Managing Capital Flows: The Case of the People’s Republic of China

Yongding Yu

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Yongding Yu is director-general at the Institute of World Economics and Politics, Chinese Academy of Social Sciences, Beijing. This paper was prepared for the ADBI Project on Capital Controls, 12 December 2007. The author is very grateful to Xiaoyang Zha for providing helpful comments and data.

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Asian Development Bank Institute
Kasumigaseki Building 8F
3-2-5 Kasumigaseki, Chiyoda-ku
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500
Fax: +81-3-3593-5571
URL: www.adbi.org
E-mail: info@adbi.org

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Abstract

The relatively successful management of cross-border capital flows has enabled the People's Republic of China (PRC) to achieve an extremely high average growth rate of more than 10 percent while keeping inflation under control. The management of cross-border capital flows is an indispensable element of macroeconomic stability. In order to cool down the overheating economy, the PRC government will continue to implement a tight monetary policy. In the face of possible further cuts in US interest rates, the PRC's monetary tightening is becoming increasingly difficult. Hence, the PRC must maintain capital controls whenever possible, and improve its management of cross-border capital flows, to enable the People's Bank of China (PBOC) to implement an independent monetary policy to sustain the economy's growth into the next decade.

JEL Classification: F31, F32, F37

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INTRODUCTION

Over the past three decades, the economy of the People's Republic of China (PRC) has grown at an average annual rate of 9.7 percent. As a result, The PRC has become the fourth largest economy in the world, just behind the US, Japan and Germany. More surprisingly, the PRC economy has also become one of the most open economies in the world with a very liberal trade regime and a trade/GDP ratio surpassing 70 percent, much higher than either the US or Japan. At the same time, The PRC is the world's third largest recipient of FDI, with inflows of about US$50-60 billion per annum, and the third largest capital exporting country with a current account surplus of about US$200 billion in recent years. In the creation of the PRC's economic miracle, the management of cross-border capitals has played an extremely important role. Without such successful management, it would have been impossible for the PRC to sustain this uninterrupted growth. For example, owing to capital controls during the Asian financial crisis, the currency—the yuan—escaped attacks by international speculators, although the PRC's financial system was as fragile as those of other crisis-affected countries in the region, if not worse. Since 2003, the yuan has been brought under great pressure of appreciation. The relatively successful management of cross-border capital flows has enabled the PRC to achieve a high average growth rate of more than 10 percent while keeping inflation under control for five consecutive years.

However, since 2007 the macroeconomic situation has changed. While the PRC's internal and external imbalances have continued to worsen, inflation has also worsened and asset markets have become increasingly volatile. The management of cross-border capital flows is one of the most controversial issues in the PRC. The author believes that the adequate management of cross-border capital flows is the key for the PRC's success in remaining on a stable growth path. The aim of this paper is to provide a comprehensive account of the evolution of the PRC's management of capital flows and to analyze possible trajectories for the management of capital flows in the future. The main conclusion of the paper is that the management of cross-border capital flows should be treated as part of the PRC's long-term program of economic reform and opening up, and should not be subject to the need for reducing pressure for yuan appreciation. There is still long way to go before achieving the complete convertibility of the yuan. Careful management of capital flows will be not only useful but also essential for the maintenance of macroeconomic stability in the PRC.

The first section of the paper is a review of the changing pattern of cross-border capital flows in the PRC. The second section discusses the evolution of the PRC's capital controls. The third section discusses the PRC's imbalances of international balance of payments and the PRC's exchange rate policy. The section aims to provide a backdrop for the discussion in the following section. The fourth section discusses the interaction between macroeconomic stability and the management of

capital flows under the PRC's current macroeconomic situation. The final section is a short conclusion.

I. CAPITAL FLOWS IN THE PRC

The single most important feature of capital flows in the PRC is the overwhelming domination of FDI. However, since 2003 cross-border capital flows in the PRC have taken a much more complicated shape.

A. The Changing Pattern of Capital Flows

The pattern of capital flows have gone through roughly three stages: the first stage is from 1979 to 1991, the second from 1992 to 2002, and the third from 2003 to the present.

FDI inflows dominated cross-border capital flows from the very beginning of the reform and opening up. Therefore, in the first two stages, the changes in the pattern of capital flows basically involved FDI inflows. In 1979, when the reform and opening up had just been launched, FDI inflows were a negligible US$0.08 million. At the time, the PRC faced two major constraints in its development: a shortage of capital and of foreign exchange reserves. Based on Deng Xiaoping's personal instructions, four Special Economic Zones were established, and were given power to use special policies aimed at attracting FDI. Later, more special regions and cities were opened to foreign investors. As a result, FDI inflows into the PRC began to pick up. From 1984 to 1991, FDI grew at an annual rate of 20 percent.

In 1992, after Deng Xiaoping' s tours of South China, the reform and opening up process intensified, and FDI inflows increased by leaps and bounds. Inflows rose dramatically from US$4.4 billion in 1991 to US$11 billion in 1992, a rise of more than 150 percent. The increase in FDI inflows continued to be rapid and steady until the Asian financial crisis struck in 1997.

Encouraged by the PRC's entry into the WTO, the momentum of FDI inflows into the PRC recovered in 2001, with FDI inflows increasing by 12 percent in 2001 over the previous year. In 2002, with FDI inflows reaching US$52.7 billion, the PRC surpassed the United States to become the largest FDI recipient in the world (Table 1).

Table 1: FDI in the PRC, 1991–2002 (US$ billion)

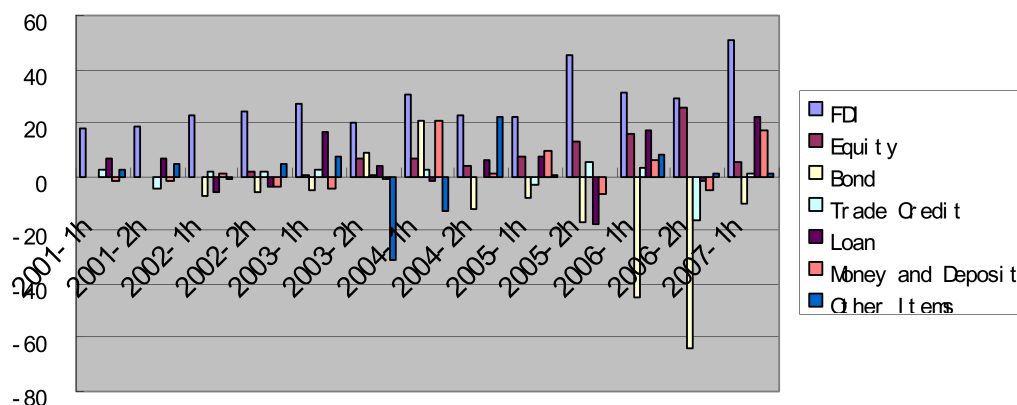
Year	*Utilized FDI*	*Contracted FDI*	*FDI as a percentage of fixed capital formation*
1991	4.366	11.977	4.13
1992	11.008	58.124	7.51
1993	27.515	111.36	12.13
1994	33.767	82.680	17.08
1995	37.521	91.282	15.65
1996	41.726	73.276	15.10
1997	45.257	51.003	14.79
1998	45.462	52.102	13.23
1999	40.318	41.223	11.17
2000	40.715	62.380	10.32
2001	46.878	69.192	10.54
2002	52.700	82.768	15.00

Source: Bureau of Foreign Capital, Ministry of Foreign Trade and Economic Cooperation (the Ministry of Commerce since March of 2003), Beijing.

In 2003, one year after the PRC's entry into the WTO, and seven years after it began to use an expansionary monetary and fiscal policy to fight deflation, the economy finally broke loose from the spell of deflation. At the same time, both the PRC's current account and capital account surpluses rose significantly. Since 2003, the twin surpluses have begun to put strong pressure for appreciation on the yuan, which was placed on a de facto peg to the US dollar following the Asian Financial Crisis. The expectations for the appreciation of the RBM exchange rate in turn exercised strong influence on the pattern of cross-border capital flows in the PRC. Figure 1 shows that there have been several changes in the pattern of cross-border capital flows since then, and variations in capital account as a whole and in some sub-accounts in particular have also increased significantly. The new pattern can be summarized as follows.

First, while FDI still accounts for the bulk of capital inflows, other forms of capital inflows such as debt flows have increased significantly (Figure 1 and Table 2).

Figure 1: Cross-border Capital Flows in the PRC since 2001 (US$ billion)



Source: State Administration of Foreign Exchange Reserves.

