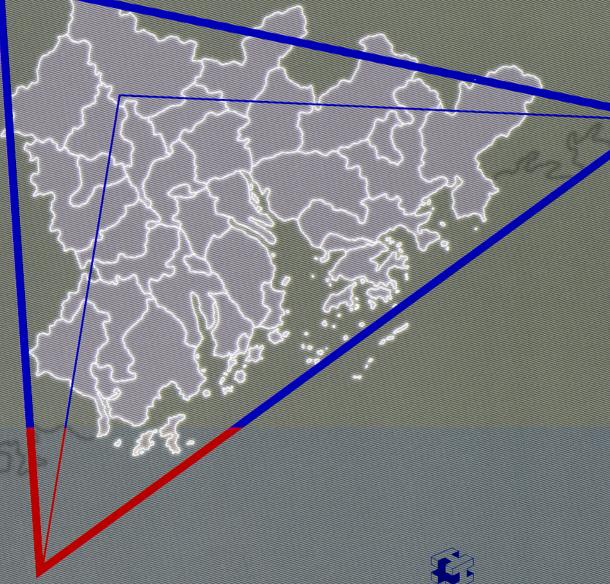
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The Changing Face of HK Manufacturers



Part I Report



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Gaoyao Gaoming Jiangmen Heshan Zhongshan Xinhui Zhuhai Doumen Macau		eration of g Kong Industries

# I. BACKGROUND OF THE STUDY

Since the 1980s, the majority of Hong Kong manufacturers have relocated their production lines to the Pearl River Delta (PRD) region.<sup>1</sup> This move has allowed them to reduce their production costs, and Hong Kong's manufacturing industry to grow rapidly and maintain its competitive edge in the global market.

The relocation process has also helped the service and financial sectors to develop and prosper in Hong Kong. Although it is widely recognised that the rapid growth of these sectors can be attributed to the increase in demand for support services by local manufacturing companies with expanded PRD operations, there has not yet been a systematic study to gauge the economic relationship between the two regions.

Made in PRD - The Changing Face of Hong Kong Manufacturers is a Federation of Hong Kong Industries project that studies the economic relationship between Hong Kong and the PRD region. The objective of the study is to find out the scale and nature of the manufacturing activities of Hong Kong registered manufacturing and trading firms in the PRD region. It also sets out to identify which technological, institutional and logistical infrastructures are required to better support the offshore production of Hong Kong manufacturers and to assess the opportunities and challenges facing them.

The findings will help the business sector, the Hong Kong SAR Government and industry-support bodies to define the development needs of manufacturers, in particular for the technological advancement of Hong Kong's manufacturing industry.

The term PRD usually refers to the region that includes Guangzhou, Shenzhen, Dongguan, Huizhou, Zhongshan, Zhuhai, Foshan, Jiangmen, Zhaoqing (urban district, Gaoyao City and Sihui City). The Gross Domestic Product (GDP) of and Foreign Capital Actually Used in the PRD accounted for 80 per cent and 90 per cent of the total values of Guangdong Province in 2001. Findings of this survey indicate that the majority of factory facilities set up by Hong Kong registered manufacturing and trading firms are in Dongguan, Shenzhen and Guangzhou.

### Scope and Methodology

Made in PRD - The Changing Face of Hong Kong Manufacturers comprises two parts. The findings of Part I are contained within this report and draw a general picture of the operations of Hong Kong manufacturers in the PRD.

The findings have been concluded from questionnaires that were sent out in April 2002 to 122,809 manufacturing and trading firms registered in Hong Kong to estimate the scale and scope of manufacturing activities in the PRD.

The research team of the Hong Kong Centre for Economic Research, led by Professor Richard Y C Wong, collated and analysed the data from the returned questionnaires between April and May 2002. The data allowed the extent of Hong Kong companies' investments in and co-operation with the PRD region to be gauged. It also provided important insights into what form of investment Hong Kong registered firms had made in the PRD, the size of their operations, and whether they produce goods for export and/or for the domestic mainland market.

