CORPORATE RESTRUCTURING IN HONG KONG IN THE AFTERMATH OF THE ASIAN FINANCIAL CRISIS

Currency depreciation formed part of the adjustment process in most Asian economies after the financial crisis. In Hong Kong, by contrast, the adjustments under the fixed exchange rate came about largely through domestic price declines, which were in turn the result partly of lower factor prices, and partly of structural adjustments in the real economy.

Thus, compared with its Asian counterparts, Hong Kong's nominal wage growth has slowed more sharply since the Asian crisis, while rents have fallen dramatically. However, in US dollar terms, wages in Hong Kong have in fact increased faster, while rental declines have been less than in other Asian economies. Hong Kong companies have also undertaken significant financial restructuring to adjust their liquidity and debt structure, so as to enhance profitability and resilience against adverse changes in credit conditions.

Reflecting the need for productivity enhancements to shoulder most of the burden of maintaining Hong Kong's competitiveness, Hong Kong has attained a strong gain of 6.5% in labour productivity during the post-crisis period (1999 Q1 to 2000 Q3), well above most other Asian economies (which have been in the range of 2% - 6%).

Based on a simple analytical framework, our study shows that Hong Kong has regained export price competitiveness and profit margins during the post-crisis period, without having experienced much sharper cuts in factor prices (such as wages and rents) than have its Asian counterparts. The results suggest that, spurred by the appreciation of the Hong Kong dollar against other Asian currencies, Hong Kong's corporate sector has achieved stronger overall productivity gains than elsewhere.

I. Introduction

In the three-year period since the Asian crisis, most regional economies have undergone significant adjustments. Hong Kong is no exception. However, instead of effecting the adjustments also partly through currency depreciation, like most Asian economies did, Hong Kong's adjustments were largely achieved through domestic price declines - partly through lower factor prices, and partly through structural adjustments in the real economy. In particular, the corporate sector reexamined its operations and searched for ways to reduce costs and increase productivity, so as to maintain competitiveness in the international arena.

This paper assesses how Hong Kong's structural adjustments compare with its Asian neighbours, focusing on the restructuring efforts of the corporate sectors.[1] It consists of two parts.

1 'Restructuring' refers to efforts to foster a more resilient economic structure for a firm or country. It can be divided into systemic (or macro) and corporate (or micro) restructuring. Systemic restructuring includes efforts to revamp/improve bankruptcy laws, banking regulations and other financial activities, new company laws, or better accounting standards. Corporate restructuring can be divided into financial and fundamental restructuring.

The first part examines the ongoing corporate restructuring process in Hong Kong, analysing trends in labour costs, employment, rents and other costs, as well as evidence on financial restructuring, streamlining of operations, diversification and re-orientation. Attempts are also made, wherever possible, to compare Hong Kong's performance with other Asian economies. The second part presents a comparative analysis of productivity changes in Hong Kong and other Asian economies, which may be indicative of their success in post-crisis restructuring.

II. Corporate Restructuring: Evidence and Analysis

In this report, corporate restructuring is divided into two categories – fundamental and financial restructuring. Fundamental restructuring refers to corporate efforts and strategies to cut costs and to increase productivity. Financial restructuring refers to efforts to adjust liquidity and debt structure so as to enhance profitability and resilience against adverse changes in credit conditions.

A. Fundamental Restructuring

(a) Hong Kong's Performance

The three major components of operating cost (which, by definition, excludes the cost of goods sold, raw materials and consumption of intermediate goods and services) of the corporate sector are labour costs, rents, and interest payments. In Hong Kong these account for over 50% of total operating expenses, although the relative shares of these items vary among different sectors. Corporate efforts to contain costs since the Asian turmoil have been focusing on achieving a more efficient use of factor inputs.

i) Wages, Payroll and Hours of Work

The growth rate of nominal wages and payroll slowed sharply from late-1997 (Table 1). Average wages actually registered moderate declines from 1999 Q3 onwards, before edging up again in 2000 Q2. Payroll per person engaged, which includes allowances but not fringe benefits, showed a similar trend. However, reflecting the decline in consumer prices, average wages and payroll have continued to record gains in real terms.

Table 1
Wages and Payroll Trends in Hong Kong, 1997 – 2000 Q3

	(Year-on-year % change)			
	Wages		Payroll per capita	
	Nominal	Real	Nominal	Real
1997 Q1	6.0	0.3	9.5	3.2
Q2			10.1	4.3
Q3	7.1	1.7	11.5	5.0
Q4			9.1	3.5
1998 Q1	5.2	0.3	5.3	0.2
Q2			4.5	0.1
Q3	2.2	-0.1	3.0	0.3
Q4			3.2	4.0
1999 Q1	0.1	2.6	1.7	3.6
Q2			-1.2	2.9
Q3	-0.8	4.4	-1.1	5.0
Q4			-0.7	3.6
2000 Q1	-0.4	3.7	0.0	5.5
Q2	0.9	4.6	1.7	6.5
Q3	1.1	3.3	1.7	4.7

Notes: 1. The wage rate excludes payment of overtime, irregular allowances and bonus.
2. Payroll covers wages and salaries, bonus and gratuities, commissions, allowances, and cash payments in other forms paid directly to employees.

Source: Census & Statistics Department

The wage statistics may have under-estimated the degree of wage restraint, however, as market survey results reflected significant reductions in fringe benefits, although such trends appear to have levelled off in recent months.[2] Meanwhile, there has been a general trend of lengthening working hours in the three years following the Asian crisis.[3]

2 The "Survey of the Effectiveness of HR Strategies on Business Performance since the Financial Crisis" conducted by the Hong Kong Institute of Human Resource Management (IHRM) in May 1999. The survey covered 152 member companies, which are mainly medium and large-sized companies.

3 Official statistics indicate that there has been a rise in the number of working hours for persons who are fully employed. Although the number of under-employed persons has increased significantly, the proportion of employed persons (including the under-employed) working 50 hours or more per week rose to 33.9% in 2000 Q3, from 25.7% in 1997 Q3.

Moreover, there have been significant wage cuts for new entrants to the labour market, or for those who were dismissed or laid off by one company, but subsequently re-employed by another. This is partly reflected in the salary indices for managerial and professional employees published by the C&SD (Table 2). The difference between Index A and Index B suggests that the salaries for newly joined staff fell by more than 20% in nominal terms in the past three years.

ii) Manpower Utilisation

While the overall downward adjustments in wages and payroll have so far not been significant, particularly in real terms, the corporate sector has been trimming excessive manpower aggressively until recently. Official employment statistics show that at least 130,000 employees were dismissed or laid off in the 21-month period from October 1997 to June 1999 (Chart 1). This represented about 5% of the total labour force in the corporate sector.[4]

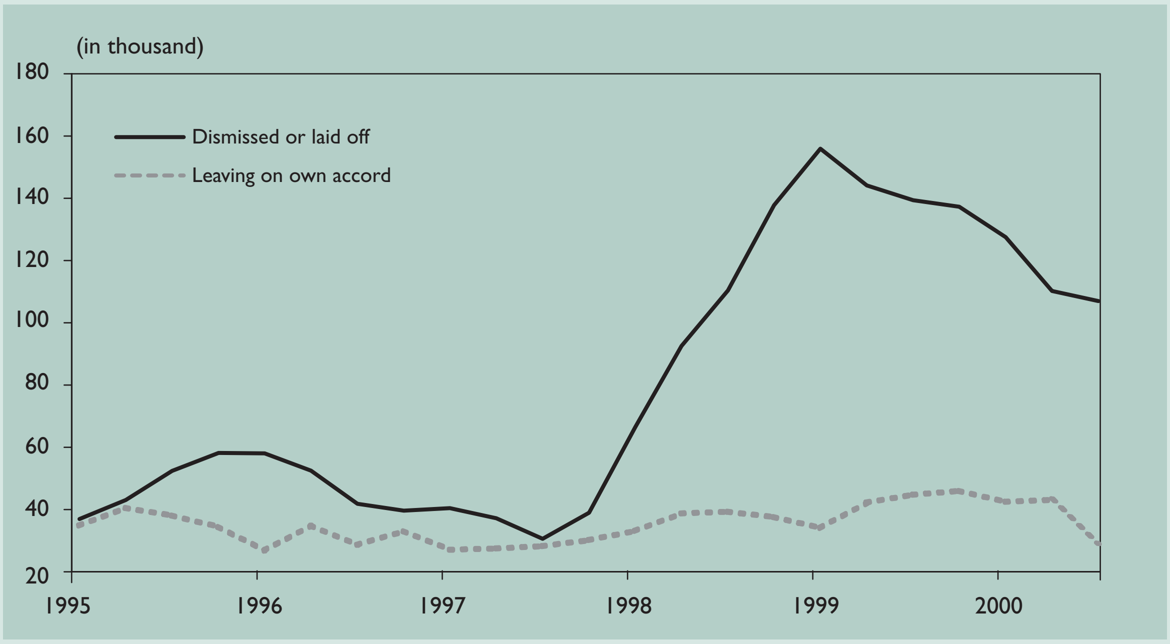
Table 2
Changes in Salary Indices for Existing and Newly Recruited Managerial and Professional Employees