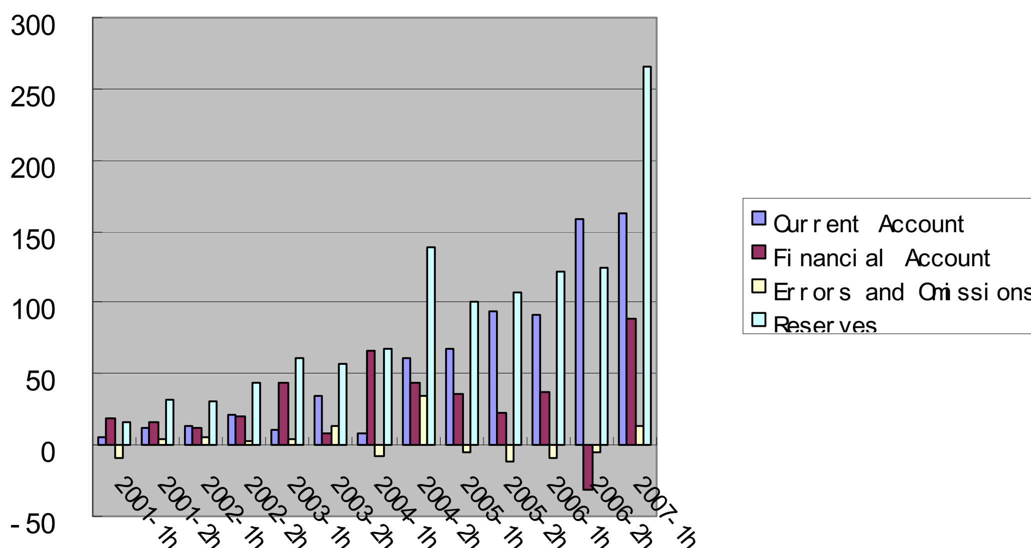
Table 2: The PRC's Debts in Recent Years (US$100 million)

	Gross external debt		Short-term external debt			Trade credits		
	Balance	Growth	Balance	Growth	Share	Balance	Ratio to ST debt	Ratio to gross debt
2001	1848	-*	653	-*	35.3%	363	55.6%	19.6%
2002	1863	0.8%	708	8.4%	38%	413	58.3%	22.2%
2003	2088	12.1%	922	30.2%	44.2%	517	56.1%	24.8%
2004	2475	18.5%	1232	33.7%	49.8%	654	53.1%	26.4%
2005	2811	13.6%	1561	26.7%	55.6%	908	58.2%	32.3%
2006	3230	14.9%	1836	17.6%	56.9 %	1040	56.6%	32.2%
2007Jun	3278	10.0%	1849	11.2%	56.4%	1111	60.1%	33.9%

Source: Zha, SAFE, Oct. 2007.

Second, the account of errors and omissions has turned from negative balances into positive ones. Until the second half of 2001, there had always been concern about capital flight, which was mainly reflected in a negative balance in the errors and omissions account. However, since 2003 capital flight has ceased to be an issue. The errors and omission account deficit has narrowed and turned positive in 2004 and 2007 (Figure 2).

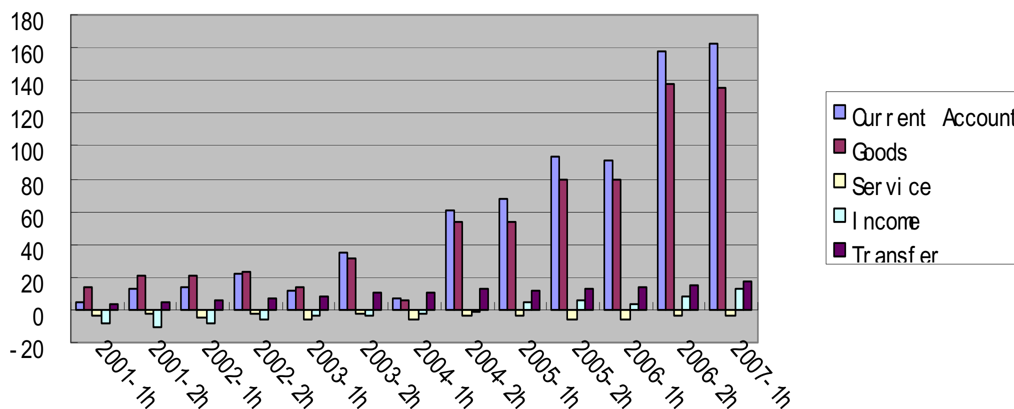
Figure 2: The PRC's Balance of Payments since 2001



Source: State Administration of Foreign Exchange Reserves.

Third, despite the fact that the PRC was a net capital exporter for more than one and a half decades, it consistently ran investment account deficits. However, in 2005, it began to run an investment income account surplus (Figure 3). Similarly, the PRC's transfer account surplus has also increased materially.

Figure 3: PRC's Current Account



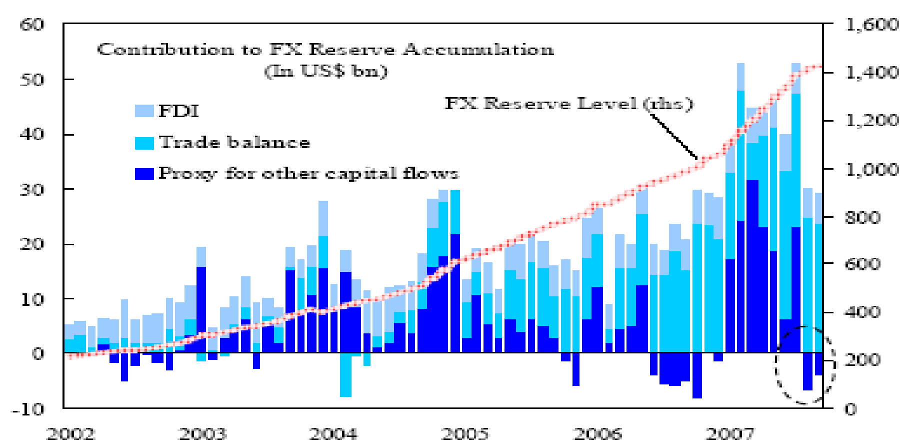
Source: State Administration of Foreign Exchange Reserves.

Fourth, the purchasing of foreign bonds has increased since 2005. The increase in the first half of 2007 was quite dramatic (Figure 1). Commercial banks and non-bank

financial institutions have increased their purchases of foreign bonds to improve the quality of their assets.

In many recent studies, it is pointed out that "unexplained" changes in foreign exchange reserves have increased significantly. In other words, a large proportion of the increase in foreign exchange reserves can no longer be explained by the trade surplus and FDI inflows (Figure 4). In contrast, in the past, the sum of FDI and trade surplus was roughly equal to the increase in foreign exchange reserves, and the residual would fall into the category of errors and omissions. The "unexplained changes" in foreign exchange reserves are not an entry in the balance of payments sheet. The increase in "unexplained changes" in foreign exchange reserves reflects the diversification and complication of cross-border capital flows in the PRC today.

Figure 4: FDI, Trade Balance and Unexplained Capital Flows



Source: Wang Qing, Morgan Stanley, October 2007.

Many in the PRC believe that because of the abundant opportunities for interest rate and exchange rate arbitrage and speculation on capital gains in the PRC's bubbling real estate market and equity market, the large trade surplus was deceiving, and a large proportion of the trade surplus is nothing but hot money in disguise, aimed at evading capital controls. Similarly, a large amount of FDI inflows is believed to not be FDI in its true sense. In other words, these FDI inflows are also arbitrage and speculative capital in disguise. There is some anecdotal evidence to support this conjecture. However, due to the lack of statistical evidence, no firm conclusions on the exact amount of hot money inflows via those channels can be drawn.

B. Factors Contributing to the Changing Pattern of Cross Border Capital Flows in the PRC

The literature categorizes factors contributing to capital flows into developing countries as push (external) factors and pull (internal) factors. Push factors include economic conditions outside the host country, while pull factors include the economic conditions of the host country.[i] It seems fair to say that the large and persistent FDI

inflows are attributable mainly to pull factors inside the PRC. With regard to the pattern of cross-border capital flows, the first question is why FDI has long dominated the PRC's capital inflows. The answer is that this is a policy choice by the PRC government. In the 1980s when the PRC was just started to consider utilizing foreign capital, the Latin American debt crisis occurred. Based on the Latin American experience, the PRC government decided that the utilization of foreign capital should be in the form of FDI and indirect capital inflows were better avoided.

On the other hand, a preferential policy towards FDI was adopted from the very beginning. These policies, roughly in order of implementation, included income tax exemptions and reductions, tariff exemptions and reductions, value-added tax rebates, preferential loans, and so on.

After the PRC's entry into the WTO in 2001, the PRC government began shifting its policy focus from providing preferential treatment to foreign investors to fulfilling its commitments toward liberalization. The liberalization measures included: (1) relaxing local content requirements; (2) relaxing export requirements; (3) liberalizing the current account, which basically was done before the PRC's entry into the WTO; (4) dismantling the requirement for self-balancing of foreign currency; (5) easing restrictions on foreign ownership; and (6) dismantling barriers to highly profitable and sensitive sectors, especially the four most important sectors: telecommunication, banking, insurance, and professional services. The liberalization policy is believed to have been more important than the preferential policy in attracting or facilitating FDI from the United States, Japan, and the European Union.[1]

In addition to policy factors, some inherent factors of the PRC economy have also played important roles in attracting FDI inflows. These factors include low-cost skilled labor, huge domestic market, relative good infrastructures, and politic stability.[2]

As mentioned earlier, the pattern of cross-border capital flows in the PRC has become much more complicated and elusive since 2003. Hence, explanations of the new pattern have also become much more difficult.

First, one possible reason for the surge in foreign borrowing is that, due to expectations for an appreciation of the yuan exchange rate, short-term borrowings are used for the purposes of locking in foreign exchange rate risks as well as arbitraging. The more enterprises use forward markets to hedge, the more foreign borrowing via banks will occur. Another possible reason for the surge is the inflows of hot money aimed at real estate and equity speculation. The increase in short-term borrowing should also have something to do with the carry trade. However, the specific amount of the carry trade is difficult to estimate. A further possible reason is

[1] Yu Yongding. 2004. "The Experience of FDI Recipients: The Case of China," in *Multinationals and Economic Growth in East Asia*.

