ADJUSTING CHINA'S EXCHANGE RATE POLICIES

Morris Goldstein
Dennis Weatherstone Senior Fellow
Institute for International Economics

Revised version of the paper presented at the International Monetary Fund's seminar on China's Foreign Exchange System, Dalian, China, May 26-27, 2004.

Author's note: This paper includes ongoing work (Goldstein and Lardy 2004) with my IIE colleague, Nicholas Lardy. I am indebted to Nick for helpful comments and advice and for allowing me to borrow from his substantial inventory of charts on the Chinese economy. I am grateful for Dean DeRosa's help in calculating the trade balance effects of a change in the renminbi exchange rate. Thanks are also due to C. Fred Bergsten, Pieter Bottelier, Michael Mussa, Ted Truman and John Williamson for useful suggestions on an earlier draft. Thomas Flynn and Gunilla Pettersson provided excellent research assistance.

I. INTRODUCTION

During the past year, there has been considerable debate about, and much international criticism of, China's exchange rate and its currency regime.

Yes, criticism of China in the United States would likely be more muted if the ongoing recovery were not so "jobless," if employment in the US manufacturing sector had not (mainly for other reasons) declined so much in the three-year run-up to this presidential election year, if so much attention were not focused on the very large bilateral US trade deficit with China instead of China's economically—more meaningful overall balance-of-payments position, and if the United States had not done such a poor job of improving its saving-investment imbalance—particularly in the public sector.

Yes, Euroland's criticism of China would no doubt be less pronounced if Europe had not compiled such an anemic average growth performance over the past three years, if the European Central Bank had been somewhat more aggressive in lowering interest rates, and, most telling, if the real trade-weighted exchange rate of the euro had not appreciated so much (17 percent) since (the US dollar's peak in) February 2002.

Yes, criticism of China in Japan would probably be less sharp if Japan had not been struggling with weak economic growth (until very recently) and deflation and if Japan had not increasingly found its leadership within Asia being challenged by a rising China. True, Japan also has been engaging in large-scale, protracted, one-way exchange market intervention to keep its currency (the yen) from rising; indeed, Japan's intervention in the first quarter of 2004 was just about as large as China's intervention for all of last year.

And yes, in emerging Asia where public criticism of China's exchange rate policies has been milder than elsewhere, concerns would be lower if some of these countries had a clearer picture of how to respond to the broader competitive challenge raised not only by China's low labor costs but also by the skill upgrading of China's exports.

Still, this paper's theme is that criticism of China's exchange rate policy is *not* simply a reflection of scapegoating, policy failures, and a lack of strategic planning outside China. China's exchange rate policy itself is seriously flawed given its current macroeconomic circumstances and its longer-term policy objectives. Based on ongoing research with my Institute colleague Nicholas Lardy (Goldstein and Lardy 2004), I argue below that (i) the renminbi (RMB) is currently significantly undervalued—on the order of 15 to 25 percent; (ii) China has been "manipulating" its currency, contrary to IMF rules of the game; (iii) it is in China's own interest, as well as in the interest of the international community, for China to initiate soon an appreciation of the RMB; and (iv) China should neither stand pat with its existing currency

regime nor opt for a freely floating RMB and completely open capital markets. Instead, China should undertake a "two-step" currency reform. Step one, to be implemented immediately, would have three elements. It would involve simultaneously a switch from a unitary peg to the US dollar to a basket peg, a 15 to 25 percent appreciation of the RMB, and wider margins (say 5 to 7 percent on either side) around the new peg. Existing controls on China's capital outflows would be either maintained or liberalized only marginally, at least in the short run. Step two, to be implemented later when China's banking system is considerably stronger than it is today, would involve a transition to a "managed float," along with a significant liberalization of China's capital outflows.

The rest of the paper is organized as follows. Section II examines two complementary approaches to evaluating the misalignment of the RMB and summarizes the main conclusions. Section III takes up the thorny issue of what does and does not constitute "currency manipulation" and relates those principles to China's exchange market intervention. Section IV considers how China's exchange rate policy affects its longer-term objectives for strengthening the domestic banking system, for maintaining low and stable inflation, for securing stable market access for its exports, and for achieving a high and sustainable rate of economic growth. Section V then discusses what kind of reform of the currency regime would be most suitable for China. Section VI contains some brief concluding remarks.

II. IS THE RENMINBI OUT OF LINE?

There are many approaches to estimating "equilibrium" real exchange rates, ranging from (absolute and relative) purchasing power parity calculations, to simulation exercises employing multi-country, general-equilibrium models.[1] Here, I report two back-of-the-envelope estimates—the first solely from the perspective of China's balance-of-payments, and the second from the perspective of global payments imbalances. In both cases, a working assumption is that there is no large change in China's capital account regime over the next few years.

[1] Bosworth (2004) and Overholt (2003) report both absolute and relative purchasing power parity (PPP) calculations of the equilibrium RMB exchange rate. If not corrected for cross-country differences in levels of income, absolute PPP computations typically project that the equilibrium value of the RMB is roughly 2 RMB per US dollar—roughly four times more appreciated than the current nominal RMB/US$ rate; corrected for cross-country per capita income differences, the estimate of RMB undervaluation falls to about 40 percent. In contrast, measures of relative PPP, which are based on cumulative cross-country differences in inflation rates from a base period when the balance of payments and real exchange rate were assumed to be in balance, typically show that the RMB is roughly at the right level. Like Bosworth (2004), I do not regard the PPP approach as a reliable way of evaluating equilibrium exchange rates. Bradford and Lawrence (2004) show how sizeable are departures from the "law of one price" for industrial countries, even for fairly narrowly defined goods (services are excluded); the assumptions underlying absolute PPP calculations are more strained in comparisons between developing and industrial countries. Selecting a good "base" period for relative PPP calculations is also problematic for China; for example, whereas China's current account was close to equilibrium in 1994, its capital account was not.

The Underlying Balance Approach

The underlying balance approach has a long tradition and has often been employed for exchange rate analysis in the IMF.[2] It views the equilibrium exchange rate as the rate that produces equilibrium in the country's balance of payments, where the latter is defined as a situation where "normal" net capital flows equal the "underlying' current account (so that there is no change in international reserves).

"Normal" net capital flows are typically taken to be an average of actual net capital flows over the recent past, so that sharp year-to-year fluctuations are smoothed out; in addition, a low weight would be given to outlier observations that are generated by unusual temporary incentives for capital inflows or outflows. Some analysts use (net) foreign direct investment as a proxy for normal capital flows (presumably under the assumption that portfolio capital flows are too volatile to predict with any precision).

In a similar vein, the "underlying" current account makes adjustments to the actual current account—in this case, for temporary cyclical effects that make the demand for imports unusually high or low, and for the trade effects of earlier exchange rate changes that are not yet apparent (because of lags) in the published trade statistics.

Once estimates are obtained for both normal net capital flows and the underlying current account, one can use a trade model to solve for the change in the nominal exchange rate that would make the current account equal (and opposite in sign) to the capital account.

What happens if we apply this underlying balance approach to the recent behavior of the RMB?

Figure 1 shows China's overall capital-account balance over the past decade. Except for 1998 and 2003, it has shown a moderate surplus relative to GDP. Suppose we take the average for the 1999–2002 period—a surplus of 1½ percent of GDP—and call that "normal" net capital flows.[3] Note that the capital-account surplus for 2003 was much larger—just under 4 percent (3.7 percent) of GDP according to the official figures and closer to 7 to 8 percent of GDP if $45 billion of reserve accumulation (subsequently used for bank recapitalization) and capital outflows recorded as errors and omissions were included in the totals. If we included the 2003 data in the normal capital-flow calculation, the average capital-account surplus (1999–2003) would rise by more than 1 percent. I have not done so because last year's large capital inflow was likely motivated by strong speculation on an expected appreciation of the RMB and

[2] See, for example, Nurkse (1945) who defined the equilibrium exchange rate as the rate that would produce equilibrium in the balance of payments, when there was no wholesale unemployment at home, no artificial restrictions on imports, and no abnormal capital movements. For application of the underlying balance approach in the Fund, see Artus and Knight (1984). A close relative are the fundamental equilibrium exchange rates—FEERs, for short—constructed by Williamson (1983), among others. Hinkle and Montiel (1999) provide an assessment of alternative methodologies for assessing exchange rate misalignments in developing countries.

[3] If we included "errors and omissions" from the balance of payments in normal net capital flows, the average for the 1999–2002 period would be about 0.5 percent lower, that is, an average surplus of 1 percent of GDP.

hence, was not normal. In any case, leaving out 2003 from the normal capital-flow calculation has the effect of reducing our estimate of RMB misalignment (undervaluation).

Figure 2 gives the parallel evolution of China's current-account balance during the 1992–2003 period. This too shows a moderate surplus relative to GDP. According to the latest official figures, China's current account surplus in 2003 was about $46 billion, or just over 3 percent of GDP. But this is the actual current-account surplus. The "underlying" current-account surplus last year was certainly larger than that because the Chinese economy was overheating (pushing up both the volume and price of imports) and because the real effective depreciation of the RMB since the beginning of 2002 suggests that some positive trade-balance effects are still in the pipeline.

China's economy grew by 9.1 percent last year, the highest growth rate in six years—and this despite the contractionary effect of the SARS outbreak (mostly in the second quarter); see figure 3. If anything, growth estimates of private analysts are higher than the official figures.[4] Investment increased in 2003 by 27 percent, bringing investment's share of GDP to an all-time high of 47 percent. Bottlenecks have been widely reported for coal, electric power, oil, and transport. Imports were up by 40 percent. By the end of last year, consumer prices were increasing at an annual rate of over 3 percent; in contrast, this index fell slightly in 2002.

Recent figures suggest that the overheating of the economy continued in the first quarter of this year—with first quarter GDP growth estimated at almost 10 percent (9.7 percent), with fixed investment and imports both up over 40 percent in March, and with indices of inflation (consumer, producer, raw materials) all increasing at a higher rate than last year. The lowering of China's official growth target (to 7 percent for this year), the lower target rate for growth in broad money balances (to 17 percent versus actual growth of almost 20 percent last year), and a series of official pronouncements and selective tightening measures aimed at slowing loan growth and curtailing overinvestment in certain sectors (steel, aluminum, cement, and real estate) also suggest that the torrid growth pace of the last nine months is beyond what is considered either desirable or sustainable.

On the exchange rate side, China's trade-weighted real effective exchange rate (JP Morgan index) declined by roughly 6 percent last year; it has declined by 7 percent since the beginning of 2002. The lagged trade effects in the pipeline are thus expected to be positive.

Putting together the overheating effect and the lagged trade effects of earlier exchange rate changes, a conservative estimate of China's "underlying" current-account surplus in 2003 is 4½ to 5 percent of GDP.

[4] For example, Goldman-Sachs' China Activity Index increased by 10.7 percent in 2003; see Goldman-Sachs (2004).

Figure 1: China's Capital Account, 1994-2003

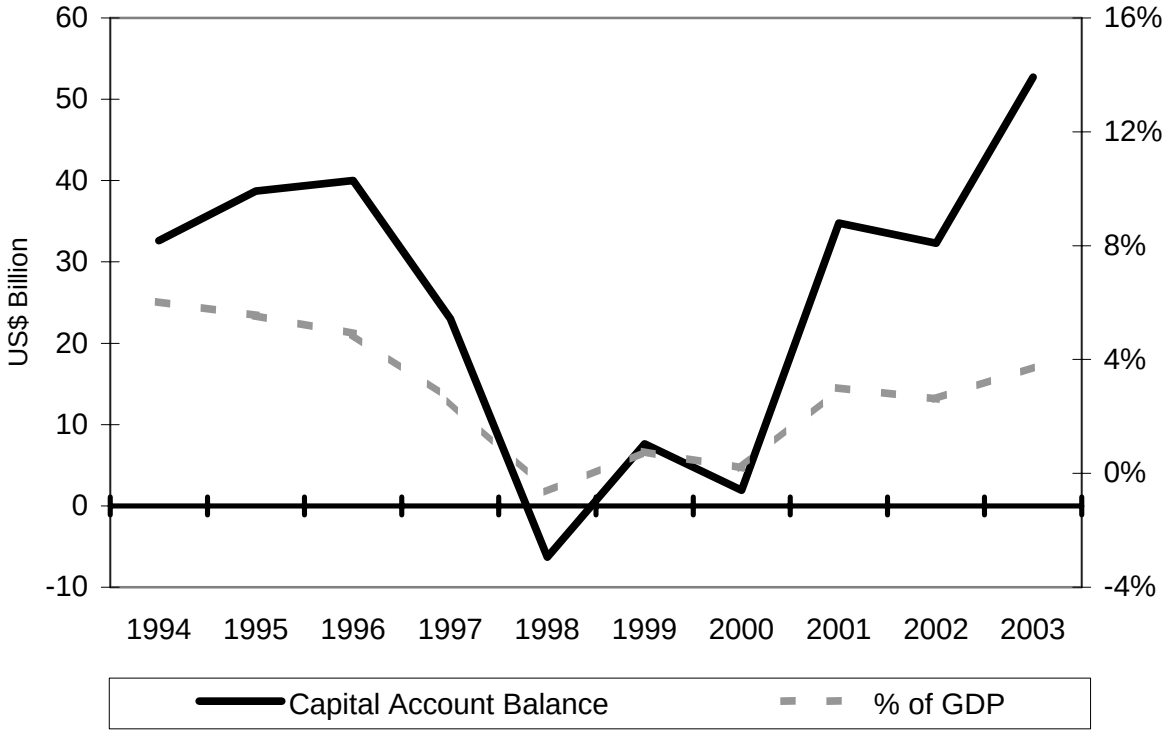


Figure 2: China's Current Account, 1994-2003

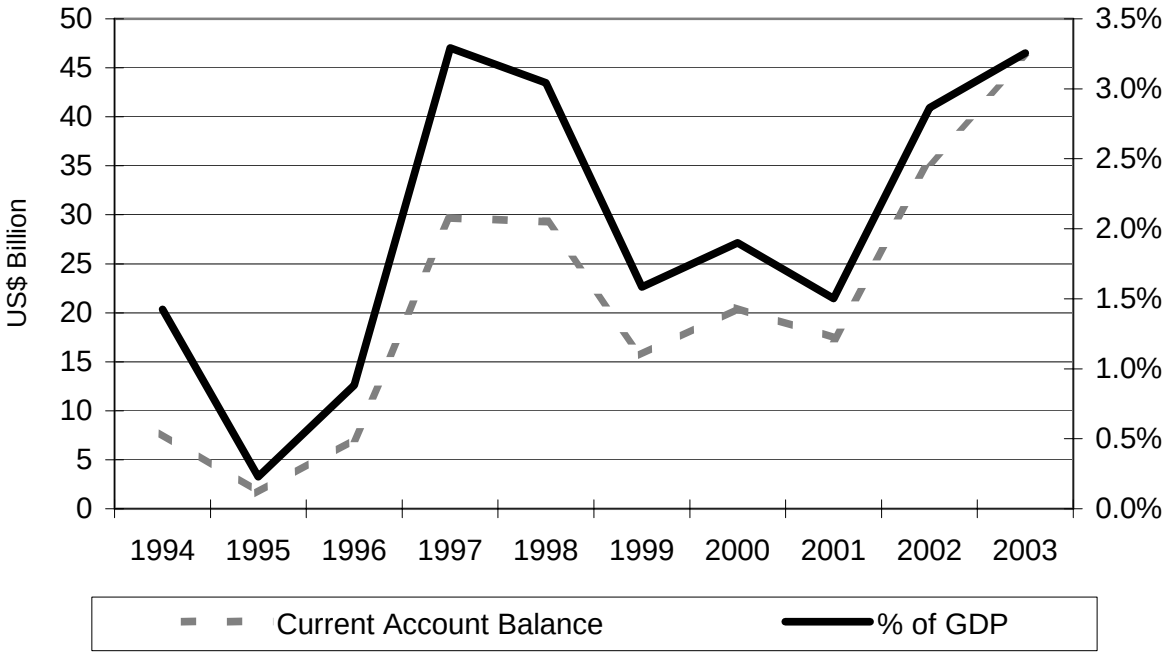
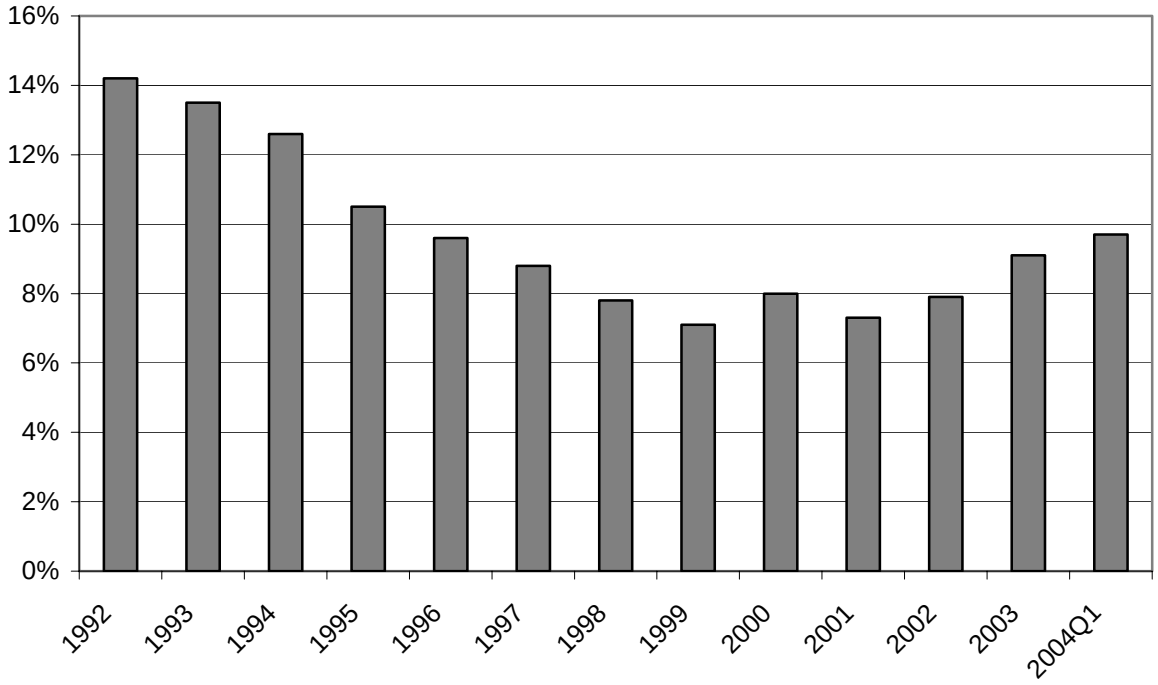


Figure 3: China's GDP Growth, 1992-2004Q1
(annual percent change)



Since China's trade account has swung into deficit during the first four months of 2004 (to the tune of about $10 billion), some might argue that a lower estimate of China's underlying current account surplus would be more appropriate. Perhaps, but the magnitude of the adjustment is far from clear. During the first quarter of 2003, China's trade balance was also in deficit (by about $1 billion), only to move into surplus for the remainder of the year; for 2003 as a whole, the trade-balance surplus came in at $25 billion (about 2 percent of GDP). This year, interest earnings from China's large and growing stock of international reserves will add more than before to the current-account surplus. Recent private-sector forecasts for China's current-account balance for 2004 tend to be 1 to 2 percent of GDP lower than last year.[5] In view of all the above, suppose we assumed that China's actual current-account surplus for 2004 would amount to say, 1 percent of GDP. This would still place the 2004 underlying current-account surplus in the neighborhood of 2½ percent of GDP.

