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The Role of Small Factory in Economic Development: The Case of Hong Kong

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SOCIAL RESEARCH CENTRE

THE CHINESE UNIVERSITY OF HONG KONG

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June, 1974

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The Role of Small Factory in Economic Development: The Case of Hong Kong*

I. INTRODUCTION

Industrialization has been universally envisaged both as a goal value in itself and as a means to attain national wealth and power by developing countries of the so-called Third World. And not uncommon among people, policy-makers and practitioners alike, there is an opinion that to attain industrialization is to develop large-scale, capital-intensive industries. Indeed, large-scale industries have been regarded as the trademark of highly-industrialized societies. Some economists, as Aubrey points out, are of the belief of the "iron law" of history, i.e., that the eventual application of large-scale urbanized industries is regarded as inevitable.[1] In most industrialization programmes, too little attention has been paid to the benefits to be gained by helping develop the small industry sector. Students of industrialization tend to think that although small industry does have a place in the process of industrialization; it, however, will only "occupy a position between peasant agriculture and modern large industry."[2] In other words, small industry is regarded as a passing phenomenon, appearing only at the initial or early

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stage of industrialization. As a report points out, such an illusion might arise from an acceptance of anyone or a combination of the following erroneous propositions:[3]

1. That manufacturing industries in advanced industrial countries, particularly the United States, are composed almost wholly of large establishments.
2. That modern technology is incompatible with small and medium-sized establishments.
3. That existing small-scale enterprises in underdeveloped areas should not be encouraged because they are doomed in the long run.

At this juncture, we are not going to argue with this contention, though we are not ready to accept them. We shall return to this point later. What interests us is the fact that in recent years more attention has been given to the examination of the role and function of small industry in the economic development of both developed and developing countries, in capitalistic as well as in socialistic societies.[4] More and more countries have shown interest in small industry development activities and a few have evolved well-planned and comprehensive programmes. India is a good example in this regard. More countries have developed sporadic and isolated measures responding to some single aspect of the needs of small industry, such as financial assistance, technological and managerial training, product design and marketing, etc.

Although it is still far from being definite on the relative significance of large and small industry in economic development, there seems to have a general consensus among students of economic development that in societies where capital is scarce and expensive, and labour is plentiful and cheap, it would be more desirable to develop a less capital-intensive technology. However, it is not the purpose of this paper to discuss what is the best strategy for industrialization.[5] Rather, it aims at a moderate attempt, based on empirical data on small factory in Hong Kong and in the industrial town of Kwun Tong, to give an account on the role and function of small factory in this "industrial colony", and hopefully to be able to shed some light on the issues and problems of small factory in the process of industrialization. It is our belief that more empirical studies are still badly needed in substantiating the theoretical arguments for or against the employing of small factory in industrialization. It is only when more empirical data on the performance of small factory are available that we are able to formulate ideas more intelligently as how to put the relative significance of small factory in a proper perspective.

This paper is divided into several sections. Section II will be an attempt to define small factory and section III devoted to the function and performance of small factory in the economy of Hong Kong. In Section IV, we will compare the role of small factory between Hong Kong and other countries. In the

next section, some thoughts will be given as to why Hong Kong's small factory performs so impressively and the concluding section will relate small factory to industrialization.

II. SMALL FACTORY DEFINED

It is by no means an easy job to arrive upon a definition of small industry or small factory with some consensus. It is precisely because of the confusion over what exactly is small industry that has impeded us from having a clear understanding about the role of small industry in economic development. Different countries have different legal definitions to suit their particular situations and different writers on small industry offer their own definitions for their particular purpose. Under such circumstances, any definition of small industry is apt to be arbitrary.

There are generally two approaches made to the problem. The first approach is to differentiate small industry from large on the basis of some quantitative measures; and the second approach attempts to define small industry in terms of some functional criteria.[6] Functional criteria primarily refer to the degree of specialization and bureaucratization internal to the industrial organization, and degree of strength with respect to its position in dealing with the market and community of which it is a part, which are external to the industrial organization among others.

Eugene Staley is a major advocate of the functional approach to the problem of definition. He defines small industry in terms of certain functional characteristics which make its problems and its opportunities somewhat different from those of medium or large industry. His list of functional characteristics includes: relatively little specialization in management ("one-man" management), lack of access to capital, close personal contact of top management with production workers, no special bargaining strength in buying and selling, often relatively close integration with the local community, and dependence on nearby markets and sources of supply.[7] Staley's list is rather inclusive and places special emphasis on the problems of small industry, notably the lack of access to capital and bargaining power. However, it seems to us that using functional criteria raises not only the question of measurement, but also leads to the risk of confusing size with performance, the latter of which is what we are trying to investigate. To put it differently, in sociological terminology, we would rather regard the functional characteristics of an industrial organization as dependent variables.

The use of distinctively measurable statistical criteria, on the other hand, satisfies the more expedient desires of government and research workers. However, there is no really satisfactory way of measuring the size of an industrial establishment. A number of measures suggested include the number of employees, fixed assets or capital investment, output, amount of energy used,

and relative position in the industry. Among these statistical criteria, the number of employees has been most commonly used by specialists and government officers, not only because these data are more readily available but also because such data are most likely rendered for international comparison.

Again, the criterion of number of employees which constitutes small industry or factory is by no means uniform. A working party of the Economic Commission for Asia and the Far East in the early fifties suggested small-scale industry be defined as those with 50 workers or less on hand power, or not over 20 workers using motive power.[8] In fact, what is officially defined as small industry in terms of number of employees varies from one country to another: the upper limit ranges from 50 for Malaysia, Singapore, and Thailand, 100 for Republic for China, and Philippines, 200 for Hong Kong and South Korea, and to 300 for Japan, in the Asian countries.[9] In United States, a manufacturing firm is officially a small business if it is not dominant in its field of operation and has fewer than 500 employees, or if it is certified as small by the Small Business Administration.[10]

Among students of industrialization, it is common for them to define small industry or factory as the industrial establishments employing fewer than 50 workers[11] or fewer than 100 workers.[12] In our present study we adopt the former

definition and define small factories as those employing less than 50 workers. Furthermore, we shall differentiate them into three subgroups: (1) Mini-small factory: 1-9 employees;

(2) Midi-small factory: 10-19 employees; and

(3) Maxi-small factory: 20-49 employees.

The rationale for subgrouping small industry into three categories are manifold, but the primary reasons being that we assume that the role and function of these three subgroups in economic development will be as different among themselves as small industry is different from large industry, and also because we further assume that the structural characteristics, such as division of labour, hierarchy of authority, and level of professionalization will vary widely among themselves as small industry varies from large industry.

In addition, we are more and more led to believe that another criterion, namely, level of technology, may be vital in subdifferentiating small industry into two types: (1) technology- or capital-intensive small industry and (2) non-technology- or labour-intensive small industry. The level of technology includes both the physical technology of production as well as social technology of management. Staley refers the labour-intensive small industry as the "traditional" establishment and the technology-intensive small industry as the "modern" establishments in which reasonably good application is made of the best

science and technology currently available.[13] It is the labour-intensive type that is often identified as the trademark of small industry. The justification of using level of technology as a criterion in the classification of industrial organization has been well documented by students of organization known as the technological school.[14] Moreover, employing technology as a criterion will enable us to have a more sophisticated account for the performance of small industry in the process of industrialization, thus enriching our knowledge in understanding the role of small industry.

III. THE ROLE AND FUNCTION OF SMALL FACTORY IN HONG KONG'S ECONOMY

It is now a well-known fact that Hong Kong has been rapidly transformed in the last two decades from a colonial entrepot dominated by its trade with mainland China to a modern cosmopolitan industrial city-state with a population of over 4 million. Hong Kong, as a fast growing industrial city-state, can be found in various economic indices: the estimated Gross Domestic Product at market prices has increased eight times between 1948 and 1968, it has reached to HK$15,800 million. The per capita Gross Domestic Product has increased 4 times for the same period, reaching HK$4,029 by 1968. The consumption of electricity has also increased from 150 million kilowatt-hours in 1948 to 3,338 million kilowatt-hours in 1968, an increase of more than 22 times. In addition, among the working population, 40 per cent are engaged

in manufacturing, 22 per cent in Government and in service occupations, 16 per cent in commerce (all characteristically "urban" occupations) and only 5 per cent are employed in agriculture and fishing.[15]

Another phenomenal growth of Hong Kong's economy is its fast-increasing capacity for export: it has increased more than six times between 1948 and 1968; by 1968 it was HK$10,570 million. Although Hong Kong has a population of slightly over 4 million, the value of its exports is greater than India's.[16] In terms of income per capita, Hong Kong is the second highest in Asia, next to Japan.

