT&T who survive and thrive. The recent decade has seen a tremendous number of mergers and acquisitions as firm increasingly take up strategic positions to leverage on

each others' complementary resources. Just like the merger of POSB and DBS, size and strength remain synonymous in the face of global competition.

Yet, recent global trends have also increased business opportunities for SMEs. These are:

i) Corporate downsizing, sub-contracting and strategic alliances

De-centralization, de-verticalization and downsizing are evident on a global scale. These changes are providing opportunities for the development of inter-firm linkages between large enterprises (LEs) and SMEs (Saha Dhevan Meyanathan and Roger Munter, 1996 1). Large firms are increasingly challenged by significant rise in costs of production to stay lean and competitive. Previously, high transaction costs related to poor market development, unfamiliarity with potential suppliers, often resulted in vertical integration as a way to avoid potential supplier problems. With the development of agglomerations and information technologies, transaction costs associated with subcontracting are significantly reduced with increased flow of information between firms. Moreover, turbulent economic environment, arising from the rapidity and complexity of technological change, the shortening of the product life cycle, among others, is causing firms to seek greater organizational flexibility to cope with dynamically changing demands imposed upon them (Rothwell 1992 13). Higher flexibility for large firms is realized, as subcontracting allows them to meet production needs without having to maintain high levels of inventory. The more suppliers a firm has, the more easily diversified the final product can be when manufactured in short runs. Recent trends in global subcontracting has caused Porter's (1990) value chain process to spin out across national and regional boundaries. This in turn perpetuates the increasing potential linkages between local SMEs and foreign MNCs as well as the export capabilities of SMEs. In fact, MNCs' leveraging on inter-firm linkages throughout East Asia has been argued to have phenomenally increased in the recent decade (Dobson, Wendy 1997). Strategic business alliances have also increased between SMEs. This has allowed them to overcome the inherent constraints associated with their small size, and to internationalize their businesses.

ii) Technology

Technology has also led to radically new economies of scale and scope, with process innovations making possible small batch production and Just-In-Time (JIT) techniques. Information Technology has enabled competition along more knowledge intensive lines, rather than capital and labour intensive. This has enabled an improved competitive edge for SMEs. Advances in technology are moving SMEs into the most technical and specialized subcontracting relationships. A new realm of specialization has also developed with the increasing complexities of product differentiation. A significant range of know-how becomes necessary to maintain vertical integration. Rather than spreading too thinly, many firms are concentrating on core competencies while subcontracting other activities to specialized SMEs. SMEs can move into supplying specialized goods and services with high income elasticity, therefore, developing a complementary relationship between small and large firms such as Porter (1990) noted in the Italian leather footwear industry.

iii) Innovation

With the shortening of product life cycles, innovation is increasingly important to create new niches. This is especially true for innovations in product development. New Technology Based Firms (NTBFs) with strong potential for growth, based on evidence from Silicon Valley in the United States have been very instrumental in several major technology-based industries such as semiconductors (Rothwell 1994). However, innovation advantage is neither unequivocally associated with large or small firms. While large firms tend to have greater financial and technological resources, small firms tend to possess greater flexibility, dynamism and

responsiveness (fewer levels of management). In short, the innovation advantages of large firms are mainly material while that of small firms are mainly behavioral (Rothwell, 1992 p16). This emphasizes the increased potential of linkages between SMEs and LEs that can provide complementary benefits in the innovation process.

iv) Consumerism, product differentiation and niche marketing

As a result of increasing affluence, consumers are more sophisticated and are increasingly willing to pay more for unique products. Hence the increase in product differentiation, and the advent of niche marketing, catering to the trend of consumerism. Naturally, such products have to be limited in supply, and this creates opportunities for SMEs.

The forces of change above mentioned, while increasing opportunities for SMEs, have also produced threats associated with greater uncertainty and pace of competition. This has led to increased policy emphasis on the development of SMEs, providing supporting infrastructure to enable local SMEs to take advantage of these trends, cope, adapt and ride the wave of change. However, increased business opportunities for SMEs do not mean that global economies are gravitating toward smaller firms. On many occasions, the tendency has occurred in the reverse direction. However, both directions are not contradictory, as they occur in different industries and niches. As technology advances, there may be more space for everyone, and large firms will increasingly evolve side by side smaller firms. As Staley and Morse hypothesized (Chew 1988 37), once a critical minimum level of modern industries is established, the role of small firms does not decline with time.