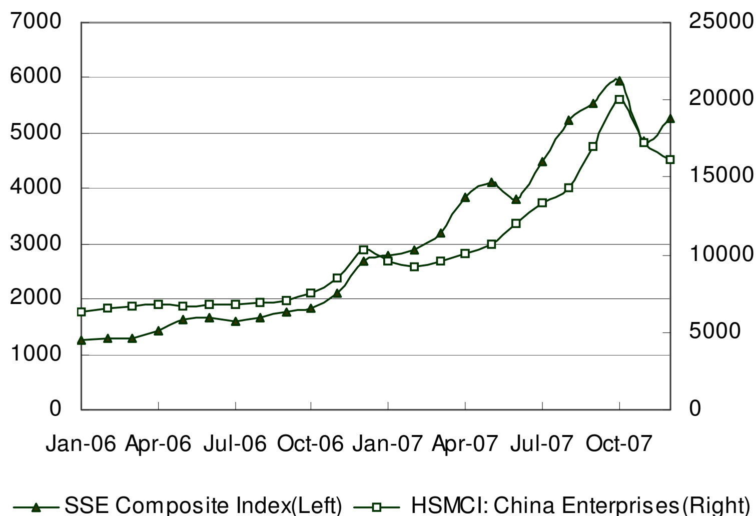
[2] Ibid.

that domestic investors use foreign finance to replace domestic finance as the domestic credit market tightens. For example, real estate developers are using the Hong Kong credit markets to finance their projects in the face of central bank's clampdown on real estate development financing. The PBOC was concerned about the sudden increase in the short-term borrowing, and measures were taken to tighten the control of the foreign borrowing.

Second, a major cause of the surge of equity inflows was IPOs by PRC enterprises in overseas equity markets, especially the Hong Kong stock exchange. For example, in 2005, 24 PRC enterprises raised US$20.6 billion in the Hong Kong stock exchange by issuing H shares (H refers to shares issued in the Hong Kong stock exchange).

Figure 1 also shows that foreign equity investment in the PRC increased significantly in 2006, especially in the second half of the year, which coincided with the revitalization of the PRC's equity market after the successful reform of the equity market, which had been characterized by the separation of shares of the same listed company between floating and non-floating shares. By the end of 2004, 64 percent of shares in the PRC's share markets were non-floating, and state-owned shares accounted for 74 percent of the non-floating shares. As a result of the separation, the rights of owners of the same shares became extremely unequal. The owners of floating shares have no say in the governance of the enterprises. The owners of non-floating shares, as majority share owners, often issue new shares at the expense of the interest of floating share owners. As a result of the reform, non-floating shares are floated, after appropriate compensation is given to existing owners of floating shares. As a result of the change, confidence returned to the equity market, and share prices started to soar. In the early 2006, the equity price index in Shanghai Stock Exchange was just above 1,000 points. In March 2007, it rose to more than 3,000 points (Figure 5).

Figure 5: Rise of the Equity Price Index



Source: CEIC

To take advantage of the bull market, foreign security companies started to buy A shares via formal channels (Qualified Foreign Institutional Investment—QFII) as well as informal channels. This flow subsided in the first quarter of 2007, because, perhaps, most foreign investment had decided that the PRC's equity prices were already too high, and unwinded their long position. At this time, the mood in the PRC's equity markets is changing, and fear of a major crash is taking hold of the market. the PRC's equity markets may have been perceived as too risky by foreign investors. Unless a major crash indeed takes place, and prices come to be seen as really cheap, large scale capital inflows into the PRC's equity markets seem unlikely in the near future.

Third, the fact that the PRC's investment account has changed from negative to positive can be attributed to two reasons (Figure 3). According to SAFE officials, the most important reason for the change is the accumulation of foreign exchange reserves. This is likely the case. The PRC has accumulated US$1.6 trillion in assets vis-à-vis its accumulated FDI stock of about US$700 billion. Despite this, the yields on the PRC's foreign exchange reserves are low compared to the profitability of FDI. With an extremely large claim on foreigners vis-à-vis the relative small obligation toward foreigners, a positive investment income should be most normal. Studies also show that some enterprises are using this channel to bet on an appreciation of the yuan. Similarly, the transfer account surplus has increased. Surveys show that transfer accounts have also been used by overseas Chinese to channel unwanted money cross-border into the PRC to invest in assets.

Fourth, the purchasing of foreign bonds increased in 2006 (Figure 1) even more significantly. This may be the result of the measures taken by the PBOC to liberalize the restrictions on commercial banks' purchases of foreign bonds and other debt

instruments to encourage outflows of funds so as to reduce pressure for yuan appreciation. However, there is still a reason to explain why purchases of foreign bonds increased so dramatically in 2006.

Fifth, the negative sign of “other items” in 2004 may be attributed to PBOC’s capital injection into the commercial banks (Figure 1). After receiving capital injections, commercial banks have maintaining their new capital in the form of foreign assets, and are not allowed to convert these assets into yuan. They have had to keep these foreign exchanges in oversees accounts. Since 2005, commercial banks have sometimes asked for permission to do currency swaps. The increases in the inflows of money and deposits account in 2007 are related to the unwinding of previous positions by commercial banks.

A large proportion of the “unexplained” capital outflows can be explained by unwinding currency swaps, IPO repatriations, options with Central Huijin (a state-owned financial controlling company that nominally owns all three big commercial banks that have received capital injection in 2003), and speculative inflows into the PRC’s foreign exchange reserves. Hence, speculative capital may not have been a major contributor to capital outflows in 2006 (Figure 1). The same was true of the “unexplained capital inflows” in 2007. However, a large portion of the foreign exchange reserve increase still remains unexplained, after the trade surplus, foreign direct investment, interest income, unwinding swap, IPO repatriations, and the exercise of options with Central Hijing are taken into account. Hence, speculative capital inflows betting on the rise in the PRC’s currency, property and equity prices are the likely suspects for the rest of the increase. Although there are no reliable statistics available, my sense is that the main driver of the unexplained increase in foreign exchange reserves in 2007 is the unwinding of previous positions by commercial banks. The role of the carry trade and speculative capital inflows in the increase in foreign exchange reserves need to be further investigated.

II. THE EVOLUTION OF THE PRC’S CAPITAL CONTROLS

Capital controls and capital account liberalization are traditional topics of discussion among PRC economists. Until very recently, the management of cross-border capital flows has been rarely mentioned by PRC economists. In this paper, I discuss two aspects of the management of cross-border capital flows: the long-run aspect and short-run aspect. The long-run aspect is related to capital controls and liberalization. The short-run aspect is related to macroeconomic stability. In this section the first aspect is addressed. The discussion of the second aspect is left for the following sections.

The literature on capital account liberalization is comprised of two main parts: the costs and benefits of capital account liberalization and the sequencing of capital flow liberalization. The two components basically are answers to two questions: why

capital flows should be liberalized (or not liberalized) and how capital flows should be liberalized.

A. Arguments for and against Capital Controls

According to Eichengreen (1998), "Before World War I, controls on international financial transactions were absent and international capital flows reached high levels. The interwar period saw the collapse of this system, the widespread imposition of capital controls, and the decline of international capital movements. The quarter-century following World War II was then marked by the progressive relaxation of controls and the gradual recovery of international financial flows. The latest period, starting with the 1970s, is again one of high capital mobility."[3] The benefits of capital mobility seem unquestionable. In the literature, the main arguments for the free movement of capital include:

- Free flows of capital provide greater international investment opportunities.
- Free flows of capital increase opportunities for portfolio diversification and thereby enable investors to achieve higher risk-adjusted rates of return.
- Capital controls do not work anyway. In modern financial markets, financial instruments are highly fungible and investors can evade capital controls when they have a strong incentive to do so. Capital controls only lead to increases in transaction costs.
- Capital controls give rise to corruption and favoritism.
- Individuals should be allowed to dispose of their own wealth and income as they see fit.

Then why does the PRC government still impose capital controls? First, they are necessary for the maintenance of independence of monetary policy, while the PRC is still not ready to adopt a floating exchange rate regime. According to Eichengreen, capital controls "loosened the link between domestic and foreign economic policies, providing governments room to pursue other objectives like the maintenance of full employment. Governments may no longer have been able to take whatever steps were needed to defend a currency peg, but capital controls limited the extremity the steps that were required. By limiting the resources that the markets could bring to bear against an exchange rate peg, controls limited the steps that governments had to take in its defense."[4] Second, the PRC's financial system is fragile and its economic structure rigid. Therefore, shocks created by sudden changes in the direction of cross-border capital flows can severely destabilize its economy. With a more flexible exchange rate, capital inflows will cause large appreciations. Due to a

[3] Eichengreen, B. 1996. *Globalizing Capital*. Princeton: Princeton University Press.

[4] Ditto, p. 5.

lack of financial instruments for hedging, PRC enterprises cannot protect themselves from the risks created by sudden changes in exchange rates. Also due to the structural rigidity, they cannot make quick adjustment to the changes in exchange rates. Third, the PRC's economic reform has not been completed and property rights still need to be more clearly defined. Under a situation where the issue of who owns what has not been solved, free flows of capital across boarders encourage money laundering and asset stripping, which in turn can lead to social tension. Fourth, by means of capital controls, the government hoped to prevent the introduction of the wrong type of capital. Because the wrong incentive created by the PRC's current fiscal system, local governments would go a long way to use foreign capital inflows of whatever types for the gain of localities regardless the consequences for the long-term interests of the country as a whole. Last but not least, with more than US$1.6 trillion in foreign exchange reserves, the PRC is an attractive target of predatory attacks by international speculators. The under-development of its financial system and the inefficiency of its capital market mean that with an open capital account, it will not be able to withstand a major attack like what was seen during the Asian Financial crisis. A firewall of capital controls is needed to protect the PRC from such an attack.

