

China's Role in the Revived Bretton Woods System: A Case of Mistaken Identity

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I. INTRODUCTION

According to a popular argument put forward by three Deutsche Bank economists (Dooley, Folkerts-Landau, and Garber, hereafter DFG), one needn't worry about the sustainability of either the large US current account deficit or the undervalued exchange rates of a group of Asian economies (Dooley, Folkerts-Landau, and Garber 2003, 2004a, 2004b, 2004c; Folkerts-Landau 2004). In their view, the United States and the Asian economies have entered into an implicit contract—the so-called revived Bretton Woods system (hereafter BW2)—that can comfortably carry on for another decade or two, with significant net benefits to both parties.

For its part, the United States obtains a stable and low-cost source of funding for its large current account deficit—estimated to have hit an all-time high of \$660 billion or 5.5 percent of US GDP in 2004, with many analysts projecting even larger deficits over the next several years (Cline forthcoming, Mann 2004). Absent the large-scale purchases of US Treasury securities by Asian governments, US interest rates (particularly at the short end of the yield curve) would be higher and the financing of the US external deficit less secure, inducing a more painful and perhaps more chaotic adjustment to the US saving-investment imbalance. In addition, a welcoming attitude toward foreign direct investment (FDI) in these Asian countries permits US companies to make good use of a low-cost and productive Asian labor force, generating supranormal profits for these investors.

From the perspective of the Asian countries, their prolonged, large-scale exchange market intervention limits or even prevents their currencies from rising in value against the US dollar. The undervaluation of their currencies, in turn, is said to underpin an export-led development strategy that produces economic and employment growth that is high enough to keep the lid on potentially explosive social pressures emanating from large pools of surplus labor. DFG claim that the acid test of quality investment and jobs in the Asian economies is the ability to sell in world markets. Similarly, FDI in the export industries as well as the tilting of domestic investment toward export industries are alleged to contribute to the building of a world-class capital stock that would otherwise be unattainable due to the inefficiencies and distortions in the domestic financial system. And the Asian countries obtain an ally in keeping US markets open to their exports, since US investors are already committed to their foreign investments in Asia and want to maintain their access, profits, and export sales by mitigating trade disputes with Asian countries.

China plays a central role in the BW2. After all, China is the world's largest source of surplus labor and the largest recipient of FDI; it is the second leading official holder of US Treasury securities and one of the two largest official sources of financing for the US current account deficit

over the past two years; and the United States has been China's largest export market for a decade.¹ DFG also seem to have constructed several of the other features of the Asian prototype economy in the BW2, chiefly with China in mind—a weak domestic financial system that has difficulty in allocating domestic saving to its most productive use, an economy where exports are relatively labor intensive, a country where failure to generate enough jobs would have perhaps severe consequences for the political leadership, and so on. They frequently employ Chinese data to illustrate the main implications and predictions of the BW2.

Other Asian economies are harder to fit into the BW2 mold. Japan is the largest foreign holder of US Treasury securities, and it engaged in massive exchange market intervention in support of the dollar in late 2003 and the first quarter of 2004. But Japan does not have a significant problem with surplus labor, it is very closed to FDI, and it has long since ceased to be a developing country. India and Bangladesh have large stocks of surplus labor, but the latter is unimportant in the foreign financing of the US current account deficit. India is less important in that regard than China, Japan, and Taiwan. Taken together, Taiwan, Hong Kong, Korea, Malaysia, Singapore, Thailand, and the Philippines increased their international reserves in 2003 and 2004 by a significant amount (\$242 billion), but their economies differ significantly from one another, and none of them exhibits most of the characteristics ascribed to the Asian prototype economy in the BW2. Furthermore, their trade and exchange rate interactions with China are not well captured by the simplified, aggregate country groups in the BW2. In particular, as will be discussed below, there are significant differences of interest among these Asian countries that have major implications for the plausibility of the BW2.

The BW2, therefore, largely stands or falls on how well it describes the motivations for China and the United States to sustain, for another decade or two, a particular constellation of exchange rate, trade, investment, and capital flow policies. As we demonstrate below, the China portrayed in the BW2 is not consistent with several important trends in, and features of, the Chinese economy; nor does the strategy laid out in the BW2 seem sensible for China's long-term economic development. Whether it is the behavior of China's real exchange rate (section II), or the costs of sterilizing large capital inflows (section III), or the role that FDI plays in financing China's fixed asset investment (section IV), or the participation of foreign firms in China's exports and in the ownership of export industries (section V), or the political economy of trade protection in the United States (section VI), the BW2 does not provide a good explanation either for how China has behaved in the past or how it should behave in the future. We conclude (section VII) that the BW2 does not provide a persuasive story for why large US current account deficits and significantly undervalued Asian

¹ Chinese official data show the United States surpassed Hong Kong to become China's largest export market in 1999. But most Chinese exports to Hong Kong are reexported. When the final destination of these reexports is taken into account, the United States has been China's largest export market since 1993.

exchange rates can or should continue for the next decade or longer. Instead, the BW2 is at best an insightful explanation of some of the factors that conditioned Asian exchange market intervention in 2003 and 2004 and, probably to a much lesser extent, US fiscal policy during the same period.