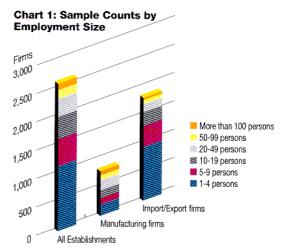
The findings of Part I have been used by the Hong Kong Centre for Economic Research to design a more intensive questionnaire which was sent to a smaller, though representative sample of Hong Kong registered manufacturing and trading firms with economic activities in the PRD for information collection in November 2002. *Made in PRD* Part II will conclude with the publication of the final report in the first half of 2003.

### Sample Profile

The questionnaire was test piloted before being sent to all manufacturing and trading firms. The target survey population<sup>2</sup> was all firms in Hong Kong classified as either manufacturing or trading companies by the Census and Statistics Department of the HKSAR Government. These HKM&T firms include companies of overseas ownership and capital that have registered in Hong Kong. There were 122,809 such establishments at the time of survey in Hong Kong.

In total, our sample consisted of 2,597 records.<sup>3</sup> Of these, about 1,500 forms were returned by fax, about 600 firms were successfully interviewed over the phone and around 500 forms were returned by mail.

Table 1 (page 17) gives a description of the characteristics of the sampled firms. The total number of workers employed by the sampled firms was around 83,000 in 2001, and sales turnover was HK\$227 billion. Fifty per cent of the sampled firms employed five or less workers. It was also found that 50 per cent of the sample firms had sales turnover of HK\$12 million or less.



The population of the survey was the full list of Hong Kong registered firms classified as manufacturing firms (codes: 311-391) and importing/exporting firms (codes: 631-632) by the Census and Statistics Department in December 2001. These firms are referred as HKM&T firms in this report.

<sup>3</sup> The overall response rate was 2.1 per cent, with the response rate for manufacturing and trading firms 4.1 per cent and 1.7 per cent respectively. Trading firms accounted for 70 per cent of the sample, and were thus underrepresented in the sample, as 84 per cent of the establishments in our target population were trading firms.

The differential response rates imply that our sample was not a simple random sample. In the analysis of the sample data, the research team took steps to deal with the differences in response rates by treating the sample as consisting of 96 strata (6X16), with each stratum representing an employment size class within a sector, and by estimating separate sampling weights for each of the 96 strata.

### TT. KEY FINDINGS

### Hong Kong companies' presence in the Mainland and the PRD

The survey estimated that of the 122,809 HKM&T firms registered in Hong Kong, about 52 per cent, or 63,000 firms were economically active<sup>4</sup> in the Mainland in 2001. Of these firms, an estimated 43 per cent had invested in factory facilities<sup>5</sup> in the Mainland, 51 per cent had management and operation control of their factory facilities, and 45 per cent had made sub-contract processing arrangements with factories in the Mainland.

Overall, 48 per cent of the firms were estimated (65 per cent and 45 per cent of manufacturing and trading firms respectively) to have no economic activity in the Mainland at the end of 2001. This implies that a sizable number of firms classified by Hong Kong's Census and Statistics Department as trading firms are engaged in manufacturing

activities in the Mainland, and are thus both traders and manufacturers.

The survey estimated that the majority (68.2 per cent) of these firms had only one form of economic activity in the Mainland. Some firms (24.8 per cent) had two forms of activities, while 7.1 per cent were engaged in three forms of economic activities, namely, invested in factory facilities; had management and operation control of factory facilities; and made sub-contract processing arrangements.

Of the companies that engaged in just one type of economic activity: 25.5 per cent only invested in factory facilities; 34.5 per cent only had management and operation control of factory facilities; and 40 per cent only made sub-contract processing arrangements.