Some Important Features of the PRC's Capital Controls

The PRC's opening up coincided with the Latin American Debt Crisis. As a later-comer, the PRC was able to learn from other countries' experience and have a better appreciation of the devastating consequences of a premature liberalization of capital controls for a developing country. As a result, while export-promotion and FDI attraction policy was adopted, the PRC decided to maintain very tight controls over cross-border capital flows. The regime of capital controls that was adopted from the PRC's opening up until the middle of the 1990s comprises the following important features.

First, despite the fact that FDI was the favorable form of foreign capital and preferential policy for FDI was provided, still all inward FDI must be approved by and registered with both the planning departments and foreign trade departments of the government. After receiving registration and approval, investors may open special accounts—foreign exchange capital accounts at designated banks. There were no restrictions on the remittance of foreign exchange into the PRC by those approved investors. However, the conversion of foreign exchange into the PRC's currency, the yuan, requires advance approval from the State Administration of Foreign Exchange (SAFE) or its provincial branches. Self-balancing of foreign exchanges was required for virtually all foreign-funded enterprises. As for outward FDI, after having obtained approval, the investors must register their investment with foreign exchange authorities, and can then proceed to remit foreign exchanges to the host country of investment.

Second, foreign investors were in general prohibited from using yuan to invest in the stock exchanges inside the PRC. They were only allowed to use foreign exchange to invest in so-called B shares. Any floatation of B shares of more than US$30 million

must be approved by the China Securities Regulatory Commission of the State Council (CSRC). The total amount of B shares floated each year must fall within the quota set by the government. Only a small number of PRC companies were allowed to list in New York and Hong Kong (The shares they sell are called N shares and H shares, respectively).

Third, the issuers of bonds abroad were limited to 10 authorized window institutions in addition to the Ministry of Finance and the state policy banks. Generally speaking, other borrowers could ask those 10 window institutions to issue bonds on their behalf. With the exception of authorized financial institutions engaged in foreign borrowing and large-size enterprise groups, PRC residents were not allowed to buy foreign securities of any kind.

Fourth, the entities eligible for borrowing from foreign banks and other foreign financial institutions were financial institutions authorized by the State Administration of Foreign Exchange and industrial and commercial enterprises or groups of enterprises approved by the SAFE. PRC residents were not allowed to borrow from foreign banks or other foreign financial institutions without receiving prior approval by the government. The State Development Planning Commission was in charge of compiling annual plans for foreign borrowing. It was authorized to determine the total amount and the allocation of the borrowing after reconciling the borrowing applications from different departments and provincial governments. All borrowing and lending agreements without prior approval from the authorized government organizations were not legally binding. The SAFE would refuse to recognize the agreements and register the loans as foreign debt.

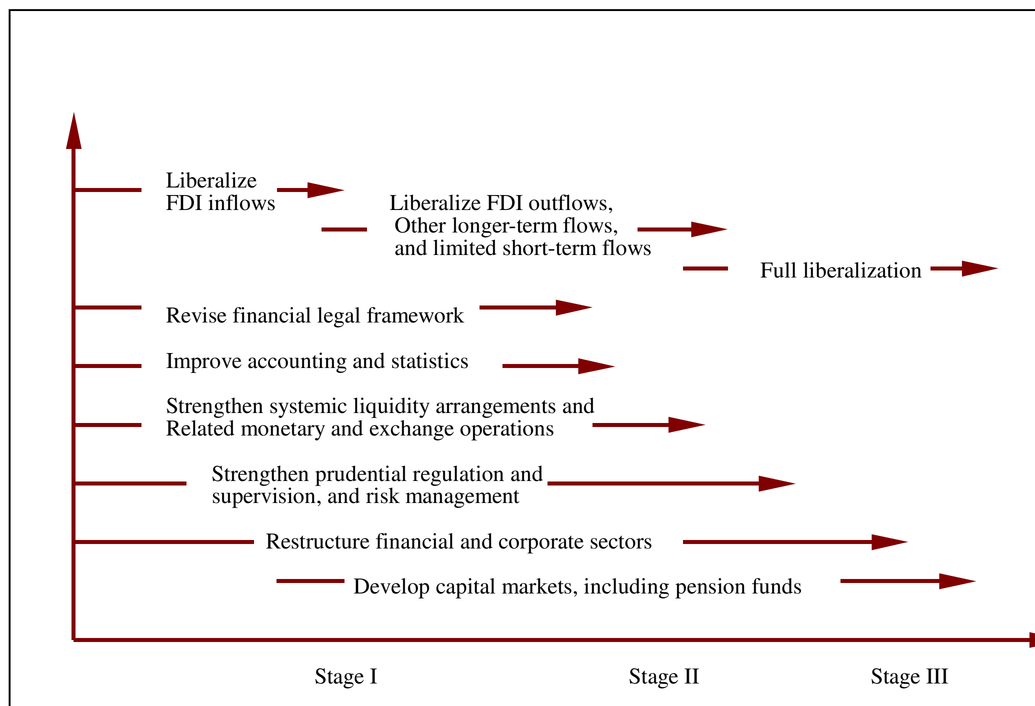
C. The PRC's Capital Account Liberalization

Despite their contributions to the PRC's financial stability, capital controls are very costly and are becoming increasingly difficult to implement due to the PRC's opening of its financial service sector and its extremely liberalized trade regime. Capital controls have placed an unbearable workload on the government, especially on the staff members of the SAEF. They cause great inconvenience to enterprises as well as banks. The smooth flows of capital are hampered. The WTO entry adds a new dimension to the urgency of capital liberalization. On the one hand, it is clear that the PRC needs to liberalize its capital account. On the other hand, a once-for-all liberalization is out of question. Therefore, the question concerns the proper sequencing of the liberalization. The basis problem the sequencing should solve is how to strike a balance between improving resource allocation by capital account liberalization and maintaining financial stability in order to minimize the welfare losses of the country during the transition.[5]

[5] Yu Yongding. 2007. "Global Finance and China".

Since McKinnon, the sequencing of capital liberalization has become a hot topic in capital flow liberalization literature. The following is a stylized representation of sequencing given by IMF (Figure 6):

Figure 6: A Stylized Representation of Sequencing



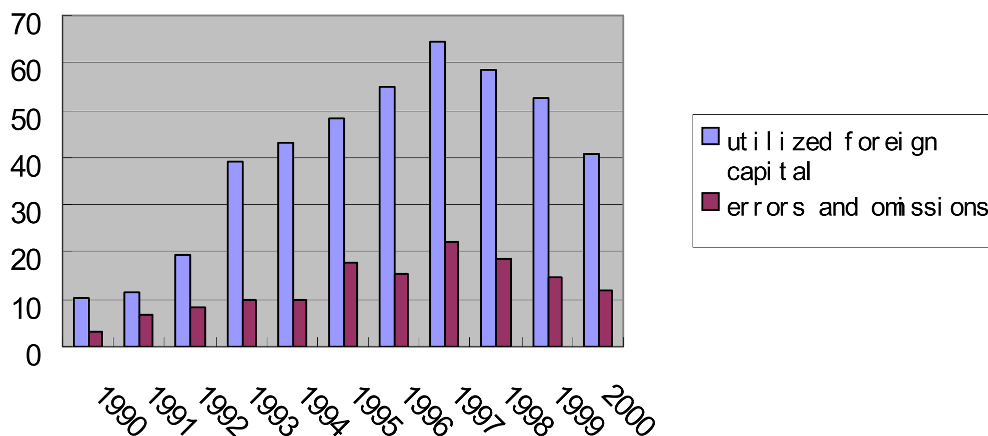
Source: Shogo Ishii and Karl Haberneirer, 2002.

According to McKinnon and others, the capital liberalization should be well sequenced. The commonly accepted "right order" is something like the following: liberalize the current account before liberalizing the capital account, liberalize FDI before liberalizing indirect investment, liberalize long-term capital before liberalizing short-term capital, liberalize portfolios before liberalizing borrowing, liberalize capital inflows before liberalizing capital outflows, and so on. Theoretically speaking, the maximization of a multi-period utility function with exchange rate stability and properly measured benefits of capital mobility as explanatory variables can define a dynamic path for capital flow liberalization. There is a rich country experience in capital account liberalization. However, there is yet no theoretical framework to guide the sequencing of capital account liberalization. Therefore, it is difficult to model the dynamic process of capital liberalization and derive general rules for its sequencing.

The PRC's capital account liberalization has followed roughly the sequence depicted by Figure 3. The first important step in the liberalization took place in 1986, when foreign exchange controls were relaxed for foreign funded enterprises. FDI firms were allowed to use their yuan earnings to finance the local production of exports or to convert the earnings into foreign exchanges in swap markets that were opened in 1985. Foreign swap markets became the main channels for FDI firms to balance their

foreign exchange accounts. The most significant development in the liberalization of capital flows was the realization of currency convertibility for current account transactions in 1996. This significantly increased the PRC's attraction in terms of FDI. After the merger of the PRC's official foreign exchange market, where official foreign exchange rates were quoted, with the swap market, where exchange rates were determined by demand for and supply of foreign exchanges at the end of 1994, a unified but significantly depreciated yuan exchange rate vis-à-vis the US dollar was achieved. After the merger, the PRC proceeded to carry out further liberalization of the capital account. However, the Asian Financial Crisis brought the PRC's liberalization process to an abrupt halt in 1997. The PRC government halted the implementation of the planned capital account liberalization and tightened controls drastically on the current account as well as the capital account to prevent capital flight (Figure 7).

