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Future Development Directions for the Global Competitiveness of Hong Kong Manufacturing Industries

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ABSTRACT

In this era of global markets and owing to the impact of the current financial turmoil in East Asian economies, Hong Kong's manufacturing sector is facing much stiffer competition in the global markets. Despite the current financial turmoil in the Asia-Pacific region, following its remarkable economic development in the last few decades and the comparatively stable environment, China is expected to develop the capacity to revitalise, the world economy in the next century —albeit with some difficulty,. Hong Kong SAR has been facing keen competition from the other three 'little dragons' for years. Following the current economic turmoil, Hong Kong will be challenged more through increasing rivalry from the emerging East Asian countries. Hong Kong's manufacturing industries must seize the profound opportunities offered by the world market in the 21st century by becoming more globally competitive. In this paper, the future directions for the globalisation of Hong Kong manufacturing industries are studied on the basis of a survey and structured interviews encompassing the major sectors of Hong Kong manufacturing industry. The results are analysed in the light of four well-established models of national economic development. It is concluded that the manufacturing sector is as important as the service sector for the stability and growth of Hong Kong and that Hong Kong's manufacturing sector needs to rapidly acquire greater technological sophistication.

1. Hong Kong Manufacturing Industries: Threats and Opportunities

Owing to the absence of natural resources resulting from a scarce supply of land, Hong Kong has difficulty in developing land-intensive or heavy industries. Hong Kong has so far concentrated on the manufacture of light consumer and labour-intensive industries. In contrast, in order to withstand stiff competition in the world market, the other three *little dragons*, namely Korea, Taiwan, and Singapore, have adopted the strategy of developing their manufacturing sectors through proactive policies that emphasise product innovation and technology sophistication in addition to quality enhancement. Hong Kong has already taken several steps in the third direction (quality enhancement) but is only starting to discuss the first two aspects. Therefore, Hong Kong faces the danger of losing competitive edge.

The origin of Hong Kong's current problems as well as it's past decisions lie in its high wages and land costs. To counteract these threats, Hong Kong's manufacturers had opted to move out into mainland China in view of the abundant supplies of much cheaper land and labour resources available there.

Over the past fifteen years, most Hong Kong manufacturers have been shifting their labour-intensive production activities across the border. The extent of relocation can be noted from the proportion of outward processing trade handled with the mainland. The total exports from Hong Kong to the mainland for outward processing in 1995 resulted in an annual growth of 20%. Of the total exports of this type, about 71% of domestic exports and about 45% of re-exports were attributed to outward processing activities in the mainland. Moreover, 74% of imports from the mainland and 82% of re-exports of mainland origin (except to the mainland itself) were also related to outward processing trade with the mainland. It is not surprising therefore that, since 1989, mainland China continued to occupy the role of being the primary country of origin of Hong Kong’s re-exports trade. In addition, in the same period, mainland China had become the primary destination of the re-exports trade initiated by other countries.

Despite the economic advantages of low labour cost and cheap land in mainland China, Hong Kong needs to face intense cost rivalry from such newly emerging East Asian economies such as Thailand, Malaysia, Indonesia, and the Philippines. This is particularly true now owing to the impact of the devaluation of the currencies of these countries. Further, many Hong Kong manufacturers have been suffering from escalating

labour and land costs in such cities as Shenzhen and Dongguan which are situated close to it's borders. Consequently, Hong Kong enterprises have had to relocate their production plants even further away to places associated with lower running costs. This ongoing relocation of manufacturing industries has however been leading to shrinking domestic manufacture in Hong Kong. This can be seen from the decline in the manufacturing share of the Gross Domestic Product (GDP) from 23.7% in 1980 to 11.2% in 1993 and further to 7.2% in 1996.

