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The Chinese Approach to Capital Inflows
Patterns and Possible Explanations

Eswar Prasad and Shang-Jin Wei

9.1 Introduction

China has in many ways taken the world by storm. In addition to its swiftly rising prominence in the global trading system, where it now accounts for over 6 percent of total world trade, it has also become a magnet for foreign direct investment (FDI), overtaking the United States (in 2003) as the number one destination for FDI.

It was not always thus. China's integration with the global economy began in earnest only after the market-oriented reforms that were instituted in 1978. Capital inflows, in particular, were minimal in the 1970s and 1980s, impeded by capital controls and the reluctance of international investors to undertake investment in a socialist economy with weak institutions and limited exposure to international trade. All of this changed in the early 1990s, when FDI inflows surged dramatically because of the selective opening of China's capital account as well as the rapid trade expansion that, in conjunction with China's large labor pool, created opportunities for foreign investors. These inflows have remained strong ever since, even during the Asian crisis of the late 1990s.

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Given China's status as a global economic power, characterizing the nature and determinants of China's capital inflows is of considerable interest for analytical reasons as well as for understanding the implications for the regional and global allocation of capital. Our primary objective in this paper is to provide a detailed descriptive analysis of the main aspects of capital inflows into China. Given the degree of interest in China and the relative paucity of data, we aim to provide a benchmark reference tool for other researchers, in part by providing some critical perspectives on the numbers that we report.

Section 9.2 presents a detailed picture of the evolution of China's capital inflows. A feature of particular interest is that China's capital inflows have generally been dominated by FDI, which, for an emerging market, constitutes a preferred form of inflows, since FDI tends to be stable and associated with other benefits such as transfers of technological and managerial expertise. An interesting aspect of these inflows is that, contrary to some popular perceptions, they come mainly from other advanced Asian countries that have net trade surpluses with China, rather than from the United States and Europe, which constitute China's main export markets. As for other types of inflows, China has limited its external debt to low levels, and non-FDI private capital inflows have typically been quite limited, until recently.

In section 9.3, we examine the evolution of the balance of payments and dissect the recent surge in the pace of accumulation of international reserves. A key finding is that, although current account surpluses and FDI have remained important contributors to reserve accumulation, the dramatic surge in the pace of reserve accumulation since 2001 is largely attributable to non-FDI capital inflows. We provide some analytical perspectives on the costs and benefits of holding a stock of reserves that now amounts to nearly 40 percent of gross domestic product (GDP). There has also been considerable international attention focused recently on the issue of the currency composition of China's massive stock of international reserves (which is now second only to that of Japan). Despite data constraints, we attempt to shed what little light we can on this issue, both by carefully examining a popular source of data for China's holding of U.S. securities and by calculating the potential balance-of-payments implications of reserve valuation effects associated with the depreciation of the U.S. dollar in recent years.

Section 9.4 discusses the broader composition of China's capital inflows in the context of the burgeoning literature on financial globalization. Notwithstanding the recent surge of non-FDI inflows, FDI remains historically the dominant source of inflows into China. The literature on the benefits and risks of financial globalization suggests that China may have benefited greatly in terms of improving the risk-return trade-offs by having its inflows tilted so much toward FDI.

Whether this composition of inflows is a result of enlightened policies,

the structure of institutions, or plain luck is an intriguing question. In section 9.5, we examine various hypotheses that have been put forward to explain why China has its inflows so heavily tilted toward FDI. In this context, we provide a detailed description of China's capital account restrictions and how these have evolved over time. While controls on non-FDI inflows as well as tax and other incentives appear to be proximate factors for explaining the FDI-heavy composition of inflows, other factors may also have contributed to this outcome. It is not straightforward to disentangle the quantitative relevance of alternative hypotheses. We argue, nonetheless, that at least a few of the hypotheses—including some mercantilist-type arguments that have been advanced recently—are not consistent with the facts.

9.2 The Chinese Pattern of Inflows and Some International Comparisons

9.2.1 The Evolution of Capital Inflows

Gross capital inflows into China were minuscule before the early 1980s. After 1984, the "other investment" category, which includes bank lending, increased significantly and accounted for the largest share of total inflows during the 1980s (figure 9.1). FDI rose gradually from the early 1980s to early 1991 and then rose dramatically through the mid-1990s. During the 1990s, FDI accounted for the lion's share of inflows. It is interesting to note that FDI inflows were only marginally affected during the Asian crisis. Figure 9.2 provides some more detail on the evolutions of the main compo-

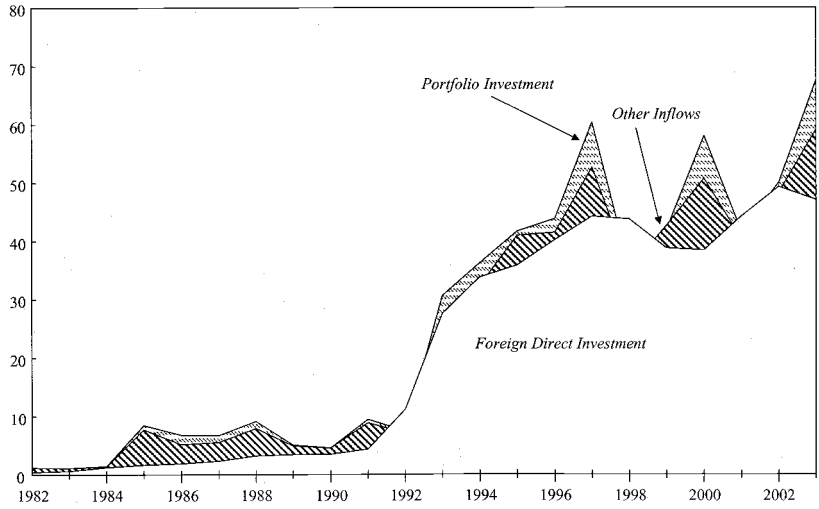

Fig. 9.1 Level and composition of gross capital inflows, 1982–2003 (in billions of U.S. dollars)

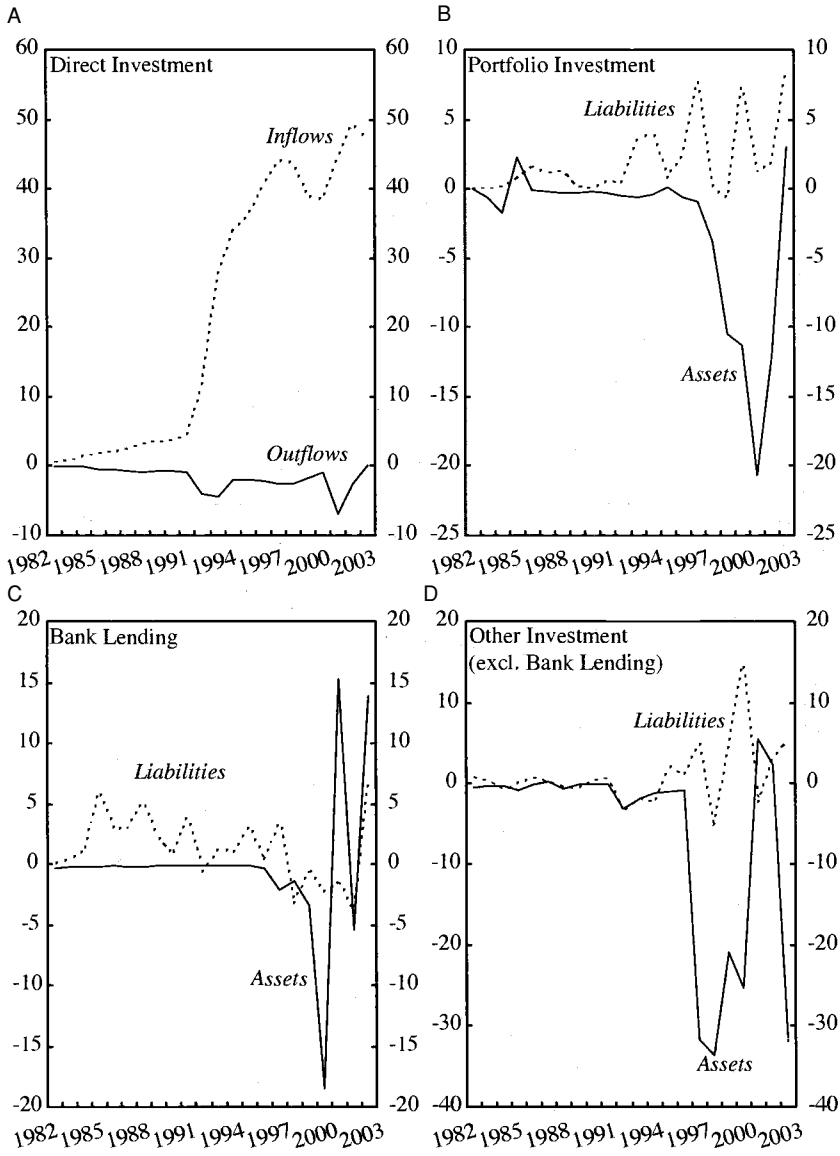

Fig. 9.2 Gross capital flows by component (in billions of U.S. dollars): *A*, direct investment; *B*, portfolio investment; *C*, bank lending; *D*, other investment (excluding bank lending)

Source: CEIC database.

Note: Scales differ across the four panels of this figure.

nents of the capital account, in terms of both gross outflows and inflows. Note that all components other than FDI show sharp increases in outflows in the period immediately after the Asian crisis, with the subsequent recovery in net inflows of these components taking two to three years to materialize. Recent data indicate that, after remaining in a range of around $50 billion during 2002–3, gross FDI inflows increased to almost $61 billion in 2004.

From a cross-country perspective, China's net capital inflows are of course large in absolute magnitude but hardly remarkable relative to the size of the economy. Before the Asian crisis, many of the other "Asian tigers" had significantly larger inflows relative to their GDP (figure 9.3, panel A). What is striking, however, is that, except for Singapore, the share of FDI in total inflows is clearly the highest for China. Its total net inflows as a share of GDP rank among the highest across all emerging markets after the Asian crisis, especially since many of the Asian tigers were no longer the darlings of international investors (figure 9.3, panel B). While the net inflows dropped sharply across all emerging markets after the late 1990s, the interesting thing to note is that most of the inflows that did come into the emerging markets after 1999 took the form of FDI.

China's average net inflows, and the share of FDI in those inflows, look quite similar during the periods 1990–96 and 1999–2003. Since FDI is clearly the main story in the context of China's capital inflows, we now turn to a more detailed examination of these flows.

9.2.2 Foreign Direct Investment

Over the past decade, China has accounted for about one-third of gross FDI flows to all emerging markets and about 60 percent of these flows to Asian emerging markets (figure 9.4, panel A). Even excluding flows from Hong Kong to China from these calculations (on the extreme assumption that all of these flows represent "round-tripping" of funds originating in China—this point is discussed further below), China's share in these flows to emerging markets is substantial (figure 9.4, panel B). The shares spike upward during the Asian crisis and, more recently, in 2002, when weaknesses in the global economy resulted in a slowdown in flows from industrial countries to most emerging markets other than China. With the pickup in flows to emerging markets in 2003, there was a corresponding decline in China's share, even though flows to China remained essentially unchanged.

Where are China's FDI inflows coming from? Table 9.1 shows the share of utilized FDI by source country. Some aspects of the results are worth noting. First of all, the share of Hong Kong has declined steadily over the past decade, from 58 percent in 1994 to 32 percent in 2004. One of the concerns in interpreting FDI data for China is that a significant portion of these flows could potentially represent round-tripping to take advantage of

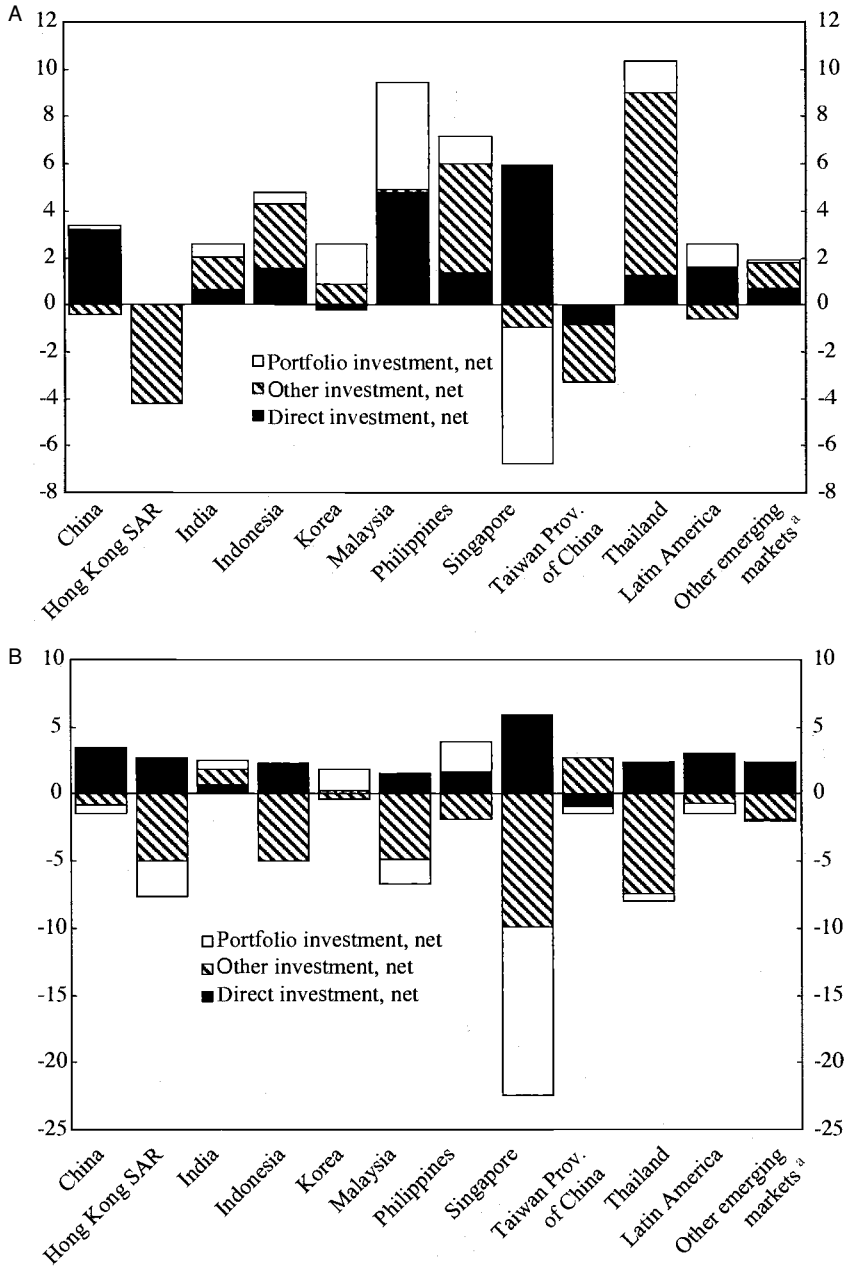

Fig. 9.3 Asian economies and emerging markets: Net capital flows (in percent of GDP): *A*, before Asian crisis (average 1990–96); *B*, after Asian crisis (average 1999–2003)

Source: World Economic Outlook database.

[a]Average for emerging markets in EMBI+ index, excluding Latin America and Asian countries.

