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CROSS-BORDER FUND FLOWS AND HONG KONG BANKS' EXTERNAL TRANSACTIONS VIS-À-VIS MAINLAND CHINA

Key points:

- *The paper explores what information on cross-border fund flows between Hong Kong and the Mainland can be extracted from existing statistics on banking transactions. As the stock of gross liabilities has been larger than claims since mid-1999, the Mainland remains a net supplier of funds (in terms of both Hong Kong dollar and foreign currency) to the banking system in Hong Kong.*

- *Hong Kong ran a current account surplus with the Mainland in the past few years, thereby contributing to a rise in claims by Hong Kong banks on the Mainland (or a decline in liabilities), assuming that all transactions are effected through the banking system. Separately, Hong Kong was a net investor in the Mainland in terms of direct investment and portfolio investment, implying an increase in liability of Hong Kong banks vis-à-vis the Mainland.*

- *Adjusting for the fund flows that were related to current account, direct and portfolio investment activities, Hong Kong banks maintained a net "residual" liability to the Mainland. This residual can be interpreted as unexplained fund flows between the two economies. It appears that placements of funds abroad by the Mainland arising from an accumulation of foreign exchange reserve was likely to be a key reason behind this.*

- *Although net Hong Kong dollar liabilities vis-à-vis the Mainland have remained a small proportion of total Hong Kong dollar funding of our banking system, they accounted for a significant part of the movements of the latter. This can be an important influence on local interest rates and hence monetary conditions.*

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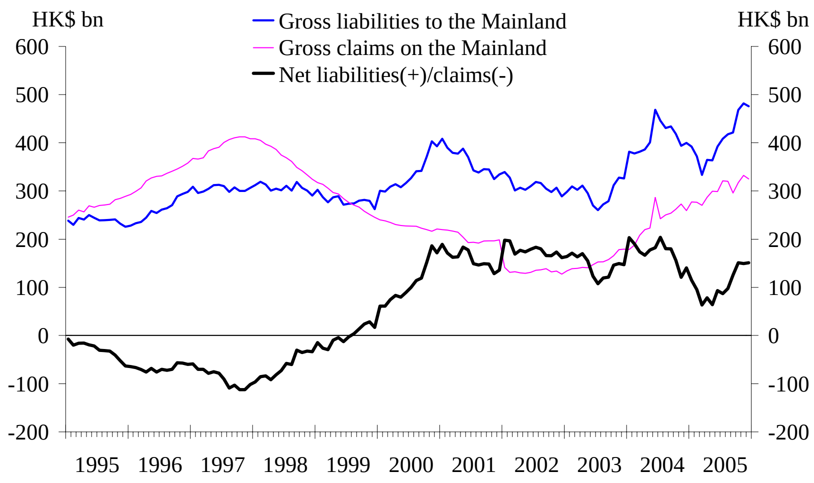
I. INTRODUCTION

This paper explores what information about cross-border fund flows can be extracted from existing statistics on banking transactions, and to study how such fund flows may influence monetary conditions in Hong Kong. Data on external transactions between Hong Kong banks and the Mainland of China (the Mainland) have been volatile. Following a general trend of decline between 2000 and mid-2003, Hong Kong banks' external claims and liabilities vis-à-vis the Mainland of China have increased notably since mid-2003. While gross claims continued to rise in 2004 and 2005, gross liabilities peaked in mid-2004 and started to decline thereafter before a sharp rebound in 2005. As gross liabilities have exceeded claims since mid-1999, the Mainland has become a net supplier of funds (in terms of both Hong Kong dollar and foreign currency) to the banking system in Hong Kong (Charts 1 and 2). These developments have raised questions about the stability and importance of such a funding source to our banking system. In particular, sharp fluctuations in Hong Kong dollar positions held by Mainland entities may impact money and exchange markets in Hong Kong.