SECTION C

ASSESSING ITS ROLE

HISTORICAL OVERVIEW

Prior to independence in 1965, the short phase of import substitution industrialization(ISI) saw the dominance of SMEs, that were supported by access to a large domestic hinterland market and traditional entrepot trade. With export led growth ever since 1965, the small domestic market, imperative to cure high unemployment problems along with other reasons, saw the rapid inflow of MNCs' investments. This has led to an industrial structure and an economy heavily reliant and dominated by MNCs. GLCs also developed extensively, as the government took upon an entrepreneurial role. A lack of indigenous entrepreneurship and the need to develop certain strategic industries were some of the reasons given to justify their intrusions into the private market. As a result of the need to restructure the economy, the need to upgrade unproductive SMEs, and the strategic requirements for future growth, a greater policy emphasis has translated into the formulation of the SME Master Plan and the implementation of the recommended policies.

ROLE IN THE BID TO CAPITALIZE ON NEW OPPORTUNITIES, TO CREATE NEW NICHES AND AN EXTERNAL ECONOMY

The next phase of growth will depend on how successful our economy can adapt to the changing global trends. With increased business opportunities for SMEs, as above mentioned, the challenge is how to exploit them. Hence, the vision to produce world class enterprises capable of delivering new products and services to the market, at the right place and time. Obviously, given the small domestic market, an export orientation has to be adopted and a global market niche created. This can also help diversify our market exposure and product base, so as to become less susceptible to regional economic risks such as the current Asian financial crisis, or cyclical

demand cycles. Therefore, the SMEs can widen, strengthen our economic base, and boost our economic growth. The more successful ones can grow to become MNCs.

To a certain extent, the SMEs and local MNCs may be seen as a balance for more sustainable growth in the future, without a lopsided dependency on foreign enterprises. In fact, the argument that our indigenous GDP is too low for us to be considered a developed country, which should be able to sufficiently self generate and sustain growth, points to the need to boost our indigenous sources of growth. However, given the smallness of our geographical territory, economy and talent pool, it is not viable to be too nationalistic in arguing for the replacement of foreign MNCs. It is likewise not plausible that the SMEs will replace the MNCs and the GLCs as the main driving forces behind Singapore's future economic growth.

The SMEs can also go regional, or even global, leveraging on the resources of other growing economies to build up our external economy, to circumvent our own domestic resource constraints. Moreover, this can improve their economies of scale, and sharpen their competitive edge in creating niche markets in the world. Recent evidence of Taiwan firms venturing abroad suggests that these investors tend to be SMEs, whose intangible assets are their abilities to conduct flexible manufacturing production (Chen1995). The Promising Local Enterprises (PLE) scheme under the purview of the EDB promotes and nurtures the more successful local enterprises to undertake such activities. These PLEs are assisted in increasing exports, finding new markets, forming strategic alliances, developing into local MNCs and internationalizing their operations. At the moment, our regionalization efforts have mostly been spurred by GLCs. The unfamiliarity of new terrain, and the associated high risks, have deterred local enterprises from daring to venture overseas. Even for the Taiwanese SMEs, there are pressing concerns due to a lack of financial and management resources. Therefore, EDB's appropriate assistance plans, with co-investments and joint ventures will help mitigate the risks and smoothen the regionalization path. However, while this insight may be noteworthy for the regionalization role that Singapore's SMEs can play, it remains to be seen if it is possible for SMEs to play an enhanced role in building the external wing of our economy.

At this juncture, it is noteworthy that although, the term regionalization refers to within the SE Asian region, the rationale behind the desirability to build an external wing is not confined to within the region. The region is merely a more obvious location to begin with, due to closer proximity and familiarity. However, just as in the need to diversify our markets, there is also a need to penetrate other regions and establish our wings.

ROLE IN THE BID TO BECOME A TOTAL BUSINESS HUB

In our bid to become a total business hub, the role of the SMEs must be appreciated as part of the integrated, multifaceted attraction of a hub. Hence, a vibrant and strong supporting industry and service base. These inter-firm linkages should ideally form networks both within Singapore and globally, so as to position our economy as an important link in the global value added chain. Already, there exist a plethora of intra-firm networks within the East Asian region. These networks are in turn linked into global networks of the specific industries. It is estimated that at least 55% of the intra-regional trade is also intra-firm (Dobson, Wendy 1997 3). However, whether these linkages will be deepened, and whether our economy will remain relevant, will depend on the ability of the SMEs to cater to the needs of the MNCs, who are as equally footloose in their outsourcing programmes as they are with their production locations. As Singapore is poised to become regional headquarters and a gateway to the region, it must be able to offer the MNCs the global competitive advantage. Hence, this requires a multi-pronged approach, which includes the ability to provide quality and cost effective supporting activities for MNCs upstream production and operation. More than 15 years ago, a Japanese X-ray equipment manufacturer decided against basing a plant in Singapore, because no local manufacturer could meet has welding requirements. It must be understood that the competitiveness of the goods produced by large

MNCs, will depend partly upon the efficiency of the smaller firms supplying components. Therefore SMEs do ultimately affect the competitiveness of Singapore.

