Hong Kong Monetary Authority

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AN ANALYSIS OF BALANCE OF PAYMENTS DEVELOPMENTS IN 2002

Key points :

- *The recently released Balance of Payments (BoP) statistics indicate a strong current account surplus in 2002, accompanied by a large net outflow in the portfolio and direct investment account. This paper reviews BoP developments in 2002 from a macroeconomic perspective, and considers in particular if the net capital outflow reflected reduced confidence on the currency or the banking system.*

- *The analysis suggests some autonomous net portfolio and foreign direct investment outflows, which was financed in part by the current account surplus. However, this autonomous net outflow of capital was in line with economic fundamentals, reflecting particularly a portfolio re-balancing in seeking higher rates of return on foreign assets. Thus, there is no significant evidence of a capital flight triggered by reduced confidence.*

- *The strong current account surplus reflected in part an improvement in competitiveness due to the depreciation of the real effective exchange rate. It was also likely related to weak domestic demand, which was in part attributable to household saving in response to declining property prices.*

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I.   Introduction

The balance of payments (BoP) in Hong Kong has been characterised by sizable current account surpluses in the past five years.[1] For 2002 as a whole, the surplus rose to 10.7% of GDP, significantly higher than 7.5% of GDP in 2001 (Table 1). Mirroring developments in the current account, the capital and financial account (including reserve assets) recorded a net outflow.[2] In particular, the financial non-reserve assets account registered a marked net outflow in the past two years, following an inflow during 1999-2000. In 2002, the net outflow amounted to 15.3% of GDP, attributable to a net portfolio investment (PI) outflow and, to a lesser extent, a net outflow of the direct investment account (DI).

BoP statistics provide important information about an economy's external payment position. However, caution is called for in interpreting these numbers, because they capture external transactions in an ex-post sense. The figures reflect the interaction of: (i) autonomous or exogenous changes in individual components; and (ii) changes in response to interest rate and exchange rate developments, emanating from changes in other BoP components.[3] For example, on the face of it, it is not clear whether a net capital and financial account outflow is a result of a current account surplus, or the other way around. In the latter case, an autonomous net financial account outflow, say, due to higher investment return abroad requires a current account surplus to finance it.

This paper reviews BoP developments in recent years, and assesses in particular whether net PI and DI outflows in 2002 were related to weakened confidence in the currency and banking system. The rest of the paper is organised as follows. The next section reviews some conceptual considerations in interpreting the current account balance and the interaction with the capital and financial account. Based on this, Section III considers factors that possibly contributed to the net PI and DI outflow and provides some empirical evidence. The last section concludes.

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[1] The first set of BoP statistics was published in 1999 for year 1997. It shows a detailed breakdown of the current account, the overall balance on the financial and capital account, and the net change in reserves. The first set of statistics with a breakdown of components in the financial and capital account starts from 1998, and the first set of quarterly statistics from the first quarter of 1999.

[2] The overall BoP position represents the sum of balances on the current account and the non-reserve portion of the capital and financial account, plus net errors and omissions. This is the mirror image of changes in reserve assets.

[3] A comprehensive review of considerations in analysing BoP statistics was provided in HKMA Research Memorandum, "Balance of Payments Statistics: Examining Some Received Wisdom", December 2000.

Table 1. Hong Kong's Balance of Payments Account

Standard Components	1998	1999	2000	2001	2002
			In % of GDP		
Current Account	**2.7**	**7.5**	**5.5**	**7.5**	**10.7**
Capital and Financial Account	**-2.5**	**-6.7**	**-4.5**	**-7.6**	**-15.1**
Capital transfers	-1.4	-1.1	-0.9	-0.7	-1.2
Financial non-reserve assets (net change)	**-5.1**	**0.7**	**2.5**	**-4.0**	**-15.3**
Direct investment	-1.3	3.3	1.6	7.6	-2.4
Portfolio investment	13.4	20.6	14.8	-25.2	-22.9
Financial derivatives	2.0	6.4	0.1	3.1	0.8
Other investment	-19.1	-29.6	-14.0	10.5	9.2
Reserve assets (net change) [1]	**4.1**	**-6.2**	**-6.1**	**-2.9**	**1.5**
Net errors and omissions	**-0.2**	**-0.8**	**-1.0**	**0.1**	**4.3**
Overall Balance of Payments [1]	**-4.1**	**6.2**	**6.1**	**2.9**	**-1.5**

[1] *The overall BoP balance mirrors the net change in reserve assets, for which a positive sign indicates a decline.*

II.   BoP Statistics: Some Macroeconomic Perspectives

A traditional interpretation of BoP statistics focuses on the fact that a current account imbalance has to be matched by a net capital inflow or outflow. Thus, a current account deficit is viewed as a cause for concern, as it needs external financing. However, increasing global economic integration and the associated increase in capital mobility highlight the limitations of this view. The current account is not only influenced by the determinants of trade in goods and services, but also by saving decisions and portfolio choices regarding domestic and foreign assets.