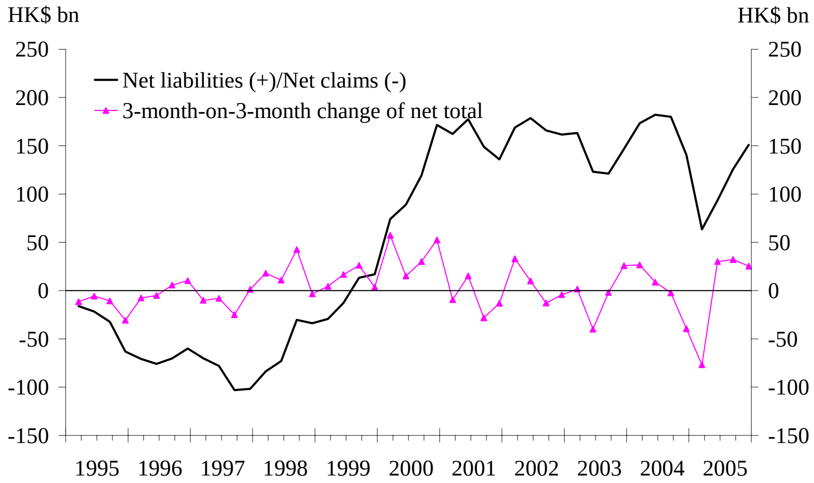
This paper is organised as follows. Section II outlines the major channels of fund flows between Hong Kong and the Mainland and their impact on external transaction statistics between Hong Kong and the Mainland. Section III examines how Hong Kong's net external transactions can be explained by existing statistics on trade, services and investment, and Section IV assesses the monetary implications to Hong Kong. The final section concludes.

Chart 1. Hong Kong banks' external transactions vis-à-vis Mainland China



Source: HKMA.

Chart 2. Hong Kong banks' net external transactions vis-à-vis Mainland China



Source: HKMA.

II. CHANNELS OF FUND FLOWS

Equation (1) represents a balance of payments (BoP) accounting identity, showing that how the change in net foreign assets (NFA) of an economy is determined by trade and services account balances, net factor income, and capital account balance. A change in NFA of an economy reflects all its economic transactions with the rest of world, as well as capital gains and losses on existing external assets and liabilities over a period of time.

$$\Delta NFA_t = CA_t + KA_t + KG_t + EO_t \quad (1)$$

where

CA_t = current account balance, which equals the sum of balance on goods, services and current transfers, and investment income balance,

KA_t = capital account balance, which includes direct investment (DI), portfolio investment (PI), financial derivatives (FD) and other investment (OI),

KG_t = capital gains and losses on the outstanding stock of net foreign assets (equals to the change in stocks minus the underlying flows), and

EO_t = errors and omissions.

In principle, this accounting equation also holds on a bilateral basis. However, bilateral BoP statistics are seldom compiled due to difficulties in collecting the data. Thus, one can only get a partial picture of bilateral BoP by making use of statistics such as those on trade of goods and services. In the case of Hong Kong and the Mainland, comprehensive and timely bilateral statistics on merchandise exports and imports are available. In addition, data on trade of service, inward and outward direct investment are also available but with a time lag. However, there are only very limited information on bilateral portfolio investment flows.

In the absence of a complete data set, one may make use of the available information to provide a rough sketch of the bilateral flows of funds. As indicated by the accounting equation, if it is assumed that all the transactions are effected via the banking system,[1] then changes in the external claims and liabilities between Hong Kong banks and the Mainland can be used to gauge the cross-border fund flows related to current account, and capital and financial account. Moreover, the accumulation of foreign currency assets by the Mainland may also be an important factor to consider. Given Hong Kong's role as an international financial centre, foreign currency assets held by Mainland entities, including the People's Bank of China, may be placed in Hong Kong or channelled through Hong Kong's banking system to other countries. These should also be reflected in Hong Kong's statistics of external claims and liabilities.

[1] Since formal fund flows in most cases are reflected in banks' external liabilities and claims positions, it is justified to assume all the cross-border transactions are effected via the banking system.

