



**HONG KONG AS AN INTERNATIONAL FINANCIAL CENTRE:
MEASURING ITS POSITION AND DETERMINANTS**

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Abstract

Traditional measures of concentration of financial market activities do not adequately reflect an economy's status as an international financial centre (IFC). In this paper, we construct alternative measures that better capture the ability of an IFC to attract capital flows and international demand for its financial services, as well as its attractiveness as a place for international financial institutions to congregate. We also explore the determinants of the competitiveness of IFCs in an analytical and empirical framework. Our findings suggest that, in addition to the pull factors of the IFC, push or demand factors from the economies importing financial services from the IFC are also important. The rise of Mainland China represents a potentially important push factor for the demand for financial services exports from Hong Kong, and hence its status as an IFC.

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Executive Summary:

- *Hong Kong is often perceived as the hub of most major multinational companies and an important centre for the provision of financial services to international investors. Yet, based on traditional measures such as concentration of financial market activities, it still appears to remain far smaller than major IFCs such as New York and London.*
- *This suggests that the traditional measures of the importance of an IFC may not be fully adequate. First, these measures reflect, apart from international financial activities, domestically-oriented activities. Secondly, their measurements of the status of IFCs are limited to the concentration of financial market activity. Thirdly, due to data limitations, these measures are compared on a country rather than on a city level on which activities of an IFC should be based.*
- *In view of these caveats about traditional measures, we construct three alternative measures to assess the importance of Hong Kong as an IFC relative to other major economies, namely inward international investment position excluding FDI, exports of financial services, and inward direct investment in the financial sector.*
- *While Hong Kong lags well behind major IFCs in terms of its concentration of financial market activities, adjusted for GDP on a city basis, our alternative measures suggest that Hong Kong has been the leader in inward financial sector direct investment and comparable to the US in exports of financial services.*
- *There have also been few empirical studies of the determinants of the competitiveness of IFCs. The second part of this study explores the determinants of the relative importance among IFCs in an analytical and empirical framework. This will have implications for what determines Hong Kong's competitiveness as an IFC, and how Hong Kong could further strengthen its position.*
- *Our findings suggest that both macroeconomic and microeconomic/institutional factors as well as financial market strength and efficiency are important in the formation of IFCs. In terms of attracting the agglomeration of international financial institutions, the fact that both Hong Kong and Singapore have been outperforming the regional economies and many other major economies, including Japan, in this regard, appears to be explained, in part, by their favourable microeconomic environment.*

- *In terms of financial services exports, while Hong Kong fares well compared to other regional economies, including Japan, there is still a considerable gap when compared to the major IFCs. Our findings suggest that Hong Kong can enhance its role as an IFC by increasing the international element in the stock market. While Hong Kong is a major hub of international financial institutions, the number of foreign companies listed on the domestic stock market remains small compared with major IFCs.*
- *At the same time, in addition to the pull factors of the exporting economy, push or demand factors from the importing country are also important. Our findings show that the size of the home country's economy is among the most important determinants of IFCs. Thus, the demand for financial services exports from an economy could increase when there is a large market with similar culture nearby. The rise of Mainland China represents a potentially important push factor for the demand for financial services exports from Hong Kong, and hence its status as an IFC. Based on our estimation results, assuming that the Mainland's behaviour in the demand for financial services imports were similar to that of the US after opening its capital account, Hong Kong's exports of financial services to the Mainland could be 7 times its actual value in 2005, increasing Hong Kong's total exports of financial services by a quarter.*
- *Nevertheless, given the importance of the ease of access to investment opportunities in the international financial markets, it is equally important that Hong Kong should explore business opportunities in other economies apart from the Mainland market, and efforts should be devoted to facilitating foreign companies other than those from the Mainland to list in Hong Kong.*

I. INTRODUCTION

Becoming an international financial centre (IFC) has traditionally had a strong appeal to many economies, particularly to more advanced emerging economies. Advanced economies with well-developed IFCs have also been making every effort to protect or strengthen them. The development of global financial services is perceived to be vitally important to an economy, as this will translate into substantial economic activity, direct and indirect job creation and tax revenues. More importantly, as financial institutions provide intermediation services to all businesses which facilitate more efficient allocation of financial resources, a strong financial services sector is critical to the health of the overall economy.

Although the existence of financial services does not depend on natural resources, and thus are not restricted in their choice of location, financial centres tend to concentrate asymmetrically in certain areas. At present, New York and London are the dominant financial centres in the world. In Asia, economies like Hong Kong and Singapore are also becoming an increasing threat to Tokyo's leading role in the region.

Nevertheless, comparisons among financial centres in the existing literature are often made by assuming that a certain economy is already an IFC, without providing objective measures of the concentration of financial market activities. Even when traditional measures of financial market activities are provided, they might not adequately reflect the perceived importance of an economy as an IFC. This is particularly true in Hong Kong's case, which is often perceived as the hub of most multinational companies and an important centre for the provision of financial services to international investors. However, its relative size in financial markets still appears to remain far smaller than major IFCs such as New York and London, which do not seem to speak for its perceived importance. It is therefore useful to construct measures of the concentration of international financial activities amongst various economies that can better reflect an economy's position as an IFC.

At the same time, with the asymmetric concentration of financial activities, questions also arise as to what explains why some economies thrive as financial centres at the expense of others, and how the emergence of IFCs can be explained. However, existing literature on the formation of IFCs is largely limited to descriptive or partial analysis of their determining factors.

With this in mind, the objective of this study is twofold. First, activity indicators measuring the relative positions of different economies as IFCs are constructed. Measures based on the geographic concentration of both traditional financial activities, as well as other alternative indicators which reflect conditions not captured by these traditional measures are discussed in Section II. In the second part of the study, the

determinants of the pattern of concentration of international financial activities are discussed. Analysis based on a simple regression explaining inward direct investment in the financial sector as well as a gravity model on exports of financial services from different economies to the US are established in Section III. Given the estimation results, Section IV provides an assessment of how Hong Kong fares in the factors of competitiveness as an IFC compared to other major financial centres. Finally, based on such analysis, we identify the areas in which Hong Kong lags behind other competitors and discuss the policy implications for addressing those weaknesses in Section V.

II. MEASURING THE CURRENT POSITION

In general, a financial centre can be defined as ‘a place in which there is a high concentration of banks and other financial institutions, and in which a comprehensive set of financial markets are allowed to exist and develop, so that financial activities and transactions can be effectuated more efficiently than at any other locality’.² To further become an international financial centre, an economy will need to attract the conduct of international financial activities. As such, the share of various international financial activities a locality managed to capture provides a good indicator of its status as an IFC.

a. Measuring the Concentration of Financial Market Activities

The conventional approach to measuring the relative importance of various financial centres is often based on the degree of concentration of international financial activities in five markets, namely the equity market, bond market, credit market (as represented by the banking sector), foreign exchange market and derivatives market. In this section, we construct measures of the degree of concentration of international financial activities in an economy based on its share of traditional financial activities in world market activities. This is proxied by the turnover in the respective markets wherever possible. However, due to data limitation, activities in some markets are represented by other indicators such as the outstanding value of the bond market and the foreign assets and liabilities of the banking sector.

² Jao, Y. C. (1997). *Hong Kong as an International Financial Centre, Evolution, Prospects and Policies*, City University of Hong Kong Press.

Specifically, the measures on each economy's degree of concentration of international financial activities in various traditional markets are constructed as follows:

- (1) EQ_i/EQ_w measures the economy's share in world *equity market turnover*;
- (2) IPO_i/IPO_w measures the economy's share in world *fund raised through Initial Public Offerings (IPOs) in the equity market*;
- (3) BD_i/BD_w measures the economy's share in world outstanding domestic and international bonds in the *bond market*;
- (4) BK_i/BK_w measures the economy's share in world foreign assets and liabilities of the *banking sector (credit market)*;
- (5) FX_i/FX_w measures the economy's share in world turnover in the *foreign exchange market*;
- (6) DR_i/DR_w measures the economy's share in world turnover of *interest rate and foreign exchange derivatives*.

