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**China's Exchange Rate Policy: An Overview of Some Key Issues\***

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## I. Introduction

More than two years have passed since China announced a number of changes to its foreign exchange regime on July 21, 2005. During this period, the debate on the pros and cons of China's exchange rate policy, which had begun in earnest several years earlier, intensified. In this paper, we seek to convey the flavor of that ongoing debate by identifying and discussing several key issues.

The paper is organized as follows. This section simply summarizes developments since the regime change in July 2005. Section II then discusses four key challenges facing the Chinese authorities in light of the increasingly undervalued exchange rate and the accelerating buildup of foreign exchange reserves, namely: maintaining a gradual pace of currency reform while trying to use monetary policy as an effective instrument of macroeconomic management; reducing excessive reliance on external demand to sustain economic growth; preventing the defense of the present currency regime from handicapping unduly efforts to strengthen and transform the banks into truly commercial entities; and containing the risk of protectionism abroad in response to the emergence of China's very large global current account surplus. Finally, Section III offers a brief scorecard on the leading options for China's exchange rate policy going forward, contrasting the features of a "stay the course" policy with that of a bolder "three stage" approach that seeks to reduce more rapidly the current undervaluation of the renminbi.

### Recent developments

China's new currency regime ended the fixed nominal exchange rate vis a vis the US dollar, which the authorities adopted at the time of the Asian financial crisis.<sup>1</sup> The official bilateral rate appreciated 2.1 percent, moving the rate from 8.28 to 8.11 renminbi to the dollar. By September 2007 the renminbi:dollar bilateral rate stood at 7.53,

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<sup>1</sup> Many analyses assert incorrectly that China adopted a fixed exchange rate in 1994. On January 1, 1994 the authorities eliminated their dual exchange rate system by raising the official exchange rate to the then prevailing market rate of 8.7. However, the authorities then continually adjusted the official rate until it appreciated to 8.28 in October 1997. That remained the official rate until July 21, 2005.

reflecting a cumulative nominal bilateral appreciation against the US dollar of 9 percent.<sup>2</sup> On a real trade weighted basis, the renminbi appreciated significantly less, only 3.1 percent according to JPMorgan.<sup>3</sup>

China's global current account surplus has expanded substantially over recent years. It stood at \$68.7 billion (3.6 percent of GDP) in 2004, but rose to \$160.8 billion in 2005 (7.2 percent of GDP) and then \$250 billion (9.5 percent of GDP) in 2006 (National Bureau of Statistics of China 2007, 95; State Administration of Foreign Exchange Balance of Payments Analysis Small Group 2007, 8).<sup>4</sup> By 2006 China's absolute current account surplus was, by a wide margin, the largest of any country in the world. Based on data on trade in goods through August, we estimate that China's current account surplus in 2007 will reach \$400–\$420 billion, 12 percent or more of estimated 2007 GDP. A surplus of this magnitude relative to GDP “would be unprecedented for a country of China's size and stage of development” (McGregor 2007).

The build up of official holdings of foreign exchange reserves has accelerated since July 2005.<sup>5</sup> In the 12 month periods through June 2005 and June 2006, reserves rose by \$240 billion and \$230 billion, respectively. But in the 12 months through June 2007, reserves rose by \$391 billion, about three-fifths more than in the previous two

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<sup>2</sup> The rate of renminbi appreciation relative to the dollar has not been uniform over this period. If one takes the annualized one-month change, the rate of appreciation has varied from less than 2 percent (even going slightly negative at one point in 2006) to more than 10 percent more recently (Anderson 2007c).

<sup>3</sup> Since the dollar peak in February 2002, the renminbi has actually depreciated on a real effective basis by between 2 and 8 percent, according to measures of real effective exchange rates published by JP Morgan, Citigroup, and the Bank for International Settlements.

<sup>4</sup> Again, if one goes back to 2001, the expansion of China's global current-account surplus is much larger, as it stood at only 1 percent at that time.

