ADB Institute
Research Paper Series
No. 58

July 2004

Round-Tripping Foreign Direct Investment and the People's Republic of China

Xiao Geng

ABOUT THE AUTHOR

Xiao Geng *is an Associate Professor at the University of Hong Kong, School of Economics and Finance and the Deputy Director of the Institute for China and Global Development. He has masters and doctorate degrees from the University of California at Los Angeles and has written extensively on different aspects of the Chinese economy. Since September 2003, Dr. Xiao has also been a Visiting Fellow at the ADB Institute, Tokyo.*

Additional copies of the paper are available free from the Asian Development Bank Institute, 8th Floor, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo 100-6008, Japan. Attention: Publications. Also online at **www.adbi.org**

ABSTRACT

It is well known that much of the recorded foreign direct investment (FDI) to the People's Republic of China is financed by domestically generated funds that leave the country to return as 'round-tripping' FDI. This paper provides one of the very few estimates of the magnitude of this form of FDI and suggests it is most likely around 40% of recorded flows. The author argues that conceptually FDI to an economy is linked with its capacity to generate new capital, so that FDI to the East Asian region cannot be seen as a zero-sum game, where the gain of one country is at the expense of another.

Motives for round-tripping in the case of PRC are explored and it is suggested that these extend beyond the receipt of tax breaks and also encompass efficiency concerns. To estimate the scale of round-tripping the paper compares FDI statistics from the country of export with official PRC data for FDI from the exporting country. The discrepancy will be due in part to a normal statistical reporting error and in part to round-tripping. Systematic adjustments are made to separate the two components. The resulting estimates cannot be precise and are given as a range, but they indicate the very large scale of round-tripping FDI.

TABLE OF CONTENTS

Tables (in body of text)

Round-Tripping Foreign Direct Investment and the People's Republic of China

Xiao Geng

1. Introduction

There is no doubt that part of People's Republic of China (PRC)'s FDI inflows belongs to the return of Chinese capital that has gone abroad to escape foreign exchange controls. The World Bank and other agencies and experts have estimated that the scale of this round tripping could be as high as a quarter of the total FDI inflows into the PRC (see World Bank 2002). But the World Bank did not provide a clear definition of round tripping FDI and did not explain its estimation method. This paper attempts to fill this gap in the literature by providing an estimation of the overall scale of PRC's round-tripping FDI with detailed descriptions of the methods and assumptions. The paper also clarifies a few conceptual issues related to the different types of round-tripping FDI and their measurement problems.

A useful study of PRC's round-tripping FDI needs to have both the breath and depth to capture and piece together the underlying real picture of the unique pattern of capital flows from the incomplete and imperfect statistics and existing theories. Because of the inconsistence and fragmentation of FDI statistics across different sources (for example, the PRC, Hong Kong, China SAR, and OECD countries) and the intrinsically secret nature of the round-tripping capital, it is almost impossible to obtain a direct and accurate measure of the scale of the round-tripping FDI. Hence, the results here should be viewed very much as a sketch of a suspect put forward by a detective who has attempted to piece together the available information about the suspect into a recognizable sketch. This rough sketch however could provide a very useful framework for more informed debates and research about many related policy issues.

The issue of the PRC's round-tripping FDI is important for policy makers in the PRC, other countries as well as various international organizations. The prevailing view on the PRC's FDI is that the PRC attracted too much of the global FDI flows at the costs of other developing economies. Hence, the PRC's currency should be revalued to restore international balance in capital flows and competitiveness. The findings of this study, however, do not seem to support this prevailing view. The estimations here indicate that the round-tripping FDI in the PRC is likely in the range of 30% to 50%, much higher than the previous estimation of about a quarter by the World Bank.

The evidence suggests that a large part of the capital originally created in PRC has managed to go abroad and has stayed abroad waiting for opportunities to return back to the PRC. On average the round-tripping FDI, e.g. the returning Chinese capital, is about 20% to 30% of the capital flight according to various estimations. The pattern of capital creation and movement uncovered here suggests that competition for FDI flows is not a zero-sum game. The FDI inflows are not simply a fixed sum to be competed away among different countries. Instead, the PRC's experience shows that FDI inflows are probably endogenously determined by the capacity of the hosting

countries to create new capital. When a developing economy like the PRC is creating new capital, a significant part of the new capital is likely to find its way abroad through mis-invoicing in international trade, smuggling, and other channels of capital flight since the people who are creating the new capital have strong incentives to diversify domestic risks and to seek better protection of property rights. The accumulated capital flight then forms the base for sustained round-tripping FDI back home when the opportunities to make profits and create new capital at home continue to exist.

In the case of the PRC, Hong Kong, China SAR plays an important role in each of the three stages of capital's journey: (1) the original creation of new capital in the PRC, (2) the capital flight out of the PRC and (3) the round tripping of FDI back to the PRC. In the past two decades, about 40% to 60% of the PRC's FDI inflows were from Hong Kong, China according to an official report. However about half of Hong Kong, China's FDI to the PRC as reported by the PRC cannot be verified or confirmed from the related statistics collected in Hong Kong, China. Clearly Hong Kong, China is crucial in understanding the PRC's round-tripping capital flows.

Hong Kong, China is not alone in facilitating capital creation, capital flight, and the return of flight capital through round-tripping FDI. The offshore financial centres, such as the British Virgin Islands, Bermuda, and Cayman Islands, have been playing a more and more important role, particularly in facilitating legitimate round-tripping capital flows for the purpose of listing the PRC companies in Hong Kong, China and overseas stock markets. The U.S., EU and other Asian economies are also important in facilitating capital flows across the Chinese borders through their close trade and investment relations with the PRC.

The high level of round-tripping FDI in the PRC as shown in this study should not be interpreted as a problem of ineffective regulation in the PRC since a large part of the round-tripping capital is actually creating new value for capital as it moves across borders to get better financial services in Hong Kong, China or other overseas financial centres. This is very similar to the substance of global FDI activities, including cross-border mergers and acquisitions and cross-border debt financing. The PRC's weak domestic financial system means that the FDI has effectively become an important channel of project financing which is separated from the domestic financial system but is closely related to the external financial systems in Hong Kong, China and other developed economies. As the PRC relaxes its capital controls in the future, it is expected that the part of round tripping with the purpose of getting around the government regulation so as to enjoy preferential tax policy or better protection of property rights would decline while the part of round tripping with the purpose of getting better financial services such as listing in Hong Kong, China's stock markets will rise. On the whole, the PRC's round-tripping FDI is more of a statistics interpretation problem than a substantive constraint or drawback for the PRC and the global economy.

Section 2 of this paper will review briefly the existing literature and data sources related to round-tripping FDI in the PRC. Section 3 will provide some background information on recent developments in the PRC and global FDI flows. This section is useful in putting the PRC's FDI into a proper international and comparative perspective and is highly relevant for the later discussion on the causes, determinants and implications of the PRC's round-tripping FDI. Section 4 examines the patterns of FDI flows in the PRC, focusing particularly on those issues related to identifying the

nature and scale of round-tripping FDI in the PRC. Section 5 discusses briefly the incentives, causes, and determinants of the round-tripping FDI. Based on the discussions in the previous sections, Section 6 provides a method of estimating the scale of the PRC's round-tripping FDI based on the gaps in reported FDI statistics by the PRC and the source region. Section 7 concludes the paper by discussing the policy implications.

2. The Existing Literature and Statistics

The most recent and high profile study on round tripping is by the World Bank (2002). In its *Global Development Finance 2002*, there is a separate box with the title "Round-tripping of capital flows between PRC and Hong Kong, China" to highlight the importance of the round tripping FDI in the PRC (see Box 2.3 on page 41 of World Bank, 2002). The box contains a table and a graph. The table shows that Hong Kong, China's FDI to the PRC compared to the PRC's total FDI inflow is as high as 50% in 1996, 42% in 1998, 40% in 1999, and 38% in 2000. The graph shows Hong Kong, China's annual flow of FDI to the PRC follows closely the PRC's net errors and omissions in its Balance and Payment. Since the net errors and omissions term is usually regarded as a proxy for capital flight, the graph gives the impression that the PRC's capital flight has come back to the PRC by round tripping and in the form of Hong Kong, China's FDI to the PRC.

The World Bank box article cited previous research (Lardy 1995, p. 1067; Harrold and Lal 1993, p.24), which estimated the scale of round tripping to be around one quarter of the total FDI. The box article concluded that the extent of this round tripping may have increased in recent years, referring to the box table and graph. Clearly the World Bank box article did not attempt to give a detailed estimation on the scale of round tripping. But many researchers and commentators have used the number 20% to 30% as a rough gauge of the scale of the PRC's round-tripping FDI.

Although a number of previous researches highlighted the round tripping issue, the discussions focused on capital flight. (see for example, Sicular 1998, Adams 1993, Gunter 1996, Lardy 1995, Harrold and Lall 1993). Yasheng Huang (2003) spent a whole section on round-tripping FDI (pages 35 to 41) but his focus was on the implications, and he did not attempt to estimate the scale of the round-tripping FDI. He is concerned about the PRC attracting too much FDI without using its own high and cheap savings first.

In the PRC, a number of studies by local scholars on capital flight were published, and they are important bases for studying the channels of capital flight and round-tripping (see for example the articles listed in the Chinese references section).

For our current study, the most important source is the newly revamped calculation of Hong Kong, China's Balance of Payment statistics by the Hong Kong, China government statistics division. In recent years the Hong Kong, China government has put a lot of resources into estimating the statistics on external direct investment by implementing firm-level surveys. This study draws heavily on this source. The PRC's Balance of Payment and FDI statistics are examined and compared with Hong Kong, China's to develop a useful framework for estimating the scale of PRC's round-tripping FDI.

The United Nations Conference on Trade and Development provides extensive FDI statistics at both the aggregate and disaggregate level. This is the major data source that allows this study to check the FDI flows into the PRC as reported by source countries. Unfortunately, many of the PRC's FDI source countries did not provide detailed statistics. Hence, our study can only explain about 70% of PRC's FDI with independent source country statistics.

The international setting of the PRC's FDI also needs to be examined, particularly in relation to cross-border capital flows other than the FDI flows. This is because the PRC's FDI is in a way a substitute for debt and portfolio financing (see McCauley 2002 in section 6).

The U.S. Treasury database on cross-border capital flows is also very useful in seeing the PRC's capital outflows through the debt and equity markets. In particular, the PRC has increased its purchases of USD bonds dramatically through both official and non-official channels. This can be regarded as a hedging strategy against large FDI inflows. It also reflects the role of cross-border capital flows in the protection of property rights. The Chinese government is protecting the property rights of foreign investors through an improved business environment in the PRC while the U.S. government is protecting the property rights of the Chinese investors in the U.S. bond market.

The article by Frank R. Gunter (Gunter 2004) provides a detailed estimation of the PRC's capital flight over the period 1984-2001 based on two standard approaches: the balance of payment measure pioneered by Cuddington (1986) and the residual measure used by BIS and World Bank. Gunter (2004) made a few important adjustment to the standard approaches by adjusting for mis-invoicing, legitimate domestic foreign exchange banking assets, and gaps in reported bank debts by PRC and BIS reporting institutions. His comprehensive and recent estimation on the PRC's capital flight provides a useful benchmark for us to compare our estimation of round-tripping FDI with his estimation of capital flight.

3. Round-Tripping FDI in the Global Context

Global FDI to developing economies has been driven by profit opportunities as well as by the reduction of physical and institutional barriers to cross-border capital mobility. The improvement in transport and communications has reduced physical barriers while reforms in developing countries such as the PRC have led to new profit opportunities. Since the early 1980s, the PRC emerged as a major global development frontier. The barriers to foreign trade and investment in the PRC have declined steadily since then, leading to the PRC's accession to the World Trade Organization in late 2001. By the end of 2002, only a year after joining the WTO, the PRC overtook the U.S. in FDI inflows, becoming the most attractive FDI destination in the world, and receiving $52.7 billion in FDI.

This dramatic achievement by PRC seems to suggest that today's global economy is unprecedented in terms of openness and of the amount of FDI into developing countries. However, foreign capital flows into developing countries today are in relative terms far below the historical records achieved before World War I. Gross value of foreign capital stock in developing countries peaked at 32.4% in 1914 but dropped to 4.4% in 1950 and recovered only to 10.9% by 1973 and 21.7% by 1998

(Maddison 2001, page 128). Hence, in spite of the market-oriented reform and technological advances during the last century, the world today is less open for capital flows to developing countries than one hundred years ago.

This conclusion would seem easier to accept if we regarded capital flows to the developing economies as endogenously determined, depending on the capacity of the developing countries to create new capital themselves. The more the developing countries are able to create new capital, the more income the developed economies will get from developing economies, and the more FDI from developed economies is likely to flow to developing economies. This seems to be the case before World War I when British and other empires were deriving large incomes from their colonies and then re-investing part of these incomes back to their colonies. These sorts of foreign capital flows could be regarded as round-tripping FDI in a broad sense and they were similar to what is happening now in the PRC.

Capital flows among developed countries are much freer than between developed and developing countries because of better protection of property rights and less capital controls in the developed economies. From 1989 to 1998, Japan's holding of net foreign assets increased from $294 billion to $1,153 billion while the U.S. holding of net foreign liabilities jumped from $49 billion to $1,537 billion (Maddison 2001, page 137). Clearly Japan has exported a large amount of capital to the U.S. in search of better risk-adjusted returns and in preparation for its aging population, even when the macroeconomic environment in Japan, such as the volatility of the exchange rate and the secular appreciation of the yen, has not been favourable to Japanese investment in foreign assets.