If overall balance-of-payments equilibrium requires that the underlying current account offset normal net capital inflows, then China's current account would have to deteriorate by roughly 4 percent

[5] For example, Deutsche Bank (*Emerging Markets Monthly*, April 2004) projects China's 2004 current-account surplus to be 1.2 percent of GDP lower than the 2003 outcome, while Goldman-Sachs (*Charting China*, April 2004) projects a 2004 current-account surplus at 1.8 percent of GDP lower than last year.

of GDP (or approximately $65 billion at market exchange rates) to yield that outcome. This 4 percent swing is the difference between today's underlying current-account *surplus* of 2½ percent (of GDP) and the underlying current-account *deficit* (1½ percent) that would just balance out the assumed 1½ percent of GDP surplus for normal capital flows.

The operative issue then becomes what size real appreciation of the RMB would generate this 4 percent of GDP deterioration in China's current-account balance? When we asked that question of a small bare bones, elasticity-based trade model, we found that the answers congregated in the upper half of the 15 to 30 percent range[6]—and this using elasticity values that easily satisfied the Marshall-Lerner conditions.[7]

An important reason why it takes a sizeable exchange rate appreciation to move China's trade balance relates to China's important role as a regional processing center. More specifically, because other countries—particularly those in the region—have increasingly found it profitable to export components to China for assembly there and ultimately for export from China to the larger industrial countries, the import content of China's exports is quite high—on the order of 35 to 40 percent. This means that a revaluation of the RMB reduces the local-currency price of China's imports and operates to limit the production cost of exporting more, thereby yielding a lower rise in the foreign-currency price of exports than would occur if revaluation took place in an economy with a very low import content of exports.[8] Put in other words, with a high import content of exports, it takes a bigger exchange rate "pop" to move the trade balance. It is worth noting that some researchers argue that the import content of China's exports is much higher than 35 to 40 percent—a finding that, ceteris paribus, would produce even larger estimates of RMB undervaluation.

As with any misalignment exercise, objections can be raised to a number of the assumptions made above. Let me mention several lines of criticism and offer some responses.

One charge is that our estimate of China's underlying current-account surplus is too large because it takes inadequate account of China's import liberalization efforts in connection both with China's WTO commitments and the authorities' broader intention to use imports as a disciplining spur to domestic competition and efficiency. The ratio of the collection of import duty to the value of imports suggests that the actual tariff rate in China today is already extremely low (much below the average rate in the tariff schedule); it also indicates that the actual tariff rate has moved very little over the past 8 to 9 years (Lardy 2002 and subsequent calculations). Similarly, the most dramatic decline in China's use of import

[6] We first reported this finding in Goldstein and Lardy (2003a).
[7] Anderson (2003, 2004d) substitutes the "basic balance" (i.e., current account plus net FDI movements) for normal capital flows and the underlying current account and concludes similarly that the RMB is undervalued by roughly 25 percent.
[8] Another way to look at the role of imported inputs in the trade-balance effects of an exchange rate change is that an RMB revaluation reduces the volume of exports, which, in turn, leads to a lower demand for imported inputs. We experimented with different ways of modeling China's imported inputs.

licensing and import quotas occurred way before WTO accession, and these barriers are expected to be eliminated entirely in 2005 (Lardy 2004b). While we do not rule out further import liberalization in China, we suspect that its effects on China's current account will be offset by declining barriers against China's exports. In particular, the Multi-Fiber Agreement (MFA) is set to expire at the end of this year. It has been estimated (see Martin et al. 1999) that the phasing-out of the MFA could result in roughly a doubling of China's share in the global apparel exports (to over 40 percent). Since China's apparel exports are currently running at about $60 billion, any large increase in those exports would be substantive. Of course, larger apparel exports would require a large increase in the imported inputs needed to produce them; also, the medium-term increase in China's apparel exports could be limited by the surge in "safeguard" provisions permitted to importing countries as part of the conditions for China's WTO accession. Still, once one considers the effects of potential trade liberalization (at home and abroad) on both sides of the trade account, it is not obvious that China's current account will deteriorate significantly on this score.

A second line of criticism is that our estimates of RMB undervaluation are too small because we focus on China's overall current-account surplus ($46 billion in 2003) rather than on the larger Chinese bilateral trade surplus with the United States (over $120 billion in 2003). A similar complaint is that we should focus on China's net surplus on foreign direct investment (roughly 4 percent of GDP on average over the 1999–2002 period) rather than on the smaller surplus on China's overall capital account. While bilateral trade imbalances appear to have a salient political dimension in motivating trade protection and while foreign direct investment may well have externalities different from those accompanying portfolio capital flows, it is a country's *overall* current and capital accounts—and not individual components of them—that are relevant for evaluating exchange rate misalignments.

Yet a third line of criticism is that any misalignment calculation based on elasticity models of trade is flawed for China because current-account imbalances are ultimately driven by the domestic savings-investment imbalance and because there is no reason to suppose that China's saving (investment) rate would be lowered (raised) by a revaluation of the RMB.[9] China's national saving rate averaged about 35 percent in the 1980s and then increased to an average of 40 percent or slightly more during the last dozen years; last year, the saving rate was just under 44 percent of GDP (3 percent or so below the investment rate).

I find this saving-investment critique of (elasticity-based) misalignment calculations misleading on two accounts.

There are plenty of theoretical models that explain how exchange rates can affect savings and investment behavior—either via a real balance effect (where exchange rates affect the price level, the real money stock, and the difference between actual and desired money holdings and hence, spending), or via

[9] Both Bosworth (2004) and McKinnon and Schnabl (2003) take this line.

a real interest rate channel (where saving and investment depend on the real interest rate, and expected changes in exchange rates influence real interest rates).[10] But the reality is that we do not have good empirical models of how exchange rates affect savings and investment rates.[11] This situation is not peculiar to China. Economists are no more capable of telling a persuasive story of how changes in the US dollar will affect saving and investment rates in the United States than they would be of telling such an RMB story for China. But we know that the elasticity and absorption approaches are equivalent ways of defining the current account in the balance of payments, and we have plenty of empirical evidence for a wide variety of countries—industrial and developed (including the Asian emerging economies)—that changes in the exchange rate, via the effect of relative prices on the composition of spending, affect current accounts (see for example, Goldstein and Khan 1985, Muscatelli et al. 1995, and Funke and Ruhwedel 2001). Put in other words, the fact that, among the many factors affecting saving and investment schedules, we cannot easily identify empirically the independent effect of exchange rates does not mean that exchange rates do not affect saving, investment, and current accounts.

In thinking about saving and investment behavior, we should also think of exchange rate changes in a broader context. In China's case, a decision to allow the RMB to appreciate significantly will likely be a decision to rely less on currency undervaluation and export-led growth in the future and to rely more on domestic sources of growth and on reform of the banking and financial system (more on this in section IV). A likely component of China's financial-sector development will, in turn, be the further growth of lending for home mortgages and for durable goods purchases (including car loans and greater availability of credit cards). These financial developments in turn will likely contribute to lower saving rates, as Chinese households no longer need to accumulate as much cash beforehand to make large purchases. Large exchange rate changes, and even more so, shifts in currency regimes, do not usually happen in a policy vacuum.

To sum up, the underlying balance approach suggests that the RMB is undervalued by somewhere between 15 and 30 percent.[12]

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[10] A good presentation and explanation of these models is contained in Frenkel and Mussa (1985). Another approach is to introduce expected exchange rate changes into the open interest rate parity condition; see, for example, McKinnon and Schnabl (2003) and Obstfeld (2004). The latter study shows how exchange rate changes can affect the current account even when there is no expenditure-switching role for the exchange rate.

[11] An exception is the interesting 1988 paper by Turner (1988), which finds a significant role for exchange rate changes in influencing saving and investment behavior in the three largest economies.

[12] An advantage of presenting the estimate of RMB misalignment as a range is that it provides some leeway in case the current account turns out to be somewhat different than the baseline estimate, or in case Chinese inflation turns out be somewhat higher this year, or in case subsequent empirical research reveals somewhat different elasticities than employed above. Frankel (2004), using a modified purchasing power parity approach, concludes that the RMB was undervalued by approximately 35 percent in 2000 and is undervalued by at least that much today. In contrast, Wang (2004) finds that it is difficult to arrive at any firm and robust conclusion about the equilibrium level of the RMB using a variety of existing techniques.

The Approach Based on Adjustment of Global Payments Imbalances

Instead of evaluating the RMB exchange rate solely from the perspective of China's balance-of-payments situation, a complementary approach is to look at the role that the RMB might play as part of the broader adjustment of global payments imbalances—particularly the US current-account deficit. Implicit in what follows is the assumption that it is in the global interest, as well as in China's interest, that the US economy not experience a "hard landing," characterized, inter alia, by much higher risk premia on US dollar assets, a rapid and uncontrolled fall of the dollar, and a sharp and sizeable decline in US economic growth.

According to IMF (2004) projections, the US current-account deficit this year will be about $495 billion, just over 4 percent of GDP; for 2005, the US external deficit is expected to be slightly larger.[13] I regard a US current-account deficit of that size as "unsustainable." A sustainable one would be say, half as large.[14] The problem is not that that interest payments on the external deficit will be so large as to put a large dent in US consumption or investment. Because US residents have earned a higher rate of return on their foreign investments than foreigners have earned on their investments in the United States, net interest payments on the near $3 trillion US net foreign liabilities are still extremely small (less than 0.1 percent of US GDP in 2002); indeed, last year, the net interest flow on those liabilities was actually marginally positive. Instead, the risk is that because external deficits of this size imply a steadily rising ratio of net foreign liabilities to GDP and a steadily rising share of dollar-denominated assets in the foreign part of non-US investors' portfolios, foreign investors will eventually balk at accumulating more dollar assets.[15] When that reluctance really takes hold, the availability of foreign financing will fall and foreign investors will require higher dollar interest rates and/or a lower dollar to induce them to lend. Those interest rate and exchange rate movements, in turn, could precipitate the sharp falls in asset markets and in economic activity that we all want to avoid. As former Treasury Secretary Lawrence Summers (2004) noted in a recent speech at the Institute, warning signs are evident in the US case because much of

[13] The IMF's (2004) current-account forecast for 2004 is probably on the low side; Macroeconomic Advisers (2004), for example, projects a US current-account deficit of 5 percent of GDP.

[14] A current-account deficit of about 2 to 2½ percent of GDP would be sufficient to stabilize the ratio of net foreign liabilities to GDP (at about 42 percent, assuming a 6 percent annual growth of nominal income) and to prevent a further rise in the share of dollars in the foreign portion of non-US investors' portfolios; see Truman (2004) and Mann (2003).

[15] A key factor here is the size of "home bias" in the portfolio decisions of foreign investors. By home bias, I mean the tendency for investors to allocate more of their portfolio to home assets than would be indicated by optimal portfolio considerations; see, for example, Mussa and Goldstein (1993). If home bias were not as pervasive as it seems to be, it would be considerably easier to finance US current-account deficits of 4 percent of GDP or more, since then the relevant scale variable would be the size of the foreign investors total portfolio and not (the smaller) "foreign" portion of that portfolio. Greenspan (2004) has indicated that home bias may be decreasing over time. Still, even if falling, the size of home bias in major creditor countries is apt to be large enough to produce serious financing threats for continued "large" US external deficits.

the external financing is being provided by official lenders on a short maturity basis and because much of the external borrowing is being used to finance consumption rather than investment.

To reduce the US current-account deficit to say, 2 to 2½ percent of GDP at reasonable cost, it would be helpful to have a real depreciation of the dollar of about 25 percent from its peak (in February 2002). This uses the rule of thumb that each 1 percent fall in the real trade-weighted dollar improves the US current-account position by roughly $10 billion; if anything, that is a conservative estimate of the needed dollar decline, as some analysts find much smaller (closer to $5 billion improvement for a 1 percent dollar depreciation) exchange rate effects. Since February 2002, the dollar has fallen by approximately 15 percent. This means there is something like 10 to 15 percent still to go. The question then is how should this US current-account improvement and implicit appreciation in nondollar currencies be shared internationally?

One answer could be that all nondollar currencies should share equally and appreciate by 10 to 15 percent. But that would inappropriately treat surplus and deficit countries alike. A better response is that all countries with current-account surpluses should commit to reducing those surpluses to zero. As shown in Williamson (2003a), this plus asking deficit countries to hit the current-account deficit projections made by the IMF and some other adjustments to handle special problem cases (like Japan) would just about accommodate the desired improvement in the US current-account deficit without putting downward pressure on global demand. The implicit assumption is that exchange rate adjustments would help to bring about these shifts in current-account positions.

But even an adjustment guideline that distinguishes between surplus and deficit countries and that takes account of cross-country differences in the ability to shift demand from external to domestic sources leaves out many relevant factors, including the extent of recent exchange rate adjustments and cross-country differences in reserve holdings. When these factors are given due consideration, China emerges as an economy that ought to be in the lead in accommodating the second wave of dollar depreciation; see table 1.

Since the dollar peak in February 2002, the RMB (which has a weight of just under 10 percent in the US Federal Reserve's broad index for the dollar) has fallen in real trade-weighted terms by 7 percent. China is currently growing at nearly 10 percent, with rising inflationary pressure. Its reserves have increased by over $160 billion in the past 12 months and now stand at over $400 billion. It has a moderate surplus on current account and a large one on capital account. It has an external debt ratio of 14 percent of GDP. As Meade (1951) emphasized over 50 years ago, the classical remedy for an economy experiencing *both* domestic overheating and external surpluses is exchange rate appreciation, and neither reserve nor debt considerations appear to constrain such exchange rate action.

Consider the other countries with relatively sizeable weights in the dollar's trade-weighted exchange rate. The euro area (with a weight of over 18 percent) has a small current-account surplus

(projected at less than 1 percent of GDP for 2004). It is expected to grow by less than 2 percent this year—just below its average rate over the past decade. Real domestic demand is projected to increase by only 1 percent in 2004. The euro has appreciated in real trade-weighted terms by 17 percent since the dollar peak.

Canada, with a 16 percent weight in the dollar index, is slated to grow by about 2½ percent this year. Last year, it recorded a current-account surplus of approximately 2 percent of GDP. The Canadian dollar has appreciated by 10 percent since the dollar peak.

Japan, with an 11 percent weight, is finally emerging from a decade of snail-like growth (1.3 percent average for 1995–2004) and is expected to hit nearly 3½ percent growth this year (with real total domestic demand forecast to rise by little above 2½ percent). Its current-account surplus is projected to be 3 percent of GDP this year. It has been intervening at record rates to prevent its exchange rate from rising. Japan's international reserves increased by roughly $200 billion last year. Meanwhile, the Japanese yen has appreciated (in real, trade-weighted terms) by about 3 percent since the dollar peak.

Mexico too has roughly an 11 percent weight in the dollar's trade-weighted index. Echoing its very close economic ties with the United States, Mexican economic growth has suffered a sharp slowdown over the past three years (averaging less than 1 percent a year); growth is projected to rebound to nearly 3½ percent this year. The Mexican peso has depreciated on a real trade-weighted basis by roughly 10 percent since the dollar peak; but in contrast to China, Mexico has been running moderate current-account deficits over the past few years, with the deficit for 2004 expected to be around 2 percent of GDP. With a GDP approximately 40 percent of China's, Mexico's reserve holdings are in the neighborhood of $60 billion—about one-seventh as large as China's holdings.