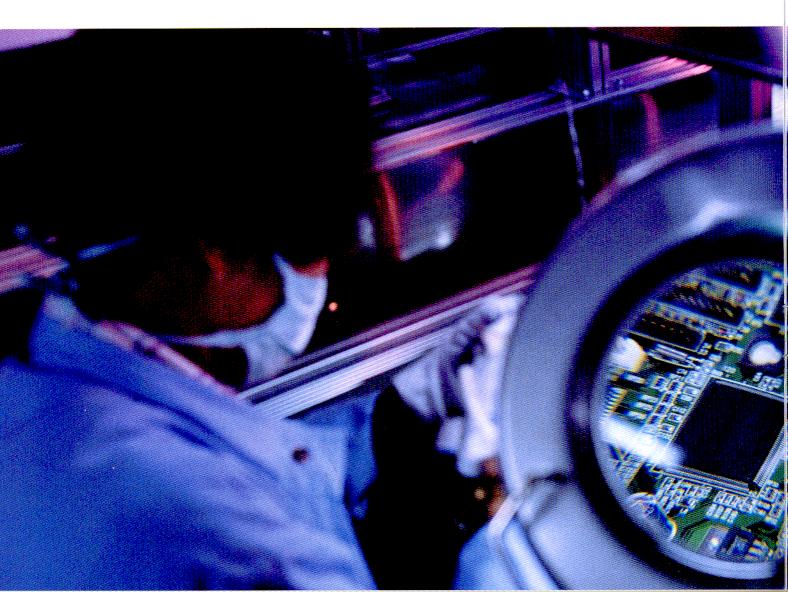
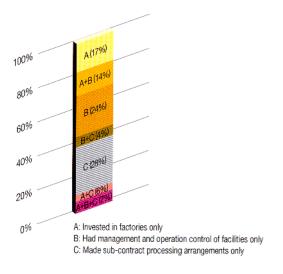


Chart 2: Economic Activities of HKM&T Firms in Mainland China



- 4 A manufacturing or trading firm is economically active in China if it has either (1) invested in factory facilities in the Mainland; or (2) has management and operation control of factory facilities; or (iii) has made sub-contract processing arrangements with foreign invested or local enterprises.
- 5 HKM&T firms usually invested in factory facilities in the Mainland in the form of joint or wholly

### **Factory facilities**

The number of factories in China working for HKM&T firms was estimated to be 59,0006, of which 25,000 factories were foreign funded enterprises (FFEs) and 34,000 factories served Hong Kong's manufacturing operations in other contractual forms (OCFs)7 such as "three forms of processing and assembly and compensatory trade"8.

Just in Guangdong Province, it was estimated there were 53,000 factories9 concentrated in five PRD cities (Dongguan, Shenzhen, Zhongshan, Guangzhou, Huizhou). Thus, the Province is the most important production base for Hong Kong's manufacturing operations. Of the 53,000 factories, 21,000 were FFEs and 32,000 were OCFs. Among the PRD cities,

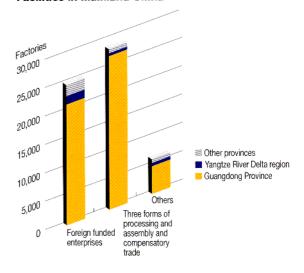


- 59,000 factories in the Mainland, of which 25,000 were FFEs, 34,000 operated in OCFs
- Of these 59,000 factories, 53,000 were in Guangdong (21,000 were FFEs, 32,000 operated in OCFs)

Dongguan had the highest estimated number of factories working for Hong Kong firms, followed by Shenzhen and Guangzhou.

Hong Kong's manufacturing operations were also located outside Guangdong Province. The Yangtze River Delta region had an estimated 2,600 factories working for Hong Kong registered firms, while the number in other provinces was estimated to be around 3,000.

Chart 3: Estimated Number of Factory Facilities in Mainland China



9 Based on 1,000 bootstrap replications, the standard error is 1,400.



<sup>6</sup> Based on 1,000 bootstrap replications, the standard error is 1,800.

<sup>7</sup> OCFs: Some Hong Kong registered companies establish other contractual forms (OCFs) relationships with Mainland factories such as three forms of processing and compensatory trade.

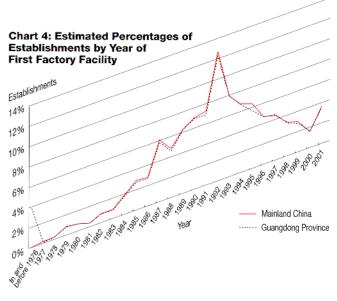
<sup>8</sup> These refer to processing supplied materials (來料加工), assembling supplied parts (來件裝配), processing in accordance with supplied samples (來樣加工) and compensatory trade (補儀貿易).