	June 2000/ June 1997	
	Nominal	**Real**
Index A : For existing employees and new recruits	-0.4%	9.7%
Index B : For existing employees only	3.0%	13.5%
Index C : Derived salary indices for new recruits	**-23.5%**	**-15.6%**

Notes : 1. The Index B measures only changes in salaries for those who are in the same occupation and same company for 2 successive years.
2. Real indices are obtained by deflating nominal indices by the Hang Seng CPI.
3. The derived salary indices for new recruits assume that the salary levels between the existing employees and new recruits are similar. To the extent that the salary levels of existing employees are higher than the new recruits, the decline in new recruits' salary will be underestimated.
4. Index C is derived by the HKMA.

Source: Census & Statistics Department

Chart 1
Mode of Leaving Last Job for Unemployed Persons



Note: Excluding re-entrants into the labour force.

4 This was also reflected in the rise in the unemployment rate from 2.2% in September 1997 to as high as 6.5% in September 1999.

iii) Property rentals

Corporate restructuring in Hong Kong also benefited from the fall in property rentals. The reductions in rentals have been substantial since the financial crisis, with falls typically ranging from 20% to more than one-third from the peak levels in 1997 Q3.

iv) Business Strategies

According to our survey, 39 out of the 53 companies under study adopted one or more new business strategies during 1998 and early 1999 so as to enhance their competitiveness.[5] The most commonly used strategies were retrenchment, divestiture, and product and market development.[6]

(b) *Relative Performance in Fundamental Restructuring - Hong Kong compared with its Asian Neighbours*

i) Labour Cost Adjustment

Compared with other Asian economies listed in Table 3, where nominal growth has slowed but has still been in the range of 3% to 6% per annum since the crisis, the slow-down in wages and payroll growth in Hong Kong has been sharper. But, as currency depreciation generally raised price levels in these countries, while Hong Kong experienced deflation, wages increased faster in Hong Kong in real terms (as well as in US dollar terms) than in most of the others.

Table 3

Wage Trends in Hong Kong and other Asian Economies

	Hong Kong	Korea	Philippines	Singapore	Thailand	Taiwan
	(Average annual % changes, unless otherwise specified)					
Nominal wage						
In local currency						
Pre-crisis	7.5	10.7	7.4	5.8	3.2	4.9
Crisis	1.8	-2.5	9.5	8.1	9.2	2.1
Post-crisis	0.2	12.1	2.8	2.1	-0.1	3.3
Since crisis	**0.8**	**4.5**	**6.1**	**5.6**	**5.0**	**2.8**
In US$						
Pre-crisis	7.4	6.1	0.4	7.7	3.2	2.8
Crisis	1.8	-33.8	-14.5	-1.5	-28.8	-8.9
Post-crisis	-0.2	31.8	2.3	1.0	6.8	6.1
Since crisis	**0.6**	**-6.6**	**-6.2**	**-0.3**	**-12.6**	**-0.2**
Real wage						
Pre-crisis	0.4	5.4	-0.9	3.9	-0.4	1.8
Crisis	-0.1	-9.3	-0.7	8.3	-1.5	0.7
Post-crisis	4.3	11.2	-1.0	2.0	-0.4	3.2
Since crisis	**2.5**	**0.4**	**-0.9**	**5.7**	**-1.0**	**2.1**

Notes: 1. With the exception of Thailand, the crisis period is defined as from 1997Q4 to 1998Q4, while the pre-crisis period is defined to be from 1993Q1 to 1997Q3, and the post-crisis period from 1999Q1 to 2000Q3. The crisis period for Thailand is defined as from 1997Q3 to 1998Q4. The period "since the crisis" refers to both the crisis and the post-crisis periods.
2. Because of the absence of more recent data, for the Philippines the post-crisis period is to 2000Q1.
3. Only annual data to 1999 are available for Korea, Singapore, and Thailand.
4. Payroll data are used as proxies for the Philippines, Singapore and Taiwan.
5. Data for Singapore are obtained from the CPF Board. It includes bonuses, if any, but excludes employer's CPF contributions.
6. Real wage data are estimated by deflating the nominal data with the corresponding CPIs.

Source: Compiled by the HKMA, based on official data and data from CEIC

5 The companies are those constituting the Hang Seng 100 Index and the Hang Seng MidCap 50 Index, and having substantial business activities in Hong Kong.

6 "Divestiture" means selling a firm or a major component of a firm.

It should, however, be noted that, while Hong Kong companies appear to have refrained wherever possible from making severe cuts in wages for existing staff, in order not to undermine morale, they have been taking advantage of the labour market slack to reduce wages for new staff, lengthen working hours, and reduce fringe benefits of existing staff. Also, they have trimmed excess manpower aggressively and adopted new business strategies to enhance productivity.

ii) Rental Adjustment

As shown in Table 4, drastic rent reductions following the financial crisis were not unique to Hong Kong. Except Taiwan, most Asian economies experienced downward adjustments in nominal rents of roughly the same magnitude as Hong Kong, ranging from 20% to more than one-third in the various sectors (retail, office, and residential) from their pre-crisis levels. When adjusted for CPI inflation, the downward adjustments of rents in Hong Kong were, however, not so big as in other Asian economies. Moreover, if the effect of exchange rate movements is considered, the downward adjustments of rents (expressed in terms of US dollars) in other Asian economies were much more significant than in Hong Kong.

B. Financial Restructuring

(a) Hong Kong's Performance

We have examined the process of financial restructuring by the non-financial corporate sector by analysing changes in major financial ratios for some 570 selected Hong Kong companies. Banks and other financial institutions are not included in this exercise due to their distinct financial characteristics.

Table 4

Rental Changes in Asian Economies from the Pre-crisis Period

	Nominal						Real		
	Retail		Office		Residential		Retail	Office	Residential
	LC	US$	LC	US$	LC	US$			
	(%)						(%)		
Hong Kong	-18.4	-19.0	-37.1	-37.5	-30.0	-30.5	-13.2	-33.0	-25.5
Malaysia	-39.4	-55.6	-35.0	-52.4	-31.3	-49.7	-44.5	-40.5	-37.0
Philippines	n.a.	n.a.	-37.0	-55.1	-34.6	-51.9	n.a.	-47.4	-44.6
Singapore	-17.1	-28.8	-20.2	-31.5	-29.4	-39.0	-18.4	-21.4	-29.7
Thailand	-36.1	-57.9	-37.4	-58.8	-19.1	-45.3	-42.7	-43.8	-27.5
Taiwan	n.a.	n.a.	3.0*	-8.9*	1.9	-10.9	n.a.	0.6*	-0.5

Notes: 1. LC denotes local currency.
2. Crisis began from 1997Q4 for all countries, except Thailand (1997Q3).
3. Figures marked with a '' are rental changes for the whole commercial sector.*
4. Rental changes are obtained by comparing the latest figures (2000Q1 for Malaysia, the Philippines and Thailand, and 2000Q3 for Hong Kong, Singapore and Taiwan), and the figures for the period just before the beginning of the crisis (1997Q3 for all countries, except for Thailand, which is 1997Q2).