Table 1 provides a matrix on the theoretical linkages between the major channels of fund flows and their relations with external claims and liabilities of Hong Kong banks vis-à-vis the Mainland. Specifically, exports of goods and services from Hong Kong to the Mainland, Mainland's direct investment and portfolio investment in Hong Kong, and Hong Kong banks' placements on the Mainland can lead to a rise in claims of Hong Kong banks vis-à-vis the Mainland (or a decline in Hong Kong banks' liabilities). Conversely, imports of goods and services from the Mainland, and Hong Kong's direct and portfolio investment on the Mainland result in a rise in our gross liabilities (or a decrease in claims) of Hong Kong banks vis-à-vis the Mainland.

To illustrate, suppose Hong Kong runs a current account surplus with the Mainland, and assume that all payments are arranged via the banking system, in accordance with the double-entry principle of the balance of payments account, a credit entry is booked in the current account representing the surplus, while a debit entry is booked in the financial account.[2] On the balance sheets of banks in Hong Kong, the debit entry represents an increase in Hong Kong banks' claims on a Mainland entity. At the same time, there is a matched increase in deposits, assuming the ultimate beneficiary (i.e. the Hong Kong exporter) places the fund with banks in Hong Kong.

Likewise, when there is capital inflow from the Mainland to Hong Kong, on the balance sheet of Hong Kong's banking system, there will be an increase in bank deposits, representing the amount which is owed by banks to the recipient of the funds.[3] This will be matched by an increase in the balances due from Mainland banks on the asset side (i.e. a rise in claims on the Mainland). In short, external claims of Hong Kong's banking sector on the Mainland would rise, should there be an increase in net receipts arising from current account activities or cross-border capital flows.

2 Balance of payment statistics are compiled based on the double-entry principle. A surplus in the current account is matched by a deficit in the capital and financial account.

3 The deposits refer Hong Kong banks' liabilities to the recipient but not the Mainland.

Table 1. Linkages between channels of fund flows and Hong Kong's external claims and liabilities against the Mainland

	Claims	Liabilities
Increase	Hong Kong's exports of goods and services to China China's direct investment in Hong Kong China's portfolio investment in Hong Kong Hong Kong banks' other investment in China	Hong Kong's imports of goods and services from China Hong Kong's direct investment in China Hong Kong's portfolio investment in China China banks' other investment in Hong Kong
Decrease	Hong Kong's imports of goods and services from China Hong Kong's direct investment in China Hong Kong's portfolio investment in China China banks' other investment in Hong Kong	Hong Kong's exports of goods and services to China China's direct investment in Hong Kong China's portfolio investment in Hong Kong Hong Kong banks' other investment in China

III. FACTORS BEHIND CHANGES IN NET EXTERNAL TRANSACTIONS VIS-À-VIS MAINLAND CHINA

This section attempts to establish the linkages between the external claims and liabilities between Hong Kong and the Mainland and bilateral fund flows arising from trade and financial activities based on available data. Table 2 and Chart 3 provide a summary of the stock as well as the change of external claims and liabilities of Hong Kong banks, compared with the data on bilateral current account and capital and financial account activities between Hong Kong and the Mainland during the past few years. The first panel of Table 2 shows the stock of net liabilities and the year-on-year change of this stock, with the latter taken as an indicator of net flows of funds between Hong Kong and the Mainland. The second panel shows the estimated bilateral BoP components. Data in Table 2 are commonly available on a quarterly basis, providing an ex-post framework to keep track of fund flow between Hong Kong and the Mainland on a quarterly basis.