These SMEs would also serve as a conduit through which foreign technology and know-how may be adopted, infused and take root within our economy. Rather than merely a transfer of MNCs' production lines, technology and expertise, this will deepen the process of technology transfer, spurring technological adoption and economic growth. The Local Industry Upgrading Program (LIUP) is precisely intended to promote these inter-firm linkages. It encourages MNCs to adopt local SMEs and work to upgrade their capabilities. Touted to be a win-win situation, these upgraded SMEs can then serve the MNCs more effectively. EDB's concept of industrial clusters, partly modeled after the Japanese keiretsu is also intended to promote such linkages.

ROLE IN INNOVATION-LED GROWTH

To sustain our future growth, we are in the midst of restructuring towards an innovation driven economy. There will be a need to compete on the ability to create and exploit new technology and knowledge. Hence, we need to re-sharpen our competitiveness for this new growth paradigm. SMEs play a vital role, as they are a seedbed for local entrepreneurs, and hence a base for indigenous innovations. This is particularly true for the NTBFs, especially in the microelectronics industry that favors small firms (Chee 1988 39). These firms, small in terms of capital outlay and scale of production thrive on product innovations. Such innovations are indispensable for innovation driven growth. This will in turn have multiplier effects, in terms of attracting MNCs and enhancing technological adoption in the rest of the economy. The Silicon Valley in California and other high technology areas like Boston are estimated to be above the national average in terms of income and growth generation. The recently announced Science Hub project is intended to create the necessary infrastructure to stimulate and provide a techno-entrepreneurial culture and environment. The project will cost up to S$5 bil and will take at least 15 years to accomplish. By then, it is hoped that our indigenous NBTFs will start breeding.

So far, the analysis has treated the SMEs as if they were a homogeneous group of enterprises. However, they are not, and we cannot expect all the SMEs to play those roles above mentioned. For example, there will be SMEs in the retail sector who will remain serving only domestic demand. While that may not fall within the roles mentioned above, they nevertheless contribute to employment and output. This entails that resources within this group of SMEs must also be optimally allocated. They must not be neglected and must be helped to restructure as we transit to a knowledge based economy. If not, they may become a hindrance rather than a spur to our overall growth. Fortunately, policy makers have recognized the heterogeneity of the SMEs, and hence the need for different policy emphases. This is can be seen in the separation of functions between PSB and EDB. EDB's role entails the development of SMEs capable of performing a larger role, while PSB's role basically entails the weeding out of inefficiencies in the SMEs. PSB has been actively promoting the pooling of resources to achieve economies of scale such as through a franchise system or an SME cluster (Straits Times, 1/12/96). Recently, the government has set aside S$26m for PSB to manage, in helping upgrade operations of about 1,700 HDB SME tenants moving into new premises (Straits Times, 19/9/98).

One may correctly point out that the above mentioned roles of the SMEs are similar to that already envisaged in the SME Master Plan (EDB 1989 10). But is the vision already fulfilled? The answer is no. For example, many of our local SMEs are characterized by low management quality, and do not even know how to calculate cash ratios or project cash flows (Straits Times 5/9/98). Till date, there are only a handful of local enterprises that are MNCs or who are niche players in international markets. Neither can we claim to have a strong R&D supporting base, nor a significant pool of NBTFs. However, this does not mean that the SMEs do not presently play any role, but that the importance, magnitude and quality of its role still falls short of its potential. When we empirically study the SME sector in the next section, it will be evident that although the

situation has improved, it is still far from ideal. Of course, we cannot expect the SMEs to become "world class" overnight, or as a matter within a decade. Nevertheless, an assessment is in order, to know the distance we have covered, and the distance we have yet to cover.

SECTION D

PERFORMANCE OF SMEs IN SINGAPORE

OVERALL PERFORMANCE

SMEs form an important and integral part of Singapore's economy. In 1994, they constituted about 94% of total establishments in the manufacturing, commerce and services sectors, 48% of employment, 34% of value added and 49% of direct exports (DOS 1997A
1).