The United Kingdom has approximately a 5 percent weight in the dollar index. The pound sterling has appreciated by almost 3 percent since the dollar peak, while the current account has shown a moderate deficit (a little over 2 percent of GDP). The United Kingdom's GDP, as well as its total domestic demand, are expected to grow this year by roughly 3½ percent.

A group of other emerging Asian economies (Taiwan, Korea, Singapore, Hong Kong, Malaysia, Thailand, the Philippines, and Indonesia) account together for about 16 percent in the trade-weighted dollar index. All of them have current-account surpluses (with double-digit surpluses in Singapore, Hong Kong, Malaysia, and Taiwan), and most have registered large increases in international reserves during the past two years. Most notably, each of them, with the exceptions of Indonesia (9 percent appreciation), Korea (4 percent appreciation) and Singapore (1 percent appreciation), has recorded a depreciation of its real effective exchange rate since the dollar peak. A notable difference between them and China, however, is that until very recently, their economies were showing rather weak growth in domestic demand (particularly in investment)—not the overheating and explosion of fixed asset investment

Table 1. Sharing the Adjustment of Payments Imbalances

	Weight in FRB real broad dollar index	Percent change in real effective exchange rate index since the dollar peak[c]	Current account as share of GDP	Change in international reserves (millions of US$)	Change in international reserves (percent of GDP)	Growth rate of real total domestic demand (annual percent	Growth rate of real total domestic demand (annual percent	Growth rate of real GDP	Growth rate of real GDP	Projected growth rate of real GDP	External debt to GDP ratio	Estimated exchange rate undervaluation [4] (percent) *Anderson (2004)*
	2002-2004	Feb 2002-April	2003	2003	2003	2001-2002	2003	2001-2002	2003	2004	2002	2004
China	9.8	-7.0	3.3	116952[a]	8.3	9.3	11.4	7.7	9.1	8.3	14.4	26
Euroland[b]	18.5	16.6	0.6	-22,233	-0.3	1.8	1.0	1.3	0.4	1.7	n.a.	-
UK	5.2	2.7	-2.4	2,635	0.1	2.3	2.7	1.9	2.3	3.5	n.a.	-
Canada	16.5	9.9	2.1	-700	-0.1	2.6	4.2	2.6	1.7	2.6	n.a.	-
Australia	1.3	27.5	-6.0	11,592	2.3	3.7	5.3	3.2	3.0	3.5	33.6	-
Mexico	11.0	-10.3	-1.5	8,501	1.4	0.7	2.5	0.3	1.3	3.3	23.7	-
Japan	11.1	3.0	3.2	203,852	4.7	0.1	2.0	0.1	2.7	3.4	n.a.	37
Emerging Asia	*15.8*											
Hong Kong	2.0	-13.0	11.0	6,745	4.3	0.05	0.6	1.4	3.3	6.0	31.8	5
Indonesia	1.0	9.1	3.7	4,091	2.0	3.7	3.6	3.6	4.1	4.5	75.7	12
Malaysia	2.3	-11.2	13.0	10,408	10.1	3.1	3.6	2.2	5.2	5.8	52.2	14
South Korea	3.9	4.3	2.0	34,320	5.7	5.2	0.1	5.4	3.1	4.8	28.9	10
Singapore	2.2	1.4	30.9	13,956	15.3	-4.0	-9.6	0.2	1.1	5.6	23.0	14
Taiwan	3.0	-3.6	10.0	45,545	15.4	-2.1	1.2	0.7	3.2	5.4	12.1	22
Thailand	1.4	-0.7	5.6	3,145	2.2	4.3	7.1	3.8	6.7	7.2	48.1	9

Notes:

a. The change in international reserves is net of $45 billion transferred for bank recapitalization.

b. Euroland includes Belgium, Germany, Greece, Spain, France, Ireland, Italy, Luxemburg, the Netherlands, Austria, Portugal and Finland.

c. (+) equals appreciation, (-) equals depreciation.

experienced by China. In fact, it has been argued that the reason these other Asian emerging economies intervened so much over the past two years was to keep exchange rate appreciation from weakening their economies further (Anderson 2004a).

It is apparent from this short summary of conditions in major US trading partners that China is not the only one for whom one could make a case for currency appreciation; indeed, there is a wider Asian problem of exchange rate undervaluation (Bergsten 2003). But what is striking from our cross-country comparison is that no other region or country on the list presents itself as a stronger candidate than China for currency appreciation in the necessary second wave of dollar depreciation.[16]

In thinking about the adjustment of global payments imbalances, let me emphasize what I am *not* saying.

I am not saying that currency appreciation by China *alone* would solve the US current-account problem.[17] After all, since China's weight in the dollar index is less than 10 percent, a 25 percent appreciation of the RMB would lower the aggregate value of the dollar by only 2½ percent; using the rule of thumb alluded to earlier, this would translate into only a $25 billion improvement in the (2003) $540 billion US current-account deficit.[18] Clearly, a *broad-based* depreciation of the dollar is necessary to reduce the US current-account deficit by $250 billion or so.

I am also not saying that the preferred approach to bringing global payments imbalances into a better and more sustainable alignment is by exchange rate actions alone. Adjustments in fiscal and monetary policies would also be most helpful.

As emphasized by Summers (2004), more than 100 percent of the deterioration in the US current-account position over the past four years is accounted for by the drop in the US net national saving rate (the resources that Americans are saving net of the amount that the Federal government is borrowing). The US net national saving rate now stands at 1.3 percent—the lowest level in the postwar period. Moreover, the federal budget deficit now takes about three-quarters of the savings generated in the rest of the US economy. My Institute colleague Martin Baily (2004) has recently laid out the fiscal policy measures that would be required to turn the US budget position from its current deficit of roughly $450 billion to $200 billion by 2012. The main elements (against an assumed backdrop of 2.5 annual productivity growth) are: no extension of expiring tax cuts, no reform of the alternative minimum tax, and

[16] Looking at 11 Asian economies, Anderson (2004a) concludes that China has the second largest exchange rate misalignment (undervaluation), behind Japan.

[17] Nor would a 20 percent revaluation of the RMB reverse the fall in US manufacturing employment—a problem that has its roots in weak US economic growth over the past few years, slow growth in many US trading-partner countries, rapid productivity growth in US manufacturing, and the high US dollar. Baily (2004) has estimated that the increase in the (overall) US trade deficit over the 2000–03 period accounted for no more than 14 percent of the payroll job decline in the nonfarm sector of the US economy.

[18] In Goldstein (2003), I also argue that China's exports to the United States compete mainly with exports from other developing countries and only to a limited extent with US industries; the empirical support for this conclusion can be found in Noland (1998).

limiting discretionary spending growth to the increase in nominal GDP; alternatively, if those fiscal policy reforms are not undertaken, the federal deficit rises to about $700 billion by 2012. Suffice to say that the prospects for US current-account adjustment are much better under the former disciplined fiscal policy scenario than under the latter undisciplined one.

In a related vein, Eichengreen and Park (2004) have argued that the monetary-fiscal mix is currently out of line in three major regions of the world economy. More specifically, they argue that Euroland would be able to attain a more competitive exchange rate by moving to more relaxed monetary policy and tighter fiscal policy; that growth in Korea, Malaysia, Thailand, and Taiwan would not suffer with more appreciated exchange rates if fiscal policy supported demand; and that tighter fiscal policy now in the United States would obviate the need for much tighter monetary policy later. The point is that exchange rate adjustments lead to better results when they can focus on their expenditure-switching role and when they do not have to contend with misaligned fiscal and monetary policies.

To sum up, the global payments approach also suggests that the RMB is undervalued and that an appreciation—on the order of 15 to 25 percent—should be a key element of the needed second wave of dollar depreciation.

The Potential Role of Capital Outflow Liberalization in Misalignment Calculations

Thus far, I have assumed that, over the next few years, China will make no significant changes to its existing restrictions on capital outflows.[19] If that assumption were dropped, then the above conclusions about the undervaluation of the RMB could well be erased.

A quick calculation illustrates the point. Household savings deposits in China are presently equal to approximately 100 percent of GDP. Suppose that Chinese savers decided for diversification reasons to put 5 percent of their savings into foreign assets abroad and that China liberalized its restrictions on capital outflows to permit that diversification to take place. A 5 percent of GDP swing in China's capital account would be sufficient to wipe out the assumed 4½ percent of GDP disequilibrium in China's balance of payments.[20] Indeed, if (and when) China's overall capital account went into deficit, it would be quite feasible to arrive at the conclusion that the RMB needs to depreciate—not appreciate.

The crucial issue is one of timing. If China does not liberalize significantly its restrictions on capital outflows for say, six years (as some recent official statements suggest could be the case), then it is asking a lot—I would say too much—to request the international community to live during the interim with an undervalued RMB just because things may be different down the road.

[19] In discussing the current status of China's capital account liberalization, Li (2004) reports that the IMF divides China's capital account into 43 parts: 8 of those (with a 19 percent weight) can be changed freely; 11 (with a weight of 26 percent) can be changed with rare limitations; 18 (with a 41 percent weight) can be changed with many limitations; and 6 (with a 14 percent weight) are subject to strict limitation.

[20] If one assumes that such international diversification was largely a one-time event, then it would not offset continuing disequilibria in the balance of payments.

Conclusion on Misalignment of the RMB

Given the dynamic character of the Chinese economy and the margin of uncertainty surrounding underlying parameters, it would be naïve to pretend that estimates of the misalignment of the RMB can be made with great precision. That said, so long as China continues to run surpluses on its current and capital accounts (while its economy is overheating) and maintains binding restrictions on capital outflows, and so long as there are serious global payments imbalances afoot, there is a compelling case that the RMB is presently undervalued—on the order of 15 to 25 percent.[21]

III. IS CHINA "MANIPULATING" THE RENMINBI?

The troublesome experience with competitive depreciations in the 1920s and 1930s convinced the international community that international rules were needed to discourage "beggar thy neighbor" exchange rate policies. Indeed, that was one of the main motivations for establishing the International Monetary Fund.

This concern with antisocial exchange rate policies is reflected both in the Fund's charter (i.e., in its Articles of Agreement) and in decisions of the Fund's Executive Board on exchange rate surveillance.

In addressing the general obligations of members (countries) regarding exchange arrangements, Article IV, Section 1 (paragraph iii) of the Fund's *Articles of Agreement* stipulates, inter alia, that each member shall:

> "avoid manipulating exchange rates or the international monetary system in order to prevent effective balance-of-payments adjustment or to gain unfair competitive advantage over other members."

Section 3 of Article IV symmetrically delineates the Fund's obligations on exchange rate policies, including the injunctions that the Fund shall:

> " … oversee the compliance of each member with its obligations under section I of this article."
>
> "…exercise firm surveillance over the exchange rate policies of members, and shall adopt specific principles for the guidance of all members with respect to those policies."

[21] It is worth noting that in discussing (in November 2003) the Fund's 2003 Article IV Consultation with China, the IMF's Executive Board took a different view. The Public Information Notice (PIN) of that discussion stated: "Most Directors noted that there is no clear evidence that the renminbi is substantially undervalued at this juncture. Directors also felt that that a currency revaluation would not by itself have a major impact on global current account balances, particularly given China's relatively small share in world trade."

In 1977, the Fund's Executive Board discussed a paper that laid out principles and procedures for its surveillance over exchange rate policies.[22] In the section on principles, the document discusses a number of developments that might indicate the need for discussion with a member. The first development listed was "protracted, large-scale intervention in one direction in the exchange market." Other developments cover official or quasi-official borrowing, restrictions on trade and capital flows, monetary and domestic financial policies, and behavior of the exchange rate that appears unrelated to underlying economic and financial conditions. My interpretation is that the Fund intended these developments to be a set of presumptive indicators or "pointers" of (inappropriate) efforts to maintain the "wrong" exchange rate. The document also makes it clear that interpretation of these pointers should not be done in a mechanistic way—but rather judgmentally within "… the framework of a comprehensive analysis of the general economic situation and economic policy strategy of the member."

Figure 4 shows the behavior of China's official foreign exchange reserves over the 1991–2003 period; figure 5 draws on monthly data to focus on the huge build-up of China's international reserves during the past two years. Suffice to say that these reserve developments suggest that, over the past two years, there has indeed been "large-scale, protracted intervention in the exchange market in one direction."

In seeking to reach a judgment about whether China has been manipulating its exchange rate, it is useful to counter three fallacious arguments that are often put forward to refute charges of currency manipulation.

The first such argument is that since the IMF's charter allows countries to adopt the currency regime of their choice and since maintenance of a fixed exchange rate involves exchange market intervention, there can be no manipulation for countries that opt for a fixed exchange rate regime.[23]

It is true that IMF member countries are free to pick fixed rates, floating rates, or practically any currency regime in between.[24] It is also true that member countries are permitted to intervene in exchange markets and, indeed, are expected to do so to counter disorderly market conditions. But what member countries should not do (regardless of their currency regime) is seek to maintain the "wrong" exchange rate by relying, inter alia, on large-scale, prolonged exchange market intervention in one direction. Put in other words, countries maintaining fixed rates can intervene if it is of relatively short duration, or if it is on a small scale, or if it is sometimes in one direction and sometimes in the other—but they can't violate all three conditions simultaneously. Moreover, this injunction applies to attempts to maintain (via intervention) both an overvalued fixed rate and an undervalued one.

[22] See "1977 Decision on Principles and Procedures of Surveillance over Exchange Rate Policies," reprinted in Boughton (2001).

[23] Although China describes its currency regime as a "managed float," the behavior of the RMB suggests that it is maintaining (de facto) a fixed exchange rate (pegged to the dollar).

[24] The only prohibition on currency regime choice is that the member cannot seek to maintain a fixed value for its currency in terms of gold.

Chart 4: Official Foreign Exchange Reserves, 1991-2004Q1

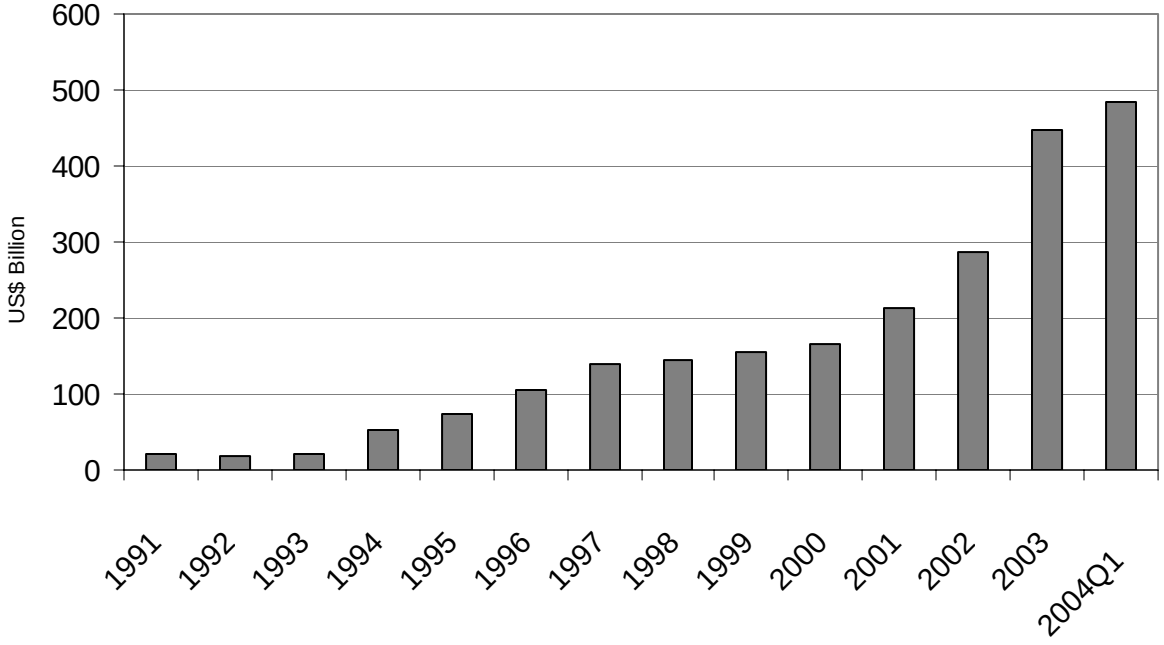
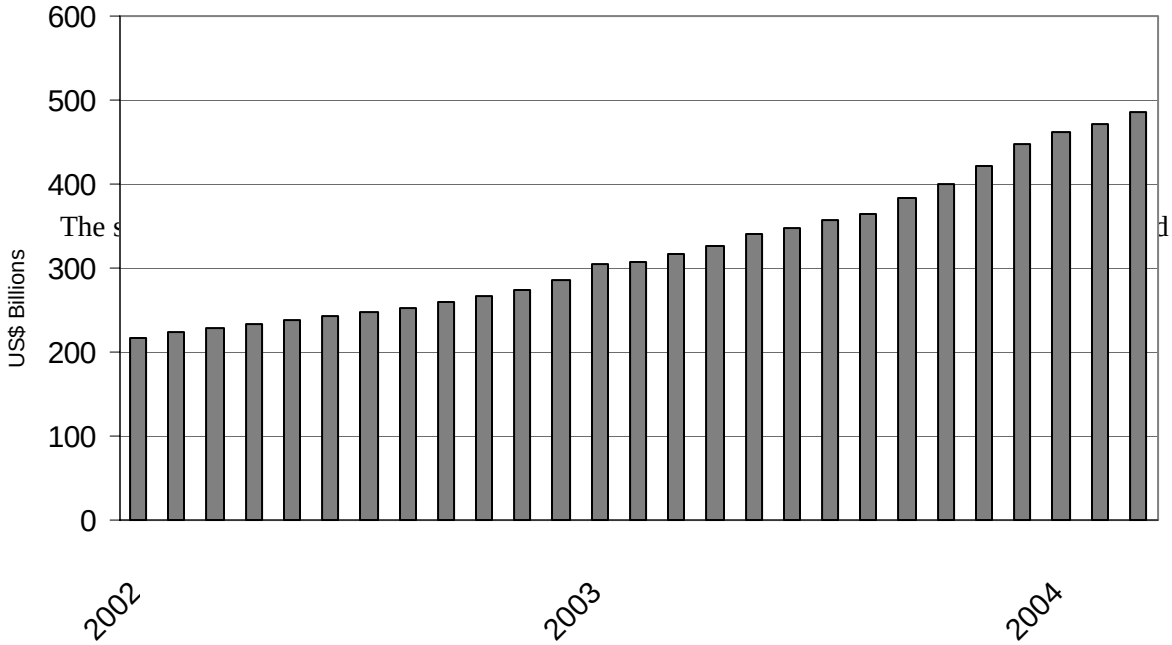


Chart 5: Foreign Exchange Reserves, January 2002-March 2004



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The second argument often made is that a country can't be "Manipulating" if it has maintained the same fixed parity over an extended period. In this connection, China has left untouched since 1995 its fixed parity of 8.28 RMB to the US dollar.