II. CHINA'S EXCHANGE RATE POLICY

At the heart of the BW2 is the notion that the Asian creditor countries—especially China—have a strong national interest in maintaining an undervalued real exchange rate so as to induce export-driven growth and inward FDI. DFG (2004b) argue, for example, that roughly a quarter of China's GDP growth comes from the export sector and that (because of a lower capital-output ratio than in the rest of the economy) the export sector generates about 30 percent of China's employment growth.

But the crucial question is: Which real exchange rate should be kept undervalued? In differentiating the so-called trade account region (identified as including China, Taiwan, Hong Kong, Singapore, Japan, Korea, and Malaysia) from the "capital account region" (Europe and others with de facto floating rates), DFG focus on dollar exchange rates. They argue that Asian countries need to keep their real exchange rates vis-à-vis the dollar stable or undervalued. Exporting to the United States is alleged to be far superior to exporting to Europe:

Asia would export anywhere if it could and happily finance any resulting imbalances. But the US is open; Europe is not. Europe could not absorb the flood of goods, given its structural problems and in the face of absorbing Eastern Europe as well. So Asia's exports go to the US, as does its finance—otherwise, a US if faced with financing difficulties, might similarly tend toward more stringent commercial policy... (Dooley, Folkerts-Landau, and Garber 2003, 9).

While the United States is China's leading export destination, even when we take into account reexports of Chinese goods from Hong Kong into the United States, the United States absorbs only one-third of China's exports. Two-thirds goes to other markets. DFG substantially understate the importance of Europe as a market, which in 2003 absorbed \$110 billion in Chinese goods, about one-fourth of China's total exports.² If, as DFG argue, total exports have accounted for about 30 percent of China's employment growth, presumably exports to the United States would be responsible for no more than 10 percent of employment growth—seemingly too small a figure to be

² Calculated as the sum of monthly imports from China reported in euros (Eurostat, http://europa.eu.int/pol/comm/index_en.htm [accessed January 5, 2004]) converted to US dollars at monthly exchange rates reported by the European Central Bank (<http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html> [accessed January 5, 2004]).

the determining factor in China's exchange rate policy. Looking more broadly, China's exports to countries with de jure and de facto dollar pegs combined account for only 40 percent of China's total exports, leaving about 60 percent of China's exports going to countries that float vis-à-vis the dollar.³

Thus if China is pursuing a development strategy based on an undervalued exchange rate, it would be more sensible for the authorities to think in terms of the overall trade-weighted real exchange rate. That is the measure of competitiveness that ought to be most relevant for China's growth and employment performance. But, as shown in figure 1, the behavior of China's real trade-weighted exchange rate over the past 15 years does not sit easily with the hypothesis that undervaluation has been a consistent element in China's development strategy. China's real trade-weighted exchange rate appreciated by nearly 30 percent between the beginning of 1994 and early 2002. Yet through much of that period, as shown in figure 2, China was experiencing large-scale employment losses both in state-owned units and in the manufacturing sector (which accounts for almost all of China's exports). In addition, China clearly had a large amount of surplus labor in its agricultural sector during this period.

True, since the dollar peak in February 2002, China's overall real trade-weighted exchange rate has depreciated by about 10 percent and the pace of China's reserve accumulation has accelerated significantly—to \$162 billion in 2003 and to \$207 billion more in 2004 (National Bureau of Statistics of China 2004, 84; People's Bank of China 2005).⁴ But what is missing from DFG's analysis is any explanation for either why China allowed such a large real exchange rate appreciation between 1994 and early 2002 or why the Chinese authorities shifted to an undervaluation strategy after that time. As noted above, concerns about employment growth long predated the shift in 2002. If the Chinese authorities had been absorbing the lessons of the Asian financial crisis and concluded that an overvalued exchange rate was risky, why did it take until 2002 to move to an undervaluation strategy?

To sum up, the exchange rate strategy DFG assign to China in the BW2 does not hold together. Keeping the bilateral exchange rate between the dollar and the renminbi at an undervalued rate—even if it could be done for a long time—affects too small a share of China's total employment growth to guide China's overall exchange rate policy. On the other hand, the hypothesis of overall exchange rate undervaluation as a cornerstone of a sensible development strategy also fails the test because China has not managed to deliver an undervalued trade-weighted real exchange rate over

³ Based on an examination of China's top ten export markets in 2003 (where the European Union and the Association of South East Asian Nations [ASEAN] are single markets), which accounted for 86 percent of China's total exports. The countries we judge to be floaters are the European Union, Japan, ASEAN (less Malaysia), South Korea, Taiwan, Australia, Russia, and Canada.