It should be evident from the above that Hong Kong manufacturing industries are not only lacking in technological competitiveness but are also rapidly losing their cost competitiveness. Nevertheless, what is now happening is not that manufacturing is hollowing out but an industrial transformation is in progress. This can be surmised from the fact that manufacturing sector is diminishing in conjunction with sustained increases in both gross manufacturing output and manufacturing labour productivity. The gross output of Hong Kong's manufacturing industries rose rapidly from HK$116,585 million in 1980 to HK$348,161 million in 1989 and then gradually levelled off to HK$298,081 million in 1994. On the other hand, the annual growth in manufacturing labour productivity was observed to be 12% in 1996, following a 14% rise in 1995. Jobs requiring higher level of skill and greater professional and managerial expertise were increasing in number while the proportion of jobs for factory floor operations was correspondingly reduced. Further, labour productivity increase was reported to be in correlation with significant enhancement in capital and human resources investment in manufacturing industries that had stayed back in Hong Kong. Consequently, it may be said that Hong Kong is actually undergoing an industrial transformation. This process of transformation however needs to be guided through informed public debate so that, in the irreversible process of globalisation, Hong Kong is able to develop far-sighted strategies towards enhancing its global competitiveness.

2. Economic Development of a Country or Region

In investigating the direction in which Hong Kong manufacturing industries should be spurred, valuable insights may be derived from four well established national development models: Porter's National Development Model [Porter 1980, 1990], Dunning's Investment Development Path [Dunning 1988], Narula's Dynamic Competitive Development Model [Narula 1993], and Si's economic development study [Si 1993]. These models were developed by the originators

essentially to study how a country transits from one stage of development to another.

Porter set forth four stages of national competitive development, namely *factor-driven*, *investment-driven*, *innovation-driven*, and *wealth-driven* stages [Porter 1980, 1990]. Nations develop from a stage of merely utilising basic factors of production and imported technology (factor-driven) to a stage of being able to apply and improve acquired foreign technology (investment-driven). Nations then develop further to create advanced factors of production by engaging in technological innovation on their own (innovation-driven). After this stage, nations begin to lose advantage (wealth-driven) due to reducing rivalry and a drop in demand conditions. Only industries associated with high-income consumption such as services, as well as those that derive their competitive advantage from 'inherited' endowments from a previous stage of development remain internationally competitive.

Dunning improved on Porter's model by analysing the development of a country in terms of Ownership-specific advantages (O-Advantages), Internationalisation-incentive Advantages (I-Advantages) and Location-specific Advantages (L-Advantages), and incorporated the effect of foreign direct investment (FDI) to evolve the national *Investment Development Path* [Dunning 1988]. According to his thesis, countries evolve from a pre-industrialisation stage (Stage 1) to a stage (Stage 2) which depends on inward direct investment (IDI) for import substitution and labour-intensive manufacturing activities. Countries then improve their legal, business, physical and communication infrastructures and adopt export-oriented policies to enhance their L-advantages and probably their local market demands. These attract further IDI and thus encourage the countries to build up their own O-advantages (Stage 3). Subsequently, countries shift their L-advantages to attract technological infrastructure and a pool of skilled labour. As a result, countries are capable of accumulating O-advantages on their own. Countries start to export capital so that ODI (outward direct investment) exceeds IDI (Stage 4). Countries which possess excellent economic performance will have to strengthen their technological sophistication to maintain their net ODI position. The locational decisions of multinational enterprises (MNEs) depend on how to compete against the strategies of regional or global competitors (Stage 5).