This argument fails to recognize that what counts most is the real effective exchange rate, that the real exchange rate has to be evaluated against the changing backdrop of the balance of payments, and that misalignment of the real exchange rate can come about just as easily from "nonmovement" of the nominal exchange rate as it can from excessive movement of the nominal rate. Recalling the discussion in section II of this paper, China's real exchange rate has been depreciating over the past two years at the same time that its balance of payments has been moving into a strong underlying surplus. What would be desirable in this context is for China's real exchange rate to be appreciating—not depreciating. If China is preventing the real exchange rate from appreciating because of its intervention behavior, then it is thwarting the international adjustment process by keeping its nominal (bilateral) exchange rate fixed at 8.3 RMB to the dollar. Note also that the same nominal exchange rate can be perfectly appropriate at one point of time (say, because it is linked to a depreciating real exchange rate and a balance-of-payments deficit) and inappropriate at other times (say, because the depreciating real exchange rate occurs when the balance of payments is in surplus). The same line of reasoning also shows why just looking at the real exchange rate relative to trend cannot tell you whether the real exchange rate is misaligned: The exchange rate has to be evaluated within the context of the country's balance of payments position and the latter does not stay constant over time.

Yet a third argument refuting manipulation is that a country should be permitted to use (even large-scale, prolonged) exchange market intervention to hold down the real exchange rate if a low (undervalued) exchange rate is needed to generate sufficient employment in its traded goods industries to ensure social stability. In this connection, it is sometimes noted that in drawing up principles for the surveillance over members' exchange rate policies, the Fund is enjoined "… to respect the domestic social and political policies of members" and in applying these principles, "… to pay due regard to the circumstances of members." Needless to say, the exchange rate–employment link is relevant to China's situation: Every year, large numbers of its workers are seeking new jobs in the export sector after either having left agriculture or having been laid off from less efficient state-owned enterprises, and finding good employment opportunities for the labor force is widely seen as an essential ingredient for maintenance of social stability.[25]

[25] A few numbers convey the scope of the problem. Total employment in the state-owned sector peaked at 109.6 million workers in 1995; by 2002, employment had shrunk to 69 million. In the state-owned manufacturing sector, the decline was even sharper—from a peak of 35.26 million workers in 1991 to 9.8 million workers in 2002. Hu (2004) maintains that the average unemployment rate in urban China is above 11 percent. Agricultural employment has fallen from a peak of roughly 390.98 million in 1991 to about 365 million in 2001. Because 50 percent of China's labor force is still in the agricultural sector, further substantial employment shifts can be expected in the future. Bottelier (2004) argues that the need to protect employment in agriculture is a better argument against

The problem with this defense of currency manipulation is that it would not provide the right incentive for discouraging competitive depreciation in the international monetary system as a whole. While the employment challenge faced by China is admittedly more formidable than that faced by others, almost all countries have full employment objectives, and many would like to have export-led growth; witness, for example, the focus on employment and outsourcing issues in the ongoing presidential election campaign in the United States. If many countries believe that they can manipulate their way to an undervalued exchange rate and to increased employment in their traded goods industries, the result is likely to be exchange rate instability, continued conflict, and greater resort to offsetting protectionist measures. The system instead should encourage countries to maintain competitive equilibrium exchange rates and to meet their employment challenges largely by improving the domestic sources of economic growth.

Conclusion on Manipulation of the RMB Exchange Rate

As the weight of emerging economies in the global economy has increased, the interest of the international community in how these countries conduct their exchange rate policies has increased along with it.[26] This is particularly the case with China's exchange rate policy since it is now the world's third largest importer and fourth largest exporter.

The exchange rate system cannot be concerned only with overvalued exchange rates; undervalued exchange rates must also be subject to surveillance and corrective action. International codes of conduct for exchange rate policy are no less necessary than those for trade policy; without them, there can be a free-for-all that is in no one's interest, least of all the emerging economies that depend so heavily on access to international markets. Currency manipulation is not a narrow academic issue, akin to how many angels can fit on the head of a pin. It is instead a legitimate practical concern in establishing a level international playing field.

The IMF is the institution uniquely charged with the responsibility for overseeing the international monetary system and for exercising firm surveillance over its members' exchange rate policies. It is regrettable that it has not acted with more "firmness" to investigate, discuss, and rule on allegations of currency manipulation. Even though its surveillance guidelines permit the managing director to initiate and to conduct an ad hoc consultation with a member country if there is concern about its exchange rate policies, the Fund has conducted such special consultations only twice in the last 25

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currency appreciation in China than the need to protect and promote employment in manufacturing industries. Mundell (2004) also argues that currency appreciation would aggravate the exodus from farms and the problem of migrants in cities. To mitigate social pressures as labor is shifted from agriculture to other parts of the economy, Prasad and Rumbaugh (2004) suggest that further progress will be needed in strengthening the social safety net, including the pension system, unemployment insurance, health care, and the minimum living allowance.

[26] To cite but one reflection of this increased weight for emerging economies, Asian emerging economies alone now hold over 40 percent of global foreign exchange reserves.

years (Sweden in 1982 and South Korea in 1987) and not at all during the past 17 years. It is striking that a time when, for example, the Japanese Ministry of Finance has requested financing authorization for 2004 to use (if needed) as much as $575 billion in exchange market intervention (and has already intervened to the tune of nearly $150 billion in the first quarter of 2004), both the IMF and the United States have been practically silent on the currency-manipulation issue. When there is a growing perception that "no one is minding the store" at the international level, then the likelihood increases that responses to alleged exchange rate policy abuses will occur at the bilateral level. We already have seen some evidence of this. There are now at least a half dozen bills before the US Congress that threaten to impose a unilateral surcharge on China's exports to the United States if negotiation does not produce an end to China's alleged currency manipulation. Similar protectionist responses may well appear in other countries. Far better for such currency issues to be handled multilaterally in the IMF and, over time, for a body of case law to develop that would spell out more fully what is and what is not acceptable behavior on exchange rate policy; indeed, that is now what is happening for trade policy, under the auspices of arbitration decisions made by WTO panels. When violations are found, the country should be strongly encouraged to desist immediately—and not to make changes at a time of its own choosing.

Although it is far from the only country doing it, China has over the past two years been engaging in protracted, large-scale intervention in one direction in exchange markets. This is currency manipulation.[27] As I argue below, engaging in such currency manipulation to keep the value of the RMB below (undervalued) its equilibrium is not in China's long-term interest. It should therefore stop doing it and deal instead with the root causes of the problem.

IV. WOULD A 15 TO 25 PERCENT APPRECIATION OF THE RENMINBI BE IN CHINA'S INTEREST AND IN THE INTEREST OF THE REST OF THE WORLD? WHAT WOULD BE IN CHINA'S INTEREST?

Countries make important economic decisions based mainly on their perceived national interest. Would then a significant appreciation of the RMB be in China's own interest? My short answer is yes.

The currency regime is not an end in itself. It is instead a facilitating mechanism for other key economic objectives. In China's case, the question to ask is how does attempting to maintain an undervalued RMB affect its pursuit of banking reform, of price stability, of continued secure market access for its exports, and of a high and sustainable rate of economic growth? Let me comment on each.

[27] Preeg (2003) has reached a similar verdict.

Banking Reform

By now, it is well accepted that banking reform is vital for improving the efficiency of resource use in China. As argued persuasively by Lardy (1998), a failure to complete successfully the transformation of China's banking system would imply, inter alia, continued inefficiencies in the intermediation of funds between savers and investors, slower development of stock and bond markets, constraints on the more active use of interest rate policy to dampen market fluctuations in economic activity, and a longer delay in any move to convertibility on capital account transactions. In addition, weaknesses in the credit allocation process can have enormous fiscal costs, as illustrated most dramatically by China's neighbors during the Asian financial crisis. And just several months ago, China transferred $45 billion of its reserves to fund the recapitalization of two state-owned banks, with $50 billion to $100 billion more said to be slated for further bank recapitalization operations; all this comes on top of approximately $200 billion spent on earlier bank recapitalization efforts.

While banking reform contains many elements, a sine qua non is a good credit allocation process, based on a forward-looking, objective assessment of the borrower's creditworthiness (Goldstein 1997). Quite aside from the special problems associated with the operations and state-owned banks around the world, experience suggests that credit allocation decisions suffer when bank credit expands at very rapid rates, say 20 percent or more per year.[28]

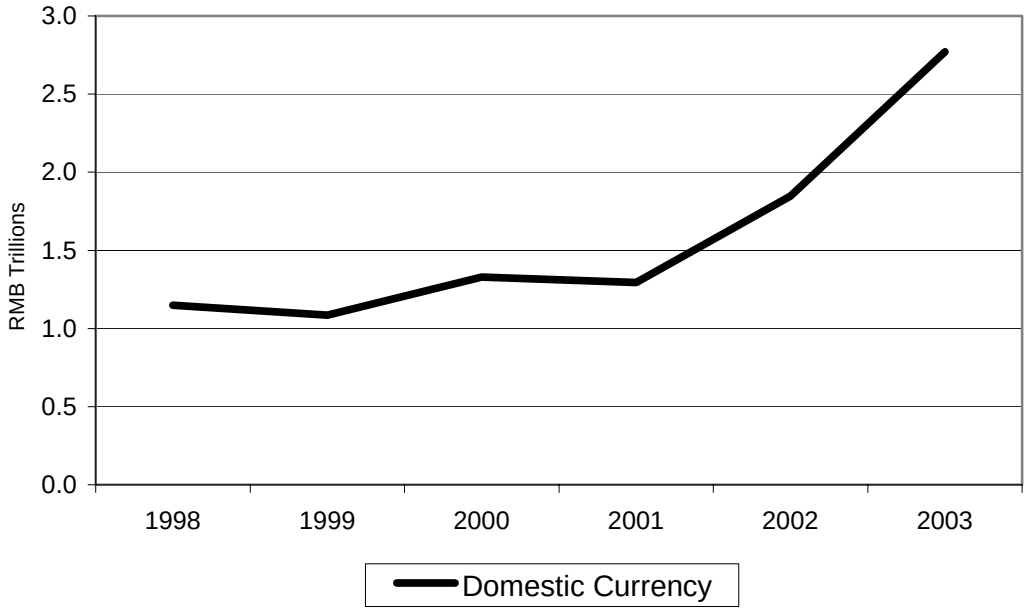
For all of these reasons, the enormous increase in bank loans that took place last year in the Chinese economy is cause for serious concern—raising the specter of a reversal of the progress recently made in bringing down the ratio of nonperforming loans. As shown in figure 6, after rising by an annual average of 1.1 trillion to 1.3 trillion yuan during the 1998–2001 period, the stock of loans outstanding increased by 1.9 trillion yuan in 2002 and then mushroomed to an unprecedented 3 trillion yuan last year. Relative to GDP, the 2003 increase in loans outstanding hit 24 percent—an all-time high; see figure 7. The last time (in the early 1990s) there was a bank lending boom in China, approximately 40 percent of the loans extended eventually wound up as nonperforming. While credit allocation procedures have probably improved some since then, there is little reason to doubt that an increase in bank lending of recent magnitudes is neither desirable nor sustainable.

In its *Monetary Policy Report for 2003*, issued this past March (PBC 2004), the People's Bank of China (PBC) acknowledges that there was "excessively fast growth" of commercial bank loans (particularly to the real estate sector) in 2003, and cites concerns about that growth as contributing to its decisions to raise the deposit reserve requirement (from 6 to 7 percent last September), to signal risks on real estate loans, to strengthen window guidance on commercial bank loans, and to conduct wide-ranging

[28] Rapid bank credit expansion was a prominent feature of the Asian financial crisis (see Goldstein 1998), as well as of many earlier banking crises (see Gavin and Hausmann 1996).

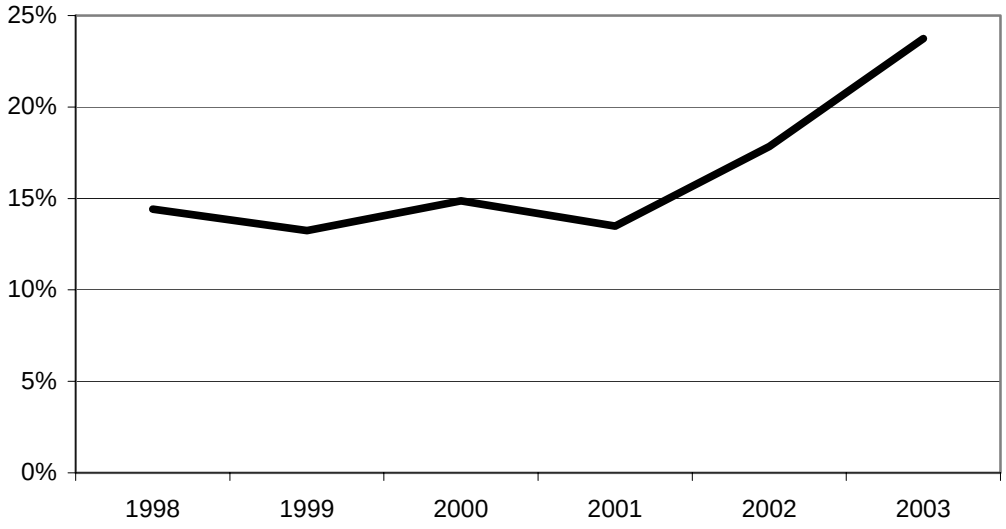
sterilization operations to control the growth rate of base money.[29] In March 2004, the PBC announced an additional 50 basis points increase in reserve requirements for poorly capitalized institutions; on April 11, this was followed by another 50 basis point increase for all financial institutions except urban and rural credit cooperatives; reflecting some urgency, this last increase in reserve requirements had only a two-week span between the policy announcement and its date of implementation. The PBC suggests that its measures helped to moderate the growth of bank lending in the second half of 2003, and particularly in the fourth quarter, as the average monthly increase of RMB loans outstanding fell from 296 billion yuan in the first half, to 230 billion yuan in the third quarter, to 98 billion yuan in the fourth quarter.[30]

Figure 6: Increase in the Stock of Loans Outstanding, 1998-2003



[29] In addition to these measures, the State Council recently raised capital requirements for fixed investment projects (in steel, cement, real estate, and aluminum) and required line ministries and regional governments to evaluate ongoing and planned fixed investment projects in certain sectors; also, the China Bank Regulatory Commission recently advised commercial banks not to front-load loans to projects or to continue lending to overheated sectors.
[30] It may be that the low fourth-quarter figure for the increase in bank lending reflected a concentration of bad-loan write-offs in the fourth quarter—not a decline in the rate of new lending.

Figure 7: Increase in Loans Outstanding Relative to GDP,1998-2003



As shown in figure 8, however, the increase in bank lending accelerated sharply again in the first quarter of 2004—rising to an average monthly increase of 304 billion yuan. The increase in bank lending was thus a whopping 20 percent in the first quarter of 2004 (vis-à-vis the first quarter of 2003). We will thus have to wait until at least the third quarter of 2004 to see whether the restrictive measures already taken are having much of a slowing effect. For now, the recent loan growth figures—coming on top of what occurred in 2003—remain a substantial cause for concern.