The determination of the current account and its interaction with the capital and financial account can be briefly summarised by considering some accounting identities.

$$CA = X - M \qquad\qquad (1a)$$
$$CA = Y - E \qquad\qquad (1b)$$
$$CA = S - I + (T - G) \qquad\qquad (1c)$$
$$CA = \Delta NFA \qquad\qquad (1d)$$

First, the current account balance (CA) equals net exports of goods and services, reflecting domestic residents' transactions with the rest of the world. This is represented by equation (1a), and is often termed the *elasticity approach* to the BoP, as it stresses influences of the real exchange rate, among other factors, on the current account. For example, the strong CA in the recent years in Hong Kong in part reflected improved competitiveness due to depreciation of the real effective exchange rate (REER).

Secondly, CA also equals the gap between income (Y) and domestic absorption (E), as shown in equation (1b). Absorption is defined as the sum of private consumption expenditure, investment and government expenditure. This is often termed the *absorption approach* to the BoP. Thus, the rise in CA surpluses was probably in part attributable to weak domestic demand.

Thirdly, the modern absorption approach seeks to explain CA developments through closer examinations of intertemporal saving and investment decisions. Under this *intertemporal approach* to BoP, the CA is viewed as the difference between national saving and investment. This is captured by equation (1c), which decomposes national saving into private sector and Government saving. The latter is the difference between taxes (T) and Government spending (G). In Hong Kong, there was a significant increase in Government dissavings, as the deficit rose from 0.6% of GDP in FY2000/01 to over 5% in the past two years. At the same time, CA surpluses rose from 5.5% in 2000 to 7.5% and 10.7% in 2001 and 2002 respectively. This implies that the private sector excess savings (over domestic investment) increased from around 6% of GDP to around 12% and 16% respectively during the same period.[4]

Finally, the CA equals the changes in net foreign assets (NFA), which indicate the rate at which an economy is accumulating (net) external assets.[5] This identity is particularly useful in studying the long-run determination of CA. Assuming that the economy stabilises its NFA (as a ratio to GDP) in the steady state, it can be shown that:

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[4] These are only crude estimates, because fiscal deficit figures refer to financial years, which run from April to March. However, it is clear that there was a large rise in private sector's excess savings over domestic investment.

[5] This relationship is derived from the BoP identity, which states that the sum of all credit items must be offset by the sum of all debit items (i.e. $CA + CFA + \Delta RS = 0$, where CFA = net financial non-reserve asset account and ΔRS = change in reserve assets).

$$CA = g \text{ NFA} \qquad\qquad\qquad (1e)$$

where g is income growth rate ($\Delta Y/Y$). Thus, structural determinants of CA could be viewed in terms of the factors that underpin the desired or equilibrium NFA in the long run. Possible factors that help determine the demand for NFA include demographics, public debt, the relative return and risk profile of domestic and foreign investment, etc.[6] In Hong Kong, two factors suggest that there is probably a structural element in the persistent CA surpluses, which have enabled accumulation of a large amount of NFA, to 162% of GDP by end-2001 (Chart 1). First, Hong Kong is a city economy that has a relatively limited room for risk diversification in domestic investment. Naturally, acquisition of foreign assets is an important means for risk sharing. Secondly, the absence of a Government bond market means that investors in Hong Kong do not have Government-issued debt for portfolio balancing, in contrast to the case in most other economies.[7]