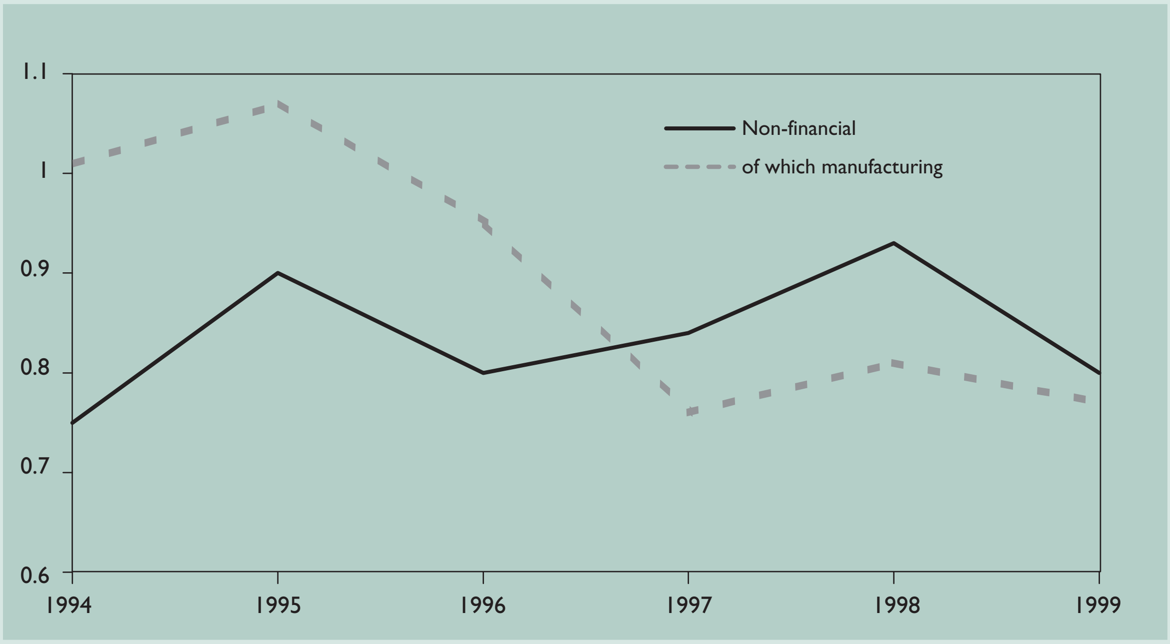
Sources: Rating and Valuation Department (Hong Kong), Urban Redevelopment Authority (Singapore), Directorate General of Budget Accounting and Statistics Executive Yuan (Taiwan); and Jones Lang Lasalle (All other countries).

During the crisis, the financial situation for the business sector in Hong Kong worsened sharply. Companies not only had to weather the deteriorating business environment, but also had to face substantially higher real interest rates, as well as tighter credit from financial institutions. Due to the plunge in shareholders' funds in 1998 (as a result of business losses), the aggregate debt to equity ratio of these companies rose from 0.84 in 1997 to 0.93 in 1998 (Chart 2), even though outstanding debt was little changed. The aggregate finance charges to earnings ratio, which reflects the interest burden, rose sharply from 15.6% in 1997 to 32.6% in 1998, as a result of higher interest expense and lower earnings (Chart 3). The situation was similar for manufacturing companies specifically. The loan structure for the non-financial sector as a whole, and for the manufacturing sector specifically, deteriorated. The share of short-term loans to total debt rose to higher levels than in 1997 (Chart 4), while their liquidity levels, measured in terms of the current and cash ratios, weakened in 1998 (Chart 5).

As a result of poor economic conditions, most companies recorded a fall in earnings in 1998. The aggregate profit margin for the non-financial sector shrank significantly from 24.5% in 1997 to 15.0% in 1998.[7] For the manufacturing sector alone it dropped from 17.2% to 11.6% (Chart 6). Other measures of profitability, such as returns on assets and on equity, also fell sharply.

Chart 2

Debt Leverage of Hong Kong Companies

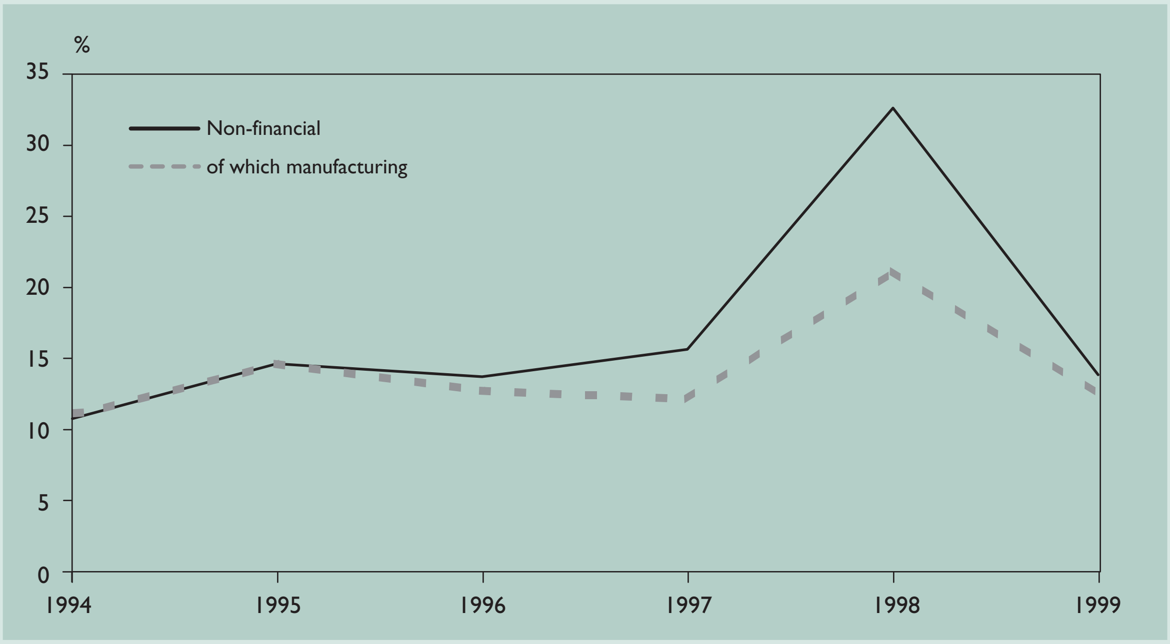


Notes: 1. Debt leverage is defined as the debt to equity ratio.
2. The sample size varies between years. For 1999, it is 571 and 210 for non-financial companies and manufacturing companies respectively.

7 Measured as EBITDA to sales.

Chart 3

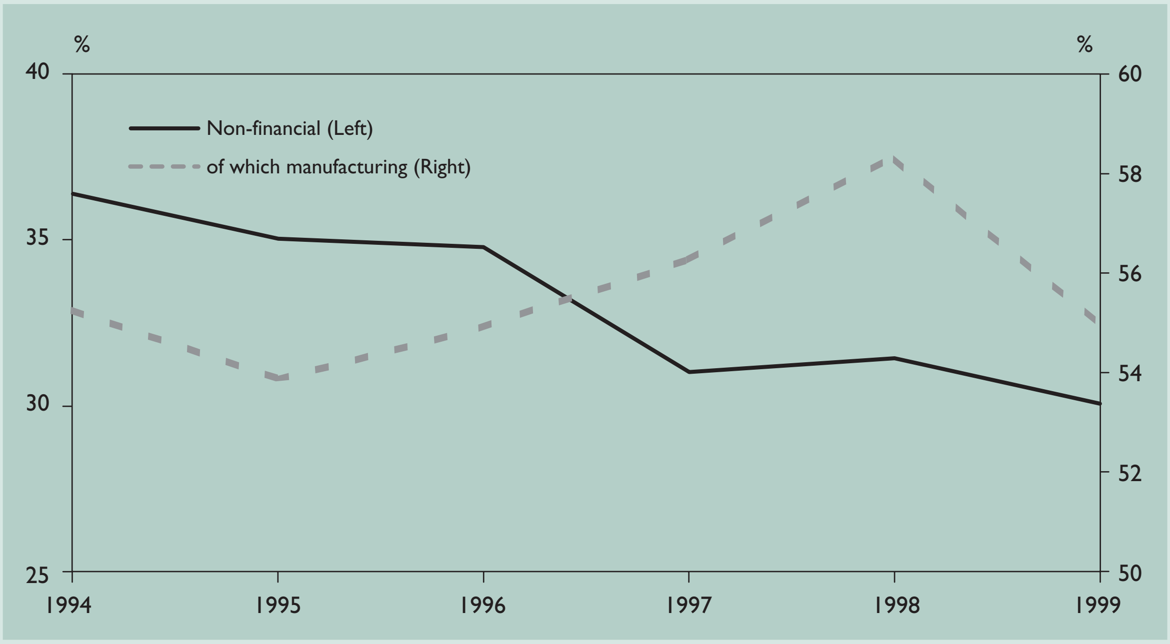
Interest Burden of Hong Kong Companies



Notes: 1. Interest burden is defined as the finance charges to earnings ratio.
2. The sample size varies between years. For 1999, it is 551 and 210 for non-financial companies and manufacturing companies respectively.