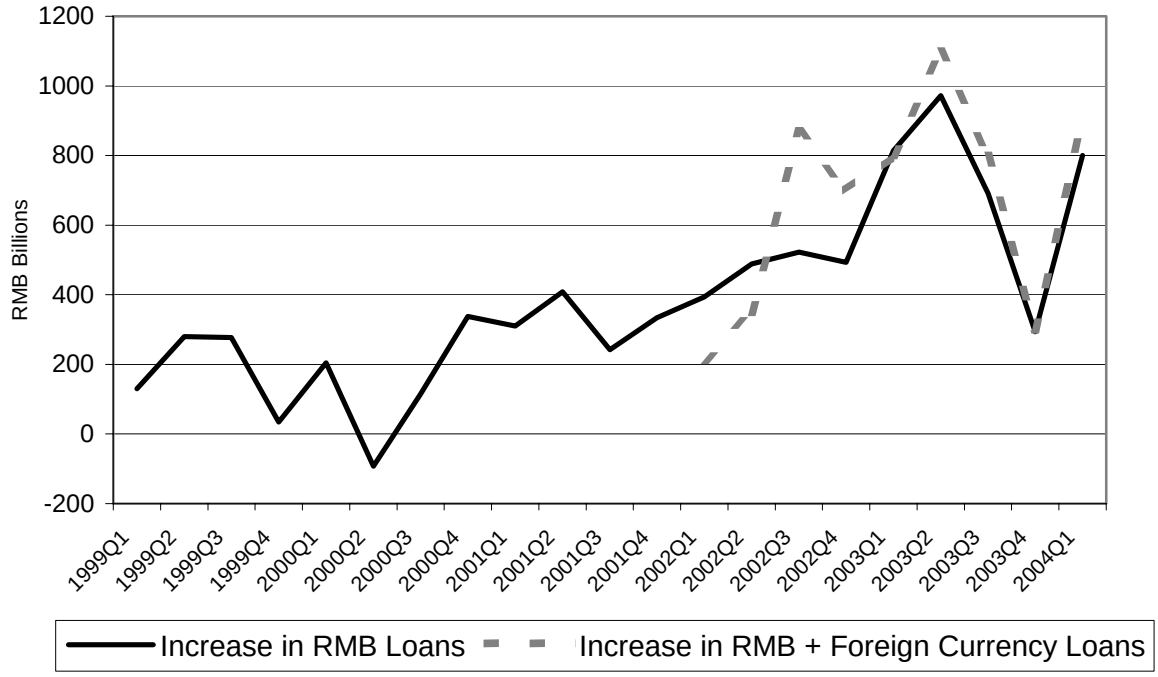
The link of credit growth to the exchange rate comes about via the impact of an undervalued exchange rate on accumulation of international reserves and in turn, the effect of reserve accumulation on the expansion of bank reserves and on bank-lending behavior.[31] As noted in section II, China's reserve accumulation last year—driven mostly by portfolio capital inflows seeking to profit from an expected appreciation of the RMB—amounted to an unprecedented 11 percent of GDP.[32] When reserves increase, banks sell them to the central bank and receive in exchange an RMB account at the central bank. If the funds in that account are larger than the required minimum, banks can use this larger reserve base to increase bank lending.

The central bank can "sterilize" some or all of this potential increase in liquidity (on base money) by undertaking a number of offsetting operations, the most important of which are typically sales of securities to the banks (i.e., open market operations in government bonds or sale of central bank bills) and increases in the reserve requirement.

[31] In contrast, Mundell (2004) argues that RMB appreciation would aggravate the banking problem by raising the real value of debts to the banking system.

[32] This figure for reserve increases does not subtract from reserves the $45 billion subsequently used for bank recapitalization.

Figure 8: Increase in RMB Loans and Total Loans, 1999-2004Q1



As shown in figure 9, both international reserves and RMB loans outstanding have been on strong upward trends over the past two years. Base money grew by almost 17 percent last year, and broad money (M2) grew by almost 20 percent; as shown in figures 10 and 11, these money growth rates were considerably higher than the average over the past several years.

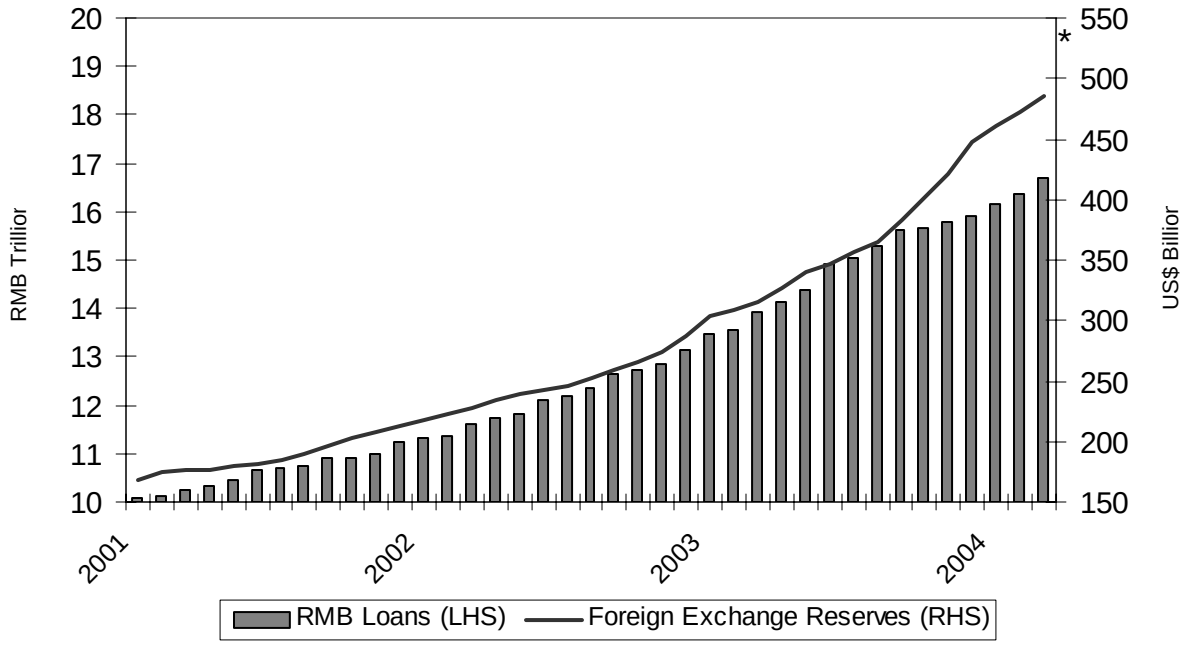
According to our estimates, the PBC last year sterilized almost half (46 percent) of the increase in reserves on base money.[33] Sterilization operations in the first quarter of 2004 appear to have been even more aggressive. Still, broad money growth in the first quarter of 2004 was more than 19 percent (vis-à-vis the first quarter of 2003), and base money growth was over 14 percent.

Those who argue that the pace of bank credit expansion in China can be brought under control without exchange rate action also argue that, if necessary, future sterilization operations can be conducted on a large scale and for a long time.[34] They say this because calculations of the cost of sterilization in China typically find that this cost is very low—either a few tenths of 1 percent of GDP or even negative (that is, a profit) by a similar absolute magnitude. These (net) cost calculations come from estimating the return China earns on its international reserves minus the local borrowing cost it incurs by selling government or central bank liabilities to the banks. Since short-term interest rates (e.g., in the interbank

[33] Anderson (2004a) estimates that net sterilization operations from February 2003 to February 2004 accounted for roughly 10 percent of the base money stock and nearly 50 percent of GDP; those estimates are similar to ours for calender year 2003.

[34] See, for example, Anderson (2004a). Dooley et al. (2003, 2004) also argue that Asian countries can continue large-scale exchange market intervention for a long time; see the discussion later in this section on the sustainability of the revived Bretton Woods system as outlined by Dooley et al. (2003).

Figure 9: China's Foreign Exchange Reserves and Total RMB Loans Outstanding, 2001-March 2004



* From 12/2003 on, foreign exchange figures are adjusted to reflect $45 bn transfer to SOCB.

market) fluctuated within the 2 to 3 percent range during 2003 and since the rate of return on say, US Treasury securities has been in the 1 to 4 percent range (depending on the maturity), the interest rate differential (i.e., the Chinese interest rate minus the US rate) has been either small or negative.

I am not persuaded that such low estimates of the cost of sterilization mean that the risks of an extended bank credit boom are minimal. I say that for three reasons.

First, making good estimates of sterilization cost is harder for China than for some other countries. To begin with, since we don't know the maturity composition of China's reserve holdings and since the term structure of US interest rates is significantly upward-sloping, it makes a difference whether we use the 10-year bond rate or the six-month Treasury bill rate in estimating the return on China's reserves. Estimates of sterilization cost could also be significantly affected by future changes in the exchange rate between the RMB and the US dollar; for example, if—as argued earlier—the dollar were in the future to fall relative to the RMB, the return on dollar assets (in RMB terms) would be much lower, and net sterilization costs would rise. Most problematic, because the involvement of the government in the banking system in China is still considerable and because interest rate deregulation is not complete, there is considerable uncertainty about the true cost of borrowing from the banks. Whether one calls it

Figure 10: Base Money Growth, 1998-2003

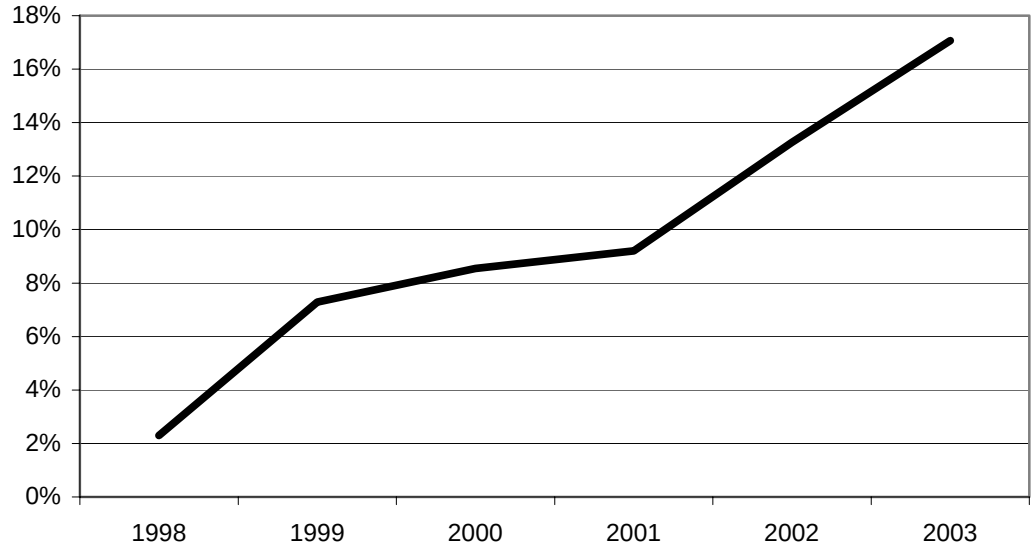
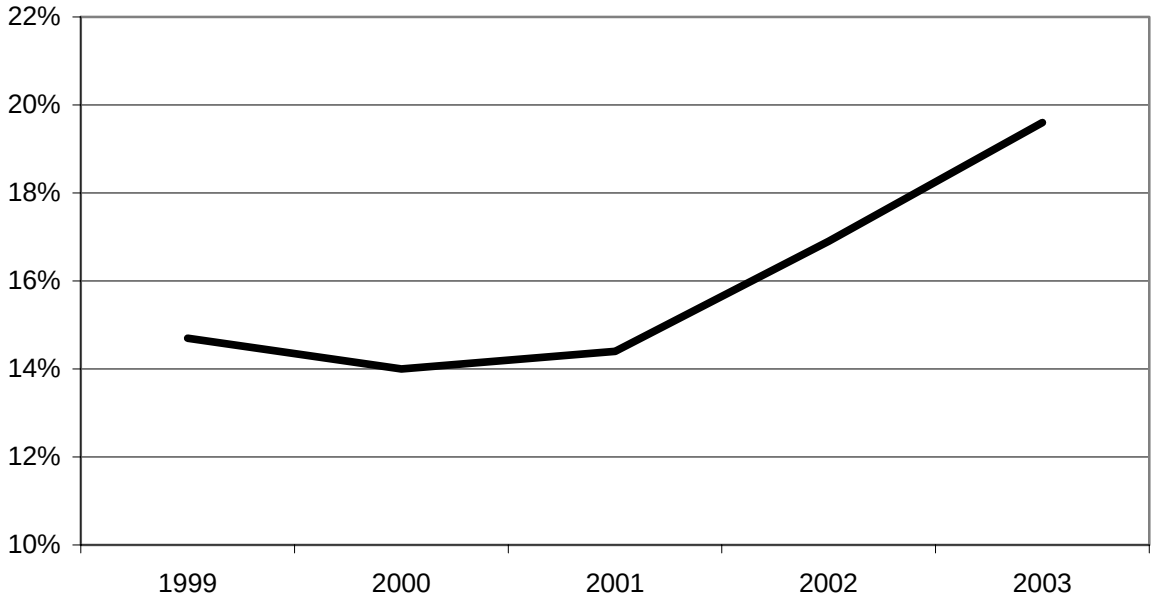


Figure 11: M2 Growth, 1999-2003



"window guidance," "moral suasion," or making bank managers "an offer they can't refuse," it is clear that the Chinese authorities have leverage with banks that is not captured in posted or observed interest rates. Consider, for example, the opportunity cost for a Chinese bank buying a central bank bill with say, a 3 percent interest rate (especially in an environment with rising inflation rates). If the bank didn't buy that bill, it could conceivably have lent that money out for one year to an industrial client at more than an 8 percent interest rate. The 8 percent plus interest rate comes from the posted 5.3 percent interest rate multiplied by the 170 percent margin now available to banks for exceeding the posted rate (the previous margin was 120 percent of the posted interest rate). Yes, the two assets have different risk characteristics, but since bank recapitalization has been a regular occurrence, it is not clear what the risk-adjusted interest rate differential between them should be. The point is that significant government involvement in the banking system muddies—and probably acts to underestimate—the observed cost of sterilization. Reports that the authorities have had difficulty in selling all the central bank bills offered in late March and April (of 2004) points in the same direction (Bradsher 2004).

Second, the incentives for strong loan demand continue to be impressive. As shown in figure 12, the real interest rate on one bank loans—defined as the posted one-year interest rate less the change in the overall corporate goods price index—has been on a steadily declining trend over the past two years; indeed, with the recent increase in the corporate goods price inflation to over 8 percent in March (2004), the real interest on these loans is now negative.

Meanwhile, the investment share of GDP rose to an unprecedented 47 percent last year (see figure 13), while banks, even after last month's latest increase in reserve requirements, still have excess reserves.

Third, the fact that the Chinese authorities have been unwilling so far to increase interest rates (by other than a minor amount) in the face of the credit boom also suggests that short-term economic growth considerations and worries about the potential effect of higher interest on further capital inflows are weighing against more aggressive monetary tightening.[35] This increases the risk that they may remain "behind the curve."

To sum up, the Chinese banking system is still faced with a serious nonperforming loan problem. According to Lardy (2004b), the share of nonperforming loans (NPL) in GDP for major financial institutions at end-2003, using the government's 5-tier loan classification system, was 21 percent.[36]

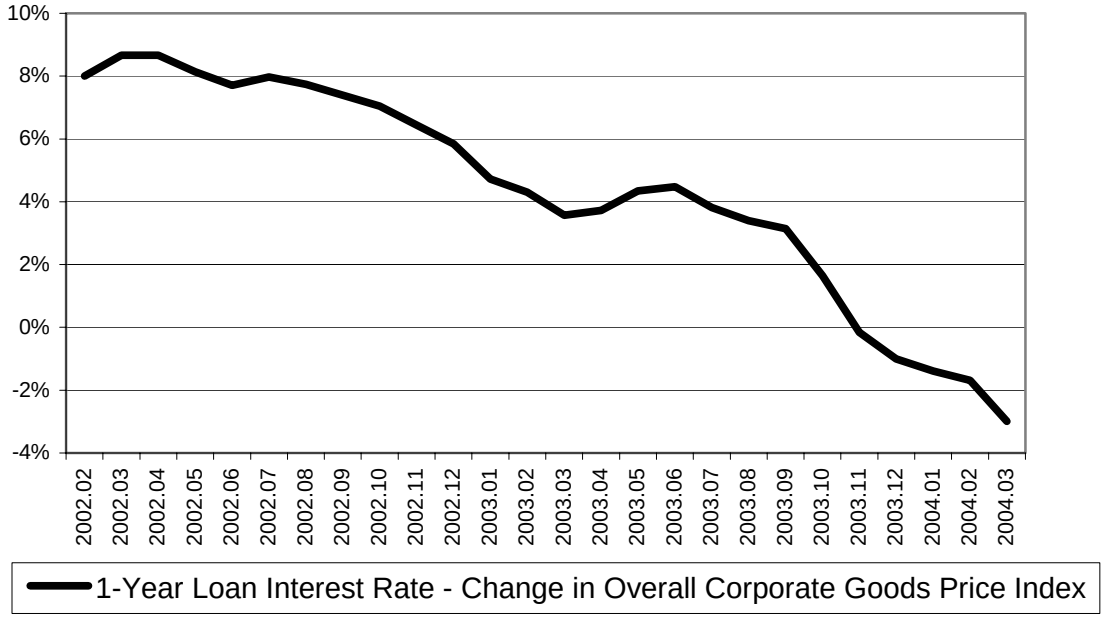
[35] The PBC raised the rates at which it lends to financial institutions by between 27 and 63 basis points in March 2004.