The miraculous performance of Hong Kong's economy bemuses and intrigues students of economic development. Certainly it warrants a systematic study in understanding the structure and behaviour of the economy of this industrial city-state. It seems to us that among others, E.H. Phelps Brown and Nicholas Owen have given us a fairly realistic account for the phenomenal growth of the economy of Hong Kong.[17] Both of them seem to share the view that Hong Kong's economic growth originated primarily in the fast developing export-oriented manufacturing sector of industry. And both of them have attributed the achievement of Hong Kong's economy, more or less, to the role and function played by the small industry. Indeed, the following statement is probably very much shared by those who are familiar with the operation of Hong

Kong's economy in the last 20 years.[18]

> The most remarkable feature of the Hong Kong economy is the proportion- often estimated to be over 90 per cent- of manufacturing output which is exported. Also remarkable is the volume of trade per capita. In total volume of trade, Hong Kong lies ninth in the world, an amazing achievement considering its size. The achievement is the result of a profilerating multitude of small and primitive firms, exporting to markets which are separated by distance, culture, and language.

Recognizing its share in Hong Kong's economy, we have, however, to ask: exactly in what way and to what extent these "small and primitive" firms have contributed to the amazing achievement of the Hong Kong economy? And more specifically, how many small and primitive firms are active, what are their internal structural traits, and how do they relate to the large economic system? Moreover, how small and how primitive are these firms? To our knowledge, these questions have neither been fully examined nor answered.[19] It is our belief that these questions are too important to be ignored if we are to have near-complete knowledge of the miraculous performance of the Hong Kong economy. Furthermore, an attempt to answer these questions will not only further enhance our knowledge about the economic development of Hong Kong, but will also shed some light on the role and function of small industry in the process of industrialization in which more than half of the nations on the earth are now pursuing.

In the pages that follow, we shall attempt to answer the questions just raised. The data on Hong Kong come from two sources: firstly, data on Kwun Tong, an industrial estate of Hong Kong, based primarily on an empirical study conducted by the Social Research Centre, The Chinese University of Hong Kong, in the summer of 1971, as part of the Centre's Kwun Tong Industrial Community Research Programme. Stratified random sampling was used an subsequently 346 factories were successfully surveyed. The respondents were either owners or chief executives of the factories. Our second source of data comes from the Government Census of Manufacturing Establishments. It was the first big-scale industrial census to be carried out in Hong Kong, and was conducted by the Department of Census and Statistics in the summer of 1971.[20]

To begin with, we want to know how many small industrial units are active in Kwun Tong and in Hong Kong. To what proportion does the small industry occupy in the whole industrial system of Hong Kong?

Table 1: Size and Number of Factories in Kwun Tong and Hong Kong, 1971

No. of Factories / Size	KWUN TONG			HONG KONG		
	Number	%	Cum. %	Number	%	Cum. %
1 - 9	623	38.9	38.9	16,391	62.7	62.7
10 - 19	236	14.7	53.6	4,520	17.3	80.0
20 - 49	272	17.0	70.6	2,854	10.9	90.9
50 - 99	235	14.7	85.3	1,228	4.7	95.6
100 - 499	203	12.7	98.0	1,007	3.9	99.5
500+	34	2.1	100.1	149	0.5	100.0
TOTAL	1,603	100.1		26,149	100.0	

Source: Computed from Census of Manufacturing Establishment, Hong Kong Government, 1973

From Table 1, we find that among the 1,603 factories in Kwun Tong in 1971, 1,131 of them (or 70.6%) employed less than 50 workers. If we regroup them according to the criteria set up earlier, then 623, or 38.9% were Mini-factories employing 1 to 9 workers; 236, or 14.7% were Midi-factories with 10 to 19 employees; and 272, or 17% were Maxi-factories employing 20 to 49 persons.

When we look at the picture for the whole of Hong Kong, it is even more striking. Among the 26,149 factories in 1971, there were as many as 23,765 (or 90.9%) that fell into our classification of small factory. Furthermore, amazingly or not, there were 16,391 (62.7%) that belonged to the Mini-factory category, employing less than 9 persons; 4,520 (17.3%) Midi-factories with 10-19 employees, and 2,854 (10.9%) Maxi-factories employing 20-49 workers. According to the Factories and Industrial Undertakings Ordinance, only establishments employing twenty or more workers must be registered with the Department of Labour. Although the Department also maintains a record of smaller establishments, yet there is reason to believe that a substantial number of small industry, particularly the cottage industries, have not been registered with the Department. Therefore, the number of Mini- and Midi-factories might have been under-represented.

Table 2: Average Size of Factories in Census of Manufacturing Establishment Districts in Hong Kong, 1971

CME Districts	No. of Establishments	No. of Employees	Average Size/ Factory
H.K. Island West	2,308	39,894	17.29
H.K. Island, Central	1,044	12,944	12.40
H.K. Island, East	1,318	53,203	40.37
Yaumati, Tsim Sha Tsui	2,937	23,582	8.03
Mongkok	2,997	49,884	16.64
Hung Hom, Ho Man Tin	2,368	66,662	28.15
Cheung Sha Wan	5,772	114,381	19.82
San Po Kong	2,865	102,478	35.77
*Kwun Tong	1,603	105,467	65.79
Tsuen Wan	1,357	71,240	52.72
NT, except Tsuen Wan	1,580	31,573	19.98
TOTAL	26,149	671,308	25.67

Source: Computed from data in Census of Manufacturing Establishments, Hong Kong Government, 1973

Judging from the absolute numbers and percentages in Table 1, it would not be wrong to say that Kwun Tong is predominantly an industrial system of small factories (more than 70% of its factories with less than 50 workers) and Hong Kong as a

whole is even overwhelmingly an industrial system of small, especially Midi- and Mini-factories. However, when the average size of the factory (see Table 2) is taken into account, we find that the average size of Kwun Tong factory of 65.79 persons is much larger than the Hong Kong average of 25.67 persons. In fact the Kwun Tong figure is the highest among all Census of Manufacturing Establishment districts. This is not difficult to understand when we realize that Kwun Tong, unlike most other CME Districts, is an industrial community that started from the ground up in the late 50's. In Kwun Tong, there is a distinct physical segregation of the industrial sector from the residential/commercial sector and most of the factories are to be found in flatted industrial buildings where the traditional cottage type industries do not have a place. To start a new business under such circumstances where rent is high and equipments expensive, it would not be economical to begin an industry of less than, say, 5 persons. As a result, the average size of factory in Kwun Tong is considerably bigger than most other areas in Hong Kong.

The next question we would like to ask is: What is the share of the labour force in small industry in Kwun Tong and in Hong Kong as a whole?

Table 3: Size and Employees of Kwun Tong and Hong Kong Factories in 1971

No. of Factories / Size	KWUN TONG			HONG KONG		
	Employees	%	Cum. %	Employees	%	Cum. %
1 - 9	3,404	3.2	3.2	77,709	11.6	11.6
10 - 19	3,235	3.1	6.3	59,796	8.9	20.5
20 - 49	8,767	8.3	14.6	87,110	13.0	33.5
50 - 99	16,589	15.7	30.3	84,383	12.6	46.1
100 - 499	42,405	40.2	70.5	201,474	30.0	76.1
500+	31,067	29.5	100.0	160,836	24.0	100.1
TOTAL	105,467	100.0		671,308	100.1	

Source: Computed from Census of Manufacturing Establishment, Hong Kong Government, 1973

Table 3 shows that among the 105,467 industrial workers in the community of Kwun Tong, 15,406 (14.6%) are working in small factories employing less than 50 workers. Furthermore, among the 105,467 workers, 3,404 (3.2%) are working in Mini-factories, 3,235 (3.1%) in Midi-factories, and 8,767 (8.3%) in Maxi-factories. From these figures, the share of the industrial force in Mini-factories (3.2%) and in Midi-factories are not too significant in themselves alone, though the total share of industrial force in all small factories (14.6%) is quite substantial.

However, when we take the whole Hong Kong industry as our unit of analysis, the picture looks quite different. Table 3 indicates that among the 671,308 industrial workers in 1971, as many as 224,615 (33.5%) of them work in factories employing less than 50 workers. Furthermore, among them, 77,709 or 11.6% are to be found in Mini-factories, 59,796 or 8.9% in Midi-factories, and 87,110 or 13% in Maxi-factories. From these figures, we find that the share of labour force in small factories does occupy a very high proportion in Hong Kong's manufacturing labour force, and that the share of labour force in each of these three subgroups of small factory is very significant.

The third question we want to ask concerns the performance of small factories vis-a-vis large factories in both Kwun Tong and Hong Kong. Regarding the performance of small factories, we would like to make two kinds of assessments: (1) the overall output value of small factories, and (2) the productivity per worker of small factories. The output value of small factories in Kwun Tong and Hong Kong is shown in Table 4 and 5 respectively.