Chart 4

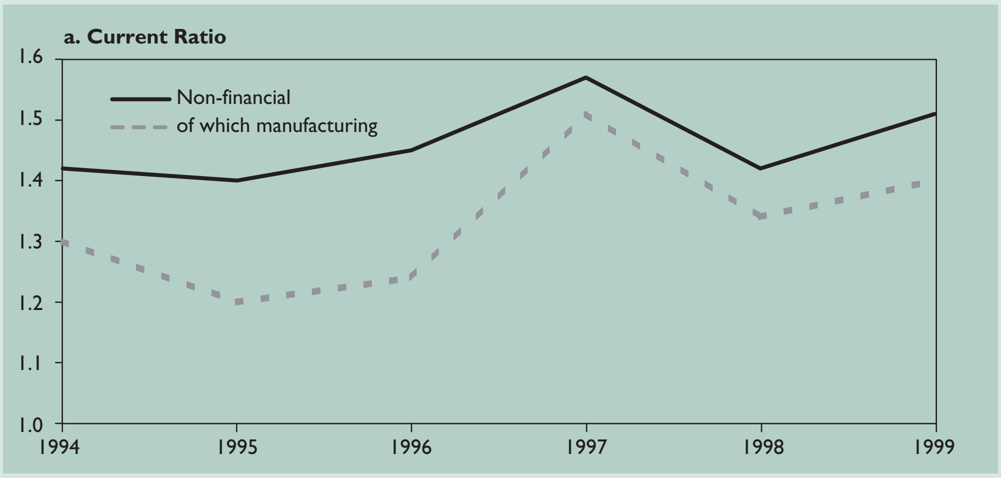
Short-term Loan Ratio of Hong Kong Companies

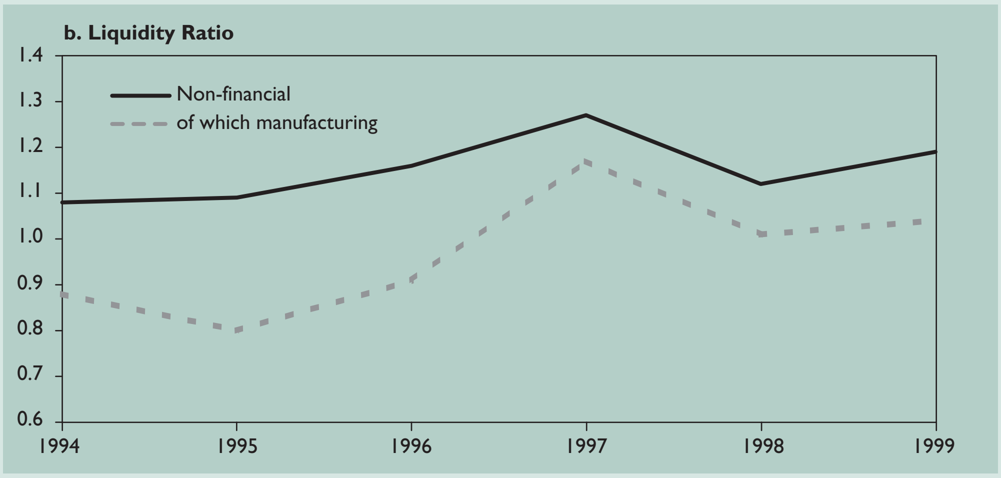


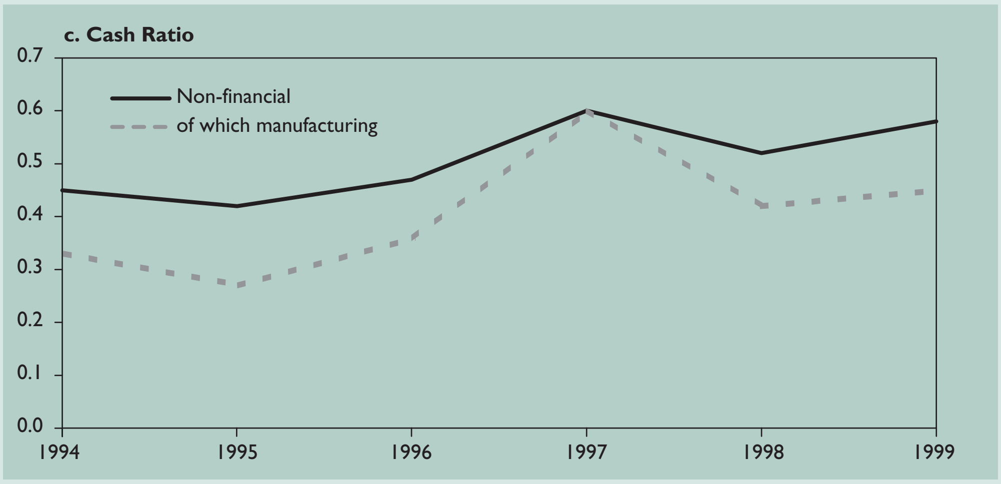
Notes: 1. The short-term loan ratio refers to the short-term loans to total loans ratio.
2. The sample size varies between years. For 1999, it is 527 and 205 for non-financial companies and manufacturing companies respectively.

Chart 5

Liquidity Levels of Hong Kong Companies





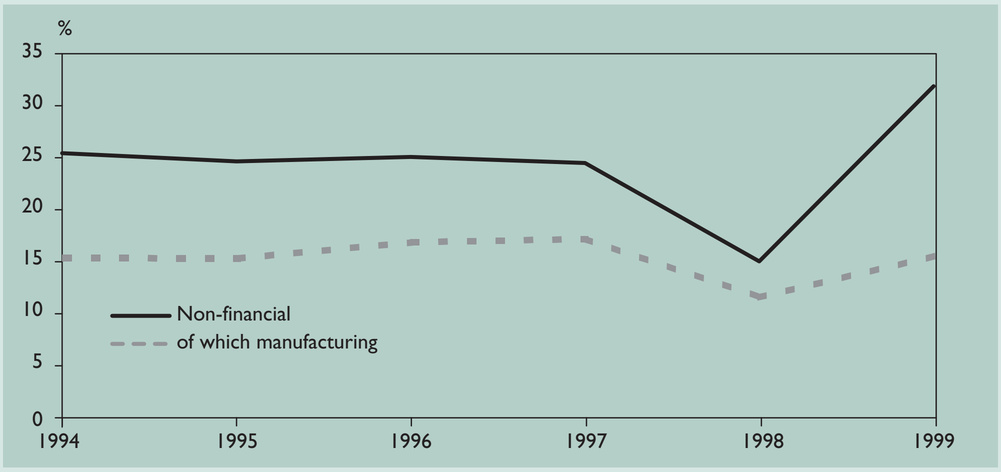


Notes: 1. Current ratio = Current assets/Current liabilities
2. Liquidity ratio = Current assets (excluding inventories)/Current liabilities
3. Cash ratio = (Cash + Marketable securities)/Current liabilities
4. The sample size varies between years. For 1999, it is 571 and 214 for non-financial companies and manufacturing companies respectively in the calculation of current & liquidity ratios. For cash ratio, it is 570 and 213 respectively.