[36] See also Barnett (2004) for NPL figures disaggregated by type of bank (state commercial banks, joint-stock commercial banks, rural credit cooperatives, foreign funded banks, and other) and by the type (four-tier versus five-tier) of loan classification. Some analysts argue that the NPL problem in China is much larger than official figures suggest. For example, Eichengreen (2004) maintains that independent estimates of nonperforming loans (as a share of total loans) are on the order of 50 percent.

The good news was that the NPL ratio appeared to be declining in recent years. But the blowout in bank lending last year threatens to erase that progress and send the NPL ratio back upward.[37] Even if one believes that the credit boom has been driven primarily by the domestic component of the monetary base, it is undeniable that an increase in international reserves by 11 percent of GDP makes more difficult the reining-in of bank lending to a more prudent and sustainable pace.

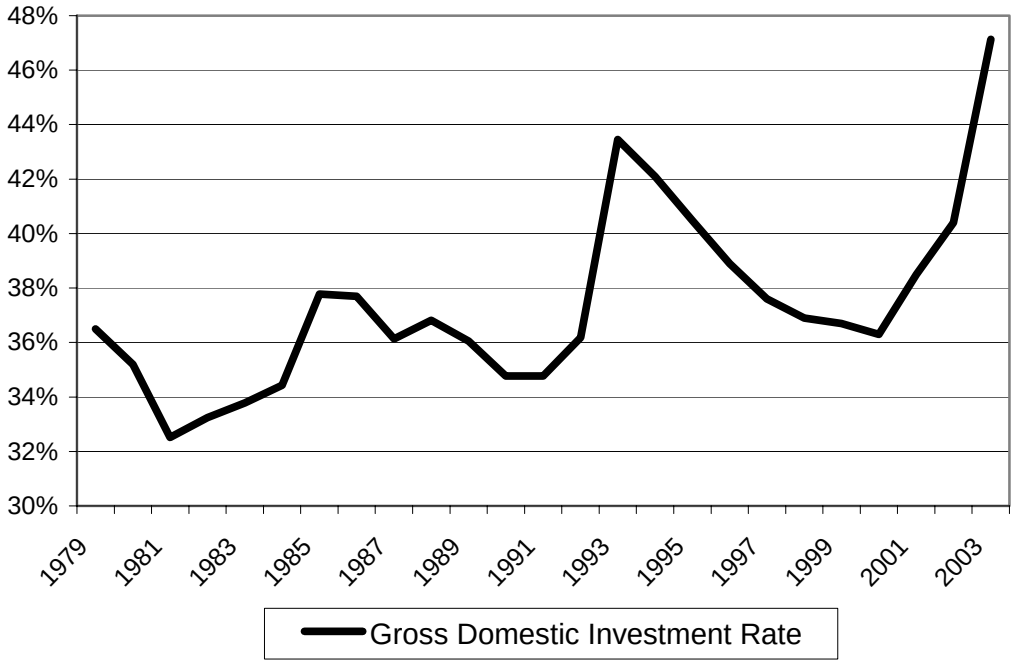
Given the importance of bank reform for its future growth, China should not be taking that risk. A 15 to 25 percent revaluation would remove the lion's share of the disequilibrium and put a stop to the expected appreciation of the RMB that is driving capital inflows into China. If China wants to stop exchange rate policy from being the enemy of bank reform, it needs to act on this undervaluation.

Figure 12: Real Lending Rate, 2002-2004



[37] Although the PBC (2004) argues that the NPL ratio declined in 2003 (vis-à-vis its level in 2002), one has to be careful about interpreting NPL ratios in a period of very rapid credit expansion; this is because the denominator (total bank loans) is increasing rapidly and because the effects of current lending decisions may only show up in later years.

Figure 13: Investment as a Share of GDP, 1979-2003



Pursuit of Price Stability

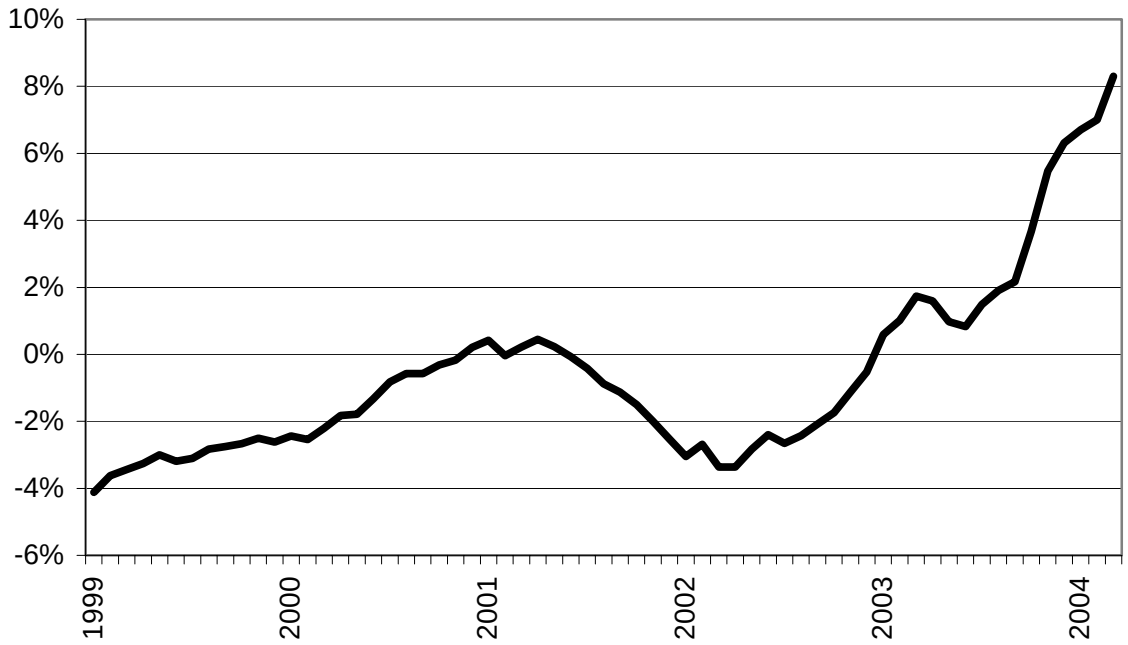
China has good reasons for pursuing low and stable inflation. With an average per capita income just above $1,000 and with some sectors and regions considerably below that, sizeable groups in the population would begin to feel the pinch of lower purchasing power before inflation rates hit double digits;[38] in this sense, control of inflation, like keeping a reasonable cap on unemployment, is seen as an element of social stability. The unhappy experience with hyperinflation in the late 1940s, and the dislocations linked to the upsurge of inflation to a peak of over 20 percent in 1994, also serve as reminders of what could happen if the monetary authorities were to lose the antiinflation discipline that has characterized the past half dozen years or so. Finally, the Chinese banking system counts on continued growth in households' bank deposits to fund reasonable increases in bank loans. If inflation becomes excessive, there is a risk that the low expected real return on bank deposits will discourage households from adding to their deposits; indeed, the last time (1993–95) inflation rose sharply in China, the growth of household bank deposits was one of the first casualties.

Inflationary pressures increased during 2003, and those pressures intensified during the final quarter of last year and first quarter of 2004. In 2002, the consumer price index (CPI) actually fell (year

[38] Of course, the pinch of higher inflation on particular groups in the population depends on how inflation affects their terms of trade.

over year) by 0.8 percent. In 2003, the CPI rose by just over 1 percent and the GDP deflator by 2 percent. Imported investment goods witnessed a 27 percent increase in 2003. The price of lead increased last year by 22 percent, steel by 30 percent, and iron ore, aluminum, and coal by 36 percent. The most revealing statistics however are those that capture both the recent upward trend in inflation and the higher inflation rates for producer goods and raw materials. By December of last year, CPI inflation had increased to over 3 percent—a rate that was maintained through the first quarter of 2004. Meanwhile, producer prices were up almost 4 percent in March (year over year) and raw materials prices by 9½ percent (again, year over year); see figure 14. The PBC's monthly index of corporate goods prices showed a rise of 8.3 percent in March. No wonder then that official concern has shifted from ending mild deflation (in 2002) to controlling rising inflationary pressures before the latter gets up too much ahead of steam.

Figure 14: People's Bank of China Corporate Goods Price Index, Percent Change, 1999-2004

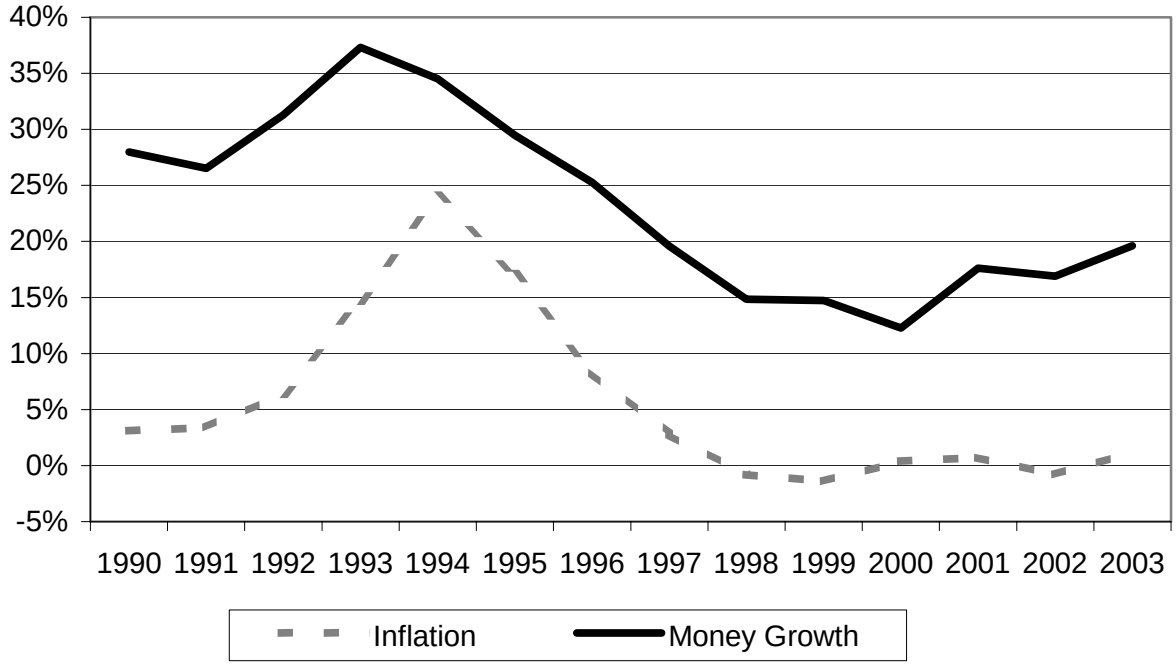


Here too, the exchange rate matters. As argued above, an undervalued exchange rate spurs speculative capital inflows, reserve accumulation, and expansion of the monetary aggregates. All this makes it harder to keep inflation under control; see figure 15, which shows the similar time-series behavior of M2 money growth and (CPI) inflation in China during the 1990–2003 period.[39] As noted earlier, M2 money growth increased by 19 percent in the first quarter of this year (relative to the first

[39] Adjusting for the downward trend in velocity growth and assuming economic growth at potential, several studies have suggested that price stability in China is consistent with a growth of M2 of 13 to 16 percent.

quarter of 2003). Sterilization of reserve increases permits the authorities to limit the increase in the monetary aggregates but has the disadvantage of keeping interest rates higher than would be the case if there were no sterilization; the higher interest rates, in turn, provide an incentive for continuing capital inflows.

Figure 15: Money Growth and Inflation, 1990-2003



Because (de facto) China's capital account is more open to inflows than to outflows, because the Chinese authorities wanted to maintain the current unitary peg to the dollar at the prevailing (undervalued) exchange rate, and because the Chinese economy overheated earlier and needed tighter monetary policy earlier than the US economy, China has been suffering of late from the classical incompatibility among a fixed exchange rate, open capital markets, and a desire for a more independent monetary policy. The least costly way to overcome that dilemma would be to revalue the RMB.

If China persists in sticking to an undervalued parity for the RMB and keeps accumulating reserves at recent rates, the real undervaluation of the RMB will ultimately be undone by a further increase in China's inflation rate. As David Burton (2004), director of the IMF's Asian and Pacific Department, recently put it:

> "…I do not buy the argument that China's reserve accumulation can be sustained indefinitely without inflationary consequences. Even though the pool of low-wage labor is large, pressure will be put on prices of other scarce factors, including land and skilled labor. And we can already see signs that inflation in China is picking up. In the end, real exchange rates will adjust one way or another."

Federal Reserve Chairman Alan Greenspan (2004) also recently put forth a similar diagnosis:

> "Chinese central bank purchases of dollars, unless offset, threaten an excess of so-called high-powered money expansion and a consequent overheating of the Chinese economy. …the ratio of the money supply to the monetary base in China has been rising steadily for a number of years as financial efficiency improves. Thus the modest rise that has occurred in currency and commercial bank reserves has been enough to support a twelve-month growth of the M2 money supply in the neighborhood of 20 percent through 2003 and bit less so far this year. Should this pattern continue, the central bank will be confronted with the choice of curtailing its purchases of dollar assets or facing an overheated economy with the associated economic instabilities."

A recent Goldman-Sachs study by Kim et al. (2004) addresses the issue of whether the policy adjustments to date are sufficient to reduce China's GDP growth to a more sustainable level (assumed to be 7 to 8 percent). To answer that question, Kim et al. (2004) construct a financial conditions index (FCI) for China that incorporates M2 growth, the real interest rate, and the real effective exchange rate. The Goldman-Sachs researchers report that the FCI does a better job of explaining the past behavior of China's business cycle than do univariate measures such as M2 growth or interest rates. According to the FCI, there has been very little monetary tightening since the third quarter of 2003. Kim et al. (2004, 1) find that "… policy tightening to-date represents only about one-fifth of the total FCI tightening required to bring growth to a more sustainable level." They also find that an exchange rate move would reduce substantially the degree of monetary tightening necessary. More specifically, if there were a 10 percent appreciation of the RMB, M2 growth would need to decelerate by about 370 basis points (off a base growth rate of 19 percent) and real interest rates would need to rise by 140 basis points to bring GDP growth down to a sustainable rate; in contrast, if there is no RMB appreciation, the corresponding figures for M2 growth deceleration and for the increase in the real interest rates rise to 540 basis points and 210 basis points, respectively.

Kim et al. (2004) also examine whether administrative controls and (tighter) fiscal policy could substitute for monetary and exchange rate policy in overcoming the current overheating of the Chinese economy. Their answer is largely in the negative. While administrative measures could potentially buy the authorities some time, the Goldman-Sachs researchers argue that such measures are likely to be ineffective because they do not deal with the root causes of overheating investment and rising inflation (namely, an undervalued exchange rate and real interest rates that are too low). They reason further that while fiscal policy could complement the tightening of financial conditions, fiscal policy cannot bear the main burden of policy tightening: supply-side bottlenecks in transportation and energy production make fiscal retrenchment in infrastructure spending inadvisable, and fiscal tightening is not well suited to rebalancing growth away from the overheated tradable sector to the still underleveraged nontradable sector. In the end, Kim et al. (2004) conclude reliance on administrative controls and delays in FCI tightening raise the risk of a more powerful boom in 2004 and a sharper retrenchment in 2005.

To sum up, the question for China is which form of adjustment of its real exchange rates is preferable? Surely, it is the one that relies on the adjustment of nominal exchange rates. The alternative adjustment path, early signs of which are already in evidence, involves an excessive increase in monetary aggregates and a potentially large rise in the inflation rate; these, in turn, could bring with them a weakening of the banking sector, longer-term damage to China's hard-won gains in antiinflationary credibility, and a higher risk of a hard landing of the real economy later this year or in 2005.[40]

Continued Secure Market Access for China's Exports

China's is now the world's fourth largest exporter. Its exports account for 30 percent of its GDP. The value of China's merchandise exports grew in 2003 by 35 percent, providing a substantial impetus to growth and employment. Investment in export industries yields a capital stock with a ready international market value. Reflecting China's draw as the leading destination among emerging economies for foreign direct investment, foreign affiliates now account for over 50 percent of China's exports, bringing with them valuable marketing, technological, and management skills. It thus makes perfect sense for the Chinese authorities to be concerned about prospects for China's exports.

Many critics of an RMB revaluation have focused on the expected contractionary effect of an exchange rate change on China's trade balance, output, and employment. Implicitly, they are assuming that, absent a revaluation, China could continue for the indefinite future to record rapid export growth and to accumulate ever larger stockpiles of international reserves. I think such a view underestimates the protectionist threat to China's exports associated with continuation of the current regime. As noted earlier, a number of bills have already been introduced into the US Congress calling for imposition of unilateral surcharge on China's exports to the United States if bilateral negotiations are unsuccessful in ending "manipulation" of the RMB. In the trade policy area too, there are long-standing US complaints about, inter alia, alleged counterfeiting of patented and copyrighted products, illegal export subsidies for corn and some other products, use of nontariff barriers against soybean imports, differential VAT application beyond semiconductors, and unreasonably high capital requirements for foreign financial firms.