Table 4: Size and Sales of Factories in Kwun Tong, 1971

OUTPUT / INPUT	VALUE OF EXPORTS		VALUE OF LOCAL SALES		TOTAL SALES	
	HK$ '000	%	HK$ '000	%	HK$ '000	%
1 - 9	16,842	.8	37,306	3.0	54,148	1.6
10 - 19	41,296	2.0	49,062	3.9	90,358	2.7
20 - 49	113,894	5.6	181,373	14.4	295,267	9.0
50 - 99	289,546	14.2	226,385	18.0	515,931	15.7
100 - 499	971,525	47.8	377,145	29.9	1,348,670	40.9
500+	600,897	29.5	388,923	30.9	989,820	30.0
TOTAL	2,034,000	99.9	1,260,194	100.1	3,294,194	99.9

Source: Computed from Census of Manufacturing Establishment, Hong Kong Government, 1973

Table 4 shows that the total output value of all industrial enterprises in Kwun Tong was HK$3,294,194,000 in 1971 of which HK$439,773,000 or 13.3 per cent came from the small factories. By further breakdown, we find that HK$54,148,000 (1.6%) were from Mini-factories, HK$90,358,000 (2.7%) from Midi-factories, and HK$295,267,000 (9%) from Maxi-factories. When we look at these figures alone, we might be led to conclude that the share of the output value of small factories, especially of Mini- and Midi-factories, in Kwun Tong is pretty low or insignificant. But when

we compare them with the corresponding figures in the share of employment (see Table 3), we should discover that the share of output value of small factories in Kwun Tong (13.3%) is, in fact, very high considering its share of employment (14.6%). This is particularly true in the case of Maxi-factories in Kwun Tong: the share of employment is 8.3% and the output value occupies 9% of the total sales. What this confirms is that the output value of small factories in terms of its share of employment is as high as the large factories in Kwun Tong.

When we look at the breakdown of the total sales of the Kwun Tong factories into exports and local sales, we find that the small factories, especially the Mini-factories, have low export-orientation. The output value for exports of small factories only occupies 8.4 per cent of the total value of exports of the entire industrial enterprise in Kwun Tong. However, the value of local sales of the small factories are proportionally very significant; they together occupy 21.3 per cent of the total value of local sales of the entire industrial enterprise of Kwun Tong. In other words, the products of small factories in Kwun Tong are more for domestic consumption.

Table 5: Size and Output Value of Factories in Hong Kong, 1971

OUTPUT / INPUT	VALUE OF EXPORTS		VALUE OF LOCAL SALES		TOTAL SALES	
	HK$ '000	%	HK$ '000	%	HK$ '000	%
1 - 9	372,069	3.2	988,637	15.6	1,360,706	7.5
10 - 19	589,053	5.0	665,765	10.5	1,254,818	7.0
20 - 49	1,260,948	10.8	932,595	14.7	2,193,543	12.2
50 - 99	1,602,936	13.7	682,185	10.8	2,285,121	12.7
100 - 499	4,605,916	39.3	1,533,169	24.2	6,139,085	34.0
500+	3,291,896	28.1	1,523,551	24.1	4,915,447	26.7
TOTAL	11,722,818	100.1	6,325,902	99.9	18,048,720	100.1

Source: Computed from Census of Manufacturing Establishment, Hong Kong Government, 1973

Table 5, which shows the whole Hong Kong situation, seems to confirm our findings of Kwun Tong, except with some minor differences. The total output of the industrial system of Hong Kong was HK$18,048,720,000 in 1971 of which HK$4,809,067,000 or 26.7 per cent came from the small factories. Further breakdown shows that HK$1,360,706,000 (7.5%) came from the Mini-factories, HK$1,254,818,000 (7%) from Midi-factories, and HK$2,193,543,000 (12.2%) from Maxi-factories. The share of output of small factories in the total production is not too high (26.7%).

But again, when we consider that the share of employment in small factories in Hong Kong is only 33.5 per cent (see Table 3), we find that the difference between its share of employment and that of its output is not too big. Obviously, small factories in Kwun Tong seem to perform better than the small factories in Hong Kong as a whole.

Breaking down the total sales into exports and local sales, again we find that the small factories in Hong Kong, particularly the Mini-factories, have relatively low export-orientation: the output value of small factories for exportation occupies only 19 per cent of the total value of export. However, the output value of small factories for local sales is proportionally very high. This is especially true of the Mini-factories. Together they occupy 40.8 per cent of the total sales of the entire industrial system of Hong Kong. This confirms the pattern found in small factories of Kwun Tong. From Table 4 and 5, we also find that the opposite is true for the large factories: that the larger the factories, the higher is their export orientation, or the lower is their domestic-consumption orientation.

Now let us take a look at the second aspect of the performance of small factories: the productivity per worker. Indeed, the productivity per employee at various size of the factories is a crucial test of the industrial performance of factories.

Table 6: Productivity per Employee of Kwun Tong Factories, 1971

SIZE	NO. OF EMPLOYEES	TOTAL SALE (HK$ '000)	PRODUCTIVITY PER EMPLOYEE (HK$)	
1 - 9	3,404	54,148	15,907	
10 - 19	3,235	90,358	27,931	28,546
20 - 49	8,767	295,267	33,679	
50 - 99	16,589	515,931	31,101	
100 - 499	42,405	1,348,670	31,805	31,694
500+	31,067	989,820	31,861	
TOTAL	105,467	3,294,194	31,234	

Source: Computed from Census of Manufacturing Establishment, Hong Kong Government, 1973

Table 6 shows the productivity per employee of factories of all sizes in Kwun Tong in 1971. For the 3 categories of small factories, it was HK$15,907 for the Mini-factories, HK$27,931 for Midi-factories, and HK$33,679 for the Maxi-factories. The average productivity per employee of all small factories was HK$28,546. For the large factories, it was HK$31,101 for factories of 50-59 persons, HK$31,805 for factories of 100 to 499 persons, and HK$ 31,861 for the factories of 500 employees or more. The average figure for all large factories (employing 50 persons or more) was HK$31,694. The overall productivity per employee of all factories in Kwun Tong was HK$31,234 in 1971.

Some facts of those figures are particularly noteworthy: First, there are great variations in the productivity per employee among different types of small factories: from HK$15,907 for the Mini- to HK$33,679 for the Maxi-factories. Second, there is very little difference in the productivity per employee among the large factories, although it rises slightly with the increase in factory size. Third, the productivity per employee of Mini-factories is very low whilst that of Maxi-factories is extremely high, in fact the highest among all types of factories. The reason of which is not completely known to us. The productivity per employee in the Mini-factories is just above half of the overall figure and less than half of that of the Maxi-factories. Finally, the average productivity per employee of all small factories is about 90 per cent of that of large factories and about 91.4 per cent of that of the overall Kwun Tong figure.

Table 7: Productivity per Employee of Hong Kong Factories, 1971

SIZE	NO. OF EMPLOYEES	TOTAL SALE (HK$ '000)	PRODUCTIVITY PER EMPLOYEE (HK$)	
1 - 9	77,709	1,360,706	17,510	
10 - 19	59,796	1,254,818	20,985	21,410
20 - 49	87,110	2,193,543	25,181	
50 - 99	84,383	2,285,121	27,080	
100 - 499	201,474	6,139,085	30,470	29,639
500+	160,836	4,815,447	29,940	
TOTAL	671,308	18,048,720	26,886	

Source: Computed from Census of Manufacturing Establishment, Hong Kong Government, 1973

Table 7 shows the whole Hong Kong picture. Of the small factories, the productivity per employee for Mini-, Midi and Maxi-factories was HK$17,510, HK$20,985, and HK$25,181 respectively in 1971. The average productivity per employee for all small factories was HK$21,410. For the large factories, the productivity per employee was HK$27,080 for factories employing 50 to 99 persons, HK$30,470 for factories employing 100 to 499 persons, and HK$29,940 for factories employing 500 persons or more. The average productivity per employee of all the large factories was HK$29,639. The overall Hong Kong average for all types of factories was HK$26,886.

Taking the whole Hong Kong industry as a unit of analysis, we find the performance of various factory types somewhat different from what we have found in Kwun Tong. First, the productivity of factories of all sizes, with the exception of the Mini-factories, in Hong Kong is lower than the corresponding figure for the Kwun Tong factories. Second, with the exception of the factories employing 500 persons or more, the productivity per employee increases consistently with the size of the factory: that is, the larger the size, the higher the productivity. Third, the average productivity of all small factories in Hong Kong is slightly more than 72 per cent of the productivity of large factories and about 79.6 per cent of the industrial average. Fourth, the productivity of Mini-factories is about 59 per cent of that of large factories, and about 65 per cent of the

industrial average. Finally, the productivity of the Maxi-factories is about 85 per cent of that of large factories, and about 93.7 per cent of the industrial average.

What we can learn, if anything, from these figure is that: if we want to talk about the economic performance of small factories more intelligently, we must first of all bear in mind what type of small factory we are referring to, Mini-, Midi-, or Maxi-factories? As far as the case of Hong Kong is concerned, the relative poor performance of small factories in terms of productivity per employee is confined to only one type of small factory, that is, Mini-factories. The other two types, namely, the Midi- and Maxifactories, perform pretty well when compared with either the large factories or with the overall industrial average. This is particularly true with the Maxi-factories and in the case of Kwun Tong.

From the above analysis, we can summarize the role of small factories in the Hong Kong economy as follows: (1) The Hong Kong industrial system is predominantly a system made up of small factories; over 90 per cent of the entire industrial enterprise are factories employing less than 50 persons, and over 62 per cent are Mini-factories employing one to nine persons. (2) A very significant proportion, or about one third, of the total industrial labour force are working in small factories, of which the Mini-factories are responsible for 11 per cent.