Narula argued that 'international business and technology accumulation' has to be added as an agent to inject dynamics to Porter's competitive development model [Narula 1993]. Countries get rid of the reliance on basic factors of production for economic development (Stage 1) by

improving their infrastructure to foster innovation and the acquisition of productive equipment so that the technological accumulation rate can be accelerated (Stage 2). IDI (Inward direct investment) will increase to enhance the growth of related and supporting industries as well as the accumulation of technological advantages and product modification ability. O-advantages are increased which enhance L-advantages as well. Countries then gear towards mass production of medium-technology products. Advanced factors related to O-advantages are enhanced through technology accumulation in technological, managerial and marketing know-how. Modification and adaptation of technologies as well as indigenous applied R&D appear. Production activities suffering from low productivity are shifted to countries at lower stages. Overseas markets are exploited. These activities lead to the rise of outward direct investment, ODI (Stage 3). Countries then use capital intensive production facilities to generate state-of-the-art products. Both basic and applied R&D are undertaken locally. ODI grows while IDI decreases (Stage 4). Highly industrialised countries are presently at the next stage. These countries have slowing economic growth. They possess similar competitive advantages in technology, as well as increasing homogeneity of social and demand conditions and similar market structures (Stage 5).

Si (1993) structured his analysis of Asia-Pacific economic development into a three-stage model [Si 1993]. Countries at the first stage rely on technology introduction. To transfer to the earlier stage of the second stage, countries tend to be dominated by technology introduction by involving in both technology introduction and innovation. To enter the latter stage of the second (i.e. that dominated by technology exports) and the third stage (i.e. technology export), countries have to focus on innovation and structural adjustment.

3. The Current Situation: Survey Results

A questionnaire survey was conducted in early 1997 on the major Hong Kong manufacturing sectors to investigate the global competitiveness of Hong Kong's manufacturing industries. The questionnaire survey findings were followed and verified by structured personal interviews with the survey respondents to avoid any misunderstanding of the questionnaire information and to get more in-depth understanding of their opinions. 400 Hong Kong manufacturing companies from the electrical and electronic products sector, metal industry sectors and plastic product and other industry sectors were randomly selected for this study. Out of these , 62 or 15.5% of acceptable questionnaires were returned. Some

findings of this study have been applied to investigate the manufacturing support for Hong Kong manufacturing industries in Southern China [Lee 1998] and the global competitiveness strategies for Hong Kong manufacturing industries [Tummala 1998]. The survey findings revealed the general practices and opinions of the respondents on the development of Hong Kong's manufacturing industries.

In the following, we will firstly summarise the major findings of the study. Based on the results of the study, we can obtain insights into how the survey respondents perceived the state of Hon Kong's manufacturing industry. Next, through an analysis of the findings on the basis of the national economic development models, we will identify directions for the future development of the global competitiveness of Hong Kong's manufacturing industries.

The major findings of the survey study can be summarised as below.

a) Hong Kong manufacturing industries are facing strong global competition and significant market demand, especially domestic demand, and demand from the three Asian little dragons (Taiwan, South Korea and Singapore) and some Asia-Pacific developing countries. 77% and 79% of the respondents agreed that their products were experiencing 'moderate to very strong' competition from the local competitors and those from the little dragons . About 58%, 71% and 61% of them indicated that the local, dragons' and Asia-Pacific developing countries' customer demands are 'increasing or strongly increasing'.
b) The majority of the respondents (more than 80%) agreed that the primary factors related to competitiveness for Hong Kong manufacturers were cost of production, quality enhancement, and time-to-market. Technology sophistication and product innovation were also considered very important and ranked only next to the previous three factors.
c) The majority (about 95%) of the companies responding had already relocated their labour-intensive production operations to Southern China although some of them (about 45%) also had production operations in Hong Kong. In contrast, relatively fewer companies had relocated their technology-intensive production operations to Southern China and a number of them (about 71%) had retained their operations in Hong Kong.
d) The majority (about 70%) of the companies were found to have 'more than 50%' of their 'management support', 'international marketing', 'research and development', and 'product design and development' activities located in Hong Kong. On the other hand, nearly all of them

had moved their production-related support activities, namely, 'production planning', 'product testing and packaging', 'materials management', and 'inventory and warehousing', across to the two sides of the border between Hong Kong and southern China.