Similar incentives for risk diversification should also exist for Chinese capital. But due to exchange controls, the Chinese capital outflows have been artificially depressed and can only find their way out in the form of capital flight, e.g. through illegitimate channels such as mis-invoicing of exports and imports and smuggling. As we will discuss in the later sections, the scale of capital flight from the PRC has been very large, indicating that a lot of new capital has been created in the PRC during the last decade. This flight capital then forms the base for some of the FDI flows into the PRC, or the so called round-tripping FDI. If we compare the PRC's present conditions with the historical experiences before World War I, we should not be surprised by the rapid growth of FDI or round-tripping FDI into the PRC. The driving force behind FDI is fundamentally the capacity of the receiving countries in creating profits and new capital. History and the PRC's present experience do not support the view that there is a fixed amount of FDI capital to be allocated or competed away among the developing countries. FDI is not a zero sum game!

Foreign invested enterprises in the PRC have contributed to more than half of the PRC's exports. The PRC has been generating a current account surplus since 1994 (see Table 1). As a current account surplus simply means net savings or net export of capital, the PRC is taking in FDI on the one hand and exporting capital to capital-rich economies like the United States on the other hand. How can we reconcile these inconsistent patterns of capital flows? One way to understand them is to recognize that the PRC has been creating a lot of new profits and new capital and some of the FDI into the PRC is either Chinese flight capital returning home or foreign investors' income from the PRC invested back in the PRC. Since not all capital originally created in the

PRC went back to the PRC, some of it has stayed abroad or has been "exported" abroad as reflected in the PRC's current account surplus.

Most global FDI, especially FDI among developed countries, is in the form of mergers and acquisitions (henceforth M&A) rather than through green-field investment. In 2001, M&A amounted to as much as 80% of global FDI. Among all the M&A in 2001, 83.5% were conducted in the developed countries, 31.1% in the U.S. alone and only 5.8% in the Asia and the Pacific region. But cross-border M&A are very similar to round-tripping FDI except that they are not intended to get around regulations. Instead, they are for the purpose of getting the services of global financial markets since mergers and acquisitions involve more changes of ownership and control than net transfers of capital across borders. As 80% of global FDI is in the form of mergers and acquisitions, we should not be surprised to see global round-tripping FDI reach a level as high as 40% if we count cross-border ownership swaps, as in mergers and acquisitions deals, as round-tripping FDI.

Global FDI stock increased from $636 billion in 1980 to $6258 billion in 2000, an increase of almost tenfold. During the same period, world trade volume increased only about threefold from $4 trillion in 1980 to $12.5 trillion in 2000. This is mainly due to the increasing importance of mergers and acquisitions related to FDI, which could be regarded as a kind of round-tripping FDI.

The PRC's share of global FDI increased from a low base of 1.7% in 1990 to a peak of 13% in 1994. After 1994, the PRC's share of global FDI declined steadily to only 2.7% in 2000 largely due to massive M&A activities in the developed economies during the 'tech bubble'. After the bursting of the 'tech bubble', global FDI dropped 50% in 2001 but the PRC's FDI was growing steadily, contributing to a recovery of the PRC's share in global FDI to 6.4%, which is consistent with its trade expansion to 4.3% of global exports by 2001. By comparing the PRC's FDI with the global FDI trends we may conclude that the global round-tripping FDI through mergers and acquisitions is much larger and more volatile than the PRC's round-tripping FDI.

FDI into the PRC has exceeded $40 billion since 1996 and has been growing steadily every year since 1990. This puts pressures on other developing countries, especially its Asian neighbours. The Asia-7, including India, Indonesia, Malaysia, Philippines, Republic of Korea, Singapore, and Thailand, with more population than the PRC, only had $33 billion FDI inflows at their peak year of 1997. After the Asian financial crisis in 1997-1998, the Asia-7's FDI inflows declined dramatically to only $18 billion by 2001. The Asian financial crisis however did not slow FDI flows into the developing economies as a whole. FDI into developing economies excluding the PRC recorded steady growth from $34 billion in 1990 to $147 billion in 1997, and peaked at $197 billion in 2000, and then fell to $158 billion in 2001 (Cheong and Xiao 2003).

In 2001, per capita FDI inflows were $120 for the world, $420 for the developed economies, $42 for the developing economies excluding the PRC, $37 for the PRC, and only $12 for the Asia-7. Apparently, based on these statistics the PRC is winning the competition for FDI inflows over its neighbours. However, recognizing the significance of round-tripping FDI in the PRC, which is as high as 30% to 50% according to the estimation in this paper, would narrow this gap. As pointed out previously, this gap in FDI inflow is driven primarily by the capacity of the hosting countries in creating new capital. If there is any competition, it is more of competition

in domestic reform, which can increase the economy's capacity to create new capital (e.g. profit-making opportunities) and less in competition for a fixed amount of global FDI inflows.

According to FDI statistics, the access to foreign capital is unequal with 5 billion population in the developing countries, 80% of the world, receiving only $2.1 trillion out of a total FDI stock of $6.8 trillion in 2001. In 2001, per capita FDI stock was $1,118 for the world, $3,763 for the developed economies, $478 for all developing economies excluding the PRC, $309 for the PRC, and only $220 for the Asia-7. Again, it is useful to remember that this inequality in FDI stock is exaggerated by large components in the form of mergers and acquisitions in the case of the developed economies or in the form of round-tripping FDI in the case of the PRC.

The developed economies provided most of the global FDI stock but their share declined from 95.8% in 1980 to 87.8% in 2001. In the last decade, Hong Kong, China emerged as a major financial centre for facilitating capital flows into the PRC. Hong Kong, China's outward FDI stock increased from $2.3 billion in 1985 to $375 billion in 2001, exceeding Japan's $300 billion. In 2001, Hong Kong, China contributed 5.7% of global FDI outward stock, compared with only 4.6% for Japan. A significant part of Hong Kong, China's outward FDI into the PRC however is round-tripping Chinese capital. We will give a detailed estimation of the scale of the PRC's round-tripping FDI through Hong Kong, China and other source regions in Section 6.

4. Patterns of PRC's FDI and its Relation to Round-Tripping

The rapid FDI inflows into the PRC, following its economic opening and reform, are essentially driven by two factors: the PRC's large surplus labour and the PRC's policy shift in terms of declining barriers for cross-border mobility of capital and its encouragement of capitalist institutions. In 2001, Japan, with its half-century of rapid economic growth and development, attracted only $49 per capita in FDI inflows and $395 per capita in FDI stock, compared to the world average of $120 in flow and $1118 in stock, and the PRC's $37 in flow and $309 in stock. Japan may be a capital-rich economy but many other capital-rich OECD economies such as the U.S. recorded larger FDI inflows. Also, at official exchange rates, the PRC's foreign trade is more than 40% of GDP while Japan's is about 20%. The gap may be exaggerated because of the under-valued RMB and over-valued Japanese yen, according to purchasing power parity exchange rates. Nevertheless these numbers seems to indicate that the Chinese economy is more open than the Japanese economy.

Moreover, the PRC allows a large amount of processing trade, which requires a large amount of imported components. Large scale processing trade is only possible for very open economies with close to zero transaction costs, tariffs and other taxes. The PRC has committed to these close to zero transaction costs and taxes for processing trade since the early 1980s, drawing lessons from its successful neighbours of the newly industrialized Asian economies. The processing trade is important in creating jobs for some unskilled workers in the PRC and in creating new capital or profits for the foreign investors. The latter is a key condition for attracting both real FDI and round-tripping FDI.

The PRC's importing of capitalist economic institutions is also unprecedented in scale, scope, depth, and speed, ranging from central banks, modern public

corporations, labour markets, stock markets, and social security systems. The transfer of capitalist institutions and practices is facilitated greatly by the existence of mature market economies in Hong Kong, China and Taipei,China as well as large amounts of returning overseas students and members of the overseas Chinese business community. In a way, overseas Chinese human capital could also be regarded as a kind of round-tripping human capital, as it went abroad first and then came back to the PRC with experience and knowledge about the global economy.

However, in the near future, the PRC's financial and legal systems will be under great pressure to price the risks and returns for millions of large and small projects, which would challenge even the best bankers in the world. The legal system, in spite of great achievements in legislation, is still weak in the enforcement of property rights and contracts. This weakness directly affects the robustness and efficiency of the Chinese economy and is one of the key factors behind the sustained capital flight and round-tripping FDI.

The PRC's competitiveness in labour-intensive manufacturing is well recognized and attracted 60% of the PRC's total FDI as shown in Table 2. However, FDI is also significant in the non-labour-intensive real estate sector that has about 12% of the PRC's FDI and is ranked the second in the amount of FDI inflows among all major sectors. There are more than 20,000 real estate developers in the PRC, 10% of which are Foreign Invested Enterprises (FIEs). Many of them are likely to use round-tripping FDI to enjoy preferential policies on land use rights or to access external and domestic financial services. The services sector also attracted substantial FDI. Foreign invested enterprises have penetrated into virtually every kind of manufacturing and service industry. This is at least partly due to some round-tripping FDI by disguised private enterprises, which attempt to take advantage of the preferential policies for FDI.

The concentration of the PRC's FDI in a few clusters of coastal super cities has created a critical mass for global scale production, distribution and financing. This is one of the key factors behind the PRC's rising capacity to create new capital. It is primarily these coastal regions that are attracting both real and round-tripping FDI inflows into the PRC. Table 3 ranks the PRC's 31 provincial level regions by their average FDI inflows in 2001-2002 and provides a number of indicators for the provincial economies. The provinces and cities are then put into three groups by their ranking in FDI inflows: the top-9, the middle-12, and the bottom-10. The top 9 includes, in descending order of the share of average FDI during 2000-2001, Guangdong (25.7%), Jiangsu (14.9%), Shanghai (9.3%), Fujian (8.5%), Shandong (7.6%), Liaoning (5.4%), Zhejiang (4.8%), Tianjin (4.6%), and Beijing (3.8%). Many foreign visitors are impressed by the physical changes in cities such as Shanghai and Beijing but the real stars of productive investment and manufacturing capacity in the PRC are Guangdong and Jiangsu, where land prices have not been driven up to international levels as in Hong Kong, China, Shanghai and Beijing while access to finance, research and other services provided by the big cities is still good. The concentration of FDI in the top-9 is impressive if not surprising. This group has about one third of the PRC's population but produces half of the PRC's GDP, attracts three quarters of the PRC's FDI and generates 90% of PRC's foreign trade. This is entirely consistent with the main theme of this paper: FDI inflows, real or round tripping, are attracted by the host economies' capacity to create profits and new capital.

FDI has dominated the PRC's use of foreign capital. Foreign loans have declined to about 10% of total foreign capital inflows in recent years from about 70% before 1990. This is partly due to the PRC's weak domestic banks and capital markets, which have not yet been able to intermediate cross-border financial transactions. The PRC's FDI on the other hand does not need to rely much on the domestic financial system. The existence of round-tripping FDI and the rising importance of FDI provide an alternative to equity and debt financing for the PRC's growing private enterprises (McCauley 2002).

The number of foreign invested enterprises in the PRC is huge. By 2003, the PRC has approved the establishment of about 432,820 Foreign Invested Enterprises (FIEs) with a cumulated realized FDI of as much as USD461 billion. Some of these FIEs are really disguised Chinese private enterprises through round-tripping FDI. The FIEs have played a very important role in the Special Economic Zones (SEZs). In Shenzhen, one of the SEZs next to Hong Kong, China, in 2002, the FIEs generated two thirds of the city's gross industrial output. Although it is impossible to verify directly, it was understood well among practitioners that the FDI statistics are inflated by many FIEs. It is not surprising to see that FDI reported by the PRC is usually higher than that reported by Hong Kong, China and other source regions. The operational life of FIEs in the PRC is short for many. As of the end of 2002 the number of FIEs approved in the PRC was 424,196 but more than 200,000 of them, or 48%, have closed and only about 220,000 (among which about 160,000 are industrial enterprises) are still in operation. Many FIEs have been wound up deliberately in order to start new FIEs as preferential tax policies are given to new FIEs over their first 5 years. It is common for these new FIEs to use round-tripping FDI for their registered capital.

Table 4 shows the PRC's inward FDI flows over the years from 1994 to 2001 and grouped by four major regions and selected economies which have close trade and investment relations with the PRC. The share of total FDI by each of the four major regions in 2001 is respectively 36.3% for Hong Kong, China and Macau, 16.7% for offshore financial centres, 17.9% for Asia Pacific economies, and 27.6% for the developed countries. Each of these four regions is likely to have a different rate of round tripping FDI into the PRC. We will examine their patterns separately in Section 6.

It was noted that round-tripping FDI is less likely to happen for large investment projects originating from developed economies such as the U.S., Germany and Japan. This may be true but the problem is that there are also many small investment projects associated with overseas Chinese who are likely to be involved in the round-tripping FDI because of their close relations with nationals in the PRC. Table 5 shows that among the PRC's top 15 suppliers of FDI in 2002 Hong Kong, China ranked the first with $20.5 billion utilized investment, followed by the U.S ($4 bn), Japan ($3.6 bn), Taipei,China ($3.3 bn), British Virgin Islands ($2.4 bn) and Singapore ($2.1 bn). The interesting issue here is the size of the investment per project. Are FDI projects from the U.S. on average much larger than those from Hong Kong, China or British Virgin Islands? Table 5 shows that the FDI per project has little correlation with the size or importance of the source economy. It turns out that the Cayman Islands has the largest average size of FDI per project at $556,000, followed by the Netherlands at $407,000, and the British Virgin Islands at $366,000. Eight out of the fifteen countries/regions have an average size of FDI per project below $110,000, including the

U.S. and Hong Kong, China. The average FDI per project from Canada and Taipei,China was below $60,000, the smallest among the group. If small size projects are more likely to be associated with round-tripping FDI, then both developed economies such the U.S. and Canada and the Asia Pacific economies such as Singapore and the Republic of Korea are equally likely to have significant round-tripping FDI in the PRC.