TABLE 1 OVERALL PERFORMANCE OF THE SME SECTOR

%	**Prop of total Establishment**	**Prop of total Employment**	**Prop of total Value added**	**Prop of total Direct exports**
1985 – 1987	90	44	24.4	15.9
1994	94	48	34	49

Source: SME Master Plan 1989 and DOS 1997A

SECTORAL ANALYSIS

Services

SMEs and LEs

TABLE 2 SHARE OF SMEs AND LEs IN SERVICE SECTOR (1985 & 1994)

	Prop of total Establishments	Prop of total Employment	Prop of total Value added	Avg Value added per wkr
	%	%	%	S$
Type	**1985 / 1994**	**1985 / 1994**	**1985 / 1994**	**1985 / 1994**
SMEs	97.4 / 98.2	43.4 / 47.5	47 / 37.7	39724 / 66603
LEs	2.6 / 1.8	56.5 / 52.5	53 / 62.3	60201.2 / 99580.6

Source: DOS 1994 Census of Services and SME Master Plan 1989

Of 42,689 enterprises in the services sector in 1994, about 98% were SMEs. Although large enterprises were small in numbers, they generated the largest share of 62% of the total value added and employed more than half of the workers in this sector. In fact, while the share of LEs in terms of employment has fallen since 1985, its share of value added has increased. However, to conclude that SMEs in this sector have become less important is incorrect, as we cannot ignore the synergistic relations between the LEs and SMEs, which the data cannot capture. Likewise, we cannot conclude that the SMEs have become less competitive or have fallen behind, as there is simply no basis for such comparisons. While workers in large enterprises were the most productive, generating a value added per worker (as a proxy for productivity) about 1.6 times that of workers in SMEs, the productivity of workers in SMEs have improved about 1.7 times.

Local and Foreign enterprises

Local enterprises dominated the total number of enterprises and employment accounting for 92% and 85% respectively. However, in terms of employment per establishment, on the average, foreign enterprises engaged 15 workers while local enterprises had 8 workers. A large share of total value added (83%) was contributed by local enterprises. However, they were not as productive as the foreign enterprises who achieved a value added of $99,000 per worker in 1994 while those in local enterprises had $87,600 (DOS 1994A 10-11).

Unfortunately, the 1994 census did not present data segregated between LEs and SMEs by ownership. Therefore, a comparison between local and foreign SMEs cannot be presented for 1994. However, figures were available for 1985. Moreover, to the extent that the 1994 figures for overall local and foreign enterprises are a good approximation of the corresponding figures for local and foreign SMEs, some sensible but weak inferences may be made.

TABLE 3 COMPARISON BETWEEN LOCAL AND FOREIGN SMES' PERFORMANCE IN SERVICES (1985)

	Prop of total establishments (%)	Prop of total employment (%)	Prop of total Value added (%)	Avg value added per wkr S$	Net fixed assets per worker S$
Local SMEs	85	34.1	23.5	40,000	133,200
Foreign SMEs	12.4	9.3	23.3	144,400	105,100

Source: SME Master Plan 1989

TABLE 4 COMPARISON BETWEEN LOCAL AND FOREIGN ENTERPRISES' PERFORMANCE IN SERVICES (1994)

	Prop of total establishments (%)	Prop of total employment (%)	Prop of total Value added (%)	Avg value added per wkr S$
Local	91.8	84.8	83.2	82,333

Foreign	8.2	15.2	16.8	92,750

Source: DOS, 1994, Census of services

From the above tables, we observe that in 1985, while local SMEs employ a much larger proportion of workers, they merely contribute the same proportion of value-added. This is also reflected in the figures for value added per worker, despite a higher net fixed assets per worker for local SMEs. The vastly better performance of foreign SMEs may be attributed to their better management, technology know-how, and export orientation. It could also possibly reflect a particular concentration of foreign SMEs in a higher value added sub-sector such as financial, insurance and business services. Unfortunately, data is unavailable for the distribution of foreign SMEs in terms of the various sub-sectors. Improvements may have occurred since 1985, if the smaller divergence in value added per worker between local and foreign enterprises in 1994, also suggests a similar situation for the local and foreign SMEs.

Manufacturing

SMEs and LEs

TABLE 5 SHARE OF SMEs AND LEs IN MANUFACTURING SECTOR (1987 & 1996)

	Prop of total Establishments %	**Prop of total Employment %**	**Prop of total Value added %**	**Avg Value added per wkr S$**	**Net fixed assets per wkr S$**
	1987 / 1996	**1987 / 1996**	**1987 / 1996**	**1987 / 1996**	**1987 / 1996**
SMEs	93.7 / 78	52.2 / 33	30.6 / 16	30563 / 37167	19100 / 30260
LEs	6.3 / 22	47.8 / 67	69.4 / 84	75696 / 96108	76433 / 109723

Source: DOS 1996 Census of industrial production and SME Master Plan 1989

Of 4,068 enterprises in the manufacturing sector in 1996, about 78% were SMEs. Although large enterprises were small in numbers, they generated the bulk of total value added and employed more than half of the workers in this sector. In fact, the share of LEs in terms of employment has risen since 1987, and so has its share of value added. Workers in large enterprises were the most productive, generating a value added per worker (as a proxy for productivity) about 2.6 times that of workers in SMEs. The can be attributed to the much higher net fixed assets per worker of LEs, which is expected by the definition of SMEs in manufacturing. Both the productivity of workers in SMEs and LEs have improved about 1.2 times.