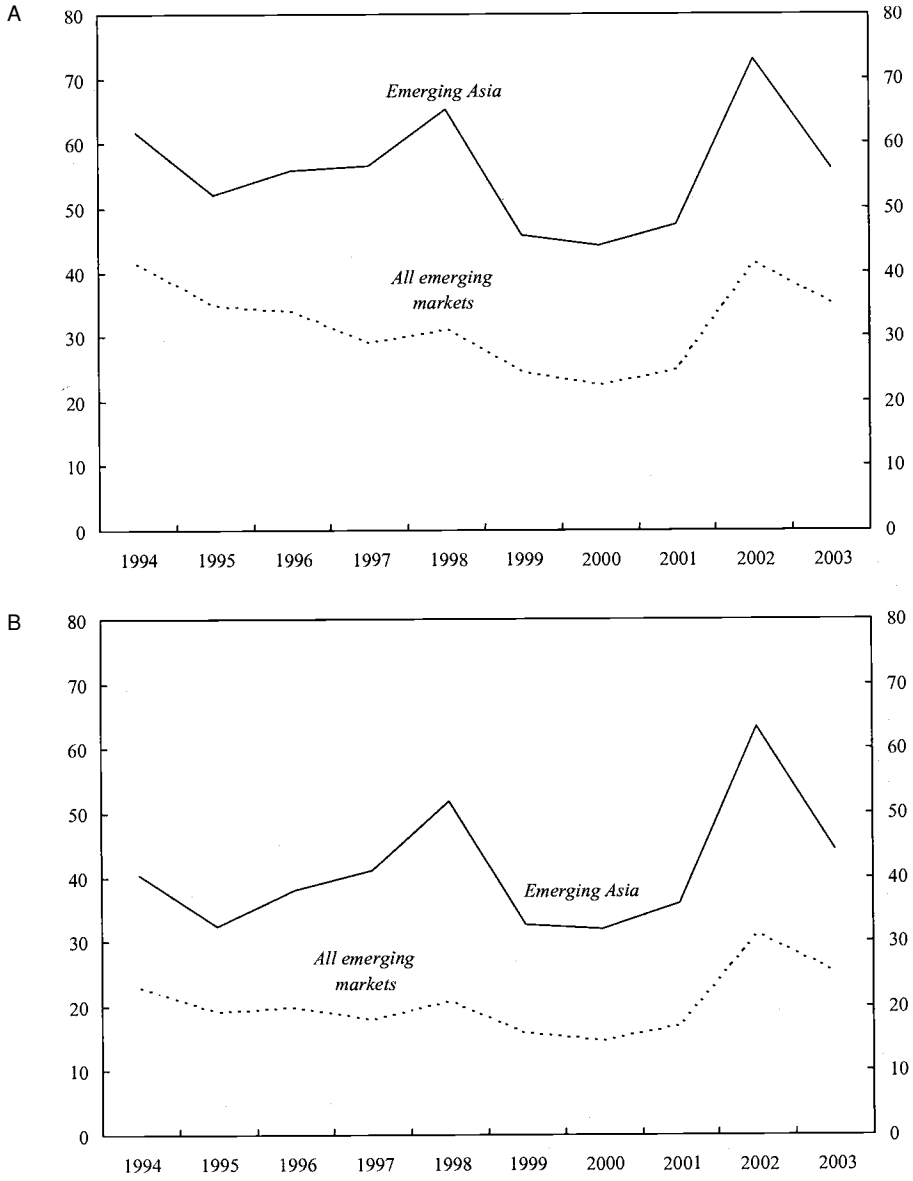

Fig. 9.4 China's share of foreign direct investment inflows to emerging markets: *A*, FDI to China; *B*, FDI to China minus FDI from Hong Kong

Sources: World Economic Outlook database, CEIC database, and authors' calculations.

Notes: This figure uses data on gross FDI flows in percent of FDI to emerging Asia and all emerging markets. Panel B excludes gross FDI flows to China originating from Hong Kong from both the numerator and the denominator of the two ratios shown.

Table 9.1 **FDI inflows by source country (percent share)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004 (September)
Hong Kong	58.2	53.4	49.6	45.6	40.7	40.6	38.1	35.7	33.9	33.1	31.7
Virgin Islands					8.9	6.6	9.4	10.8	11.6	10.8	11.5
Japan	6.1	8.2	8.8	9.6	7.5	7.4	7.2	9.3	7.9	9.4	8.7
Korea	2.1	2.8	3.3	4.7	4.0	3.2	3.7	4.6	5.2	8.4	10.7
United States	7.4	8.2	8.2	7.2	8.6	10.5	10.8	9.5	10.3	7.8	6.9
European Union						11.1	11.0	8.9	7.0	7.3	7.3[a]
Taiwan	10.0	8.4	8.3	7.3	6.4	6.4	5.6	6.4	7.5	6.3	5.4
Singapore	3.5	4.9	5.4	5.8	7.5	6.6	5.3	4.6	4.4	3.8	3.5
Australia	0.6	0.6	0.5	0.7	0.6	0.0	0.8	0.7	0.7	1.1	1.0
Western Samoa					0.3	0.5	0.7	1.1	1.7	1.8	2.0
Macao					0.9	0.8	0.9	0.7	0.9	0.8	0.8[a]
Others	12.0	13.4	16.0	19.3	14.7	6.5	6.7	7.9	8.9	9.2	10.4
Total	100	100	100	100	100	100	100	100	100	100	100

Sources: CEIC database and CEIC China database.

Note: This table is based upon data for utilized (rather than contracted) FDI.

[a]Data for these two regions for 2004 were not available at the time of this writing, so the same share has been assumed as in 2003.

preferential tax treatment of foreign investment relative to domestic investment. Much of this round-tripping is believed to take place through Hong Kong. While it is difficult to estimate the extent of round-tripping, the declining share of Hong Kong in total inflows at least suggests that the magnitude of round-tripping as a share of total FDI inflows may have been declining over time. On the other hand, the shares of small economies like the Virgin Islands and Western Samoa, which have risen over the past few years, could now be accounting for some of these round-tripping flows.[1]

Asian economies account for a substantial fraction of China's FDI inflows. For instance, over the period 2001–4, five Asian economies—Hong Kong, Japan, Korea, Taiwan, and Singapore—together account for about 60 percent of FDI inflows. That a lot of China's FDI comes from these relatively advanced Asian economies suggests that these flows do bring the usual benefits associated with FDI, including transfers of technological and managerial expertise. The other interesting point to note is that—contrary to the widespread perception of large direct investment flows from western industrial economies to China—the United States and the European Union (EU) economies together accounted for only 15 percent of total inflows in 2003, and even that is down from a share of 22 percent in 1999–2000. Even if one were to assume that half of the reported FDI inflows from Hong Kong are accounted for by round-tripping and that all of the share of the Virgin Islands in fact represents flows originating in the United States, the share of the United States and the EU in China's total FDI inflows would be about 30 percent, a large but hardly dominant share. Preliminary data for 2004 indicate that the share of Hong Kong has declined by about 1.5 percentage points and that of the United States is down by 1 percentage point, while Korea's share has increased by over 2 percentage points.

To which parts and regions of China's economy are FDI inflows being directed? Table 9.2 shows that about two-thirds of these flows have been going into manufacturing, with real estate accounting for about another 10 percent. Within manufacturing, the largest identifiable share has consistently gone to electronics and communication equipment. The share of manufacturing has risen by almost 15 percentage points since 1998, largely at the expense of the shares of utilities, construction, transport and telecommunication services, and real estate. Since the industries with declining FDI shares are largely focused on nontraded goods, the evolution of this pattern of FDI seems to be consistent with the notion that these inflows have been stimulated by China's increasing access (both actual and anticipated) to world export markets following its accession to the World Trade Organization (WTO).

1. A more likely possibility is that those could be flows from sources such as Japan, Taiwan, and the United States that are channeled through such offshore financial centers in order to evade taxes in the source countries.

Table 9.2 **Utilized FDI by sector (percent share)**

	1998	1999	2000	2001	2002	2003	2004 (September)
Primary sector	1.4	1.8	1.7	1.9	1.9	1.9	1.8
Extraction industries	1.3	1.4	1.4	1.7	1.1	0.6	0.6
Manufacturing	56.3	56.1	63.5	65.9	69.8	69.0	70.9
Textiles	3.4	3.4	3.4	4.1	5.6	4.1	3.6
Chemicals and raw materials	4.3	4.8	4.4	4.7	6.0	4.9	4.4
Medicine	0.8	1.7	1.3	1.3	1.7	1.4	1.2
Ordinary machinery	2.1	2.4	2.6	2.8	3.2	2.9	3.4
Special use equipment		1.3	1.3	1.7	2.5	2.3	3.5
Electronics and communication equipment	5.3	7.8	11.3	15.1	20.0	11.9	13.0
Utilities	6.8	9.2	5.5	4.8	2.6	2.4	2.0
Construction	4.5	2.3	2.2	1.7	1.3	1.1	1.3
Transport and telecommunication services	3.6	3.8	2.5	1.9	1.7	1.6	2.2
Distribution industries	2.6	2.4	2.1	2.5	1.8	2.1	1.3
Banking and finance		0.2	0.2	0.1	0.2	0.4	0.4
Real estate	14.1	13.9	11.4	11.0	10.7	9.8	9.4
Development and operations	12.0	11.7	10.7	10.2	9.9	9.5	8.9
Social services	6.5	6.3	5.4	5.5	5.6	5.9	5.9
Hotels	1.1	1.8	1.1	1.0	0.9	0.9	0.6
Healthcare, sports, and social welfare	0.2	0.4	0.3	0.3	0.2	0.2	0.1
Media and broadcasting	0.2	0.2	0.1	0.1	0.1	0.1	1.8
Scientific research services	0.1	0.3	0.1	0.3	0.4	0.5	0.5
Other	2.4	1.9	3.6	2.3	2.5	4.2	1.7

Source: CEIC database.

The regional distribution within China of utilized FDI inflows has shown some changes over time (table 9.3). Guangdong Province has typically accounted for about one-quarter of FDI inflows, consistent with its proximity to Hong Kong and its reputation as an exporting powerhouse, but its share fell by about 7 percentage points from 1995–97 to 2003. The big winner over the past few years has been Jiangsu Province (next to Shanghai), which increased its share from 12 percent in 1995–97 to 25 percent in 2003, thereby displacing Guangdong from the lead position.[2] This has come at the expense of the relative shares of provinces such as Fujian,

2. In the early 1980s, Guangdong was heavily promoted as a leading experimental lab for market-oriented reforms, due in part to its proximity to Hong Kong. By contrast, the reform of the Yangtze River Delta region (especially Jiangsu, Shanghai, and Zhejiang) was held back in the 1980s. Shanghai was a key provider of revenue to the central government and, since the experiment with a market economy was considered risky, central planning features were largely retained there until the late 1980s. Once it was clear that the market economy experiment was working well, reforms in Shanghai went into full swing.

Table 9.3 **Foreign direct investment inflows into China by region (in percent of total FDI inflows)**

	Average 1995–2003	Average 1995–1997	Average 2000–2003	2003
Guandong	25.1	27.0	22.3	14.6
Jiangsu	15.3	12.8	17.4	19.7
Shanghai	8.5	8.8	8.8	10.2
Fujian	8.7	9.9	7.2	4.9
Shandong	7.1	6.2	8.8	11.2
Beijing	3.9	3.4	3.8	4.1
Zhejiang	4.5	3.4	6.0	9.3
Tianjin	4.1	4.8	3.3	2.9
Liaoning	4.7	4.3	5.5	5.3
Hebei	2.0	2.0	1.6	1.8
Guangxi	1.4	1.8	0.9	0.8
Hubei	2.2	1.7	2.6	2.9
Hainan	1.4	2.1	1.0	0.8
Hunan	1.7	1.7	1.8	1.9
Jiangxi	1.2	0.8	1.6	3.0
Henan	1.2	1.4	1.0	1.0
Anhui	0.8	1.2	0.7	0.7
Sichuan	1.0	1.0	1.0	0.8
Heilongjiang	1.0	1.4	0.7	0.6
Jilin	0.8	1.0	0.6	0.4
Shaanxi	0.8	1.0	0.7	0.6
Chongqing	0.6	0.9	0.5	0.5
Shanxi	0.5	0.4	0.5	0.4
Inner Mongolia	0.4	0.2	0.8	0.2
Yunnan	0.3	0.3	0.2	0.2
Quizhou	0.1	0.1	0.1	0.1
Gansu	0.1	0.2	0.1	
Qinghai			0.1	
Ningxia			0.1	
Xinjiang		0.1	0.1	

Source: CEIC database.

Tianjin, Hebei, and Hainan. Except for Fujian, however, the other provinces didn't have large shares to begin with.

Another phenomenon of some interest is the increase in FDI outflows from China. As China intensifies its trade linkages with other Asian economies, anecdotal evidence suggests that its FDI outflows have increased significantly in recent years. This phenomenon has been actively encouraged by the Chinese government as part of its policy of gradual capital account liberalization. Since 2001, some steps have been taken each year to ease restrictions on FDI outflows (see appendix B). However, while it is true that FDI outflows have risen almost tenfold from the mid-1990s to 2003, the total outflows are still small, amounting to only about $3 billion in 2003 (table 9.4). Much of these outflows has indeed gone to other Asian economies, es-

Table 9.4 **Total outward foreign direct investment (%; for top ten countries with the highest average percent share between 2001 and 2003)**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average 1995–2000	Average 2001–2003
Hong Kong SAR	18.9	39.9	4.0	4.9	4.1	3.2	25.6	13.2	40.4	12.5	26.4
United States	22.0	2.0	0.0	9.9	13.7	4.2	6.8	5.6	2.3	8.6	4.9
Thailand	60.7	1.7	0.0	0.3	0.3	0.6	15.5	0.1	2.0	10.6	5.9
Republic of Korea	3.5	0.1	0.0	0.4	0.0	0.8	0.1	3.1	5.4	0.8	2.9
Vietnam	1.8	0.7	0.3	0.9	1.1	3.2	3.4	1.0		1.3	
Australia	0.9	0.3	0.0	–0.1	0.3	1.8	1.3	1.8		0.5	
Cambodia	0.0	7.9	6.1	2.3	5.6	3.1	4.4	0.2		4.2	
Brazil	0.5	0.6	13.7	0.6	0.1	3.8	4.0	0.3		3.2	
Russia	0.1	0.0	0.8	1.0	0.6	2.5	1.6	1.3	1.1	0.8	1.3
Yemen	0.0	0.0	0.0	0.0	0.0	2.0	2.7	0.0		0.3	1.3
Total amount (in US$ millions)	110.0	290.0	200.0	260.0	590.0	551.0	785.0	2,701.0	2,850.0		

Source: CEIC China database.

pecially Hong Kong. The United States has, over the past decade, accounted for about 8 percent of China's FDI outflows. More recently, the Chinese government has encouraged FDI outflows to countries in Asia and Latin America in order to ensure more reliable sources of raw materials (for instance, by purchasing mining operations) and upstream products for processing in China. Preliminary data for 2004 indicate that China's FDI outflows amounted to about $3.6 billion in 2004, with about half of this investment going to Latin America and 40 percent to other Asian countries.[3]

9.2.3 External Debt

Unlike some other emerging markets, China has been quite cautious about taking on external debt (figure 9.5). There has been little sovereign borrowing until very recently, and, as a matter of policy, enterprises have been discouraged from taking on external debt. As a consequence, notwithstanding the significant increase in the absolute amount of external debt since the mid-1980s, the ratio of external debt to GDP has remained relatively stable at around 15 percent since the early 1990s.

However, it is not just the level of external debt but also the maturity structure of this debt that has been shown to be associated with currency and financial crises. As discussed earlier, countries that have more short-term debt relative to long-term debt tend to be more susceptible to such crises. On this score, one noteworthy development is that the share of short-term debt in China's total external debt has risen significantly, from 9 percent in 2000 to over 45 percent in 2004 (figure 9.6 and table 9.5).[4] This level is close to the threshold that some studies have identified as posing a high risk of crises. However, this increase could appear more dramatic than warranted, since this ratio appears to have bottomed in 2000. Furthermore, a significant part of the increase in the relative importance of short-term debt since 2001 can be accounted for by the surge in trade credits. Trade credits constituted 19 percent of total external debt in 2003, up from 13 percent in 2001 (table 9.5). The increase in trade credits accounts for about two-fifths of the total increase in outstanding external credit from 2001 to 2004.[5] While trade credits often have short maturities, they do not pose the same type of risks as other short-term borrowing since they tend to be closely linked to subsequent export receipts.

3. Official reports note that the cumulative amount of outward FDI as of the end of 2004 was $37 billion, which does not seem to match the annual data shown in this table. Based on anecdotal and other evidence, however, the upward trend in FDI outflows is incontrovertible even if the magnitudes may be suspect.

4. The ratio of short-term external debt to GDP has risen from 1.2 percent to 5.5 percent over this period.

5. One cautionary note about the trade credit data in the external debt statistics is that they are estimated partly from data on imports. Consequently, they do not always match the balance-of-payments data on trade credits (discussed below), which are based on sample surveys. But the broad trends revealed by these two sources are similar.