(3) A very significant share of the total output value, or nearly 27 per cent, comes from the small factories, of which more than 7 per cent come from the Mini-factories. (4) The productivity per employee of small factories is more than 72 per cent of the productivity of large factories and nearly 80 per cent of the industrial average. The productivity per employee of Mini-factories is less than 60 per cent of the productivity of large factories and about 65 per cent of the industrial average.

IV. SOME INTERNATIONAL COMPARISONS

Comparable statistical data of small industry are few and scanty on the international level; this being partly a result of different definitions of small industry used by different governments and researches, and partly because of the relative lack of interest on small industry in its early years of development. Consequently, it is hardly possible to make any systematic comparative study of the role of small industry at various stages of economic development in different countries. However, some scattered data do allow us to make a few comparable notes, thus placing the case of Hong Kong in a broader perspective.

First, we shall look at the trend of development in Hong Kong. The following table will give us some idea of how fast small industry has developed since 1962.

Table 8: Size and Distribution of Industrial Undertakings in Hong Kong 1962, 1964, 1968, 1971

SIZE	December 1962		March 1964		March 1968		August 1971	
	No. of undertakings	%	No. of undertakings	%	No. of undertakings	%	No. of undertakings	%
1- 9	4,455	64.1	5,063	62.9	5,204	47.7	16,391	62.7
10- 19					2,179	20.0	4,520	17.3
20- 49	1,353	19.5	1,576	19.6	1,779	16.3	2,854	10.9
50- 99	548	7.9	681	8.5	832	7.6	1,228	4.7
100-499	511	7.4	654	8.1	794	7.3	1,007	3.9
500+	80	1.2	75	0.9	120	1.1	149	.5
TOTAL	6,947	100.1	8,049	100.0	10,908	100.0	26,149	100.0

Source: (1) 1962, by private communication with Labour Department, Summer, 1973
(2) 1964, Commissioner of Labour Annual Report, 1963-64, Table 1C, quoted by Dwyer and Lai, op. cit. p.20
(3) 1968, Commissioner of Labour Annual Report
(4) 1971, Census of Manufacturing Establishments

Table 8 shows the size of industrial establishments in Hong Kong in various years. Let us first take a look at the share of small firms in the entire industrial system. In 1962, There were 5,808 factories in Hong Kong employing less than 50 workers, occupying 83.6 per cent of the total number of factories. This number rose to 6,639 in 1964, or about 82.5 per cent of

the total factories. By 1968, the number of small factories has reached 9,162, or 84 per cent of the total factories. The rise was even steeper for the following 3 years, as by 1971, the number of small factories has reached an amazing figure of 23,765, or 90.9 per cent of the total number of establishments in Hong Kong. In a period of about ten years, from 1962 to 1971, the number of small factories in Hong Kong has risen significantly by more than four times, from 5,808 to 23,765.

Table 9: Size and Distribution of Industrial Employment in Hong Kong, 1962, 1968, 1971

Size of Establishment	December 1962		March 1968		August 1971	
	Employment	%	Employment	%	Employment	%
1 - 9	37,572	12.6	24,856	5.4	77,709	11.6
10 - 19			29,622	6.5	59,796	8.9
20 - 49	41,228	13.8	54,801	11.9	87,110	13.0
50 - 99	37,904	12.7	57,802	12.6	84,383	12.6
100 - 499	103,878	34.9	161,600	35.2	201,474	30.0
500+	77,315	26.0	130,259	28.4	160,836	24.0
TOTAL	297,897	100.0	458,940	100.0	671,308	100.1

Source: (1) 1962, by private communication with Labour Department, Summer 1973
(2) 1968, Commissioner of Labour, Annual Report
(3) Computed from Census of Manufacturing Establishment, Hong Kong Government, 1973

As far as industrial employment is concerned, small factories in 1962 employed some 78,800 workers, occupying 26.4 per cent of the total industrial employment. The figure reached to 224,615 workers in 1971, or more than one third of the total industrial work force. These figures show that between 1962 and 1971, the number of employees in small factories has increased by 2.85 times. So while the absolute volume of employment in small factories has increased considerably, the relative share of small factories in industrial employment shows a surprising stability.

In comparing Hong Kong with other countries, we shall first give some attention to selected Asian countries. An ECAFE report of 1953 showed that in Japan, the industries employing less than 3 people made up 57 per cent of the total, and industries employing 4 to 49 people comprised 39 per cent of all factories. Less than 50 people made up 96 per cent of all factories in Japan in 1953.[21] This is even higher than the Hong Kong figure of 90.9 per cent in 1971. Of course one might tend to explain such high percentage of small factories in the Japanese economy in the early fifties as an effort in their post-war recovery. However, another source[22] does not show such decline in the proportion of small industry in latter years. In 1955, small industries employing less than 50 persons occupied 96.8 per cent of all factories in Japan in 1955, employing more than

51 per cent of the total industrial employment. These figures showed only slight decrease in 1960. But they still occupied more than 95 per cent of all factories and more than 43 per cent of total industrial employment. The decline of the share of labour force in establishments employing less than 50 persons was largely due to the rapid decline of handicraft and cottage industries, and also because of the general shift in the composition of industrial output. However, the discussion shows how significant the role of small industry has played in the economic development of Japan, the most industrialized country in Asia. The 1960 figures of number of firms and employment in Japan are higher than the corresponding Hong Kong figures.

As for India, small industries are ideally suited to Indian economic resources and needs and indeed forms the industrial back-bone of the country. It is estimated that in 1956 there were as many as 5,191,000 small establishments in India employing less than 50 people. Together they occupied some 99.8 per cent of the total factories. In terms of employment, these small factories employed about 12,270,000 people, or 81.8 per cent of the total industrial employment. Obviously India relies more heavily on small industry than Hong Kong.[23]

South Korea, another fast developing country in Asia, is also dominated by small manufacturing firms. According to the mining and manufacturing census of 1963, 98.7 per cent of

the total manufacturing establishments are operating on a small scale, employing between 5 to 199 workers.[24] The greatest portion of manufacturing employment is concentrated in the smallest bracket of establishments employing 5 to 9 workers. This bracket of establishments occupies 15 per cent of the total manufacturing workers. All manufacturing establishments employing 5 to 49 workers account for 45.1 per cent of the total employment in manufacturing industries (181,360 workers).[25] Doubtlessly, small industries in South Korea have contributed greatly toward the development and stabilization of the country's economy. Like India, the shares of both the number of establishments and employments in South Korea are larger than Hong Kong.

What about some of the more industrialized countries outside Asia? Hoselitz finds that the share of workers in dwarf (which he refers to establishments employing not more than 5 persons) and small (referring to factories employing 6 to 49 persons) industries in various post war years in several European countries as follows:[26] "In general between 12 and 15 per cent of the labor force was engaged in handicrafts establishments and around 25 to 35 per cent in small industry. All establishments with a labor force below 50 workers employed roughly between 40 and 50 per cent of the total labor force in industry." But by the mid-fifties, the proportion of labour force in small industries, especially in dwarf industries, has declined. Germany's 1956 industrial census showed that 12.3 per cent of

the industrial force was employed in establishments with less than 50 persons. However, the Germany's 1956 census did not include handicraft establishments. According to Hoselitz's estimate, with handicraft establishments, "approximately 20 per cent or perhaps even a little less, of the total industrial labor force were engaged in establishments with 6 to 49 workers."[27]

In 1958 in United Kingdom, there were 63,889 manufacturing industries employing less than 50 persons, making up 73.1 per cent of the total maufacturing firms. Together they employed 896,000 persons, or 11.7 per cent of the total industrial labor force, and their total sales amounted to 2,174 million pounds, or 10 per cent of the total sales in manufacturing industries.[28]

What is the situation in United States? There has always been a proposition that manufacturing industries in an advanced industrialized country like the United States are composed almost wholly of large establishments. Yet a look at the hard figures proves such proposition to be erroneous. They are in fact many small industrial establishments, employing an important share of all manufacturing workers and producing an important share of the total manufacturing output. The following table shows the relative role of manufacturing establishments in the United States from 1947 to 1967.