These measures are constructed for 25 OECD countries as well as Hong Kong, Shanghai (Mainland China) and Singapore based on the latest data available. It should be noted that comparison can only be made at the country-level due to limitation on data availability.³ Based on these measures, the importance of an economy's position as an IFC increases with its share in world financial market activities.

As shown in Table 1, the vast majority of financial activities are still concentrated in the US and the UK at present – the gap between the world shares attained by them and the rest of the economies studied is substantial. Based on a simple average of normalised scores for all financial markets, Hong Kong ranks sixth in terms of overall financial activities concentration, trailing behind Germany and France. It should be noted, however, that Hong Kong's position has been largely boosted by the buoyant IPO activities, while its bond market remains relatively small compared with those in the OECD countries.⁴ The equity market turnover of Hong Kong (1.2% of world) is also small relative to its share of world market capitalisation.⁵ In terms of foreign exchange and derivatives activities, Hong Kong has captured 4.2% and 2.7% of the respective world markets, compared with 5.2% and 3.2% in Singapore.

³ Data are only available at the country-level except for equity markets, in which we include activities in exchanges located in capital cities or established IFCs.

⁴ However, as data on bond markets are only available at the country-level, it would be inappropriate to make direct comparison of Hong Kong with other countries.

⁵ The Hong Kong Stock Exchange accounts for around 3.4% of the total market capitalisation of all members of the World Federation of Exchanges.

Table 1: World Concentration of traditional financial activities

	Financial activities concentration (average normalised score)	World share in individual markets (%)								
		Equity turnover	Fund raised thru IPO	Intl Bond Market - amount outstanding	Domestic Bond Market - amount outstanding	Bank Foreign Assets	Bank Foreign Liabilities	FX turnover**	FX / Interest Rate Derivatives Market turnover**	
1	US	100.0	49.0	16.3	23.3	44.6	8.9	11.7	19.2	19.4
2	UK	90.6	10.9	16.9	12.6	2.4	19.8	22.5	31.3	38.1
3	Japan	32.7	8.3	3.7	0.9	18.1	7.6	3.2	8.3	6.0
4	Germany	23.0	3.9	3.6	10.6	4.4	10.6	7.3	4.9	4.1
5	France	22.1	2.8	3.8	6.2	4.4	9.1	9.3	2.6	6.6
6	Hong Kong	13.2	1.2	12.9	0.3	0.1	2.3	1.4	4.2	2.7
7	Netherlands	10.9	1.3	3.7	7.1	1.5	3.8	3.7	2.0	2.0
8	Switzerland	9.9	2.0	0.8	0.1	0.5	4.6	4.4	3.3	2.4
9	Singapore	9.9	0.3	1.5	0.3	0.2	2.4	2.6	5.2	3.2
10	Italy	9.6	2.3	1.6	4.3	5.2	1.8	2.6	0.8	1.7
11	Australia	8.6	1.2	3.9	1.9	0.8	0.5	1.5	3.4	2.4
12	Spain	8.2	2.8	4.5	4.8	2.3	1.7	2.4	0.6	0.7
13	Canada	7.7	1.8	2.7	2.1	2.0	1.0	1.0	2.2	1.7
14	Belgium	5.4	0.2	0.1	0.8	0.9	3.3	3.0	0.8	1.5
15	Ireland	4.6	0.1	1.1	3.4	0.2	2.8	3.3	0.3	0.5
16	Austria	4.3	0.1	3.6	1.5	0.5	1.3	1.2	0.5	0.7
17	Luxembourg*	4.2	0.0	0.6	1.9	0.0	3.6	2.5	0.6	0.6
18	Sweden	4.1	1.1	0.3	0.9	0.7	1.0	1.4	1.3	1.0
19	Denmark	4.1	0.3	0.2	0.5	0.9	0.6	1.0	1.7	1.4
20	Korea	3.5	1.9	0.8	0.5	1.5	0.3	0.6	0.8	0.4
21	Norway	3.5	0.6	4.2	0.6	0.2	0.2	0.5	0.6	0.6
22	Shanghai*	3.3	1.1	3.6	0.1	2.2	0.0	0.0	0.0	0.0
23	Mexico	1.3	0.1	0.3	0.4	0.5	0.1	0.1	0.6	0.2
24	Portugal	1.1	0.1	0.4	0.4	0.3	0.4	0.7	0.1	0.1
25	Finland	1.0	0.5	0.3	0.6	0.3	0.3	0.4	0.1	0.0
26	Greece	1.0	0.2	0.0	0.8	0.5	0.2	0.3	0.2	0.1
27	Turkey	0.8	0.3	0.3	0.2	0.3	0.1	0.2	0.1	0.1
28	Poland	0.6	0.1	0.0	0.2	0.2	0.0	0.0	0.2	0.2
Total (%)			94.5	91.7	87.4	95.7	88.3	88.7	96.1	98.3

Note: 1.) Equity figures as of end-2006, 2.) Internation bond market figures as of Q3 2006, 3.) Domestic bond market and banking figures as of Q2 2006, and 4.) FX and derivative turnover figures as of 2004.

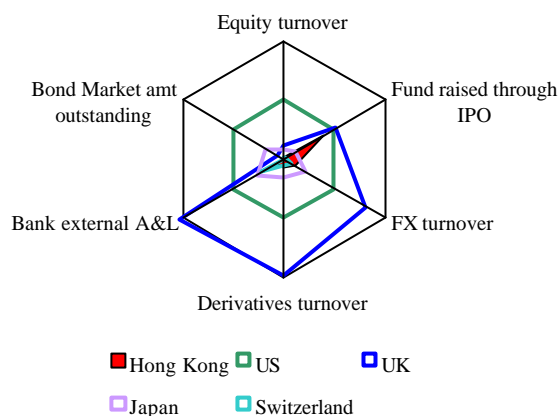
*Data missing from one or more markets.

Sources: World Federation of Exchanges, Individual Exchanges, CEIC, BIS and staff calculations.

A graphical analysis

An examination on how the strength of these financial centres is distributed among individual financial markets using a graphical analysis provides a comprehensive overview of the position of each financial centre in different markets. Using the US financial markets as benchmarks, a simple graphical framework of displaying simultaneously in one chart the six indicators discussed above is developed to offer an overview of how Hong Kong compares with other established IFCs in each financial market (Chart 1). The values of the six indicators are presented using a hexagon. The distance of each corner from its centre represents the magnitude of each indicator, that is, the share of world financial activities of an economy in each market. A larger size of the hexagon suggests higher concentration of financial market activities in an economy, and hence greater importance of that economy as an IFC. The magnitude of each indicator is normalised against a benchmark country which is the US in this case, for which most indicators are the highest among all economies.⁶ Chart 1 shows that the UK is arguably the only other IFC which achieves a degree of financial activities concentration comparable to the US. Among the remaining economies, only Japan has a more balanced financial structure with significant presence in every market. As noted previously, the strength of Hong Kong lies mainly in its IPO activities.

Chart 1:
A graphical comparison of Hong Kong with major IFCs in traditional financial markets



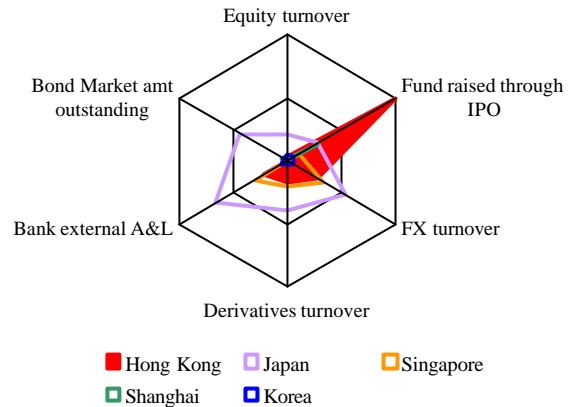
Sources: BIS, World Federation of Exchanges and staff calculations.

⁶ Specifically, all indicators are normalised to 100 for the US.