<sup>5</sup> Increases in official holdings of foreign exchange reserves are a downward biased estimate of the magnitude of official intervention in the foreign exchange market for two reasons. First, through the end of 2006 the central government transferred \$66.4 billion in official foreign exchange reserves from the State Administration of Foreign Exchange (SAFE) to the Central Huijin Investment Company (Kroeber 2007). Huijin has used the funds to recapitalize four banks and four insurance companies. Second, SAFE has engaged in swap transactions with state-owned commercial banks that have removed large amounts of foreign exchange from its balance sheet.

twelve month periods. At the end of June 2007, total reserves reached \$1,332.6 billion (People's Bank of China 2007).<sup>6</sup>

It is important to note that the relative importance of the current and capital account surpluses as contributors to the reserve build up has changed dramatically. In 2004, the capital account surplus was more than half again as large as the current account surplus and thus accounted for most of the reserve build up. In 2005, however, the current account surplus was 2.5 times the capital account surplus (National Bureau of Statistics 2007, 95). By 2006, the current account surplus was 25 times the capital account surplus and accounted for the entire reserve build up (State Administration of Foreign Exchange Balance of Payments Analysis Small Group).<sup>7</sup> Thus, for 2005 and 2006, it is incorrect to argue that China's rapid reserve build up was due primarily to large capital inflows rather than a growing current account surplus.

## II. Challenges Facing the Chinese Authorities Under the Existing Currency Regime

Any methodology that defines the equilibrium exchange rate for the renminbi as the real effective exchange rate that would produce "balance" in China's global current account position, or in its basic balance, or in its overall balance-of-payments position, yields the qualitative conclusion that the renminbi is significantly undervalued and probably by an increasing margin over time. As noted in the Introduction, an increasingly undervalued exchange rate and the concomitant accelerating build up of foreign exchange reserves poses several economic challenges for the Chinese authorities. In this section, we discuss those challenges for the independence of monetary policy, for the "rebalancing" of economic growth, for the continuing efforts to reform China's banking system, and to China's external adjustment and its contribution to correcting global payments imbalances.

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<sup>6</sup> China's annual exchange market intervention was roughly 10 percent of its GDP during 2004-06 and based on the pace of reserve accumulation in the first half of 2007 is likely to reach 12 percent of GDP in 2007.

<sup>7</sup> The capital account surplus was \$10 billion and errors and omissions reflected an unrecorded outflow of \$13 billion.

### A. Independence of monetary policy

A fixed exchange rate regime typically imposes a substantial constraint on a country's monetary policy for the simple reason that if domestic interest rates diverge too much from foreign rates, the country could be subject to destabilizing capital flows. This is particularly likely to be the case for small countries that are price takers in international goods and capital markets. Capital controls, in theory, could prevent large inflows (outflows) when domestic interest rates are higher (lower) than foreign rates, but in practice it is difficult to maintain effective controls over time, particularly in an economy that is very open to trade. Even when controls are effective in limiting capital inflows or outflows, a country with an undervalued fixed exchange rate and thus a large current account surplus, will face the challenge of sterilizing the increase in the domestic money supply resulting from the large scale purchase of foreign exchange (i.e. sale of domestic currency). Otherwise, the growth of liquidity in the banking and financial system will lead eventually to inflation that will result in an appreciation of the real exchange rate. Even when sterilization is used successfully to control the growth of domestic liquidity, when the currency is increasingly undervalued the authorities will need over time to sell greater quantities of bonds to acquire the funds necessary for sterilization. This, in turn, eventually causes an increase in the interest rate the central bank must pay on these bonds. Eventually the interest the central bank pays on these bonds could exceed their earnings from their holdings of interest-bearing foreign currency denominated financial assets, imposing a substantial financial constraint on sterilization operations.

Views on the extent to which China's exercise of monetary policy actually is handicapped by its undervalued exchange rate vary widely. One school of thought argues that China diverges substantially from the small open economy in which a fixed exchange rate means that a country's monetary policy is determined abroad. According to Jonathan Anderson (2004) "China can run an independent monetary policy under any renminbi regime." He believes China's capital controls are relatively effective and that sterilization—implemented mainly via the sale of central bank bills and increases in the required reserve ratio for banks—has been successful and can be maintained indefinitely. Thus, increases in China's international reserves—whether generated via a growing

current account surplus, via the capital account (motivated by the expectation of currency appreciation, rising Shanghai property prices, or a booming domestic stock market), or via errors and omissions in the balance of payments “...have had virtually no impact on domestic liquidity conditions” (Anderson 2006a, 19).

Stephen Green of Standard Chartered Bank holds a similar view. He has tracked carefully the sterilization operations of the People’s Bank of China and has shown that even in the first half of 2007, when inward capital flows through various channels increased dramatically, the central bank had little difficulty in retaining control of the growth of the domestic money supply (Green 2007a; 2007b).