e) The majority (more than 80%) of the respondents agreed that the free and export-oriented economy, low tax system, finance and banking facilities, transportation facilities and network, and information technology and telecommunication infrastructure available in Hong Kong were 'important or very important' and that the performance of these were 'moderate to excellent'.

f) Almost all respondents strongly agreed that advanced technologies would affect the global competitiveness factors listed in point (b) above. In view of technology advancement, they thought that both technology innovation and technology/management know-how transfer could affect technology and managerial competencies.

g) Almost all the respondents (about 77%) found that it was 'difficult or very difficult' to carry out technology innovation on their own. Quite a number of them considered that 'local universities support', 'China's S&T specialists', 'China's S&T facilities' can have moderate level of assistance, but 'government's industrial support', 'government's funding assistance', and 'foreign S&T expertise' were highly likely to enhance local manufacturers' technological innovative capacity. Many of them argued that the government's industrial support was very limited. On the other hand, they agreed that science and technology personnel from the mainland are technically very strong but need more exposure opportunities to global perspectives to become viable technical resources of market value.

h) More than 60% of the respondents indicated that know-how related to foreign science/technologies and management constitutes a 'very strong or strong' source for technology and management know-how transfers. However, only a small percentage of the respondents thought that the technological and managerial know-how available and locally and in mainland China have been of value to them.

i) The majority (more than 97%) of the respondents recognised that the 'managerial experience', 'quick response and great adaptability', 'technical knowledge', 'global market knowledge', 'diverse cultural background', 'multi-lingual capability', and 'Chinese ethnic affiliation' of Hong Kong manufacturers, entrepreneurs and scholars are 'moderate to very strong' in taking up the middleman's role of facilitating technology transfer.

j) In drawing conclusions about the strategies to sustain global competitiveness in future, the majority (86%) of the respondents

advocated the employment of a combination of labour-intensive production, technology innovation and technology transfer.

4. Analysis for Identifying Directions for the Future Development of Hong Kong's Manufacturing Industries

Based on the above survey results, we will now identify the state of Hong Kong's manufacturing industry in the light of the national economic development models introduced earlier. In doing so, the survey results will be cross-referenced and represented by letters within brackets, i.e., {x}. The intention is to figure out the direction Hong Kong's manufacturing industry would be well-advised to pursue so as to strengthen it's global competitiveness.

Hong Kong is a small and resource-handicapped economy. Traditionally, Hong Kong's manufacturing industry has mainly relied on technologies acquired from foreign multi-nationals {g}. These technologies have either been directly applied, or customised to suit labour-intensive manufacture of medium-technology products. Because of the mainland's production sites with low production costs {c} and the limited industrial support from Hong Kong government {g}, the transformation of manufacturing industries towards higher technological sophistication has not been progressing at the desired speed. Nevertheless, being an extremely export-oriented economy {e}, Hong Kong needs to satisfy increasingly sophisticated global customers {a}. In order to survive in the global market in the face of intense competition {a}, some process improvement and product innovation exercises have already been carried out. This has resulted in a significant rise in labour productivity achieved through increasing investments in automation, and capital and labour upgrading activities. On the other hand, following the government's commitment towards a free capitalistic market with a low tax base, direct investments are encouraged {e} together with the well-established physical infrastructure {e}. Through accumulated knowledge and experience from actual business operations and global commercial interactions, Hong Kong industrialists and entrepreneurs are able to apply good managerial and marketing know-how as well as a deep knowledge of the world trade market {i}.

It follows from the above observations that, from the point of view of Porter's Economic Development Model, Hong Kong is presently engaged

in strengthening its advanced factors of production. Therefore, we can conclude that Hong Kong is now in the *investment-driven stage* of Porter's model.

Hong Kong has been equipped with very attractive L-advantages and is now strengthening its O-advantages. Technological, managerial and marketing know-how are now accumulating and are turning into O-advantages. Thus, Hong Kong is now at stage three of both Dunning's Investment Development Path and Narula's dynamic competitive development model.