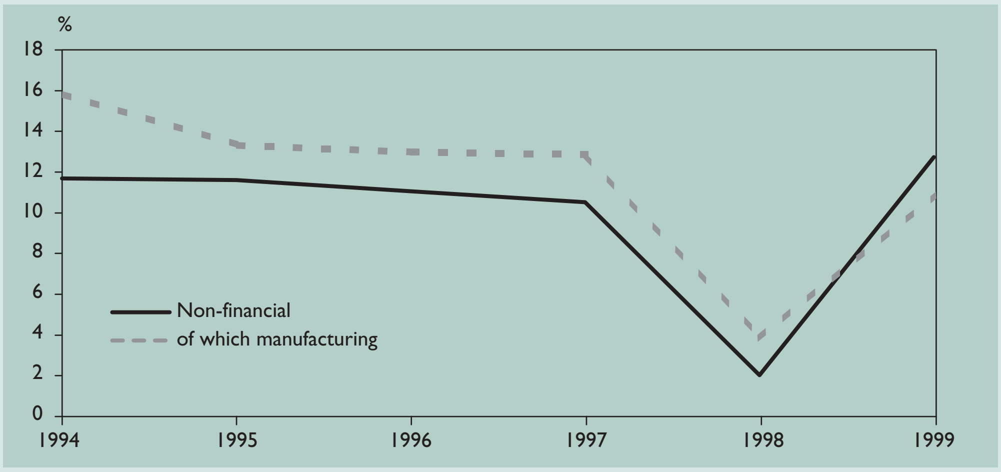
Chart 6

Profitability of Hong Kong Companies

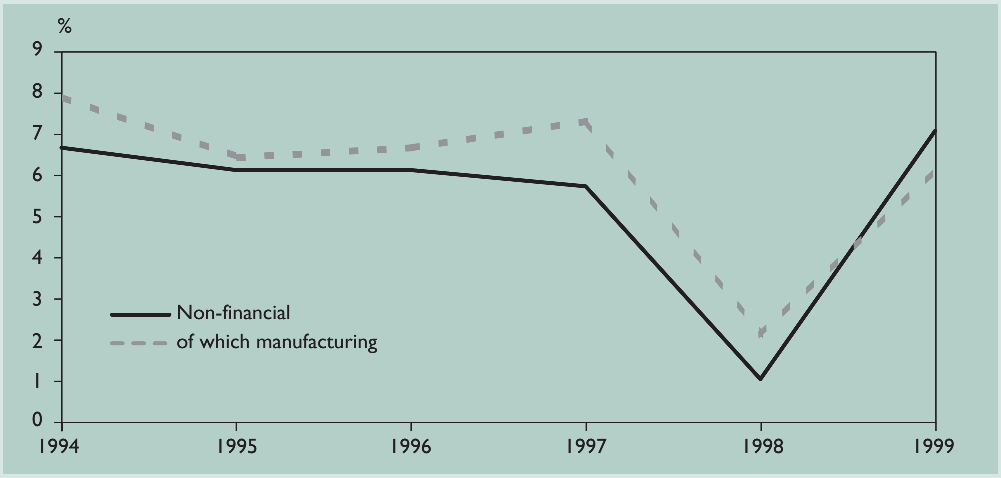
a. Profit Margin



b. ROE



c. ROA



Notes: 1. Profit margin = EBITDA/Sales
2. ROE = Earnings after tax/Equity
3. ROA = Earnings after tax/Assets
4. The sample size varies between years. For non-financial companies, the sample size used in the calculation of Profit margin, ROA and ROE is 578, 492, and 571 respectively in 1999. For manufacturing companies, the corresponding sample size in 1999 is 228, 198, and 214.

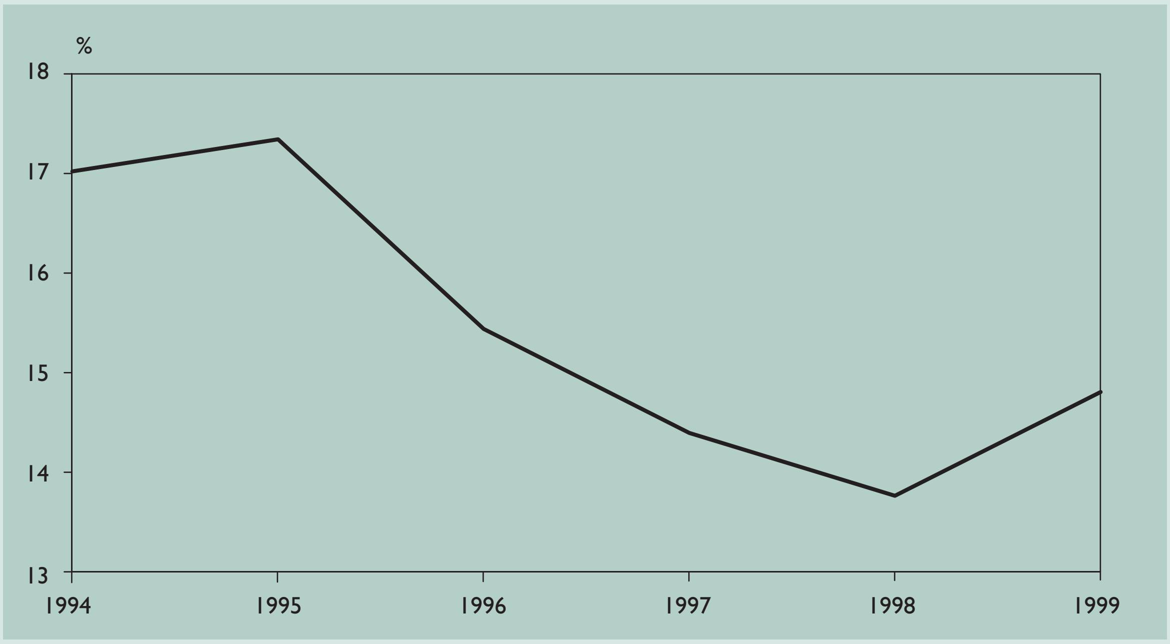
Facing such severe challenges, efforts have been made by the corporate sector to enhance their financial structure. In aggregate, the debt to equity ratio fell back to 0.8 in 1999, through a combination of debt reduction and a rise in shareholders' funds, reflecting keen efforts to reduce debt leverage. A significant reduction in interest cost has thus been achieved through switching to cheaper financing (from debt to equity) and tighter control on borrowing, which also helped raise the companies' credit ratings. As a result, after surging sharply to 32.6% in 1998, their finance charges to earnings ratio fell back to 13.8% in 1999, despite continuing high interest rates.

Meanwhile, companies moved to improve their loan structure and liquidity. The share of short-term loans to total debt for the non-financial sector fell from 31.4% in 1998 to 30.1% in 1999, while liquidity levels, as indicated by the current and cash ratios, rebounded to 1.51 and 0.58 in 1999 respectively. For manufacturing companies alone, the improvement was even more pronounced. Their aggregate debt to equity ratio fell back to 0.77 in 1999, while the finance charges to earnings ratio was reduced to 12.5%, both ratios being the same as their 1997 levels. Their short-term loans to total debt ratio also declined significantly to 54.9% in 1999, from 58.4% in 1998.

It is worth noting that the improvement in liquidity was partly achieved through a tightening of inventory control, as suggested by statistics from manufacturing companies.[8] As shown in Chart 7, the inventory-to-sales ratio fell from 14.4% in 1997 to 13.8% in 1998, notwithstanding a sharp fall in sales in 1998. However, it recovered to 14.8% in 1999, as inventories rose along with the recovery of the economy.

Chart 7

Inventory-to-Sales Ratio of Hong Kong Manufacturing Sector



Note: The sample size varies between years. For 1999, it is 205.

8 Statistics for other sectors are less readily available and difficult to interpret.

(b) *Relative Performance in Financial Restructuring - Hong Kong compared with its Asian Neighbours*

Comparative statistics on financial ratios for Hong Kong and other economies are given in Tables 5-7. Compared with its Asian neighbours, Hong Kong's non-financial sector appears to have been more successful in restoring its debt leverage to a healthier level in the post-crisis period. As shown in Table 5, the debt leverage ratio for the sector has remained substantially lower in Hong Kong than elsewhere. While the non-financial sectors in Korea, Malaysia, the Philippines, and Singapore also achieved reductions in their debt leverage in 1999, the debt to equity ratios in Thailand and Taiwan continued to rise after the crisis. This suggests that Hong Kong's non-financial sector may have been more responsive to the adverse changes in credit conditions.

Hong Kong's non-financial sector also appears to have performed better in adjusting its loan structure and rebuilding liquidity levels. As shown in Table 6, the share of short-term loans to total debt fell from 31.4% in 1998 to 30.1% in 1999, the second lowest among the sample after the Philippines. Meanwhile, with its current and cash ratios improving significantly in 1999, the sector's liquidity level was amongst the highest in Asia.

Efforts made to achieve a more efficient use of funds and to switch to more reliable yet cheaper finance by Hong Kong's non-financial sector appear to have paid off, as manifested by the significant improvements in profitability in the post-crisis period. In particular, profit margins rose sharply from 15% to 32% in 1999, while the profit margins in some other Asian economies like Korea and Thailand continued to deteriorate (Table 7).[9] A similar story emerges when other indicators, such as return on assets (ROA) and return on equity (ROE), are used to measure profitability.

Table 5

Debt Leverage of Non-financial Sector of Hong Kong and other Asian Corporations

	Hong Kong	Korea	Malaysia	Philippines	Singapore	Thailand	Taiwan
1996	0.80	5.46	1.99	1.13	2.38	3.63	2.19
1997	**0.84**	6.81	2.22	1.67	2.14	6.57	2.13
1998	**0.93**	5.80	2.27	1.52	2.93	5.56	2.15
1999	**0.80**	3.76	2.17	1.49	2.79	5.72	2.33
(# in sample)	*(571)*	*(337)*	*(696)*	*(183)*	*(358)*	*(369)*	*(229)*

Notes: 1. The study only covers listed non-financial companies on the stock exchanges.
2. Debt/equity ratio is used to reflect the degree of leverage.
3. The sample size varies over time. The reported numbers of companies are for 1999 only.