Chart 2 makes a similar comparison between Hong Kong and the other Asian financial centres. Within the region, Japan remains the leader in most markets. While Hong Kong takes the lead in terms of fund raised through IPO, Singapore has marginally larger international banking, derivatives and foreign exchange markets than Hong Kong. On the other hand, the world share of various financial activities in Shanghai and Korea remains relatively limited.

Chart 2:

A graphical comparison of Hong Kong with other regional financial centres in traditional financial markets



Sources: BIS, World Federation of Exchanges and staff calculations.

Problems associated with traditional indicators

Nevertheless, these traditional measures of the concentration of financial market activities do not appear to reflect the perceived importance of Hong Kong as an IFC. In fact, there are a number of caveats with the use of these traditional measures. First, these measures reflect, both domestically-oriented activities and international financial activities. Such activities increase with the size of the domestic economy and can account for a significant part of the market turnover, especially in large economies such as the US. These indicators, thus, do not reflect the pure international element of financial activities on which the importance of an IFC should be assessed.

Secondly, the conventional approach presented above also limits the measurement of the status of IFCs to activities concentration in financial markets. However the function of IFCs could go beyond this traditional perception. The degree of success of an IFC also includes its ability to attract capital flows, international demand for its wealth management services, as well as its ability to congregate international financial institutions.

Thirdly, due to data limitations, the measures above are compared on a country rather than on a city level on which activities of an IFC should be based. Any comparison of Hong Kong with other economies on a country basis will be misleading. The problem is particularly pronounced when compared to economies that are significantly larger in size. Although financial activities are mainly carried out in the major cities where the financial markets are located, significant differences in the size of the cities also do not allow a consistent comparison between them. In the case of the US,

one will be comparing against financial activity in more than one city, namely New York and Chicago.

b. Alternative measures

In view of these caveats of the traditional measures, we construct three alternative measures to assess the importance of Hong Kong as an IFC relative to other major economies, namely inward international investment position excluding FDI, exports of financial services and inward direct investment in the financial sector. Similar to the traditional measures, these data are available only on a country basis as mentioned previously. With this in mind, these measures are scaled by GDP in cities where the respective financial markets are located in each country to allow a more consistent basis of comparison.

Inward International Investment Position excluding direct investment

A successful IFC should be able to provide intermediation services for international capital. Excluding direct investment, an economy's inward international investment position, therefore, reflects its ability in attracting international financial activities, and hence an economy's position as an IFC. These data reflect purely international financial transactions of portfolio and other investment, which exclude domestic financial activities incorporated in traditional financial market transactions data. Table 2 shows a comparison of international non-direct investment position among major economies. At US\$11 trillion, total inward non-direct investment position in the US was substantially above that of other countries. At a modest level of US\$532 billion, Hong Kong fared slightly better than under the traditional measures above in terms of ranking, but still lagged behind the US, Japan and most European economies. The scaling of the data by GDP provides similar results.

Table 2: International Investment Position (excluding FDI), 2005

	Inward IIP ex FDI, USD bn	Normalised (US = 100)	Inward IIP ex FDI to city's GDP	Normalised (US = 100)
United States	10,828	100	11	100
United Kingdom	7,779	72	12	103
Germany	3,611	33	-	-
Japan	2,658	25	6	51
Switzerland	1,409	13	9	78
Hong Kong	532	5	3	27
Singapore	294	3	3	22

Sources: IMF international financial statistics and individual countries' authorities.

Financial Services Exports

While inward non-direct investment position better reflects the international element of financial activities in an economy, it is again limited to financial activities in the financial markets of equity and debt securities in the form of portfolio investment, and banking sector activity in the form of other investment. Nevertheless, international financial activity includes more than investment that flows directly into the markets of equity, debt and credit, but also the provision of non-traditional investment services such as wealth management services.

In this regard, the exports of financial services provide a comprehensive measure of all international financial activities carried out in an economy. They represent all business receipts from the provision of financial services to overseas investors, including apart from traditional financial services such as stock broking, foreign exchange, bank lending and borrowing, and insurance services, as well as services that are not captured by the activity indicators for the financial markets. These include services provided by wealth management companies, hedge funds and private equity. Thus, the exports of financial services should reflect the external demand for all financial services from an economy, and thus its attractiveness as an IFC.

Table 3 shows that, in 2005, Hong Kong was the fifth largest exporter of financial services amongst the group of economies in our study.⁷ It is worth noting that financial services exports from Hong Kong increased by 88% from 2004 to 2006, and had surpassed Japan, although its size remained small relative to the US whose size of financial services exports was four times larger. Nevertheless, after scaling by GDP, Hong Kong moves up further to the same ranking as that of the US.

Table 3: Top exporters of financial services (including insurance), 2005

	Exports of financial and insurance services, USD mn	Normalised (US = 100)	Exports of financial services to city's GDP ratio	Normalised (US = 100)
United Kingdom	42,637	118	64	169
United States	36,122	100	38	100
Switzerland	14,266	33	89	236
Germany	8,286	19	-	-
Hong Kong	6,715	16	38	100
Japan	5,572	13	12	32
Singapore	4,228	10	36	96

Sources: OECD and individual countries' authorities.

⁷ The 2005 data is the latest available from every member of the group.

Financial Sector Foreign Direct Investment

In addition to providing financial services to overseas investors, the competitiveness of an IFC is also reflected in its ability to attract major multinational financial institutions to set up bases in that locality. A good measure is the inward financial sector direct investment of an economy, which reflects long-term investment into the financial sector from abroad such as setting up local operations by international financial institutions through both greenfield investment and merger and acquisitions. In this regard, Hong Kong has been the leader within the region, suggesting that it is the favourite location for international financial institutions wishing to engage in business in the region (Table 4).

Table 4: Financial sector foreign direct investment, 2004

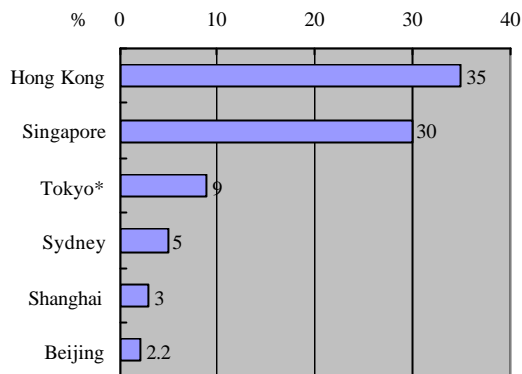
	Financial sector FDI, USD mn	Normalised (US = 100)	Financial sector FDI to city's GDP	Normalised (US = 100)
United States	329,837	100	344	100
United Kingdom*	164,630	50	246	71
Switzerland	124,888	38	781	227
Hong Kong	91,090	28	514	149
Singapore	59,980	18	514	149
Germany	20,603	6	-	-
Japan	9,806	3	21	6

* For UK and Germany the latest available figure is from 2003.

Sources: OECD and CEIC.

Chart 3 shows that of the 23 largest financial institutions in the world, 19 of them have their Asia-Pacific (excluding Japan) headquarters located in Hong Kong, compared with 5 in Singapore and 1 in Australia.^{8, 9} On a more general level, Hong Kong is also the favourite location for international enterprises wishing to engage in business in the region. According to a study conducted by the Economist Intelligence Unit in 2000, of the 8,000 multinational companies surveyed, 35% have their regional headquarters located in Hong Kong.¹⁰ After adjusted for GDP, Hong Kong outperforms most major financial centres to become the leading locality for international direct investment in the financial sector after Switzerland.

Chart 3:
Location of multinational companies' regional headquarters, 2000



* 2003 figure. Japanese MNCs are excluded for Tokyo.

Source: Economist Intelligence Unit

⁸ The list includes the largest commercial and investment banks, fund managers, and insurance companies based on rankings drawn from different sources and criteria.