Figure 7: Utilized Foreign Capital and Errors and Omissions (US$ billion)



Source: SAFE.

In October 1998, the PRC's Supreme Court carried out a crackdown on illegal foreign exchange transactions. With the deadline set by the SAFE for offenders to turn themselves in to get lenient treatment, hundreds of cases were brought to the courts, and a large number of defendants who refused to surrender were severely punished according to the law. The government sent tens of thousands of auditors to enterprises and financial institutions to track down and recover illegally transferred money. Consequently, the capital flight was brought under control. The growth of the PRC's official foreign exchange reserves returned to their normal level in the fourth quarter of 1998.

The entry into the WTO marked a new beginning for the PRC's capital account liberalization. According to its commitments, the PRC had to liberalize its financial service sector entirely within five years. Of course, financial service sector liberalization is not equivalent to capital account liberalization, but the two are closely

related. After the PRC's WTO accession, FDI flows were liberalized entirely. Requirements for foreign investors such as self-balancing of foreign exchanges were abolished. Application and approval processes were greatly simplified. Foreign commercial banks and non-financial institutions were allowed to operate with only minimum restrictions. In addition to the liberalization of the financial service sector, the PRC government re-launched the process of capital account liberalization, due to improved internal and external financial conditions. Since 2003 the process of the PRC's capital account liberalization has been significantly accelerated. The impetus behind the speed-up is the desire of the PRC government to reduce pressure for the appreciation of the yuan as well as a continuation of the process of liberalization aimed at the long-term gains arising from the improvement of resource allocation.

The following are the main measures taken by the PRC government since 2003 to pursue capital account liberalization as well as to reduce the appreciation of the yuan.

- Initially, the thresholds for PRC enterprises to open foreign exchange accounts in banks were lowered. PRC enterprises and commercial banks were allowed to keep a high proportion of the foreign exchange originating from current account transactions in their foreign exchange bank accounts. Later on, in fact, enterprises were given permission to hold as much foreign exchanges as they wanted.

- The procedures for verification of eligibility to use trade financing were simplified.

- Residents have been given permission to convert yuan to foreign exchanges up to US$50,000 per annum. The range of students qualified to bring out a large quantity of foreign exchanges to study abroad has been widened.

- Overseas investment by PRC enterprises has become much easier.

- Residents are free to open foreign exchange accounts.

- Residents are allowed to buy foreign equities via the qualified domestic institutional investors (QDII). The QDII scheme, which was introduced in June 2006, allows qualified domestic banks to conduct overseas wealth management for their clients and qualified securities brokers (such as fund management companies and securities companies) to do overseas portfolio investment. By the end of October 2007, a total of US$26.782 billion of funds had been remitted outward under the QDII scheme.

- Non-residents are allowed to open yuan accounts in the PRC.

- Non-residents are allowed to buy A shares via the qualified foreign institutional investors (QFII) scheme. The QFII scheme is a transitional institutional arrangement for the introduction of foreign capital into the PRC's capital markets

while there are controls and the yuan is not convertible. By 30 October 2007, a total of 52 foreign institutions had obtained QFII status from the China Securities Regulatory Commission (CSRC), and among them, 49 had been granted an aggregate investment quota of US$9.995 billion by the SAFE. At this moment, the total quota of OFIIs is US$30 billion.

- Restrictions on domestic institutions' bond issuances abroad have been loosened. By the end of 2006, a total of 27 domestic institutions (including the Ministry of Finance) had been given approval to make 141 bond issues in major capital markets such as Japan, the United States, Europe, Singapore and Hong Kong, China, with US$30.8 billion of funds being raised.

- International development institutions were allowed to issue yuan bonds domestically. On 12 October 2005, the International Finance Corporation (IFC) was approved to issue 1.13 billion yuan of yuan-denominated bonds within the PRC. On 14 October 2005, the Asian Development Bank (ADB) was given permission to issue 1 billion yuan of yuan-denominated bonds domestically.

- By the end of October 2007, the China Development Bank, the Export-Import Bank of China and Bank of China had issued 5 billion yuan, 2 billion yuan and 3 billion yuan of yuan-denominated bonds in Hong Kong, China, respectively.

- Non-residents are allowed to buy houses in the PRC as long as they have stayed in the PRC for work or study for more than one year.

- The "extra-national treatment" given to foreign banks, which allowed them to borrow abroad with fewer restrictions than domestic banks, was eliminated.

- A new foreign exchange settlement system was established. Under this system, capital inflows have been placed under stricter scrutiny. It is assumed that all inflows are based on real transactions. Inflows of foreign exchanges originating from "foreign investment" must be paid to the designated recipients and are not allowed to enter into and stay at the yuan accounts of enterprises to wait for the yuan to revaluate.

After more than two decades of evolution, the main features of the PRC's capital controls can be summarized as follows (Table 3).

Table 3: Summary—The PRC's Current Capital Controls

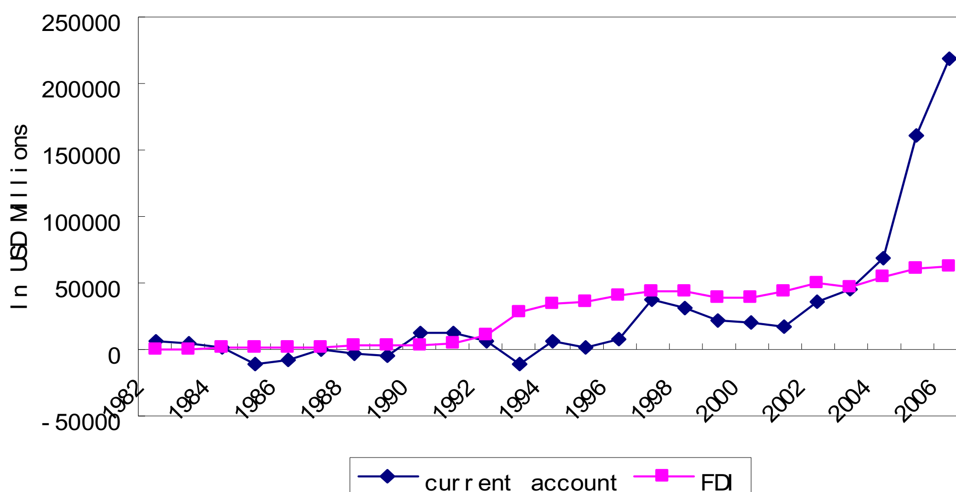
		Inflows	Outflows
Money market	Non-residents	No permission	No permission
	Residents	Prior approval by the PBC and SAFE is required	No permission for residents, except authorized entities
Stock market	Non-residents	B shares and QFII	Sell B shares, repatriate QFII
	Residents	Sell H (or N or S) share abroad, repatriate of QDII	QDII
Bonds and other debts	Non-residents	QFII	No permission, except for some international finance entity, repatriate QFII
	Residents	Prior approval by the PBC and the SAFE is required. Bonds issued abroad must be incorporated into the State external debt plan.	No permission for residents, except authorized entities
Derivatives and other instruments	Non-residents	No permission	No permission
	Residents	Operations in such instruments by financial institutions are subject to prior review of qualifications and to limits on open foreign exchange position.	Operations in such instruments by financial institutions are subject to prior review of qualifications and to limits on open foreign exchange position.

According to the SAFE, among the 43 items of transactions classified under the capital account, eight are completely liberalized; 11 are under loose restriction; 18 are under certain restrictions; convertibility is strictly prohibited only for six. Calculations, based on the IMF formula, show that so far 80% of the PRC's capital account has been liberalized.

III. THE PRC'S INTERNATIONAL BALANCE OF PAYMENT IMBALANCE AND EXCHANGE RATE POLICY

Development economics assumes that developing countries should run current account deficits and capital account surpluses, in order to utilize foreign savings to obtain an investment rate higher than what the domestic saving rate can support. Therefore, a developing country should run trade account and current account deficits, and capital account surpluses. However, the PRC's international balance of payments demonstrates a very different pattern. Although the PRC has been running capital account surpluses almost very year since the early 1980s,[6] it has run a current account surplus consistently since the early 1990s (Figure 8).

Figure 8: The PRC's International Balance of Payments Since the Early 1990s



The persistent "twin surpluses" have resulted in a continuous increase in foreign exchange reserves. By the end of 2007, the PRC's foreign exchange reserves surpassed US$1.6 trillion.

It is worth repeating that in the past, the main contributor to the PRC's accumulation of foreign exchange reserves was the capital account surplus, or more precisely, FDI inflows. However, since 2005, the current account surplus has superseded FDI to become the most important contributor to the increase in foreign exchange reserves (Figure 3).

[6] As an aftermath of the Asian Financial Crisis, the PRC ran a capital account deficit in 1998, due to capital flight.

A. Why Does the PRC, as a Developing Country, Run a Large Current Account Surplus and Why Does It Attract So Much FDI in Spite of Excess Savings?