Table 10: Size, Distribution, Employment and Output of Manufacturing Establishments in USA, 1947, 1958 and 1967

	ITEMS & YEAR \ SIZE	1-9	10-19	20-49	50-99	100-499	500+	TOTAL
ESTABLISHMENTS	1947	116,970 (48.6)	40,632 (16.9)	40,004 (16.6)	18,666 (7.8)	19,872 (8.2)	4,663 (1.9)	240,807 (100.0)
	1958	156,301 (52.4)	46,320 (15.7)	46,307 (15.5)	21,764 (7.3)	23,372 (7.5)	4,953 (1.6)	299,017 (100.0)
	1967	156,863 (51.3)	41,678 (13.6)	48,942 (16.0)	24,923 (8.2)	27,511 (9.0)	5,763 (1.9)	305,680 (100.0)
EMPLOYMENT	1947	471,900 (3.3)	561,900 (3.9)	1,243,800 (8.7)	1,300,800 (9.1)	4,158,600 (29.1)	6,557,000 (45.9)	14,294,000 (100.0)
	1958	557,700 (3.6)	644,100 (4.2)	1,443,500 (9.4)	1,512,800 (9.8)	4,659,300 (30.2)	6,605,700 (42.8)	15,423,100 (100.0)
	1967	461,500 (2.5)	580,800 (3.1)	1,536,000 (8.3)	1,740,400 (9.4)	5,749,900 (31.1)	8,423,100 (45.6)	18,491,700 (100.0)
VALUE ADDED (US $m)	1947	2.348.5 (3.1)	2,596.4 (3.5)	6,039.2 (8.1)	6,581.1 (8.9)	22,204.3 (29.9)	34,521.0 (46.5)	74,290.5 (100.0)
	1958	4,375.9 (3.1)	4,838.0 (3.4)	11,089.1 (7.8)	12,023.7 (8.5)	40,561.5 (28.7)	68,652.4 (48.5)	141,540.6 (100.0)
	1967	6,104.5 (2.3)	7,166.5 (2.7)	18,250.5 (7.0)	20,887.9 (8.0)	75,189.4 (28.7)	134,384.7 (51.3)	261,983.5 (100.0)

Note: Percentages in parentneses

Source: U.S. Bureau of the Census, Census of Manufactures 1967. Vol. 1, Summary & Subject Statistics (U.S. Government Printing Office, Washington, D.C.: 1971) Tables 1 and 2, pp. 2.4-2.5

The above table shows the role of manufacturing establishments of various sizes in the United States in 1947, 1958 and 1967. In 1947, not long after the end of World War II, there were 197,606 establishments in the United States employing less than 50 employees, making up more than 82 per cent of the total firms. In 1958, both the absolute number and relative percentage of small establishments increased to 248,928 and 83.6 per cent respectively. Thousgh we see a slight drop in 1967, the number of small factories in 1967 reamined very stable at 247,483, or nearly 81 per cent of the total. In both 1958 and 1967, Mini-establishments accounted for more than 50 per cent of the total establishments.

As far as employment in the United States is concerned, the share of small establishments is far from negligible. In 1947, the small establishments employed 2,277,600 persons, or 15.9 per cent of the total industrial labour force. The share in 1958 even rose to 2,645,300 or 17.2 per cent of the total. The 1967 figure showed a slight drop, with 2,578,300 persons or 13.9 per cent of the total industrial employment in the small establishment sector. Comparing with the 1968 Hong Kong figures, the 1967 United States' share of small establishments was only slightly lower than that of Hong Kong (80.9 per cent versus 84 per cent). However, the United States' share of employment was substantially lower than that of Hong Kong for the same period (13.9 per cent versus 23.8 per cent).

When comparing with other countries, the second question to be answered on the role and performance of small industry is its productivity. Here again, difficulties are present in international comparison, and further complicated by different methods employed in measuring small industry and productivity. In comparing labour productivity, we shall adopt a method originally developed by the economic statistician Simon Kuznets where the share of employment and output are the two main variables used.[29]

Table 11: Labour Productivity of Small Manufacturing Establishments

Country & Year	% of all Industrial Employment	% of all Industrial Output	Productivity Index of Small Industry (1 - 49 workers)	Productivity Index of Large Industry (50+ workers)	Small Industry/Large Industry
Hong Kong (1971)	33.2	26.6	.79	1.10	.72
Japan (1960)	43.4	22.4 (1)	.52	1.37	.38
Korea (1963)	45.1	31.5 (2)	.70	1.25	.56
United Kingdom (1958)	11.7	10.0	.86	1.02	.84
USA (1967)	13.9	12.1 (3)	.87	1.02	.85

N.B.: Productivity index of industrial average taken as 1

(1) Value added, 4-49 employees

(2) Value added, 5-49 employees

(3) Value added, 1-49 employees

Source: Hong Kong - Census of Manufacturing Establishments, Hong Kong Government, 1973.

Japan - Miyohei Shinohara, "A Survey of the Japanese Literature on Small Industry," in Bert Hoselitz (ed) The Role of Small Industry in the Process of Economic Growth, (The Hague and Paris: Mouton, 1968), p. 39.

Korea - The Medium Industrial Bank, An Introduction to Small Industries in Korea. (Seoul, Korea, 1966), p. 26.

U.K. - H.J. Gray, "Some Aspects of the Role of Small Industry in the United Kingdom," Small Industry Bulletin for Asia and the Far East, No. 10, (New York: United Nations, 1973), p. 27.

U.S.A. - U.S. Bureau of the Census, Census of Manufactures, 1967, Vol. 1, Summary and Subject Statistics, (U.S. Government Printing Office, Washington, D.C.: 1971), pp. 2.4-2.5.

Table 11 gives us some ideas of how well the small factories of Hong Kong perform vis-a-vis the small establishments in our other countries. Columns 1 and 2 gives the shares of small industry in relation to total industrial employment and total industrial output. Columns 3 and 4 respectively gives us the productivity index of small and large industries, and the last column indicates the ratio of the productivity of small industry to large industry.

A brief look at Table 11 reveals that the small factories of Hong Kong perform considerably better than her neighbours of both Japan and South Korea in terms of productivity. The productivity of small factories in Hong Kong in 1971 was .79 of the industrial average and .72 of the large industry. In Japan in 1960, the productivity of small establishments (4 to 49 workers) was only .52 of the industrial average and .38 of the large industry. The 1963 Korean situation was somewhere between that of Hong Kong and Japan. The productivity of its small establishments (5 to 49 workers) in 1963 was .70 of the industrial average and .56 of the large industry. In another study, Hoselitz demonstrated by computing from various published and unpublished Indian sources that productivity in the small cottage industries was only .18, or less than one-fifth, of that in large-scale industry. This figure, together with his findings in the low productivity in the dwarf firms (not more than 5 persons) in the

Japanese and Norwegian industry, led Hoselitz to say, "This finding appears to point to the fact that in these industries - at least under Indian conditions - economies of scale requires a plant size above 20 workers."[30]

In comparing with the United States and United Kingdom, the productivity of small factories in Hong Kong do not perform as well as the United States and United Kingdom, the productivity of small establishments is higher than that of Hong Kong, in fact they are not much lower than that of the industrial average or the large establishments. In United States, the productivity of small establishments in 1967 was .87 of the industrial average and .85 of the large establishments. The corresponding figures for United Kingdom in 1968 were .86 and .84 respectively. Such results do not catch us in surprise for we expect small establishments in the United States and United Kingdom to be more modern in nature, a condition which helps to boost productivity.

When we compare the labour productivity of small factories with the data available, they seem to point to the fact that the small factories of Hong Kong perform far better than her Asian neighbours of South Korea, Japan and India, and not too far away from the performance of small establishments in the United States and United Kingdom.

V. SOME CHARACTERISITCS OF SMALL FACTORIES IN HONG KONG

From our observations in Section III, the Kwun Tong and Hong Kong industrial systems are predominantly composed of small factories employing less than 50 workers. In our own investigation of 346 Kwun Tong factories, 252 or nearly 73 per cent of them employ less than 50 people. In Kwun Tong, most of these small factories have capital value of less than HK$200,000 and with a total plant space of less than 2,000 square feet. They are primarily of the paper, food, plastic, basic metal, rubber, chemical and non-metallic categories. Of the 252 small factories in our Kwun Tong sample, 236 are Chinese-owned. In terms of capital, 56.8 per cent of these small factories are of single proprietorship, and another 20.4 per cent of family proprietorship. In large measure, these Chinese small enterprises tend to be family business. Although we are not attempting to analyze the organizational and management structure and ideology of the small factories as such, suffice it for us to make a few comments: The owners of these small factories, in general, have low level of formal education: more than half of them have only had primary education, and not a small number of them were "self-educated". The Chinese small-factory owner can, in the main, probably be called a modernized "traditionalist" who, in this fast urbanized and industrialized Hong Kong with a mixture culture of the East and the West, remains fairly faithful to traditional Chinese

values on the one hand, and yet at the same time seems to appreciate some modern and/or Western values on the other. More concretely, these owners believe in hard-work, honesty and responsibility which we assume to be traditional values, together with other qualities, such as organization and management ability which we assume to be modern/Western values, as well as profit-mindedness which we assume to be the value of both Western and traditional Chinese merchant class. They are rather conservative and consider risk-taking the least important quality for a successful entrepreneur. However, when asked what the reasons are for hiring relatives or kinsmen for important positions in their factories, they almost unanimously answered that "being a relative" is not the determinant factor, but rather because they are "trustworthy", "capable" and "responsible".

In light of these observations, it is then not incorrect to say that these Chinese small entrepreneurs are more universalistic- than particularistic-oriented. Or, we may say that they are no longer kinship-oriented as such. According to the findings of another study on the Hong Kong industrial enterprise, some Chinese companies have strict policy on not employing <u>any</u> relatives. Except the sons and nephews, Chinese companies, more often than not, do not employ relatives.[31] Compared with the large establishment, the small factories in our sample are less bureaucratic; more than 64 per cent of them have an average of less than 2 horizontal departments and 2 vertical levels. Moreover, 54 per cent of the small factories have no managerial staff;

of 54.7 per cent of small factory the clerical works are done by the owner/manager themselves. Only 11.1 per cent of the small factories have promotion scheme and 35 per cent have salary-revision scheme. In terms of the decision-making structure, among the 252 small factories, in 180 of them, the decisions are made solely by the owner himself. Occassionally when the owner is absent or away, decisions are made by either his "kinfolks" or his "appointees" in high proportion vis-a-vis by other formal management personnel.