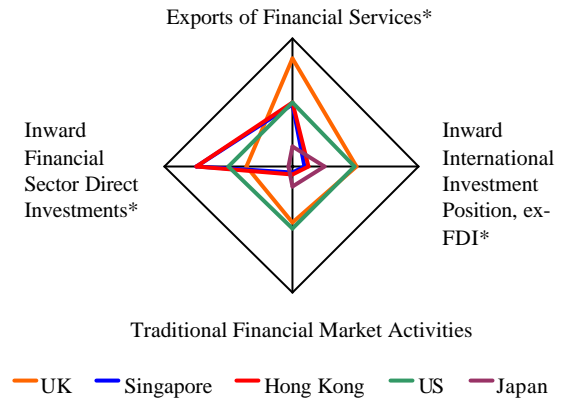
⁹ Some FIs have more than one regional headquarters in Asia.

¹⁰ According to a more recent report by the Hong Kong government, the number of foreign companies with their regional office in Hong Kong has increased by 30% from 2002 to 2006. However the exact numbers from EIU and the HKSAR government may not be directly comparable as the sample size may be different.

c. A comprehensive overview

Taking into account both the concentration of traditional financial market activities as well as the alternative measures above, Chart 4 presents a comprehensive framework comparing different economies' performance as an IFC, using US as a benchmark. The US and the UK remain the dominant locations as an IFC based on activities in financial markets (being reflected also in international investment positions excluding FDI), while Hong Kong lags well behind these major financial centres. However, adjusted for GDP in major cities, the alternative measures suggest that Hong Kong has been the leader in inward financial sector direct investment and comparable to the US in exports of financial services, closely followed by Singapore. On the other hand, Japan is relatively small in terms of exports of financial services and in particular, inward financial direct investment, despite the large financial markets.

Chart 4:
A comprehensive comparison of Hong Kong with other major IFCs



* scaled by GDP in the respective economy.
Sources: BIS, individual countries' authorities, IFS, OECD, World Federation of Exchanges and staff calculations.

III. ESTIMATING THE DETERMINANTS OF AN IFC

Having identified the relative importance of various economies' positions as IFCs, questions thus arise as to what explains why some economies thrive as financial centres at the expense of others, and what determines their competitiveness as an IFC. In the existing literature, there are few empirical studies on the formation of IFCs, with much of the studies on this topic being descriptive. Among these studies, Kaufman (2000) describes the economic costs and benefits of being an IFC. Choi, Park and Tschoegl (2002) documented the evolution of various IFCs, and estimated the interconnectedness of IFCs through banks. The City of London (2005) describes the factors that help to determine the competitiveness of financial centres. Based on this study, the Hong Kong Securities and Futures Commission (2006) assesses Hong Kong's strength as an IFC against other regional economies by making comparison on a number of competitiveness factors, drawn from the existing data available from organisations such as the International Institute for Management Development (IMD) and the World Economic Forum.

Given the limited empirical studies on the formation of IFCs, this section attempts to explore the determinants of the relative importance among IFCs in an analytical and empirical framework. As discussed above, an IFC is, in effect, a major centre congregating resources from international financial institutions as well as a major exporter of financial services. As such, we explore the competitiveness factors of IFCs in two aspects. First, the determinants of inward financial sector direct investment are estimated using a simple regression to explain the competitiveness of financial centres in congregating resources from international financial institutions. Secondly, we estimate the factors that explain the demand for financial services exports which captures the broader role of an IFC.

It should be noted that given data limitations and the limited past empirical studies, our estimation represents only a preliminary attempt for a first-cut estimate on in the determinants of the competitiveness of IFCs. The model specifications used in this study may provide only a simplified representation of the determinants of financial FDI and exports of financial services of an economy, and further research efforts would be required for an estimation of a more detailed and sophisticated relationship.

a. Determinants of inward financial sector direct investment

As discussed in Section II, a key measure of the success of an international financial centre is the amount of financial sector FDI it is able to attract. An economy with significant financial sector FDI inflows would mean that international financial institutions are willing to engage in long-term investment there to facilitate business. The ability of an economy in attracting international financial institutions not only reflects that economy's competitiveness as an IFC, but also opens the domestic financial sector to global competition and increases the variety of financial products available to investors, as well as enhances the image of that centre as an IFC.

While Hong Kong has already been a leader in inward financial sector direct investment in the region, it will be useful to examine how Hong Kong could maintain its position in this regard by studying the factors driving its competitiveness. We analyse below the determinants of inward direct investment in the financial sector based on experience in the OECD countries using a simple regression.

The model

Most discussions in the existing literature have been focused on the determinants of FDI in general. Relationship between growth and overall FDI flows was well documented in Barrell and Pain (1996), Albuquerque et al. (2003) and Nakamura and Oyama (1998). Findings from these studies suggested that besides the growth rate of the host country, world growth and interest rates also appeared to affect FDI flows. In particular, Albuquerque et al. (2003) found that the volatility of growth and the level of US interest rate have a negative impact on the size of its FDI flows to other countries, while the effect of world stock market return on FDI is insignificant. Calvo et al. (2001) found similar results between the US growth cycles and FDI flows into the emerging markets.

Nevertheless, there have been little empirical studies on the determinants of FDI in the financial sector. In the theoretical literature, a number of possible factors responsible for the determination of financial FDI are summarised in Herrero and Simon (2003), which include the competitive advantage possessed by international banks, efficiencies and the need for geographical risk diversification. In terms of the empirical literature, most studies focused on factors determining international activities of the banking industry. Focarelli and Pozzolo (2001) and Buch and DeLong (2001) found that information costs as well as the level of regulation discourages cross-border merger activities in the banking sector. Similar findings are reported in Grosse and Goldberg (1991) and Fisher and Molyneux (1996) which studied the activities of foreign bank in the US and UK, and Goldberg and Johnson (1990) and Yamori (1998) which looked at the international activities of US and Japanese Banks. Grosse and Goldberg (1991) found that trade flows and geographical distance are significantly related to foreign banks' decisions to operate in the US. Other factors such as the host countries' economic performance, financial system development as well as institutional factors (e.g. tax incentives and legal system) were found to have an impact on these cross-border activities.

With reference to the above literature, we construct a simple model to analyse the determinants of financial sector FDI based on experience in the OECD countries. However, due to the lack of bilateral data on FDI by sector, only 'pull' factors of the host country are considered in our model. Parentheses after the variables represent the expected signs in the regression:

$$\ln(\text{FFDI}_{it} / \text{GDP}_{it}) = \mathbf{b}_0 + \mathbf{b}_1 \ln(\text{GDPPC}_{it}) + \mathbf{b}_2 \ln(\text{TRADE}_{it} / \text{GDP}_{it}) + \mathbf{b}_{31} \ln(\text{RATING}_{it}) + \mathbf{b}_4 \ln(\text{COMP}_{it}) + \mathbf{m}_{it}$$

where

$\text{FFDI}_i / \text{GDP}_i$ = the inward position of financial sector direct investment to GDP ratio in country i

GDPPC_i = nominal GDP per capita in country i (+)

$\text{TRADE}_i / \text{GDP}_i$ = openness to international trade as represented by merchandise trade flows-to-GDP ratio of country i (+)

RATING_i = Institutional Investor's country credit rating of country i (+)¹¹

COMP_i = Microeconomic/institutional factors of country i extracted from the IMD World Competitiveness Report (+)

Consistent with the banking activities literature mentioned above, we expect the size of the host economy as reflected in its nominal GDP level, to be positively related to its inward financial sector direct investment. The GDP level reflects the level of economic activity. An economy that is economically active and strong will be more efficient and conducive as a financial centre in the long-run. At the same time, a centre which is complemented with a strong economic base will have the advantage of economies of agglomeration, with more efficient economic resources at its disposal, thus making it more well-placed to introduce new financial products and services. Secondly, the larger an economy is, the more investment opportunities it affords to foreign investors. When little economic activity takes place within a centre, institutions and businesses that are located there for purely taxation purposes will soon move to other centres that have more economic activity taking place (Kindelberger 1974).