Chart 1. Current Account and Trade Balance as % of GDP
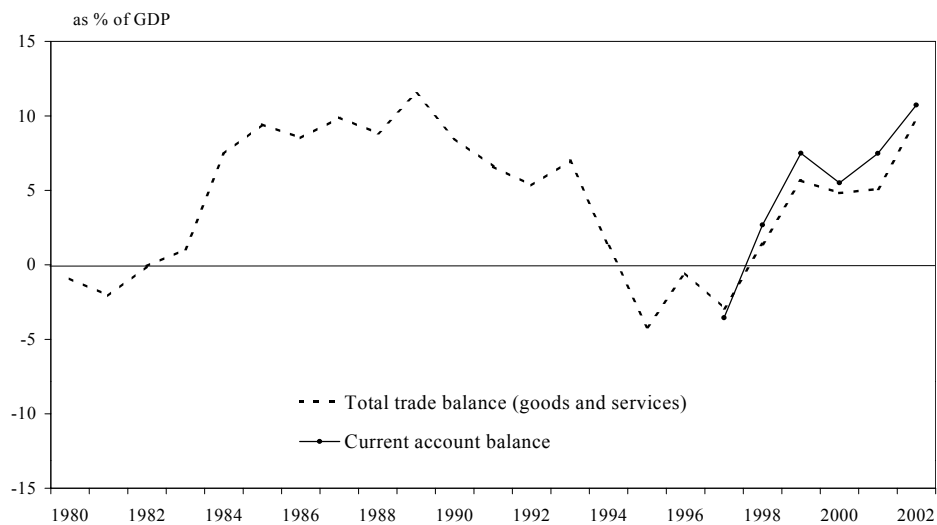
Note: Current account data are from BoP statistics, which start from 1997,
while the trade balance figures from the national accounts.

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[6] The determination of the long-run NFA of an economy has been an area of active research in the open economy macroeconomics in recent years. Lane (2001) and Kraay, Loayza, Serven and Ventura (2000) provide theoretical considerations as well as empirical evidence.

[7] In a world that departs from Ricardian equivalence, higher levels of public debt may be associated with a decline in NFA. An increase in public debt is not fully offset by a rise in private asset accumulations since public debt is perceived as net wealth by current generations.

In sum, each of these alternative perspectives goes some way towards explaining BoP movements. In the short run, there are significant interactions between CA and the exchange rate. Thus, CA is influenced importantly by movements in the REER and cyclical conditions in domestic and foreign activities. Over the medium-term, intertemporal decisions as regards savings and investment also play a role. It is often argued that CA acts as a shock absorber over the business cycles, with savings adjusting to temporary shocks to maintain a stable consumption path. In the long run, it is likely that savings and investment decisions and thus CA are driven largely by movements of the desired or equilibrium NFA position.[8]

To put these considerations in the context of recent developments, the increase in the net outflow of the non-reserve assets financial account in 2002 reflected probably one or more of the following factors:

- Improved competitiveness due to the REER depreciation and strong trade performance of the Mainland, which led to accelerated growth in our exports of goods and services. The resulting CA surplus was balanced through the acquisition of foreign assets.

- Sluggish domestic absorption, which, in addition to increased unemployment and weak consumer sentiment, likely reflected a continued process of savings by the households to repair their balance sheets as property prices declined further.

- Some autonomous portfolio and direct investment outflows, for example, induced by relatively low return of Hong Kong dollar assets. The latter reflected probably weak domestic conditions, and the net outflow was realized through lower absorption, which contributed to the CA surplus. This type of net capital outflow would be in line with economic fundamentals and enhance our future investment income from abroad.

- Reduced confidence in the currency or banking system stability, which induced an increase in desired NFA and thus a net capital outflow by the private sector. This would lead to tightened monetary conditions which in turn would reduce domestic demand and thus raise the CA surplus.

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[8] One implication is that the long-run equilibrium exchange rate is determined by CA movements that are consistent with the stock equilibrium of net foreign assets.

Of course, the influence of these forces are most likely intertwined, and it is difficult to discern the exact contributions of each factor. Nevertheless, they highlight the importance of analysing BoP statistics in the context of macroeconomic and financial market developments. The next section addresses a particular concern to the policy makers, namely whether the net PI and DI outflow reflected reduced confidence in the Hong Kong dollar and banking system.

III. What Explains Net PI and DI Outflows in 2001-02?

This section conducts a simple empirical investigation to assess the forces driving the net capital outflow. It is noted that capital flight, when triggered by weakened confidence in the domestic currency and financial system, is usually accompanied by an upsurge in interest rates, downward pressures on the exchange rate and sharp falls in asset prices. In particular, under the Linked Exchange Rate system, an increase in the Hong Kong dollar risk premium is usually associated with an increase in domestic interest rates relative to their US dollar counterparts. In this respect, notwithstanding a net DI and PI outflow in the past two years, the interest rate differentials between the Hong Kong dollar and US dollar remained generally stable, moving in a range of –70 to + 15 basis points (Chart 2). In contrast, the interest rate spread surged to around 200-500 basis points during the Asian financial crisis in 1997-98.