In the small factories of our sample, the communication pattern is predominantly informal; 86.5 per cent of them use verbal communication. And 56.3 per cent of the owners "always" or "often" give direct instructions to the workers at the production line. All these phenomena combined seem amount to what Harbison and Myers call the "patrimonial management", which is "business management in which ownership, major policy-making positions, and a significant proportion of the jobs in the hierarchy are held by members of an extended family."[32] It is true that the owners/managers of small factories in Kwun Tong are in large measure traditionalistic, paternalistic and conservative, but it is far from being true that they are persons with an inevitable and almost built-in disposition for depotistic inclination which is often the mental characteristic of the so-called "patrimonial manager." On the contrary, what strikes us most is that the Chinese owners/managers are pragmatic, practical and absolute no-nonsense. The above-mentioned fact of hiring

relatives should not be interpreted as an indication that kinship relationship is cherished as a goal value in itself; instead it is more or less being used as an instrumental mechanism to secure somebody whom they really can trust. It is indeed our contention that the Chinese traditional familistic system has been modified by Western business ideology and practical necessity, or functional prerequisite, if you wish to call, of the industrial system. As such, it may have enhanced rather than undermined the economic performance of the small factories.[33]

However, the reasons attributing to the relative strong performance of the small factories in Hong Kong may lie elsewhere too. We shall further attempt to present some plausible accounts for it, in addition to the entrepreneurship discussed above.

First, labour. It is often said that one of the reasons why small industry should be employed in developing countries is because there is ample supply of cheap surplus labour. While this may be true in many developing countries, this is not the case in Hong Kong, at least no longer true in Hong Kong since the late 50's, despite the fact that Hong Kong shares the common characteristics of high population density of the Third World. According to the 1961 Census, the overall population density of Hong Kong, including the rural areas of the New Territories, was 2,902 persons per square kilometre. The figure revealed by the 1971 Census was even higher, reaching 3,692 persons per kilometre, which doubtlessly made Hong Kong one of the most densely populated areas in the world.[34] It is not labour abundance, but rather

labour shortage, that has become a major problem in Hong Kong's economy since the late 50's. By the end of the 50's, full employment had been attained. The Census of 1961 found only 1.7 per cent of the economically active persons to be unemployed. The corresponding figure in the 1966 By-census was somewhat higher, at 3.7 per cent, but with three-fifths of them looking for their first job. The 1971 Census showed that of all the economically active persons, the unemployment rate was 4.4 per cent, but again with more than one-third of them looking for their first job. More than once between these years the Commissioners of Labour reported that "many industrialists were forced to defer plans for extension of their factories, while others found difficulty in maintaining their establishments at the levels reached" in the preceding year, by reason of labour shortages.[35] The labour shortage situation is further confirmed by our study of the Kwun Tong industrial system. Among the total sample of 346 factories studied, 141 or 40.8 per cent were reported to say that recruiting production workers is "rather difficult", while 80 or 23.1 per cent were reported to say "very difficult".

Not surprisingly, the wages in Hong Kong are much higher than many developing or even semi-developed countries. Between 1958 and 1966 the average increase in wages in a dozen industries was about 80 per cent. And since 1966 the rise of wages in Hong Kong has even become more rapid than before, and by 1969 it is

believed that, of Asian countries, only Japan had higher wages. According to our study of Kwun Tong factories, the mean monthly wage for production workers in 1971 for factories of all sizes was estimated to be HK$649.[36] Here, we observe an increase of the mean wage of production workers with the increase of factory size. The mean monthly wage of small factory was estimated at HK$552, while that of the large factory was HK$653. The mean wage of the small factory workers was .85 of the mean wage of the large factory counterparts. Therefore in terms of labour force, Hong Kong is rather less congenial to the development of small factories in this region. What should be noted here is that the workers in Hong Kong are in general industrious and intelligent which are characteristic of Chinese workers everywhere; this is only more true in Hong Kong. In another study, Owen uses the average number of hours per loom as an index to quantify the high productive nature of Hong Kong's labour force. He shows that no other country in Asia approaches within 75 per cent of the Hong Kong figure of 8,160 hours per loom, which, incidentally, is the highest possible annual maximum, entailing 24-hour operation for 360 days in the year. Such a mode of operation suggests a strong economically-motivated labour force.[37]

Second, <u>capital</u>. Hong Kong's no shortage of capital is as unique as its no abundance of labour. Since 1949, the Hong Kong economy has been on the path of fast industrialization resulting from mass inflow of enterpreneurial skills and capital

brought in by merchants from mainland China, particularly those from Shanghai. Our survey shows that among the 233 small factories which reported their sources of capital, 81.4 per cent have their own capital, and among the reported cases of small factories with capital of less than HK$200,000, 85.7 per cent of them depend on their own capital. Although there is a need for the Government and Industrial Bank loan, yet no sigh of urgent dependence has been detected.[38]

In Kwun Tong and in the entire Hong Kong, the factories "have well passed the stage where labour still remains to be the main input. The emerging shortage of labour has worked gradually to increase the capital intensity of the Kwun Tong industries in general." "... we cannot state whether these industries are capital or labour intensive. But there is one thing we are sure ... capital (in the form of machinery and equipment) is a very important input in most industries."[39] It is our belief that the factories in Hong Kong are relatively capital- or technology-intensive. In our study of Kwun Tong factories, there are as many as 60 per cent of the small factories reporting that their newest machinery and equipments were purchased within the last three years. It is here that Dwyer's study of small factories in the rural district of Hong Kong, the New Territories, is illustrating. Of the 27 factories covered in his study, he observed that "although the great majority of the factories were

very small (fifteen employed less than ten workers, eight between ten and twenty-four workers and the remaining four over fifty workers), apart from those engaged in food processing, few could be classed as traditional village industries; seventeen of the twenty-seven factories were powered by electricity, and all except eight were using machines. Small industrial units in the New Territories today thus seem to be of the modern, and previously urban-located type; some of the factories are producing directly for export markers."[40]

It is probably not far from the truth to say that one of the basic factors attributing to the strong performance of small factories in the Hong Kong economy is that they are technology-capital intensive. The case of Hong Kong seems to support the view made by Staley and Morse that the average labour productivity in small plants is not very far below that in large plants; but this is because the majority of the small units use modern processes and techniques and, in addition, are usually power based.[41] In other words, the small factories are <u>modern</u> in nature. The significant advances made in the exports of electronics and telecommunications apparatus, which require a fairly advanced technology, is an adequate indicators in this regard. The value of exports of telecommunications apparatus increased from HK$ 1,083 million in 1972 to HK$1,392 million in 1973, or an increase of 28.5 per cent.[42]

Third, industrial integration. It has been observed that the enormous expansion of small industry in the Asian countries lend themselved to a large extent to industrial subcontracting, an arrangement by which certain manufacturing processes are decentralized and carried out by small industrial units which are capable of producing them on an economic scale. In fact, the finished output of many large plants is based to a high degree upon subcontracting arrangements with small firms for the supply of constituant parts.[43]

In Japan, for instance, it has long been known that the role of its small factories, not only in terms of its sheer number but also of its performance, was resulted from what may be called the interorganizational or intersystem feature of the Japanese small factories. John Pelzel, a long-time student of Japanese industrializstion, has vividly shown us that small factories in Japan were highly dependent upon the large industrialists or wholesalers for capital supply. And it is through the latter that the small industries were integrated into the entire economic system. Their relationship is one of powerful patron-client which is both diffused and quasi-kinship in nature.[44] This feature which has become fully adjusted to industrial society is the oyabun-kibun, or as it has also been called, the boss-henchman system. Hoselitz, in his comparative study of small industry, has the following to say about Japan:[45]

> Ultimately the integration of small industry into the overall process of industrial production of Japan depends upon subcontracting. The middlemen who boss the small industrialists are, in turn, dependent upon large enterprises who often maintain the same boss-henchmen relationship with regard to these middlemen as the latter vis-a-vis their "clients". Thus the survival of small industry in Japan is the outcome of a highly complex and hierarchial social structure within industrial production, and presents a feature of industrial organization which is probably not approximated in any western country. We must bear in mind this socio-structural peculiarity of Japanese industrial organization, ..., appears to be unique not only with reference to other Asian countries.

It is our view that Japan's boss-nenchman system is indeed unique and it is not shared by the Hong Kong industrial system. However, there are ample evidence for us to believe that the small factories in Hong Kong are well, if not fully, integrated into the overall process of production. In Hong Kong, the small factories, and indeed, also large plants, have fairly heavily depended upon the merchants. The merchants, serving the role of sub-contractors, have provided managerial services to small factories thus permitting the latter to integrate themselves into the large system in two directions - successful designing and marketing their own products.[46] It is worth to mention that Hong Kong is not only a thriving manufacturing centre but also a mature and sophisticated commercial centre. The 1971 Census showed that there were as many as 13.2 per cent working population employed in the commercial sector,[47] a clear reflection of a highly developed commercial infrastructure

resulting from Hong Kong's traditional role as an entrepot. This mature and cosmopolitan commercial structure has in large measure helped to make Hong Kong's rapid industrialization possible; it has helped the industries, especially the smaller ones, to relate themselves, directly or indirectly, to the overall production system and international market system.