Table 2. Possible factors explaining changes in net external transactions of Hong Kong banks vis-à-vis the Mainland

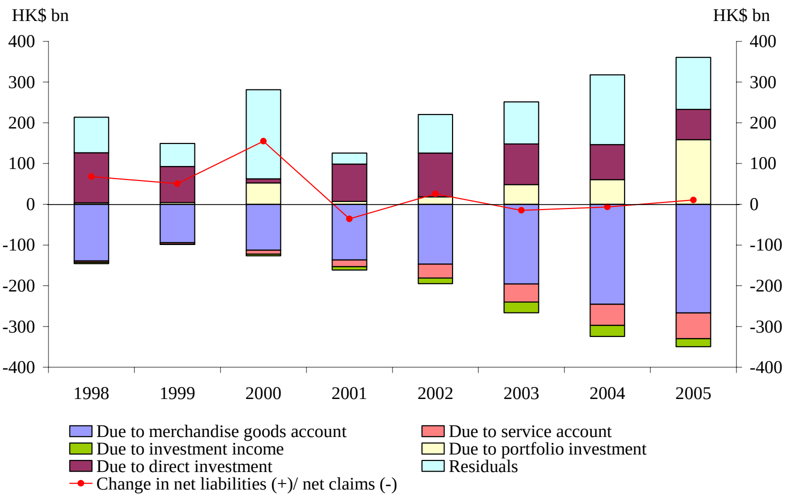
HK$ billion	1998	1999	2000	2001	2002	2003	2004	2005
Net liabilities (+)/ net claims (-)								
Level	-34	17	172	136	162	147	140	151
Change	**68**	**51**	**155**	**-36**	**26**	**-15**	**-7**	**11**
Possible factors explaining changes in net external transactions of Hong Kong banks vs. the Mainland								
due to goods accounts (2)	*-139*	*-94*	*-113*	*-137*	*-147*	*-196*	*-245*	*-267*
due to services accounts (3)	*-3*	*-4*	*-9*	*-17*	*-34*	*-44*	*-52*	*-63*
due to investment income (4)	*-3*	*-1*	*-4*	*-8*	*-14*	*-26*	*-27*	*-20*
due to direct investment (5)	*123*	*88*	*10*	*92*	*108*	*100*	*86*	*74*
due to portfolio investment (6)	*4*	*4*	*52*	*7*	*18*	*48*	*60*	*159*
residuals	***87***	***57***	***219***	***27***	***95***	***103***	***171***	***127***

Notes:

(1) Some data on goods and services account for 2004 and 2005 are estimates based on available information.
(2) Exports and imports were adjusted to exclude outward processing trade.
(3) Data on trade in services between Hong Kong and the Mainland are from Report of Hong Kong Trade in Services Statistics.
(4) From survey data.
(5) HK's foreign direct investment (FDI) to the Mainland based on data from the Mainland, while the Mainland's FDI in Hong Kong are from Balance of Payments Statistics.
(6) Data refer to funds raised by Mainland companies in the Hong Kong Stock Exchange, while data on Mainland's portfolio investment in Hong Kong are not available.

Sources: HKMA, various Government publications and staff estimates.

Chart 3. Possible factors explaining the change in net external transactions of Hong Kong banks vis-à-vis the Mainland



Sources: HKMA, various Government publications and staff estimates.

Table 2 and Chart 3 show that banks in Hong Kong have been registering net liabilities against the Mainland since 1999. Meanwhile, Hong Kong registered current account surpluses with the Mainland, thus reducing the net liabilities to the Mainland (under the assumption that all transactions are effected through the banking system). Moreover, Hong Kong has been a net investor in the Mainland, increasing banks' external liabilities with the Mainland. The difference between changes in the banks' net external transactions and the observable data on current account and capital and financial account is taken as a residual, which reflects those fund flows that are not covered by existing surveys. Such a residual contributed to increases in the banks' liability with the Mainland during the past few years. It should be noted that this calculation has some caveats. For example, the above sketch of cross-border fund flows may be inaccurate if the shipment of goods and payments for merchandise are not entirely synchronised, or if the custom value of shipment is not the same as the actual payment.

Major developments in the goods account, service account, factor income account, and capital and financial account are reviewed as follows.