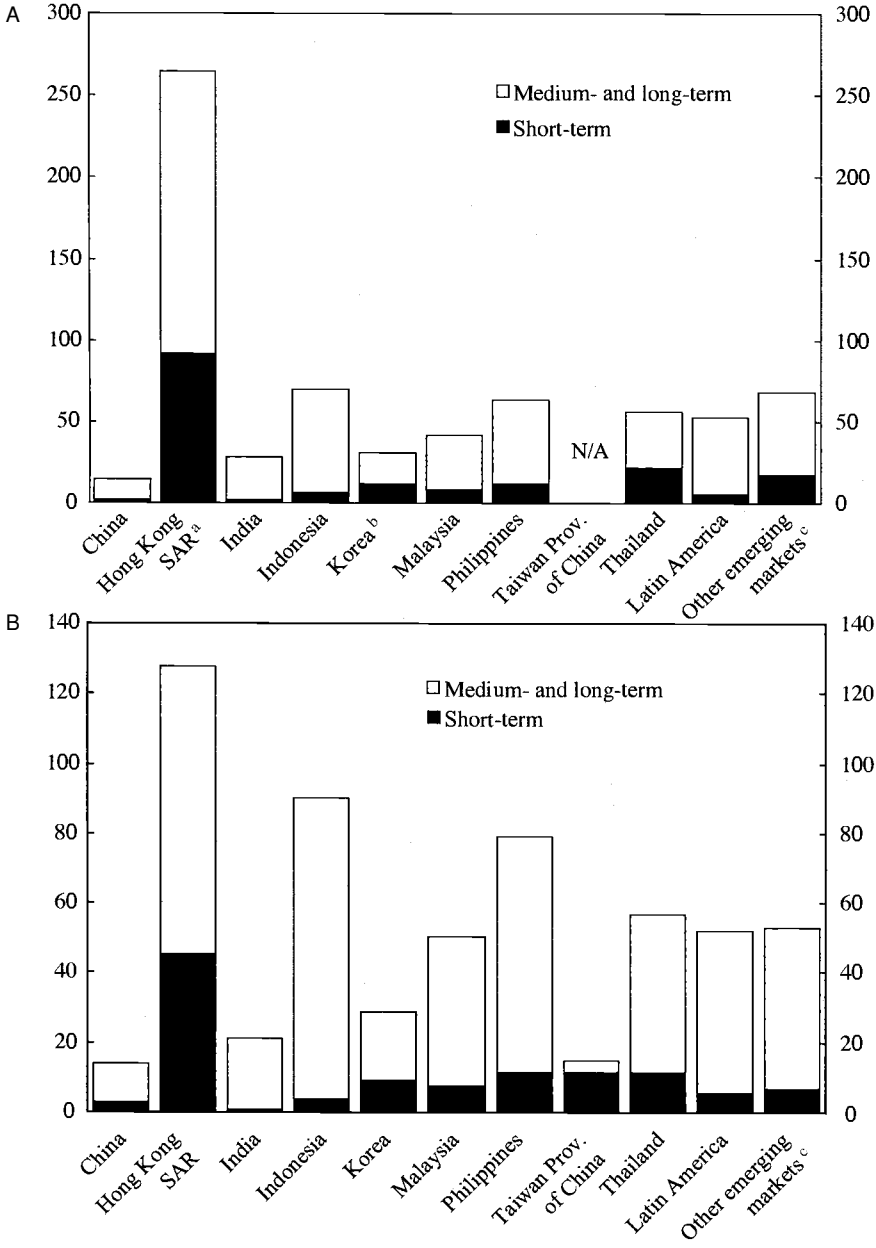

Fig. 9.5 External debt: Cross-country comparison (in percent of GDP): *A*, average 1990–98; *B*, average 1999–2003

Sources: World Economic Outlook database, CEIC database, and joint BIS-OECD-IMF-WB statistics on external debt. Includes private-sector debt.

[a]Average for Hong Kong consists of data between 1996 and 1998.

[b]Average for Korea consists of data between 1994 and 1998.

[c]Average for emerging markets in EMBI+ index, excluding Latin America and Asian countries.

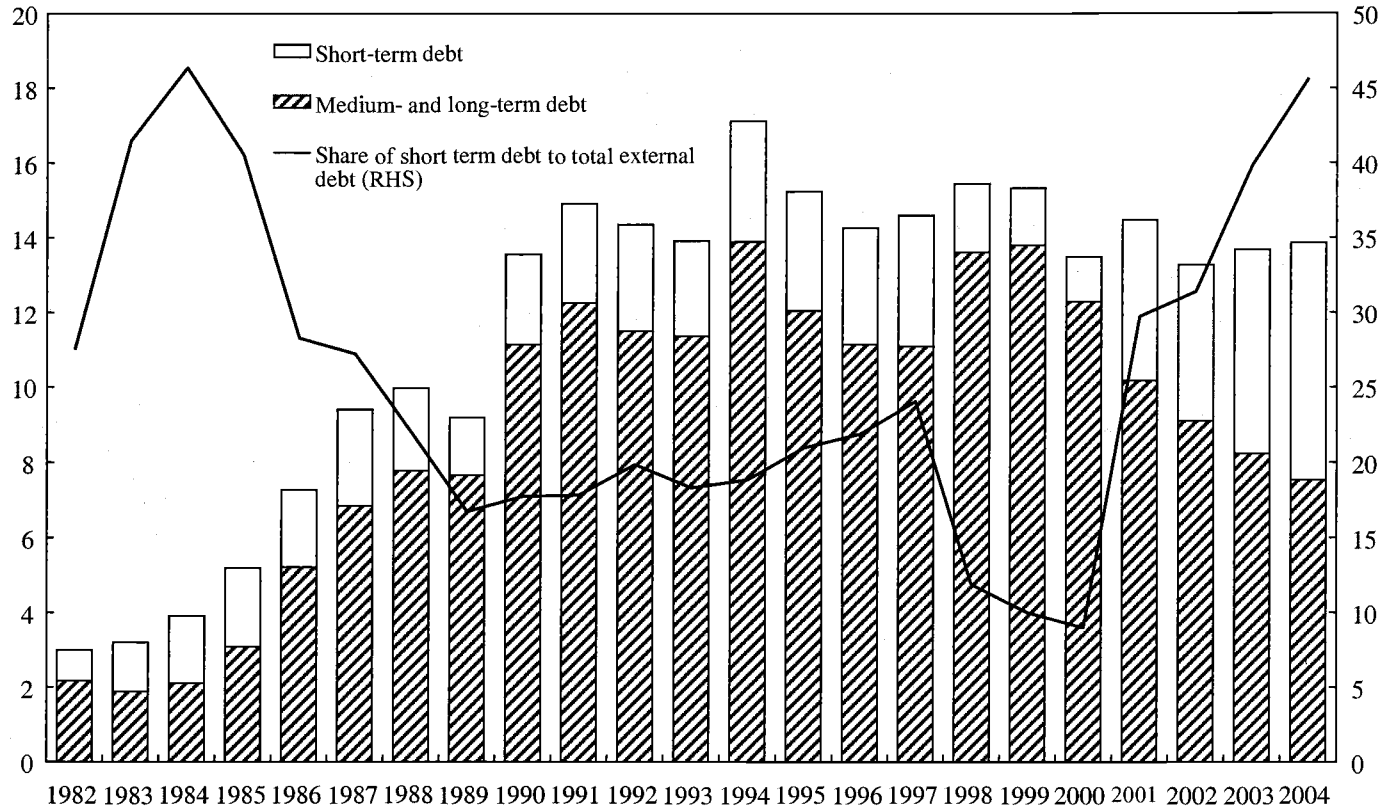

Fig. 9.6 External debt (in percent of GDP)

Source: China State Am for Foreign Exchange (SAFE) and World Bank Global Development Finance database.

Table 9.5 External debt

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total										
In billions of U.S. dollars	106.6	116.3	131.0	146.0	151.8	145.7	170.1	171.4	193.6	228.6
In % of GDP	15.2	14.2	14.6	15.4	15.3	13.5	14.5	13.5	13.7	14.2
By maturity (in % of total debt)										
Short-term[a]	11.2	12.2	13.8	11.9	10.0	9.0	29.7	32.5	39.8	45.6
Medium and long-term debt	88.8	87.8	86.2	88.1	90.0	91.0	74.2	72.0	62.3	54.4
By type (in % of total debt)										
Registered external debt							87.3	84.6	81.1	80.8[b]
Trade credit							12.7	15.4	18.9	19.2[b]
Registered external debt by debtor (in % of registered external debt)[c]										
Public and publicly guaranteed	29.2	28.8	27.5	28.5	31.2	33.6	33.5	34.8	33.6	18.8[b]
Chinese-funded enterprises	11.0	10.6	10.2	10.6	9.7	9.3	7.6	6.9	4.9	3.4[b]
Chinese-funded financial institutions	33.5	29.6	25.3	23.3	22.7	20.5	20.2	22.0	21.2	35.8[b]
Chinese-funded nonfinancial institutions	10.8	9.7	8.5	6.6	5.3	3.9	2.9	3.0	2.7	
Foreign-funded enterprises	2.1	3.2	5.3	6.3			23.7	22.9	24.1	23.3[b]
Foreign-funded financial institutions							11.5	10.4	13.3	18.5[b]
Other	13.5	18.1	23.2	24.6	31.2	32.7	0.5	0.0	0.2	0.2[b]

Sources: CEIC database, Chinese authorities, and authors' calculations.

Note: Maturity structure is based on classification by residual maturity of outstanding debt.

[a]Assumes original maturity through 2000 and remaining maturity from 2001 onward.

[b]As of September 2004.

[c]Effective June 2004, loans from foreign governments that are assumed by policy banks were reclassified under debt of Chinese-funded financial institutions (rather than debt of government departments). Furthermore, in 2004, the outstanding external debt of government departments decreased, but that of Chinese-funded financial institutions increased by US$18.7 billion. This accounts for the sharp shift in the shares of these two categories in 2004.

In short, while the stock of debt is in itself not a source of concern, the maturity structure and composition of this debt bear careful observation.[6]

9.3 International Reserves

9.3.1 Recent Developments

A different perspective on China's capital inflows is provided by examining the evolution of the balance of payments and the stock of international reserves.[7] Table 9.6 shows that China's gross international reserves have risen sharply over the past decade, from well below $50 billion during 1990–93 to $457 billion at the end of 2003, with almost a third of this buildup occurring in 2003.[8] This has left China with the second largest stock of international reserves in the world, behind Japan alone, amounting to about 32 percent of its nominal GDP at the end of 2003.

In 2004, gross reserves rose at an even faster pace than in previous years, reaching $619 billion at the end of the year, according to official figures. However, it is necessary to add the $45 billion used for bank recapitalization at the end of 2003 to this stock in order to allow for comparability of the stock levels in 2003 and 2004 (these adjusted figures are reported in table 9.6). Thus, we arrive at an increase of $206 billion, or an average of about $17.2 billion a month, during 2004 (compared to $162 billion, or about $13.5 billion a month, during 2003). Since balance-of-payments data for 2004 were not available at the time of this writing, the remainder of this section focuses on data through 2003.

Of the total increase of about $430 billion in reserves over the past decade, cumulative flows on the current account balance amount to about $216 billion, while flows on the capital account sum up to $300 billion. The residual is given by cumulative errors and omissions, which amount to about –$85 billion over this period.

It is instructive to examine the factors underlying changes in the pace of reserve accumulation over time. After registering relatively small changes over the period 1985–93, reserve accumulation rose sharply and averaged $30 billion a year over the period 1994–97. This was largely due to a strong

6. The World Bank's 2003 *Global Development Finance Report* (pp. 136–39) indicates that, in recent years, about 70 percent of China's outstanding long-term external debt has been denominated in U.S. dollars, and about 15 percent has been denominated in Japanese yen. Data on the currency composition of short-term external debt are not available in this report.

7. Some of the analysis in section 9.3 draws upon work done by members of the IMF's China team.

8. The figure for 2003 includes the $45 billion used to recapitalize two state commercial banks at the end of that year. Hence, the numbers reported in this table for foreign exchange reserve accumulation during 2003 and the level of gross official reserves at the end of 2003 are higher by $45 billion than the corresponding official figures. To understand the evolution of the capital account, it is relevant to include that figure in the calculations.

Table 9.6 **The balance of payments (in billions of U.S. dollars)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gross international reserves	30.2	44.3	21.2	23.0	53.6	76.0	107.7	143.4	149.8	158.3	168.9	218.7	295.2	457.2[a]	663.6[a]
Foreign exchange reserves	28.6	42.7	19.4	21.2	51.6	73.6	105.0	139.9	145.0	154.7	165.6	212.2	286.4	448.3[a]	654.9[a]
Increase in international reserves	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	162.0[a]	206.3
Current account balance	12.0	13.3	6.4	–11.9	7.7	1.6	7.2	29.7	29.3	21.1	20.5	17.4	35.4	45.9	70.0[b]
Merchandise trade balance	9.2	8.7	5.2	–10.7	7.3	18.1	19.5	46.2	46.6	36.0	34.5	34.0	44.2	44.7	
Services trade balance	1.5	2.9	–0.2	–1.1	0.1	–6.1	–2.0	–5.7	–4.9	–5.3	–5.6	–5.9	–6.8	–8.6	
Net investment balance	1.1	0.8	0.2	–1.3	–1.0	–11.8	–12.4	–15.9	–16.6	–14.5	–14.7	–19.2	–14.9	–7.8	
Net transfers	0.3	0.8	1.2	1.2	1.3	1.4	2.1	5.1	4.3	4.9	6.3	8.5	13.0	17.6	
Capital account balance	–2.8	4.6	–0.3	23.5	32.6	38.7	40.0	23.0	–6.3	5.2	2.0	34.8	32.3	97.8	112.0[b]
FDI, net	2.7	3.5	7.2	23.1	31.8	33.8	38.1	41.7	41.1	37.0	37.5	37.4	46.8	47.2	55.0[b]
Portfolio, net	–0.2	0.2	–0.1	3.1	3.5	0.8	1.7	6.8	–3.7	–11.2	–4.0	–19.4	–10.3	11.4	
Other investment, net	–5.2	0.9	–7.4	–2.7	–2.7	4.0	0.2	–25.5	–43.7	–20.5	–31.5	16.9	–4.1	39.1[b]	
Errors and omissions, net	–3.1	–6.7	–8.3	–9.8	–9.8	–17.8	–15.6	–17.0	–16.6	–17.8	–11.9	–4.9	7.8	18.4	24.3[b]
Non-FDI capital account balance (including errors and omissions)	–8.6	–5.6	–15.7	–9.4	–8.9	–13.0	–13.7	–35.6	–64.0	–49.6	–47.4	–7.4	–6.7	69.0	81.3[b]

Sources: CEIC database, PBC, the State Administration of Foreign Exchange (SAFE), and authors' calculations.

Notes: In 1992, foreign exchange reserves were reclassified to exclude foreign-exchange deposits of state-owned entities with the Bank of China. There are minor discrepancies in some years between row 3 (increase in international reserves) and changes in the numbers in row 1 (stock of gross international reserves). This is attributable to the fact that the numbers in row 3, which come from the balance of payments, do not include valuation changes in holdings of gold.

[a]Reserve data for 2003 and 2004 include the $45 billion used for bank recapitalization at the end of 2003. This affects the increase in international reserves shown for 2003 and the stocks of reserves shown for 2003 and 2004.

[b]These very preliminary data for 2004 are taken from the PBC's monetary policy report for 2004:Q4. The figure for FDI net is an assumption based on a reported gross inflow of about $60 billion and an assumed outflow of $5 billion (up from about $3 billion in 2003). Errors and omissions are calculated as a residual (and, hence, so is the non-FDI capital account balance).

Table 9.7 Decomposition of the recent reserve buildup (in billions of U.S. dollars)

	Average 1998–2000 (1)	Average 2001–2003 (2)	Change (2) – (1)	Average 2001–2004 (3)	Change (3) – (1)
Foreign reserve increase	8.5	95.0	86.5	122.8	114.3
Current account balance	23.7	32.9	9.2	42.2	18.5
Capital account balance	0.3	55.0	54.7	69.3	69.0
FDI, net	38.5	43.8	5.3	46.6	8.1
Errors and omissions, net	–15.4	7.1	22.5	11.4	26.8
Non-FDI capital account balance (including errors and omissions)	–53.6	18.3	72.0	34.1	87.7

Sources: CEIC database, PBC, and authors' calculations.