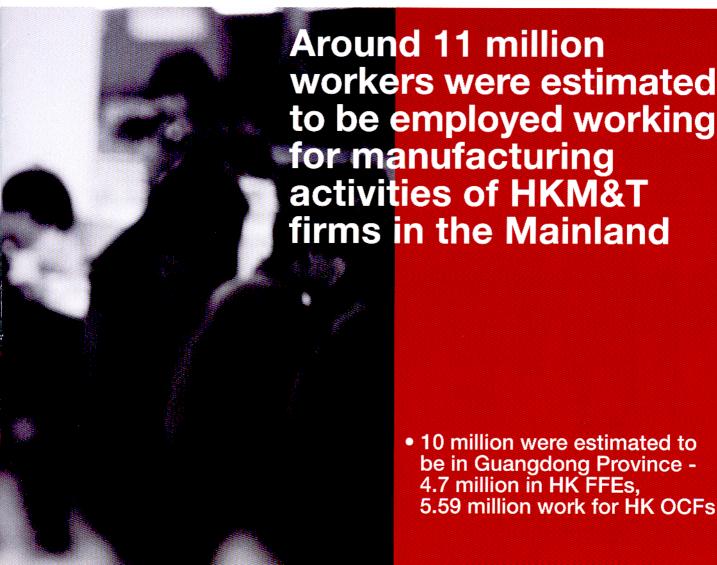
### **Establishment of first factory**

The overwhelming majority of HKM&T firms that set up factories in the Mainland did so first in Guangdong Province. Only 2.5 per cent had set up a factory outside Guangdong first. Of the HKM&T firms that were economically active in the Mainland, 3.7 per cent had no facility in Guangdong.

It was estimated that 3.8 per cent of the HKM&T firms had already set up their first factory in Guangdong by 1976. Since then, more and more firms started to invest in factories there, with the number of first entrants peaking in 1992. In that year, 12.8 per cent of the firms set up their first factory in the Mainland. Firms that set up their first factory in the Mainland after 1997 were estimated to account for 12.6 per cent of the total. Of these, most entered in 2001. These figures suggest that growth potential

remains ripe for Hong Kong manufacturing activities in the Mainland after more than two decades of development.





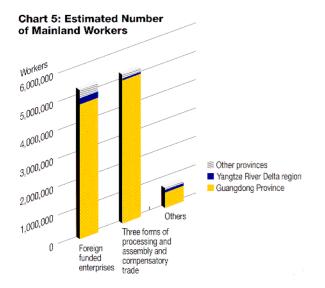
 10 million were estimated to be in Guangdong Province -4.7 million in HK FFEs, 5.59 million work for HK OCFs

### **Employment of Mainland workers**

In total, around 11 million workers<sup>10</sup> were estimated to be employed working directly or indirectly for manufacturing activities of HKM&T firms in Mainland factories. These HKM&T firms included companies of overseas ownership and capital. Of the 11 million workers, ten million<sup>11</sup> were estimated to be employed in Guangdong Province.

The survey estimated that in 2001, Hong Kong's manufacturing activities were supported by 5.26 million workers working directly for FFEs invested in by Hong Kong registered firms, 5.96 million workers in the Mainland worked for Hong Kong's manufacturing activities classified as OCFs. Of these workers, around 4.7 million were estimated to be employed in Hong Kong FFEs and 5.59 million worked for Hong Kong OCFs in Guangdong.

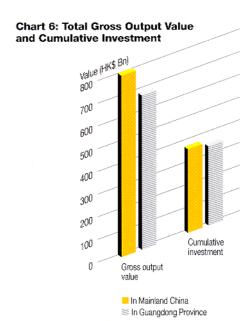
The survey found that the number of workers employed per factory was highly skewed, with 70 per cent of factories employing less than 500 workers. Only a small percentage (0.5 per cent) of factories employed more than 5,000 workers.



### **Cumulative investment**

The survey estimated that the cumulative investment in factory facilities by all HKM&T firms with economic activities in China was HK\$370 billion, as of December 2001; HK\$350 billion of which was concentrated in Guangdong Province.

The cumulative investment in factory facilities in the Mainland by HKM&T firms had a highly skewed distribution. The median value of the cumulative investment in factories was HK\$8 million as of December 2001, while the average value was HK\$28 million.



### **Gross Output**

The gross output value of factories working for HKM&T firms economically active in China was estimated to be HK\$800 billion in the Mainland, as of December 2001; and HK\$680 billion in Guangdong Province.