Goods Account

Hong Kong has been running a current account surplus with the Mainland, contributing to banks' claims on the Mainland if all the payments are effected through the banking system.[4] Specifically, such surplus is attributable mainly to merchandise trade with the Mainland (after adjusting to exclude outward processing trade).[5] The bilateral trade surplus amounted to HK$245 billion and HK$267 billion in 2004 and 2005 respectively, or up by 8.7% year on year (Chart 4a). As discussed earlier, a trade surplus with the Mainland, in principle, will lead to a corresponding increase in net claims or a decline in net liabilities of Hong Kong banks vis-à-vis the Mainland. In terms of magnitude, such trade surplus is the largest single component in the bilateral BoP. However, external banking transaction data show that there were only small variations in net liabilities

4 A current account balance is the sum of the balance of goods and service account and net income of assets.

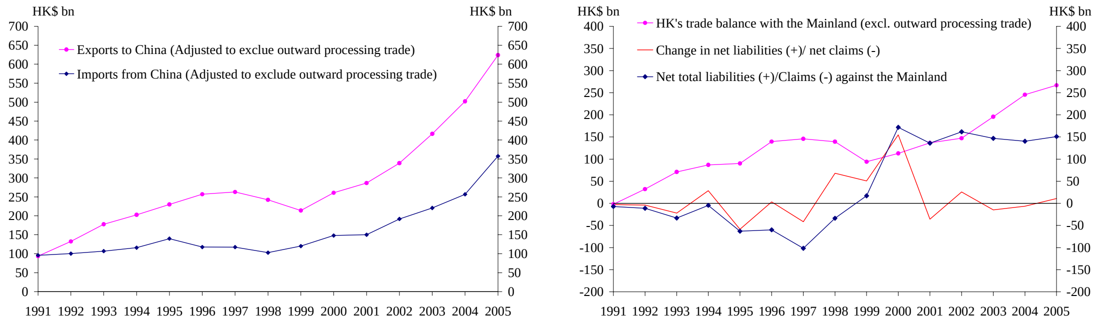
5 Outward processing trade refers to arrangements made between Hong Kong companies and manufacturing entities in the Mainland under which the companies concerned sub-contract the whole or part of the production of their products to the Mainland entities. Raw materials and semi-manufactures are normally exported to the Mainland for such processing. Both exports and imports are adjusted to exclude outward processing activity, as such activities only involve payments of processing fees rather than the value of products or materials involved. As a result, only processing fee payments will be included in external claims and liabilities statistics.

during the past few years, suggesting that other fund flows channelled these surpluses back to the Mainland (Chart 4b).

Chart 4. Trade between HK and the Mainland and net liabilities

a. Exports and Imports

b. Trade Balance and External Banking Transactions



Sources: C&SD, HKMA and staff estimates.

Service Account

Within the current account, Hong Kong also recorded bilateral surpluses in the trade of services with the Mainland in recent years. The service account surplus increased from less than HK$10 billion in 2000 to HK$63 billion in 2005. Analysed by categories, the surplus from merchanting and other trade-related services was the largest, followed by that from transportation and travel.[6] In particular, net tourism income has been growing steadily since 2003 (Table 3). The net gain in favour of Hong Kong was mainly attributable to the relaxation of travel restrictions from the Mainland as well as the amount of the foreign exchange that may be carried abroad by Mainland residents.[7&8]

6 There are six major categories of service trade, namely, transportation, travel, insurance services, financial services, merchanting and other trade-related services, and other services.

7 Further to the liberalisation of travelling restrictions on individual travellers from eight Guangdong cities (Dongguan, Foshan, Guangzhou, Huizhou, Jiangmen, Shenzhen, Zhongshan, and Zhuhai), the policy has been extended to the residents of Beijing and Shanghai in September 2003. The scheme was further extended to 38 cities in November 2005.

8 Mainland individuals travelling overseas are allowed to purchase up to US$3000 for trips less than six months and US$5000 for those above six months since from 1 October 2003. These caps were raised to US$5000 and US$8000 respectively from 3 August 2005.

Table 3. Tourism income

HK$ bn	Spending by Mainland tourists in Hong Kong	Spending by HK tourists in Mainland China	Net spending in Hong Kong
1999	15	42	-27
2000	15	36	-21
2001	18	35	-16
2002	29	33	-3
2003	35	27	7
2004	40	32	8
2005	44	33	10

Notes: 2004 and 2005 data are estimates.