[40] A few analysts continue to argue that greater flexibility in China's currency regime would bring deflation with it. McKinnon and Schnabl (2003), for example, have argued that if China were either to revalue or to float the RMB, it would soon be caught in a dangerous liquidity trap with the risk of prolonged deflation (a la Japan's recent experience). Central to their argument is the proposition that any appreciation of the RMB would generate further expectations of appreciation. Assuming that open interest rate parity needs to hold between dollar and RMB assets and that China has no influence on US interest rates, they arrive at the conclusion that interest rates in China will be driven (lower) into a liquidity trap to offset the expected appreciation of the RMB. I find their argument unpersuasive on at least two counts. First, it is no appreciation or small appreciation of the RMB that will drive expectations of further appreciation—not a 15 to 25 appreciation that would remove the existing disequilibrium in China's balance of payments. Second, it is going too far to suggest that international integration of capital markets has proceeded sufficiently that Chinese monetary policy is driven exclusively by arbitrage and exchange rate considerations; note that figure 14 suggests that it has been monetary policy developments in China that have had a major influence on China's inflation rate—not exchange rate expectations (e.g., in 1994).

Imagine these complaints about the lack of a level playing field against a backdrop in which the US bilateral trade deficit with China continues to be large, the RMB continues to depreciate in real effective terms alongside the dollar, and China and Japan continue as part of their large reserve accumulation to increase their share of US Treasury securities held abroad. Imagine too that the euro resumes rising strongly against the dollar and growth in Europe remains relatively weak. Throw in the mix also a sharp rise in the yen relative to the dollar. Is this the kind of environment in which protectionist pressures in China's major export markets can confidently be forecast to be held at bay? Is this the kind of environment in which China's own trade liberalization can move ahead, with sufficient domestic popular support? I doubt it.

To sum up, half of China's total exports go to the United States, Euroland, and Japan. Reformers in China fought long and hard domestically to convince skeptics that China's accession to the WTO and full participation in the international trading system would be to China's advantage—not least because of the spur to domestic efficiency that would come with increased imports and greater competition. The question that the Chinese authorities need to ask themselves is whether it pays to put into jeopardy the gains linked to good market access for China's exports and to continued liberalization of China's import regime—for the sake of trying to maintain for a little longer an undervalued real exchange rate that may well be unsustainable anyway for other reasons (linked to rising inflation and greater threats to domestic financial instability). I know what my answer would be.

A High and Sustainable Rate of Economic Growth

As discussed earlier, perhaps the single most popular argument against RMB revaluation is that it would be inconsistent with China's overriding need for rapid economic growth to employ its growing labor force and to ensure social stability (see, for example, Mundell 2004). In my view, this argument is flawed on three principal grounds.

First, the main threat to high and sustainable growth in China comes from an unsustainable credit boom in China itself and from a protectionist backlash against China's exports. If the credit boom is not brought under control soon, the chances increase that the monetary authorities will have to implement large increases in domestic interest rates and in reserve requirements. Such a monetary policy "crunch" would initiate a hard landing for the Chinese economy and depress growth significantly. The undervalued RMB, via its effect on speculative capital inflows and the pace of reserve accumulation, increases the risk that the monetary authorities get so far behind the curve that they have to act more aggressively. Similarly, large-scale, prolonged exchange market intervention in one direction increases the perception in China's major export markets that China is not "playing by the rules of the international monetary system;" this, in concert with longer-standing concerns about unfair Chinese trading practices and with

other global macroeconomic developments, increases the chances of a protectionism response against China's exports.

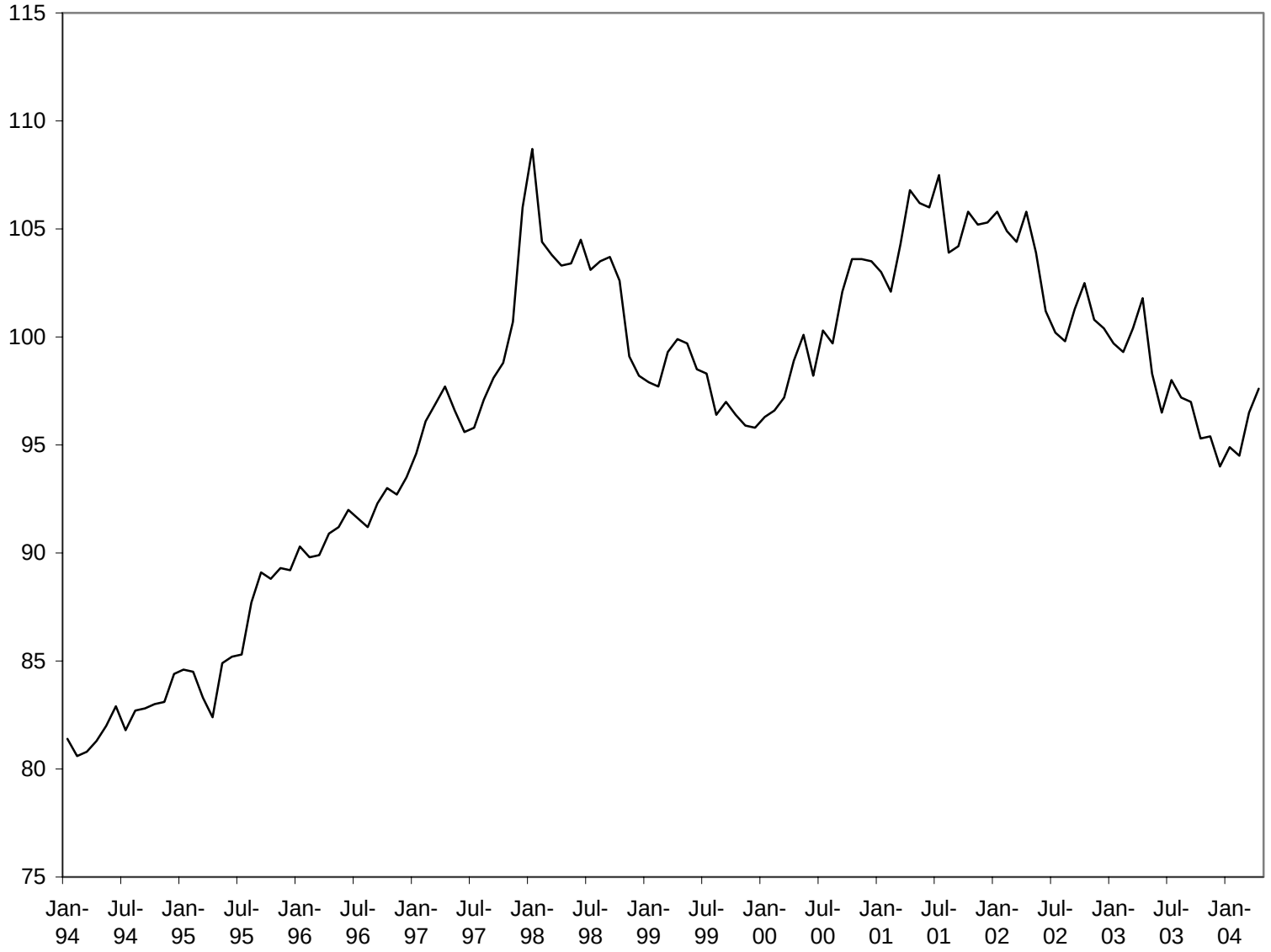
Second, the experience of the 1990s does *not* suggest that real appreciation of the RMB will cause China's growth performance to fall unduly. Between 1994 and early 2002, the real trade-weighted exchange rate of the RMB rose by 29 percent; see figure 16. Yet the average growth rate of the Chinese economy from 1985 through 2001 was 8½ percent, and in no single year did the growth rate fall below 7½ percent. At present, the overheated Chinese economy is probably growing at 10 percent, with bottlenecks increasingly appearing in a number of industries. The sustainable growth rate is clearly less than that. It is hard to imagine that a 15 to 25 real appreciation of the RMB would propel China's growth much below the desired rate. It should also be kept in mind that the exchange rate is hardly the only policy variable affecting aggregate demand in China. Even if Chinese growth did slow down somewhat more than desired in the aftermath of an RMB revaluation, fiscal policy and monetary policy would be available to help support growth, much as they have done when necessary during the past decade.

And China retains many advantages that support its long-term growth performance, including a high saving rate (that allows high investment to be funded domestically), an increasing degree of "openness" of the economy that spurs competition and higher productivity growth,[41] large pools of unskilled and skilled labor, and the opportunity to move a couple of hundred million people from low-productivity jobs to much higher-productivity ones.[42]

Third, a revaluation of the RMB would put more focus within China on the *domestic* sources of economic growth and on what policy changes would be needed to strengthen domestic demand.[43] Chief among those policy changes would be an improvement in the system of financial intermediation and particularly, a strengthening of the domestic banking system. Such an improvement in the domestic banking system, in addition to its domestic virtues, would facilitate the desirable transition to both a more flexible currency regime and to a more open capital account (on the outflow side). In contrast, continued reliance on a strategy of exchange rate undervaluation and export-led growth is likely to lead to increased international tensions with China's trading partners.

[41] As an indicator of this increasing openness, imports plus domestic sales of foreign affiliates operating in China now account for approximately 45 percent of China's GDP.
[42] See Lardy (2003). Brooks and Ram (2003) estimate that hidden rural unemployment in China currently amounts to 150 million. The IMF (2004) argues that further implementation of key structural reforms would allow China to maintain economic growth at rates in the 6 to 9 percent range.
[43] Fernandez (2004) argues that a consistently undervalued currency also impedes industrial restructuring.

Figure 16. Renminbi real trade weighted exchange rate index 1994-2004
(2000=100, data monthly averages)



Source: JPMorgan

Conclusion on China's Interest in an RMB Revaluation

Whatever its earlier virtues, China's exchange rate policy has become increasingly problematic over the past two years. The significantly undervalued RMB is now working against efforts to rein-in an excessive growth of bank lending. It is handicapping efforts to bring an end to overheating of the economy and to keep inflation from rising too much. And it could interrupt the good market access that China now enjoys for its exports and weaken popular support for further trade liberalization within China. The proposition that an RMB revaluation would be antigrowth and antiemployment is based on a fallacious assumption that China's growth can be maintained at very high rates indefinitely without substantial changes in either the exchange rate or interest rates. This is most unlikely. A revaluation of the RMB would actually improve China's prospects for healthy, *sustainable*, noninflationary economic growth.[44]

What Would Be in the Rest of the World's Interest?

An RMB revaluation would also be in the strong interest of the rest of the world. If lack of exchange rate action were to prompt a hard landing for the Chinese economy, China's imports would be expected to fall markedly. This would impact adversely on both partner countries' exports to China and on global commodity prices.

Prasad and Rumbaugh (2004) report that (using purchasing power parity–based GDP), China accounted for about one-quarter of world economic growth during the 2001–03 period. Roach (2004) estimates that in 2003 China accounted for 32 percent of Japan's total export growth, 21 percent for the United States, 28 percent for Germany, 36 percent for Korea, 68 percent for Taiwan, and about 30 percent (on average) for the ASEAN economies. Illustrative of China's impact on primary commodity prices, the IMF (2004) estimates that China's net imports now account for 20 percent of world trade in soybeans, 15 percent in copper, and just under 5 percent in oil. Equally relevant, China accounted last year for 121 percent of the increase in global copper demand; the corresponding percentages for steel, iron ore, aluminum, and primary nickel were 90 percent, 66 percent, 51 percent, and 44 percent, respectively (see Simpfendorfer 2004, JP Morgan). Clearly, the "harder" the landing for Chinese growth, the more negative would be the growth implications for China's trading partners. Economies where exports to China

[44] The same fallacious line of argument applies to the view that an RMB revaluation should be avoided because it will lead to a sizeable decline in the RMB value of China's international reserves. The longer the RMB remains undervalued, the greater the likelihood that the subsequent revaluation will be even larger; meanwhile the undervaluation increases reserve accumulation, so that any subsequent revaluation would apply to a larger base. Unlike many other emerging economies, China has a net foreign asset position and thus does not have to worry that any future devaluations would generate large-scale insolvencies; see Goldstein and Turner (2004) on the measurement and control of currency mismatches.

account for a relatively high share of GDP (e.g., Hong Kong, Taiwan, Malaysia, Singapore, Korea, Thailand, Philippines, Russia, Indonesia, and Japan) would be the most affected.[45]

As suggested in section II, the absence of an RMB revaluation would also make it more difficult to reduce global payments imbalances, especially the correction of the US current-account deficit. A little fuller presentation of that argument goes as follows. The US current-account deficit (projected at 4 to 5 percent of GDP for 2004) is unsustainably large; a sustainable deficit would be about half that big. If the US external deficit is not reduced soon, the likelihood increases that the inevitable adjustment later would be larger and sharper, involving a greater fall in the dollar, a larger rise in US interest rates, and a "hard landing" for the US economy. Such a hard landing would impose significant contractionary spillover effects on the rest of the world (including on China).

To reduce the US external deficit in a more controlled manner, the US dollar needs to depreciate further and US spending needs to decline relative to US output. If the dollar did not fall, the expenditure-switching effects of the exchange rate would be absent, putting more of the burden of adjustment on expenditure-reducing instruments and increasing the cost of adjustment.

Since the peak in early 2002, the dollar has fallen on a real, trade-weighted basis by about 15 percent. But that first round of dollar depreciation has taken place against a relatively limited group of currencies—principally the euro, the Canadian dollar, the Australian dollar, the New Zealand kiwi, and the Chilean peso, and only slightly, the Japanese yen. Notably, the currencies of most Asian emerging economies have generally depreciated against the dollar since early 2002, even though most of them have balance-of-payments surpluses (and increasingly, stronger economic activity). If the burden of adjustment is not more "balanced" across countries and regions during the necessary second round of dollar depreciation, the consequences would be adverse; either the overall dollar depreciation would be too small to correct the US deficit or the concentration of currency appreciation in regions (e.g., Euroland) with relatively slow growth and earlier significant appreciation would slow regional and global growth unduly. Economic policy cooperation, both among the G-7 countries and between the G-7 countries and

[45] See Anderson (2004c). Along similar lines, Huech (2004) concludes that a hard landing of the Chinese economy would impact most adversely on Thailand, Singapore, Malaysia, and Indonesia. Effects on Latin America and the transition economies of Eastern Europe would be more subdued. Among the industrialized countries, Hueck (2004) finds that the negative consequences would be larger for Japan than for either the United States or the Euro-zone. He estimates that a decline of Chinese growth by 6 percentage points would yield a slowdown of global growth by 0.2 percent this year and 0.4 percent in 2005. Eichengreen (2004) argues that the countries that will benefit most from an RMB revaluation are Cambodia, Vietnam, Bangladesh, Sri Lanka, and Pakistan. These are the countries whose exports, broken down by industry, have the highest rank correlation with Chinese exports according to Shafaeddin (2003). These countries are argued to benefit because an RMB revaluation will increase China's relative unit labor costs and because it will induce China to shift into more technologically advanced, higher value-added product lines. He argues that the next tier of Asian countries, like Thailand, will benefit less because China's move up the technology ladder will increase competition with them. Finally, he argues that the region's most advanced economies will feel mainly negative effects of an RMB revaluation.

Asia, might also suffer if global rebalancing via currency realignments did not take place this year; this, in turn, could damage confidence, especially if there were more serious conflicts over currency and trade policies.

Since Asian emerging economies plus Japan account for almost a 40 percent weight in the trade-weighted value of the dollar, since most of these economies have current-account surpluses and strengthening domestic demand, and since their currencies did not participate in the first round of dollar depreciation, it is time for them to play a leading role in the second round of exchange rate adjustment.

China's role in this adjustment of Asian currencies is crucial. For if China doesn't permit the value of the RMB to rise significantly, other Asian economies—fearful of losing competitiveness to China if they acted alone—will be reluctant to allow their currencies to appreciate. In contrast, if the currencies of these Asian economies appreciate simultaneously (although by a somewhat smaller amount than China), each will gain competitiveness vis-à-vis China while limiting the decline in their overall competitive position. The global adjustment process will then be shared across a broader base. Suppose, for example, that China revalued the RMB by 20 percent, that other Asian emerging economies and Japan revalued by 15 percent, and that Euroland allowed the euro to appreciate further by 10 percent. This would produce a trade-weighted depreciation of the dollar of roughly 8 percent. Again, employing the rule of thumb that each 1 percent depreciation of the dollar improves the US current account by $10 billion, this would amount to an $80 billion improvement in the US current account—a nontrivial improvement.

Criticisms of the Rest of the World's Interest in RMB Revaluation

Not everyone sees the current configuration of payments imbalances and real exchange rates as unsustainable. Likewise, not everyone believes that an appreciation of the RMB would be accompanied by the appreciation of other Asian currencies.

Dooley et al. (2003, 2004) have argued that a "revived" Bretton Woods system has emerged in which large US current-account deficits can continue to be financed at low interest rates for say, the better part of a decade. In their model, the financing is done by the Asian emerging economies and by Japan (collectively called the trade account region), who see export-led growth and building a domestic capital stock capable of competing in world markets as part of a sensible development strategy. This strategy is supported by undervalued exchange rates, capital controls, and official capital outflows that take the form of accumulation of reserve assets claims on the United States. The aim of the strategy (from the perspective of the Asian creditor countries) is to provide enough jobs in the export sector to ensure social stability and to overcome the weaknesses of the domestic capital market in allocating resources to their highest economic use. The system is argued to be "sustainable" because the low cost of sterilization

prevents inflation (and real exchange rates) from rising much in the trade account region and because the resulting low interest rates on US external debt are seen (from the US perspective) as less costly than other policy options (e.g., tightening US fiscal policy, putting more pressure on China to revalue the RMB, restricting China's access to the US market, etc). The other player (region) in the game is the capital-account region (composed of Europe, Canada, Australia, and most of Latin America). Private investors in the capital-account region also help to finance the US current-account deficit but these investors are argued to be more concerned with the risk attributes of their foreign investment portfolio than with export-led growth and/or with the value of their nations' currencies; hence, they require higher interest rates and/or a lower dollar to compensate for the risk linked to a rising ratio of US foreign debt to GDP.