The host country's merchandise trade-to-GDP ratio reflects the openness of the economy to international trade. It is expected to be positively related to its inward financial sector direct investment, as a more open economy tends to be a more attractive destination for investment. Higher trade flows will also increase the amount of international transactions, and hence business opportunities for international financial institutions.

¹¹ Obtained from the IMD World Competitiveness Yearbook

Sovereign rating is also included. A country with a higher sovereign rating is expected to attract more investments. A financially strong economy is paramount in generating confidence for investors, while economic instability might threaten the smooth and efficient flow of international capital within a financial centre.

The inclusion of the explanatory variable COMP is intended to capture the various microeconomic and institutional factors that could determine the size of financial sector FDI. The IMD World Competitiveness Centre produces annual rankings of ‘the ability of nations to create and maintain an environment that sustains the competitiveness of enterprises’. The rankings are compiled using various sub-indices reflecting the different aspects of a country’s competitiveness. While many conditions are conducive to the competitiveness of an economy, we focus here on the most relevant factors that have a more direct impact on the location pattern of financial sector FDI, namely, sub-indices representing elements in government efficiency, business environment and infrastructure. The details of the selections are listed in Appendix A. Based on these sub-indices we produced the series COMP using the principal components technique, with a higher value indicating the environment of a country being more conducive to attracting international financial institutions.

Estimation results

Pooled data on 18 OECD countries for the period 1998-2003 are employed, subject to data availability.¹² Financial sector FDI data of individual countries are obtained from the statistical database of SourceOECD. A fixed effects panel regression is used in order to capture the country-specific attributes in the data. White diagonal standard errors and covariances are applied to correct for heteroscedasticity and serial correlation. The estimation results show that the parameter estimates have the correct signs and are statistically significant. They are also robust to different specifications when additional explanatory variables are included (Table 5). Column 3 represents the full model.

¹² Based on data availability, the sample countries include Australia, Austria, Canada, Czech, Denmark, Finland, France, Germany, Hungary, Iceland, Italy, Netherlands, Norway, Poland, Portugal, Switzerland, United Kingdom and United States.

Table 5: Fixed effects panel regression results

<i>Dependent variable: $\ln(FDI_{it}/GDP_{it})$</i>			
<i>Independent variable</i>	(1)	(2)	(3)
<i>ln(GDPPC)</i>	1.51 (5.53)***	0.99 (3.21)***	0.92 (3.22)***
<i>ln(TRADE/GDP)</i>	2.72 (5.29)***	2.01 (3.65)***	1.90 (3.59)***
<i>ln(RATING)</i>		2.08 (2.81)***	1.97 (2.70)***
<i>ln(COMP)</i>			1.47 (2.48)**
<i>Adjusted R²</i>	0.91	0.91	0.92
<i>No. of observations</i>	108	108	108

Note: Figures in parentheses are t-statistics. Standard errors are corrected for heteroskedasticity and
 *** demontes significance at 1% level
 ** demontes significance at 5% level
 * demontes significance at 10% level

In all specifications, the model has high adjusted R-squares of over 90%. This is in part due to the inclusion of country dummies under the fixed effects model, for which the estimated coefficients are not shown here. Nevertheless, regression omitting the dummy variables still yields an R-square of over 80%. The results show that both the macroeconomic and microeconomic/institutional factors are important determinants of inward direct investment in the financial sector. Financial sector FDI increases with the income level of the host country, openness to international trade, higher sovereign rating and more favourable microeconomic/institutional environment. Among these variables, the most important determinant of inward financial sector direct investment based on each explanatory variable's share of contribution is the credit rating of the host country (RATING), which explains around 56% of the inward financial sector direct investment received by an economy. This is then followed by per capita GDP (GDPPC) which contributes to over 18% of the value of the dependent variable, competitiveness (COMP) and trade-to-GDP ratio (TRADE/GDP).

b. Determinants of financial services exports

In addition to the agglomeration of international financial institutions, the importance of an IFC is also reflected in its competitiveness in providing financial services to international investors. By definition, therefore, an international financial centre is also a major exporter of financial services to other countries. In this regard, while Hong Kong fares well in exports of financial services on a regional basis and surpasses Japan, there is still further room for improvement when compared to the advanced economies. To facilitate the analysis on the pattern of bilateral financial services trade, it is useful to investigate what drives an economy's demand for financial services from another economy. In this section, we attempt to explain the pattern of bilateral financial services imports with the help of a gravity model.

The model

A gravity model postulates that the volume of bilateral trade is positively related to the size or the 'mass' of the respective economies, and negatively related to the geographical distance between them. Other relevant factors are often incorporated depending on the context of the analysis. Existing literature shows that the gravity model has a strong explanatory power in analysing international trade relationship. Trade in services has been a focus in more recent studies. Walsh (2006) used the model to analyse the role of barriers to services trade, while Francois et al (2003) and Grunfeld and Moxnes (2003) also applied the gravity model to services trade. In general, these studies found that the determinants in a standard gravity model for merchandise trade, such as size of the economy and common language, were also applicable in determining the size of services trade. Mirza and Nicoletti (2004) found that human capital, infrastructure supply (in transport and telecommunications) as well as trade regulations were significant determinants of services trade. However, due to data constraints, there have only been limited studies at a sectoral level. One such study was done by Kimura and Lee (2006), who found a positive relationship between economic freedom and the volume of services trade, including financial services trade, using bilateral services trade data of the US.

Due to the lack of cross-country financial services trade data, we employ bilateral data on the US available from the US Bureau of Economic Analysis. With reference to Kimura and Lee (2006), we identify the determinants of bilateral financial services imports in the US. Specifically, we estimate the model with the following specifications. Parentheses after the variable denote their expected signs in the regression.

$$\ln(FINIMP_{jt}) = \mathbf{b}_0 + \mathbf{b}_1 \ln(GDP_{jt}) + \mathbf{b}_2 \ln(USGDP_t) + \mathbf{b}_3 \ln(DIST_j) + \mathbf{b}_4 LANG_j + \mathbf{b}_5 \ln(TRADEG_{jt}) + \mathbf{b}_6 \ln(FOREIGNC_{jt}) + \mathbf{b}_7 \ln(FREE_{jt}) + \mathbf{m}_{jt}$$

where

Dependent variable:

FINIMP_j = value of financial services imports by the US from country j;

Mass variables:

GDP_j = nominal GDP in country j (+);

USGDP = nominal GDP in the US (+);

Distance variable:

DIST_j = geographical distance between the capital cities of US and country j (-);

Other relevant variables:

LANG_j = dummy variable, equals one if the official language of country j is English and zero otherwise (+);

TRADEG_j = trade flows in goods between US and country j (+);

FOREIGNC_j = the number of foreign company listed on country j' s stock market, which measures the international element of the country' s financial market (+);

FREE_j = rating of economic freedom based on the Fraser Institute' s Index of Economic Freedom for country j (+).

As with the standard gravity model for overall trade flows, the nominal GDP of the exporting and importing countries are included. We expect that a higher income level in the importing country should indicate a higher level of demand for financial services, while the size of the exporting country' s economy should be positively related to that country' s ability to produce more financial services for exports. At the same time, as discussed previously, the larger the size of the economy of the exporting country, the greater the opportunities it provides to investors. It should also be noted that, given the reasons cited in Section II, GDP also acts as a scaling factor here to take into account the differences in the size among economies. On the other hand, an increase in the geographical distance between the importing and exporting countries tends to reduce financial services trade. It should be noted that instead of representing transportation costs, distance here proxies informational frictions that restrict financial services trade flows.

In addition to the mass and distance variables, we included four other relevant variables to explain the determinants of financial services imports. First, a dummy variable on shared language is included. A common language between the exporter and importer should facilitate financial services trade transactions. In addition, the common language variable may also capture other effects such as cultural or institutional similarities between countries.

Another important factor in driving the demand for financial services from an economy is whether that economy could provide a gateway for international investors to access a wide variety of financial services and international investment opportunities. The number of foreign firms listed on the domestic stock market is included here to reflect this factor. The listing of foreign firms on the stock market of the exporting country is important in attracting the demand for financial services, as this would allow investors to gain access to the international financial markets and increase their investment opportunities. In addition, in general one would expect a country with international listings to have a more liquid and sophisticated domestic financial market, which is crucial to attracting foreign demand for its financial services.