Chart 2. Net PI and DI and Interest Rate Differentials

Net PI and DI (RHS)
———— HKD-USD interest rate differentials (3-month) (LHS)
– – – – HKD-USD interest rate differentials (12-month) (LHS)
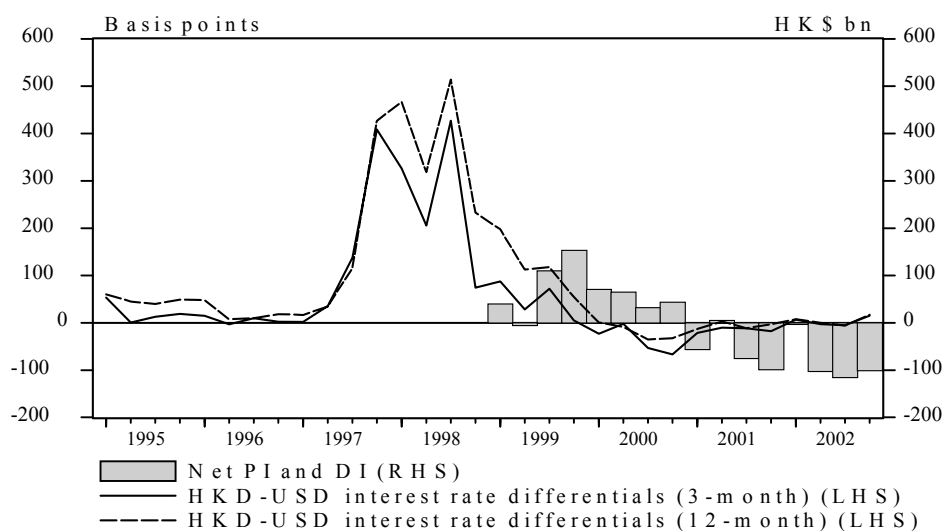
More likely, the large net PI outflow reflected a portfolio re-allocation in response to the low level of interest rates in Hong Kong. Along with declines in deposit interest rates relative to the yield on other assets, such as US Treasury bonds, the opportunity cost of holding HKD monetary assets has risen. Specifically, the three-month deposit rate declined to a record-low level of 0.1% as of end-2002, compared with a yield of around 3% for 5-year US Treasury bills (Chart 3). It is noted that the liquidity in the banking system remained abundant, evidenced by the relatively low Hong Kong dollar loan-to-deposit ratio.

Chart 3. HKD Deposit Rates and Yields on US Treasury Bill

Yields on 5-year US Treasury Bill
3-month Hong Kong dollar deposit rate

To provide some empirical evidence, two equations were estimated for net PI and DI flows respectively. First, net PI as a ratio of nominal GDP was regressed against the return on HKD deposits and equities relative to foreign assets (Chart 4):

$$p_t = 0.094 + 0.507\ s_{t-1} + 7.727\ (i_{t-1} - i^*_{t-1}) + \varepsilon_t \qquad (2)$$
$$\quad\ (1.2) \quad\ (2.1) \qquad\ (2.1)$$

Adjusted R^2 = 0.36 DW = 2.0   t-ratios in brackets

where *p* denotes the ratio of net PI to nominal GDP, *s* is the 4-quarter percentage change in the Hang Seng Index relative to the Dow Jones Index, and *i-i** is the difference between 3-month Hong Kong dollar deposit rate and yields on 5-year US Treasuries. The coefficients of the asset return variables are significant and have

the signs expected from theory. The estimates suggest that the net PI outflow in 2001-02 was in line with changes in relative asset returns. In particular, the portfolio flows were sensitive to changes in the rate of return on Hong Kong dollar against US-dollar denominated debt instruments.

**Chart 4. Net PI-to-GDP Ratio and its Explanatory Variables**

Ratio of net PI to GDP (LHS)
The Hang Seng index vs the Dow Jones index (RHS)