The median gross output was estimated to be HK\$18 million in the Mainland, and HK\$15 million in Guangdong Province. Some of the factories operated on a very large scale - the maximum gross output reported was HK\$7 billion in the Mainland and HK\$5 billion in Guangdong.

### Hong Kong Employment

### **Employment in Hong Kong**

The 63,000 HKM&T firms that were economically active in the Mainland in 2001 were estimated to have employed 477,000 people in Hong Kong. Of these 63,000 firms, 46,000 had either invested in factory facilities or had management and operation control of factory facilities. And these firms were estimated to have employed 389,000 people in Hong Kong in 2001. This finding indicates that although the firms had moved their manufacturing activities to the PRD, they still made a significant contribution to employment in Hong Kong.

### Staff working in PRD

The estimated number of Hong Kong based staff that spent more than half of their annual working days in the Mainland in 2001 was 88,000. Of these 88,000 employees, 83,000 worked in Guangdong Province.

The survey found that the percentage of Hong Kong based staff working more than half of their annual working days in the Mainland (including Guangdong) ranged from zero to a maximum of 100. The former means that for some companies that were economically active in the Mainland, no Hong Kong staff were required to work more than half of their working days there, while the latter required all of their Hong Kong staff to work more than half of their working days in the Mainland.

### Usage of the Port of Hong Kong

### **Movement of output**

The survey found that on average 71 per cent of output produced by Mainland factories with a Hong Kong connection was exported, 19 per cent was transferred to other factories for further processing and only 10 per cent was for domestic sales. This finding confirms that Hong Kong's manufacturing activities in the Mainland are highly export-oriented.

Among the HKM&T firms that were economically active in the Mainland, the survey estimated that 49.3 per cent of the firms exported all of their output, 6.9 per cent transferred all their output to other factories while 2.5 per cent sold all their output in the domestic market. Only 7.6 per cent of the firms were estimated to be engaged in all three activities, i.e, exported their output, transferred their

output to other factories and sold their output in the domestic market (Table 2 on page 18).

Some firms engaged in two activities only: 17.7 per cent both exported and transferred; 14.7 per cent both exported and sold in the domestic market; 1.3 per cent both transferred and sold in the domestic market.

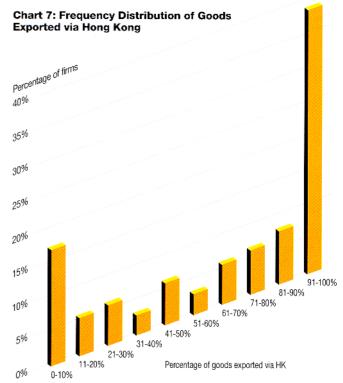
Of the factories that did not export their products, 65 per cent transferred all of their output to other factories for further processing, and 23 per cent sold their products in the Mainland's domestic market.



### **Use of Hong Kong Port for export**

Most of the products manufactured by HKM&T firms that were economically active in the Mainland were exported to the world market via Hong Kong. It was estimated that 87 per cent of these firms used Hong Kong Port.

In terms of value, 38.8 per cent of these firms exported 90-100 per cent of their mainland factories' output via Hong Kong. Half of the firms exported less than 80 per cent of their output via Hong Kong.



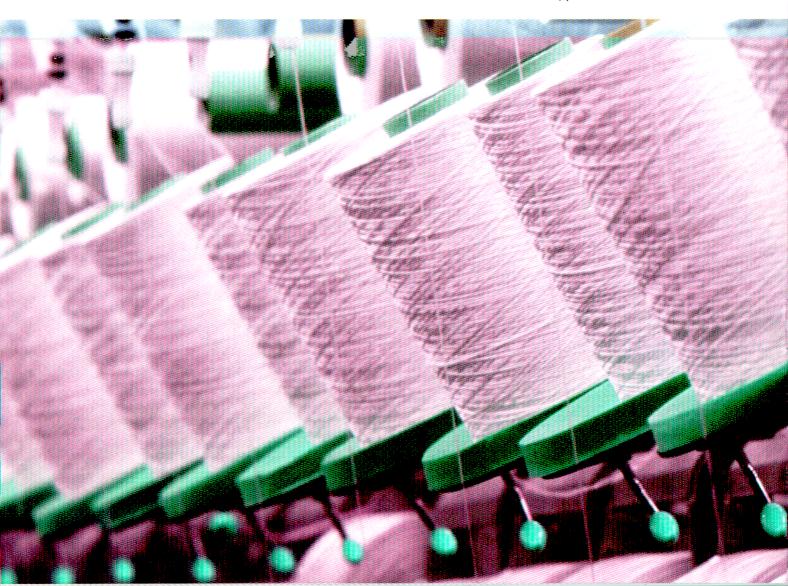


Moreover, 87% of HKM&T Firms exported their products made in the Mainland via Hong Kong Port