⁴ The figure for 2003 is before the transfer of \$45 billion of foreign exchange reserves to two large state-owned banks, the Construction Bank of China and the Bank of China, as part of a state-led recapitalization program.

much of the past decade, and DFG provide no satisfactory explanation for the timing of the switch to an undervalued overall exchange rate after early 2002.⁵

In fact, if one looks at the behavior of China's real exchange rate over the past decade, it is more consistent with two alternative hypotheses. One of these is that China has long regarded the maintenance of a peg to the US dollar as an important anchor for its domestic monetary policy and still regards it as such (official statements notwithstanding). Hence, the renminbi followed the dollar up against other currencies when the dollar was appreciating during the 1994–early 2002 period, and it has followed the dollar down since then. This at least yields a time profile for the overall real exchange rate that is consistent with the facts. The second hypothesis is that China earlier regarded its peg to the dollar as essential to its domestic financial stability but has lately grown increasingly uncomfortable with it (e.g., because the domestic credit blowout of 2003 and the first half of 2004 demonstrated the costs of not having a more independent monetary policy). It would like to move to a more “flexible” regime in the future but doesn't regard present conditions as right for an “exit” from its peg both because a revaluation or appreciation would reward the speculators and because it would be seen as giving in to foreign pressure. Hence, China will continue with the old regime until such time as the authorities view “exit conditions” as more favorable. This yields a time profile for the exchange rate consistent both with the data and with the public pronouncements of senior Chinese policymakers. It also implies an earlier exit from the dollar peg than the scenario of a decade or two from now proposed by DFG.

III. COSTS OF STERILIZATION

DFG recognize that a policy of exchange rate undervaluation will be sustainable over a decade or more for China and other Asian countries only if these countries can keep the costs of sterilization and financial repression low; otherwise, the real exchange rate undervaluation will be undone by an upsurge in capital inflows and a rise in domestic inflation—and eventually by a rapid rise in real wages in the export sector. DFG argue that a combination of low interest rates on domestic bonds in Asian countries, effective controls on capital outflows, and central banks that have become adept at reaching implicit low inflation targets mean that exchange rate undervaluation in Asia can carry on for a very long time.⁶

⁵ Note that the ratio of the increase in China's international reserves to GDP averaged 2.6 percent in 1994–2001 but then rose dramatically to 6 percent and 11.4 percent in 2002 and 2003, respectively, and then to an estimated 13.1 percent in 2004. Most of the increase in reserve build up in recent years reflects increased speculative capital inflows rather than an increase in the trade surplus or a jump in FDI inflows.

⁶ As DFG (2004a, 6) put it: “What limits yen creation in defense against a strengthening yen? Nothing.”

Like other critics of BW2, such as Roubini and Setser (2004), Roubini (2004), Eichengreen (2004), and Rajan and Subramanian (2004), we consider the sustainability of large-scale exchange market intervention and of sterilization in China and other Asian countries to be overestimated by DFG for three reasons.

First, as the size of the US current account deficit rises (from last year's 5½ percent of GDP toward 7 to 8 percent or more) and as foreign private investors become increasingly concerned about the risks of financing it at prevailing interest rates and exchange rates, the only way to keep the BW2 game going would be for Asian central banks to finance a higher share of the US deficit. But this would increase the costs and risks facing these Asian central banks.

According to estimates by Roubini and Setser (2004) of rising US net foreign debt, foreign exchange reserves in Asia would need to rise from the current level of about \$2 trillion to about \$7 trillion by 2010. This in turn would imply enormous increases in the sale of domestic bonds to mop up the liquidity associated with such unprecedented exchange market intervention. For example, in China in 2003 and 2004, the central bank, through increased reserve requirements and the sale of short-term bonds, sterilized a substantial portion of the expansion of base money associated with the accumulation of foreign exchange reserves. But even with such sterilization efforts, there was a massive credit boom starting in the fourth quarter of 2002 continuing through the first half of 2004, with an associated increase in inflationary pressure. The Chinese authorities were able to regain control of credit and monetary aggregates only by imposing harsh administrative controls on bank lending, investment project approvals, and land use—a step backward from the longer-run objective of using interest rates and other monetary policy instruments instead of direct administrative controls as tools of macroeconomic management (Goldstein and Lardy 2004). If the pace of reserve accumulation doubled or tripled during the next four to five years, it is hard to see how the Chinese financial system would accommodate it without much increased inflationary pressures—short of reverting to even more draconian command-and-control techniques. If official interest rates were kept low for bank loans and deposits despite rising inflationary pressures and a likely reluctance of increasingly commercially oriented banks to absorb larger and larger amounts of government bonds in their portfolios, increasing amounts of funds would presumably be siphoned off from bank deposits into kerb markets. Also, senior Chinese officials have noted that with trade turnover exceeding \$1 trillion and with expanding links to the international economy, it is becoming harder to enforce China's restrictive capital outflow regime. On the other hand, the Chinese authorities repeatedly have noted that if interest rates were increased significantly while the nominal exchange rate remained fixed, there would be even larger inducements to speculative capital inflows (Yu

Yongding 2004, 17).⁷ If sterilization were only partial and the credit aggregates were allowed to grow rapidly, the eventual fiscal cost of rising nonperforming loans (NPLs) could be very large. The excessive expansion in bank lending from late 2002 through the first half of 2004 could ultimately wind up costing the Chinese government 15 percent or more of GDP in terms of increased NPLs. What would the cost be if the central bank fell behind in controlling bank credit when reserve accumulation was double or triple the scale experienced recently? Recall that China's central bank is still far from achieving even "instrument independence," and there is no guarantee that political pressure to keep economic growth high would not impede a timely central bank response to much increased reserve accumulation.