The kind of managerial help rendered to small factories by merchants has been that an order provides them with the security on which to negotiate loans to provide the working capital they need to carry the order out. It is observed that "to a considerable extent, Hong Kong industry is manufacturing goods to designs and specifications dictated by the purchaser, and, where it is not, the initiative in any transaction comes more frequently from outside than from within the producing firm ... At least three-quarters and perhaps more of the manufactures exported are thought to be handled by the export houses."[48] There were reckoned in 1962 to be at least 1,000 of these export houses. In our study of the industrial community of Kwun Tong, we find some illuminating data bearing on the subject under discussion. Among the 252 small factories surveyed, about two-thirds of them depend heavily upon merchant-business connections as their source of information from which they obtain input and market their output. Furthermore, among the important industries in Kwun Tong, rubber, plastics, fabricated-metal are

the ones having low proportions in direct exportation and high proportions in indirect exportation. These industries are mainly in the categories of small factories and are more dependent upon merchants in their exports. In short, we can say that the small factories in Kwun Tong, and in Hong Kong as a whole, depend to a significant degree, like their Japanese counterparts, on sub-contracting with larger firms or upon marketing their products through wholesalers, merchants or export houses. But unlike Japan, this relationship is not based on a diffused, quasi father-child relation; instead it is rather similar to the European "putting-out" system which is more characterized by specific, contractual relations. We have good reasons to believe that this intersystem characteristic of the small factories has a great deal to do with their impressive economic performance.

At this juncture, it is worthwhile to mention two other factors which help the successful integration of small factories into the large economic system, namely, geographic compactness and relative high level of technology of small factories. In Japan, Lockwood has observed that geographic compactness is another factor in facilitating the industrial integration. He notes that as Japan began its industrialization in 1868, existing small industry was quickly drawn into the production system by virtue of Japan's "geographic compactness ...[for] it was far easier [here] than in continental India or China to

diffuse new ideas and skills through the countryside", to attract nearby labour, and to "create easy, efficient ties ... with factories, banks, and merchants."[49] Lockwood's argument rings more truth in Hong Kong than in Japan. With the possible exception of Singapore, Hong Kong is probably the most geographically compacted society in Asia, if not in the world. Hong Kong is in fact a city-state. New ideas and skills are much easier to be diffused here and its physical compactness has provided a most convenient social place congenial to the development of various ties between factories, banks, and merchants. Face-to-face talks and telephone conversations have become common channels of communications for business transactions.

Another factor is the level of technology. In many developing countries, small industry is inefficient and low in productivity by modern standards of manufacturing efficiency. The traditional handmade goods are thus unable to compete in quality or price. The successful integration of small industry into the overall production system seems to us that they must attain a minimum degree of technological development. It has been observed that in the course of economic growth of Western countries small establishments could fit themselves into the interstices which were left unexploited by larger enterprises, either by intention or default, the bulk of small enterprises in the poor countries of Asia are much less capable of doing

this.[50] We believe that it is precisely because of this fact, among others, that the small industry in these developing countries is technologically too primitive to do so. The Indian situation is a case in point. "In most of the small-scale industries, both specialization and technology are frozen at a relatively simple level. There is widespread obsolescence even in such an important trade as engineering ... Any process or phenomenon in the chemical or electrical fields must be transformed into the ultimate working proposition through the application of available engineering techniques. The willingness of this sector to accept and adapt to changing conditions is a prerequisite for its integration with the large-scale sector."[51] In Hong Kong the fast adoption of and adaptation to changing technological development of small industries is surely accountable for their fitness to the large production system. The small industry in Hong Kong, unlike most of its Asian counterparts, has taken a modern form.

VI. THE SMALL FACTORY AND INDUSTRIALIZATION

The Hong Kong economy thus far is enjoying a continuous prosperity. Despite new challenges and difficulties, 1973 still showed an encouraging increase in exports of 7.2 per cent in quantity and 28 per cent in value, and a rise in the gross domestic product of about 8 per cent in value, and a rise in the gross

domestic product of about 8 per cent in real terms or 20 per cent by value.[52] Despite this remarkable performance, such new challenges and difficulties should not be ignored. The strong exporting capacity of the Hong Kong economy is being challenged mainly by two factors: the first being the increasing competition from similar economies in this region, notably Taiwan and South Korea, and the second factor being the rapid rise in production costs. With the oil crisis and other energy shortage on the scene, oil and oil-based raw materials will certainly cost more, and Japan in particular will no longer be a source of cheap raw materials and components.

In light of the present situation, the Governor of Hong Kong recognizes that "the rapid growth of our light industries has created sufficient demand for materials and services to favour the establishment of carefully selected medium and heavy industries. As low-wage competitors erode the cheap end of our markets, the redevelopment of Hong Kong industry into higher technology is inevitable as it is desirable."[53] The need for higher technology and larger industries was also noted earlier by the economist Brown.[54]

> The one evident way to prevent an imposed rise of money wages from raising unit labour costs is to make productivity rise at the same rate ... At the present stage of its industrial development, two main ways of doing this are to achieve more economies of scale by forming bigger units of production, and (often at the same time) to increase the amount of equipment per worker. But in the difficult terrain of Hong Kong

> bigger factories raise a special problem of siting, worker housing, and communications; and both they and the increased equipment per worker will raise the cost of varying the output of the firm, and tie it more closely to particular processes and products. There will thus be some loss of the flexibility that the smaller firm and the simpler equipment afforded, and that helped to keep exports up as opportunities varied from day to day.

Brown's diagnosis of the Hong Kong economy and his answers to the problems are basically sound. The first and foremost thing for Hong Kong to do is to strengthen its competitive exporting capacity by increasing its productivity. However, as Brown points out, there is a built-in nature of inflexibility of the large factories; thus it is still sensible to develop smaller industries to adapt to the ever-changing market situation by virtue of its flexibility. Based on our previous comparative analysis of the economic performance of small factories of various sizes, it is desirable to pay special attention to the Midi- and the Maxi- types, especially the latter, both because of their strong performance in productivity vis-a-vis Mini-factories and of their simpler technology vis-a-vis large factories (employing 50 persons or more). Needless to say, this does not mean we are not in favour of other types of factories larger than the Maxi-factories; for instance factories employing between 50 and 200 persons. As a matter of fact, factories employing less than 200 persons are classified as "small factory" by Hong Kong's legal definition, and are very impressive in their export-oriented economic performance. What we are trying to say

is that Midi- and Maxi- factories which constitute the greatest bulk of Hong Kong's factories are the types with good economic strength among the small factories. Hong Kong has thus far a very short history of economic development, with just about two-decades' time. It is a history of rapid development in terms of both quantity and quality of small factories. It is not easy for us to predict with high degree of certainty what the role of small factory is going to be in Hong Kong's future. But one thing certain is that the small factory will continue to occupy a very strong and significant position in the forseeable future. We are very skeptical about the so-called "iron-law" of history; we do not believe without reservation that the eventual application of large-scale urbanized industries is inevitable; nor do we think that the small industry is only a passing phenomenon occupying a position between peasant agriculture and modern large industry. True, the overall tendency of industrialization is toward bureaucratization and large-scale industry; however, there will be, and probably always will be, a room for small factory in even highly industrialized economy. Germany, the United Kingdom, the United States and Japan are cases in point. As we have seen, Germany in 1956 still had about 20 per cent of total labour force engaged in small industry, the United Kingdom had nearly 12 per cent in 1958, while Japan in 1955 had about as high as 40 per cent. As for United States, with the most highly developed economy, the official industrial statistics show that

in 1967 almost 14 per cent of the total industrial employment came from factories employing less than 50 persons. The case of Japan is most revealing of all. John Pelzel notes, "Throughout this growth, however, average plant size did not increase appreciably, development occuring rather in product and in the appearance of multitude of new plants, and in the case of small business, of new enterprises."[55] True, in the postwar development, the erstwhile small alley-garage assembly shops, for instance, in the automobile industry, has been converting to General Motors style mass production. But what should be borne in mind is that the parts manufacture of the gigantic industry was subcontracted in hundreds of small companies, including enterprises of only 30 workers, linked to the larger corporate structure. The small industry of Japan is in a sense part-system which is technology-intensive, labour saving and highly integrated with the large industry.[56] It is precisely this type of small factory, modern and technology-intensive, which we believe is probably going to have a permanent place in even what some would call the post-industrial society. And it is this type of small factory which will prove to hold out great promise for Hong Kong and other developing countries.