Notes: The numbers shown in this table are annual averages over the relevant periods (underlying annual data are in table 9.6). Balance-of-payments data for 2004 that are used in the calculations in the last two columns are very preliminary and are mostly taken from the PBC's monetary policy report for 2004:Q4. The numbers used for 2004 are as follows: increase in gross international reserves, $206.3 billion; current account balance, $70.0 billion; capital account balance, $112.0 billion; FDI, net, $55 billion; errors and omissions, net, $24.3 billion; non-FDI capital account balance, $81.3 billion. The 2004 figure for FDI net is based on a reported gross inflow of about $60 billion and an assumed outflow of $5 billion (up from about $3 billion in 2003). Net errors and omissions are calculated as a residual (and, hence, so is the non-FDI capital account balance).

capital account, which in turn reflected robust FDI inflows on the order of $30–40 billion a year. Interestingly, the errors and omissions category was significantly negative over this period (averaging about –$15 billion a year), suggesting that unofficial capital outflows were occurring at the same time that significant FDI inflows were coming in through official channels.

Reserve accumulation then tapered off during 1998–2000, the years right after the Asian crisis. A sharp rise in outflows on other investment and large negative errors and omissions together offset much of the effect of continued robust FDI inflows and a strong current account, the latter reflecting an increase in the trade surplus.

The subsequent sharp increase in reserves since 2001 is noteworthy, particularly because it was accompanied by a sustained export boom and the possibility—according to a number of observers and analysts—that the renminbi may have become significantly undervalued over this period.[9] It is instructive to compare the factors underlying the accumulation of reserves in 2001–3 relative to the previous three-year period.

Table 9.7 shows that the average annual increase in foreign exchange reserves during 2001–3 was an order of magnitude higher than during 1998–

9. There is a considerable range of opinions about the degree of undervaluation of the renminbi. IMF (2004) and Funke and Rahn (2005) conclude that there is no strong evidence that the renminbi is substantially undervalued. Goldstein (2004) and Frankel (2004), on the other hand, argue that the renminbi may be undervalued by at least 25–30 percent. Market analysts have a similarly broad range of views.

2000. The current account surplus was on average larger in the latter period, but it does not account for much of the increase in the pace of reserve accumulation since 2001. Similarly, while FDI inflows are an important contributor to reserve accumulation, there is little evidence of a major increase in the pace of these inflows in the latter period. The most significant increase is in non-FDI capital inflows (including errors and omissions), which swung from an average of –$53.6 billion in 1998–2000 to $18.3 billion in 2001–3, a turnaround of $72 billion on an annual basis. Errors and omissions, in particular, changed from an average of –$15.4 billion in the first period to $7.1 billion in the second.

This decomposition is significant as it shows that much of the recent increase in the pace of reserve accumulation is potentially related to "hot money" rather than a rising trade surplus or capital flows such as FDI that are viewed as being driven by fundamentals. In fact, the merchandise trade balance has been relatively stable in the range of $35–45 billion since 1997. The moderate increase in the average current account surplus is largely accounted for by the surge in net transfers.

To better understand recorded non-FDI capital inflows, we examine more detailed information from capital and financial account transactions. Table 9.8 shows how the main items changed from 2000 to 2003. Of the total increase of $96 billion in the capital and financial account over this period, the increases in net FDI inflows and net portfolio flows account for $10 billion and $15 billion, respectively. This leaves a substantial portion, about $71 billion, to be explained by other capital flows. The two biggest increases, adding up to about $60 billion, are in the categories of inward loans—representing offshore borrowing by Chinese households and firms—and other assets. This includes significant withdrawals of overseas lending by Chinese banks in order to meet rising domestic demand for foreign currency–denominated loans. The general direction of all of these flows is consistent with expectations during this period of an appreciation of the renminbi.

Similarly, the large switch in the errors and omissions category could potentially be indicative of unrecorded capital flows into China, stimulated by the prospect of an appreciation of the renminbi against the U.S. dollar. Such speculative pressures may have been exacerbated by the positive interest differential between China and the United States, which implies that investors may have seen a move into renminbi-denominated instruments as essentially a one-way bet, and one without even an associated carrying cost.

This raises the prospect that, as long as the perception of an undervalued renminbi persists—and unless the interest differential between China and the United States narrows further or shifts—these speculative inflows could continue. It should nevertheless be noted that, given the apparent one-way bet on the renminbi, the fact that these flows are not larger than they are suggests that capital controls may be at least partially effective.

In this context, it is worth trying to investigate in more detail where the un-

Table 9.8 Capital flows under the financial account (in billions of U.S. dollars)

	2000			2003			Change in balance
	Balance	Credit	Debit	Balance	Credit	Debit	(2003 less 2000)
Financial account	2	92	90	98	220	122	96
Direct investment	37	42	5	47	56	8	10
Inward	38	41	2	47	54	6	9
Outward	–1	1	2	0	2	2	1
Portfolio investment	–4	8	12	11	12	1	15
Assets	–11	0	11	3	3	0	14
Equity securities							
Debt securities							
Liabilities	7	8	0	8	9	1	1
Equity securities							
Debt securities							
Other investment	–32	42	74	39	152	113	71
Assets	–44	5	49	27	52	25	71
Trade credit	–13	0	13	–1	0	1	11
Loans	–18	0	19	14	22	8	32
Currency, deposits	–6	1	7	–7	1	7	–1
Other assets	–6	3	10	21	30	8	28
Liabilities	12	37	25	12	100	88	0
Trade credit	18	18	0	5	5	0	–14
Loans	–2	–12	15	7	79	72	9
Currency, deposits	0	0	0	1	9	8	1
Other liabilities	–3	7	10	0	7	7	3

Source: CEIC database.

recorded flows are coming from, how much larger could they be in the absence of capital controls, and how much money may try to find its way around the capital controls. Anecdotal evidence suggests that the money flowing in is primarily accounted for by a reversal of outflows from Chinese households and corporations that took place during the 1990s to evade taxes or to avoid losses associated with a possible depreciation of the renminbi. It is difficult to answer precisely the question of how much such money is outside of China and could potentially come back into the country.

We take the simple and admittedly naive approach of adding up errors and omissions and portfolio flows and labeling the total as hot money that could potentially switch directions within a short time horizon. Figure 9.7 shows the amount of such hot money flows over the past two decades.[10] The

10. Capital flight through underinvoicing of exports or overinvoicing of imports may not show up in the errors and omissions or any other part of the balance of payments statistics. Net errors and omissions may also understate unrecorded capital flows to the extent that there are offsetting unrecorded flows on current and capital account transactions, or even among transactions within each of these categories. Gunter (2004) estimates that capital flight during the 1990s may have been greater than suggested by such crude estimates.

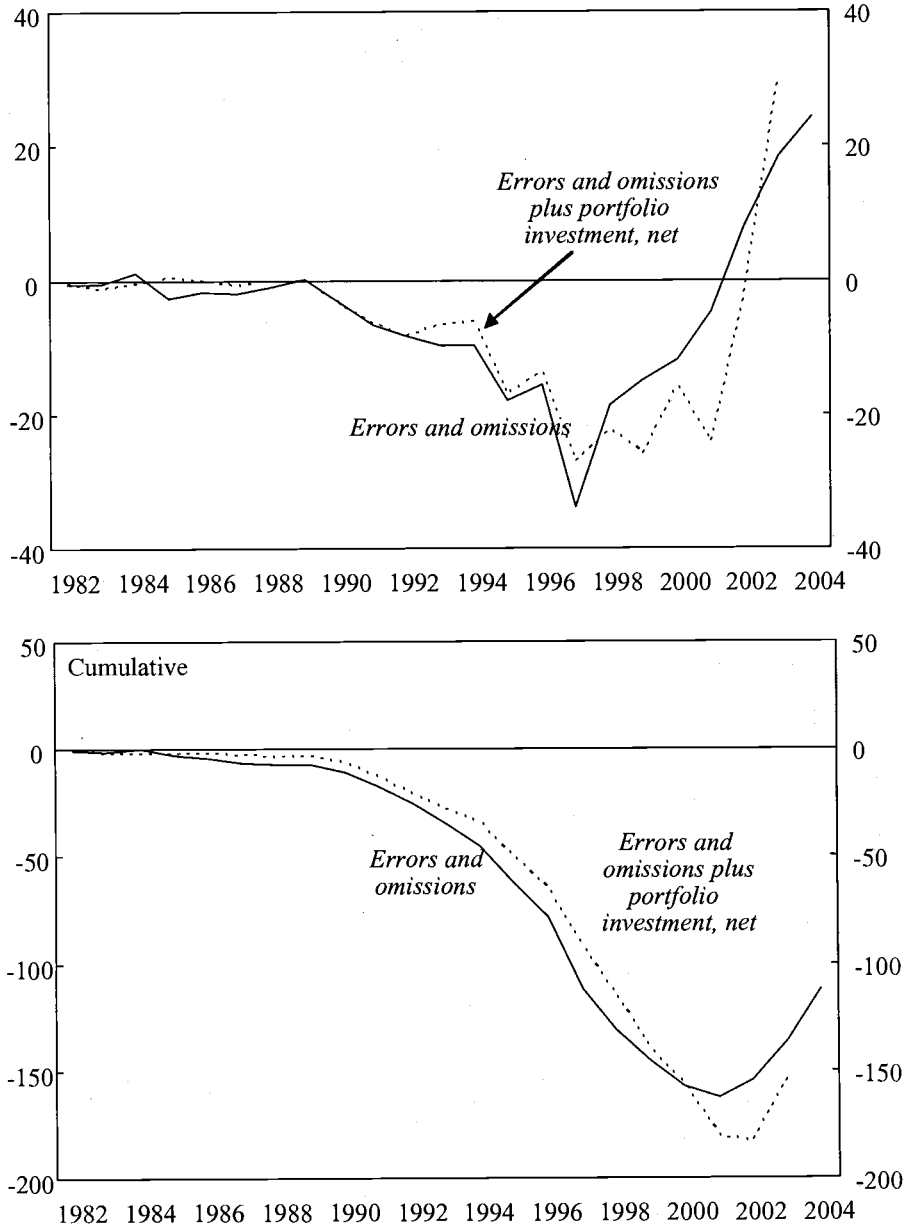

Fig. 9.7 Errors and omissions and portfolio investment, net (in billions of U.S. dollars)

Source: World Economic Outlook database.

Note: Data for 2004 are preliminary (see notes to table 9.6).

lower panel shows that the cumulative amount of errors and omissions since the early 1990s is quite large, peaking at about $150 billion, and the recent swing has reversed at best a small part of this flow. Under this interpretation, there could potentially be significant amounts of further inflows if there continues to be a strong expectation of an appreciation of the renminbi.

An alternative, and more benign, possibility is that the errors and omissions category may in part reflect an accounting issue.[11] China's officially reported holdings of foreign bonds are not marked to market in terms of exchange rate valuations, while the stock of international reserves on the People's Bank of China's (PBC's) balance sheet does reflect these currency valuation effects. This implies, for instance, that any changes in the dollar value of reserve holdings could end up in the balance of payments under the errors and omissions category.[12] In the absence of published data on the currency composition of foreign exchange reserves, it is widely believed that a substantial fraction of China's foreign exchange reserve holdings is in U.S. treasury bonds, with the remainder in government bonds denominated in euros and other currencies.[13] Given the recent large swings in the value of the U.S. dollar, however, even modest holdings of reserves in instruments denominated in other major currencies could have a significant quantitative impact on the dollar value of gross reserves.

Table 9.9 shows the effects of some simple simulations to illustrate how large these valuation effects could potentially be. For instance, in panel A, we assume that 80 percent of China's foreign reserve holdings are in U.S. dollar–denominated instruments, with the remainder in euro-denominated instruments. This calculation suggests that, in 2003, roughly $16 billion, representing about 85 percent of the errors and omissions amount for the year, could be accounted for by valuation changes on the stock of reserves. In 2004, valuation changes could account for about $11 billion of unrecorded capital inflows, although, in the absence of full balance-of-payments data at this stage, one cannot tell how this fits into the bigger picture. But, as a share of the total change in reserves, valuation effects are clearly going to be a lot less important in 2004 than in 2003, both because the underlying exchange rate changes were smaller and because the change in reserves was larger in 2004.

The remaining panels of this table show how the results change under

11. The calculations that follow are based upon unpublished work by Ray Brooks.

12. China does not report its international investment position, which would clarify this matter.

13. There has been a great deal of recent interest in the share of Chinese official reserve holdings accounted for by U.S. dollar–denominated instruments, particularly treasury bonds. The recent depreciation of the U.S. dollar has fueled speculation that China has been diversifying away from U.S. dollar bonds into other currencies. Appendix A provides a detailed analysis, including some cautionary notes, about one source of data that has been used by many analysts to examine this issue.

Table 9.9 Possible effects of valuation changes on reserves

Year	Foreign exchange reserves (in US$ billions)	Increase/decrease in reserves due to foreign exchange rate change			Errors and omissions (in US$ billions)	US$/euro exchange rate		US$/yen · 100 exchange rate	
		Euro	Yen	Total		Beginning of period	End of period	Beginning of period	End of period
					A. Assumed composition of reserves: 80% U.S. dollars and 20% euros				
2000	165.6	–2.4		–2.4	–11.9	1.00	0.93		
2001	212.2	–2.2		–2.2	–4.9	0.93	0.88		
2002	286.4	10.4		10.4	7.8	0.88	1.04		
2003	403.3	16.1		16.1	18.4	1.04	1.25		
2004	609.9	10.8		10.8	24.3[a]	1.25	1.36		
					B. Assumed composition of reserves: 90% U.S. dollars and 10% euros				
2000	165.6	–1.2		–1.2	–11.9	1.00	0.93		
2001	212.2	–1.1		–1.1	–4.9	0.93	0.88		
2002	286.4	5.2		5.2	7.8	0.88	1.04		
2003	403.3	8.1		8.1	18.4	1.04	1.25		
2004	609.9	5.4		5.4	24.3[a]	1.25	1.36		
					C. Assumed composition of reserves: 70% U.S. dollars, 20% euros, and 10% Japanese yen				
2000	165.6	–2.4	–1.8	–4.2	–11.9	1.00	0.93	0.98	0.87
2001	212.2	–2.2	–2.7	–4.9	–4.9	0.93	0.88	0.87	0.76
2002	286.4	10.4	2.9	13.3	7.8	0.88	1.04	0.76	0.84
2003	403.3	16.1	4.3	20.5	18.4	1.04	1.25	0.84	0.93
2004	609.9	10.8	2.7	13.5	24.3[a]	1.25	1.36	0.93	0.97

Sources: International Financial Statistics, CEIC database, Datastream, and authors' calculations.

Notes: Foreign exchange reserves shown in the first column are end-of-year stocks. In this table, we do not include the US$45 billion used for bank recapitalization at end 2003 to the reserve stock numbers for 2003 and 2004. In principle, any currency valuation changes of that amount should affect the balance sheets of the banks to which those reserves were transferred. Thus, the currency valuation effects would matter for the net international investment position but not for official reserves.

[a]Errors and omissions data for 2004 are based on very preliminary estimates (see notes for table 9.6).

different assumptions about (a) the share of reserves held in U.S. dollar–denominated bonds and (b) the other Group of Three (G3) currencies in which the remainder of the reserves are held. The results generally seem to confirm the possibility that errors and omissions in recent years may, to a significant extent, reflect currency valuation effects rather than unrecorded capital inflows. This is clearly an issue that bears further investigation in the future.

9.3.2 Implications of the Recent Reserve Buildup

The fact that China's capital inflows over the past decade have been dominated by FDI is a positive outcome. As documented above, however, non-FDI capital inflows have accounted for much of the recent surge in the pace of reserve accumulation. This raises a question about whether, from China's domestic perspective, the continued rapid buildup of reserves is desirable.

The literature on the optimal level of reserves (see, e.g., Aizenman and Marion 2004 and references therein) does not provide a clear-cut way of answering this question. The usefulness of a large stock of reserves is essentially that, especially for a country with a fixed exchange rate system, it can be useful to stave off downward pressures on the exchange rate. The trade-off results from the fact that developing-country reserves are typically held in treasury bonds denominated in hard currencies. The rate of return on these instruments is presumably lower than that which could be earned by physical capital investment within the developing country, which would typically have a scarcity of capital. In addition, the capital inflows that are reflected in reserve accumulation could increase liquidity in the banking system, creating potential problems in a weakly supervised banking system because banks have an incentive to relax their prudential standards in order to increase lending. Sterilization of capital inflows to avoid this outcome could generate fiscal costs, because the rate of return on domestic sterilization instruments is typically higher than that earned on reserve holdings.