Table 6 examines the average size of utilized FDI in foreign invested enterprises with different legal types. Except for the joint exploration type, all the types, including joint ventures, contractual joint ventures, and wholly foreign-owned enterprises, have low levels of average utilized value of FDI ranging from $85,000 to $157,000 per enterprise. The joint exploration type has only 183 foreign invested enterprises with an average size of realized FDI of $4 million per enterprise.

Table 7 shows the average size of the foreign invested enterprises by selected regions over the period from 1994 to 2001 in terms of utilized FDI per enterprise and per project. Although there is a tendency for the size to increase for all selected regions, the pattern where offshore financial centres have much larger FDI per project and per enterprise remains. This is largely due to the fact that many large Chinese enterprises have used these offshore financial centres to facilitate their listing in Hong Kong, China and other overseas stock markets.

Table 8 provides a few indicators showing the impact of FDI on the Chinese economy over the period from 1985 to 2002. In recent years, the total utilized value of FDI is about 4% to 5% of the PRC's GDP at the official exchange rate, comparable to the ratios for Canada (4%), Mexico (4%), New Zealand (6.4%), France (4%), Hungary (4.6%), Poland (3.9%), and UK (3.8%), but much high than the ratios for the U.S. (1.3%) and Japan (0.4%). The contribution of foreign invested enterprises to the PRC's gross industrial output has increased from 11.3% in 1994 to 33.4% in 2002. The contribution of FIEs to the PRC's exports has increased from 28.7% in 1994 to 41% in 1997 and 52.2% in 2002. The contribution to employment by FIEs reached 3% of total urban employment. The most impressive achievements by FIEs are their contribution to the PRC's industrial and commercial taxes, which increased from 4.25% in 1992 to 14.4% in 1998 and 20.5% in 2002. Clearly FDI in the PRC is making a large amount of profits. This means that a lot of new capital has been created in the PRC. This forms the base for sustained capital flight from the PRC, as well as sustained round-tripping FDI back to the PRC.

5. Incentives for and Causes of the PRC's Round-Tripping FDI

5.1. Incentives for Round-Tripping

What are the incentives for capital to make round trips, leaving the PRC first and then coming back? It is not only about profit-making but also related to the safety and risk management of capital. We can group incentives for round-tripping FDI into the following categories:

Tax advantages and fiscal incentives

The PRC provide many preferential policies to attract foreign direct investment, including low tax rates, favourable land use rights, convenient administrative support, and even favourable financial services from domestic and foreign financial institutions. In other words, it pays to be a foreign invested enterprise even if you are really just a domestic private enterprise. But the costs of becoming a disguised private enterprise wearing a FIE hat are also high in many cases. You have to have foreign investment. If you cannot find foreign investors who are willing to invest in your enterprise, you have to take capital abroad by yourself and bring it back as FDI (See Huang Jinglao (2003) for a detailed discussion of the PRC's preferential policies on FDI).

Property rights protection

This is an important factor as the PRC has very different legal and institutional settings from Hong Kong, China and other economies in terms of investment and capital flows. The motivation of the PRC's private sector for parking its wealth in Hong Kong, China is huge and fluctuates with the economic and political development in both places. The PRC's basic infrastructure for property rights delineation and enforcement is still very weak. Many private enterprises operate in an environment of very restrictive regulation with loose and ad hoc enforcement. In most cases they have to break the formal rules to make profits. Hence, they have incentives to move their profits out of the PRC first and then to move them back in the form of FDI when they see profit opportunities as the Chinese government tends to give better protection of property rights to foreign investors.

Expectations on exchange controls and exchange rates

Expectations relating to exchange controls and exchange rates, are often ignored in the academic discussion, but have been an important consideration for business people as well as speculators. This factor has played a more and more important role in recent years as the PRC has relaxed its controls on the capital account and the international pressure on the PRC to revalue the RMB has intensified. Activities associated with speculation on exchange rates are not easy to identify directly as they are buried in the large volumes of normal investment. But the changes in the PRC's Balance of Payment account, including the level of official reserves and the level of the errors and omissions term in the balance of payment account (a rough estimate of capital flight) would reflect partly the trend in speculative cross-border capital flows.

Competitiveness of Hong Kong, China and overseas financial services

Hong Kong, China is an international financial centre but primarily serves PRC related business. Local companies in Hong Kong, China have a lot of business in PRC. Many PRC companies also reside in Hong Kong, China. These local and PRC companies in Hong Kong, China become the best intermediators for FDI flows between Hong Kong, China and the Mainland. A significant part of the round-tripping FDI in the PRC is related to Hong Kong, China companies with close ties to the PRC entities. But there is

another important reason for making round-tripping FDI: the listing of PRC companies in Hong Kong, China's stock markets. We will discuss this in detail in the next section.

5.2. Two Types of Round-Tripping: Rent-Seeking and Value-Seeking

The difficulty of estimating the scale of PRC's round tripping lies in the fact that the definition and the nature of round-tripping FDI are not clarified conceptually. Money is fungible in the modern economy. Although we have a technically precise definition of FDI, the nature of round-tripping FDI can be very different. Conceptually at the heart of the debate on FDI in particular and finance in general, we should differentiate two broad types of round tripping:

- The first type of round tripping, e.g. "round tripping for escaping regulation," creates no value added but facilitates the private sector's effort to get around legal or administrative constraints, such as barriers to trade, high taxes, lack of property rights protection, etc. Most people implicitly apply this definition to the PRC's round-tripping FDI.
- The second type of round tripping, "round tripping for value added services," creates value added much like the financial sector does for the real economy. The purpose of this type of round tripping differs from that of the first type. Most cross-border mergers and acquisitions involve this type of round tripping of capital for value added financial services. Hong Kong, China as a modern international financial and trade centre is at the heart of the "round tripping for value added financial services."

Unfortunately after careful examination of available data sources, we conclude that it is impossible to distinguish these two types of round-tripping FDI empirically. It is like the concept of demand and supply in economic theory. One can distinguish the two in theory but in reality one needs to have very good data to identify the model. The available data do not allow us to get any reasonable estimation of the two different types of round-tripping FDI. But we will see in Section 6 that qualitatively the two types of round-tripping FDI do play important roles in the case of the PRC.

Another issue we need to keep in mind is the transaction costs of moving capital across borders. If the perceived value of round tripping by the underlying investors is less than the transaction costs, they will stop doing round tripping. However, if the value added services, such as listing in Hong Kong, China's stock markets or using Hong Kong, China's banking services, are much higher than the transaction costs involved, round tripping may continue even if no obvious direct regulatory incentives exist for round tripping. As we will point out in Section 6, the PRC currently does not include round-tripping FDI occurring in the process of listing Chinese companies in Hong Kong, China in its official FDI statistics.

5.3. PRC's Round-Tripping FDI in the Context of Global Capital Flows

PRC's round-tripping FDI can be viewed from a broad perspective of global mismatch of capital and investment opportunities. Globally it is recognized that Asian savings and capital are flowing to the U.S. markets because of the competitiveness of the U.S.

financial markets and its economy. This is reflected in the large current account surplus a number of the Asian countries have with regards to the U.S. But U.S. and global multinational corporations are looking for investment opportunities globally and particularly in the PRC and other Asian economies in the form of FDI, as FDI does not need to rely on the poor domestic financial systems in the developing Asian economies. These are also round-tripping capital flows in the broadest sense of the term. Although, this paper will not estimate this sort of broadly perceived round-tripping capital flow, it is useful to put the PRC's round-tripping FDI in this context of global capital flows.

In 2001, the U.S. current account deficit (net capital import) reached $393.4 billion. On the other side, the current account surplus (net capital export) was $87.8 billion for Japan, $57.1 billion for the other six main Asian capital exporters, $17.4 billion for the PRC, and $39.6 for the transition economies. Except for Japan, the countries with current account surpluses (net capital exports) are not capital rich economies. According to IMF (2002), the U.S. absorbed 64% of global net capital exports in 2000 (measured by the sum of current account surplus of the rest of the world).

Who is financing the net capital imports to the United States? The U.S. goods deficit, which is the major part of its current account deficit, is as high as $484 billion. The U.S. goods account deficit is financed by the rest of the world: 18% by North America, 18% by Western Europe, 14.5% by Japan, and 21.3% by the PRC. Clearly the PRC is exporting capital to the U.S. to finance the U.S. trade deficits with the PRC while at the same time the PRC is receiving a large amount of FDI from the U.S. This can be viewed as a sort of broadly perceived "round-tripping capital flow." But this "round tripping capital flow" is exaggerated because of the specialization and supply chain management in the region.

It is clear that in the last decade, the portions of the U.S. trade deficits attributable to Hong Kong, China and Taipei,China are either declining or stabilizing, while the part due to the PRC is rising rapidly. This is largely because the production of final goods has been rapidly relocated to the PRC from Hong Kong, China, and Taipei,China, as well as from other Asian economies. But the key components or high value added parts of the supply chain are still kept in the more developed Asian economies. If this part of the contribution to the production of final goods is excluded, the PRC's own value added in exports to the U.S. would be more modest. What this means is that the PRC lends a lot of capital to the U.S. in the form of its current account surplus with the U.S, but at the same time the PRC borrows a lot from its Asian neighbours in the form of the PRC's current account deficits with its Asian neighbours. This sort of round-tripping capital flows and goods flows is becoming part of the normal functioning of the global market economy.

Another piece of evidence on round tripping capital flows is related to the net purchases of U.S. bonds by foreign residents. During the ten years from 1988 to 1997, Asia's net purchases of U.S. bonds reached $415 billion, compared to only $1,447 billion by the rest of the world. In 2001, Asia's net purchases of U.S. bonds were as high as $147 billion, compared to only $405 billion by the rest of the world. The PRC's net purchases of U.S. bonds in 2001 were as much as Japan's at about $52 billion. Both Japan and PRC have increased their net purchases of U.S. bonds after the Asian financial crisis. During the ten years from 1988 to 1997, the PRC's net purchases of

U.S. bonds were only 11.5% of the Asia total. But this figure increased to 23% in 1999, 19% in 2000, and 35.2% in 2001. Given the PRC's $280 billion official reserves and about $260 billion non-official-reserves foreign exchange credit in the banking system, the PRC's increased net purchases of U.S. bonds are inevitable. But it is still surprising to know that by 2001 the PRC's share is as much as 35.2% of the Asia total. Clearly the PRC is putting a lot of official and private savings into U.S. government bonds. Why? A simple explanation is to get better protection of property rights! Like other foreign investors in U.S. assets, the Chinese government and the Chinese people certainly believe that the property rights of their U.S. investment are well protected. On the other hand, the PRC also gives better protection to the property rights of foreign investors than to domestic investors. Hence, on the whole, both sides are happy and better protection of property rights enhances the value and productivity of capital. This is also one of the positive impacts of round-tripping capital flows.

It is interesting to note that private foreign bank lending to the PRC is not as important as FDI. This can be seen from the changes in cross-border banking capital flows between Hong Kong, China and the PRC during the last decade. Hong Kong, China used to be an important centre in Asia for making syndicated loans to the PRC and other Asian economies. From 1994 to 1999, Hong Kong, China was a net lender of banking capital to the PRC. After 2000, however, Hong Kong, China turned into a net borrower of banking capital from the PRC. Since 1997, there has been a steady decline in the Mainland's gross banking liabilities to Hong Kong, China from more than $50 billion in 1997 to less than $20 billion after 2001. This was triggered by the bankruptcy of the GITIC (Guangdong International Trust and Investment Corporation), which borrowed from foreign banks in Hong Kong, China with the implicit understanding that the Chinese government would guarantee the loans. The Chinese government however decided not to use its money to save this regional state-owned holding company in order to avoid a moral hazard problem in similar cases for other companies and in the future. After the GITIC bankruptcy, foreign banks became very cautious in extending syndicated loans to the PRC.

During the Asian financial crisis in 1997, Hong Kong, China suffered a huge withdrawal of foreign banking capital. Hong Kong, China's foreign banking funds fell from $630 billion in June 1997 to $250 billion by April 2002, a drop of 60%. Among the total withdrawal of $380 billion, $251 billion was by Japan. In spite of fluctuations in capital flows, Hong Kong, China's banks have been extremely resilient during and after the crisis with non-performing loans staying at no more than 5%. HSBC, Bank of East Asian and other Hong Kong, China banks have started to prepare their entry into the PRC markets by investing in some small Chinese joint-stock banks such as HSBC's holdings of shares in Bank of Shanghai. Hong Kong, China's banking sector since early 2000 had become a net borrower of PRC funds. When these funds are used in non-banking sectors of the PRC economy in the form of FDI, they will become round-tripping capital as well. But the fact that Hong Kong, China's banking sector is having more and more net borrowing from the PRC indicates that more and more profits, income, and new capital are created in the PRC. That again is the force behind the sustained capital flight and round-tripping FDI.

5.4. Capital Flight and Round-Tripping FDI

It is useful to take a look at the scale of the PRC's capital flight. Without capital flight in the first place there would be no round-tripping FDI back to the PRC. Table 1 gives a summary of the balance of payments. Two items are related to the PRC's capital outflows. One is the current account surplus and the other is the errors and omissions term. The PRC's accumulated current account surplus since 1982 reached $134.6 billion or 11.6% of GDP in 2001 and $215.9 billion or 15.4% of GDP in 2003. The accumulated errors and omissions since 1982, a rough estimate of the accumulated capital flight were $139.8 billion or 12.1% of GDP in 2001 and $113.6 billion or 8.1% of GDP in 2003.

Gunter (2004) carried out a comprehensive study on the PRC's capital flight. He provides basically two measures: one based on the balance of payment and the other using the residual method.