Second, we believe that DFG and others, who look only at the small positive—or even negative—differential between the interest rate on domestic bonds and the interest rate on US dollar-denominated reserve assets, underestimate the cost of sterilization in some Asian economies (Dooley, Folkerts-Landau, and Garber 2004a, 5; Anderson 2004b, 5). This spread may be misleading for a country like China, for example, since government bills are essentially placed with state-owned banks rather than being distributed through a competitive auction market. Observed interest rates on government bills do not appear to fully capture the opportunity costs of lending money. The very large spreads between bank lending rates, which have been increasingly liberalized, and the rate on the bills the government "sells" to banks to finance sterilization operations appear to be far greater than can be accounted for by the differing risk characteristics of these instruments.⁸ The higher the "shadow" interest rate of domestic government bonds, the higher the true cost of sterilization. This is reflected in lower bank earnings, a higher cost of government-led recapitalization of state-owned banks, and a resulting slower pace of reform of the banking sector.

An accurate accounting of the costs of sterilization also needs to take into account the longer-run risk that the exchange rate between the local currency and the US dollar will change. When say, the renminbi or the Singapore dollar appreciates relative to the US dollar, the local-currency value of Asian dollar-denominated reserve assets falls while the value of its local currency-denominated liabilities remains constant. Given the scale of reserve holdings in Asia, the losses associated with dollar depreciation could be substantial. Using data for end-2003, Higgins and Klitgaard (2004) estimate, for example, that a 10 percent appreciation of the local currency against

⁷ Yu is a member of the Monetary Policy Committee of China's central bank.

⁸ For example, the average interest rate on a one-year bank loan in China in the third quarter of 2004 was 6.28 percent (People's Bank of China 2004, 4). Although the People's Bank of China still posts benchmark loan interest rates, beginning in January 2004, banks were free to charge up to 1.7 times the posted rate. The posted rate for the one-year loan in the third quarter of 2004 was 5.31 percent. In contrast the yield on one-year notes sold by the central bank in 2004Q3 to sterilize the increase in the domestic money supply resulting from its purchases of foreign exchange was 3.36 percent (Li Qian, "Yanghang chenggong faxing 400 yi yuan piaoju (The central bank successfully issues RMB40 billion in notes)," *Jinrong shibao (Financial News)*, July 14, 2004, 8).

the dollar and other reserve currencies would generate a domestic currency capital loss of more than 10 percent of GDP for Singapore, an 8 percent of GDP loss for Taiwan, and a loss of roughly 3 percent of GDP for both Korea and China. Updating this calculation for China, based on the much larger official reserve holdings at year-end 2004, assuming a renminbi appreciation of 15 percent (the lower bound of our estimate of the degree of renminbi undervaluation [Goldstein and Lardy 2003a, 2003b]), leads to a much larger loss of 6 percent of GDP. All of these prospective capital losses would increase substantially as the holdings of dollar reserves increase over time and as the probability of a dollar depreciation grows with projected increases in the US current account deficit. As Eichengreen (2004) and Roubini (2004) have emphasized, concerns about such an eventual capital loss among a group of Asian countries, which do not exhibit the same degree of cohesiveness as official holders of dollar assets in the original Bretton Woods era, also makes it more difficult to sustain an Asian coalition that would continue to support the dollar with prolonged, large-scale purchases of US Treasuries.

Last but not least, we think the BW2 thesis pays too little mind to “cyclical” factors in conditioning the incentives to engage in large-scale exchange market intervention. For those Asian economies with managed floats and with no long-term excess labor problem, there is apt to be much more pressure to intervene to keep the local currency from appreciating when domestic demand is weak than when it is strong.⁹ When domestic demand becomes sufficiently robust, one should expect intervention activity to decline and the nominal exchange rate in those Asian countries to appreciate. Similarly, the US incentive to seek greater currency “flexibility” in Asia is also not independent of the US business cycle. If the main consequence of reduced Asian currency market intervention in support of the dollar is higher US interest rates, then that cost is presumably easier to accept when the US recovery is firmly established and the Federal Reserve is in the process of moving the federal funds rate upward to a more neutral stance than when US economy activity is very weak and the recovery is in doubt. Again, the more significant are these differences among Asian countries in the incentive to engage in prolonged, large-scale currency intervention and the more important are cyclical factors in conditioning US aversion to increases in US interest rates, the more likely that the BW2 regime will be short-lived rather than lasting for a decade or two.