Source: Report on Hong Kong Trade in Services Statistics.

Factor Income Account

The factor income account contains cross-border receipts and payments of income arising from factors of production (such as compensation of employees and investment income). Hong Kong maintains a net inflow of factor income from the Mainland, and such inflow has increased markedly in recent years. While a breakdown of the nature of factor income is not available, such income is likely generated mainly from earnings of Hong Kong's direct investment in the Mainland. According to statistics on Hong Kong's inward and outward investment, the position of Hong Kong's direct investment on the Mainland amounted to HK$1,212 billion at end-2004 (the latest data available), equivalent to about 94% of GDP in Hong Kong.

Capital and Financial Account

Hong Kong has been a net investor on the Mainland in terms of foreign direct investment (FDI). Table 4 shows that Hong Kong's FDI on the Mainland remained stable at HK$130-150 billion per annum during the past few years. Meanwhile, Mainland's FDI in Hong Kong was less than Hong Kong's direct investment on the Mainland and was quite volatile. On balance, net FDI contributed to an increase in Hong Kong banks' liabilities to the Mainland, though its contribution varied a lot during the recent years.

Table 4. FDI flows

HK$ bn	Hong Kong's FDI in Mainland China	Mainland China's FDI in HK	Net FDI in the Mainland
1995	155	NA	NA
1996	160	NA	NA
1997	160	NA	NA
1998	143	20	123
1999	127	39	88
2000	121	111	10
2001	130	39	92
2002	139	32	108
2003	138	38	100
2004	148	62	86
2005	140	65	74

Notes: Hong Kong's foreign direct investment (FDI) in the Mainland are from Mainland data source. Mainland China's FDI in Hong Kong are based on Hong Kong sources, and data for 2004 and 2005 are estimates.

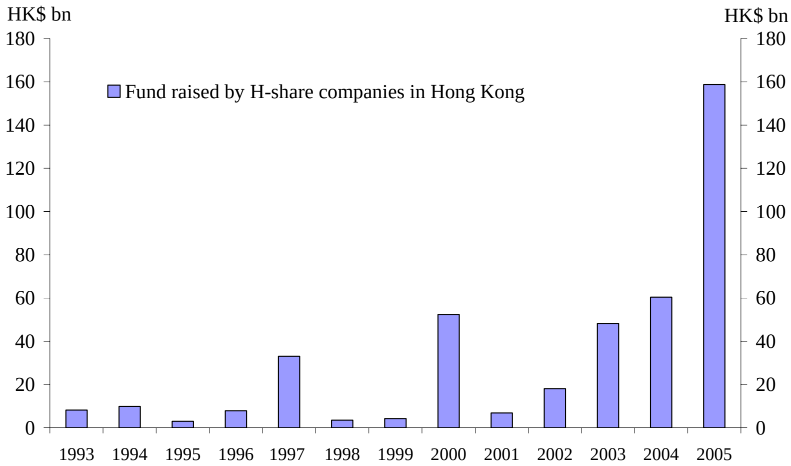
Sources: CEIC and staff estimates.

In terms of portfolio investment, fund-raising activity of Mainland enterprises, mainly through equity listings and bond flotations, is another conduit of funds flowing to the Mainland. Mainland enterprises can acquire foreign funds through equity markets in Hong Kong or Shanghai and Shenzhen B-shares markets. However, fund-raising activity in the two B-share markets has not been active in the past few years. At the same time, fund-raising activity by Mainland firms in Hong Kong increased markedly. Mainland companies raised HK$60 billion and HK$159 billion in 2004 and 2005 respectively from the Hong Kong stock market (Chart 5).[9] Past experience suggests that some of the proceeds have been placed with our banking sector, thereby increasing our external liabilities vis-à-vis the Mainland.[10] However, it should be noted that the funds placed by these Mainland firms with banks in Hong Kong are usually temporary in nature.

[9] Mainland enterprises refer to H-share companies listed in Hong Kong stock market.