The alternative school of thought is that China’s (quasi) fixed exchange rate already has diminished the effectiveness of monetary policy and that this erosion is likely to continue. Thus, increased currency flexibility is needed to reduce the risks of macroeconomic instability, whether of domestic or external origin (Goldstein and Lardy 2006; Lardy 2006; Prasad, Rumbaugh, and Wang 2005). There are several strands to this argument.

First, central bank control of the growth of monetary aggregates in some periods has depended on the reintroduction of credit quotas for individual banks and various types of “window guidance” on bank lending rather than the use of interest rates. These much blunter instruments, rather than market signals, may lead to a much less efficient allocation of credit (Goldstein and Lardy 2004, 7–8; Goodfriend and Prasad 2006, 24).

Moreover, this alternative school of thought believes that the resultant policy mix has left China with an interest rate structure that is far from optimum. On the lending side, real interest rates have been unusually low for a rapidly growing economy. For example, in late July 2007 the central bank adjusted upward the one-year benchmark bank lending rate to 6.84 percent. But inflation, as measured by the corporate goods price index, was running at 5.4 percent, making the real rate less than 1.5 percent in an

economy expanding at more than 11 percent in real terms.<sup>8</sup> This contributes to the underlying excess demand for credit and rapid growth of lending from the banking system.

From the point of view of savers, deposit rates are also quite low. In late July (2007), demand deposits yielded only 0.81 percent and one-year deposits 3.3 percent, in the face of headline CPI inflation of 5.6 percent and a 5 percent tax on interest income (reduced from the previous 20 percent rate at the same time as the upward adjustment in interest rates in late July). Low or negative real returns on bank savings have been a major factor contributing to the boom in the property market and, more recently, in equity prices on the Shanghai stock exchange. By late August 2007, the Shanghai stock index was up more than five-fold compared to July 2005. Companies listed domestically were trading at a relatively lofty 38 times estimated 2007 earnings. Even more problematic, half the growth of earnings of listed companies in the first half of 2007 came not from core operations but from profits from stock trading (Anderlini 2007).

In short, China might be regarded as a prototypical example of the general pattern that keeping exchange rates low requires keeping interest rates low (Eichengreen 2004a). As in other countries maintaining undervalued exchange rates, the Chinese authorities have frequently been slow to raise the general level of interest rates for fear of attracting higher levels of capital inflows that at some point could prove more challenging to sterilize. But one consequence is real estate and stock market booms that heighten financial risk.

A second strand to the argument that increased exchange rate flexibility would enhance the effectiveness of monetary policy is that while the People's Bank of China has successfully sterilized the increase in the domestic money supply associated with the build up of foreign exchange reserves, this entails hidden costs or risks. These include the risk of a capital loss on dollar assets in the event of eventual appreciation of the renminbi (Goldstein and Lardy 2006).

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<sup>8</sup> The corporate goods price index is a more relevant indicator of inflation for firms than the CPI, which in mid-2007 had been pushed up by rising prices for several food items. Food currently accounts for about one-third of China's CPI.

Equally important, the sustained large scale sale of low yielding central bank bills and repeated increases in required reserves both have an adverse impact on the profitability of state banks, hindering their transition to operation on a fully commercial basis (Yu Yongding 2007, 18). In 2003, the central bank, having sold all of its holdings of treasury bonds, began to issue central bank bills to sterilize increases in the domestic money supply associated with its foreign exchange operations. By end June 2007, total outstanding central bank bills held by banks reached RMB3.8 trillion (People's Bank of China Monetary Policy Analysis Small Group 2007, 8). From the middle of 2003 through September 2007, the central bank also raised the required reserve ratio for banks by 50 or 100 basis points on 12 occasions, taking the ratio from 6 percent of deposits to 12.5 percent. The increase in the required reserve ratio compelled banks to deposit with the central bank RMB2.0 trillion more than would have been the case if the required reserve ratio had remained at 6 percent. The yield on three month central bank bills at mid-year 2007 was only about 3 percent and the central bank pays only 1.89 percent on required reserves. Because the benchmark one year lending rate at mid-year was 6.6 percent, the RMB5.7 trillion increase in bank holdings of these low-yielding assets represents a large implicit tax on Chinese banks; indeed, that tax in 2006 was two-thirds of the pre-tax profits of the entire Chinese banking system.<sup>9</sup>