Ratio of net PI to GDP (LHS)
3-month HK$ deposit rate - yields on 5-year US Treasuries (RHS)
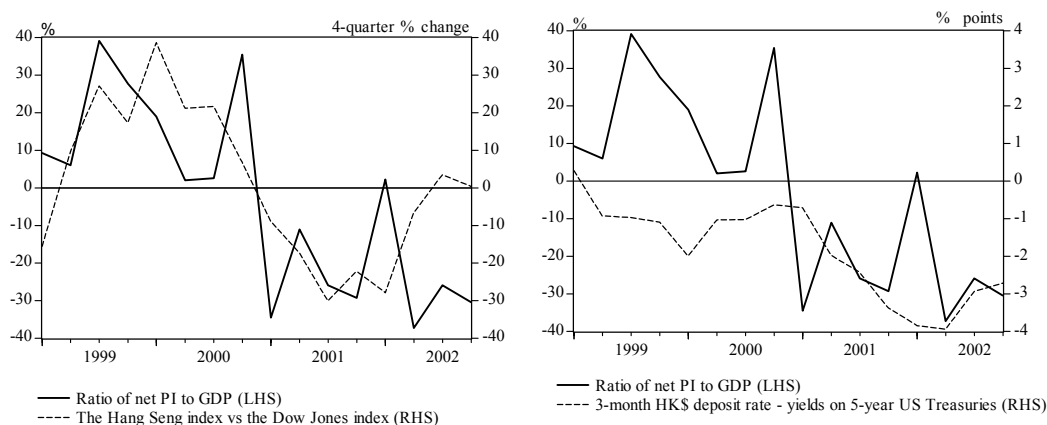
Secondly, the ratio of net DI to nominal GDP (*d)* was modelled as a function of (in log) real GDP in Hong Kong relative to real world GDP (*q*). A dummy variable (*dum*) was used to capture the effects of a one-off acquisition deal by a Hong Kong listed company in the Mainland in the fourth quarter of 2000.[9] The empirical analysis indicates that the net DI flow was explained well by economic growth in Hong Kong relative to the rest of the world (Chart 5).

$$d_t = 0.394 + 2.526\ q_t - 0.335\ dum_t + \varepsilon_t \qquad\qquad (3)$$
$$(2.6)\quad\ (2.4)\qquad (-3.7)$$

Adjusted R^2 = 0.47 DW = 2.7   *t-ratios in brackets*

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[9] There was a notable net DI outflow of $71 billion in the fourth quarter of 2000. The outflow was largely related to the acquisition of seven mobile networks by China Mobile (HK) Ltd. from its parent company in the Mainland, involving around $256 billion. But as part of the deal was funded by an asset injection (at around $181 billion) from its Mainland parent, which represented a DI inflow, the net impact on DI amounted to an outflow of $75 billion. Hence, if not for the effect of this major acquisition, there should have been a net DI inflow of $4 billion into Hong Kong in that quarter.

Chart 5. Net DI-to-GDP Ratio and its Explanatory Variable

%   log scale

Ratio of net DI to GDP (LHS)
Log (real HK GDP) - log (real world GDP) (RHS)
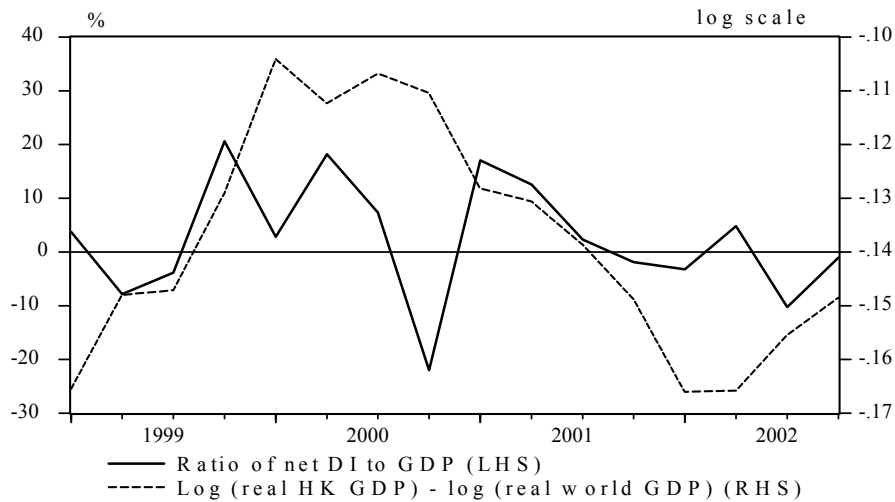
IV.   Conclusion

This paper considers BoP developments from a number of macroeconomic perspectives, including the elasticity, absorption, and intertemporal approaches to BoP. It highlights the importance of assessing BoP statistics in the context of macroeconomic and financial market developments. The analysis suggests that the large net outflow in the capital and financial account in 2001-02 was in line with economic fundamentals including relatively low economic growth and asset returns in Hong Kong against the rest of the world. The net PI outflow in particular reflected a portfolio re-allocation seeking a higher rate of return, and not a weakening of confidence in the currency and banking system.

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