[10] Funds deposited by a Mainland company with banks in Hong Kong are treated as Hong Kong's liabilities to the Mainland, as external positions are reported based on the status of the counterparty and his address.

Chart 5. Funds raised by Mainland companies in Hong Kong



Source: Hong Kong Stock Exchange.

<u>*Residual Fund Flows*</u>

As discussed above, the residual term in Table 2 represents fund flows between Hong Kong and the Mainland that are not explained and/or captured by existing surveys. Such residual contributed to increases in net liabilities of Hong Kong banks vis-à-vis the Mainland during the past few years. This may be associated with the build-up of foreign currency reserves by the Mainland authorities and the re-cycling of surplus foreign currency liquidity by the non-government sector on the Mainland.

Placements of funds abroad by the Mainland can be a possible explanation for the residual term in net liabilities of Hong Kong banks vis-à-vis the Mainland.[11] Indeed, the Mainland has rapidly built up foreign exchange reserves since 2000. In particular, foreign exchange reserves increased markedly by US$207 billion (11% of GDP) and US$209 billion (9% of GDP) in 2004 and 2005 respectively.[12] A BIS study suggests that the rise in total foreign exchange reserves across Asia since 2002 has coincided with an equally sharp increase in the stock of

[11] The residual fund flows also capture valuation changes due to factors like revaluation of the renminbi. That said, the impact of renminbi revaluation was immaterial in 2005. On the other hand, this residual term may over-estimate the actual amount of placements of funds abroad by the Mainland, as data on Mainland's portfolio investment in Hong Kong are not included in the calculation. Anedotal evidence suggests that portfolio investment in Hong Kong by Mainland citizens is increasingly popular following the introduction of Individual Visit Scheme.

[12] It is noted that the visible trade surplus and FDI inflows only accounted for about half of the increase in Mainland's foreign exchange reserves in 2004, suggesting that capital inflows from other channels played a significant role.

external liabilities vis-à-vis banks in the region.[13] The growth in deposits placed with BIS reporting banks seemed to be associated with the accumulation of reserves by the monetary authorities in the region. In particular, it is estimated that, globally, some 15% of US dollar-denominated reserve assets are held as deposits with banks.

While data on Mainland's placements of official reserves abroad are not available, if the above ratio is applied to the Mainland's data, then the rises in foreign exchange reserves could imply that some US$31 billion might be placed by the Mainland authorities with banks abroad (including those in Hong Kong) in 2004 and 2005 (Table 5). For 2004 as whole, BIS reporting banks' liabilities vis-à-vis the Mainland increased by around US$26 billion, and Hong Kong banks' gross liabilities to the Mainland accounted for near 36% (US$9.4 billion or HK$73 billion) of the total. Therefore, it is likely that part of the residual net liabilities of Hong Kong banks against the Mainland was due to the placement of funds made by the Mainland authorities.[14]

Table 5. Change in reserves and liabilities

US$ billion	2002 vs. 2001	2003 vs. 2002	2004 vs. 2003	2005 vs 2004	Dec 05 vs. the trough in Jul 03 [1]
Change in forex reserves of the Mainland	74.2	116.8	206.7	208.9	462.4
Assuming 15% of the change in forex reserves placed with banks abroad (based on BIS studies) [2]	*11.1*	*17.5*	*31.0*	*31.3*	*69.4*

Notes:
1. The trough position referred to the recent low of Hong Kong banks' gross liabilities with the Mainland.
2. The assumption of 15% of reserve assets being placed as deposits with banks abroad is from the March 2003 issue of BIS Quarterly Review.

Sources: BIS, HKMA and Staff estimates.

13 "Choosing Instruments in Managing Dollar Foreign Exchange Reserves", BIS Quarterly Review, March 2003, page 39-46. This study estimates that, globally, 3% of total US dollar denominated reserve assets are held as deposits in banks in the United States, and an additional 12% in banks offshore.