Last but not least, it is one thing to argue that sterilization operations can be continued indefinitely because the interest rate on China's reserve assets exceeds that on its sterilization bills. It is another thing entirely to argue that sterilization can be continued indefinitely while simultaneously reducing China's large external surplus. This is because large-scale sterilization blocks the monetary, interest rate, and relative-price mechanisms that would otherwise operate (via their effects on the saving-investment balance and on net capital flows) to reduce China's external imbalance. Mussa (2007), for example, argues that when large-scale sterilization produces a negative growth rate in

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<sup>9</sup> Abstracting from the issue of risk and assuming holdings of these two categories of assets by the banks at mid-year is equal to the average holding of these assets during the year, the implicit tax on the banking sector can be estimated as the sum of RMB3.8 trillion times 3.6% (the difference between the 6.6% benchmark lending rate and the 3% interest banks receive on central bank bills) plus renminbi 2 trillion times 4.7% (the benchmark lending rate minus the 1.89% interest banks receive on required reserves) or RMB231.4 billion. In 2006 the pretax profits of the entire Chinese banking sector were RMB338 billion (Chinese Bank Regulatory Commission 2007, p. 33).

the net domestic assets of the PBOC while the demand for base money is growing briskly, then that demand for money will be satisfied solely through an increase of the net foreign assets of the central bank—and this is of course equivalent to an increase in international reserves.<sup>10</sup> In short, China can either continue its large-scale intervention and sterilization operations or it can significantly reduce its large external surplus. It cannot do both.

In the end, there is no definitive methodology to measure which of the two alternative views on the independence of monetary policy is correct. It appears to be a matter of judgment. Supporters of the status quo point to studies showing that capital controls continue to provide some degree of independence to China's monetary authority (Ma and McCauley 2007). And they are not persuaded that the resulting interest rate structure leads to excess investment. Despite China's uniquely high rate of capital formation in recent years, some studies show no evidence of a decline in the rate of return to capital (Bai, Hsieh, and Qian 2006). Some go even further, arguing that financial repression is positive since it allows low cost bank financing of infrastructure and other strategic public investments that underpin China's economic expansion (Keidel 2007).

In contrast, those who believe China should allow greater exchange rate flexibility acknowledge that sterilization so far has limited the inflation and credit growth consequences of large and rapid reserve accumulation, but emphasize the negative aspects of the resulting financial repression. It contributes to growing risks in property and stock markets, subsidizes capital intensive industries with adverse effects on the environment and the pace of job creation, and, as will be discussed below, makes it more difficult to transition to a more balanced and sustainable growth path.

## B. Rebalancing economic growth

Since 2004, China's top political leadership has assigned a high priority to rebalancing the sources of domestic economic growth. They envision over time

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<sup>10</sup> For further elaboration of “monetary approach” to the recent evolution of China's balance of payments, see the discussion later in this section on alternative explanations for the post-2003 surge in China's net exports.

transitioning to a growth path that relies more on expanding domestic consumption and less on burgeoning investment and a growing trade surplus (Lardy 2006). Expanding personal consumption is consistent with President Hu Jintao's emphasis both on creating a "harmonious society," and on reducing the pace of growth of energy consumption (associated strongly with investment spending), thus curtailing emissions of greenhouse gas and sulfur dioxide.

China can promote domestic consumption demand as a source of economic growth through fiscal, financial, and exchange rate policies. Fiscal policy options include cutting personal taxes; increasing government consumption expenditures—i.e. outlays for health, education, welfare, and pensions; or introducing a dividend tax on state-owned companies. The first would raise household disposable income and thus consumption expenditures. The second would both increase consumption demand directly and, by reducing household precautionary demand for savings, lead indirectly to an increase in private consumption expenditure. A dividend tax would reduce corporate savings and investment and provide revenues to increase government outlays on social programs.