We are here not to argue indiscriminately for adopting technology-intensive or labour-saving small industry as a strategy for development of industrialization. Indeed, it would be far fetched to say that all the developing countries

which are lacking capital should adopt technology-intensive small industry. To use capital intensive or to use labour-intensive small industry for economic development for developing countries is too complicated an issue to be discussed here.[57] In a country which is extremely abundant in labour and scarce in capital, and especially, if and often it is, predominantly agricultural in nature and with a serious problem of unemployment, then, it is of course quite sensible to initially develop labour-intensive, particularly agro-based, decentralized small industry as a strategy for economic development. But the often-used argument for labour-intensive small industry as a strategy for providing employment opportunity is at best half convincing. Ford Foundation has touched this issue squarely in its report prepared for the Government of India in 1954:[58]

> It seems to us that to stop the processes of modernization and development for the mere purpose of apparently preventing unemployment, when every field of India needs goods and services, such as roads, etc, is short-sighted. Especially when, in fact, modernization creates employment.

True enough, we should never dismiss the problem of unemployment slightly. In fact, unemployment in developing countries is not solely an economic problem; it is a serious socio-political problem as well. What we want to say is that to solve unemployment is more a problem for socio-political development than a problem for economic development. And we are of the opinion that to increase productivity is the first

and foremost important prerequisite for economic development, and it, in turn, is probably the key to the door of socio-political development. At this juncture, we may say that the basic attraction of socialism to the Third World is its promise or potential which is yet to be tested for increasing productivity at a faster speed than other idea-systems claim. And it is in light of this proposition that increasing productivity is the most important requisite for economic development, we would like to suggest that the technology-intensive small industry will have a significant role to play at different stages of industrialization under different ideological systems.

NOTES

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4 Consult: Stanisaw Woszczowski, Small Industry in Economic Development of Contemporary Countries. Research Program on Small Industry Development, Miscellaneous Paper No. 5, Stanford Research Institute, May, 1960; Eugene Staley & Richard Morse, Modern Small Industry for Developing Countries, New York: McGraw-Hill, 1965; Edward D. Hollander & others, The Future of Small Business, New York: Frederick A. Praeger, 1967; and Bert F. Hoselitz (ed), The Role of Small Industry in the Process of Economic Growth. The Hague & Paris: Mouton, 1968

5 Consult: Benjamin H. Higgins, Economic Development: Principles, Problems and Policies. New York: W.W. Norton, 1959

6 Consult: Douglas Fisher, "A Survey of the Literature on Small-Sized Industrial Undertakings in India." in Hoselitz (ed), The Role of Small Industry, pp.124-129; Eugene Staley, Development of Small Industry Programs. Stanford Research Institute, Stanford University, 1961, pp.3-7; Woszczowski, op. cit., pp.5-8; and H. Sutu and others "A study of Government Financial Assistance to Small Industries, With Special Reference to Hong Kong", The Lingnan Institute of Business Administration, The Chinese University of Hong Kong, May, 1973

7 Staley, ibid., p.5

8 Staley and Morse, op. cit., pp.12-13

9 Sutu, op. cit.

10 Staley and Morse, op. cit., p.12

11 Hoselitz, "Small Industry in Underdeveloped Countries", pp.600-618; D.J. Dwyer and Lai Chuen-Yan, The Small Industrial Units in Hong Kong: Patterns and Policies. University of Hull, 1967; and Victor Mok, "The Nature of Kwun Tong as an Industrial Community," Social Research Centre, The Chinese University of Hong Kong, August, 1972

12 Staley, op. cit.; Staley and Morse, op. cit.; and Woszczowski, op. cit.

13 Staley, ibid., p.6

14 See J. Woodward, Industrial Organization-Theory and Practice. Oxford: Ckarendon Press, 1965; R. Infin, The Sociology of Industrial Relation: Englewood Cliff, N.J.: Prentice-Hall, 1959; and Charles Perrow, Organizational Analysis. London: Tavistock, 1970, esp. pp.75-91

15 David Podmore, "The Population of Hong Kong" in Keith Hopkins (ed) Hong Kong: The Industrial Colony. (Hong Kong: Oxford University Press, 1971), pp. 21-54

16 Hopkins, ibid., Preface, p.xi

17 See Brown's "The Hong Kong Economy: Achievements and Prospects." and Owen's "Economic Policy in Hong Kong." both in Hopkins, ibid., pp.1-20, and 141-206 respectively.

18 Owen, in Hopkins (ed), ibid., p. 160

19 To date the publications on small industry in Hong Kong are few and scarce. D.J. Dwyer and Lai Chuen-Yan, op. cit.; and D.J. Dwyer, "Problems of the Small Industrial Unit." in D.J. Dwyer, "Problems of the Small Industrial Unit." in D.J. Dwyer (ed) Asian Urbanization: A Hong Kong Casebook, (Hong Kong: University of Hong Kong Press, 1971) pp. 123-136. However, Dwyer's special interest is in the planning and problems of small industry in Hong Kong.

20 For further details, see Census of Manufacturing Establishments Department. Department of Census and Statistics, Hong Kong Government, 1973

21 ECAFE, Economic Survey of Asia and the Far East 1953 (New York: United Nations). p. 14; cited in Herman, op. cit., p.366

22 Miyohei Shinohara, "A Survey of the Japanese Literature on Small Industry." in Hoselitz (ed), The Role of Small Industry, p. 21

23 Fisher in Hoselitz (ed), The Role of Small Industry, p. 122

24 The Medium Industrial Bank, An Introduction to Small Industries in Korea. (Seoul, Korea, 1966), p. 10

25 Ibid., p. 11

26 Hoselitz, "Small Industry in Underdeveloped Countries.", p.603

27 Ibid., p. 605

28 H.J. Gray, "Some Aspects of the Role of Small Industry in the United Kingdom," Small Industry Bulletin for Asia and the Far East, No. 10. (New York: United Nations, 1973), p. 27

29 For Kuznet's method, see his "Quantitative Aspects of the Economic Growth of Nations: II, Industrial Distribution of National Product and Labour Force." Economic Development and Cultural Change 5 (1957), Supplement, pp. 32ff; and Hoselitz, "Small Industry in Underdeveloped Countire," pp. 608-9

30 Hoselitz, ibid., p. 611

31 J.L. Espy, The Strategies of Chinese Industrial Enterprises in Hong Kong. Dissertation, School of Business Administration, Harvard University, May, 1970

32 Frederick Harbison and Charles A. Myers, Management in the Industrial World: An International Analysis. (New York: McGraw-Hill, 1959), p. 69

33 A similar argument can be found in studies of Lebanon and Japan. See Samir Khalaf and E. Shwayri, "Family Firms and Industrial Development: The Lebanese Case", Economic Development & Cultural Change, 15 (1966-67):59-69; John Pelzel, "The Small Industrialist in Japan", Explorations in Entrepreneurial History 7 (1954): 79-93; and Lawrence Olson, "A Japanese Small Industry: A Letter from Kyoto", Explorations in Entrepreneurial History 8 (1956): 233-244

34 Hong Kong Population and Housing Census, 1971, Main Report. (Census and Statistics Department, Hong Kong Government, 1973), p. 28

35 E.H. Phelps Brown, in Hopkins (ed), op. cit., p.3

36 Mok, op. cit., p. 70

37 Owen, in Hopkins (ed), op. cit., pp. 149-150

38 Sutu and others, op. cit.

39 Mok, op. cit., pp. 76 and 69 respectively

40 Dwyer, "Problems of the Small Industrial Unit" in Dwyer (ed)., op. cit., p. 17

41 Staley and Morse, op. cit., p. 17

42 Susumu Awanohara, "A Break in the Lifetime," Far Eastern Economic Review, 83, No. 12 (March 25, 1974), p. 18

43 U. Nyun, "Preface", in Small Industry Bulletin for Asia and the Far East, No. 10, p. iii

44 Pelzel, op. cit., pp. 79-93

45 Hoselitz, "Small Industry in Underdeveloped Countries", p. 607

46 Owen, in Hopkins (ed), op. cit.,-p. 155

47 Hong Kong Population and Housing Census, 1971, Main Report, p. 77

48 Report on Industry in Hong Kong, p. 8b; quoted in Brown in Hopkins (ed), op. cit., p. 12

49 W.W. Lockwood, The Economic Development of Japan (princeton, 1954), pp. 213-4; quoted in Herman, op. cit., p.360

50 Hoselitz, "Small Industry in Underdeveloped Countries", p.617

51 L.R. Upasani, "Problems and Difficulties Faced by Small Industries in India," Small Industry Bulletin for Asia and the Far East, No. 8. (United Nations, 1971), pp.128-129

52 Murrary MacLehose, "'Introduction' to Hong Kong '74 Focus", Far Eastern Economic Review, 83, No. 12 (Ma4ch 25, 1974), p.3

53 Ibid., p. 4

54 Brown in Hopkins (ed), op. cit., p. 15

55 Pelzel, op. cit., p. 83

56 J.W. Bennett, "Japanese Economic Growth: Background for Social Change," in R.P. Dore (ed), Aspects of Social Change in Modern Japan (Princeton: Princeton University Press, 1967), pp. 426-7

57 This issue is too controversial to reach a consensus even among economists. See Higgins, op. cit., esp. pp. 668-676; and Stephen Enke, Economics For Development. (Englewood Cliff, N.J.: Prentice-Hall, 1963), esp. pp. 113-118

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