The revived Bretton Woods interpretation of existing global payments imbalances is insightful on two counts. It provides a consistent explanation for why the large US current-account deficit has been (so far) easily financed at low interest rates, especially at the short-end of the yield curve. It also demonstrates why it is no longer accurate to regard the larger creditor emerging economies as small players in international finance that take industrial-country interest rates and exchange rates as exogenous variables.

The problem with the revived Bretton Woods story is in the time profile of the dynamics. Specifically, how long can the current configuration of exchange rates and of payments imbalances be maintained: for 6 to 12 months or for 10 years? Dooley et al. (2003, 2004) hint at the latter answer. I doubt it—for three reasons. First, as domestic demand, economic growth, inflationary pressures, and domestic interest rates rise in the Asian creditor countries, the benefits of using large-scale exchange market intervention to maintain undervalued exchange rates fall while the costs rise. As indicated earlier, this process is already most advanced in China, but it is beginning to take root in Japan, Korea, and other Asian creditor countries as well. What counts for maintaining export growth and competitiveness is real exchange rates (not nominal ones), and the growing difficulty of reining in inflationary pressures in a faster growing domestic and global economy will make sterilized intervention less effective as these projected expansions (in 2004–05) go on.[46]

Second, with the recovery of the US economy also gaining momentum, higher US interest rates are likewise on the horizon and are increasingly seen as a necessary policy response to keep inflation risks under control. In this environment, the effect of Asian purchases of US Treasury securities on US interest

[46] Greenspan (2004) offers a similar assessment. For example, in discussing Japan's intervention policies, he argues as follows: "… it must be presumed that the rate of accumulation of dollar assets by the Japanese government will have to slow at some point and eventually cease. For now, partially sterilized intervention is perceived as a means of expanding the monetary base of Japan, a basic element of monetary policy….In time, however, as the present deflationary situation abates, the monetary consequences of continued intervention could become problematic. The current performance of the Japanese economy suggests that we are getting closer to the point where continued intervention at the present scale will no longer meet the monetary policy need of Japan."

rates are apt to be seen as less important. And third, if Asia did continue to accumulate larger and larger shares of US Treasury securities outstanding while also continuing to run both sizeable current-account surpluses and depreciating real exchange rates, I think there would be a trade policy response in the United States (and perhaps in Europe as well). In short, I do not think there is either the incentive or the willingness to run a revived Bretton Woods system for anywhere near a decade.

Eichengreen (2004) has argued that while an RMB revaluation might well lead to revaluations in the Asian region's low-income countries, it will, if anything, induce depreciations in the currencies of the region's most advanced countries (Japan, South Korea, Singapore, and Taiwan). These depreciations are said to take place because an RMB revaluation will result in a deceleration of Chinese growth and a reduced demand for the capital goods exported by these countries to China. Here, depreciations are necessary to maintain export growth to China. The fewer Asian countries follow China's lead on revaluation, the smaller would be the overall depreciation of the dollar linked to an RMB revaluation and the smaller too would be the improvement in the US current account (since it is the larger Asian emerging economies that have the highest weights in the trade-weighted index for the dollar).

Here too, I find the argument unpersuasive. The extent to which other Asian emerging economies would be willing to follow China's lead on a currency revaluation depends in part on their cyclical position. As indicated earlier, many of these economies resisted exchange rate appreciation in 2002 and 2003 because domestic demand was weak. But with domestic demand now strengthening as part of the growing global recovery, the aversion to currency depreciation should be considerably less going forward. In addition, the advanced Asian economies not only export capital goods to China but also compete with China in some product categories in third-country markets; as such, it is by no means clear that these countries will feel only negative effects from a Chinese RMB revaluation. And finally, one can question whether thee effects of an RMB revaluation on China's growth should be compared to a higher-growth-no-RMB-revaluation scenario rather than to a hard-landing, slower-growth, no-RMB-revaluation scenario; if the latter is the more relevant counterfactual, then Eichengreen's exchange rate conclusions would presumably be reversed.

Conclusions on the Rest of the World's Interest in RMB Revaluation

If an RMB revaluation is good for China in terms of promoting sustainable growth, it will be good too for the rest of the world; conversely, an exchange rate policy that would push China into a hard landing (because of its unhelpful contribution to rising domestic financial pressures within China) would likely have adverse spillover effects on the rest of the world's exports to China. In addition, a rebalancing of global payments imbalances—and the avoidance of a hard landing stemming from a disorderly correction of the excessively large current-account deficit in the United States—will be more difficult to achieve

without the appreciation of Asian emerging economies. And China's own exchange rate appreciation is the lynchpin for wider Asian currency adjustment.

V. WHAT KIND OF CURRENCY REGIME WOULD BEST FACILITATE AN APPRECIATION OF THE RENMINBI?

Once it is agreed that an appreciation of the RMB would be both in China's interest and in the global interest, the next operational issue is how that appreciation should be implemented. There are at least four alternative approaches.

The Go-Slow Approach

Under this approach, China would make only minor changes to the status quo. Specifically, a series of trade, capital account, and tax measures would substitute for a medium-size revaluation. The authorities might also consider a very small (2 to 3 percent) revaluation or small widening of the exchange rate band, perhaps in conjunction with a shift to a currency basket. The exchange rate substitutes would be measures like a further reduction in the VAT export rebate, promotion of tourist expenditures abroad, allowing banks to issue more dollar-denominated bonds, easing further surrender requirements on foreign exchange earnings, treating more favorably requests for outward foreign direct investment, and permitting mainland residents and certain financial institutions to purchase agreed amounts of foreign securities. Judging from the small premium in the nondeliverable forwards market for the RMB, the go-slow approach seems to be the one expected by the market over the coming year.

The appeal of the go-slow approach to the Chinese authorities is presumably that it will have only a minor negative effect on China's exports, on its incoming FDI, and on its near-term growth prospects. But as suggested earlier, if the undervaluation of the RMB is substantial—say, 15 to 25 percent—then the go-slow approach is likely to be inadequate for removing the disequilibrium. This in turn means that the go-slow approach will not stop the huge capital inflow and the associated very large reserve accumulation. Indeed, because it would involve such a small effective exchange rate appreciation, the go-slow approach may actually *increase* incoming capital flows since speculators will assume that these small policy adjustments are only a precursor to a larger exchange rate appreciation. Put in other words, the go-slow approach may well create a "one way bet" for speculators and thereby increase speculation on an RMB appreciation. Suffice to say, if that happens, the go-slow approach will not rein the excessive expansion of bank lending or of the monetary aggregates. Hence, it will not reduce materially the threats of domestic financial instability or of a (later) hard landing for the Chinese economy. It will be a case of too little, too late.

Open Capital Markets Cum a Floating Exchange Rate: The US Treasury's Approach

Another suggested prescription is for China to move rapidly to open its capital markets and to freely float its currency. This approach was proposed by US Treasury Secretary John Snow during his visit to Beijing last fall. It is a good idea for the long run but not for now.

China has been increasing its financial integration with the global economy over the past decade and has expressed a desire to increase that integration further in the future, including the adoption of full capital-account convertibility.[47] As financial integration increases, it will become necessary to adopt more flexibility in the exchange rate if China wants to have increasing monetary policy independence for stabilization purposes. According to Lardy (2004a), China's ratio of public debt to GDP—inclusive of contingent liabilities—is already high (in the neighborhood of 85 percent of GDP) and the addition of unfunded pension liabilities would increase it further.[48] As such, the scope for using fiscal policy pump-priming may be more limited in the future than it has been in the past. Monetary policy would thus have to take on more of the domestic stabilization load.

What makes the Snow proposal inappropriate for China's present circumstances is the still fragile state of the Chinese banking system.[49] If China's restrictions on capital outflows were lifted, the risk is that there could be large-scale capital flight and sharp currency depreciation in response to bad news on the banking system or on the economy more generally. Given the unhappy experience of many of its neighbors during the Asian financial crisis, China is understandably reluctant to risk repeating that outcome. Instead, it would rather phase-in the liberalization of its capital account according to the progress made in strengthening the banking system. In addition, the foreign exchange market in China is still dominated by the government; getting a proper price signal will thereby require widening the number of participants in the market, as well as making a series of technical improvements.[50]

Floating the Currency but Maintaining Controls on Capital Outflows

This third approach would retain controls on capital outflows but would introduce a managed float right away. In so doing, it would (appropriately) delink the capital-account regime decision from the currency regime decision. Since I am a long-time supporter of managed floating for emerging economies that have

[47] See Eichengreen (2004) that evidence that China's financial integration with the United States has been increasing over the past half dozen years or so.

[48] Included in Lardy's (2004a) total are Treasury debt; financial institutions' bonds; AMC debt; government debt at the provincial, prefecture, county, and township levels; and NPLs of financial institutions.

[49] Anderson (2004d) also argues that China cannot lift restrictions on capital flows now because Chinese interest rates are not sufficiently flexible to adjust to prevent speculative arbitrage.

[50] The four state-owned commercial banks now account for 95 percent of interbank market trading in foreign exchange. Risk hedging products in the market are very limited relative to enterprises' demand for them. Financial trading (versus trading for commercial purposes) in the FX market is low in China relative to that in the international FX market.

heavy involvement with private capital markets, this is the regime I would ordinarily prefer.[51] But not in this case. The reason is that I fear that a managed floating regime in China will in practice have plenty of "management" and very little "floating." In this connection, it is worth recalling that China classifies its present currency regime as a "managed float"—despite the fact that the nominal exchange rate has been (de facto) held within a very narrow band (against the dollar) for the last eight years or so. If the managed float is heavily managed, the movement in the exchange rate may well be very little different from that in the go-slow approach. In that event, it too would not remove most of the existing disequilibrium, with adverse effects on the quest for financial stability and sustainable growth. It could also damage the case for genuine exchange rate flexibility later down the road by suggesting that managed floating did not live up to its advance billing.

Two-Stage Currency Reform

It was because of the disadvantages of the alternative approaches that Lardy and I (Goldstein and Lardy 2003b) proposed that China implement "two-stage currency reform." The first stage, to be undertaken immediately, would entail three elements: the switch from a unitary peg to the dollar to a currency basket, a medium-size (15 to 25 percent) revaluation of the RMB, and a widening of the currency band (to between 5 to 7 percent, from less than 1 percent). Also, the substantive restrictions on capital outflows would be retained. Stage two, to be implemented after China strengthened its banking system enough to permit a significant liberalization of capital outflows, should be adoption of a managed float.

The two-stage approach does not ask the rest of the world to live with a seriously undervalued RMB until China is ready to lift the restrictions on its capital outflows; nor does it ask China to put its domestic financial stability at risk by undertaking premature liberalization of its capital account.

By implementing immediately a sizeable revaluation of the RMB, the two-stage approach removes the incentives for further large capital inflows and reserve accumulation (since expectations of further RMB appreciation should then be minimal); as such, the external component of the monetary base would no longer be working at cross-purposes (for domestic stabilization) with the domestic component. Exchange rate policy would thus become the ally—not the enemy—of bank reform and of antiinflationary monetary policy. China has a large enough stock of international reserves to manage the new parity during this interim period of stage one (in case there was bad news that put undue downward pressure on the exchange rate).

[51] See, for example, the case for a "managed floating plus" regime in Goldstein (2002).

Research indicates that it is better to exit from an existing parity when the balance of payments is strong and when the initial movement is an appreciation.[52]

Because there would no longer be a need for large-scale, prolonged exchange market intervention in one direction, allegations of currency manipulation would cease.

Since a significant down payment would have been made on currency flexibility in stage one, there would be less risk that a Chinese announcement of a move to "greater currency flexibility" would be more press release than de facto exchange rate flexibility.

By implementing a revaluation of the RMB and improving the incentive for other Asian economies to follow its lead, China would (once again, as during the Asian financial crisis) become part of the solution to global payments imbalances—not part of the problem.

By moving to a currency basket, the stability of China's overall effective exchange rate would be enhanced. Contrary to what is often asserted, the present currency regime does not deliver exchange rate stability to China, as evidenced by the significant volatility that one observes in China's overall, real, trade-weighted exchange rate over the past decade; see figure 16. Also, the currency basket permits a further depreciation of the dollar with respect to the RMB without the need for a series of further parity changes. If China retains its current unitary peg to the dollar, this would not be possible. A move to a currency basket would not require China to diversify massively out of the dollar into the other basket currencies. China can continue to intervene in the most liquid currency (the dollar) and rely on arbitrage to align the cross-rates in the basket.

By widening the currency band, China can gain valuable experience with managing greater currency flexibility at the same time that it is improving the institutional structure and depth of the foreign exchange market.

By adopting a managed float in stage two, China would acquire the monetary policy independence it increasingly needs. As the events of 2003 have demonstrated, the domestic requirements for monetary policy in China can at times be quite different than the domestic requirements in the anchor country (that is, in the United States).[53] Also, it is not necessary for China to have a fixed exchange rate to produce good inflation performance in the future. Instead, it can do what an increasing number of other emerging economies are doing, namely, adopt a monetary policy framework of inflation targeting (along with a managed float).[54] Most studies conclude that countries adopting inflation targeting have been

[52] See Eichengreen and Masson (1998) and Frankel (2004); although the "exit strategy" literature refers to an exit from a fixed rate to a more "flexible" regime, some of its implications would seem to apply also to stage one of a two-stage currency reform.

[53] Because of the increased openness of the Chinese economy, it will also become increasingly difficult for China to control capital flows; this too argues for increased exchange rate flexibility down the road.

[54] Following Mishkin (2000) and Truman (2003), inflation targeting is a framework for monetary policy that constrains discretion in at least four key elements: (i) there is an institutional commitment to low inflation as a

relatively successful in meeting their announced inflation targets, that the track record in meeting inflation targets has been much better than that in meeting announced monetary growth targets, that countries adopting inflation targeting still allow monetary policy to respond to falls in output, and that inflation targeting has rarely been associated with a subsequent loss of fiscal prudence.[55]

In short, two-stage currency reform will permit China to solve its exchange rate policy dilemma.

VI. CLOSING REMARKS

China should not change its exchange rate policies simply because other countries are urging it to do so. But by the same token, the fact that many are recommending a revaluation of the RMB is not sufficient reason for rejecting that policy option if it is the best one available.

The main reason for revaluing the RMB by an appropriate amount is that it increases the odds that China will be able to achieve the economic objectives it has long pursued, namely, domestic financial reform, domestic macroeconomic stability, open market access for its exports, and a healthy, sustainable rate of economic growth. One cannot rule out the possibility that China will be able to rein-in excessive bank lending and rising inflationary pressures without exchange rate action—by implementing administrative controls and (if that fails) by increasing domestic interest rates.[56] But the effectiveness of administrative controls over the medium term is uncertain, and higher domestic interest rates may suck in further capital inflows. If these measures do not do the job, imbalances will eventually grow in size, and there will be a need for more draconian policy adjustments thereafter. Exchange rate action differs from other policy measures in one crucial respect: it addresses simultaneously internal balance (overheating) and external balance (the surplus in the balance of payments). The cost of a hard landing is too high to rely on half measures.

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primary objective of monetary policy; (ii) there is public announcement of a numerical target (or sequence of targets) for inflation, with a specified time horizon for meeting that target; (iii) the central bank is given enough independence from political pressures and/or government directives that it can set the instruments of monetary policy as it sees fit in pursuit of its mandate; and (iv) the conduct of monetary policy is subject to transparency and accountability guidelines, so that the public is informed about both the reasons for monetary policy decisions and the extent to which the objectives of monetary policy have been attained. Jenkins (2004) also suggests that China should move to an inflation-targeting regime for monetary policy, along with a flexible exchange rate. Mundell (2004) takes the opposite view that a fixed exchange rate would be better.

[55] See Truman (2003), Mishkin and Schmidt-Hebbel (2001) for a review of these studies.

[56] Even if administrative controls do prove effective in eliminating the current overheating of the domestic economy, overheating may well reemerge once the controls are softened or lifted. It is also unlikely that that controls will improve China's external imbalance, and reliance on administrative controls would be a step backward in trying to reduce government-directed lending in the banking system. The long-run case for reforming China's currency regime likewise goes much beyond the current cyclical problem. None of this is to deny that **if** the overheating of the Chinese economy were eliminated and **if** the underlying current account surplus were to disappear, then the misalignment of the RMB would need to be reassessed; it will therefore be important to monitor carefully the data over the next two quarters to see if and when there are reliable indications of a "turn" in the Chinese economy.

China’s decisions on its future currency regime should pay primary attention to China’s own circumstances—not to one-size-fits-all prescriptions. Given the still fragile state of China’s banking system, the capital-account decision should be delinked from the currency regime decision. All things considered, two-stage currency reform is better than the alternatives because it reduces China’s current internal and external imbalances, it promotes the right sequencing of reforms within China, it contributes to the timely correction of payments imbalances abroad, and it moves monetary policy independence and capital-account liberalization in the desired direction in the long term.

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