The most popular explanation for the PRC's current account surplus is the saving-investment gap. In contrast to the US, while the PRC's investment rate is very high, its saving rate is even higher. Especially since the middle of the 1990s, the PRC's saving rate has been consistently higher than its investment rate. It seems that there is a strong correlation or co-movement[7] between the current account surpluses and the saving-investment gap. However, it is still not easy to decide whether the saving-investment gap is the cause or the effect of the current account surplus. In my view, until recently, the most important factor contributing to the PRC's current account surplus was the government's export promotion policy, as discussed in the first section. One of the most important features of the PRC's export promotion policy was the extremely tight capital controls aimed at preventing any possible crisis in the balance of payments. Not only does the government prevent the international balance of payment from falling into deficit, requiring the use of foreign exchange reserves, but also prevents a current account deficit. The government only feels comfortable when both the current account surplus and capital account are in surplus. Therefore, it demands that foreign investors guarantee a self-balancing of foreign exchanges for important foreign investment projects. In other words, FDI must be export-oriented. As a result, while FDI was introduced, the corresponding trade deficits were minimized.[8] The PRC even went as far as to create an economic structure that by definition *has* to run a trade surplus. As a result, processing trade dominates the PRC's trade sector.

The PRC's export promotion policy, based on the aim of achieving a trade surplus, coincided with the formation of international production networks, and its trade pattern was to a large extent shaped by FDI, which flowed in as a vehicle for the formation of international production networks (IPN). The pattern of FDI inflows into the PRC was in turn facilitated by the PRC government's policy in favor of processing trade. The adaptation of the policy was motivated by the government's fear of current account deficits and its desire to take full advantage of its comparative advantage in labor intensive products. Because of the increasingly important role played by multinationals from developed countries and Taiwanese OEM (Original Equipment Manufacturer) firms, the bulk of FDI is channeled into manufacturing sectors such as electronics, automobiles, family appliances, office machines, measuring and checking instruments, telecommunications equipment, pharmaceuticals and chemicals. These products tend to involve international production networks. As a result of changes in the regional and sectoral distribution of FDI, the PRC became increasingly deeply locked into the international production networks and became a processor and assembler in the IPN. While its trade expended at an accelerating

[7] Feldstein, Martin, 1983

[8] This policy was abolished as part of the PRC's commitments for WTO entry in 2001.

pace, it is increasingly being dominated by processing trade. The domination of processing trade in the PRC's trade means that the PRC must run a current account surplus.

According to Corden (2006), "(i)t seems perfectly rational to invest some of the extra savings abroad given the inefficiency so far of the financial system in allocating funds—as reflected in the high volume of non-performing loans held by the banks. The public sector also, has yet to improve the efficiency of public investment. It seems extremely reasonable therefore to 'park' a proportion of funds abroad until efficiency in domestic investment allocation improves." In addition to this "parking theory," another explanation offered by Corden is "the deliberate pursuit of export-led growth."[9] In my view, both explanations are relevant to the PRC's reality and interrelated. In simple terms, "the deliberate pursuit of export-led growth" is the cause of the PRC's current account surplus and the "parking," whether "extremely reasonable" or not, is a reflection of the inefficiency and hence unsustainability of export-led growth. If the PRC runs only a current account surplus, "parking" can be regarded as a second best solution, because the PRC does not have the ability either to translate its current account surplus as capital account deficit or to use the funds for domestic investment. In other words, the PRC has to settle with low-yield but safe treasury bills. However, the PRC's situation is worse than that, because it not only runs a current account surplus but also a capital account surplus.[10]

To run twin surpluses persistently for more than a decade and a half is a reflection of a gross misallocation of resources. First, as the100th poorest country in per capita terms, the PRC should not be the third largest capital exporting country in the world. Second, as the third largest FDI hosting country, it should translate capital inflows into trade deficits. Otherwise, how can the PRC truly utilize the foreign capital it has attracted? Being a current account surplus country means that the PRC has not only failed to utilize its foreign resources but has also failed to utilize part of its domestic savings for domestic investment. Third, as a net creditor for more than a decade and a half, the PRC has been running negative investment incomes for most years until 2005 when its foreign exchange reserves came to surpass US$800 billion. Fourth, considering the continued devaluation and defaults on US securities, US assets are no longer a good place for the PRC to park its savings. The hard-earned foreign exchange reserves are quickly losing value. All in all, the irrational structure of the international balance of payments should be corrected as soon as possible.

[9] Corden, W. Max. (2006) Those Current Account Imbalances: A Skeptical View. Working Paper No.13/06, Melbourne Institute Working Paper Series, Melbourne University, August, 2006, pp.6-7.

[10] Yu, Yongding. (2006) Global Imbalances and China, *The Australian Economic Review*, vol. 40. no. 1, pp. 1-21.

B. The Adjustment of the Growth Strategy and Exchange Rate Policy

The irrationality of the PRC's structure of international balance of payments is widely recognized in the PRC. In its 11th five year program formulated in 2005, the PRC government called for the achievement of a basically balanced trade account by the end of 2010. To achieve this objective, the government decided to scrap the favorable treatments given to export industries. One of the most important policy measures is a reduction in the tax rebate for most export product categories. At the same time the government decided to eliminate the preferential policy for foreign funded enterprises in terms of taxes, access to bank loans, and use of land. However, due to the fear of the negative impact on employment in exporting industries, the government has been very reluctant to allow the yuan exchange rate to appreciate. Since the de-peg in July 2005, though so far yuan has appreciated by some 10% against the US dollar, its nominal effective exchange rate has barely moved because of the huge appreciation of the euro against the US dollar. At the same time, the PRC has gone a long way toward participation in international production networks and in the establishment of an economy with a trade/GDP ratio surpassing 75% and processing trade accounting for more than 60% of total trade. As a result, after the de-pegging in July 2005, rather than having slowed down as feared by the government, the PRC's trade surplus has surged. At the same time, FDI inflows have continued unabated. The rapid increase in the twin surpluses has resulted in a further ballooning of foreign exchange reserves.

In the face of the ever-increasing twin surpluses and appreciation pressure, reducing the pressure has become the single most important guiding principle for the management of capital flows. The twin surpluses and the slow pace of appreciation greatly complicated the PRC's macroeconomic management and the management of cross-border capital flows.

IV. MACROECONOMIC STABILITY AND MANAGEMENT OF CROSS-BORDER CAPITAL FLOWS

In 2003, when the debate on the need for yuan appreciation had just begun, the most important argument against appreciation was the possible deflationary effect on the economy, which had just bottomed out from a long-drawn deflation lasting six years. However, as early as in 2004, signs of overheating began to surface, and in 2007, it became very clear that the PRC economy was entering a delicate stage of overheating. What is the role of the management of cross-border capital flows under the current macroeconomic situation in the PRC?

A. Capital Flows and Overheating

The current overheating is reflected in the following important indicators:

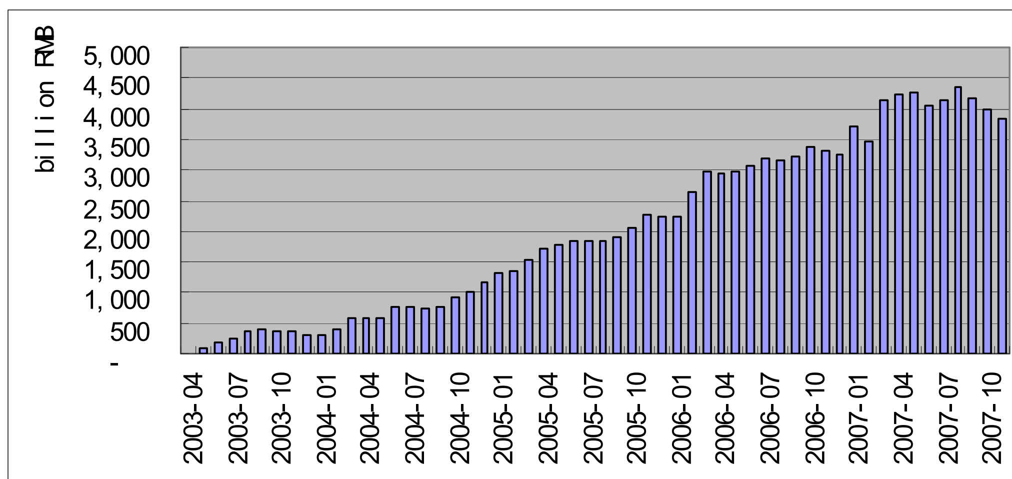
- A high annual growth rate of 11.5% vis-à-vis the commonly accepted potential growth rate of 9%

- An annualized inflation of 6.7% in November
- Soaring prices on the equity index
- Persistent high growth rate of housing prices
- Annual growth rate of investments of more than 20% in nominal terms and a high investment rate of more than 45% of GDP

The question here is to what extent cross-border capital flows have contributed to the overheating in general and asset bubbles and inflation in particular. The direct impacts of capital inflows on the real estate bubble were obvious in 2003 and 2004. In this period, attracted by relatively low housing prices and the great potential for rising prices, large amounts of unspecified foreign capital flowed into the PRC's real estate market via different channels in the international balance of payments. Anecdotal evidence implies that in municipal cities, especially Shanghai, cross-border capital inflows have played a very important role in pushing up the housing prices. As mentioned in the second section, capital inflows in 2006 and early 2007 also made an important contribution to the forming and development of the equity bubble. However, it seems that on the whole, asset bubbles and inflation cannot be directly attributed to cross-border capital flows. The impact of the inflows on inflation and soaring asset prices is mainly through its impact on "excess liquidity". The excess liquidity in turn leads to asset bubbles and inflation.

To maintain price stability and contain asset bubbles, the PBOC has carried out large-scale sterilization operation to mop up the excessive liquidity The first and foremost instrument for the sterilization is the issuance of central bank bills (CBB) (Figure 9). No net issuance figures are available. Our calculation shows that the balance of the CBBs has been steadily increasing, but in the third quarter of 2007, it decreased. At this moment we still do not know why this happened. Taking into consideration commercial banks' total assets of 50.6 trillion yuan, the share of low yield CBBs in the total bank assets is just below 10%.