Financial reform would reduce the extent of financial repression in China by paying higher real deposit rates to savers, thus increasing household income and consumption as a share of GDP. Although household deposits in the banking system as a share of GDP almost doubled between 1993 and 2003, the stream of pre-tax interest earnings generated by these savings declined from an average of about 5 percent in 1992–95 to only 2.2 percent of GDP in 2003. The contribution of interest income to disposable income declined even more since the government introduced a 20 percent tax on interest income in 1999. The declining contribution of after tax interest income to household disposable income over this period accounts for about two-thirds of the 4.8 percentage point decline in household disposable income as a share of GDP. If interest earnings of households after 1995 had grown proportionately with the stock of household bank deposits and the government had not introduced a tax on interest income, the contribution of interest income to household disposable income by 2003 would have been 5.7 percentage points of GDP greater than the actual contribution (Lardy 2007, 13).

Finally, appreciation of the renminbi could contribute to China's desired transition to a more consumption driven growth path for two reasons. First, currency appreciation would reduce the growth of exports and increase the growth of imports, reducing China's external surplus.<sup>11</sup> Second, as already discussed, a more flexible exchange rate policy would allow the central bank greater flexibility in setting domestic interest rates and would thus increase the potential to mitigate macroeconomic cycles by raising lending rates to moderate investment booms. That would presumably lead to a lower average investment rate and thus contribute to the leadership goal of reducing China's dependence on investment as a source of economic growth.

Given the recent developments in China's global current account position, it is hardly surprising that China has become increasingly dependent on the expansion of net exports of goods and services to sustain high growth. Net exports jumped from \$50 billion (2.5 percent of GDP) in 2004 to \$125 billion in 2005 and then \$210 billion (7.5 percent of GDP) in 2006. We estimate that in 2007 net exports of goods and services will reach \$350 billion (10.6 percent of GDP).<sup>12</sup> As a consequence, the contribution of net exports to economic growth has increased dramatically, from an average of less than 5 percent (0.35 percentage points of GDP growth) in the four years 2001 through 2004 to an average of more than a fifth (2.4 percentage points of GDP growth) in 2005–06 (National Bureau of Statistics of China 2007, 36). The contribution of net exports to economic growth in 2007 likely will be even higher.

Although investment growth moderated somewhat in 2005–06, these very large increases in net exports services have meant that the consumption share of GDP has fallen significantly. By 2006 government and personal consumption combined accounted for only half of GDP, almost certainly the lowest share of any economy in the world. China is particularly an outlier in terms of personal consumption, which in 2006 accounted for only 36 percent of GDP (National Bureau of Statistics of China 2007, 35).

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<sup>11</sup> See the discussion later in this section on the effectiveness of renminbi appreciation.

<sup>12</sup> The estimate is based on Ministry of Commerce data on trade in goods through August and the assumption that there have been no major discontinuities in trends in China's trade in services. Data on the latter is published only annually.

In summary, China has yet to transition to a more consumption-drive growth path. Indeed, growth has become even more unbalanced, as reflected in the declining consumption share of GDP. This is not just because the authorities have not undertaken sufficient exchange rate adjustment. They also have neglected to implement the fiscal and financial policies that would support the transition to more consumption driven growth (Lardy 2007).

### C. Potential effects on China's banking system

There is considerable agreement both inside and outside China on the evolution of China's banking system and of efforts to date to reform it. It is recognized, for example, that the high share of bank deposits in household financial wealth and the dominance of bank loans in enterprises' external financing make the performance of the banking system in China more important than in most other economies—with significant impact on, inter alia, the growth of total factor productivity, household consumption, the size of public debt, the transmission of monetary policy, and prospects for capital-account convertibility. Most observers also regard the central elements of China's banking reform—including: large-scale (over \$300 billion) public recapitalization of the state-owned commercial banks to remove a huge overhang of nonperforming loans from bank balance sheets; implementation of tougher asset classification and provisioning guidelines; creation of an energetic bank supervisor (China Bank Regulatory Commission); large reductions in the number of bank branches and bank employees; WTO accession; listing of four big state-owned commercial banks on stock exchanges; and the sale of bank shares to strategic foreign partners—as having moved the system in the right direction.

But the banking system still has some serious deficiencies and faces a number of formidable challenges going forward. Dobson and Kashyap (2006) bemoan the still dominant (albeit declining) share of the state-owned banks in total bank lending and the continuing government pressure on these banks to direct too much credit to less-profitable state-owned enterprises for the purpose of supporting employment. Similarly, Podpiera (2006) concludes that, despite the de jure removal of the ceiling on loan interest rates, pricing of bank loans remains largely undifferentiated and that large state-owned

banks do not appear to take enterprise profitability into account when making lending decisions. And Anderson (2006b) emphasizes the still relatively low profitability of China's state-owned banks, the high dependence of bank profitability on the huge gap between lending and deposit interest rates, and the likelihood that this interest rate gap will narrow markedly in the period ahead as financial liberalization and globalization proceeds.