Balance of payment measure
= Nonblank private short-term capital + net errors and omissions;

Residual measure
= Sum of Current Account Balance + Net Foreign Investment
+ Change in Reserves + Change in Debt;

Gunter made a few important adjustments to the above two standard measures. The adjustments are closely related to the issue of round-tripping FDI. The key adjustment is to include the capital flight associated with the mis-invoicing of exports and imports between the PRC and other economies. This item is very big and dominant in the adjusted estimation of the PRC's capital flight.

The other two adjustments concern banking assets in the residual measure of capital flight. The legitimate foreign assets held in the PRC's banking system should be deducted from the standard residual measure and the gap between the BIS reported foreign debts and the PRC's reported foreign debts should be added back.

Depending on how these adjustments are incorporated using the above two standard measures, Gunter generated two low estimates, two high estimates and an average of the four estimates of the PRC's capital flight. Table 9 summarizes the estimates of capital flight in Table 1 of Gunter (2004): the low estimate of capital flight is the average of the two low estimates and the high estimate is the average of the two high estimates. The average estimate is the average of the four estimates. As compared to the PRC's GDP at the official exchange rate, the average estimate of the PRC's capital flight was only about 2% during 1985-1989 but increased steadily from 5.4% in 1990 to 12% in 1998 and then fell sharply to 2.1% in 2001.Table 9 also shows that the average estimate of the PRC's capital flight has always been higher than the FDI inflows into PRC since 1985, except for the year 2001. This is consistent with this paper's argument that the PRC created a lot of new capital. A lot of the new capital went abroad and stayed abroad. But some of the flight capital came back in the form of round-tripping FDI. The next section attempts to estimate the scale of the round-tripping FDI.

6. Estimating the PRC's Round-Tripping FDI

According to the PRC's official definition, Foreign Direct Investment (FDI) refers to the investment in three legal types of foreign invested enterprises (FIEs) in the PRC: solely foreign funded enterprises, Sino-foreign joint ventures and Sino-foreign cooperative ventures. The foreign investors in FIEs include any foreign enterprise, economic entity or individual as well as Hong Kong, China, Macao and Taipei,China compatriots and Chinese enterprises registered outside the PRC. FDI must be invested in the form of spot foreign exchange, in-kind, or technology investment. The re-investment of the profits by FIEs and the funds borrowed from overseas by the FIEs for their PRC projects can also be counted as FDI.

Round-tripping FDI refers to domestic capital that has fled the home country and then flows back in the form of foreign direct investment. In the case of the PRC, it could also include domestic capital that is counted as foreign capital against the government regulation. This often happens to the foreign invested component of the registered capital for a newly established foreign invested enterprise. The faking of the foreign invested component of the registered capital could involve a PRC commercial bank lending to the foreign invested enterprises in violation of the PRC's relevant regulations. It is common for fake foreign invested enterprises to use false capital auditing reports and false bank deposit documents to meet the requirements of registered capital input by the foreign partners. Such activities would clearly inflate the FDI statistics reported by the Chinese authorities.

The inflated FDI inflow statistics as reported by the PRC will be much higher than the FDI outflow statistics as reported by the source region since there are no incentives for foreign investors to report their fake investment in the PRC to their home countries. Hence, the gap between FDI inflow statistics as reported by the PRC and FDI outflow statistics as reported by source regions are the unverifiable or unconfirmed part of the PRC's FDI inflows and can be used as a proxy measure of the round-tripping FDI to the PRC. This is the method used in this paper to estimate the PRC's round tripping FDI from Hong Kong, China and other source regions.

6.1. Round-Tripping FDI from the U.S., Germany, Japan, Republic of Korea, Taipei,China, and Singapore

In this sub-section, we try to estimate the round-tripping FDI to the PRC from six source regions which have published their own independent statistics on FDI to the PRC. The round-tripping FDI from Hong Kong, China will be discussed in the next sub-section as the case of Hong Kong, China is more complicated than other source regions.

Table 10.1 to 10.6 shows FDI statistics as reported by the PRC and the source regions, including the U.S., Germany, Japan, Republic of Korea, Taipei,China, and Singapore:

- Row A of Table 10.1 to 10.6 is the FDI flows from the source region to PRC as reported by the source region.
- Row B is the FDI flows from the source region to PRC as reported by the PRC.

- Row C is equal to Row B minus Row A and is the unverifiable FDI flows from the source region to the PRC. Part of Row C is likely to be due to round-tripping FDI.
- Row D is the ratio of Row C to Row B, which is the ratio of unverifiable FDI to the official figures.
- The last column of Row D is the weighted average of Row D over recent years, which should have two components: the true round-tripping FDI and the percentage of FDI that can be accounted for by statistical reporting errors.
- Since Row D (the ratio of unverifiable FDI to the official figures) fluctuates over the years, one column in the table also shows the standard deviation of Row D over recent years.

It is useful to point out a few issues about the statistical reporting errors. They are related to many of the inconsistencies between the PRC's and source regions' FDI statistics reporting practices. Many factors, in addition to round-tripping FDI, such as the differences in the definition and collection of the FDI statistics across countries, may contribute to the above unverifiable part of the PRC's FDI from each of the source regions. The appendix of an OECD Investment Policy Review "China: Progress and Reform Challenges" (OECD 2003) provides a detailed comparison of these differences and some of the relevant parts are summarized here:

- The PRC does not put a limit on the percentage of shares owned by investors (for example above 10% under OECD standards) when calculating the FDI statistics. So any amount of investment in the foreign invested enterprises by a foreign individual or firm is considered FDI. This would inflate the PRC's FDI inflows as reported by the PRC relative to corresponding FDI outflows as reported by OECD countries, as the OECD standards require a 10% or more share by foreigners for investment to be classed as foreign. But the gap caused by this should not be counted as round-tripping FDI. Instead, it should be regarded as one kind of statistical reporting error.
- The local government department in charge of FDI promotion is responsible for collecting and reporting FDI statistics, leading to a serious conflict of interest and a tendency for the PRC's FDI inflows as reported by the PRC to be higher than the FDI outflows as reported by the source region. This part can be counted as round-tripping FDI.
- The PRC only reports statistics on FDI inflows and does not report the statistics on the market value of FDI stock, FDI outflows and incomes derived from FDI. These omissions have made it difficult to cross-check the reliability of the PRC's FDI inflows. It means that the method we are using to estimate the PRC's round-tripping FDI has a wide range of errors and should be interpreted accordingly.

Clearly some of the unverifiable FDI from source regions to the PRC (Row C in Table 10.1 to 10.6) is not round-tripping FDI. In other words, it seems justifiable to interpret the unverifiable FDI inflows as the "high" estimation or the upper bound of the PRC's round-tripping FDI. On the other hand, the inconsistent accounting framework

discussed above by the OECD study is not entirely statistical errors. The systematic accounting bias could be regarded as over-reporting on the PRC side, which is similar to round-tripping FDI in nature. Also, the real statistical reporting error should have bias in both directions. Looking at Tables 10.1 to 10.6, we can see that the unverifiable part of FDI into the PRC is mostly positive and large. This implies that the round-tripping component of the unverifiable FDI is probably dominating the unbiased statistical reporting errors component.

To further explore the problem of statistical reporting errors, we attempted in Table 10.7 to estimate the unverifiable FDI for the U.S., using the same method we used in Table 10.1 to 10.6 for the available data from eight countries: Mexico, Brazil, Finland, Canada, Hong Kong, China, the U.K., Japan, and Germany. The results are quite illustrative. Mexico and Brazil reported the same FDI statistics as the U.S. so that the unverifiable FDI to the U.S. from the two countries is zero. The unverifiable FDI to the U.S. from Finland and Canada is very small at about the 4% level. The unverifiable FDI to the U.S. from Hong Kong, China and the U.K. is very large at the 44% and 55% levels respectively, which is close to those observed in FDI to the PRC. However, the difference is that the unverifiable FDI to the U.S. from Japan and Germany is negative and large at the -83% and -104% levels respectively. This means that the unverifiable FDI to the U.S. is more likely due to statistical reporting errors. Indeed, the weighted average of the ratio of unverifiable FDI across different source countries is small at the level of 18%. We can draw two important implications from the U.S. case:

- If the unverifiable FDI is mainly due to statistical errors as in the case of the U.S., it should show both positive and negative errors. In the case of the PRC, we have observed consistently large positive unverifiable FDI inflows for all of the source regions where data are available. The available source regions accounted for 70% of the PRC's FDI inflows. Hence, the unverifiable FDI inflows in the PRC case are mostly likely due to round-tripping FDI, instead of statistical errors.
- The statistical errors of FDI data could be huge and the unverifiable FDI could reach 50% to 100% for some source countries. Hence, our method of comparing the reported FDI statistics from host and source countries to estimate the round-tripping FDI should allow for large margins of error.

Now let us go back to the results of Table 10.1 to 10.6. The weighted averages of the unverifiable FDI to the PRC in recent years are all positive and high for the six FDI source regions where data are available: 68.5% from U.S., 31% from Germany, 60.9% from Japan, 60.3% from Republic of Korea, and 70.2% from Taipei,China, and 65.5% from Singapore. How do we interpret these numbers?

- If there are no significant statistical reporting errors, these numbers could be regarded as a proxy for the average ratio of round-tripping FDI into the PRC.
- If the statistical reporting errors are non-biased in the sense that they average to zero over the years, the above numbers could also be regarded as a close approximation of the round-tripping FDI ratio.

- If the statistical reporting errors have a systematic bias towards over-reporting by the PRC side independent of the round-tripping bias, we should then adjust the above numbers downward by the size of the systematic statistical reporting errors.

To be conservative, we will use the last interpretation and allow some systematic statistical reporting errors that are biased in the same direction as the round-tripping FDI bias. How do we decide the size of the adjustment? As can be seen from Row D of Table 10.1 to 10.6, there are large fluctuations in the unverifiable part of FDI in the PRC for each of the six source regions. The degree of variation in the unverifiable part of FDI (Row C) over time is captured by its standard deviation. The standard deviation is a useful indicator of the likely range of both statistical reporting errors and the volatility of round tripping FDI. We do not have enough information to distinguish how much of the standard deviation is attributable to each of the two factors. Hence, we assume the systematically biased statistical reporting errors to be as large as one half of the standard deviation of Row C (the unverifiable part of FDI) during the observed period. This is a strong assumption but it is a conservative assumption for estimating round-tripping FDI. We can then subtract one half of the standard deviation from the weighted average of unverifiable FDI (Row D of the last column) to get the mean or middle estimate for the round tripping FDI ratio. We also use a band of errors of one half of the standard deviation to get the high and low estimates of the round-tripping FDI ratio.

As shown in Table 10.1 to 10.6, the one standard deviation for unverifiable FDI (Row D) is 13.5% for the U.S., 17.2% for Germany, 18.3% for Japan, 23% for the Republic of Korea, 36.2% for Taipei,China, and 11.2% for Singapore. The mean estimate of round-tripping FDI and the associated range of errors is then:

- 61.8% for the U.S. (or in the range of 55.1% to 68.5%);
- 22.4% for Germany (or in the range of 13.8% to 31%);
- 51.7% for Japan (or in the range of 42.6% to 60.9%);
- 48.8% for the Republic of Korea (or in the range of 37.3% to 60.3%);
- 52.1% for Taipei,China (or in the range of 34% to 70.2%)
- 59.9% for Singapore (or in the range of 54.3% to 65.5%).

6.2. Round-Tripping FDI from Hong Kong, China

In recent years, a rising proportion of Hong Kong, China's outward FDI is towards the PRC: 41.1% in 1998, 52.3% in 1999, 78.1% in 2000, 74.9% in 2001, and 91.3% in 2002. By comparing the Hong Kong, China and PRC FDI statistics we can derive the pattern of round-tripping FDI from Hong Kong, China. We can use the same method as applied to the other six source regions to estimate the ratio of round-tripping FDI from Hong Kong, China to the PRC. But unlike the above cases, Hong Kong, China is a major international financial centre for the PRC. In particular, many Chinese companies have been listed in Hong Kong, China's stock market. This has important implications for estimating the round-tripping FDI from Hong Kong, China to the PRC. Hence, we

will briefly review the background of capital market development related to the PRC and Hong Kong, China.

The PRC made little progress in attracting foreign portfolio investment during 1997 to 2001. According to IMF (2003) the derived amount of foreign portfolio investment in the PRC increased only slightly during this period, reflecting its stagnant "B share" market, which is a tiny experimental stock market designed for foreign investors with share prices quoted and traded in foreign exchange. But it was well known that even before the PRC opened its B share market to its own residents, many shareholders of B shares were actually Chinese residents using borrowed foreign passports and foreign bank accounts to carry out transactions. This is also a kind of round-tripping capital flow but in the form of portfolio investments.

In March 2001, the PRC opened its B share market to domestic residents with foreign exchange savings. This opening caused a brief surge in prices and many foreign investors took profits and dumped shares to domestic residents. At the end of 2002, PRC announced its plan to allow Qualified Foreign Institutional Investors (QFII) to invest in its "A share" market designed for domestic investors with RMB savings. The Chinese authorities are also actively studying the mechanism of Qualified Domestic Institutional Investors (QDII), which would allow Chinese residents to invest in overseas securities markets, including the Hong Kong, China market, where many Chinese companies are listed but whose shares cannot be sold to Chinese residents through legal channels. When the cross-border transactions in capital markets are possible, more round-tripping capital flows can happen legitimately. But even before the QDII is allowed officially, many Chinese residents are already using their flight capital to buy Hong Kong, China stocks, including IPOs of PRC companies listed in Hong Kong, China. This kind of round-tripping capital flows is looking for better risk-adjusted returns in the Hong Kong, China's market than in the PRC capital market. They will not usually be classified as round tripping FDI by the Hong Kong authorities as the investors' share in one listed company is usually well below 10%, the threshold for qualifying as FDI.