Hong Kong is still a region dominated by technology. Hence, it is now at the earlier stage of the second stage of Si's economic development model.

5. Developmental Directions for Enhancing the Global Competitiveness of Hong Kong Manufacturing Industries

According to the implications of the national economic development models discussed previously, the transition of Hong Kong's industrial transformation to the next stage of development should be fostered by the accumulation of technological and managerial know-how. Hong Kong's manufacturing industries have to enrich their advanced factor conditions by focusing investments in upgrading industrial structure, technological infrastructure and skilled labour resources. Low productivity operations should be moved to countries at lower stages of development. Technology acquisition should not only focus on improvement but also on self-creation. That means, in addition to improvement and indigenisation of transferred technologies, Hong Kong needs to adopt pro-active strategies to develop technology innovation. To boost innovation for productivity growth, indigenous basic and applied R&D need to be carried out. Hong Kong should aim at eventually becoming a technology export dominated economy so that capital is exported to such an extent that outward foreign direct investment by domestic firms will be larger than inward foreign direct investment by foreign firms.

The survey results have shown that many Hong Kong industrialists and entrepreneurs have already recognised the importance of upgrading technological and managerial competencies {f}. Once endowed with strong technological and managerial competencies, Hong Kong's global competitiveness (which primarily depends on factors such as price, quality, time, technology sophistication and innovation {b}) can be strengthened. However, several Hong Kong entrepreneurs have said that they are facing

great difficulty in upgrading their technology competence {g, h}. Consequently, they believe that reliable and effective strategies for strengthening their global competitiveness cannot rely solely on technology advancement solely and, therefore, there is a continuing need for considerable labour-intensive production {j} to remains at locations particularly across the border in southern China {c, d}.

Therefore, in order to lead Hong Kong manufacturing industries to the next stage of development and to help Hong Kong to quickly strengthen, the government's commitment towards the manufacturing sector through the development of proactive technology development policies and, if necessary, financial support to manufacturing industries is of prime importance.

It needs to be accepted that the present technology base of Hong Kong's manufacturing sector is not sophisticated and robust enough. In order to satisfactorily carryout all the technology innovation and transfer activities implied by the economic development models, it is suggested that government commitment and direct or indirect funding support to the technological advancement of Hong Kong manufacturing industries must be increased and sustained. At the same time, Hong Kong industrialists and entrepreneurs must fully commit towards utilising technologies to upgrade their manufacturing operations.

Concerning technology innovation, the low to medium technology base in Hong Kong makes it difficult to start from scratch. Without utilising external resources, it is very difficult for Hong Kong to initiate technology innovation on its own. We suggest that, Hong Kong's technology innovation can proceed at a faster rate by promoting research co-operation between Hong Kong and mainland Chinese research and development (R&D) facilities, and science and technology (S&T) personnel. These co-operative S&T ventures should be targeted towards encouraging *cross-fertilization* so that innovative technologies can be created for distinct core competencies that can ultimately be applied to generate globally competitive products.

In contrast to the situation with regard to technology innovation, technology transfer has long been the key strategy of Hong Kong manufacturing industry towards accessing foreign capital, technologies, and management know-how. From the long history of business interactions with foreign companies, Hong Kong has accumulated vast experience in the transfer, management and indigenisation of technology — although mainly in the context of low and medium level technologies.

We suggest that, in addition to attracting foreign technological and management professionals, collaboration with China's S&T specialists can enhance Hong Kong's competence in the transfer, improvement and indigenisation of acquired technologies. In this sense, Hong Kong could do well by assuming the role of a middleman in the transfer and indigenisation of *international technologies and management know-how, indigenous technological innovations* as well as *exploitable science and technology results from the mainland*.