Figure 9: Central Bank Bills Balance in the PRC



Notes: Our assumption is that the balance of central bank notes is zero at the end of 2002. The highest balance till now was 4.3 trillion yuan in August 2007.

Sources: www.chinabond.com.cn.

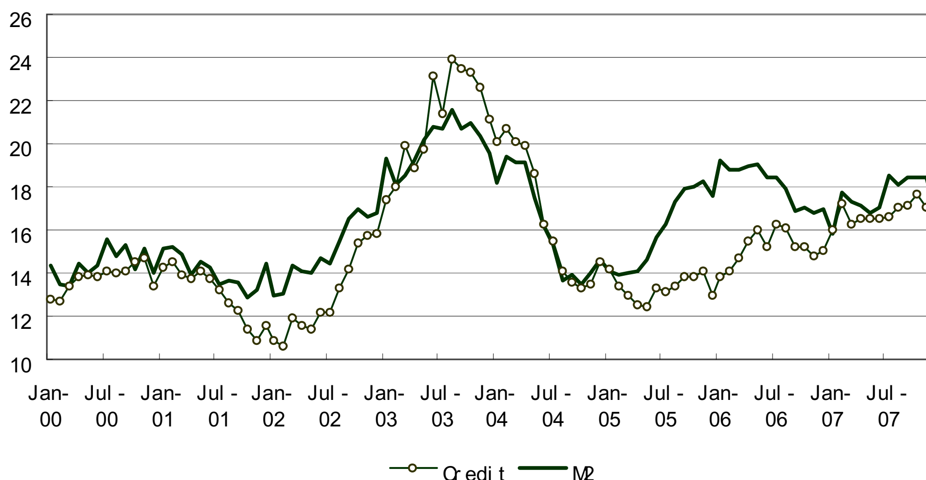
Another important sterilization policy is reserve requirements. Since September 2003, the PBOC has increased the reserve requirements 15 times. The requirements increased from 7% in 2003 to 14.5% at the end of 2007 (Table 4).

Table 4: Reserve Requirements

Time	Adjustment
2003(09/21)	7%
2004 (04/21)	7.5%
2006 (07/05)	8%
2006 (08/15)	8.5%
2006 (11/15)	9%
2007 (01/15)	9.5%
2007 (02/25)	10%
2007 (04/16)	10.5%
2007 (05/15)	11%
2007 (06/05)	11.5%
2007 (08/15)	12%
2007 (09/25)	12.5%
2007 (10/15)	13%
2007 (11/26)	13.5%
2007 (12/25)	14.5%

As a result of the sales of CBBs and raising of the reserve requirements, the share of low yield assets already accounts for more than 20% of banks' total assets. Although the sterilization policy has created serious problems for commercial banks, which have had to buy an ever larger amount of low yield central bank bills and deposit an increasing proportion of their cash with the central bank, it has been largely successful in mopping-up excessive liquidity. According to PBOC documents, as of October 2007, high-powered money created by PBOC intervention is 11 trillion yuan. Through sales of central bank bills (CBBs) of 5 trillion yuan and the raising of reserve requirements by 3 trillion yuan, a total amount of 8 trillion was sterilized. The remaining 3 trillion spread over five years was just enough to respond to the need to support the growth of broad money. In other words, the growth of the monetary base has been more or less in line with the historical experience. Because the PRC's nominal economic growth rate was more than 16-17%, and the growth rate of M2 was 17-18%, the growth rate of broad money M2 (Figure 10) was not widely off the mark, although with the benefit of hindsight it should have been lower, and so was the growth rate of the credit.

Figure 10: Growth Rates of M2 and Credit



Source: CEIC

Despite the relative success of sterilization, the PRC's financial system is still flooded with excess liquidity. Otherwise, asset prices would not be soaring and inflation would be tamed. Where, then, does the excess liquidity come from? The answer lies in the fact that excess liquidity is not only a money supply issue, but also one that involves money demand. Under special circumstances, the demand for money can be the driving force behind excess liquidity. Financial innovation can also lead to the introduction of new liquidity into the banking system by influencing the demand for

money. New products can provide investors with higher returns at low risk. Potential investors in such instruments will change their demand for money, and be more willing to convert cash into assets such as mortgage-backed securities. Greed, ignorance and "irrational exuberance" can also create excess liquidity by enticing the public to exchange their money for risky financial assets. Hence, if the money supply remains constant, excess liquidity comes in the form of lower demand for money. Since the fourth quarter of 2006, market exuberance has encouraged a fall in money demand and a flight of bank deposits into stock exchanges. The PRC's M2 to GDP ratio stands at 160%, the highest in the world. According to monetary theory, if M2 growth is consistently greater than GDP, inflation should rise sharply. In the past this has not materialized because of the PRC's savings rate, but saving deposits are like a caged tiger in periods when the public has no choice by to park money as saving deposits with banks.

Now, the past excess money supply has come back to haunt the economy and the tiger is out roaring. The lack of demand for money is the key challenge for policymakers. There are two fundamental reasons behind the drastic decline in the demand for money. First, the predilection to hold household savings deposits has been weakening. Developments in capital markets have given normal savers the opportunity to diversify their assets. Stocks, bonds and fixed assets are now within the reach of many. Reforms in the stock market in the 2004-2006 period, along with foreign inflows, played an important role in igniting the rise of stock prices. Regardless of its provenance, the realization that higher returns can be obtained through the stock market encourages households to shift their deposit away from banks into stocks. The increase in share prices in turn encourages further flight and asset price inflation, ultimately creating a vicious cycle. Second, even if the preference of citizens for savings deposits has not changed, interest rate gains are being outpaced by price increases, making it difficult to save in the form of savings deposits.

B. The Role of Management of Cross-border Capital Inflows in the Maintenance of Macroeconomic Stability

Three factors are linked to the creation of excess liquidity: the twin surpluses, intervention in the foreign exchange markets aimed at preventing the yuan from appreciating, and the inability of the PBOC to fully sterilize the increase in the monetary base resulting from the intervention in the foreign exchange market.

The management of cross-border capital flows can play important roles in the maintenance of macroeconomic stability. First, it can reduce the need for intervention in the foreign exchange market by the PBOC by discouraging unwanted capital inflows. The preferential policy aimed at attracting FDI should be scraped as soon as possible. Of course, at the same time trade promotion policy should also be eliminated. The aim of the policy adjustment is to reduce the twin surpluses. In fact, over the past several years, preferential policies have been abolished gradually. For

example, income taxes on domestic and foreign enterprises have been unified at a single rate. Tax rebates on exports have also been reduced or scrapped. Without these policies, the PRC's twin surpluses might have been much larger.

Of course, during this adjustment, the yuan should be allowed to appreciate more vigorously. Given the exchange rate policy, on top of the policy adjustment, which is beyond day to day macroeconomic management, the management of cross-border capital flows has played the role of stopping arbitrage and speculative capital inflows, which are slipping into the PRC via different legitimate channels such as the trade account, FDI, and investment account, as well as through illegitimate channels such as money transfers via underground financial institutions and smuggling. The recent crackdown on short- term borrowing by real estate developers in Hong Kong is a case in point. To prevent the real estate bubble from ballooning further, the PBOC has succeeded in blocking capital inflows destined to the PRC's real estate market.

The most important challenge for the PBOC is how to stop flows of hot money disguised as trade surplus and FDI. Technically speaking, it is very difficult to distinguish between legitimate money flows and hot money. There are two ways to face this difficulty: liberalization of capital accounts and improvement of the management of cross-border capital flows. In the eyes of many PRC economists, capital controls do not work in today's environment. Liberalization at least can make capital flows more transparent and reduce the incentive for arbitrage and rent-seeking, which in turn can improve the PRC's macroeconomic management and resource allocation. However, this option appears too risky. Despite the serious technical difficulties involved in the micro-management of capital flows, the development of IT technology should be able to help the government to obtain timely information on capital flows and take prompt actions to deal with hot money. Even if the cost may be high, it is worthwhile trying.

The PRC's management of cross-border capital flows has always been asymmetrical. In the past, the practice was "easy in, difficult out." Now the situation has been reversed, because of the abundant foreign exchange reserves and excess liquidity. Since 2003, the practice has become "easy out, difficult in." The problem with the approach is that, under expectations of a yuan appreciation, such policies are ineffective. The unattractiveness of investment via so-called qualified domestic institutional investors (QDII) is a clear evidence of a lack of demand for outflows. Furthermore, the "easy out" policy actually not only cannot reduce capital inflows but attracts more capital inflows. If it is easy to run away, meaning that the risk premium is low, why not come and have a try?