Source: Compiled by the HKMA, based on data from Thomson Financial

9 Note that the big improvement in profit margins for Hong Kong's non-financial sector in 1999 was partly brought by the "Orange Deal" of the Hutchison Whampoa Limited which generated huge extraordinary earnings for the company.

Table 6
Liquidity Levels and Loan Structure of the Non-financial Sector of Hong Kong and other Asian Economies

	Hong Kong	Korea	Malaysia	Philippines	Singapore	Thailand	Taiwan
Current ratio							
1996	1.45	1.21	1.32	1.61	1.76	1.20	2.14
1997	**1.57**	1.14	1.23	1.29	1.68	0.86	2.11
1998	**1.42**	1.20	1.14	1.40	1.69	0.89	1.75
1999	**1.51**	1.13	1.21	1.44	1.69	1.06	1.79
(# in sample)	*(571)*	*(332)*	*(691)*	*(183)*	*(356)*	*(362)*	*(228)*
Liquidity ratio							
1996	1.16	0.99	1.11	1.31	1.55	0.89	1.67
1997	**1.27**	0.95	1.02	1.06	1.45	0.65	1.67
1998	**1.12**	1.02	0.91	1.15	1.48	0.72	1.36
1999	**1.19**	0.96	0.99	1.20	1.50	0.87	1.44
(# in sample)	*(571)*	*(332)*	*(691)*	*(183)*	*(356)*	*(362)*	*(228)*
Cash ratio							
1996	0.47	0.28	0.43	0.49	0.82	0.19	0.69
1997	**0.60**	0.26	0.38	0.40	0.58	0.16	0.76
1998	**0.52**	0.27	0.35	0.38	0.68	0.23	0.53
1999	**0.58**	0.22	0.40	0.44	0.73	0.36	0.51
(# in sample)	*(570)*	*(331)*	*(689)*	*(182)*	*(346)*	*(362)*	*(228)*
Short-term loan/ Total loan (%)							
1996	34.8	48.0	48.9	39.7	40.1	39.3	52.5
1997	**31.0**	47.7	46.9	37.1	38.3	42.9	49.7
1998	**31.4**	41.4	43.4	29.7	34.4	48.5	48.6
1999	**30.1**	44.1	43.0	27.0	37.6	40.3	47.4
(# in sample)	*(527)*	*(314)*	*(616)*	*(132)*	*(309)*	*(333)*	*(215)*

Notes: 1. The study only covers listed non-financial companies on the stock exchanges.
2. The sample size varies over time. The reported numbers of companies are for 1999 only.
3. Current Ratio = Current Assets/Current Liabilities.
4. Liquidity Ratio = Current Assets (excluding Inventory)/Current Liabilities.
5. Cash Ratio = (Cash + Marketable Securities)/Current Liabilities.

Source: Compiled by the HKMA, based on data from Thomson Financial

Table 7
Profitability of the Non-financial Sector of Hong Kong and other Asian Economies

	Hong Kong	Korea	Malaysia	Philippines	Singapore	Thailand	Taiwan
Profit Margin (%)							
1996	25.1	8.1	22.5	28.7	18.1	20.0	15.4
1997	**24.5**	8.6	15.6	23.0	18.0	32.8	16.3
1998	**15.0**	8.4	13.1	27.1	14.4	19.6	11.5
1999	**31.9**	5.4	17.9	24.1	16.8	6.7	15.0
(# in sample)	*(578)*	*(304)*	*(704)*	*(139)*	*(364)*	*(329)*	*(212)*
Return on Equity (%)							
1996	11.1	2.3	13.4	14.2	9.9	10.9	10.8
1997	**10.5**	-11.3	9.1	10.0	9.2	42.6	12.3
1998	**2.0**	-18.7	-10.0	4.8	3.9	-21.5	4.8
1999	**12.7**	-11.0	5.2	3.0	7.9	-38.4	8.2
(# in sample)	*(494)*	*(311)*	*(634)*	*(145)*	*(304)*	*(323)*	*(198)*
Return on Assets (%)							
1996	6.1	0.4	4.5	6.6	2.9	2.4	3.4
1997	**5.7**	-1.4	2.8	3.7	2.9	5.6	3.9
1998	**1.1**	-2.7	-3.1	1.9	1.0	-3.3	1.5
1999	**7.1**	-2.3	1.6	1.2	2.1	-5.7	2.5
(# in sample)	*(571)*	*(337)*	*(695)*	*(172)*	*(357)*	*(369)*	*(228)*

Notes: 1. The study only covers listed non-financial companies.
2. The sample size varies over time. The reported numbers of companies are for 1999 only.
3. Profit Margin = Earnings before interest, taxes, depreciation and amortisation/Sales

Source: Compiled by the HKMA, based on data from Thomson Financial

III. A Comparative Analysis of Productivity Changes: Hong Kong Compared with other Asian Economies

A. Hong Kong's Performance

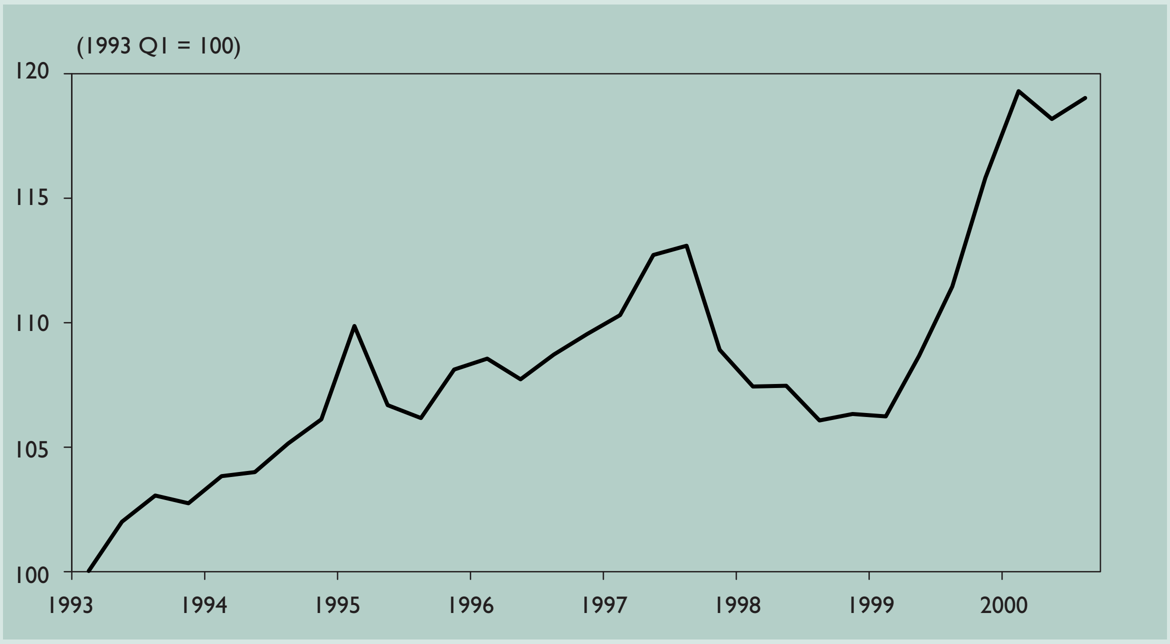
Partly as a result of corporate restructuring, labour productivity in Hong Kong, measured in terms of real GDP per person employed, began to recover in 1999 Q2, and rose sharply in 1999 Q4 and 2000 Q1 (Chart 8).

To assess how broad-based such a rebound was, efforts have been made to examine labour productivity in individual sectors. Due to the time lag of the release of official sectoral value-added figures for Hong Kong, it is not possible to compute the same up-to-date indicators as that for the overall economy. As an alternative, we use real business receipts per person engaged to measure the changes in labour productivity up to 2000 Q3.[10]

The recovery appears to be quite broadly based. As shown in Table 8, on a seasonally adjusted basis, the productivity levels of one third of the sectors had already rebounded to above their pre-crisis level, including hotel, real estates, storage, banking services and manufacturing.