Stronger links in trade flows of merchandise goods between the exporting and importing countries are also expected to increase their bilateral financial services trade. An economy is more likely to emerge as an IFC when the real sector is both dynamic and internationally orientated. In particular, merchandise trade activities represent important sources of demand for financial services. Exports and imports provide opportunities for the financial sector to underwrite trade through the provision of credit. At the same time, this provides a foundation for the agglomeration of financial, accounting, legal or other related services in the economy.

Following Kimura and Lee (2006) we also included the Fraser Institute's Index of Economic Freedom, compiled using the criteria listed in Appendix B, to capture some of the qualitative factors of the microeconomic and institutional environment. The index measures the degree to which the policies and institutions of countries are supportive of economic freedom. The degree of economic freedom is measured in five areas: (1) size of government; (2) legal structure and security of property rights; (3) access to sound money; (4) freedom to trade internationally; and (5) regulation of credit, labour and business. A higher score indicates an economy is more market-oriented, which in turn, is expected to be more conducive to financial services trade. The Economic Freedom index is used in the model in part because of the longer time series available compared with the IMD index used in the previous subsection. It should also be noted that one major difference between the Economic Freedom index and the IMD index is that the former does not include ratings on quality of life. It is reasonable to assume that the quality of life factors have a smaller impact on the exports of financial services relative to

financial sector direct investment, as such factors affect the decision of investors to set up financial institutions in an economy more directly than the decision of investors to invest in an economy's financial markets or to employ its financial services.

Estimation results

We obtained the data on bilateral financial services imports in the US from the US Bureau of Economic Analysis. Subject to the availability of data on the explanatory variables, 26 countries are included in our sample. We estimate our model here using a panel regression with data on the above countries for the period 1995 - 2005.¹³ The model is estimated using OLS with White diagonal standard errors to correct for heteroscedasticity and serial correlation. We do not introduce country fixed effects because by construction, the distance and language variables (which are constant over all observations for a given country pair) will pick up some of the fixed effects. Conversely, with fixed-effects panel data estimation, we cannot use any time-invariant variable, because any such variable is spanned by the individual dummies representing the fixed effects. However, we have a strong prior that the distance and language variables should be major determinants of financial sector FDI.

Table 6 summarises the results for different specifications. In each case, an additional explanatory variable is added, and in most cases the parameter estimates are robust to different specifications when a new variable is added to the model. Column 4 represents the complete model.

¹³ Our sample includes Argentina, Australia, Brazil, Canada, Chile, France, Germany, Hong Kong, Indonesia, Israel, Italy, Japan, Korea, Malaysia, Mexico, the Netherlands, New Zealand, Norway, the Philippines, Singapore, South Africa, Sweden, Switzerland, Taiwan, Thailand and United Kingdom.

Table 6: OLS panel regression results

<i>Dependent variable: $\ln(\text{FINIMP}_{jt})$</i>				
<i>Independent variable</i>	(1)	(2)	(3)	(4)
<i>ln (GDP)</i>	1.06 (0.080)***	1.057 (0.082)***	0.855 (0.053)***	0.723 (0.075)***
<i>ln (US GDP)</i>	0.859 (0.319)***	0.705 (0.286)**	0.574 (0.293)*	0.483 (0.273)*
<i>ln (DIST)</i>	-0.278 (0.076)***	-0.191 (0.084)**	-0.200 (0.082)**	-0.199 (0.079)**
<i>LANG</i>	0.872 (0.171)***	0.483 (0.142)***	0.423 (0.152)***	0.296 (0.139)**
<i>FREE</i>		2.582 (0.550)***	2.416 (0.584)***	1.710 (0.476)***
<i>ln (TRADEG)</i>			0.295 (0.088)***	0.350 (0.080)***
<i>ln (FOREIGNC)</i>				0.084 (0.027)***
<i>Adjusted R²</i>	0.50	0.53	0.54	0.55
<i>No. of observations</i>	286	286	# 286	286

Note: Figures in parentheses are t-statistics. Standard errors are corrected for heteroskedasticity and serial correlation.

*** demontes significance at 1% level

** demontes significance at 5% level

* demontes significance at 10% level

With an R-square at around 60%, the complete model appears to work reasonably well in terms of explaining financial services imports. All variables have the expected signs and most of them are highly significant in the full model. Based on each explanatory variable's share of contribution, GDP of the exporting country appears to be the most important determinant of the demand for financial services imports by the US. This is followed by US GDP, total trade flows in goods, the Economic Freedom Index, distance and the number of foreign companies listed on the domestic stock market. The results suggest that while the pull factors of the exporting country are important

determinants of the exports of financial services, push factors from the importing country, including the presence of a large market in close proximity with similar culture are also crucial determining factors.

IV. HOW HONG KONG FARES WITH RESPECT TO THESE COMPETITIVENESS FACTORS

Given the estimated determinants of the formation of IFCs, it will be interesting to examine how Hong Kong fares with respect to these factors. The following compares Hong Kong with other economies in terms of macroeconomic activity indicators including the size of the economy and international trade intensity; microeconomic/institutional factors based on rankings from the World Competitiveness Report; and financial market strength and efficiency. The identified strength and weakness will have important implications for future strategy of Hong Kong to strengthen its position as an IFC.

a. Macroeconomic factors

In terms of macroeconomic factors, our models suggest that GDP, trade openness and overall trade flows are important determinants of the competitiveness of IFCs. In Hong Kong, due to its geographical size, it lags well behind the major financial centres in terms of economic size and the volume of trade flows, although trade openness is far higher than other major financial centres (Table 7).

Table 7: GDP, total trade flows and trade openness of major economies, 2006

	GDP, US\$ bn	Trade flows, US\$ bn	Trade-GDP- ratio (%)
United States	13,247	3,695	28
Japan	4,269	1,322	31
Germany	3,041	2,576	85
United Kingdom	2,543	1,553	61
Korea	912	778	85
Switzerland	392	377	96
Hong Kong	190	758	400
Singapore	137	650	473

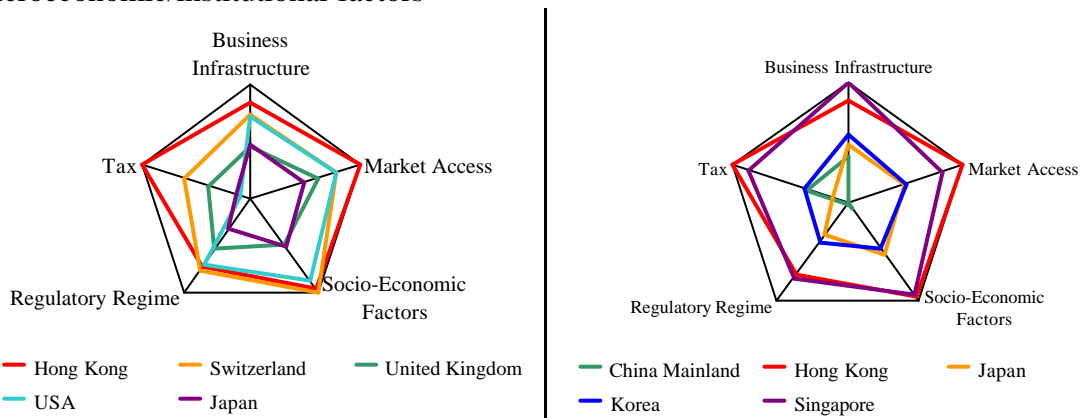
Sources: CEIC and individual countries' authorities

b. Microeconomic/institutional factors

With regard to the microeconomic/institutional environment, Hong Kong outperformed most markets both regionally and internationally in a number of aspects of competitiveness (Chart 5). In terms of regulatory framework, Hong Kong ranks high internationally. This reflects Hong Kong's sound and transparent regulatory framework of the financial system, in particular, the banking sector, while providing sufficient flexibility for banks to take commercial decisions at the same time. Labour regulations are flexible, with low hiring and firing costs. Hong Kong also possesses a fair and just legal system with little corruption.