What is much less widely agreed is how a more appreciated and more flexible exchange rate for the renminbi would affect bank reform. Too often, the effects of currency reform have also been confused with the effects of further capital account liberalization.

One popular view is that going much beyond the existing gradualist approach to currency reform would be too dangerous for the still fragile banking system. Mindful of financial crises in other emerging economies over the past dozen years, proponents of this view argue that a large renminbi appreciation could generate serious currency mismatches for banks and their customers. They worry as well that appreciation could bring in its wake a sharp reduction in growth, making it much harder to maintain the trend decline in banks' nonperforming loans. They point out too that China's financial infrastructure does not yet possess hedging instruments adequate for protecting market participants against a marked increase in exchange rate volatility. Their bottom line is that further strengthening of the banking system—and of the financial system more broadly—is a necessary precondition for bolder currency reform.

Others take a nearly opposite tack seeing bolder currency reform as the ally rather than the enemy of banking reform. They offer the following rebuttals.

China's banks and their customers are much less vulnerable to currency mismatches than were their counterparts in earlier emerging-market financial crises (Goldstein 2007b). After all, China is a net creditor—not a net debtor—in its overall foreign exchange position. Exporters have lower debt-equity ratios than firms in other sectors. Most of China's largest exporters are foreign owned and do not raise the bulk of

their financing in the domestic market. Where the authorities require bank capital to be held in US dollars, reports indicate that the associated currency risk is hedged.

Best estimates suggest that 10–15 percent appreciation in the real effective exchange rate would reduce real GDP growth rate by 1–1.5 percent a year over a two-three year period—hardly a disaster given that annualized economic growth in the first half of 2007 was 11 percent plus, that headline inflation is currently running at 6 percent plus, and that China’s average growth rate over the entire post-reform (1978–2006) period was 9.7 percent (National Bureau of Statistics of China 2007, 23).

The excessive accumulation of international reserves that has accompanied the increasingly-undervalued renminbi has put Chinese monetary authorities in a no-win dilemma, with increasing risk to the banking system.<sup>13</sup>

If the authorities did not sterilize the large increase in reserves, the resulting explosion of bank credit and of monetary aggregates would probably have been so large as to generate a watershed surge in nonperforming bank loans and in domestic inflation. Indeed, even with the ambitious sterilization efforts of the past five years, there were costly bank credit booms in 2003, in the first quarter of 2004, and the first half of 2006. In 2004, consumer price inflation also hit nearly 5 percent, while producer prices rose by 8 percent. With sticky nominal interest rates on deposits and loans, sharp increases in inflation translate into low—and sometimes, negative—real interest rates. This, in turn, can fuel over-investment, slow or even negative growth in bank deposits, and speculative runs in equity and property markets.

Alternatively, the authorities can take the high sterilization route. But then the increase in inflation—that would otherwise appreciate the real exchange rate—is cut off. Similarly, if the growth rate of net domestic assets of the central bank is kept too low in a fast growing economy, then the excess demand for money will induce the very expenditure patterns and balance-of-payments inflows that will perpetuate the economy’s

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<sup>13</sup> Yu (2007b) puts it succinctly: “In summary, to achieve simultaneously the objectives of the maintenance of a stable exchange rate, a tight monetary policy, and a good performance of the commercial banks is impossible.”

external imbalance. Also, as suggested earlier, the need both to place large amounts of low-yielding sterilization bills with the banks and to repeatedly raise bank reserve requirements (which likewise pay low interest rates) imposes a “tax” on the banks that is not captured in standard calculations of the “cost of sterilization.” If the banks absorb this tax themselves, then their profitability—which is already low by international standards—is further compromised; if the banks instead pass on the cost of sterilizing to depositors in the form of lower deposit rates, then depositors have an incentive to put their money elsewhere. Without adequate growth of bank deposits, bank loan growth will ultimately be constrained unduly. And if the authorities rely on window guidance—instead of sterilization—to control how much and to whom banks lend, then the longer-term objective of teaching credit officers how to evaluate creditworthiness and of developing a “credit culture” in China’s banks is undermined.