China, however, appears to be a special case in some respects. China's low (controlled) interest rates imply that, since its reserve holdings are believed to be held primarily in medium- and long-term industrial-country treasury instruments and government agency bonds, there are in fact net marginal *benefits* to sterilization. This is of course enabled by domestic financial repression—with no effective competition for the state-owned banking sector—and capital controls.[14] Furthermore, with domestic in-

14. This suggests that there are implicit costs to these sterilization efforts. However, determining the incidence of these costs is not straightforward; much of these costs is presumably borne by depositors in the state banks. Recent data suggest that longer-term central bank bills (original maturity of one year or longer) have replaced short-term bills as the primary sterilization instrument used by the Chinese authorities. This may have been driven by concerns about frequently rolling over the stock of short-term bills. In addition, purchases of shorter-term U.S. Treasury instruments appear to have increased (see appendix A). Thus, traditional sterilization costs may also soon start coming into play.

vestment rates of above 45 percent (supported mainly by domestic saving, which is an order of magnitude larger than FDI inflows), capital scarcity is apparently not a concern, and it is not obvious that the marginal return on investment is higher than the rate of return on reserve holdings, particularly in the likely scenario in which the allocation of capital remains the sole prerogative of an improving but still inefficient state banking system.[15]

Commonly used reserve adequacy indicators provide one way of assessing the insurance value provided by reserve holdings (figure 9.8).[16] China's reserve holdings provide comfortable coverage of its imports, more so than most other emerging markets. The stock of reserves at the end of 2004 accounted for about fifty-three weeks' worth of imports in that year (and for about forty-three weeks of the IMF's forecast of imports in 2005), significantly above the corresponding figures for most other emerging markets. In terms of reserve coverage of short-term external debt, China outperforms virtually every other emerging market, with its reserves amounting to more than ten times short-term external debt.[17] One area where China's position looks less favorable relative to other emerging markets is the reserve coverage of the monetary base, which is a useful indicator of reserve adequacy in the context of a currency peg. Reflecting the high degree of monetization of the Chinese economy (the ratio of M2 to GDP at end 2004 was about 1.9), reserves cover only about 20 percent of M2.

As a related matter, in addition to providing a buffer to stave off any future downward pressures on the fixed exchange rate, the high level of reserves has in fact been cited as necessary to cushion the financial sector from external shocks. Reported nonperforming loans (NPLs) in the banking system amounted to about 30 percent of GDP in 2003 (see Prasad 2004), similar in magnitude to the stock of reserves, suggesting that the present level of reserves could be used to finance a bailout of the banking system if the need should arise. Indeed, the recapitalization of two major state commercial banks at the end of 2003 using $45 billion of reserves is indicative of the intention of the Chinese authorities to use reserve holdings to help strengthen the books of state banks. However, there are concerns that deficiencies in accounting practices and the reporting of NPLs could mean that their true level is higher than the reported numbers. Furthermore, the rapid expansion of credit during 2003 and the first half of 2004 that contributed to an investment boom could result in a new wave of problem loans in the future if the surge in investment results in excess

15. See Boyreau-Debray and Wei (2004) for evidence of low returns to lending by state banks.

16. The cross-country comparison in figure 9.8 shows data only through 2003. The discussion in this paragraph uses updated data for China through end 2004.

17. Figure 9.8 uses Bank for International Settlements (BIS) data on external debt that are, in principle, comparable across countries. Based on official Chinese data, reserves amount to about six times the stock of short-term external debt, still above comparable ratios in almost all other emerging markets.

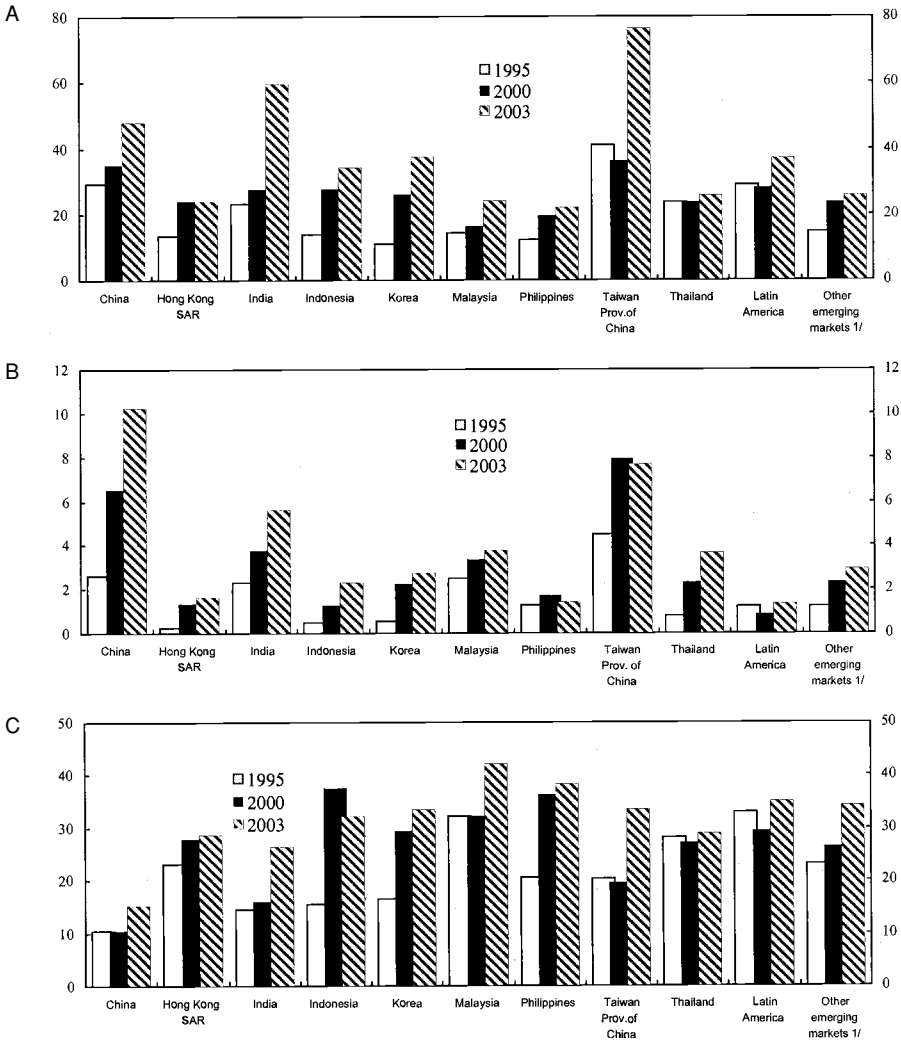

Fig. 9.8 Reserve adequacy indicators: *A*, reserves/imports (weeks of imports); *B*, reserves/short-term external debt; *C*, reserves/M2 (percentage)

Sources: IFS, DOT, WEO and Joint BIS/IMF/OECD/World Bank Statistics of External Debt.

Note: In panel A, end-of-year reserves are shown as a ratio to the number of weeks' worth of imports in that year.

capacity being built up in some sectors (Goldstein and Lardy 2004). This could justify maintaining a high level of reserves.[18]

One risk associated with maintaining a high level of reserves, however, is the vulnerability of the balance sheet of the PBC to changes in the industrial country treasury yield curve. An upward shift in the yield curve could significantly reduce the mark-to-market value of Chinese holdings of industrial country treasury instruments.[19] Similarly, an appreciation of the currency relative to, for example, the U.S. dollar could lead to a fall in the renminbi value of dollar-denominated treasury bond holdings. Since the primary sterilization instrument in China—central bank bills—is denominated in renminbi, this would lead to a net capital loss in domestic currency terms. Interestingly, this suggests that, at least on this dimension, the costs of a move toward greater exchange rate flexibility (which, under present circumstances, is expected to lead to some appreciation of the renminbi in the short run) could increase as the stock of reserves rises.[20] It could also increase the incentive to diversify out of dollar assets and into other hard currencies.

To summarize, there is no clear evidence that the buildup of reserves in China has significant direct sterilization costs, although it could have some efficiency costs and also expose the balance sheet of the PBC to some exchange rate and capital risks, at least on a mark-to-market basis.

9.4 Viewing China's Capital Inflows through the Prism of the Literature on Financial Globalization

It has long been an article of faith among most economists that international capital flows allow for a more efficient global allocation of capital. For capital-poor developing countries in particular, financial integration (with world capital markets) was seen as key to moving onto a high-growth path. In addition, financial integration in theory provides enhanced possibilities for consumption smoothing through better sharing of income risk across countries. Those developing countries that subscribed to this logic by liberalizing their capital accounts starting in the mid-1980s—a group that has come to be known as the emerging markets—captured the lion's

18. Preliminary indications are that the reported ratio of NPLs to GDP declined in 2004, but this may be attributable partly to the transfer of some NPLs off the books of state commercial banks.

19. One could argue that these notional capital losses in mark-to-market terms should not be of concern if the Chinese authorities' intention is to hold the bonds to maturity. This argument has validity only so long as the reserves do not need to be liquidated before maturity.

20. A related point is that if the accumulation of reserves continues apace, the potential capital loss from any appreciation would grow over time, suggesting that an earlier move toward exchange rate flexibility would be preferable from this narrow perspective (if such a move was regarded as being inevitable). In any event, we doubt that this factor will play a significant role in influencing the timing of a move toward greater flexibility.

share of the net capital flows from industrial to developing economies that took place over the subsequent decade. Capital account liberalization proved, however, to be a mixed blessing, with many emerging markets suffering debilitating financial and balance-of-payments crises in the late 1990s. But do the crises by themselves imply that financial integration is not advisable for developing countries? A closer look at the evidence is in order.[21]

9.4.1 Financial Integration and Growth

In theory, there are a number of channels through which capital inflows can help to raise economic growth in developing countries. These include direct channels such as augmentation of domestic savings, lower cost of capital, transfer of technology, and development of the domestic financial sector. Indirect channels include the inducements for better domestic policies offered by capital account openness and the promotion of specialization of production. Theory drives one inexorably to the conclusion that financial integration *must* be good for growth.

The empirical evidence, however, paints a far more sobering picture. It is true that emerging markets as a group have posted much higher growth on average than other developing economies over the past two decades. Notwithstanding the painful crises that many of them experienced, these countries have done far better overall in terms of raising per capita incomes. However, this does not by itself imply a causal relationship. Indeed, while there is a considerable divergence of results among different studies, the weight of the evidence seems to tilt toward the conclusion that it is difficult to find a strong and robust causal link once one controls for other factors that could affect growth (Prasad et al. 2003 provide an extensive survey of this literature). There is of course an element of endogeneity here—financial integration could induce countries to have better macroeconomic policies and improve their institutions, but this effect would not be picked up in a regression framework. However, there is at best mixed evidence that financial integration induces a country to pursue better macroeconomic policies (Tytell and Wei 2004). More research is needed on this question, but the bottom line is that it is difficult to make a prima facie case that financial integration provides a strong boost to growth in emerging markets.

9.4.2 Financial Integration and Volatility

As for volatility, economic theory has the strong implication that access to financial markets—at either the household or the national level—must be welfare enhancing from a consumption-smoothing perspective. So long as aggregate shocks (at the relevant level of aggregation) are not dominant

21. The discussion in section 9.4 draws on Prasad et al. (2003).

in explaining variations in household or national income growth, financial markets should improve welfare by providing a mechanism that allows individual economic units to share their idiosyncratic income risk. The reason countries (and households) like to do this, of course, is to smooth their consumption growth and reduce the otherwise necessarily close linkage of national consumption growth to national income growth and its intrinsic volatility. Although some countries may not be able to take full advantage of such risk-sharing opportunities (e.g., due to problems of monitoring and moral hazard), access to international financial markets should improve their welfare—in terms of reducing consumption volatility—at least marginally.

The reality for emerging markets is starkly different. Recent research suggests that, for these countries, the ratio of consumption growth volatility to output growth volatility in fact increased on average in the 1990s, precisely during the key period of financial globalization (Kose, Prasad, and Terrones 2003). Note that this result cannot be ascribed simply to the fact that some of these countries experienced crises during this period. In principle, a country should be able to do no worse than having its consumption growth be as volatile as its income growth. Formal regression analysis controlling for a variety of other determinants of volatility and growth suggests the existence of a nonlinearity in the relationship between the degree of financial integration and the relative volatility of consumption growth.[22]

An increase in financial integration from a low to a medium level tends to be associated with a rise in the relative volatility of consumption growth. At one end of the spectrum, for countries with very limited access to international financial markets, consumption growth tends to be about as volatile as income growth.[23] At the other end, industrial countries, which tend to be highly integrated into global financial markets, appear to be able to take advantage of financial openness to effectively reduce their relative consumption growth volatility. For emerging markets, the problem of course is that although international investors are willing to provide capital when times are good, these countries often lose access to international capital markets when times are bad (see, e.g., Kaminsky, Reinhart, and Végh 2004). Thus, sadly, it is precisely those countries that dip their toes into the waters of financial globalization that appear to be penalized by the procyclical nature of their access to world capital markets.

The situation appears bleak. Developing countries need external capital to grow. But is financial integration just "snake oil"—delivering at best weak growth effects and exposing countries to higher volatility? The answer, it turns out, depends.

22. In this subsection, "relative" volatility of consumption growth should always be taken to mean its volatility relative to that of income growth.

23. Even in a closed economy, of course, the existence of investment opportunities should allow for some degree of intertemporal smoothing of national consumption.

9.4.3 The Composition of Capital Inflows Matters

A large literature shows that it is not just the degree of financial openness, but also the composition of capital inflows, that determines the quality of a developing country's experiences with globalization (see Prasad et al. 2003 for a survey and additional references for the points made below). For instance, FDI inflows tend to be far less volatile than other types of inflows. In particular, FDI appears to be less subject to sharp reversals than other types of inflows, particularly bank lending.[24] External debt, on the other hand, clearly increases vulnerability to the risks of financial globalization. In particular, debt crises are more likely to occur in countries where external debt is of relatively short maturity (see, e.g., Frankel and Rose 1996 and Detragiache and Spilimbergo 2001).

The problem, of course, is that the composition of inflows and related matters such as the maturity structure of external debt are not entirely under the control of developing-country governments. Countries with weak macroeconomic fundamentals are often forced to rely more on external debt and end up having little choice but to borrow at short maturities. Financial integration can in fact aggravate the risks associated with weak macroeconomic policies. Access to world capital markets could lead to excessive borrowing that is channeled into unproductive government spending, ultimately increasing vulnerability to external shocks or changes in investor sentiment. In addition, lack of transparency has been shown to be associated with increased herding behavior by international investors, which can destabilize financial markets in an emerging market economy. Furthermore, a high degree of corruption tends to adversely affect the composition of a country's inflows, making it more vulnerable to the risks of speculative attacks and contagion effects.

Thus, the apparently negative effects of globalization appear to be related to a particular kind of threshold effect. Only countries with good institutions and sound macroeconomic policies tend to have lower vulnerability to the risks associated with the initial phase of financial integration and are able to realize its full benefits.

9.4.4 The Right Composition of Inflows for China

From a number of different perspectives, China is a prototypical developing country that is best served by FDI rather than other types of inflows. In the context of the above discussion on the benefits and potential risks of financial globalization, the dominance of FDI in China's capital inflows implies that it has been able to control the risks and get more of the promised benefits of financial integration than many emerging mar-

24. See Wei (2001). The evidence that net FDI flows to emerging markets are less volatile than portfolio flows is weaker (see Dooley, Claessens, and Warner 1995; Wei 2001).

kets that have taken a less cautious approach to capital account liberalization.

FDI may have served China well in other ways also. Given the low level of human capital and technical expertise in China, FDI could serve as a useful conduit for importing technical and managerial know-how (Borensztein, De Gregorio, and Lee 1998). Furthermore, the state-owned banking system is inefficient at allocating credit. This system has improved over time, particularly with the much-heralded end of the directed policy lending that these banks were forced to undertake until the late 1990s. However, most bank credit still goes to the public sector, especially since, with the controls on lending rates that existed until end October 2004, banks were not able to price in the higher risk of lending to new and/or small firms in the private sector (see Dunaway and Prasad 2004). As the experiences of some of the Asian crisis countries have shown, a weakly supervised banking system that is allowed to raise funds abroad and channel them into the domestic economy can generate serious imbalances. Thus, restrictions on bank borrowing from abroad can serve a useful purpose.