⁹ See Anderson (2004a) on how domestic demand considerations influenced decisions on exchange market intervention in quite a few Asian economies in 2002 and 2003. Truman (2005) underlines the differences among Asian economies in the behavior of both dollar and real effective exchange rates since February 2002. For example, he reports that whereas the Korean won appreciated in nominal terms by 27 percent against the dollar (through January 2005), the Philippine peso depreciated by 9 percent. Similarly, measured in terms of real, trade-weighted effective exchange rates, the Korean won has appreciated

IV. ROLE OF FOREIGN FINANCING OF FIXED INVESTMENT IN CHINA

Contrary to the claim of DFG, FDI in China has not and will not play a major role in creating a large world-class domestic capital stock, thereby allowing China to escape the consequences of a weak domestic financial system. Two arguments underlie this judgment. First, as shown in figure 3, foreign finance is nowhere near large enough to play this role. Since 1981, foreign sources on average have financed only 6 percent of China's fixed asset investment. The share of foreign financing hit a peak of about 10 to 12 percent for several years in the mid-1990s, but it has been falling continuously since. Even though China was the world's largest recipient of FDI in 2003, foreign investment financed only 4.4 percent of fixed asset investment that year. China's absolute FDI inflows hit a new record high of \$61 billion in 2004, but the share of foreign financing of investment fell to a new low, likely only 4 percent of fixed asset investment.¹⁰ This is hardly the basis for building "a domestic capital stock capable of competing in international markets" (Dooley, Folkerts-Landau, and Garber 2003, 3-4).

Second, DFG assume that all of the output of foreign-invested firms in China is exported and thus is globally competitive. The reality is more complex. Only a little under half of all output produced by foreign firms in the manufacturing sector, for example, is exported.¹¹ Just over half is sold on China's domestic market. Some FDI in manufacturing has been motivated by the desire to get under a few high remaining tariff barriers, particularly on automobiles. Although China has cut tariffs significantly since the mid-1980s, when automobiles were subject to an import tariff of 220 percent, in 2004 auto tariffs remained quite high, at 38 or 53 percent depending on engine size. After cuts are fully phased in by July 1, 2006, the import tariff on autos will remain at the relatively high uniform rate of 25 percent.¹² All of the world's major auto manufacturers have made significant investments in China in order to meet sharply rising domestic demand. However, in the view of Standard and Poor's (2004, 16): "As long as production efficiency does not improve significantly, it will be difficult for original equipment manufacturers to use China as an export base to deliver vehicles to neighboring countries."

by almost 16 percent (again through January 2005), whereas the Malaysian ringgit depreciated by 15 percent over the same period. This cautions against treating emerging Asia as a monolith on exchange rate policy.

¹⁰ All of these numbers include fixed asset investment financed not only by FDI but also by foreign non-FDI sources of funding. The latter, which are relatively small compared with FDI, includes loans from the World Bank and other international financial institutions as well as grants and loans provided by the Japanese Overseas Economic Cooperation Fund (and its successor organization the Japan Bank for International Cooperation) and other governments. Most of these foreign non-FDI sources of funding are invested in projects that share the efficiency characteristics that DFG ascribe to FDI.

¹¹ In 2003, for example, exports of foreign-invested firms totaled US\$240 billion while output value of the same firms was \$534 billion (National Bureau of Statistics of China 2004, 513, 731).

¹² Tariffs are the only significant source of protection since, under China's WTO commitments, quotas on auto imports were eliminated on January 1, 2005.

Moreover, while two-thirds of all FDI is in tradables (i.e., manufacturing), the other third is in the nontraded sector including construction, property development, and various types of services. Of these, property development is the largest, accounting for about 10 percent of FDI in recent years (National Bureau of Statistics of China 2004, 736). It appears that foreign investors contributed to conditions in the property market in some Chinese cities in 1993–94 and again in 2003–04 that at a minimum could be characterized as frothy and that some saw as an outright bubble.

In short, not only is the foreign-financed capital stock in China tiny but also not all of it produces goods that are competitive in international markets. About one-third of the foreign capital stock is in the nontradable sector and about half of the foreign capital stock in the tradable goods sector is used to produce goods sold on the domestic market, some of which are clearly not competitive on the international market.¹³

Contrary to the DFG view, China can't build a world-class capital stock without reforming its domestic financial system, particularly its banks. Domestic banking reform is crucial to reducing inefficiencies in the intermediation of funds between savers and investors, to developing stock and bond markets, to making more active use of interest rate policy for macro stabilization purposes, and to preparing the way for an eventual move to convertibility on capital account transactions. There is no escape from that, and a relatively small foreign-financed capital stock provides little compensation for not doing it.

V. PARTICIPATION OF FOREIGN FIRMS IN CHINA'S EXPORT SECTOR

DFG argue that accumulating large amounts of dollar reserves by Asian countries in order to maintain undervalued exchange rates is sensible “when viewed as part of a development strategy based on channeling investment to export industries.” While these countries will lose money on their dollar reserves when their domestic currencies eventually appreciate, this loss will be more than offset by a superior domestic capital stock “that is an important part of their asset portfolio” (Dooley, Folkerts-Landau, and Garber 2004a, 2). The superiority of the capital stock is assured because the goods produced are sold into the competitive international market.