### Input source of raw materials

The survey estimated that most raw materials and semiprocessed raw materials used by HKM&T firms in their manufacturing activities in the Mainland were imported from Hong Kong and other overseas markets. On average, 49.7 per cent of raw materials used in Mainland factories with a connection to HKM&T firms were imported, 16.7 per cent were transferred from other factories in the Mainland and 33.6 per cent were sourced from domestic suppliers in the Mainland. It was estimated that 12.5 per cent of these firms only sourced their raw materials from Hong Kong and/or overseas; 9.7 per cent sourced only domestically and two per cent only obtained their raw materials by transfers from other factories. About 24 per cent of the firms obtained their raw materials using three different sources: transfers from other factories, from domestic suppliers and imported from Hong Kong and/or overseas.

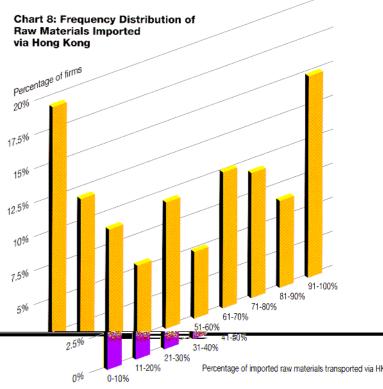
Some firms obtained their raw materials by dual sources: 34.9 per cent sourced both from domestic suppliers and from Hong Kong and/or overseas; 11.8 per cent sourced both from transfers from other factories and from Hong Kong and/or overseas; and 5.3 per cent sourced from transfers and domestic suppliers.



### Raw materials imported via Hong Kong

The survey findings estimated that 78 per cent of the HKM&T firms imported raw materials to be used in their Mainland factories through Hong Kong.

Some firms transported all imported raw materials via Hong Kong: 14.8 per cent of the firms imported 90 to 100 per cent of the raw materials using Hong Kong Port (Table 3 on page 19).





ort

### **Overseas investment**

The survey estimated that only 3.7 per cent of HKM&T firms had invested in factory facilities outside Hong Kong and the Mainland. The estimated figure was about 4,700 factories in 2001, employing 750,000 workers. The findings showed that 23 per cent of these factories were located in Taiwan, six per cent in Macau and the rest in other countries.



# III. CONCLUDING REMARKS

This survey of HKM&T firms provides important information on the scale and nature of Hong Kong manufacturing operations in the PRD and the rest of the Mainland. Results from this survey illustrate that the PRD is the base for manufacturing operations of HKM&T firms, regardless of their classification as manufacturers or importers-exporters.

Even with the Asian financial crisis in 1997 and the subsequent global economic slowdown, Hong Kong companies have continued to invest in manufacturing operations across the border. HKM&T firms continue to provide the capital and expertise underpinning the PRD's economic development and have created what is probably one of the world's largest powerhouses of light manufacturing industries.

This manufacturing base is also largely responsible for Hong Kong's transformation into a producer service economy. The second part of *Made in PRD* study will provide more in-depth information regarding this, as well as other important issues relating to opportunities and challenges facing HKM&T firms economically active in the Mainland.



# GLOSSARY

### **Compensatory Trade**

Compensatory trade (補償貿易) is an arrangement whereby a foreign company provides a loan (either in the form of money, equipment or technology) to a Mainland enterprise to either set up a factory(s) or explore resources. When the project is completed, the domestic enterprise uses its products or other products to pay back the loan by instalments within an agreed period of time.