With a fixed exchange rate, openness to other types of financial flows, which tend to be less stable and are subject to sudden stops or reversals, would be less advisable. For instance, external borrowing by banks could cause instability in exchange markets and would have at best dubious effects on growth. Substantial opening of the capital account would also be inadvisable in this context, which suggests that the sort of selective opening that China has pursued may have some advantages (see Prasad, Rumbaugh, and Wang 2005).

9.5 What Explains the Composition of China's Capital Inflows?

China appears to have benefited from a pattern of capital inflows heavily tilted toward FDI. A key question is how China has attained such a composition of its inflows, one that many emerging markets aspire to but that few achieve. Some context is important before addressing this question. Earlier work by Wei (2000c) suggests that the size of FDI inflows into China relative to its GDP and other "natural" determinants is not unusually high. If anything, China seems to be an underperformer as a host of FDI from the world's five major source countries. In more recent years, with the continued rise in FDI, China may have become a normal country in terms of its attractiveness as a destination for FDI.

One explanation for the composition of China's capital inflows is that it is the result of a pragmatic strategy that has been adjusted over time through trial and error. The pattern in the 1980s and early 1990s could well have reflected a combination of inertia and luck, with the post-1997 pattern reflecting the scare of the Asian financial crisis. Indeed, at the begin-

ning of the reform period in the late 1970s and early 1980s, there were few capital inflows of any kind.

The early stage of reform sought to import only the type of foreign capital that was thought to help transmit technical and marketing know-how; thus, the policy enunciated was "welcome to FDI, but no thank you to foreign debt and portfolio flows." Export performance and foreign exchange balance requirements were initially imposed even on foreign-invested firms. The restrictions on FDI were relaxed step by step, together with certain "supernational treatment" (of incentives) for foreign-owned enterprises and joint ventures. Over time, the government also started to relax restrictions on foreign borrowing by corporations (and take steps to expand the set of Chinese stocks listed on Shanghai's B-share market and the Hong Kong and U.S. stock exchanges). The government declared in the mid-1990s that it intended to implement capital account convertibility by 2000.

The psychological impact of the subsequent Asian financial crisis may have been profound. Several countries that China had regarded as role models for its own development process (especially Korea) went into deep crises in a very short period of time. It was a common perception among policymakers in China that the swings in the non-FDI part of the international capital flows had played a crucial role in the process. In this sense, the Asian financial crisis caused a rethinking of the Chinese approach to capital inflows. The idea of capital account liberalization by 2000 disappeared, and in its place rose the notion that the higher the level of foreign exchange reserves, the better the chance of avoiding painful crises.

9.5.1 Incentives and Distortions Affecting FDI

A more traditional explanation for the composition of China's capital inflows is that the unusually high share of FDI could reflect a policy mix of simultaneously discouraging foreign debt and foreign portfolio inflows while providing incentives for FDI.[25] Indeed, the existence of tax benefits for FDI has meant that, until recently, the playing field was in fact tilted in favor of foreign-funded firms. This was conceivably a part of an enlightened policy choice, which included restricting other types of inflows using capital controls.

Since China promulgated laws governing foreign investment at the start of the reform, the government has offered generous tax treatment to foreign firms. In the first two years that a foreign-invested firm makes a profit, it is exempt from corporate income tax. In subsequent years, foreign com-

25. Tseng and Zebregs (2002) discuss other factors that may have helped to attract FDI, such as market size, infrastructure, and the establishment of open economic zones, which have more liberal investment and trade regimes than other areas.

panies are subject to an average corporate income tax of 15 percent, less than half the normal rate of 33 percent paid by Chinese companies.

Tax exemptions and reductions constitute only one aspect of government incentives favoring FDI. To capture these incentives more comprehensively and to place the Chinese FDI regime in a cross-country comparative context, we now make use of the description of the legal FDI regimes for forty-nine countries in 2000 constructed by Wei (2000b), who in turn relied on detailed textual descriptions prepared by PricewaterhouseCoopers (PwC) in a series of country reports entitled "Doing Business and Investing in [the country that is the subject of the report]." The "Doing Business and Investing in . . ." series is written for multinational firms that intend to do business in a particular country. They are collected in one CD-ROM titled "Doing Business and Investing Worldwide" (PwC 2000). For each country, the relevant PwC country report covers a variety of legal and regulatory issues of interest to foreign investors, including restrictions on foreign investment and investors (typically chapter 5), investment incentives (typically chapter 4), and taxation of foreign corporations (typically chapter 16).

To convert the textual information in these reports into numerical codes, we read through the relevant chapters for all countries that the PwC series covers. PwC (2000) contains information on incentives for FDI in the following four categories:

1. Existence of special incentives to invest in certain industries or certain geographic areas
2. Tax concessions specific to foreign firms (including tax holidays and tax rebates, but excluding tax concessions specifically designed for export promotion, which is in a separate category)
3. Cash grants, subsidized loans, reduced rent for land use, or other nontax concessions, specific to foreign firms
4. Special promotion for exports (including existence of export processing zones, special economic zones, etc.)

For each category of incentives, we then created a dummy variable, which takes the value 1 if a particular type of incentive is present. An overall "FDI incentives" variable can then be constructed as the sum of the above four dummies. This variable takes a value of zero if there is no incentive in any of the categories, and 4 if there are incentives in all of them.

Of the forty-nine countries for which one can obtain information, none has incentives in all four categories. The median number of incentives is 1 (mean = 1.65). China is one of only three countries that have incentives for FDI in three categories—the other two countries being Israel and Egypt. Therefore, based on this information, we might conclude that China offers more incentives to attract FDI than most countries in the world.

Of course, legal incentives are not the only things that matter for inter-

national investors. To obtain a more complete picture, one also has to look at legal restrictions. The same PwC source also offers information, in a standardized format, on the presence or absence of restrictions in four areas:

1. Existence of foreign exchange control (which may interfere with foreign firms' ability to import intermediate inputs or repatriate profits abroad)
2. Exclusion of foreign firms from certain strategic sectors (particularly national defense and mass media)
3. Exclusion of foreign firms from additional sectors that would otherwise be open in most developed countries
4. Restrictions on foreign ownership (e.g., they may not per permitted 100 percent ownership)

We generated dummy variables for each category of restrictions and created an overall "FDI restriction" variable that is equal to the sum of those four dummies. This variable takes the value of zero if there is no restriction in any category, and 4 if there are restrictions in all of them.

The median number of restrictions is 1 (mean = 1.69). Interesting, China is one of only five countries in the sample that place restrictions on FDI in all four categories. Different restrictions and incentives may have different effects on FDI, so they cannot be assigned equal weights. Notwithstanding this caveat, in terms of the overall legal regime, it is not obvious that China makes for a particularly attractive FDI destination (as of 2000).[26]

So far, we have been discussing explicit incentives and restrictions that are written into laws and regulations. Of course, there can be many other implicit incentives or restrictions that are nonetheless an important part of the overall investment climate in the mind of potential investors. For example, corruption and bureaucratic red tape raise business costs and are part of the implicit disincentives for investment. Statistical analyses by Wei (2000a, 2000b, 2000c) suggest that these costs are economically as well as statistically significant.

To sum up, while the Chinese laws and regulations offer many legal incentives to attract FDI, they should be placed in context along with many implicit disincentives as well as explicit legal restrictions in order to form a more complete assessment of the overall investment climate.

9.5.2 A Mercantilist Story

Another hypothesis for explaining China's pattern of capital inflows is that the encouragement of FDI inflows is part of a mercantilist strategy to

26. The regression analysis in Wei (2000b, 2001) suggests that these FDI incentive and restriction variables explain a part of the cross-country variation in inward FDI.

foster export-led growth, abetted by the maintenance of an undervalued exchange rate (see Dooley, Folkerts-Landau, and Garber 2004a, 2004b; henceforth DFG). The basic premise of DFG is that, with a large pool of surplus labor and a banking system that is assumed to be irremediably inefficient, a more appropriate growth strategy for China is to use FDI to spur "good" investment in the export sector and to maintain an undervalued exchange rate in order to maintain export competitiveness. To support this equilibrium, China allows manufacturers in its export markets (the U.S. market in particular) to bring in FDI and take advantage of the cheap labor to reap substantial profits, thereby building a constituency in the United States to inhibit any action to force China to change its exchange rate regime. In addition, China's purchase of U.S. government securities as a part of its reserve holdings acts as a collateral or insurance policy for foreign firms that invest in China.

While this is an intriguing story, the facts do not support it. For instance, most of the FDI inflows into China have come from countries that are exporting to China rather than importing from it (see section 9.2). Furthermore, it is worth noting that (a) China chose not to devalue in 1997–98, even though that would have increased its exports; (b) the massive buildup of foreign exchange reserves is a relatively recent phenomenon; and (c) for much of the two decades up to 2001, the Chinese currency was likely to be overvalued rather than undervalued according to the black market premium. Even if one were to accept the DFG approach as a sustainable one, there is a conceptual question of whether it is the right approach. To take just one aspect, the sheer size of domestic saving (more than $500 billion a year) eclipses FDI (at about $45–50 billion a year, an order of magnitude smaller). Hence, writing off the domestic banking sector and focusing solely on FDI-led growth can hardly be regarded as a reasonable strategy. In short, while the DFG story is a seductive one and has many plausible elements, it does not appear to be a viable overall approach to fostering sustainable growth in China.[27]

9.5.3 Institutions and Governance

A different possibility, suggested by the work of Yasheng Huang (2003), is that the dominant share of FDI in China's inflows over the past decade reflects deficiencies in domestic capital markets. In particular, private firms have faced discrimination relative to state-owned enterprises, from both the banking system (in terms of loan decisions by state-owned banks) and the equity market (in terms of approval of stock listings). As a result, private firms have taken advantage of pro-FDI policies in an unexpected way and used foreign joint ventures as a way to acquire needed capital in

27. Roubini (2004) and Goldstein and Lardy (2005) present broader arguments against the DFG story.

order to undertake investment. Foreign investors have presumably been willing to go along because they are appropriately compensated by their Chinese partners in the form of profit shares, even in cases where the foreign investors may have no particular technological, managerial, or marketing know-how to offer. If the Chinese financial system had no such discrimination in place, much of the foreign investment in the form of joint ventures might not have taken place. In this sense, the deficiency of the domestic financial system may have artificially raised the level of inward FDI.

This is an interesting hypothesis and may well explain part of the inward FDI in the 1980s. However, there is some mismatch between this hypothesis and the data, especially in terms of the time series patterns of FDI inflows. On the one hand, inward FDI has been increasing at a rapid rate—indeed, more than half of the cumulative stock of inward FDI can be accounted for by recent inflows over the period 1998–2003. This hypothesis would require a financial system ever more discriminatory of private firms. On the other hand, domestic banks have become increasingly willing to make loans to non-state-owned firms. Similarly, in the equity market, both the absolute number and the relative share of the non-state-owned firms in the two stock exchanges have been rising. Therefore, it seems to us that Huang's hypothesis is unlikely to be a major part of the explanation for the rapid rise in inward FDI in recent years.

Governance, which includes various aspects of public administration, is another potentially important determinant of the composition of inflows. Unlike other types of inflows, FDI that is used to build plants with joint ownership by Chinese entrepreneurs provides foreign investors with the best possibility of being able to successfully negotiate the bureaucratic maze in China. However, this is somewhat at odds with recent literature that has examined the role of weak institutions (e.g., those with a high level of corruption, lack of transparency, weak judicial system) in the volume and patterns of capital inflows. Low levels of transparency typically tend to discourage international portfolio investment (Gelos and Wei 2005). Weak public governance—especially rampant insider trading—tends to exacerbate stock market volatility, further discouraging foreign portfolio inflows (Du and Wei 2004). High corruption also tends to discourage FDI (Wei 2000a, 2000b). However, taken together, these factors are unlikely to explain the particular composition of the Chinese capital inflows, since weak public governance by itself should tend to tilt the composition away from FDI and toward foreign debt (Wei and Wu 2002).

It is not easy to empirically disentangle the various hypotheses that we have reviewed above to explain why China gets more FDI than other types of inflows. In our view, the nature of the capital controls regime and the incentives for FDI appear to have played a big part in encouraging FDI inflows. But the story is not quite that straightforward, since one would expect a counteracting effect from factors such as weak governance, legal

restrictions on investment by foreigners, and poor legal infrastructure and property rights. Furthermore, it is useful to keep in mind that FDI inflow figures may have been artificially inflated by the incentives for disguising other forms of inflows as FDI in order to get around capital account restrictions and to take advantage of tax and other policies favoring FDI.

9.6 Concluding Remarks

In this paper, we have provided an overview of developments in China's capital inflows and analyzed the composition of these inflows in the context of a rapidly burgeoning literature on financial globalization. We have also examined a number of hypotheses for China's success in attracting FDI inflows. Further research will be needed to disentangle the competing explanations for this phenomenon, but there is little evidence that mercantilist stories are the right answer. Understanding the reasons for China's success in tilting inflows toward FDI is important, especially as China continues its integration into world financial market and becomes more exposed to the vagaries of these markets. China has done well so far in managing the risks associated with financial globalization, but major challenges remain to ensure that continued integration with financial markets does not worsen the risk-return trade-off.

Appendix A

Some Information on China's Foreign Holdings of U.S. Dollar Securities

China does not publicly report the currency composition of its foreign exchange reserves.[28] With its reserves at well over $600 billion and continuing to rise, there is growing interest in the question of what currencies and maturities these reserves are held in. The U.S. Treasury International Capital (TIC) System database is a popular source of data for attempting to shed some light on this issue. This appendix provides some information on China's holdings of U.S. dollar–denominated instruments that can be gleaned from this source—including a discussion of what can and cannot be learned from these data—and reviews the major caveats that should be kept in mind while analyzing these data.

One of the main TIC databases provides information on U.S. transac-

28. We are grateful to Eisuke Okada for his help in preparing this appendix and to Carol Bertaut for helping us to understand these data better. The descriptions and data reported here are taken from the U.S. Treasury web site: http://www.treas.gov/tic.

tions with foreigners in long-term domestic and foreign securities. The data are based on mandatory reports filed by banks, securities dealers, investors, and other entities resident in the United States that deal directly with foreign residents in purchases and sales of long-term securities—composed of equity and debt issues with an original maturity of more than one year—that are issued by the U.S. government and U.S. firms or by foreign governments and foreign-based firms.

These data reflect only transactions between U.S. residents and counterparties located outside the United States. Because they are designed to capture cross-border transactions on a U.S. balance-of-payments basis, these data do not necessarily indicate the country of beneficial owner or issuer, or the currency of denomination of securities.[29] This implies that purchases of U.S. securities by China could be significantly understated if any of these purchases are routed through financial intermediaries in other countries. Purchases of U.S. dollar–denominated instruments outside the United States would also not be captured here. Another key issue is that these numbers include not just purchases by central banks but also those by other financial institutions.

A different TIC data source, "U.S. Banking Liabilities to Foreigners," reports data on foreign holdings of short-term treasury bills and notes. The data from these two TIC sources are combined into a table showing major foreign holders of treasury securities that is available on the U.S. Treasury website. This table shows stock data including holdings of short-term treasury bills and certificates, estimated holdings of long-term treasury securities, and a small amount of nonmarketable treasury bonds and notes issued to foreigners.[30] The monthly figures for holdings of long-term treasury securities since end June 2003, for example, begin with accurate data for end June from the annual survey of foreign holdings of U.S. securities as of that date. Holdings are then estimated for the end of each successive month by adding to the previous month's figure the net foreign transactions in treasury bills, notes, and bonds during the month as reported in the securities transactions data. This process of estimation has created a data series with breaks at each new survey of foreign holdings of U.S. securities, which generally takes place every year or two.

There are country identification problems with these data as well. First, a custodial bias is introduced in the survey data when foreign owners of treasury securities entrust the safekeeping of their securities to financial institu-

29. For instance, if an intermediary in London were used by someone in India to buy a U.S. or Mexican security in the United States, that transaction would be recorded opposite the United Kingdom, not India.