However, the IPOs of large PRC companies may lead to large round-tripping FDI. The process is similar to mergers and acquisitions. When a PRC company is preparing for listing in Hong Kong, China as a "Red Chip" company, it registers as a new local company in Hong Kong, China but with a huge injection of capital from its PRC parent company in the form of buying up a large chunk of the shares in the Hong Kong, China Red Chip company (usually about 60% to 70%). This would count as FDI from the PRC to Hong Kong, China since the portfolio investment exceeds the 10% threshold. Hence, the listing of PRC companies in Hong Kong, China would lead to a large FDI inflow from the PRC to Hong Kong, China.

The Red Chip company located in Hong Kong, China then can use the capital injection from its parent company in the PRC and the funds raised from IPOs in Hong Kong, China to buy profit-generating projects in the PRC, perhaps from related companies under the supervision of the company's parent. This again would count as FDI from Hong Kong, China to the PRC according to international practice since the procurement of projects in the PRC by Hong Kong, China listed Red Chip companies are usually more than the 10% threshold for FDI investment. Hence, the listing of PRC companies in Hong Kong, China would lead to a large FDI inflow from Hong Kong,

China to the PRC. The complication here is that according to the PRC's current FDI reporting practices, the FDI investment resulting from the listing of PRC companies in Hong Kong, China is not counted in the PRC's FDI statistics, since there is little movement of physical capital or cash in the process.

Indeed, in reality not much net capital has been moved across the border. Instead, only the ownership structure has been changed significantly and the value of the listed company may have increased a lot due to expectations about better profitability and better corporate governance. This would be the type of round-tripping FDI that is intended to get value added financial services from Hong Kong, China. This type of round-tripping FDI is similar to the M&A related FDI in the developed economy.

The significance of this type of round-tripping FDI into the PRC can be seen from the structure of Hong Kong, China's capital market. The share of Hong Kong, China's market capitalisation by PRC background companies increased from only 4.8% in 1992 to 16.3% in 1997, 21.1% in 1999 and 26.3% in 2002. Table 12 shows that the share of IPO funds raised by PRC background companies listed in Hong Kong, China has increased from around 30% in 1991 to around 84% in 2002. Table 12 shows the top 10 IPOs in Hong Kong, China over the period from 1997 to 2002. Clearly, Hong Kong, China's stock market is very active in listing PRC companies. This means that there must be significant round-tripping FDI between Hong Kong, China and the PRC with the purpose of using Hong Kong, China's value added capital market services.

However, it is difficult to estimate this sort of round-tripping FDI since the PRC does not count financial transactions through the stock markets as FDI even if the investment is more than 10% of the company's equity. In many IPO cases involving the Hong Kong, China stock market, no physically new foreign invested enterprises are established in the PRC and little net foreign exchange capital is invested in the PRC. But the impact of this sort of round-tripping FDI related to capital market transactions is very significant for Hong Kong, China's FDI statistics, especially in 2000. As shown in Table 13, in 2000, Hong Kong, China recorded $46.3 billion in FDI to the PRC, but the PRC only reported $15.4 billion in FDI from Hong Kong, China. This is contrary to the general pattern during the period of 1998-2002 (except 2000) when the FDI flows from Hong Kong, China to the PRC as reported by the PRC were always larger than the FDI flows from Hong Kong, China to the PRC as reported by Hong Kong, China. The large difference between $46.3 billion and $15.4 billion, of $30.9 billion, can only be explained by round-tripping FDI related to IPO activities in Hong Kong, China by PRC companies.

Indeed as shown in Table 12 three of the top ten IPOs in Hong Kong, China for the period of 1997-2002 (China Unicom, Sinopec, and Petro China) were carried out in the year 2000 by large PRC companies. The three PRC companies raised about $12 billion through IPOs in the Hong Kong, China stock market in 2000. The IPO value of large PRC companies is usually much smaller than one third of their total market capitalization due to large holdings of non-tradable shares by state agencies. Hence, the parents of the above three newly listed companies must have held non-tradable shares exceeding $24 billion. Clearly some of the capital market transactions relating to these IPOs are included in Hong Kong, China's FDI statistics but not included in the PRC's FDI statistics. It is not clear exactly how Hong Kong, China companies have treated

these transactions when reporting their FDI statistics. By examining sector statistics, we find that the surge in 2000 in Hong Kong, China's FDI flows to the PRC is concentrated only in the communications sector. As shown in Row A4 and B2 in Table 13, in 2000, Hong Kong, China reported $33.2 billion in FDI outflows to the PRC in the communications sector, but the PRC only reported $1.0 billion in FDI inflows from all sources into the transportation, storage, post, and telecommunication services sector. Clearly much of the surge in Hong Kong, China's FDI to the PRC in the year 2000 can be explained by the FDI flows in the communications sector.

Table 13 provides three versions of FDI flows from Hong Kong, China to the PRC as reported by Hong Kong, China (A1, A2, and A3). A1 is the unadjusted FDI from Hong Kong, China to the PRC. A2 is FDI from Hong Kong, China to the PRC adjusted by simply excluding FDI from the communications sector (A2=A1-A4). After this adjustment, FDI from Hong Kong, China fell in all years during 1998-2002. The downward adjustment is particularly sharp for the year 2000, falling from $46.3 billion to $13.1 billion. This simple adjustment would exclude some of the regular FDI in the communications sector that is not related to capital market transactions. A3 is the FDI from Hong Kong, China with a less dramatic adjustment that allows for the regular FDI from the communications sector but excludes the apparent over-reporting by Hong Kong, China in the communications sector (A3 = A1- (A4-B2)). In A3, only the difference between A4 (FDI outflows from Hong Kong, China to the PRC in the communications sector) and B2 (FDI inflows to the PRC in the transportation, storage, post and telecommunication services sector) are subtracted from the unadjusted FDI from Hong Kong, China to the PRC (A1).

FDI from Hong Kong, China to the PRC as reported by Hong Kong, China and adjusted for the over-reporting by Hong Kong, China in the communications sector (A3) is compared with B1, which is the FDI from Hong Kong, China to the PRC as reported by the PRC. Using the same method as in the cases of the six FDI source regions, Row C in Table 13 (C=B1–A3) is the unverifiable part of FDI from Hong Kong, China to the PRC. Row D (D=(B1-A3)/B1) is then the ratio of the unverifiable part of FDI from Hong Kong, China. Following the method in the last sub-section, the weighted average of Row D can be used as the high or upper bound estimate of the ratio of round tripping FDI from Hong Kong, China to the PRC. Clearly, Row D fluctuates from as high as about 70% in 1998, 2001, and 2002 to as low as 8.3% in 2000. The weighted average of Row D is 53.4%. The standard deviation for Row D during 1998-2002 is 27.1%. As in the previous cases, we will use the one half of the standard deviation as a proxy for the systematically biased statistical reporting errors. Subtracting one half of 27.1% from 53.4%, we obtain the middle or mean estimate of the round-tripping FDI from Hong Kong, China to the PRC, which is 39.9%. In other words, based on the available FDI statistics from Hong Kong, China and the PRC, the ratio of round-tripping FDI from Hong Kong, China to the PRC during the period of 1998-2002 is likely to be in the range of 26.3% to 53.4% with the middle estimate at 39.9%. It should be noted that this estimate of round-tripping FDI from Hong Kong, China to the PRC includes only the type of round tripping that is related to escaping regulations and does not include the type of round tripping that is related to capital market transactions such as listing PRC companies in Hong Kong, China's stock exchange.

6.3. Round-Tripping FDI from Offshore Centres

We have pointed out in the previous section that the offshore financial and business centres have become more and more important sources of the PRC's FDI inflows. As shown in Table 4, their share of the PRC's total FDI increased from just 0.3% in 1994 to 9% in 1998 and fell to 7.9% in 2001. For the period of 1994-2001, the weighted average share of FDI of offshore centres is as high as 9.6%. A significant part of FDI from the offshore centres could be round-tripping FDI where Chinese enterprises are attempting to use these centres to facilitate their financial transactions. But it is difficult to estimate directly the amount of round-tripping FDI from the offshore centres. An indirect way to gauge this is to look at how other economies have used the offshore centres in facilitating their round-tripping FDI. We are fortunate to have a clear direct estimation of round-tripping FDI to Hong Kong, China from the offshore centres. The Hong Kong, China Government obtained these numbers from a detailed survey specifically designed to find out the extent of round-tripping capital movement through the offshore centres. The results are not only relevant for Hong Kong, China but also can be illustrative for the PRC as the offshore centres are primarily used for managing capital flows of listed companies traded in Hong Kong, China's stock markets. There are no reasons why PRC companies, if they can move capital to these offshore centres in the first place, cannot move capital back to the PRC as easily as Hong Kong, China companies do in the case of round-tripping FDI. This is so because the PRC does not have many restrictions on FDI inflows in the form of FDI. Hence, it is reasonable to assume that on average the ratio of round-tripping FDI from the offshore financial centres for the case of the PRC could be similar to the ratio for the case of Hong Kong, China. Hence, the ratio of round-tripping FDI through offshore centres in the case of Hong Kong, China provides a useful indicator for us to estimate the likely range of the similar ratio in the case of the PRC.

Table 14 shows the estimation of round-tripping FDI to Hong Kong, China through the offshore centres by the Hong Kong, China government statistics department. The ratio of round-tripping FDI from offshore centres to Hong Kong, China was 40.4% in 1998, 27% in 1999, 48.3% in 2000, 14.4% in 2001, and 82.6% in 2002. The weighted average of this ratio for the period 1998-2002 is 40.1% and its standard deviation is 25.9%. This tells us that the round-tripping FDI through offshore financial centres may be very large.

In the next sub-section, we will not use this ratio for directly estimating the PRC's round-tripping FDI through offshore financial centres. Instead, we will use the case of Hong Kong, China to argue that the PRC's ratio of round-tripping FDI through the offshore centres should be at least as large as the lowest ratio of round-tripping FDI we estimated for the PRC's six FDI source regions, which is that for Germany (at 22.4% or within a range of 13.8% to 31%).

6.4. The Scale of the PRC's Round-Tripping FDI

In the previous sub-sections we estimated directly from the available statistics the round-tripping FDI to the PRC from seven FDI source regions: the U.S., Germany, Japan, Republic of Korea, Taipei,China, Singapore, and Hong Kong, China. Table 15 puts all the crucial information together in an attempt to estimate an average ratio of

round-tripping FDI in the PRC in recent years. As shown in Table 15, for the year 2000, according to the PRC's FDI statistics, the above seven regions contributed US$29.7 billion in FDI to the PRC, which is 72.9% of the PRC's total FDI of US$40.7 billion. Table 15 also provides the weighted average of the round-tripping FDI ratio for the seven regions as a whole: 46.5% with a range from 34.9% to 58.1%.

Now, the problem is that we do not have any direct information about the ratio of round-tripping FDI for the rest of the PRC's FDI source regions. An overly conservative approach to deal with this is to assume that there is zero round-tripping FDI to the PRC from the rest. If this assumption is used, then from a simple calculation the weighted average of the round-tripping FDI ratio for the PRC as a whole would be 33.9% with a range from 25.5% to 42.4%.

A more reasonable approach is to assume that the round-tripping FDI ratio for the remaining regions is the same as for the Germany, since Germany has the lowest ratio of the regions for which we have direct data. This assumption is likely to be conservative since regions such as offshore financial centres are likely to have a much higher round-tripping FDI ratio. When this assumption is used, the PRC's overall round-tripping FDI ratio is 40% with a range from 29.2 to 50.2% as shown in Table 15. We believe that this is the best estimate based on all the available information.

Our estimation shows clearly that the scale of round-tripping FDI in the PRC is very large, although the middle estimation of 40% for the PRC's round-tripping FDI is only one half of the 80% share of M&A related FDI in global FDI flows. Table 16 compares our estimation of the general pattern of the PRC's round-tripping FDI with the pattern of the PRC's capital flight as estimated by Gunter (2004). In Table 16, we multiply the high, middle and low estimates of the average ratio of the PRC's round tripping FDI to the PRC's total FDI as reported by the PRC to get predicted flows of the PRC's round-tripping FDI during 1994-2001 for the high, middle and low estimates. The predicted flows of the PRC's round-tripping FDI are then divided by the PRC's capital flight during the same period for high, middle, and low estimates respectively. The weighted average of the ratio of round-tripping FDI over capital flight is 21.2% for the high estimates, 23.9% for the middle estimates, and 30.6% for the low estimates. In other words, based on the data during the period 1994-2001, about 20% to 30% of the PRC's flight capital has returned back to the PRC in the form of round-tripping FDI. This seems a reasonable result to us.

In this paper we have focused on finding the overall scale of the PRC's round-tripping FDI since that is the most relevant information for policy debates. It would be useful to know how the round-tripping FDI flows are affected by specific factors over time such as changes in tax rates, expectations of changes in exchange rates, relaxation of capital controls, access to overseas capital markets, rate of return from investing in the PRC and so forth. But the limited amount of data does not allow us to investigate these interesting issues in any detail. By looking at the available data it seems reasonable to conclude that the major driver for round-tripping FDI is the long-term dilemma that on the one hand there are profitable opportunities in the PRC, but on the other hand investors like to keep their capital abroad. Unlike short term flows of portfolio capital or other speculative investments, FDI in the PRC is relatively stable against the fluctuations in macroeconomic variables such as interest rates, exchange rates, and tax rates. The relationship between the PRC's round-tripping FDI and the

PRC's capital fight seems also quite stable over the long run. The scale of the PRC's round-tripping FDI is large but not far from international experience, as in the case of cross-border M&As. Although the margin of error for our estimation is large due to the inaccurate nature of FDI statistics, qualitatively there is no doubt that the PRC's round-tripping FDI is very large and significant since the data from the PRC's seven FDI source regions, which together accounted for more than 70% of the PRC's total FDI inflows, show the same consistent pattern.