As indicated earlier, low flexibility of the exchange rate—even with remaining controls on capital flows—also means that interest rate decisions will often be delayed beyond what would be desirable for domestic stabilization purposes—for fear that more decisive interest rate policy would trigger large capital flows that in turn would put undue pressure on the exchange rate. This too is not good for banks. Much of good central banking today involves taking pre-emptive interest rate action to ward off both sharp growth slowdowns and inflation excesses. If, for example, the authorities wait too long to move interest rates in response to an overheated economy, the dose of monetary tightening may have to be much larger than if they acted earlier; the more volatile is the operating environment facing banks, the higher the risk that bank credit growth will be too rapid or too slow. Similarly, if the monetary authorities are constantly tinkering with export taxes, restrictions on incoming and outgoing capital flows, and the pace and volatility of the exchange rate crawl—as substitutes for more independent monetary policy and a more market-determined exchange rate—it is highly debatable that the need for banks and their customers to hedge against this kind of wider policy uncertainty will be less costly than hedging against greater exchange rate volatility on its own.

Champions of the view that bolder currency reform should not be held hostage to the pace of financial sector reform do not maintain that the remaining fragility of the

Chinese banking system is irrelevant for the sequencing of other reforms. But they contend that it is capital-account convertibility—not currency appreciation and flexibility—that should await further strengthening of the banking system (Prasad 2007, Goldstein and Lardy 2003, Williamson 2003). Here the argument is that so long as restrictions on capital outflows are reduced gradually rather than precipitously, then the authorities will have adequate room for maneuver in countering say, an unanticipated setback on bank reform or an unexpected large fall in China’s growth rate. In contrast, if bank fragility is paired with the potential for large-scale capital flight then, as other emerging economies have discovered, the management of such a crisis is inherently much more difficult. Yu (2007b) observes that if Chinese households and firms decided for whatever reasons, rational or irrational, to suddenly increase markedly the share of their assets invested abroad, capital outflow in a short time span could be as much as \$500 billion, with very unpleasant consequences for the Chinese economy.

Under this view, the right sequencing of reform is to continue with bank reform and to move now to reduce significantly both the undervaluation and inflexibility of the renminbi—but to wait until China’s financial system is on stronger footing before opening up too widely the doors on capital outflows.

Looking ahead, the conundrum facing China’s banking system can be summarized as follows. The authorities have indicated, quite sensibly, that they wish to expand the role of commercial paper, bond, and equity markets to diversify (away from banks) the sources of external financing available to firms. In addition, they have expressed an understandable intention to gradually lift restrictions on capital outflows—in part to offer savers a higher rate of return and in part—given China’s large global current account surplus—to take upward pressure off the renminbi. Such moves in the direction of further financial liberalization and globalization are likely, however, to have the competitive effect of reducing over time the existing 350–400 basis-point spread between deposit and loan interest rates—since Chinese investors and savers will then both have a wider set of alternatives to domestic banks. As Anderson (2006b) points out, even a 100 basis point decline in the deposit-loan spread would have wiped out all the profits of state-owned banks in 2005. So how to square this circle? Yes, maybe costs can

be reduced further by larger cutbacks in the number of branches and bank employees. Yes, maybe Chinese banks can increase somewhat the share of profits coming from fees so as to offset partially the fall in interest income. But in the end, two things would seem to be required. First, credit allocation decisions will have to be improved so less income is spent on dealing with bad loans. This in turn would seem to imply that the influence of political factors on loan decisions has to be reduced vis-à-vis the influence of arms-length, commercial considerations. Can this be done other than by further privatization of banks, including probably raising the limit on foreign ownership of banks? We doubt it. Second, the burden increasingly imposed on bank profitability by the sterilization requirements of defending a seriously undervalued renminbi will need to be lowered. Can this be done other than by reducing the amount of intervention in the exchange market? Again, we doubt it.