30. Foreign holdings of short-term treasury bills are recorded at face value. Holdings of and transactions in long-term treasury securities are collected at market value (including commissions and taxes in the case of the transactions data), although no change is made to adjust these data to account for price changes occurring subsequent to the survey or transaction dates. Holdings of nonmarketable securities are included at current value.

tions in third countries. Second, since a large volume of cross-border transactions takes place in major international financial centers, the procedure of adding net transactions to the original survey positions for long-term marketable securities can generate large geographic distortions over time.

Data on net purchases of treasury bills (with original maturities of less than one year) can be derived from changes in the stock data for treasury bills as reported in "U.S. Banking Liabilities to Foreigners."

Panel A of table 9A.1 shows the net purchases of treasury bills and long-term domestic and foreign securities in the United States that are recorded against China. Over the period 2001–4, treasury instruments constitute about 43 percent of total net purchases over the period 2001–4, and government agency bonds account for 40 percent. One important point to note is that, during 2001–3, net purchases of government agency bonds exceeded purchases of treasury instruments by China. Another interesting point is that in 2004 net purchases of shorter-term treasury bills increased sharply, becoming as important as purchases of long-term treasury securities and government agency bonds.

How much of China's reserve accumulation could potentially be accounted for by these flows? Panel B of table 9A.1 shows the ratio of net purchases of treasury bills and long-term securities in the United States to China's foreign exchange reserve accumulation. This ratio has fluctuated considerably over the years.[31] It has fallen sharply in recent years, from over 1 in 2001 to 0.33 in 2004, suggesting a drop-off in the share of reserve accumulation that is flowing into U.S. instruments.

Panel C of table 9A.1 shows that China is now a large holder of U.S. Treasury securities (the second largest, in fact, behind only Japan). As of December 2004, China accounted for $194 billion of outstanding U.S. Treasury securities recorded against foreign holders (compared to $712 billion for Japan and $164 billion for the United Kingdom). Under some strong assumptions, these numbers could be read as suggesting that, as of December 2004, about 30 percent of China's foreign exchange reserves were held in U.S. Treasury instruments, down from 41 percent in January 2003. But the caveat about inadequate coverage of the TIC data may be especially relevant here.

Overall, one could infer suggestive evidence from the data presented in this appendix that China's purchases of U.S. Treasury securities and other U.S. dollar–denominated holdings may be accounting for a smaller proportion of its accumulation of foreign exchange reserves than in the past. These data should, however, be interpreted with extreme caution since they are subject to serious shortcomings (as clearly noted on the TIC web site itself, from which we have drawn many of the caveats discussed above).

31. A ratio above 1 suggests some reallocation of reserve holdings from outside to inside the United States.

Table 9A.1 **China's purchases and holdings of U.S. financial instruments (in billions of U.S. dollars)**

	A: Net purchases of securities in the U.S.						B: Annual flows			C: End-of-year stocks		
			Long-term securities									
	Total	Treasury bills	Treasury bonds	Government agency bonds	Corporate bonds and stocks	Foreign bonds and stocks	Net purchases of securities (1)	Foreign exchange reserves (2)	Ratio (1)/(2)	Holdings of U.S. Treasury securities (1)	Foreign exchange reserves (2)	Ratio (1)/(2)
1990	0.3	–0.2	0.3	0.0	0.0	0.2	0.3	5.5	0.06		11.1	
1991	0.6	0.0	0.1	0.0	0.0	0.4	0.6	10.6	0.06		21.7	
1992	5.3	0.3	3.4	0.5	0.7	0.4	5.3	–2.3	–2.32		19.4	
1993	0.7	–0.1	0.5	0.6	0.1	–0.3	0.7	1.8	0.39		21.2	
1994	16.1	3.7	12.2	0.5	0.1	–0.4	16.1	30.4	0.53		51.6	
1995	14.8	13.7	0.7	0.9	0.0	–0.4	14.8	22.0	0.67		73.6	
1996	14.6	–2.8	14.5	2.8	0.3	0.0	14.6	31.4	0.47		105.0	
1997	2.1	–7.4	8.2	1.7	0.1	–0.4	2.1	34.9	0.06		139.9	
1998	1.1	–4.1	2.6	0.9	0.0	1.7	1.1	5.1	0.21		145.0	
1999	14.7	–2.7	8.2	8.3	0.7	0.1	14.7	9.7	1.51		154.7	
2000	17.6	0.4	–4.0	18.8	0.7	1.6	17.6	10.9	1.61	60.3	165.6	0.36
2001	55.0	–0.9	19.1	26.0	6.7	4.1	55.0	46.6	1.18	78.6	212.2	0.37
2002	63.1	0.2	24.1	29.3	6.1	3.5	63.1	74.2	0.85	118.4	286.4	0.41
2003	68.4	0.3	30.1	29.4	4.5	4.0	68.4	161.8	0.42	157.7	448.3	0.35
2004	67.5	17.2	18.9	16.4	12.1	3.0	67.5	206.7	0.33	193.8	654.9	0.30

Sources: Treasury International Capital System, CEIC database, and authors' calculations.

Notes: The data in panel A are taken from the tables entitled "U.S. Banking Liabilities to Foreigners" and "U.S. Transactions with Foreigners in Long-Term Securities" on the U.S. Treasury web site (http://www.treas.gov/tic/). Treasury bills have an original maturity of less than one year. Treasury bonds include marketable treasury and federal bank bonds and notes with an original maturity of one year or longer. Government agency bonds include bonds of U.S. government corporations and federally sponsored agencies. The stock data on holdings of U.S. Treasury securities (panel C) are taken from "Major Foreign Holders of U.S. Treasury Securities" on the U.S. Treasury web site. Data on foreign exchange reserve increase in 2003 and corresponding stocks in 2003 and 2004 include the $45 billion used for bank recapitalization at the end of 2003. Note that the flow data on net purchases of treasury bills and treasury bonds in panel A cannot be fully reconciled with the estimated stock of treasury securities in panel C (e.g., for 2002 and 2003), because the stock data are rebenchmarked whenever a new survey is conducted.

Appendix B

Evolution of Capital Controls in China

This appendix provides an extensive chronology of controls on capital account transactions over the period 1980–January 2005.[32] It is drawn from the IMF's *Annual Reports on Exchange Arrangements and Exchange Restrictions* (various issues). Following a detailed description of controls existing in 1980, changes to those restrictions in each subsequent year are then listed. The reporting format for the capital account transactions changed in 1996, the year in which China accepted the obligations of Article VIII of the IMF's Articles of Agreement. Another detailed overview of the restrictions in place at the end of 1996 is therefore provided, followed by a listing of changes to those restrictions in subsequent years.

Existing Controls on Capital Transactions as of December 31, 1980

A policy of permitting foreign borrowing on a planned basis has been instituted. Loans for vital projects or projects that have a rapid rate of return are given priority approval. All sections and departments wishing to borrow abroad must prepare a plan showing the kinds of imports for which the loan is intended. Such plans must show the amount of foreign exchange needed and how much of this will be earned and how much borrowed from abroad. All such plans are submitted to the State Planning Commission, which reviews them in cooperation with the Foreign Investment Control Commission. If the imports are for new construction, the plans are also reviewed by the State Construction Commission (all three commissions are under the supervision of the State Council).

Approval of foreign loans is based on a consideration of the need for foreign capital, and the ability of the borrowing unit to repay, and the overall debt-service ratio of China. Most loans are made through the Bank of China or, in the case of some loans to provinces or enterprises that are able to repay the loan themselves, with Bank of China guarantees. External borrowing plans by entities other than the Bank of China must be submitted to the State General Administration of Exchange Control (SGAEC) and the Foreign Investment Control Commission for approval, before loans from abroad or from the Hong Kong and Macao regions can be incurred. Resident organizations may not issue securities for foreign exchange unless approved by the State Council.

All foreign investment projects are subject to the approval of the Foreign Investment Control Commission. The policy with respect to foreign capital is designed both to make up the insufficiency of domestic capital and to

32. We are indebted to Qing Wang for his help in preparing this appendix.

facilitate the introduction of modern technology and management. All foreign exchange earned by joint ventures should be kept in a Bank of China account. Transfers of capital require SGAEC approval. When a joint venture is wound up, the net claims belonging to the foreign investor may be remitted with SGAEC approval through the foreign exchange account of the joint venture. Alternatively, the foreign investor may apply for repayment of his paid-in capital.

Profits of joint ventures, besides firms in special export zones and those exploiting petroleum, natural gas, and other resources, are subject to tax at 33 percent (30 percent basis rate plus a 10 percent surcharge on the assessed tax). As mentioned above, remitted profits are subject to an additional tax of 10 percent. A joint venture scheduled to operate for ten years or more may be exempted from income tax in the first year of operation and be allowed a 50 percent reduction for the second and third years. Joint ventures in low-profit operations, or those located in remote, economically underdeveloped outlying areas, may be allowed a further 15–30 percent reduction in income tax for the following ten years. A participant in a joint venture that reinvests its share of profit in China for a period of not less than five years may obtain a refund of 40 percent of the tax paid on the reinvested amount. Some joint ventures concluded before the passing of tax regulations in August 1980 are subject to taxes at different rates.

Foreign investment by Chinese enterprises is subject to approval; profits thereby earned must be sold to the Bank of China, except for a working balance. Chinese diplomatic and commercial organizations abroad and undertakings abroad and in Hong Kong and Macao are required to draw up annual foreign exchange plans.

Changes during 1981

None.

Changes during 1982

January 1. The Law on Income Taxes for Foreign Enterprises, which was adopted by the National People's Congress on December 13, 1981, came into force.

January 30. The State Council promulgated regulations on the exploitation of offshore petroleum resources in cooperation with foreign enterprises.

March 6. The Bank of China decided (a) to grant foreign currency loans at preferential interest rates to support the development of export commodities, projects of energy saving most pressing to the state, technical transformation of enterprises of light industries (including the textile and engineering industries), purchases by domestic enterprises of raw and semifinished materials in short supply, and projects of the packing

industry; and (b) to finance export services relating to projects contracted with foreign countries.

Changes during 1983

January 1. The tax rate on income earned by foreign firms from interest on loans in respect of contracts signed during the period of 1983–85 was reduced by 50 percent; a similar reduction was extended to income earned from agriculture, energy development, communications and transport, education, and scientific research.

August 1. New rules (approved by the State Council on July 19, 1983) were introduced for the implementation of exchange controls in respect of enterprises with foreign and overseas Chinese capital and joint ventures.

September 2. The Standing Committee of the National People's Congress approved certain changes in the income tax law for joint ventures.

September 20. The State Council issued a body of regulations for the implementation of the law on joint ventures involving China and foreign capitals.

Changes during 1984

January 23. The State Council announced that Shanghai region would be given the authority to approve FDI projects to a value of up to US$10 million.

April 27. The State Council announced that fourteen selected coastal cities would be allowed to open up further to the outside world, in order to help speed up the introduction of advanced foreign technologies, notably through FDI.

May 3. The harbor city of Beihai, one of the fourteen coastal cities selected by the State Council for wider opening up to the outside world, was officially designated as an economic and technological development zone opened to FDI by small and medium-sized electronics and light industry enterprises. Foreign nationals investing in Beihai would be given a preferential tax treatment similar to that prevailing in the four special economic zones.

June 6. The municipality of Shanghai announced that foreigners investing in the economic and technological development zone in Shanghai would be given preferential tax treatment in regard to local income tax, comparable to the tax treatment provided in the Shenzhen economic zones.

July 14. As part of various steps announced by the State Council with the objective of speeding up a wider opening up of the fourteen designated coastal cities to the outside world, it was decided that these cities would not have the status of the existing special economic zones but would be allowed, at their own initiative, to offer additional tax incentives to for-

eign investors providing advanced technology. In addition, such cities could set up special economic and technological development areas where the 10 percent tax on profits remitted abroad by foreign investors would be waived. As in the special economic zones, the profits of joint venture established in the designated areas would be subject to a 15 percent income tax, and machinery, equipment, and other inputs imported by or for joint ventures operating in the fourteen coastal cities would be exempt from customs duties as well as from the consolidated industrial and commercial tax. Exports would also be exempt from export duties, and a certain proportion of products requiring advanced manufacturing techniques would be permitted to be marketed domestically.

July 31. Joint ventures operating in the fourteen coastal cities were formally made subject to an income tax of only 15 percent (instead of the standard 33 percent), with the approval of the Ministry of Finance. In addition, the 10 percent tax on onward remittances of foreign investment income would be waived if the foreign investment was undertaken in designated economic and technological development areas in these cities.

August 20. Special foreign currency lending facilities were set up by the Bank of China and the Industrial and Commercial Bank of China for domestic borrowers to help finance imports of advanced foreign technology.

September 1. Authorization was granted for the State Administration of Exchange Control (SAEC) and the Bank of China to settle payments of outstanding foreign currency debts of foreign and overseas Chinese banks in China (including branches undergoing or already in liquidation) that were contracted through 1949.

November 7. The Industrial and Commercial Bank of China was authorized to carry out business transactions in foreign exchange in the special economic zones.

November 19. New provisional regulations concerning the application of income taxes and the consolidated industrial and commerce tax in the special economic zones and in the new technology development zone in fourteen newly opened-up coastal cities were issued by the State Council. The income taxes payable by joint ventures in the specified zones and areas would be reduced from the standard rate of 33 percent to 15 percent, with the approval of the Ministry of Finance. Income taxes for other long-term industrial, communication, transport, agricultural, and service trade undertakings in their first one or two profit-taking years would be waived with the approval of the taxation authority, and reductions of 50 percent would be allowed in the following two or three years, but profits made by the older sectors of the fourteen coastal cities would be subject to taxation by up to 80 percent of the standard tax rate of 33 percent. In addition, consolidated industrial and commercial tax ex-

emptions would be granted on imports of machinery and equipment, raw materials, building supplies, spare parts, other specified inputs, and exports other than those controlled by the state. Foreign participants in the joint ventures in these zones and areas were also allowed to remit their share of the profits overseas tax free, but a 10 percent tax was levied on income from royalties, dividends, interest, and rentals, compared with the standard rate of 20 percent elsewhere in China. The exemption and reductions of income tax were made applicable to the whole of 1984, while the exemption and reductions of industrial and commercial consolidated tax were to take effect from December 1, 1984.

December 13. In a move aimed at attracting FDI, the municipal authorities of Shanghai announced new concessions on tax and other policies, including reduced customs duties and preferential access to specified domestic markets. In addition, the income tax could, with approval from the Ministry of Finance, be decreased to 15 percent on condition that the project be operated with advanced technology or that the investment be for over US$30 million, and customs duties on certain imported equipment and raw materials could be waived.

December 22. Foreign banks were allowed to accept deposits from foreign organizations, nonresidents, enterprises with foreign capital as well as capital belong to overseas Chinese, and Chinese and foreign joint ventures, and to make loans in foreign currency in Shanghai.

Changes during 1985

January 3. New plans to open four large industrial regions to foreign investment and trade were announced. The move represented the third stage in China's current open-door policy, following experiments in the four special economic zones and the fourteen coastal cities.

March 14. Regulations governing the establishment of foreign joint ventures in Shanghai were relaxed.

March 15. China and India signed a three-year agreement to develop economic and trade relations; the accord provided for encouraging joint ventures, the creating of consultancy services, the exchange of economic, trade, and technical delegations; and participation in international fairs in the two countries.

March 26. The Foreign Economic Contract Law was adopted.

April 1. The Chinese Patent Law, enacted in 1984, came into effect. In addition, China joined the Paris Convention for the Protection of Industrial Property.

April 1. The Ministry of Petroleum and Industry announced that foreign oil companies would be allowed to participate in exploration and development of oil and gas reserves in nine provinces and one autonomous region.

April 2. The State Council introduced a regulation on the control of foreign banks and joint venture banks in special economic zones.

August 22. China approved the establishment of the first foreign branch bank office in the country since 1949. In addition, the Hong Kong and Shanghai Banking Corporation (HSBC) announced a plan to begin branch operations in Shenzhen, a special economic zone, in October 1985.

November 6. China and Libya signed a protocol aimed at consolidating bilateral cooperation between the two countries.

December 3. A joint venture bank, the first with foreign capital participation, was opened in Xiamen, a special economic zone, with the Panin Group of Hong Kong.

Changes during 1986

None.

Changes during 1987

February 5. Provisional regulations were approved permitting financial institutions and enterprises with sources of foreign exchange income to guarantee foreign exchange obligations of other debtors.