Local and foreign enterprises

Local enterprises dominated the total number of enterprises accounting for 79.1% in 1996. However, a large share of total value added was contributed by foreign enterprises. In 1996,

when there was a slowdown in electronics demand, saw the rate of return for local enterprises sliding down by some 10 percentage points. This was due largely to the fact that many local enterprises supply parts and components to electronics MNCs (DOS 1996 7). While this reflects the industrial linkages involved, these supporting industries are nevertheless labour intensive rather than high technology based.

TABLE 6 COMPARISON BETWEEN LOCAL AND FOREIGN SMES' PERFORMANCE IN MANUFACTURING (1987)

Type	Prop of total establishments (%)	Prop of total employment (%)	Prop of total Value added (%)	Avg value added per wkr (S$)	Net fixed assets per wkr (S$)
Local SMEs	79	35.9	18.1	25700	19,100
Foreign SMEs	14.7	16.3	13	39700	24,900

Source: SME Master Plan 1989

TABLE 7 COMPARISON BETWEEN LOCAL AND FOREIGN ENTERPRISES' PERFORMANCE IN MANUFACTURING (1996)

%	Prop of total establishments	Prop of total Value added
Local	79.1	28.1
Foreign	20.9	71.9

Source: DOS, 1996, Census of industrial production

From the above tables, we observe that in 1987, while local SMEs employ twice the number of workers, they contribute only 1.4 more times value added than foreign SMEs. This is also reflected in the figures for value added per worker, where foreign SMEs have a value 1.5 times greater. The vastly better performance of foreign SMEs may be attributed to their better management, technology know-how, and export orientation. A more extensive automation and greater capital intensity is also reflected in a net fixed assets per worker about 1.3 times larger. It could also possibly reflect a more high-tech intensive and higher value added niche of foreign SMEs. Note that local SMEs and local enterprises in both years account for almost an exact same proportion of total enterprises. This very likely indicates that these local enterprises are mostly SMEs, and have increased in their importance in terms of contributions to total value added. Lastly, the manufacturing sector is still very much dependent on foreign enterprises.

Commerce

SMEs and LEs

TABLE 8 SHARE OF SMES AND LES IN COMMERCE SECTOR (1983 & 1993)

	Prop of total enterprises (%)	Prop of total Employment (%)	Prop of total Value added (%)	Value added per wkr S$
	1983 /1993	**1983 /1993**	**1983 /1993**	**1983 /1993**
SMEs	93.7 / 98.4	65.4 / 68	54.2 / 51	21673 / 38813.3
LEs	6.3 / 1.6	34.6 / 32	45.8 / 49	31113.7 / 79143.8

Source: DOS, 1993, Census of Commerce and SME Master Plan 1989

Of the 50999 enterprises in the commerce sector in 1993, about 98.4% were SMEs. SMEs also captured the bulk of employment, accounting for 68%. Although large enterprises were small in numbers, and accounted only for a third of employment, they generated almost half the total value added. Over the ten year period, productivity of the SMEs has increased about 1.8 times.

Local and Foreign enterprises.

Local enterprises dominated the total number of enterprises and employment accounting for 92% and 77% respectively. However, they were not even half as productive as the foreign enterprises who achieved a value added of $92,000 per worker in 1993. (DOS 1993 10).

TABLE 9 COMPARISON BETWEEN LOCAL AND FOREIGN SMES' PERFORMANCE IN COMMERCE SECTOR (1986)

	Prop of total establishments (%)	Prop of total employment (%)	Prop of total Value added (%)	Value added per wkr (S$)	Net fixed assets per wkr (S$)
Local SMEs	94	64.4	46.8	16,100	20,400
Foreign SMEs	4.9	0.07	15.6	49,600	39,200

Source: SME Master Plan 1989

TABLE 10 COMPARISON BETWEEN LOCAL AND FOREIGN ENTERPRISES' PERFORMANCE IN COMMERCE (1993)

	Prop of total establishments (%)	Prop of total employment (%)	Prop of total Value added (%)	Value added per wkr S$
Local	92	77..0	60	40,000
Foreign	8	23	40	92,000