Chart 8

Real GDP Per Person Employed for Hong Kong, 1993-2000 Q3



10 The values of business receipts for major sectors are obtained through quarterly surveys by the C&SD, with a time lag of less than three months, and are a good indicator of output. It should, however, be noted that business receipts as a measure of output in the context of productivity could be biased if the relative shares of inputs (such as labour input, raw materials and intermediate goods and services) shift significantly during the period of study. Given this and the absence of official price deflators for the output of some sectors, the results derived from this proxy should be interpreted with caution.

Table 8

Productivity Levels for Major Economic Sectors – 2000 Q3 Compared with 1997 Q3

Sector	Productivity index		Gap (in %)
	2000 Q3	1997 Q3	
Hotels	143	87	**65.0**
Real estates	91	66	**37.8**
Storage	148	113	**31.6**
Banking services	130	109	**19.2**
Manufacturing	189	163	**16.0**
Films	138	140	-1.4
Insurance services	120	123	-2.7
Financing services (other than banks)	80	85	-6.1
Restaurants	97	104	-6.3
Communications	164	179	-8.1
Import/export trades	99	112	-11.8
Land transport	79	93	-14.8
Business services	83	98	-15.8
Retail	92	110	-16.5
Wholesale	88	107	-17.7

Notes: 1. Productivity index is defined as real business receipts per person engaged.
2. 1996 Q1=100 for the sectors of land transport, real estates and films, while 1993 Q1=100 for other sectors.

Source: Compiled by the HKMA, based on data from Census & Statistics Department

B. Relative Performance - Hong Kong Compared with its Asian Neighbours

A lack of reliable measures of total productivity complicates a rigorous assessment of the relative achievements of the restructuring effort of Hong Kong's corporate sector against its Asian counterparts. In this section, we compare partial productivity changes in the economies under study by examining empirical evidence regarding labour productivity. A simple framework is then developed, in the absence of direct measures of productivity, to assess productivity changes indirectly through other indicators.

(a) Comparative Changes in Labour Productivity

Actual and trend-adjusted growth in labour productivity for selected Asian economies, defined as real GDP per person employed, is presented in Table 9. As shown, most of the economies under study suffered a deterioration in labour productivity during the crisis, partly as a result of instability and uncertainty in the market, a slow-down in capital investment, and excess capacity due to slack demand. During the post-crisis period, all economies under study posted a significant recovery in labour productivity. In particular, Hong

Kong has attained the second strongest gain of 6.5%, significantly above most others (in the range of 2% – 6%). After making adjustments to exclude the trend growth rate, Hong Kong's labour productivity growth during the post-crisis period well exceeded those of other Asian economies.

Table 9 also shows that, in absolute terms, apart from Korea and the Philippines, the labour productivity of all Asian economies under study has not yet returned to the trend-projected level. By 2000 Q3, Hong Kong's labour productivity was about 0.7% below its trend level. This gap is slightly larger than Taiwan (which was 0.3% below its trend level), but much narrower than Singapore (more than 2% down from the trend), Malaysia and Thailand (9% to 12% off their trends).

Table 9
Actual and Trend Growth Rates of Labour Productivity of Hong Kong and other Asian Economies

	Hong Kong	Korea	Malaysia	Philippines	Singapore	Thailand	Taiwan
	(Average annual percentage changes, unless otherwise specified)						
(a) Actual growth rate							
Pre-crisis	2.7	4.8	5.0	1.5	5.7	5.5	5.3
Crisis	-4.9	0.2	-8.0	-2.6	-1.4	-5.6	3.0
Post-crisis	**6.5**	**6.9**	**3.6**	**6.3**	**6.2**	**1.7**	**4.3**
(b) Trend growth rate	2.3	4.5	2.5	1.9	4.6	2.4	4.7
(c) Trend-adjusted growth rate = (a) – (b)							
Pre-crisis	0.4	0.3	2.5	-0.4	1.1	3.1	0.6
Crisis	-7.2	-4.3	-10.5	-4.5	-6.0	-8.0	-1.7
Post-crisis	**4.2**	**2.4**	**1.1**	**4.4**	**1.6**	**-0.7**	**-0.4**
(d) Gap from trend as by 2000Q3 (%)	**-0.7**	**1.2**	**-9.5**	**3.0**	**-2.3**	**-12.4**	**-0.3**

Notes:
1. *Labour productivity is defined as real GDP per person employed.*
2. *Trend growth rate is the annualised trend growth rate from 1993Q1 to 2000Q3.*
3. *With the exception of Thailand, the crisis period is defined as from 1997Q4 to 1998Q4, while the pre-crisis period is defined to be from 1993Q1 to 1997Q3, and the post-crisis period from 1999Q1 to 2000Q3. The crisis period for Thailand is defined as from 1997Q3 to 1998Q4.*
4. *The gap from trend is obtained by comparing the absolute productivity index to the trend-projected level as at the end of 2000Q3. The trend-projected level is derived by assuming the index has grown at the trend rate from the pre-crisis level.*

Source: Compiled by the HKMA, based on data from CEIC *(b) A Simple Analytical Framework*

Theoretically, the price of any good is equal to production cost plus profit margins, with production cost being a function of factor prices and productivity. For the external sector of an economy, the export prices in US dollars are thus a function of the sector's profit margins, exchange rates, factor prices and productivity:

UVI_{US} = ER* UVI_{LC} = f (ER, profit margins, factor prices, productivity)

Where UVI_{US} is the unit value index of exports (export prices) in US dollar terms;

ER is the exchange rate of the local currency (US dollar per local currency); and

UVI_{LC} is the unit value index of exports (export prices) in local currency.

The above function illustrates that the exchange rate, profit margins, factor prices and productivity are the four key elements determining export prices in US dollar terms. Generally speaking, if a home currency depreciates against the US dollar, the UVI_{US} of the home country's exports will drop, assuming the cost of producing exports in local currency does not change much and there is no change in productivity and profit margins. Likewise, other things being equal, if exporters' profit margins are squeezed, the factor prices decline, or the sector's productivity increases, the exporters will cut prices, and the UVI_{US} will fall.

Table 10 summarises the changes in export prices, exchange rates and profit margins of the manufacturing sector of Hong Kong and six other Asian economies (Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand). The analysis covers the period from 1993 Q1 to 2000 Q3, which is divided into three sub-periods: the pre-crisis period, the crisis period, and the post-crisis period. With the exception of Thailand, the crisis period is defined as from 1997 Q4 to 1998 Q4, while the pre-crisis period is defined to be from 1993 Q1 to 1997 Q3, and the post-crisis period from 1999 Q1 to 2000 Q3. The crisis period for Thailand is defined as from 1997 Q3 to 1998 Q4.

Table 10
Export Prices, Exchange Rates and Profit Margins of Hong Kong and other Asian Economies

	Hong Kong	Korea	Malaysia	Philippines	Singapore	Thailand	Taiwan
	(Cumulative changes during period, unless otherwise specified)						
Export prices in US dollar:							
Pre-crisis	1.6	-7.2	6.6	6.4	-1.0	14.6	2.5
Crisis	-3.6	-16.3	-10.9	15.6	-13.5	-40.6	-13.6
Post-crisis	**-2.5**	**4.6**	**0.0**	**10.8**	**8.7**	**-10.2**	**2.8**
Since crisis	-5.9	-12.5	-10.9	28.1	-5.9	-46.7	-11.2
Exchange rate*:							
Pre-crisis	-0.1	-13.0	-6.2	-15.1	+9.8	-2.9	-10.3
Crisis	-0.1	-28.7	-26.7	-24.6	-9.3	-28.2	-11.4
Post-crisis	-0.6	+12.1	0.0	-11.8	-5.6	-10.3	+3.2
Since crisis	**-0.7**	**-20.1**	**-26.7**	**-33.6**	**-14.3**	**-35.6**	**-8.6**
Profit margins of the manufacturing sector (in %):							
Pre-crisis	16.2	12.5	19.3	17.8	14.1	22.7	17.2
Crisis	11.6	11.2	10.2	25.0	12.9	21.4	12.4
Post-crisis	**15.5**	**10.9**	**17.8**	**15.4**	**12.0**	**6.8**	**16.0**

Notes:
1. *With the exception of Thailand, the crisis period is defined as from 1997Q4 to 1998Q4, while the pre-crisis period is defined to be from 1993Q1 to 1997Q3, and the post-crisis period from 1999Q1 to 2000Q3. The crisis period for Thailand is defined as from 1997Q3 to 1998Q4.*
2. *Due to data availability, the pre-crisis period for export prices of the Philippines started from 1996Q1.*
3. *Due to data availability, the price deflator of exports of goods and services for Malaysia is used as a proxy for its export price index.*
4. *The profit margins are defined as the ratio of earnings before income tax, interest expenses, depreciation and amortisation to sales. Due to data availability, the pre-crisis period refers to the average of the period 1994-1997, the crisis period to 1998 and the post-crisis period to 1999.*