Yet when applied to China this analysis also falls short. A hugely disproportionate share of the small capital stock generating exports from China is foreign-owned and thus is not part of the Chinese asset portfolio. The share of Chinese exports produced by foreign-invested enterprises has

¹³ This probably understates the share of foreign capital in the tradable goods sector used to produce goods sold on the domestic market, since goods sold exclusively on the domestic market, such as automobiles, on average appear to be far more capital intensive than goods that are exported, such as footwear, toys, apparel, electronics, and information technology hardware.

risen steadily for years and reached 55 percent in 2003 (National Bureau of Statistics of China 2004, 713, 730).

DFG believe that undervalued exchange rates will cause domestic capital formation to be biased in favor of export industries. They argue that this will also contribute to a world-class capital stock. Using the data already discussed, it is possible to estimate of the size of the domestic capital stock devoted to producing exports. There are several steps in the estimate. First, we know foreign sources financed 6 percent of China's fixed asset investment on average over the past couple of decades (figure 3). Based on the changing mix of FDI entering China in joint ventures and in wholly foreign-owned firms, we estimate that half of the 6 percent was in the form of 50:50 joint ventures.¹⁴ Thus the stock of fixed asset investment associated with foreign investors would account for 9 percent of the total stock of fixed assets. Of this, two-thirds or 6 percent is in the tradable goods sector. Ignoring differences in capital intensities, since about half of the output produced by this capital stock is sold domestically, we can estimate that about half or 3 percent is used to make goods that are actually exported. This 3 percent of the capital stock accounts for just over half of China's total exports. If we assume that entirely indigenous firms involved in exporting are as efficient as foreign-invested firms, then an additional 3 percent of the capital stock could produce the remaining one-half of China's exports. In sum, fixed assets producing export goods might account for 6 percent of China's total stock of fixed assets, with roughly half owned exclusively by indigenous firms and half by foreign firms, sometimes in joint ventures with domestic partners. In short, while fixed assets producing exports may be world class, their share of the total stock of fixed assets is quite small. Thus it would appear that China's exchange rate policies have not, in fact, caused a strong bias in favor of investment in export industries.¹⁵

The DFG analysis also fails to take into account that a growing and now very large share of exports from China consists of goods that are assembled from imported parts and components. This so-called processing activity is much less sensitive to the value of the Chinese currency because imported parts and components comprise a huge share of the final value of the exported product. An undervalued exchange rate dramatically increases the cost of these imported parts and components, largely offsetting the larger domestic-currency earnings when the foreign exchange revenue earned

¹⁴ In the early years of China's economic reforms, almost all foreign-invested enterprises were joint ventures between Chinese and foreign firms, assuring at least partial Chinese ownership of the efficient capital stock producing for the export market. But over time, a growing share of FDI has entered China in the form of wholly foreign-owned companies. Based on signed contracts in 1993, the wholly foreign-owned form of ownership accounted for only one-quarter of FDI, but by 2003 the share had risen to 70 percent (State Statistical Bureau 1995, 555; National Bureau of Statistics of China 2004, 731).

¹⁵ This critique of DFG is consistent with our earlier observation that China's exchange rate has been undervalued only in recent years, perhaps not long enough to yet lead to the hypothesized pattern of investment.

from exporting the final products is converted to renminbi. This is especially true of exports of electronics, communications, and information technology products, which are among the export goods most dependent on imported parts and components. Exports of these products soared from \$39 billion in 1999 to \$142 billion in 2003 to comprise fully a third of China's exports as compared with a fifth in 1999. "But domestic value added accounts for only 15 percent of the value of exported electronic and information technology products; the rest is import content" (Lardy 2005). Through 2001, when the Chinese currency was clearly overvalued, processed exports expanded to comprise just over half of China's total exports (Lardy 2002, 38). In the years since, processed exports have expanded in absolute terms, but through 2003 their share of total exports did not expand beyond the 55 percent share attained in 2001. Thus China's exchange rate does not appear to be a major determinant of investment, whether foreign or domestic, to produce processed exports.

VI. POLITICAL ECONOMY OF TRADE PROTECTION IN THE UNITED STATES

The DFG argument that the BW2 gives foreign investors "excess profits" that "provides the resources for the capitalist to utilize to keep home country import markets open" (Dooley, Folkerts-Landau, and Garber 2004b, 7) is similarly flawed.

There is little evidence that foreign investors in China earn excess profits, indeed average returns appear to be below those the same firms would accept on new investments in their home countries. Returns on foreign capital investment in China in the manufacturing sector have improved since 1998 but were only a little over 8 percent in 2003.¹⁶ The corporate income tax on foreign investors, currently at 15 percent, reduces average after-tax returns to 7 percent.¹⁷

Second, the country of origin of FDI inflows to China and the geographical pattern of sales of these firms also does not jibe with the BW2 story that US investors in China constitute an important ally to discourage either protectionist trade legislation in the United States directed against China or US pressure to persuade China to revalue the renminbi. US investors in recent years have been the source of less than 10 percent of China's inward FDI (National Bureau of Statistics of China 2004, 732–34). More importantly, most US companies that are investing in China are targeting their sales in China's domestic market—not at exports to the United States or Europe. Large US

¹⁶ Calculated as profits (after value-added and sales taxes but before corporate income taxes) of foreign-funded enterprises divided by the sum of the average annual value of working capital plus fixed assets (valued after depreciation) in 2003 (National Bureau of Statistics of China 2004, 84, 545, and 546).