The directions identified above were primarily derived from the survey conducted in early 1997. However, since 1997, Hong Kong's economy has undergone major convulsions following the recent economic turmoil sweeping the Far East. Some implications to Hong Kong are summarised in the account (inspired by a recent article in South China Morning Post) provided as Appendix. However, it can be argued that it is necessary to review the survey conclusions in the light of the turmoil.

We are still in the midst of the turmoil and it is too early to form definitive opinions. However, the authors believe that the directions identified above continued to be valid mainly because they are derived from models of economic development of countries in the long term.

If anything, the recent turmoil has made it ever more urgent to recognise the manufacturing sector as an essential component of Hong Kong economy and develop proactive strategies to sustain the global competitiveness of that sector.

One still recalls with some dismay, the euphoria exhibited in several quarters (just before the turmoil) when the GDP share of the financial and service sector had reached 83%. There was little public outrage at the flip side that the share of the manufacturing sector, which is fundamental to the stability as well as long term growth of modern economies, had dwindled to below 8%. This is not to belittle the contributions made by the dispersal of Hong Kong's manufacturing sector to the economics of both Hong Kong SAR as well as the mainland. It was a necessary at that time. It had also contributed to the growth of the service sector in Hong Kong. The pity is that the very same euphoria had led many to be complacent about the fact that manufacturing in Hong Kong was hollowing out at the same time. Hong Kong would have weathered the turmoil with much less trauma if it had indeed developed a technologically vibrant and innovative manufacturing sector.

Peter Drucker, an internationally respected management *guru,* recently said the following [Schlender 1998]: "I used to be a security analyst, and so I can speak with freedom. There's one thing securities analysts will never understand, and that's business, because they believe that money is real. Securities analysts believe that companies make money. Companies make shoes. No securities analyst can really understand that."

6. Conclusion

Hong Kong's manufacturing sector is presently at the crossroads of industrial transformation. A primarily low cost approach might have succeeded in the past but will no longer guarantee success in the future especially after the current economic turmoil in East Asian economies. Many other countries in the region have become much more competitive.

Change is the only constant feature of today's world. Hong Kong manufacturing can survive in this era of globalisation by promoting innovation and technological advancement. At the same time, Hong Kong should refine its middleman role to integrate the core competitive strengths of Hong Kong and the mainland while drawing on intellectual and market knowledge from other technologically advanced countries.

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Appendix

The Impact of Current Economic Turmoil in Asia

(Partly based on the report by Hughs for SCM Post)*

"Hong Kong and the mainland could lose up to US$34 billion in trade from the East Asian economic crisis". "The losses will result from a drop in intra-regional trade due to a fall in economic growth" in the affected economies and "Western markets substituting products from Hong Kong and the mainland for" those from regional competitors with lower costs.

A large proportion of export trade in Hong Kong and the mainland will be hit by a fall in import demand from East Asian countries suffering from deep recession and currency devaluation. The result will probably be sharp fall in demand for foreign goods in these countries. Because of the close trade ties among these Asian economies, China and Hong Kong are the two economies that would potentially experience the largest trade balance reductions.

The other key cause of falling trade between the mainland, Hong Kong and the region will arise from the currency devaluation in regional economies, making imports more expensive and exports cheaper. The currency devaluation in most East Asian countries will also hit Hong Kong and the mainland as Western economies seek cheaper substitute for importation. This substitution will result in an increase in the export share of the other East Asian economies to Western markets.

However, the above projections "ignore the impact of the domestic credit crunch" in the affected countries that "would prevent them from taking full advantage of their strengthened competitiveness". It seems likely that whereas the impact on exports for East Asia could occur "within the first year, it might take two years for the predicted increases of exports from East Asia" to other countries "to be more fully realised". It is also not

certain that "demand in Western economies would be strong enough to absorb an increased flow of exports from Asia".

* Hughs, Duncan [1998], "Economic Crisis Could Cost US$34b in Lost Trade", Special Site on Internet for Asian Crisis, South China Morning Post, Aug./Sept.