Source: DOS, 1993, Census of Commerce

From the above tables, we observe that in 1983, while local SMEs employ the bulk of workers in the commerce sector, their contributions to value added are not as correspondingly large. This is also reflected in the figures for value added per worker. This may be due to their lack of automation or capital intensive methods as reflected in their net fixed assets per worker, only half that of foreign SMEs. Improvements may not have occurred since 1985, if the relative divergence in value added per worker between local and foreign enterprises in 1993, also suggests a similar situation for the local and foreign SMEs. Indeed in 1993, SMEs had an average of S$27,000 net fixed assets per worker (DOS 1993 8), which if we assume to be representative of local SMEs (since they form the bulk of employment), and that foreign SMEs were not less capital intensive as they were in 1986, then the situation has not markedly improved.

SURVIVAL ANALYSIS OF SMES AND THE PROFILE OF GROWING SMES(GSMES)

In the 1984 census, the total population of SMEs was 65,862 of which 30,165 or 46 per cent were still operating business in 1994 (see Fig 2). The GSMEs made up 29 per cent of these SMEs and 2 per cent had grown significantly to attain large enterprise status in 1994. This implies that more than a third of the SMEs who have survived since 1984 were not growing. It also implies that of the SMEs in 1984, a mere 13% grew and only almost 1% became large enterprises. While this partly reflects the nature of competition, it also possibly points to the need for a policy review to more effectively reach out and help the SMEs. The majority of the GSMEs (89 %) were owned by Singaporeans. In 1994, the SMEs population had expanded to 94,027 representing an increase of 43 per cent during the ten-year period. This reflects that the SME sector has remained vibrant as more are setting up businesses than closing down. However, although there has been a net addition of new local businesses each year, of about 52% (Straits Times, 25 Jul 1997), 70% of local businesses fold up within first five years of inception. This is higher than the international average of 50-60% (Business Times 26 Jul 1993).

FIGURE 2 - Source: DOS 1997A

Local vs Foreign SMEs

It is generally postulated that the foreign SMEs have a competitive edge over their local counterparts as the former usually acquire experience and expertise in their line of business operations before venturing abroad. As such, the survival rate of the foreign SMEs is expected to

be higher than their local counterparts. However, an analysis by type of ownership revealed the contrary. Overall, the local SMEs had a slightly higher proportion of survivors (46 per cent) than their foreign counterparts (43 per cent) (see Fig 3).

FIGURE 3 SURVIVAL RATES OF LOCAL AND FOREIGN SMEs

Further analysis by sector provided some clues to this puzzle. While the survival rate of the local SMEs in services was leading the foreign SMEs by a wider margin (47 per cent vs 40 per cent), the margin narrowed in commerce (46 per cent vs 44 per cent). In fact, the pattern was reversed in manufacturing where the foreign SMEs encountered a much higher survival rate (52 per cent) than the local SMEs (43 per cent). Apparently, the transfer of technology and skills in manufacturing from foreign countries proved to be more successful than that of experiences/expertise in services and commerce. In the latter cases, the local SMEs seemed to have greater awareness of and were more adaptable to their clients' demand and tastes.

COMPARATIVE STUDIES

TABLE 11 ECONOMIC IMPORTANCE OF SMEs IN 4 ASIAN NIES AS AT 1987

%	Of total companies	Of total workforce	Of total value added	Of total exports
HongKong	98	62	57	17
Singapore	91	46	31	18
South Korea	98	66	38	34
Taiwan	97	70	55	66

Definition of SMEs in other 3 NIEs:
Taiwan : capital < NT$40m & assets < NT$120m
Hong Kong: 1-200 employees
South Korea: 1-1000 employees for manufacturing 1-20 employees for services
Source: Regnier, P. (1993) The dynamics of small and medium-sized enterprises in Korea and other Asian NIEs, Small Business Economics, 5(1), p24

The above table shows the relatively smaller role of SMEs in Singapore. However, it is incorrect to conclude that SMEs in Singapore must necessarily be less efficient or less productive. To interpret the relative efficiencies of SMEs in the NIE countries, further information such as the value added per worker and value added per remuneration must be obtained. However, such data is unavailable. The smaller role of SMEs in Singapore must be expected, as it reflects the underlying economic and industrial structure that relies heavily on foreign MNCs and GLCs. South Korea also relies heavily on large conglomerates as the engine of growth, while Taiwan's economic growth is very dependent on the SMEs, with HongKong falling in between. Essentially, this comparison brings into question if a particular sort of industrial structure is desired or if the desirability is contingent upon economy-specific factors. To this end, it is noteworthy that South