¹⁷ The estimate of 7 percent assumes that all foreign firms pay income taxes. Most foreign firms are eligible for tax exemptions for the first three years they are profitable and then a partial (typically one half) tax reduction for an additional three years. So in 2003 the average after-tax return was probably somewhat greater than 7 percent. Offsetting this, several proposals are circulating in China that would eliminate the now large gap in the corporate income tax rates faced by foreign and domestic firms by raising the rate assessed on foreign companies, probably to 25 percent.

investors in China like McDonald's, Procter and Gamble, and General Motors are therefore not likely to base their views on US trade and exchange rate policies toward China on how these policies affect their ability to export back to the United States.¹⁸ Instead, it is mainly Asian investors that both dominate direct investment in China and use China as a platform to export to the United States and Europe. For example, in 2003 notebook computers (\$4.2 billion), DVD players (\$2.5 billion), and mobile phones (\$2 billion) were among the largest value exports from China to the United States. But these products are not made by US companies but rather overwhelmingly by Taiwanese companies that have moved their assembly operations to China. While Taiwanese companies operating in China no doubt hope that their largest export market remains open, they have no track record of effective lobbying on this issue in the United States.

In short, the DFG argument that China provides an economic rent to foreign investors by limiting entry and that “the foreign investors then become a well-financed and effective lobby to counteract the resistance to the restructuring of the US labor force away from import substitutes” (Dooley, Folkerts-Landau, and Garber 2004b, 13) bears little if any relation to reality. Except in a few sensitive sectors, China does not ration entry, as reflected in China's status as the world's largest recipient of FDI in 2003. There is no evidence that foreign investors are earning excess returns that they can use to finance antiprotectionist lobbying activities in the United States. And in any case the companies that are both the most profitable and the most successful in exporting from China into the United States are Asian, especially Taiwanese and Hong Kong, rather than US.¹⁹ These Asian firms have played no visible role in influencing US trade policy

VII. CONCLUSION

BW2 has attracted considerable attention because it offers a relatively parsimonious explanation both for recent exchange rate policy in a number of Asian countries and for recent exchange rate and interest rate behavior in the United States.

However, the BW2 model is at variance with Chinese reality at many important points.

- It suggests that China should focus exclusively on undervaluing its exchange rate vis-à-vis

¹⁸ An exception to this generalization would be Motorola, Lucent, and similar firms that are producing or sourcing products in China and exporting them into the global market. A significant portion of this output is sold in the United States.

¹⁹ The financial performance of overseas Chinese investors in China is distinctly superior to that of other foreign investors, predominantly those from Japan, Europe, and the United States. In recent years the average return on direct investments in manufacturing in China by firms from Hong Kong, Macao, and Taiwan was about 3 percentage points higher than that of other foreign investors.

the dollar, but more than half of China's exports go to markets other than the United States or to countries with currencies not pegged to the dollar.

- The exchange rate that matters most for China's competitiveness and for employment in the export sector—namely the real trade-weighted exchange rate—exhibited a nearly 30 percent appreciation between 1994 and early 2002. That is not consistent with the view that keeping the real trade-weighted exchange rate undervalued has been an integral part of China's development strategy.
- BW2 implies that China's currency has been significantly undervalued for about a decade whereas significant undervaluation of the renminbi is, in our judgment, a phenomenon that dates from early 2002.
- BW2's argument that an important benefit of undervaluation is a large, efficient FDI-financed capital stock ignores the fact that foreign investment in China has financed under 5 percent of fixed asset investment over the past few years—far too small a share to offset the misallocation of investment financed through China's weak domestic banking system.
- China also appears not to conform to the DFG hypothesis that undervaluation will bias domestic indigenous investment strongly in favor of tradable goods, thus adding further to the superior foreign-financed capital stock. Goods that are exported from China, and thus meet what DFG call the acid test of efficiency, are produced with only about 6 percent of the stock of fixed assets, of which only about half is purely indigenously owned. Without the capital stock argument, BW2 is just another employment-oriented case for exchange rate undervaluation.
- BW2 underestimates the costs of sterilization, particularly those associated with financial repression. Focusing on the low interest rate for central bank paper is misleading because such instruments are placed primarily with the four largest state-owned banks—not sold on a competitive, auction market. Also, rates of interest on sterilization bonds and bills should include potentially large capital losses on China's reserves associated with a revaluation of the renminbi against reserve currencies. And everything suggests that in the absence of exchange rate action, sterilization costs would rise appreciably if, as seems likely, both US current account deficit and China's reserve accumulation became much larger in the future.