Under the current circumstances, it is likely that two kinds of capital will be eager to utilize the opportunities provided by the "loosening control over capital outflows" to flow out of the PRC. The first kind is the unwinding speculative capital. The second is capital related to "assets stripping." The first type of capital outflows is common to all counties. However, the second type requires elaboration. On top of the usual

problems with the capital outflows of developing countries, the PRC is a country without clearly defined property rights. A great portion of public assets has been quietly stolen by so-called stealth privatization. To channel the stolen money to the Virgin Islands and/or Cayman Island is the best ending for the thievery. For enterprises which are owned by the state both in name and in fact, the lack of appropriate incentive mechanisms and low morality allows managers to be very careless about whether other people's money will be flushed down the drain. In short, before further institutional reform is accomplished, and correct corporate governance is put in place, encouraging capital outflows for the purpose of relieving the pressure on yuan appreciation is indeed "putting the cart before the horse." Legitimate outbound investment and remittances of investment incomes have already found channels to move over borders without undue difficulties. However, even this legitimate outbound investment needs to be carefully monitored and supervised. the PRC should not repeat Japan's painful experience since the Plaza Accord. Without careful monitoring and supervising, the results of the disorder outflows of PRC capital will fare much worse than the Japanese who went on a buying spree two decades ago. Last but not least, capital controls are the PRC's last defense and cannot be eased until financial reforms are complete. Growth is cyclical, and sudden changes in the economic situation can prompt massive capital flight. If there are no restrictions to buffer the blow, the effects on the PRC's economy may be disastrous. As pointed out by Goldstein (2004), for a number of reasons, PRC households may decide to diversify a proportion of their savings, say a 5 percent, into foreign assets abroad. If the PRC liberalizes its restrictions on capital outflows to permit that diversification to take place before its financial house is put in order, the 5 percent swing of household saving deposits may be sufficient to trigger a currency crisis.

The following is an extreme example. The PRC's household saving deposits amount to 17 trillion yuan ($2.3 trillion), accounting for 85 percent of GDP in 2006. Even with its huge foreign exchange reserves, the PRC may not be able to cope with the massive capital flight in the form of a disorderly diversification of household portfolios away from household deposits with domestic commercial banks into foreign assets, triggered by international speculative attack or some major internal or external shock. For example, if households suddenly decided that they should hold 20 percent of their savings in the foreign assets, the total amount capital outflows would amount to US$400 billion. At present, the PRC's FDI stock should be more than US$500 billion[11]and the corresponding investment income outflows may be as high as US$50 billion. Finally, the PRC's balance of foreign borrowing is US$305 billion, among which the short-term borrowing is US$169 billion. Faced with a fragile banking system and a huge accumulation of foreign exchange reserves, the temptation for hedge funds and private equity funds to speculate may become too great to resist. International speculators can attack at any time at any place. If the PRC does not have a well thought out plan to deal with a sudden reversal of capital flows, its economy may find itself in big trouble.

[11] No reliable official figures on the PRC's FDI stock are available.

Some economists in the PRC argue that capital controls are ineffective anyway and hence why bother? The PRC's capital controls are extremely leaky. However, one should not underestimate the effectiveness of capital control altogether, when the authorities are determined to make it effective. At the very least, the government can do something to increase the transaction cost for illegitimate cross-border capital flows. The evaluation of the effectiveness of the PRC's management of cross-border capital flows has an important bearing on the PRC's macroeconomic policy.

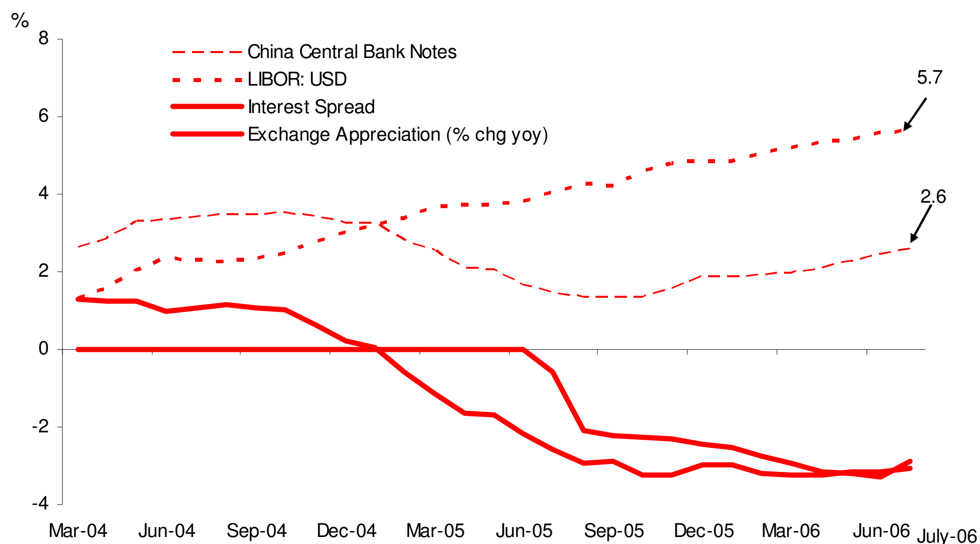
To mop up excess liquidity, the PBOC needs to encourage households to hold onto their money stocks as well as to slow the growth rate of money supply. There are only two feasible methods for doing this: hiking interest rates or lowering inflation. Naturally, hiking rates is another way to control inflation so it will likely be the key policy instrument in the near future. Balancing returns in different asset classes is the only way to strengthen demand for money, easing the effects of disintermediation. However, the PBOC is inhibited by its lack of freedom in setting rates. There is concern that higher rates will increase the chances of greater capital inflows and bring in new liquidity from the supply side. As such, the central bank will be forced to abandon sterilization. This is a classic "Mundell Impossible Trinity" problem. The PBOC has been fighting on two fronts: hiking interest rates to stabilize the demand for money (to slow the velocity of monetary circulation) and using open market operations and raising the required reserve ratio to mop up excess liquidity created by the "impossible trinity." However, fundamentally, if cross-border capital flows are not manageable, this policy will be ineffective because tightening monetary policy implies higher interest rates, which in turn will attract more inflows to neutralize the effect of the monetary tightening.

Over the past several years, based on the exchange rate policy decided by the State Council, the PBOC has been very cautious about tightening monetary policy, especially its interest policy. The main concern of the PBOC has been the carry trade. Interest rate policy since 2005 has been carried out under the shadow of the carry trade. The PRC government's intention was to allow the yuan to appreciate at an annual rate of 3%, so that enterprises could have sufficient time to make adjustments. To realize this goal, the government encouraged the formation of appreciation expectations of 3% in the markets by repeatedly rejecting any suggestion of faster appreciation. Given the US interest rate, the PBOC tried hard to adjust the PRC interest rate to maintain a 3% spread vis-à-vis the London Inter-Bank Offered Rates for the US dollar (LIBOR USD) (Figure 11). As noted by McKinnon, "Investors in renminbi assets were willing to accept a lower return because they expected the renminbi to appreciate a little over 3%. This interest differential of 3% or so will continue as long as investors project that the renminbi will continue to appreciate by that amount"[12] The PBOC's cautious approach towards monetary

[12] Ronald McKinnon: Why China Should Keep its Exchange Rate Pegged to the Dollar: A Historical Perspective from Japan, October 2006, p. 9.

tightening was based on the assumption that capital controls were ineffective, and the management of cross-border capital flows cannot prevent the carry trade and other unwanted forms of capital inflows.

Figure 11: Interest Rate Spread and Appreciation Expectations



Source: McKinnon, October 2006.

However, experience during the past several years seems to show that the significance of the interest rate differential for capital inflows into the PRC has been exaggerated. There are ample reasons to believe that those bringing in funds are looking for more than a 1.5-2.5% expected appreciation minus interest spread. One would most likely be interested in getting hold of an asset which added another 10-20% a year to one's return. In other words, Uncovered Interest Parity (UIP) does not necessary apply in the PRC. This is attributable to the facts that capitals flows cannot move freely across borders, capital markets are not efficient in the PRC, and there is a home bias for foreign investors. In other words, capital controls in the PRC are still working and the management of cross-border capital flows can serve to maintain macroeconomic stability. Hence the PRC may not need to worry too much about hot money in general and the carry trade in particular, as long as it refuses to give up capital controls and manage cross-border capital flows carefully, when it is tightening monetary policy and raising interest rates. In fact, currently, the PBOC is raising the reference interest rates [13] on commercial bank loans and household savings deposits, despite the fact that the interest rate spread between the PRC and the US has been narrowing in recent months. Of course, if the interest rate spread between

[13] Commercial banks are allowed to have certain leeway in deciding the rates around the reference rates.

PRC and American assets narrows further and moves in favor of the US (as has happened recently), the carry trade is likely to become more active, along with other forms of capital inflows as well. Then the PBOC will have to decide whether hot money can be prevented from inundating the economy by improving the management of capital flows. It is reasonable to assume that the improvement will give the PBOC more freedom to use monetary policy to stabilize the economy. Otherwise, there will be no alternative but to allow the yuan to appreciate with a large margin.

V. CONCLUDING REMARKS

The People's Republic of China (PRC) faces three colossal tasks in the area of open macroeconomic reform: reform of the exchange rate regime, capital movement liberalization and financial system reform. The PRC is making preparations for a transfer from a de facto exchange rate regime to the managed floating in a true sense. It has gone a long way in capital account liberalization and financial system reform. it needs to speed up the process of financial reform. However, this will be a long-term process and the completion of reform cannot be expected for many years to come. A complete liberalization of the capital account will be dangerous, if the fragility of the financial system has not been removed. The PRC needs to adjust its strategy to make its growth more efficient and sustainable. To achieve this objective, a well-functioned foreign exchange market should be established so that exchange rates can be determined on the basis of the fundamental internal and external equilibrium. To facilitate the regime change, partial capital account liberalization, namely, the liberalization of some more items of the capital account, is necessary. In short, the liberalization of the capital account and changes in the exchange rate regime should go in tandem.

The management of cross-border capital flows is an indispensable element of macroeconomic stability. In order to cool the overheating economy, the PRC government will continue to implement a tight monetary policy. Faced with possible cuts in the US interest rate, the PRC's monetary tightening will become increasingly difficult. Hence, the PRC must maintain capital controls whenever possible and improve its management of cross-border capital flows, to enable the PBOC to implement an independent monetary policy.

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