Korea and Taiwan, while small economies, are nevertheless much larger than HongKong and Singapore. Their significant agricultural sectors have also promoted the SME sector through rural industrialization. Moreover, they have fortuitously benefited from a larger immigrant entrepreneurial base. HongKong had also been able to tap on the entrepreneurial experience of the Shanghainese immigrants. While many features of the HongKong's economy is comparable to that of Singapore's , their political status are different. HongKong's spur towards industrialization took place under the auspices of the British rule, while China remained a hinterland. The fact that Singapore had also to struggle with political imperatives in an uncertain geo-political setting, coupled with the absence of a hinterland partly explains the different path towards industrialization which relies heavily upon foreign MNCs, than local SMEs which may never have succeeded or may have taken far too long. Nevertheless, the role of the SMEs in HongKong's hub status and service oriented economy should serve as a benchmark for the progress of our service oriented SMEs. Likewise, SMEs from Taiwan involved in high technology export oriented manufacturing, should also serve as case studies to strategically model our local SMEs after. At present, our local SMEs still lack the technology, creativity and drive that the other SMEs possess.

The current crisis has led to a significant drop of sales for 7 in 10 local SMEs. About two-thirds are facing cash flow problems with some 5% not likely to survive the crisis (Straits Times 8/9/98 & 18/9/98). Meanwhile, Taiwanese SMEs have been lauded for their ability to adapt to the regional downturn, thus providing a thick bedrock that cushions the impact of the crisis on Taiwan's economy (Straits Times 9/9/98).

SECTION E

ISSUES:

Assessing the roles of the SMEs would be incomplete without assessing the feasibility of attaining them. To this end, there are 3 important and controversial issues to consider:

COMPREHENSIVE SME POLICIES. HOW EFFECTIVE?

There have indeed been improvements, but the extent does not correspond to the comprehensive range of assistance offered by the agencies. Despite the availability of suitable assistance schemes, shortage of finance, marketing, labour, high costs of operation and too competitive environment were cited as the main problems and constraints facing local SMEs (Ghosh B.C. et al 1993). In addition, the main sources of financing remain to be personal savings and family support. One critic of the SME Plan is that on the one hand the vision formulated bureaucratically portrays the paternalistic "government-knows-best" style. Yet, on the other hand , the schemes are offered on a "do it yourself", self help approach (Toh and Lim 1990 256-57). This top-down "instructions" for bottom-up initiatives may have alienated the target audience, as can be inferred from the absence of the Association of Small and Medium Enterprises (ASME), from the Enterprise Promotion Centre (EPC) (Toh and Lim 1990 255). It has often been said that there is a psychological barrier where bureaucratic control and inspection into balance sheets are concerned when assistance schemes are taken up. This also poses a policy dilemma as on the one hand, funds are taxpayer's money and have to be justifiably used, yet on the other hand, the essence of entrepreneurship entails risk taking where the basis for justification is blurred. A perception that the government favors the "big MNC boys" may have also resulted in nonchalance. If these have been the main obstacles behind the progress of SMEs, and are not resolved, the results will remain disappointing.

On balance, the trend in the take-up rate of schemes have been encouraging. This reflects an improvement over the initial difficulties of local entrepreneurs in accepting administrative checks and control when utilizing assistance schemes (EDB 1993 205). Moreover, the government's

efforts in helping the SMEs during the present crisis, is a signal that importance is not merely attached to the bigger players. An enhancement of the Local Enterprise Finance Scheme has expanded coverage, in the midst of the financial crisis to help more local enterprises tide over the credit crunch problems (Straits Times 18/9/98). In addition, the government has also agreed to bear 50% of the risk of short-term loans given by banks. The ongoing ministerial visits to SMEs also shows conviction on part of the policymakers for more feedback on ways to fine-tune the assistance schemes. This represents a more bottom-up approach.

Ultimately, the principle of the assistance schemes must remain one of self help, than of handouts. Policies and schemes are in place to support the SMEs, but they do have limitations. Without an effective demand for self help, the most comprehensive and accessible of schemes would not even matter. For example, schemes for upgrading and expansion will be useless in face of entrepreneur constraints. At present, the jury is still out on whether the assistance schemes within the bureaucratic framework and the mindset of local entrepreneurs, will be effective in helping fulfill the future role of the SMEs.

CROWDING OUT OF SMEs. DOES IT OCCUR AND SHOULD IT MATTER?