### **Economically Active in the Mainland**

Since our study only focuses on manufacturing operations of Hong Kong registered firms in the Mainland, a firm is said to be economically active in the Mainland if it is engaged in any of the following three activities there: (1) investing in factory facilities in the Mainland; (2) having management and operation control of factory facilities in the Mainland; or (3) making sub-contracting processing arrangements with foreign invested or local enterprises in the Mainland. For the purpose of our study, a company is deemed to be not economically active in the Mainland if it does not pursue any of these three activities, even though it may have other non-manufacturing related business activities in the Mainland.

### FFEs (Foreign Funded Enterprises)

Foreign funded enterprises refer to those joint ventures or co-operatives established in the Mainland with foreign investment, as well as establishments wholly funded by foreign capital.

### **HKM&T Firms**

Hong Kong registered companies classified as manufacturing firms and importing/exporting firms by the HKSAR Government's Census and Statistics Department in December 2001.

### **OCFs (Other Contractual Forms)**

OCFs refer to three forms of processing and assembly, compensatory trade and any other processing or subcontracting arrangements or relationships into which a foreign company enters with a Mainland factory.

### **PRD (Pearl River Delta)**

PRD refers to the region that includes Guangzhou (廣州), Shenzhen (深圳), Dongguan (東莞), Huizhou (惠州), Zhongshan (中山), Zhuhai (珠海), Foshan (佛山) Jiangmen (江門) and Zhaoqing (肇慶).

### Three Forms of Processing and Assembly

Three forms of processing and assembly refer to processing with supplied materials (來料加工), assembly with supplied parts (來件裝配) and processing in accordance with supplied samples (來樣加工).

# APPENDIX

**Table 1: Sample Firms by Industrial Classification** 

Industrial Classification	All	Manufacturing	Import/Export
Chemical and Pharmaceutical	3.4%	2.5%	3.7%
Electronics	8.9%	4.8%	10.5%
Electrical and Optical Products	4.1%	3.4%	4.3%
Food and Beverage	2.9%	3.4%	2.7%
Leather and Rubber Products	2.7%	1.9%	3.0%
Metal Products and Machinery	9.5%	10.0%	9.3%
Mould and Die	2.2%	2.4%	2.2%
Plastic Products	8.0%	7.0%	8.4%

Table 2: Movement of Products Made by HKM&T Firms in Mainland China

	Percentage of Firms	Destination of Company's Products (average values in percentage)		
	<b>0,1,1,1</b>	Export	Transfer	Domestic Sales
Single Activity				
100% Export	49.3%	100%	0%	0%
100% Transfer	6.9%	0%	100%	0%
100% Domestic Sales	2.5%	0%	0%	100%
Dual Activities				
Export & Transfer	17.7%	53.3%	46.7%	0%
Export & Domestic Sales	14.7%	62.6%	0%	37.4%
Transfer & Domestic Sales	1.3%	0%	68.0%	32.0%
All Three Activities				
Export & Transfer & Domestic Sales	7.6%	41.8%	33.7%	24.5%
Overall Weighted Average	100%	71.1%	18.6%	10.3%

Chart 9: Movement of Products Made by HKM&T Firms in Mainland China

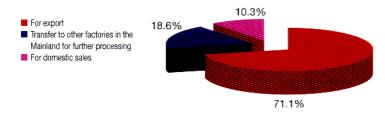
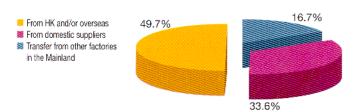


Table 3: Sources of Raw Materials and Semi-Processed Raw Materials

	Percentage	Destination of Company's Products (average values in percentage)		
	of Firms	Transfer	Domestic Suppliers	HK and/or overseas
Single Source				
100% Transfer	2.0%	100%	0%	0%
100% Domestic Suppliers	9.7%	0%	100%	0%
100% HK and/or overseas	12.5%	0%	0%	100%
Dual Sources				
Transfer & Domestic Suppliers	5.3%	44.2%	55.8%	0%
Transfer & HK and/or overseas	11.8%	41.4%	0%	58.6%
Domestic Suppliers & HK and/ or overseas	34.9%	0%	43.1%	56.9%
All Three Sources				
Transfer & Domestic Suppliers & HK and/or overseas	23.8%	31.5%	24.6%	43.9%
Overall Weighted Average	100%	16.7%	33.6%	49.7%

Chart 10: Sources of Raw Materials and Semi-Processed Raw Materials



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