Chart 5:

A comprehensive comparison of Hong Kong with other major IFCs in various aspects of microeconomic/institutional factors



Sources: IMD World Competitiveness Report and staff calculations.

The tax system of Hong Kong is well-known for its simplicity, transparency and effectiveness. It is therefore not surprising to see Hong Kong significantly outperforming all major economies in this regard. Tax rates in Hong Kong are among the lowest in the world. This certainly contributes to a favourable business environment which attracts foreign investment and propels the development of a financial centre to serve the business community.

At the same time, Hong Kong also has advanced and sophisticated business infrastructure. While Hong Kong has a lower ranking in some of the physical infrastructure than Singapore, its competitive edge lies mainly in soft infrastructure, including telecommunications and its fair and just business environment which was among the most crucial factors to the status as an IFC.

In terms of market access, Hong Kong outperforms all other markets in the access to both foreign and domestic capital markets, and enjoys the advantages of easy flows of credit, efficient distribution of goods and services as well as a free institutional environment.

With regard to socio-economic factors, Hong Kong also ranks high in overall terms among the major economies. One of the most important competitive advantages of Hong Kong is its high-skilled and flexible labour force. This is also one of the most important preconditions for the development of the financial services sector which is highly knowledge-based. While Hong Kong's performance in some aspects such as the quality of life, is not particularly outstanding, it still fares well in overall socio-economic conditions.

c. Financial market strength and efficiency

Financial market strength and efficiency of an economy also determines its importance as an IFC. One factor is a country's sovereign rating. As discussed, a low default risk of a country's currency would give investors peace of mind, and thus encourage international financial activities to take place. Most of the major financial centres are awarded with the highest ratings by the two major credit rating agencies (Table 8). While the credit rating for Hong Kong is slightly lower than that for the other IFCs, it is within the top end amongst investment grade ratings.

In terms of the number of foreign companies listed on the local stock market, it is not surprising that the US and UK have been the favourite destinations for international firms to list their shares. Within the region, Singapore has also attracted a large number of foreign firms. For Hong Kong, while the market is characterised by a large number of Mainland enterprises listing their shares on the local stock market, the number of companies from other foreign countries listing their shares there remain small (Table 9).

Table 8: Sovereign rating on long-term foreign currency debt

	Moody's	S&P
US	Aaa	AAA
UK	Aaa	AAA
Switzerland	Aaa	AAA
Japan	Aaa	AA
Korea	A3	A
Singapore	Aaa	AAA
Hong Kong	Aa3	AA

Sources: Moody's and Standard and Poor.

Table 9: Number of listed foreign companies

	No. of listed foreign companies	% of total no. of listed companies
US	872	15
UK	343	11
Switzerland	92	26
Japan	26	1
Korea	0	0
Singapore	247	35
Hong Kong*	8 (141)	1 (12)

* Figures in brackets refer to listings of Mainland H shares.

Sources: World Federation of Exchanges and HKEx.

d. A comprehensive overview

The above stylised facts suggest that Hong Kong fares well in most of the competitiveness factors for an IFC, with a favourable microeconomic and institutional environment and a sound banking sector with good financial strength. Nevertheless, this does not explain why Hong Kong still lags well behind the major IFCs, particularly in financial market activities, although it compares more favourably in terms of alternative measures including financial sector FDI and exports of financial services. One factor that Hong Kong lags behind other major IFCs is that there is still a low degree of international element in Hong Kong's domestic stock market as measured by the number of foreign firms listed. At the same time, the relatively small size of its economy explains, to a considerable extent, the small scale of its financial markets compared to the major advanced economies.

V. CONCLUSION AND POLICY IMPLICATIONS

The above findings suggest that both macroeconomic and microeconomic/institutional factors, as well as financial market strength and efficiency are important in the formation of IFCs. In terms of attracting the agglomeration of international financial institutions, interestingly, the fact that both Hong Kong and Singapore have been outperforming the regional economies as well as many other major economies, including Japan in this regard, appears to be explained, in part, by their favourable microeconomic and institutional environment and trade openness.

Nevertheless, in terms of financial services exports, while Hong Kong fares well compared to other regional economies including Japan, there is still a considerable gap when compared to the major IFCs such as New York and London. Our findings

suggest that an economy can enhance its role as an IFC by increasing the degree of international element in the stock market. The ease of access to investment opportunities in the international financial markets is important in attracting international investments to a financial centre. While being a major hub of international financial institutions, Hong Kong should represent an important gateway to international financial markets, the number of foreign companies listed on the domestic stock markets remain small compared with major IFCs.

Given these empirical findings, what are Hong Kong's strength and weaknesses, and what are its opportunities and threats? It will be useful to assess these aspects using a SWOT analysis based on our findings. Table 10 provides a summary of the analysis.

Table 10: A SWOT analysis for Hong Kong

<p><u>S</u>trength: A favourable microeconomic and institutional environment</p>
<p><u>W</u>eakness: A low degree of international element in the domestic stock market Relatively small size of its economy leading to smaller scale financial markets</p>
<p><u>O</u>pportunities: The rise of Mainland China as a potentially important push factor for the demand for financial services exports from HK</p>
<p><u>T</u>hreats: Other regional economies which have greater access to international investment opportunities in the stock market, such as Singapore, could be a threat.</p>

In terms of strength, the above stylised facts suggest that Hong Kong fares well in most of the competitiveness factors for an IFC, with a favourable microeconomic and institutional environment and a sound banking sector with good financial strength. Nevertheless, this does not explain why Hong Kong still lags well behind the major IFCs, particularly in the financial markets, although it compares more favourably in terms of alternative measures including financial sector FDI and exports of financial services. In terms of weaknesses, one factor that Hong Kong lags behind other major IFCs is that there is still a low degree of international element in Hong Kong's domestic stock market as measured by the number of foreign firms listed. At the same time, the relatively small size of its economy explains, to a considerable extent, the small scale of its financial markets compared to the major advanced economies.

In terms of opportunities, the rise of Mainland China as a potentially important push factor for the demand for financial services exports from Hong Kong. Our findings suggest that in addition to the pull factors of the exporting economy, push factors from the importing country are also important. Experience in major IFCs suggests that push factors

have been important in their evolution from a national financial centre to a regional and then an international financial centre. Historical factors often play a significant role in explaining how existing IFCs evolve from domestic to international financial centres and hence their current market size. According to Goldberg et al (1988), the explosive growth of the international financial system was largely due to the accumulation of large balances of US dollar-denominated deposits outside the US and the slow crumbling of the Bretton Woods agreements in the 1960s. Saint-Paul (1995) found that financial development is driven by “demand”, that is, a need to bring together large amounts of savings. While the creation of the Bank of England and the subsequent British ‘financial revolution’ was triggered by the Treasury’s needs to financial wars in the late seventeenth century, financial development in France was achieved in the nineteenth century as industrial tycoons needed to develop banks in order to fund large infrastructure projects.

The need to bring together large amounts of savings could also occur when there is the presence of a large market in close proximity with similar culture. Our findings suggest that the importing country’s economy size is among the most important determinants of IFCs, while distance and common language also play a role. As such, the rise of Mainland China represents a potentially important push factor for the demand for financial services exports from Hong Kong, and hence its status as an IFC. Based on our estimation results from the gravity model, if Mainland China’s capital account were as open as that in the US in 2005, and assuming that its behaviour in the demand for financial services imports will be similar to that of the US, Hong Kong could increase its exports of financial services to the Mainland to around US\$1,580 million. This represents 7 times its actual value in 2005, increasing Hong Kong’s total exports of financial services by a quarter.