7. Conclusion

This paper estimates the scale of the PRC's round-tripping FDI and reviews the cause and implications of the PRC's round-tripping FDI. Based on the available statistical information, the PRC's round-tripping FDI ratio is likely to be around 40% or within the range of 30% to 50%. Our estimation is much higher than previous estimates in the literature. The high level of round-tripping FDI in the PRC means that FDI inflows to PRC are somehow exaggerated. The PRC's capital flight is much larger than the PRC's FDI inflows. The PRC's round-tripping FDI is only about one quarter of the PRC's capital flight. The high FDI inflows to the PRC are largely a result of the PRC's capacity to create new capital and new profits and should not be regarded as a threat to other developing economies. The PRC's strong capacity in creating new capital and its weak institutions for protecting property rights have led to sustained and large capital flight and round-tripping FDI. But the pattern of capital flight and round-tripping FDI is largely a statistical issue and has little implications for efficiency or resource allocation. As the PRC continues in its effort to liberalize its economy, we are likely to see more and more cross-border capital flows in various forms, including capital flight and round-tripping FDI. Our findings suggest that the control on the PRC's cross-border capital flows seems much looser than most people would believe. Since the FDI is one of the least flexible forms of cross-border investment, the large scale of the PRC's round-tripping FDI suggests the existence of a large amount of overseas Chinese capital.

This study is by itself useful as a building block for other studies relating to the PRC and Asian economic dynamics. But it may have more direct implications on policies relating to the PRC's exchange control, capital account liberalization, and exchange rate, and its international relations with the U.S., Japan, and Asia more generally. This study focuses only on the round-tripping issue and leaves the policy implications and other related conceptual and empirical issues for other studies.

Table 1. PRC's Balance of Payments 1982-2003

Unit: US$ Billion	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Current Account Balance	5.7	4.2	2.0	-11.4	-7.0	0.3	-3.8	-4.3	12.0	13.3	6.4	-11.9	7.7	1.6	7.2	29.7	29.3	15.7	20.5	17.4	35.4	45.9
FDI into PRC	0.4	0.6	1.3	1.7	1.9	2.3	3.2	3.4	3.5	4.4	11.2	27.5	33.8	35.8	40.2	44.2	43.8	38.8	38.4	44.2	52.7	53.5
Net Errors & Omissions	0.3	0.1	-0.9	0.1	-0.9	-1.4	-1.0	0.1	-3.1	-6.7	-8.3	-9.8	-9.8	-17.8	-15.6	-17.0	-16.6	-14.8	-11.9	-4.9	7.8	18.4
Reserve Assets Change	-6.3	-4.1	-0.1	2.4	2.0	-4.9	-2.3	0.5	-12.1	-14.6	2.1	-1.8	-30.5	-22.5	-31.6	-35.7	-6.4	-8.5	-10.5	-47.3	-75.5	-117.0
GDP in USD at average exchange rate				304.4	294.2	321.3	400.0	448.9	389.3	406.4	481.4	601.2	542.7	701.3	818.9	903.2	960.8	992.4	1,079.5	1,157.2	1,233.7	1,406.0
Accumulated CA since 1982				0.5	-6.5	-6.2	-10.0	-14.3	-2.3	10.9	17.3	5.4	13.1	14.7	22.0	51.7	81.0	96.7	117.2	134.6	170.0	215.9
Accumulated FDI since 1982				4.0	5.9	8.2	11.4	14.8	18.2	22.6	33.8	61.3	95.1	130.9	171.1	215.3	259.1	297.8	336.2	380.5	433.2	486.7
Accumulated capital flight (E&O) since 1982				0.4	1.3	2.7	3.7	3.6	6.7	13.5	21.7	31.5	41.3	59.1	74.7	91.6	108.2	123.0	134.9	139.8	132.0	113.6
Accumulated official foreign exchange reserves	7.0	8.9	8.2	2.6	2.1	2.9	3.4	5.6	11.1	21.7	19.4	21.2	51.6	73.6	105.0	139.9	145.0	154.7	165.6	212.2	286.4	403.3
External debt				15.8	21.5	30.2	40.0	41.3	52.6	60.6	69.3	83.6	92.8	106.6	116.3	131.0	146.0	151.8	145.7	170.1	168.5	
Accumulated CA since 1982 as % of GDP				0.2	-2.2	-1.9	-2.5	-3.2	-0.6	2.7	3.6	0.9	2.4	2.1	2.7	5.7	8.4	9.7	10.9	11.6	13.8	15.4
Accumulated FDI since 1982 as % of GDP				1.3	2.0	2.5	2.8	3.3	4.7	5.6	7.0	10.2	17.5	18.7	20.9	23.8	27.0	30.0	31.1	32.9	35.1	34.6
Accumulated capital flight (E&O) since 1982 as % of GDP				0.1	0.4	0.8	0.9	0.8	1.7	3.3	4.5	5.2	7.6	8.4	9.1	10.1	11.3	12.4	12.5	12.1	10.7	8.1
Official reserves as % of GDP				0.9	0.7	0.9	0.8	1.2	2.8	5.3	4.0	3.5	9.5	10.5	12.8	15.5	15.1	15.6	15.3	18.3	23.2	28.7
External debt as % of GDP				5.20	7.30	9.40	10.00	9.20	13.50	14.90	14.40	13.90	17.10	15.20	14.20	14.50	15.20	15.30	13.50	14.70	13.7	

Source: Statistical Yearbook of China, 2002 and website of People's Bank of China.

Table 2. Foreign Direct Investment in PRC: Sectoral Distribution in 1999-2001						
Sector	1999	2000	2001	1999	2000	2001
	Value in US$ million			Share in percentage		
National Total	40,319	40,715	46,878	100.0	100.0	100.0
Manufacturing	22,603	25,844	30,907	56.1	63.5	65.9
Real Estate Management	5,588	4,658	5,137	13.9	11.4	11.0
Social Services	2,551	2,185	2,595	6.3	5.4	5.5
Electric Power, Gas and Water Production and Supply	3,703	2,242	2,273	9.2	5.5	4.8
Wholesale & Retail Trade and Catering Services	965	858	1,169	2.4	2.1	2.5
Transport, Storage, Post and Telecommunication services	1,551	1,012	909	3.8	2.5	1.9
Farming, Forestry, Animal Husbandry and Fishery	710	676	899	1.8	1.7	1.9
Mining and Quarrying	557	583	811	1.4	1.4	1.7
Construction	917	905	807	2.3	2.2	1.7
Scientific Research and Polytechnical Services	110	57	120	0.3	0.1	0.3
Health Care, Sports and Social Welfare	148	106	119	0.4	0.3	0.3
Education, Culture and Arts, Radio, Film and Television	61	54	36	0.2	0.1	0.1
Banking and Insurance	98	76	35	0.2	0.2	0.1
Geological Prospecting and Water Conservancy	5	5	10	0.0	0.0	0.0
Other Sectors	753	1,453	1,051	1.9	3.6	2.2
Source: Statistical Yearbook of China, 2002.						

Table 3. FDI and Trade Patterns by Province (Ranked by Provincial FDI amount in 2001)

Province	Population (2001, million)	GDP (2001, current price, US$ billion)	FDI (2001, US$ million)	Population share (2001, %)	GDP share (2001, %)	FDI share (2000-2001 average, %)	Trade sahre (2000-2001 average, %)	Trade contribution by FIEs (2000-2001 average, %)	FDI as % of Fixed Capital Formation (2001, %)	FDI per capita (2001, US$)	GDP per capita (2001, current price, US$)
National Total	**1,276**	**1,286**	**46,367**	**100.0**	**100.0**	**100.0**	**100.0**	**50.4**	**23.7**	**36**	**1,008**
Guangdong	78	128	11,932	6.1	10.0	25.7	36.1	53.6	75.0	153	1,648
Jiangsu	74	115	6,915	5.8	8.9	14.9	10.5	62.1	49.6	94	1,558
Shanghai	16	60	4,292	1.3	4.6	9.3	11.7	60.8	49.7	266	3,696
Fujian	34	51	3,918	2.7	4.0	8.5	4.8	61.4	80.9	114	1,490
Shandong	90	114	3,521	7.1	8.8	7.6	6.2	49.8	27.5	39	1,258
Liaoning	42	61	2,516	3.3	4.7	5.4	4.2	59.6	32.0	60	1,446
Zhejiang	46	81	2,212	3.6	6.3	4.8	7.0	31.0	16.7	48	1,762
Tianjin	10	22	2,133	0.8	1.7	4.6	3.6	79.2	51.3	212	2,208
Beijing	14	34	1,768	1.1	2.7	3.8	5.3	31.7	26.8	128	2,479
Top 9 by FDI	**404**	**666**	**39,207**	**31.7**	**51.8**	**84.6**	**89.4**	**54.0**	**43.3**	**97**	**1,647**
Hubei	60	56	1,189	4.7	4.4	2.6	0.8	29.3	14.3	20	940
Hunan	66	48	810	5.2	3.7	1.7	0.6	17.5	15.9	12	728
Hebei	67	67	670	5.2	5.2	1.4	1.1	29.9	6.6	10	1,003
Sichuan	86	53	582	6.8	4.1	1.3	0.6	21.0	7.1	7	617
Hainan	8	7	467	0.6	0.5	1.0	0.3	45.8	35.1	59	826
Henan	96	68	457	7.5	5.3	1.0	0.7	18.0	5.7	5	711
Jiangxi	42	26	396	3.3	2.0	0.9	0.4	15.5	14.5	9	626
Guangxi	48	27	384	3.8	2.1	0.8	0.4	23.2	11.6	8	561
Shaanxi	37	22	352	2.9	1.7	0.8	0.5	14.3	6.1	10	607
Heilongjiang	38	43	341	3.0	3.3	0.7	0.8	11.4	4.3	9	1,126
Jilin	27	24	338	2.1	1.9	0.7	0.7	40.1	8.5	13	910
Anhui	63	40	337	5.0	3.1	0.7	0.7	26.4	7.0	5	626
Middle 12 by FDI	**637**	**482**	**6,322**	**49.9**	**37.4**	**13.6**	**7.7**	**24.4**	**11.4**	**10**	**756**
Chongqing	31	21	256	2.4	1.6	0.6	0.4	16.1	8.3	8	681
Shanxi	33	21	234	2.6	1.7	0.5	0.6	11.5	5.9	7	655
Inner Mongolia	24	19	107	1.9	1.4	0.2	0.5	7.9	3.6	5	784
Gansu	26	13	74	2.0	1.0	0.2	0.2	9.0	2.1	3	502
Yunnan	43	25	65	3.4	1.9	0.1	0.4	10.1	1.3	2	583
Qinghai	5	4	36	0.4	0.3	0.1	0.0	6.6	2.6	7	693
Guizhou	38	13	28	3.0	1.0	0.1	0.2	7.0	0.9	1	344
Xinjiang	19	18	20	1.5	1.4	0.0	0.5	4.3	0.4	1	954
Ningxia	6	4	17	0.4	0.3	0.0	0.1	11.6	1.5	3	639
Tibet	3	2	-	0.2	0.1	-	0.0	3.2	0.0	-	636
Bottom 10 by FDI	**226**	**139**	**838**	**17.7**	**10.8**	**1.8**	**2.9**	**8.7**	**2.7**	**4**	**614**

Source: Statistical Yearbook of China, 2002.

Table 4. PRC's Inward FDI by Source Region (USD Billion)										
	1994	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	Sum 1994-2001	Share 1994-2001
Total FDI	33.8	37.5	41.7	45.3	45.5	40.3	40.7	46.9	331.6	100.0%
Hong Kong, China	19.7	20.1	20.7	20.6	18.5	16.4	15.5	16.7	148.1	44.7%
Macao	0.5	0.4	0.6	0.4	0.4	0.3	0.3	0.3	3.3	1.0%
HK & Macao	20.2	20.5	21.3	21.0	18.9	16.7	15.8	17.0	151.4	45.7%
BVI	0.1	0.3	0.5	1.7	4.0	2.7	3.8	5.0	18.3	5.5%
Cayman Is.	0.0	0.0	0.1	0.2	0.3	0.4	0.6	1.1	2.6	0.8%
Pacific Is.	0.0	0.1	0.1	0.2	0.2	0.2	0.4	0.6	1.9	0.6%
West Samoa	0.0	0.1	0.1	0.2	0.1	0.2	0.3	0.5	1.5	0.4%
Mauritius	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.9	0.3%
Bermuda	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.9	0.3%
Panama	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.4	0.1%
Offshore financial centers	0.3	0.9	1.8	2.5	9.0	3.8	5.5	7.9	31.7	9.6%
Taipei,China Prov.	3.4	3.2	3.5	3.3	2.9	2.6	2.3	3.0	24.1	7.3%
The Republic of Korea	0.7	1.4	1.4	2.1	1.8	1.3	1.5	2.2	12.3	3.7%
Singapore	1.2	1.9	2.2	2.6	3.4	2.6	2.2	2.1	18.2	5.5%
Australia	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	2.1	0.6%
Canada	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	2.5	0.8%
Malaysia	0.2	0.3	0.5	0.4	0.3	0.2	0.2	0.3	2.3	0.7%
New Zealand	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1%
Asia Pacific	5.9	7.2	8.1	9.1	9.1	7.3	6.8	8.4	61.9	18.7%
USA	2.5	3.1	3.4	3.2	3.9	4.2	4.4	4.4	29.2	8.8%
Japan	2.1	3.1	3.7	4.3	3.4	3.0	2.9	4.3	26.8	8.1%
EU	1.5	2.1	2.7	4.2	4.0	4.5	4.5	4.2	27.7	8.4%
Developed countries	6.1	8.3	9.9	11.7	11.3	18.9	11.8	13.0	90.9	27.4%
Source: Extracted from *China Foreign Economic Statistical Yearbook 1998 and 2002.*										

Table 5. Top 15 Suppliers of PRC's FDI in 2002

Country/Region	Number of Projects	% of Total Projects	Invested Value (USD Billion)	% of Top 15 Total Invested Value	Average Investment per Project (USD Thoursand)	Rank by Invested Value	Rank by Size of the Project
Top 15 Total	424,196	100	44.8	100	105.6		
Hong Kong, China	210,876	49.71	20.5	45.73	97.2	1	11
USA	37,280	8.79	4.0	8.9	107.0	2	10
Japan	25,147	5.93	3.6	8.11	144.5	3	8
Taipei,China Prov.	55,691	13.13	3.3	7.39	59.5	4	14
BVI	6,659	1.57	2.4	5.44	366.2	5	3
Singapore	10,727	2.53	2.1	4.79	200.2	6	7
The Republic of Korea	22,208	5.24	1.5	3.39	68.4	7	12
UK	3,418	0.81	1.1	2.39	312.9	8	4
Germany	3,053	0.72	0.8	1.78	261.8	9	6
France	2,033	0.48	0.6	1.24	272.7	10	5
Macao	7,827	1.85	0.5	1.07	61.0	11	13
Netherlands	1,065	0.25	0.4	0.97	407.3	12	2
Cayman Islands	706	0.17	0.4	0.85	538.7	13	1
Canada	6,040	1.42	0.3	0.75	55.6	14	15
Malaysia	2,538	0.6	0.3	0.63	111.7	15	9
Others	28,928	6.82	2.9	6.55	101.5		

Source: MOFTEC “China Investment Guide” website.