14 Renminbi (RMB) deposits in Hong Kong are treated as Hong Kong banks' external claims on the Mainland. The stock of RMB deposits with banks in Hong Kong amounted to RMB22.6 billion (equivalent to HK$21.7 billion) at end-2005.

IV. IMPLICATIONS

The impacts of net inflow of Hong Kong dollars and foreign currencies from the Mainland can be different. Inflow of foreign currencies only has limited impact on Hong Kong's financial markets and economic activities, as it mostly reflects Hong Kong's role in re-exporting the foreign currency liquidity to other parts of the global banking system.

Meanwhile, the stock of net Hong Kong dollar liabilities of banks with the Mainland only accounted for about 4% of the total Hong Kong dollar funding of our banking system (end-2005 figure). However, changes in net Hong Kong dollar liabilities of banks with the Mainland were sizable as compared to changes in overall Hong Kong dollar funding sources (Table 6). In other words, monetary conditions in Hong Kong can potentially be influenced by the Mainland's placement of Hong Kong dollar funds into the local banking system.[15]

In 2004, overall HKD funds of the banking sector increased substantially, leading to a significant discount of HIBORs over LIBORs. However, data in Table 6 suggest that the inflow of funds was not from the Mainland. In fact, the Mainland contributed to withdrawals of Hong Kong dollar funds from the banking system during the year, likely due to the low Hong Kong dollar interest rates. In 2005, as Hong Kong dollar interest rates caught up with the US dollar counterparts, there appeared to be Mainland funds flowing back to Hong Kong dollar deposits. This suggests that, in the recent periods, the fund flows associated with Mainland entities reacted to changes in Hong Kong dollar interest rates and were not an "autonomous" force influencing monetary conditions in Hong Kong.

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[15] For example, during the China Construction Bank IPO subscription period in October 2005, there was 25% increase in Hong Kong dollar liabilities to banks outside Hong Kong (particularly banks on the Mainland) in that month. Meanwhile, increased demand for Hong Kong dollar tightened monetary condition in Hong Kong during the IPO subscription period.

Table 6. Sources of HKD funds

HKD billion	At the end of the period 2000	2001	2002	2003	2004	2005	Change during the year 2000	2001	2002	2003	2004	2005
Total HKD funds of the banking sector *	2,324	2,336	2,323	2,369	2,505	2,649	124	12	-13	46	135	144
Of which												
Net HKD funds from Mainland China	136	94	70	89	64	94	72	-43	-24	19	-24	29
as % of total source of HKD funds	***5.9***	***4.0***	***3.0***	***3.7***	***2.6***	***3.5***						

Note: Total HKD funds include deposits, net balances due to banks abroad, and capital, reserves and other liabilities.

Source: HKMA.

V. CONCLUSION

This paper provides a sketch of the bilateral BoP between Hong Kong and the Mainland, and also provides a framework for analysing how these bilateral flows of funds may influence monetary conditions in Hong Kong. This can be used as a preliminary framework for understanding the impact of increasing integration between the Mainland and Hong Kong economies on the financial and monetary fronts.

Hong Kong ran a current account surplus with the Mainland in the past few years, contributing to a rise in claims of Hong Kong banks on the Mainland (or a decline in liabilities). At the same time, Hong Kong was a net investor in the Mainland in terms of direct investment and portfolio investment, implying an increase in liability of Hong Kong banks vis-à-vis the Mainland. Taking the difference between Hong Kong banks' net changes in liabilities with the Mainland and the fund flows related to current account, direct and portfolio investment, Hong Kong banks had a net "residual" liability with the Mainland. Placement of foreign currency reserve assets by the Mainland was likely to be a factor behind this residual liability.

Although net Hong Kong dollar liabilities of Hong Kong banks vis-à-vis the Mainland remain a small fraction of total Hong Kong dollar funding of our banking system in recent years, they tend to be volatile and can potentially be an important influence on monetary conditions in Hong Kong. Nonetheless, in the recent episodes, these Mainland funds appeared to react to changes in Hong Kong dollar interest rates and were not an autonomous force driving local monetary conditions.