In fact, among the strategy in response to the economic summit on China’s 11th Five-Year Plan, it has been proposed that Hong Kong is to strengthen its role in financial intermediation between the Mainland and the rest of the world, by serving inflows to but also outflows from the Mainland. In particular, given that Mainland investors were more familiar with the efficient financial markets in Hong Kong, Hong Kong could provide an effective channel for orderly outflows of funds from the Mainland. Moreover, Hong Kong could serve as a springboard for Mainland financial institutions to develop their international business. To date, Hong Kong has been the most important foreign banking/funding centre for the Mainland. Through the past years, the range of financial services has diversified from bank syndications to IPO and asset management. Hong Kong is now a premier IPO centre for Mainland companies, with Mainland companies contributing to over half of the capitalisation of Hong Kong’s stock market. While the listing of Mainland shares has provided significant business opportunities for the financial market in Hong Kong, it has also widened the breadth and the depth of our stock market and attracted more international investors to Hong Kong.

Nevertheless, given the relatively low degree of international element in Hong Kong's stock market, other regional economies which have greater access to international investment opportunities in the stock market, such as Singapore, could be a threat. Therefore, it is equally important that Hong Kong should explore business opportunities in other economies apart from the Mainland market. As mentioned previously, the ease of access to investment opportunities in the international financial markets is important in attracting investments to that centre. As acknowledged in the suggestions from the Economic Summit Focus Groups for financial development strategy, Hong Kong could be more out-reaching in promoting our financial services to the rest of the world, and efforts should be devoted in facilitating foreign companies to list in Hong Kong.

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APPENDIX A: RANKINGS FROM THE IMD WORLD COMPETITIVENESS YEARBOOK

The IMD World Competitiveness Yearbook (WCY) analyses and ranks the ability of nations to create and maintain an environment that sustains the competitiveness of enterprises using a combination of hard statistics and their executive opinion survey. We select the survey scores that are relevant to the following categories we used to evaluate an economy's competitiveness as an IFC.

Regulatory Regime

- The legal and regulatory framework encourages the competitiveness of enterprises
- Shareholder value is efficiently managed
- Shareholders' rights are sufficiently implemented
- Bribing and corruption do not exist
- Competition legislation is efficient in preventing unfair competition
- Labour regulations do not hinder business activities
- Transparency of government policy is satisfactory
- Adaptability of government policy to changes in the economy is high
- Banking regulation does not hinder business development
- Justice is fairly administered
- Financial institutions' transparency is sufficiently implemented

Business Infrastructure

- Bureaucracy does not hinder business activity
- Government decisions are effectively implemented
- Central bank policy has a positive impact on economic development
- Banking and financial services do support business activities efficiently
- Information technology skills are readily available
- Communications technology meets business requirements
- Quality of air transportation encourages business development
- The image abroad of your country encourages business development
- Attitudes toward globalisation are generally positive in your society

Market Access

- The distribution infrastructure of goods and services is generally efficient
- Credit flows easily from banks to businesses
- Capital markets are easily accessible
- Foreign investors are free to acquire control in domestic companies
- International transactions can be freely negotiated with foreign partners

Socio-Economic Features

- University education meets the needs of a competitive economy
- Economy literacy among the population is generally high
- Quality of life is high
- Health, safety and environmental concerns are adequately addressed by management
- Health infrastructure meets the needs of society
- The risk of political instability is very low
- Personal security and private property are adequately protected
- Competent senior managers are readily available
- International experience of senior managers is generally significant
- Flexibility and adaptability of people are high when faced with new challenges
- Foreign high-skilled people are attracted to your country's business environment
- Brain drain does not hinder competitiveness in your economy

Tax

- Real personal taxes do not discourage people from working or seeking advancement
- Real corporate taxes do not discourage entrepreneurial activity
- Tax evasion does not hamper business activity

APPENDIX B: INDEX OF ECONOMIC FREEDOM

The Index of Economic Freedom, published annually by the Fraser Institute, uses a number of variables under the following five areas to measure the degree to which the policies and institutions of countries are supportive of economic freedom. Each component and sub-component is being placed on a scale from 0 to 10 that reflects the distribution of the underlying data, and the summary rating is the average of the five areas' ratings.

1. Size of Government

- General government consumption spending as a percentage of total consumption
- Transfers and subsidies as a percentage of GDP
- Government enterprises and Investment as a share of total investment
- Top marginal tax rate

2. Legal Structure and Security of property rights

- Judicial independence
- Impartial courts
- Protection of intellectual property
- Military interference in rule of law and the political process
- Integrity of the legal system

3. Access to sound money

- Average annual growth of the money supply minus average annual growth of real GDP
- Standard inflation variability
- Recent inflation rate
- Freedom to own foreign currency bank accounts domestically and abroad

4. Freedom to trade internationally

- Taxes on international trade
- Regulatory trade barriers
- Actual size of trade sector compared to expected size
- Difference between official exchange rate and black-market rate
- International capital market controls

5. Regulation of credit, labour and business

- Credit market regulations – ownership of banks, competition from foreign banks, percentage of credit extended to private sector and interest rate controls
- Impact of minimum wage, hiring and firing practices, wage setting mechanism, unemployment benefits and the use of conscripts to obtain military personnel
- Price controls, burden of regulation, time with government bureaucracy and impact of irregular payments

APPENDIX C: DATA DEFINITION AND SOURCES

Data for measuring the concentration of financial market activities

Variables	Definition	Sources
EQ_i / EQ_w	Ratio of equity market turnover in country i to that of the world.	Individual exchanges and World Federation of Exchanges
IPO_i / IPO_w	Ratio of fund raised by IPOs in country i to that of the world.	Individual exchanges and World Federation of Exchanges
BD_i / BD_w	Ratio of outstanding bonds (both domestic and international) in country i to that of the world.	BIS
BK_i / BK_w	Ratio of sum of foreign assets and liabilities of banking sector in country i to that of the world.	BIS
FX_i / FX_w	Ratio of turnover in foreign exchange market in country i to that of the world.	BIS
DR_i / DR_w	Ratio of turnover in interest rate and foreign exchange derivatives in country i to that of the world.	Individual exchanges and World Federation of Exchanges

Data for alternative measures

Variables	Definition	Sources
Inward International Investment Position (IIP) excluding FDI	International financial transactions of portfolio and other investment, which exclude domestic financial activities incorporated in traditional financial market transactions data.	IMF
Exports of financial and insurance services	All business receipts from the provision of financial services to overseas investors.	OECD
Financial sector FDI	Long-term investment into the financial sector from abroad.	OECD and CEIC

Data for the fixed effects panel regression

Variables	Definition	Sources
$FFDI_i / GDP_i$	The inward position of financial sector direct investment to GDP ratio in country i .	OECD, CEIC and individual countries authorities
$GDPPC_i$	Nominal GDP per capita in country i at time t .	CEIC and individual countries authorities
$TRADE_i / GDP_i$	Openness to international trade as represented by merchandise trade flows-to-GDP ratio of country i .	CEIC and individual countries authorities
$RATING_i$	Institutional investor's country credit rating of country i .	IMD World Competitiveness Yearbook
$COMP_i$	Microeconomic/institutional factors of country i .	IMD World Competitiveness Yearbook

Data for the OLS panel regression

Variables	Definition	Sources
<i>FINIMP_j</i>	Value of financial services imports by the US from country <i>j</i> .	BEA
<i>GDP_j</i>	Nominal GDP of country <i>j</i> .	CEIC
<i>USGDP</i>	Nominal GDP of the US at time <i>t</i> .	CEIC
<i>DIST_j</i>	Geographical distance between the capital cities of the US and country <i>j</i>	Jon Haveman International Trade Data.
<i>LANG_j</i>	Dummy variable equals one if the official language of country <i>j</i> is English and zero otherwise.	Individual countries' authorities
<i>TRADEG_j</i>	Trade flows in goods between the US and country <i>j</i> .	BEA
<i>FOREIGNC_j</i>	Number of foreign company listed on country <i>j</i> ' s stock market	World Federation of Exchanges, Euronext, OMX
<i>FREE_j</i>	Rating of economic freedom based on the FRASER Institute' s Index of Economic Freedom for country <i>j</i> .	Fraser Institute