Table 6. Foreign Invested Enterprises in PRC: by Size of Utilized FDI and Legal Types in 2002					
Legal Types of FIEs	Number of FIEs	Share in Number of Projects (5)	Utilized FDI (USD Billion)	Share in Utilized FDI (%)	Size of FIEs by Utilized FDI (USD Thousand)
All	424,196	100.0	44.8	100.0	105.6
Joint Ventures	225,883	53.3	19.2	42.9	85.1
Contractual Joint Ventures	52,965	12.5	8.3	18.5	156.3
Wholly Foreign owned Enterprises	145,165	34.2	16.6	37.0	114.1
Joint Exploration	183	0.0	0.7	1.6	4024.0
Source: MOFTEC “China Investment Guide” website.					

Table 7. Foreign Invested Enterprises in PRC: by Sizes and Selected Source Regions during 1994-2001									
Size by Utilized FDI	Selected Source Regions	1994	1995	1996	1997	1998	1999	2000	2001
Utilized FDI per Project (USD Thousand)	All	71.2	101.4	169.9	215.5	229.6	238.3	182.2	179.3
	Hong Kong, China	79.9	116.7	198.9	245.5	237.1	277.3	215.3	208.8
	Japan	68.8	105.5	211.2	308.6	283.8	254.8	180.7	215.4
	BVI		180.8	261.0	553.9	683.3	502.6	331.3	333.5
	CI		86.6	278.7	528.1	790.8	994.6	382.7	547.0
Utilized FDI per FIE (USD Thousand)	All	238.1	273.6	297.5	319.7	339.9	366.5	405.8	432.5
	Hong Kong, China			299.7	320.1	336.8	367.7	396.2	429.4
	Japan			322.7	331.1	355.3	370.4	421.8	433.6
	BVI			1748.1	1628.5	1467.7	1279.5	1212.9	1134.2
	CI			3609.4	4166.3	3799.3	3191.6	3016.4	2413.6
Source: MOFTEC "China Investment Guide" website.									

Table 8. The Impact of FDI on the Chinese Economy:1985-2002						
Value Unit:USD100Millions						
	Utilized FDI	Utilized FDI /GDP at Official Exchange Rate (%)	Contribution to Gross Industrial Output Value by FIEs (%)	Contribution to Exports by FIEs (%)	Contribution to Urban Employment by FIEs (%)	Contribution to PRC's Total Industrial and Commercial Taxes by FIEs (%)
1985	4.65	0.6	--	1.20	0.05	--
1986	7.26	0.6	--	1.60	0.10	--
1987	8.45	0.7	--	2.50	0.20	--
1988	3.19	0.8	--	3.70	0.20	--
1989	3.39	0.8	--	9.10	0.30	--
1990	3.49	0.9	2.28	12.60	0.40	--
1991	4.37	1.1	5.29	16.75	1.00	--
1992	11.01	2.3	7.09	20.44	1.30	4.25
1993	27.52	4.6	9.15	27.51	1.60	5.71
1994	33.77	6.2	11.26	28.69	2.20	8.51
1995	37.52	5.4	14.31	31.51	2.70	10.96
1996	41.73	5.1	15.14	40.71	2.70	11.87
1997	45.26	5.0	18.57	41.00	2.70	13.16
1998	45.46	4.8	24.74	44.06	2.90	14.38
1999	40.32	4.0	27.75	45.47	2.80	15.99
2000	40.72	3.8	22.51	47.93	2.90	17.50
2001	46.88	4.0	28.05	50.06	2.80	19.01
2002	52.74	4.2	33.37	52.20	3.00	20.52
Source: Extracted from *China Foreign Economic Statistical Yearbook 1998 and 2002.*						

Table 9. PRC's Capital Flight (USD Billion)																	
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Low estmate of PRC's capital flight	1.5	3.8	3.4	-1.1	2.0	6.6	-0.3	19.6	9.9	13.0	21.7	20.0	55.3	85.3	73.0	49.5	-0.9
Average estimate of PRC's capital flight	3.7	6.3	8.5	7.2	11.3	21.0	17.7	37.8	37.8	39.4	47.9	50.4	85.6	115.6	102.0	90.4	24.2
High estimates of PRC's capital flight	5.9	8.7	13.6	15.5	20.7	35.4	35.6	56.0	65.6	65.5	74.1	80.9	115.9	145.9	131.1	131.4	49.4
PRC's GDP at offical exchange rate	304.4	294.2	321.3	400.0	448.9	389.3	406.4	481.4	601.2	542.7	701.3	818.9	903.2	960.8	992.4	1,079.5	1,157.2
Low estmate of PRC's capital flight/GDP	0.5%	1.3%	1.1%	-0.3%	0.4%	1.7%	-0.1%	4.1%	1.6%	2.4%	3.1%	2.4%	6.1%	8.9%	7.4%	4.6%	-0.1%
Average estimate of PRC's capital flight/GDP	1.2%	2.1%	2.7%	1.8%	2.5%	5.4%	4.3%	7.8%	6.3%	7.3%	6.8%	6.2%	9.5%	12.0%	10.3%	8.4%	2.1%
High estimates of PRC's capital flight/GDP	1.9%	3.0%	4.2%	3.9%	4.6%	9.1%	8.8%	11.6%	10.9%	12.1%	10.6%	9.9%	12.8%	15.2%	13.2%	12.2%	4.3%
FDI flows into PRC	1.7	1.9	2.3	3.2	3.4	3.5	4.4	11.2	27.5	33.8	35.8	40.2	44.2	43.8	38.8	38.4	44.2
FDI flows into PRC/GDP	0.5%	0.6%	0.7%	0.8%	0.8%	0.9%	1.1%	2.3%	4.6%	6.2%	5.1%	4.9%	4.9%	4.6%	3.9%	3.6%	3.8%
Average estimate of capital flight/FDI	221%	334%	369%	225%	334%	602%	405%	339%	137%	117%	134%	126%	194%	264%	263%	236%	55%

Source: The low, average and high estimates of PRC's capital flight are taken from Table 1 of Gunter (2004). Other data are from Table 1 of this paper or calculated by the author.

Table 10.1 Round Tripping FDI to PRC: The Case of U.S. (USD Million)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Standard Deviation	Weighted Average
A = FDI from US to PRC as Reported by US	74	556	1232	261	933	1250	1497	1947	1817	1225	914		
B = FDI from US to PRC as Reported by PRC	511	2063	2491	3083	3443	3239	3898	4216	4384	4433	5424		3381
C = B-A (Unverifiable part of the FDI flows from US to PRC)	437	1507	1259	2822	2510	1989	2401	2269	2567	3208	4510		2316
D = (B-A)/B	85.5%	73.1%	50.5%	91.5%	72.9%	61.4%	61.6%	53.8%	58.6%	72.4%	83.1%	13.5%	68.5%
High estimate of the average ratio of round tripping FDI from US to PRC													**68.5%**
Middle estimate of the average ratio of round tripping FDI from US to PRC													**61.8%**
Low estimate of the average ratio of round tripping FDI from US to PRC													**55.1%**

Source: US Department of Commerce, Bureau of Economic Analysis and China National Bureau of Statistics.

Table 10.2. Round Tripping FDI to PRC: The Case of Germany (USD Million)						
	1998	1999	2000	2001	Standard Deviation	Weighted Average
FDI from Germany to PRC as Reported by Germany (Million Euro)	578	631	889	1050		
Dollar/Euro Exchange Rate (Average over the year)	1.09	1.02	0.95	0.85		
A = FDI from Germany to PRC as Reported by Germany (USD Million)	628	646	847	890		
B = FDI from Germany to PRC as Reported by PRC	737	1373	1041	1213		1091
C = B-A (Unverifiable part of the FDI flows from Germany to PRC)	108	727	194	323		338
D = (B-A)/B	14.7%	52.9%	18.7%	26.6%	17.2%	31.0%
High estimate of the average ratio of round tripping FDI from Germany to PRC						**31.0%**
Middle estimate of the average ratio of round tripping FDI from Japan to PRC						**22.4%**
Low estimate of the average ratio of round tripping FDI from Germany to PRC						**13.8%**
Source: Deutsche Bundesbank.						

Table 10.3 Round Tripping FDI to PRC: The Case of Japan (USD Million)							
	1996	1997	1998	1999	2000	Standard Deviation	Weighted Average
FDI from Japan to PRC as Reported by Japan (100 Million Yen)	2529	2251	1710	414	1010		
Yen/Dollar Exchange Rate (Average over the year)	109.18	121.76	131.19	113.22	108.34		
A = FDI from Japan to PRC as Reported by Japan (USD Million)	2316	1849	1304	366	932		
B = FDI from Japan to PRC as Reported by PRC	3679	4326	3400	2973	2916		3459
C = B-A (Unverifiable part of the FDI flows from Japan to PRC)	1363	2477	2096	2607	1984		2106
D = (B-A)/B	37.0%	57.3%	61.7%	87.7%	68.0%	18.3%	60.9%
High estimate of the average ratio of round tripping FDI from Japan to PRC							**60.9%**
Middle estimate of the average ratio of round tripping FDI from Japan to PRC							**51.7%**
Low estimate of the average ratio of round tripping FDI from Japan to PRC							**42.6%**
Source: Bank of Japan.							

Table 10.4 Round Tripping FDI to PRC: The Case of the Republic of Korea (USD Million)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Standard Deviation	Weighted Average
FDI from the Republic of Korea to PRC as Reported by the Republic of Korea	264	633	838	893	723	677	348	605	541	888	1350		
B = FDI from the Republic of Korea to PRC as Reported by PRC	374	723	1043	1358	2142	1803	1275	1490	2152	2721	4490		1779
C = B-A (Unverifiable part of the FDI flows from the Republic of Korea to PRC)	110	90	205	465	1419	1126	927	885	1611	1833	3140		1074
D = (B-A)/B	29.4%	12.4%	19.7%	34.2%	66.2%	62.5%	72.7%	59.4%	74.9%	67.4%	69.9%	23.0%	60.3%
High estimate of the average ratio of round tripping FDI from the Republic of Korea to PRC													**60.3%**
Middle estimate of the average ratio of round tripping FDI from the Republic of Korea to PRC													**48.8%**
Low estimate of the average ratio of round tripping FDI from the Republic of Korea to PRC													**37.3%**

Source: The Export-Import Bank of Korea.

Table 10.5. Round Tripping FDI to PRC: The Case of Taipei,China Province (USD Million)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Standard Deviation	Weighted Average
FDI from Taipei,China to PRC as Reported by Taipei,China	174	247	1140	962	1093	1229	1615	1519	1253	2607	2784		
B = FDI from Taipei,China to PRC as Reported by PRC	2783	5543	9965	5395	5777	5141	2814	2982	3374	2293	2980		4459
C = B-A (Unverifiable part of the FDI flows from Taipei,China to PRC)	2609	5296	8825	4433	4684	3912	1199	1463	2121	-314	196		3129
D = (B-A)/B	93.7%	95.5%	88.6%	82.2%	81.1%	76.1%	42.6%	49.1%	62.9%	-13.7%	6.6%	36.2%	70.2%
High estimate of the average ratio of round tripping FDI from Taipei,China to PRC													**70.2%**
Middle estimate of the average ratio of round tripping FDI from Taipei,China to PRC													**52.1%**
Low estimate of the average ratio of round tripping FDI from Taipei,China to PRC													**34.0%**

Source: from Table 6 in Tain-Jy Chen's article on "Will Taiwan Be Marginalized by China?", Asian Economic Papers, Volume 2, Number 2, page 84, 2003.