It has often been claimed that Singapore's industrialization path, which features the necessary presence of MNCs has led to a crowding out of SMEs. Coupled with the extensive role of GLCs, heavily present in diverse sectors of the national economy, SMEs often face unbearably stiff competition in factor and product markets, which naturally stunted their development. We need to further rationalize this argument. If factors are efficiently allocated to MNCs and GLCs where they are more highly valued, then there is no under allocation of resources to SMEs. That the SMEs are crowded out due to "high" factor prices, is simply because their marginal products are lower. Similarly, if the SMEs find it difficult to compete in the product markets, it is simply because they are less efficient and less competitive in those industries. One may argue, correctly, that in reality, factor markets are imperfect and therefore smaller firms are at a disadvantage. However, there is no lack of funding, since many favorable assistance schemes are available. Nevertheless, one may pick an axe with the extensiveness of GLCs. It has been noted that many GLCs are increasingly diversifying, leveraging on their strong financial support and better information (Straits Times 24/7/1997). These diverse arms of the GLCs create linkages for one another, and self supporting markets. Hence, their competitive edge in certain industries may not be driven by efficiency, but by their monolithic extensiveness in various industries. Moreover, some subsidiaries may enjoy hidden subsidies, within the conglomerate. This perception itself may be sufficient to deter the growth of SMEs, as the percieved lack of room in the market is a highly effective entry deterrent. The crux of the issue then is if the GLCs can replace the role of the SMEs. Obviously not. While a political scientist may offer a different reason why, from an economic standpoint, SMEs provide for competition, efficiency and the drive to innovate, which GLCs cannot replicate. The monopolistic nature of the GLCs are antithetical to the benefits of economic competition. While it may be acceptable that GLCs play an important role in strategic areas like defense science, or other fields that require large risky investments, it is hard to comprehend why this can lead to increasing diversification. Policy makers may point to the need for GLCs to establish certain national comparative advantage while private entrepreneurship is still underdeveloped. However, they must consider when and how the carpets will be rolled back, when the SME sector is strengthened. In fact, if the SME sector will be strengthened, for the pervasiveness of GLCs in our economy may create a self reinforcing process, that results in perennial reliance on them.

DEARTH OF INDIGENOUS ENTREPRENEURSHIP. CAN IT BE HELPED?

The apparent dearth of indigenous entrepreneurship may be explained by the following factors:
i) Perceived crowding out, costs of doing business
ii) Traditional inclination of local entrepreneurs towards entrepot service rather than

manufacturing activities or other services (Toh and Lim 1990 256).
iii) Lack of talent
iv) Lack of willingness to become an entrepreneur

In the author's opinion, the two most plausible explanations are the lack of talent and the lack of willingness. The education system has been alleged to inhibit creativity and independent thinking. In recent years, this has translated into many changes including the calls to become a "Thinking Schools, Learning Nation". A long gestation period is required and hence it is premature to assess the effectiveness of the recent changes. Arguably in the shorter term, our talent pool may be augmented by foreign talent. However, such foreign talent while on the one hand may help boost our entrepreneurial scene and help inculcate ideas, on the other hand may result in another dependency or even discourage potential local entrepreneurs who may perceive the foreign counterpart as far more experienced and competent to compete against.

The unwillingness to become an entrepreneur and undertake large risks is a byproduct of the years of stability and growth that we have experienced. It makes perfectly rational economic sense to be risk adverse and unwilling to become an entrepreneur, when the opportunity costs (a well paying and stable job in an MNC or civil service) are so high. Even within the present pool of entrepreneurs, there seem to be a lack of drive and venturing. An analogy of frogs and lizards may be drawn in comparison between Singapore and HongKong businessmen. While Singapore businessmen are like frogs, waiting for flies to come, HongKongers are like lizards in the search for flies (Straits Times 5/9/98). Our zeal in hunting for opportunities are pale in comparison.

Certainly, there are severe limitations to what policies can achieve in hoping to nurture a more entrepreneurial populace. Prognosis may lie with the attempts to change the education system and the mindsets of the younger and better educated that have the ideas and drive. Meanwhile, the Asian financial crisis that have led many unemployed, including graduates, may see an increased willingness to venture and create new ideas and businesses.

Conclusion

SMEs are a distinct economic entity that often thrive in small niches. They face constraints and disadvantages arising from market failure. These form the rationale for government intervention. Today, global trends have led to a rapid expansion of business opportunities, which have cast the role of SMEs into the limelight. While the SMEs can play many strategic roles in our transition to the innovation driven stage of development, recent trends over the decade have shown that they still have a long way to go. They need to catch up on technological advancements, adopt better management practices and seek export markets, among other aspects. Moreover, the issues regarding the effectiveness of policies, the crowding out by GLCs and the dearth of indigenous entrepreneurship will need consideration and hopefully resolution.

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