August 27. Provisional regulations were issued on a new system requiring the timely registration of external borrowing with the State Administration of Foreign Exchange (SAFE).

Changes during 1988

April 13. The National People's Congress adopted a new Chinese-foreign cooperative joint ventures law.

Changes during 1989

February 14. The State Council issued regulations that all foreign commercial borrowing required the approval of the People's Bank of China (PBC). All commercial borrowing is to be channeled through one of ten domestic entities—the Bank of China, the Communications Bank of China, the China International Trust and Investment Corporation, the China Investment Bank, and six regional international trust and investment corporations. The short-term debt of each entity may not exceed 20 percent of the entity's total debt, and short-term borrowing is to be used only for working capital purposes.

March 6. The SAEC announced procedures governing Chinese direct investment abroad. Such investments would require government and

SAEC approval, a deposit of 5 percent of the investment to secure repatriation of dividends and other income from the investment, and repatriation of earnings within six months.

Changes during 1990

April 4. The National People's Congress adopted an amendment to the law on Chinese foreign equity joint ventures. The amendment stipulated that the state would not nationalize joint ventures, simplified the approval procedures for new foreign investment enterprises (requiring a decision by the competent government authority within three months), and extended the management rights of foreigners (including permitting foreigners to assume the chairmanship of the board of directors of joint ventures).

May 14. The Shanghai City Government announced plans for the development of the Pudong New Area (an area adjacent to Shanghai that covers 135 square miles). It was envisaged that the multibillion-dollar project would take thirty to forty years to complete. To attract foreign capital into the area, Chinese foreign joint ventures were to be offered tax incentives similar to those available in the special economic zones, and overseas businesses would be permitted to invest in the construction of airports, ports, railways, highways, and utilities, as well as to open foreign bank branches in Shanghai. Detailed regulations were announced in October 1990.

May 19. The State Council issued regulations for the sale and transfer of land use rights in cities and towns to encourage foreign investors to plan long-term investment. Under these regulations, companies, enterprises, other organizations, and individuals within and outside China would be permitted to obtain land use rights and undertake land development. The maximum period for land use rights ranged from forty years for commercial, tourism, or recreational users to fifty years for industrial use and seventy years for residential use. The State Council issued provisional regulations for investment in large tracts of land to attract foreign firms' investment in tract development. Under these regulations, tract development referred to the obtaining of land use rights for state land and the development of infrastructure and other investments.

Changes during 1991

April 9. The National People's Congress adopted the Law Concerning the Income Tax of Foreign-Funded Enterprises and Foreign Enterprises and eliminated a 10 percent tax imposed on distributed profits remitted abroad by the foreign investors in foreign-funded enterprises. This law

unified the tax rates for Chinese foreign equity joint ventures and wholly owned foreign enterprise. It would also provide for more tax benefits in the priority industrial sectors, with effect from July 1, 1991.

September 26. "Regulations on Borrowing Overseas of Commercial Loans by Resident Institutions" and "Rules on Foreign Exchange Guarantee by Resident Institutions in China" were issued.

Changes during 1992

March 1. The policy on foreign trade and investment was further liberalized, opening a large number of inland and border areas to such activities.

Changes during 1993

None.

Changes during 1994

None.

Changes during 1995

None.

Changes during 1996

September 25. The Regulation on External Guarantees Provided by Domestic Entities was passed, allowing for the provision of guarantees by authorized financial institutions and nonfinancial legal entities that had foreign exchange receipt.

Existing Controls on Capital Transactions as of December 31, 1996

Controls on Capital and Money Market Instruments

On capital market securities

Purchase locally by nonresidents	Nonresidents may only purchase B shares. The face value of B shares is denominated in renminbi, which are listed on the Chinese Securities Exchange and can only be bought by foreign investors.

Sale or issue locally by nonresidents	These transactions are not permitted.
Purchase abroad by residents	Residents, except financial institutions permitted to engage in foreign borrowing and authorized industrial and trade enterprises or groups, are not permitted to purchase securities abroad. A qualifications review by the SAFE is required for financial institutions to purchase securities abroad.
Sale or issue abroad by residents	Prior approval by the PBC, the SAFE, or the Securities Supervisory Board is required. Issuing bonds abroad must be integrated within the state's plan for utilizing foreign capital. Bonds can only be issued by financial institutions approved by the PBC.
On money market instruments	
Purchase locally by nonresidents	Nonresidents are not allowed to purchase money market instruments.
Sale or issue locally by nonresidents	Nonresidents are not allowed to sell or issue money market instruments.
Purchase abroad by residents	Residents, except financial institutions permitted to engage in foreign borrowing, and authorized industrial and trade enterprises or groups are not allowed to purchase money market instruments. Financial institutions must undergo a review of qualifications by the SAFE before purchasing foreign money market instruments.
Sale or issue abroad by residents	Sale or issue abroad of securities, other than stocks, requires PBC and SAFE approval.
On collective investment securities	
Purchase locally by nonresidents	These transactions are not allowed.
Sale or issue locally by nonresidents	There are no regulations, and if these instruments are traded they must be approved by the Securities Policy Commission.
Purchase abroad by residents	Same regulations as for purchase of money market instruments apply.
Sale or issue abroad by residents	Same regulations as for sale or issue of money market instruments apply.
Controls on Derivatives and Other Instruments	
Purchase locally by nonresidents	These transactions are not allowed.
Sale or issue locally by nonresidents	These transactions are not allowed.

Purchase abroad by residents	Operations in such instruments by financial institutions are subject to prior review of qualifications and to limits on open foreign exchange positions.
Sale or issue abroad by residents	Same regulations as for purchases apply.
Controls on Credit Operations	
Commercial credits	
By residents to nonresidents	Industrial and commercial enterprises may not provide lending to nonresidents. Provision of loans to nonresidents by financial institutions is subject to review of qualifications by the SAFE and to a foreign exchange asset-liability ratio requirement.
To residents from nonresidents	Only financial institutions permitted by the SAFE to engage in external borrowing and authorized industrial and commercial enterprises or groups can engage in external borrowing of commercial credit. For credit over one-year maturity, the loan must be part of the state plan for utilizing foreign capital and must be approved by the SAFE. Short-term commercial credit (with a maturity of one year or less) is subject to foreign exchange balance requirements. Financial institutions permitted to engage in foreign borrowing are free to conduct short-term foreign borrowing within the target balance without obtaining approval, but must register the borrowing with the SAFE. Short-term foreign financing with maturity of three months or less provided to enterprises—excluding foreign funded enterprises (FFEs)—is not subject to limitations, but short-term financing of longer than three months is subject to short-term foreign exchange balance requirements, and the borrowing must be registered with the SAFE. FFEs may borrow from nonresidents without obtaining approval, but must report the borrowing to SAFE.
Financial credits	Same regulations as for commercial credits apply.
Guarantees, sureties, and financial backup facilities	
By residents to nonresidents	The regulation on External Guarantees Provided by Domestic Entities of September 1996 allows

	the provision of guarantees by authorized financial institutions and nonfinancial legal entities that have foreign exchange receipts. Government agencies or institutions cannot provide guarantees.

Controls on Direct Investment

Outward direct investment	Foreign exchange is provided for the investment after a SAFE review of sources of foreign exchange assets and an assessment of the investment risk involved, approval by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC), and registration with the SAFE.
Inward direct investment	As long as nonresidents meet requirements under Sino-foreign joint venture laws and other relevant regulations, and are approved by MOFTEC, nonresidents are free to invest in China. There is no restriction on the inward remittance of funds as far as exchange control is concerned. For environmental and security reasons, inward direct investment in some industries is prohibited.

Controls on Liquidation of Direct Investment

None.

Controls on Real Estate Transactions

Purchase abroad by residents	Same regulations as for direct investment apply.
Purchase locally by nonresidents	Same regulations as for direct investment apply.
Sale locally by nonresidents	Not available.

Provisions Specific to Commercial Banks and Other Credit Institutions

Borrowing abroad	Same regulations as for commercial credits apply.
Maintenance of accounts abroad	Prior approval by the SAFE is required for domestic entities opening foreign exchange accounts abroad.
Lending to nonresidents (financial or commercial credits	Lending is allowed subject to review of qualifications by the SAFE and to asset-liability ratio re quirements.
Lending locally in foreign exchange	Lending is mainly subject to qualifications review by the SAFE and to asset-liability ratio requirements.

Purchase of locally issued securities denominated in foreign exchange	China does not issue securities denominated in foreign currency.

Differential Treatment of Nonresident Deposit Accounts and/or Deposit Accounts in Foreign Exchange

Reserve requirements	There are different reserve requirements for deposits in renminbi and in foreign currency, and also between the latter in domestic banks and in FFEs (i.e., 13 percent for deposits in renminbi, 5 percent for any foreign currency deposit in domestic banks, and 3 percent for deposits in foreign currency for over three months and 5 percent for less than three months, in FFEs).
Liquid asset requirements	Bank foreign exchange liquid assets (one year or less) should not be less than 60 percent of liquid liabilities (one year or less) and 30 percent of total foreign exchange assets. Total deposits with three-month maturities, deposits in both domestic and foreign banks, funds used for purchasing transferable foreign currency–denominated securities, deposits with the central bank, and cash holdings should not be less than 15 percent of total foreign exchange assets. Nonbank foreign exchange liquid assets (one year or less) should not be less than 60 percent of liquid liabilities (one year or less) and 25 percent of total assets. Total deposits with three-month maturities, deposits in both domestic and foreign banks, funds used for purchasing transferable foreign currency–denominated securities, deposits with the central bank, and cash holdings should not be less than 10 percent of total assets.
Credit controls	Total loans, investment guarantees (calculated as 50 percent of the balance guaranteed), and other foreign exchange credits provided to a legal entity by banks or nonbank financial institutions should not exceed 30 percent of the foreign exchange capital owned by the banks or nonbank financial institutions.
Investment regulations	Bank equity investment should not exceed the difference between bank capital and mandatory paid-in capital. Nonbank financial institutions'

	total equity investment (excluding trust accounts) should not exceed the difference between their capital and mandatory paid-in capital.
Open foreign exchange position limits	For financial institutions trading foreign exchange on their own behalf, the daily total amount traded (total open foreign exchange position) should not exceed 20 percent of the foreign exchange working capital. As authorized by the highest level of management, financial institutions trading foreign exchange on their own behalf may retain a small amount of overnight open position, but this should not exceed 1 percent of the foreign exchange working capital.

Provisions Specific to Institutional Investors

None.

Changes during 1997

None.

Changes during 1998

Controls on capital and money market instruments	*January 1.* Regulations for issuing bonds denominated in foreign currency by domestic institutions were issued.
Controls on credit operations	*January 1.* The implementation bylaws of regulations for external guarantees by domestic institutions were issued. Forward letters of credit (LCs) with a maturity exceeding 90 days and less than 365 days were included in the category of short-term credit, while those exceeding one year were included in the category of medium- and long-term international commercial loans. External borrowing regulations were changed. *August 20.* Enterprises were barred from advance prepayment of debt.

Changes during 1999

Controls on credit operations	*July 15.* Some controls on renminbi loans to FFEs under foreign exchange liens or guarantees were eased.

Changes during 2000

None.

Changes during 2001

Controls on capital and money market instruments	*February 22.* Domestic investors were allowed to purchase B shares with existing foreign currency deposits. *June 1.* Domestic investors were allowed to purchase B shares with new foreign currency deposits.
Controls on credit operations	*September 19.* Restrictions were liberalized on purchases of foreign exchange for advance repayments of domestic and foreign currency loans, loans converted from foreign debt, and foreign debts, as follows: if the loan contract contains an advance repayment clause, the party may use its own foreign exchange to make advance repayment, subject to SAFE approval; and, subject to SAFE approval, a party may purchase foreign exchange to make advance repayments of loans, including (a) loans made with approval of the State Council; (b) loans for enterprise debt restructuring, for permanent or temporary closure, or for merger or transfer of ownership due to a change in national policy; and (c) loans where advance repayments are deemed necessary by a court.
Controls on direct investment	*September 19.* The purchase of foreign exchange was authorized for investments abroad in strategic foreign projects that have been approved by the State Council, projects that entail importing of materials into China for processing, and foreign aid projects.

Changes during 2002

Controls on capital and money market instruments	*September 1.* Prior approval by the China Securities Regulatory Commission (CSRC) was required for overseas listed domestic companies (OLDCs) and China-held foreign listed companies (CHFLCs) to sell shares overseas. The foreign exchange proceeds must not be retained overseas without SAFE approval and must be

	repatriated within thirty days and kept in OLDCs' foreign exchange accounts or converted into renminbi (with SAFE approval).
	December 1. Qualified foreign institutional investors (QFIIs) were allowed to invest domestically in A shares, subject to restrictions.
Controls on direct investment	*April 1.* A new four-tier classification was introduced, defining activities in which foreign investment is encouraged, permitted, restricted, or banned. As a result, many industries that were previously closed to foreign investment, particularly in the services sector, were opened.

Changes during 2003

Provisions specific to commercial banks and other credit institutions	*January 1.* Registration with and permission from the SAFE to repay the principal were no longer required for residents to borrow foreign exchange from domestic Chinese financial institutions.
Controls on direct investment	*November 1.* In some provinces and regions, the limit on outward investment was increased to the equivalent of US$3 million from US$1 million.
Provisions specific to commercial banks and other credit institutions	*January 1.* Registration with and permission from the SAFE to repay the principal were no longer required for residents to borrow foreign exchange from domestic Chinese financial institutions.
	November 19. A memorandum of understanding between the Hong Kong Monetary Authority and the China Banking Regulatory Commission to share supervisory information on banks operating in mainland China and Hong Kong and to ensure that parent banks maintain effective control over their cross-border branches and subsidiaries came into effect.

Changes during 2004

Controls on capital market securities purchased locally by nonresidents	QFIIs may invest domestically in A shares, subject to the following restrictions: (a) a QFII must have minimum experience in the industry (five years for fund managers, thirty years for insurance companies) and the equivalent of at least US$10 billion in assets under management in the latest financial year and must be clear of any ma-

jor irregularities in its home market over the past three years; (b) a QFII that is a bank must have assets that rank it among the top 100 internationally in the latest financial year; (c) a QFII that is an insurance or a securities company must have minimum paid-up capital of the equivalent of US$1 billion; and (d) ownership of any Chinese company listed on the Shanghai or Shenzhen stock exchange by a QFII may not exceed 10 percent, and the total shares owned by QFIIs in a single Chinese company may not exceed 20 percent. QFIIs must set up special renminbi accounts with domestic banks and use the services of domestic securities companies. Closed-end QFIIs may only remit capital after three years, in installments of no more than 20 percent of the total each time, at intervals of one month or more. Other QFIIs may only remit capital after one year, in installments of no more than 20 percent of the total, and at intervals of three months or longer.

Provisions specific to commercial banks and other credit institutions

January 1. Under the Closer Economic Partnership Arrangement, (a) the asset requirement for Hong Kong–incorporated banks to open branches in mainland China was reduced to US$6 billion from US$20 billion; (b) the requirement for setting up a representative office in mainland China before a Hong Kong bank establishes a joint-venture bank or joint-venture finance company in mainland China was lifted; and (c) for mainland China branches of Hong Kong banks to apply to conduct renminbi business, the minimum number of years of business operations on the mainland required of the banks was reduced to two years from three years.

The official ceiling on foreign bank ownership of a Chinese bank was raised to 25 percent (from 20 percent), and the ceiling for any one bank was increased to 20 percent (from 15 percent).

June 27. Domestic foreign-funded banks were not permitted to convert debt contracted abroad into renminbi and were not allowed to purchase foreign exchange for servicing such debts. Capital obtained through FDI could only be converted into renminbi upon proof of a domestic payment order.

Inward direct investment	*June 27.* Capital remitted through FDI could only be converted to renminbi upon proof of domestic payment order.
Controls on personal capital movements	*December 1.* Foreign heirs, including those from Hong Kong and Macau, were permitted to take inheritances off of the mainland. Emigrants were allowed to take legally obtained personal assets with them; amounts up to US$200,000 could be moved without restriction, while amounts in excess of US$200,000 could be transferred in stages over a minimum of two years.

Changes during January 2005

Provisions specific to commercial banks and other credit institutions	*January 15.* The reserve requirements on deposits in renminbi and foreign currencies were unified at 3 percent.

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