Table 10.6 Round Tripping FDI to PRC: The Case of Singapore (USD Million)						
	1998	1999	2000	2001	Standard Deviation	Weighted Average
FDI from Singapore to PRC as Reported by Singapore (Million Singapore Dollar)	1709	2110	1441	832		
Dollar/Singapore Dollar Exchange Rate (Average over the year)	0.59	0.60	0.59	0.56		
A = FDI from Singapore to PRC as Reported by Singapore (USD Million)	1013	1256	843	463		
B = FDI from Singapore to PRC as Reported by PRC	3404	2642	2172	2144		2591
C = B-A (Unverifiable part of the FDI flows from Singapore to PRC)	2391	1387	1329	1681		1697
D = (B-A)/B	70.2%	52.5%	61.2%	78.4%	11.2%	65.5%
High estimate of the average ratio of round tripping FDI from Singapore to PRC						**65.5%**
Middle estimate of the average ratio of round tripping FDI from Singapore to PRC						**59.9%**
Low estimate of the average ratio of round tripping FDI from Singapore to PRC						**54.3%**
Source: Singapore Department of Statistics and Statistical Yearbook of China.						

Table 10.7 Unverifiable FDI: The Case of U.S. in 2000

Country	FDI to US reported by Source Country	Unit of Left Column	Avearge Exchange Rate of Dollar to other currencies	FDI to US reported by Source Country in US$ Million	FDI Reported by US in US$ Million	Over or under reporting by U.S.
Mexico	5062	million US$	1	5,062	5,062	0%
Brazil	106	million US$	1	106	106	0%
Finland	4417	million Euro	0.957	4,227	4,407	4%
Canada	38987	million Canadian$	0.6706	26,145	27,258	4%
Hong Kong, China	2900	million HK$	0.1282	372	669	44%
UK	24249	million pound	1.5309	37,123	82,652	55%
Japan	1520900	million yen	0.0093899	14,281	7,820	- 83%
Germany	30000	million Euro	0.957	28,710	14,054	- 104%
Sum of the above				116,025	142,028	18%

Source: U.S. Department of Commerce, Bureau of Economic Analysis and United Nations Conference on Trade and Development.

Table 11. IPOs by PRC Companies through the Main Board of the Hong Kong Stock Exchange (USD billion)						
Year	IPO Total	H shares*	Red chips*	Others	IPO by H and Red	Share of IPO by H and Red
1991	0.9			0.9		
1992	1.5		0.2	1.3		
1993	3.7	1.0	0.1	2.6	1.2	31.2%
1994	2.2	1.3	0.2	0.8	1.5	65.8%
1995	1.0	0.3	0.2	0.6	0.5	44.2%
1996	4.0	0.9	0.4	2.7	1.3	32.9%
1997	10.5	4.1	5.1	1.3	9.2	87.5%
1998	0.8	0.3	0.0	0.5	0.3	37.2%
1999	2.0	0.5	0.3	1.2	0.8	40.2%
2000	15.0	6.6	5.7	2.8	12.3	81.7%
2001	2.8	0.7	1.5	0.5	2.3	81.6%
2002	5.8	2.2	2.7	0.9	4.8	84.1%
2003-3Q	1.8	1.1	0.0	0.8	1.1	57.9%
Source: HKEx and SFC.						

Table 12. Top 10 IPOs in Hong Kong, China: 1997-2002 (USD billion)				
Company	Listing date	Total Funds Raised	Funds Raised from HK	Share of Funds Raised from HK
China Unicom	2000/6/22	5.59	0.24	4.3%
China Mobile	1997/10/23	4.19	0.38	9.0%
Sinopec	2000/10/19	3.42	0.17	5.0%
PetroChina	2000/4/7	2.86	0.14	5.0%
BOC Hong Kong	2002/7/25	2.63	0.83	31.7%
China Telecom	2002/11/15	1.42	0.07	5.0%
CNOOC	2001/2/28	1.42	0.06	4.4%
MTR (local)	2000/10/5	1.38	0.72	52.2%
China South Air	1997/7/31	0.71	0.04	6.0%
i- Cable Comm (Local)	1999/11/24	0.55	0.05	8.7%
Source: HKEx and SFC.				

Table 13. Hong Kong, China's Round Tripping FDI Flows into PRC 1998-2002 (USD Billion)							
	1998	1999	2000	2001	2002	Standard Deviation	Weighted Average 1998-2002
A1 = FDI from Hong Kong, China to PRC as reported by Hong Kong, China	6.9	10.1	46.3	8.5	15.9		17.5
A2 = FDI from Hong Kong, China to PRC excluding the communications sector as reported by Hong Kong, China (A1-A4)	4.2	7.8	13.1	3.9	4.5		6.7
A3 = FDI from Hong Kong, China to PRC correcting over-reporting in communications sector by Hong Kong, China (A1-A4+B2)	5.9	9.3	14.1	4.8	5.4		7.9
A4 = FDI from Hong Kong, China to PRC in communications sector as reported by Hong Kong, China	2.7	2.3	33.2	4.6	11.4		10.8
B1 = FDI from Hong Kong, China to PRC as reported by PRC	18.5	16.4	15.4	16.7	17.86		17.0
B2 = PRC's total FDI inflow in transportation, storage, post and telecommunication services	1.6	1.6	1.0	0.9	0.9		1.2
C1 = B1-A1 (Type 1 of the unverifiable FDI from Hong Kong, China)	11.6	6.3	-30.9	8.2	2.0		-0.6
D1 = (B1-A1)/B1	62.5%	38.6%	-200.7%	49.1%	11.0%		-3.4%
C2 = B1-A2 (Type 2 of the unverifiable FDI from Hong Kong, China)	14.3	8.6	2.3	12.8	13.4		10.3
D2 = (B1-A2)/B1	77.1%	52.6%	14.9%	76.6%	74.8%		60.5%
C3 = B1-A3 (Type 3 of unverifiable FDI from Hong Kong, China)	12.6	7.1	1.3	11.9	12.4		9.1
D3 = (B1-A3)/B1	68.2%	43.1%	8.3%	71.2%	69.7%	27.1%	53.4%
High estimate of the average ratio of round tripping FDI from Hong Kong, China to PRC							**53.4%**
Middle estimate of the average ratio of round tripping FDI from Hong Kong, China to PRC							**39.9%**
Low estimate of the average ratio of round tripping FDI from Hong Kong, China to PRC							**26.3%**
Source: PRC FDI statistics from the Statistical Yearbook of China; Hong Kong, China FDI Statistics from External Direct Investment Statistics of Hong Kong.							

Table 14. Round Tripping FDI through Offshore Centres: The Case of Hong Kong, China							
	1998	1999	2000	2001	2002	Standard Deviation	Weighted Average1998-2002
FDI stock	223.5	403.8	455.2	419.2	336.2		367.6
FDI stock excluding round tripping	130.4	260.4	288.1	285.2	244.0		241.6
Round tripping FDI stock	93.1	143.4	167.2	133.9	92.2		126.0
Ratio of round tripping FDI Stock	41.7%	35.5%	36.7%	32.0%	27.4%		34.3%
FDI flow into Hong Kong, China	14.7	24.4	61.9	23.8	9.7		26.9
FDI flow excluding round tripping	8.7	17.9	32.0	20.3	1.7		16.1
Round tripping FDI flows	5.9	6.6	29.9	3.4	8.0		10.8
Ratio of round tripping FDI flows	40.4%	27.0%	48.3%	14.4%	82.6%	25.9%	40.1%
High estimate of round tripping FDI flows							**53.0%**
Middle estimate of round tripping FDI flows							**40.1%**
Low estimate of round tripping FDI flows							**27.2%**
Source: Derived from External Direct Investment Statistics of Hong Kong.							

Table 15. Round- Tripping (RT) FDI to PRC: Summary of Estimated Amount and Ratio

Region	FDI in 2000 (USD M)	Share of PRC's FDI in 2000	RT- Ratio: High	RT- Ratio Middle	RT- Ratio Low	RT- FDI: High (USD M)	RT- FDI: Middle (USD M)	RT- FDI: Low (USD M)
U.S.	4,384.00	10.8%	68.5%	61.8%	55.1%	3,003	2,709	2,416
Germany	1,041.00	2.6%	31.0%	22.4%	13.8%	323	233	144
Japan	2,916.00	7.2%	60.9%	51.7%	42.6%	1,776	1,508	1,242
The Republic of Korea	1,490.00	3.7%	60.3%	48.8%	37.3%	898	727	556
Taipei,China	2,293.00	5.6%	70.2%	52.1%	34.0%	1,610	1,195	780
Singapore	2,172.00	5.3%	65.5%	59.9%	54.3%	1,423	1,301	1,179
Hong Kong, China SAR	15,400.00	37.8%	53.4%	39.9%	26.3%	8,224	6,145	4,050
Sub- total of the above 7	29,696.00	72.9%	58.1%	46.5%	34.9%	17,256	13,817	10,366
The rest	11,019.00	27.1%	31.0%	22.4%	13.8%	3,416	2,468	1,521
All Sources	40,715.00	100.0%	50.8%	40.0%	29.2%	20,672	16,286	11,887

Source: Previous tables and author's calculation.

Table 16. PRC's Round Tripping FDI as Compared with PRC's Capital Flight (USD Billion)									
	1994	1995	1996	1997	1998	1999	2000	2001	Weighted Average in 1994-2001
A. PRC's total inward FDI	33.8	37.5	41.7	45.3	45.5	40.3	40.7	46.9	41.5
B1. High estimate of PRC's capital flight	65.5	74.1	80.9	115.9	145.9	131.1	131.4	49.4	99.3
B2. Middle estimate of PRC's capital flight	39.4	47.9	50.4	85.6	115.6	102.0	90.4	24.2	69.5
B3. Low estimate of PRC's capital flight	13.0	21.7	20.0	55.3	85.3	73.0	49.5	-0.9	39.6
C1. High estimate of average round tripping FDI (C1 = A.* 50.8%)	17.2	19.1	21.2	23.0	23.1	20.5	20.7	23.8	21.1
C2.Middle estimate of average round tripping FDI (C2 = A*40.0%)	13.5	15.0	16.7	18.1	18.2	16.1	16.3	18.8	16.6
C3. Low estimate of average round tripping FDI (C3 = A.* 29.2%)	9.9	11.0	12.2	13.2	13.3	11.8	11.9	13.7	12.1
D1 = C1/B1 (round tripping FDI/capital flight for high estimates)	26.2%	25.7%	26.2%	19.8%	15.8%	15.6%	15.7%	48.2%	21.2%
D2 = C2/B2 (round tripping FDI/capital flight for middle estimates)	34.3%	31.3%	33.1%	21.1%	15.7%	15.8%	18.0%	77.3%	23.9%
D3 = C3/B3 (round tripping FDI/capital flight for low estimates)	75.6%	50.6%	60.9%	23.9%	15.6%	16.1%	24.0%	-1452.3%	30.6%
Source: Capital flight data from Table 9; Round tripping FDI ratios from Table 15.									

References

Adams, A. H. (1993) "Hong Kong's Charms." *The China Business Review* (November-December).

Cheong, Y.L and Xiao Geng (2003) "Global Capital Flows and the Position of China: Structural and Institutional Factors and their implications." 113-175, in *China's Role in Asia and the World Economy: Fostering Stability and Growth*, edited by Jan Joost Teunissen, The Hague: FONDAD.

Cuddington, J.T. (1986) "Capital flight: estimates, issues and explanations" *Princeton Studies in International Finance*, 58.

Gunter, Frank R. (1996) "Capital Flight from the People's Republic of China: 1984-1994." *China Economic Review* 7(1): 77-96.

Gunter, Frank R. (2004) "Capital Flight from China: 1984-2001." *China Economic Review*, forthcoming.

Harrold, P., and R. Lall. (1993) "China, Reform and Development in 1992-93." *World Bank Discussion Papers* 215, Washington, D.C.

Huang, Jinglao. (2003) "A Research into the Round-tripping FDI in China." report to ADBI, Tokyo.

Huang, Yasheng. (2003) *Selling China: FDI during the Reform Era*. New York: Cambridge University Press.

International Monetary Fund. (2002) World Economic Outlook. September, Washington, DC.

International Monetary Fund. (2003) Global Portfolio Investment Survey, Washington, DC.

Lardy, N. 1995. "The Role of Foreign Trade and Investment in China's Economic Transformation." *China Quarterly*, 144:1065-82.

Maddison, Angus. 2001. *The World Economy: A Millennial Perspective,* Development Centre of OECD, Paris.

McCauley, Robert N. (2002) "Integrating the finances of East Asia." *BIS Quarterly Review*. December 2002.

OECD. (2003) *Investment Policy Review, China: Progress and Reform Challenges.* OECD, Paris.

Sicular, T. (1998) "Capital flight and foreign investment: two tales from China and Russia" *The World Economy*, 21(5), 589-602.

World Bank. (2002) *Global Development Finance*, 2002: 41.

Related Literature in Chinese

刘红忠，2001：《中国对外直接投资的实证研究及国际比较》，复旦大学出版社

杨海珍、陈金贤，2000：《中国资本外逃：估计与国际比较》，《世界经济》第 1 期

杨胜刚、刘宗华，2000：《资本外逃与中国的现实选择》，《金融研究》第 2 期

韩继云，1999：《中国资本外逃的现状：成因与防治策略》，《改革》第 11 期

任惠，2001：《中国资本外逃的规模测算和对策分析》，《经济研究》第 11 期

江小涓，2002：《中国的外资经济：对增长、结构升级和竞争力的贡献》，中国人民大学出版社

宋文兵，1999：《中国的资本外逃问题研究：1987- 1997》，《经济研究》第 5 期

李扬，1998：《中国经济对外开放过程中的资金流动》，《经济研究》第 2 期

李庆云、田晓霞，2000：《中国资本外逃规模的重新估算：1982-1999》，《金融研究》第 8 期

胡援成，2001：《中国资本外逃问题再思考》，《当代财经》第 4 期

庄芮，2001：《试析中国的资本外逃》，《世界经济研究》第 4 期