**A '+' indicates an appreciation of the local currency against the US dollar, while a '-' indicates depreciation.*

Source: Compiled by the HKMA, based on data from CEIC and Thomson Financial

As can be seen from the table, except the Philippines, all other Asian economies appeared to have gained ground against Hong Kong during the crisis period in terms of their price competitiveness in the international market. This was reflected by the sharper fall in the unit value indices of their exports in US dollar terms than Hong Kong (a drop of 11% to 41% against Hong Kong's 4% decline). During the post-crisis period, however, the competitiveness of Hong Kong's exports has regained its lost ground from most other Asian economies. While Hong Kong's export prices in US dollar terms continued to fall (by 2.5%), the export prices of all other economies (except Thailand) edged up. The export performances of the countries under study were in general in line with improvements in price competitiveness (Table 11). In particular, Hong Kong registered rapid trend-adjusted growth in exports from 1999 Q1 to 2000 Q3 of 6.1%, outperforming the trend-adjusted growth in exports of most other Asian countries (of -5% to 6%).[11]

Table 11
Actual and Trend Growth Rates of Exports of Hong Kong and other Asian Economies

	Hong Kong	Korea	Malaysia	Philippines	Singapore	Thailand	Taiwan
	(Average annual percentage changes, unless otherwise specified)						
(a) Actual growth rate:							
Pre-crisis	-1.6	15.3	13.2	13.5	18.2	7.7	7.9
Crisis	-13.2	4.4	2.1	2.2	0.5	6.0	1.1
Post-crisis	3.9	19.7	18.3	8.6	8.2	22.3	19.8
(b) Trend growth rate:	-2.3	14.5	12.5	8.4	12.9	10.7	9.5
(c) Trend-adjusted growth rate = (a) - (b)							
Pre-crisis	0.7	0.8	0.7	5.1	5.3	-3.0	-1.6
Crisis	-10.9	-10.1	-10.4	-6.2	-12.3	-4.8	-8.4
Post-crisis	**6.1**	**5.3**	**5.8**	**0.2**	**-4.6**	**11.6**	**10.4**

Notes: 1. With the exception of Thailand, the crisis period is defined as from 1997Q4 to 1998Q4, while the pre-crisis period is defined to be from 1993Q1 to 1997Q3, and the post-crisis period from 1999Q1 to 2000Q3. The crisis period for Thailand is defined as from 1997Q3 to 1998Q4. For the Philippines, the pre-crisis period started from 1996Q1 due to data availability.
2. Trend growth rate is the annalised trend growth rate from 1993Q1 to 2000Q3.
3. Exports refer to exports of goods for all economies, except Singapore and Malaysia. For Singapore, exports refer to exports of non-oil products only. For Malaysia, they include exports of services.

Source: Compiled by the HKMA, based on data from CEIC

11 Except Thailand and Taiwan which registered 12% and 10% growths respectively.

Based on our simple framework, the relative changes in three of the four factors determining the price competitiveness of Hong Kong's exports - the exchange rate, profit margins and factor prices - as against other Asian countries are examined. Indirectly, this framework will provide us with an insight into the comparative performance of the fourth factor, i.e. productivity enhancement, during the post-crisis period.

i) Exchange Rate

As shown in Table 10, most Asian currencies depreciated sharply (by 10% - 30%) during the crisis period, compared to a very stable Hong Kong dollar. The depreciation of these Asian currencies was the main reason behind the improvement in price competitiveness of their exports against Hong Kong. If the effect of exchange rate movements is excluded, the prices of Hong Kong's exports in fact experienced a bigger fall than most other Asian economies — a drop of 4%, against a decline of 1% for Taiwan and increases of about 16% to 50% for Malaysia, Korea and the Philippines.

The exchange rate movements of Asian economies were rather mixed during the post-crisis period. While the currencies of Korea and Taiwan appreciated from their lows, those of the Philippines, Singapore, and Thailand continued to soften. Nevertheless, the currencies of these Asian economies remained significantly below their values prior to the crisis. This suggests that the post-crisis improvement in the price competitiveness of Hong Kong's exports was largely attributable to other factors.

ii) Profit Margins

Export prices could also be lowered through a squeeze of profit margins. To obtain profit margin statistics, a survey of corporate data for the economies under study was carried out. The findings, as presented at Table 10, suggest that Hong Kong's manufacturing sector cut profit margins more sharply than other Asian economies during the crisis. This was necessitated as part of the effort of Hong Kong producers to maintain the competitiveness of their exports, when the currencies of other economies depreciated significantly, but productivity improvement took place with a time lag to the adjustment process. As evidenced from the table, Hong Kong's profit margins were slashed by about 30% (from 16.2% to 11.6%) in 1998, compared with the more moderate declines of about 10% for Korea and Singapore. This helped Hong Kong reduce export prices during the period, when relative exchange rate movements were not in its favour.

However, the cuts in profit margins in Hong Kong reversed soon after the crisis, returning to nearly pre-crisis levels. This was in contrast to most Asian economies, where profit margins either continued to fall or, if they rebounded, remained more significantly below their pre-crisis levels than Hong Kong. It should be stressed that the sharp rise in the profit margins of Hong Kong's manufacturing sector in 1999 was not achieved through any compromise in financial prudence. Compared with other Asian economies, the liquidity level of Hong Kong's manufacturing sector was in general higher, and it continued to have one of the lowest debt leverage ratios and the most favourable debt structure.

iii) Factor Prices

As discussed in Section IIA(b), the slow-down in growth in nominal wages in Hong Kong in the post-crisis period has been somewhat sharper than in some of the other Asian economies. However, due to the lack of statistics on other essential data for the assessment of average labour costs, such as the number of working hours per day and changes in fringe benefits, it is not possible to make a rigorous cross-country comparison. As for property rentals, the downward adjustments in Hong Kong were of roughly the same magnitude as in most other economies in nominal terms. On the whole, factor prices have probably performed roughly similarly in the economies under study.

(iv) Productivity

The above analysis shows that Hong Kong was able to maintain its external competitiveness in the post-crisis period, despite the appreciation of the Hong Kong dollar against other Asian currencies, a more significant rebound of profit margins and the absence of a much sharper fall in factor prices. This suggests that Hong Kong's manufacturing sector must have attained stronger productivity gains than other Asian economies.

IV. Conclusion

Considerable adjustments have taken place since the Asian crisis in Hong Kong's labour market, albeit mainly in the forms of retrenchment, lowering entry salary, cutting fringe benefits, lengthening working hours, trimming excess manpower and restraining wage growth, rather than cutting existing wages. Efforts have also been made to enhance financial structures through reducing debt leverage and improving debt structure and liquidity. Evidence so far suggests that such efforts have paid off, as real GDP per person employed began to recover in 1999 Q2 and rose sharply in 1999 Q4 and 2000 Q1.

Unlike most Asian economies, which facilitated their adjustments through currency depreciation, Hong Kong had to achieve adjustments largely by domestic price deflation – partly through lower factor prices, and partly through structural adjustments in the real economy. In order to maintain external competitiveness, corporate restructuring in Hong Kong has had to be sharper than in other Asian economies, as productivity enhancements have had to shoulder more of the burden of maintaining competitiveness.

Given that Hong Kong was able to regain its price competitiveness soon after the financial crisis, the relative performance of exchange rates and profit margins of the manufacturing sectors for Hong Kong and other Asian economies suggests that Hong Kong's corporate sector attained stronger productivity gains than others. This is reflected by the fact that, while the fall in factor prices in Hong Kong has not been much greater than in other Asian economies, the cost of production was reduced more sharply due to productivity gains. This has not only offset unfavourable exchange rate movements, but also supported higher profit margins. To the extent that productivity gains can be sustained for a longer period (than the exchange rate factors), Hong Kong's external sector will be at an advantageous position when the US dollar weakens against the currencies of Hong Kong's trade competitors.

It should, however, be noted that the above analysis has not taken into account likely biases caused by the heterogeneity in product and market mix between Hong Kong and other Asian economies. In particular, it has ignored possible differences in demand side conditions as well as in the cost of inputs, other than labour and rentals, faced by the economies under study. Moreover, it is difficult to capture the impact of quality changes on export prices. Given these drawbacks, the findings should be interpreted with caution.

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