- The argument that supranormal profits generated by foreign firms exporting from China will provide them with both the incentive and the resources to lobby to maintain trade openness in the United States appears to misunderstand several dimensions of reality in China. The profits of direct investors in China are modest, at best. And US firms investing in China for the most part are interested in selling on the domestic market and do little exporting back to the United States and thus have no direct stake in maintaining the openness of the US market. In contrast, Taiwanese and Hong Kong firms producing in China, which do earn somewhat higher profits, are most dependent on the US market. But they appear to make no attempt to influence US trade policy.

- Finally, BW2 sets out a faulty development strategy for China over the coming decade. Rather than seeking to promote an enclave economy based on a significantly undervalued exchange rate and on domestic financial repression, China needs to accelerate the pace of financial—particularly banking—reform; liberalize interest rates and reduce reliance on administrative controls and window guidance; and move toward greater flexibility in the exchange rate over the medium terms, including an immediate 15 to 25 percent appreciation of the renminbi relative to a currency basket (Lardy 1998, Goldstein 2004). This is what we have called a “two-stage currency reform” (Goldstein and Lardy 2003a, 2003b). These policies will promote domestic financial stability, improve the allocation of China’s savings to their most productive use, provide the policy instruments necessary to manage the macroeconomy, enhance employment growth in the tradable and nontradable sectors, and are most likely to continue good access for China’s exports in world markets.

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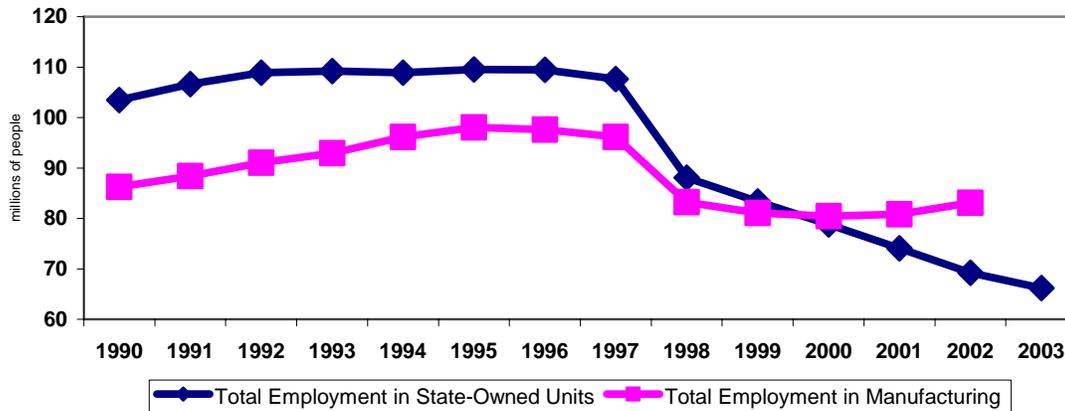
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**Figure 1 Real trade-weighted exchange rate,
January 1994–July 2004**



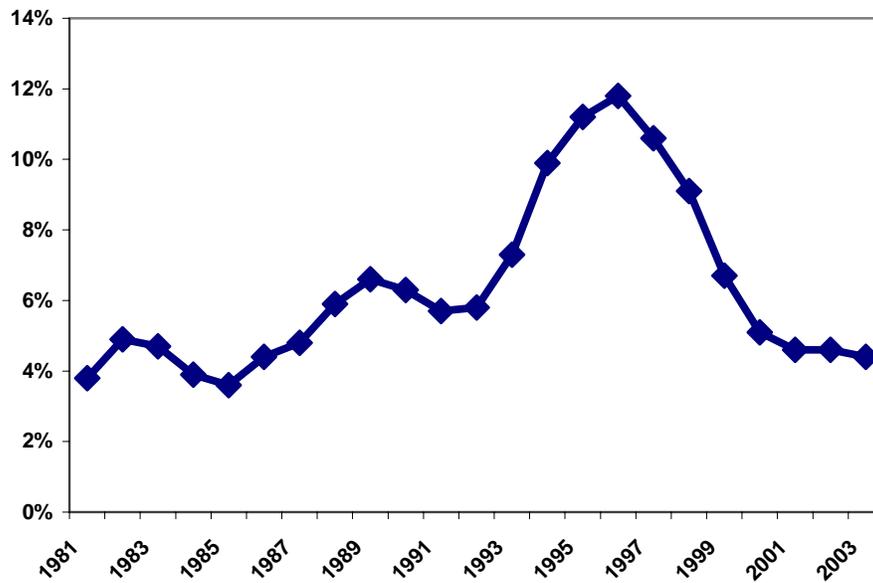
Source: JP Morgan Real Broad Effective Exchange Rate Indices.

**Figure 2 Total employment in state-owned units and
in manufacturing, 1990–2003**



Source: China Statistical Yearbook 2004, 127, 134–35.

Figure 3 Foreign-financed share of fixed asset investment, 1981–2003



Source: *China Statistical Yearbook 2004*, 189.