#### D. External adjustment, global imbalances, and the rising risk of protectionism

China's exchange rate policy also carries important implications for China's own external adjustment, the correction of global imbalances, public policy toward sovereign wealth funds, the operation of the international exchange rate system, and efforts to maintain forward momentum on globalization. In this regard, among the most interesting issues in the ongoing debate are the following: (i) given the wide range of estimates of renminbi misalignment, can one be confident that the renminbi really is seriously undervalued; (ii) if China did implement a sizeable revaluation/appreciation of the renminbi, would it be effective in reducing substantially China's large global current account surplus; (iii) would the costs of a large renminbi revaluation be prohibitively high; (iv) what explains the large surge in China's current account surplus between 2004 and 2007; (v) will the effect of renminbi revaluation on global imbalances be larger (smaller) than sometimes assumed because it will (not) lead to sympathetic revaluations in other Asian and emerging market currencies; (vi) with China's reserves now topping \$1.3 trillion and with the recent establishment of its own sovereign wealth fund, what will be the impact and what principles should guide the fund's operations; (vii) should the IMF have regarded China's large-scale, prolonged, one-way intervention in exchange markets since 2003 as currency manipulation and how should IMF exchange rate

surveillance be conducted going forward; and (viii) are several currency bills now before the US Congress a serious threat to open markets or are they a “third best” policy response to a beggar-thy-neighbor exchange rate policy?

(i) Renminbi undervaluation

Some argue that China should not have been expected to appreciate earlier and more forcefully because no one really knows the “right” or “equilibrium” exchange rate.<sup>14</sup> They note that existing studies yield a wide range of estimates of misalignment. An IMF study by Dunaway and Li (2005), for example, maintains that estimates of renminbi undervaluation range from zero to nearly 50 percent.<sup>15</sup> Furthermore, they argue that a more definitive answer is unlikely to emerge soon because of data problems, instability in the underlying relationships, and lack of consensus on the proper methodology.

Others (Goldstein 2004, 2007b) find the evidence in support of a large renminbi undervaluation increasingly robust and, by now, simply overwhelming. They note: that China’s global current account surplus has grown without interruption from 1 percent of GDP in 2001, to 9 percent of GDP in 2006, to an estimated 12–13 percent of GDP in 2007; that China’s net capital-account position has usually also been in surplus over this period, sometimes becoming even larger relative to GDP than the trade-balance surplus; that China’s real effective exchange rate has actually depreciated on a cumulative basis over this period (see note 3)—notwithstanding the 9 percent nominal appreciation of the renminbi relative to the US dollar; that China’s monthly intervention in the exchange market has been persistent, one-way, and growing in size; and that China’s domestic economy has been growing at or above its potential.

Taking these developments together, any reasonable back-of-the envelope calculation aimed at finding the level of the renminbi that would eliminate China’s global current account surplus would generate a large (and growing) estimate of renminbi

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<sup>14</sup> Some in this camp (Mundell 2004) also maintain that a fixed exchange rate has served China well, that it could continue to do so, and that claims of “overheating” of the economy are misguided.

<sup>15</sup> Similarly, Ahearn et al. (2007) find that renminbi appreciation of 5-25 percent would be required to reduce China’s global current-account surplus by between 3 ½-6 ½ percent of GDP.

undervaluation. A variety of studies suggest that each 10 percent change in China's real effective exchange rate is associated with a change of 2–3.5 percent of GDP in China's global trade balance (Goldstein 2007). Thus eliminating China's global current account surplus would require a 35–60 percent real appreciation of the renminbi. Just to cut the surplus in half (say, reducing it by 6 percent of GDP) would imply a 17–30 percent undervaluation. Of course, in earlier years (say, in 2003 and 2004) when China's global surplus was much smaller, the implied undervaluations would be lower—but still not small. The fact that China's large current account surpluses have occurred when the domestic economy has also been booming means that China is in what James Meade (1951) called a “nondilemma” situation, where exchange rate appreciation moves the economy simultaneously closer both to external and to internal balance.

Those who claim that the renminbi undervaluation verdict is clear cut concede that the relevant empirical literature has spawned a wide range of estimates but argue that this reflects largely a lack of comparability across studies. Some studies (Goldstein and Lardy 2006) assume that the objective is to eliminate entirely China's external imbalance while others (Ahearn et al. 2007) assume that only part of this imbalance should or could be eliminated within the specified time period. Some authors assume that exchange rate revaluation would be undertaken on its own, while others assume that revaluation would be paired with a macro policy that maintained constant the level of aggregate demand; in the former case, the contractionary effect of revaluation reduces the demand for imports in the second-round, while in the latter case, there is no second-round effect on import demand. Some studies opt for modeling explicitly the high import-content of China's exports, while others ignore it; when the import content of exports is taken into account, renminbi revaluation leads to a smaller export-price increase than when it is not so assumed. Some studies assume higher export and import price elasticities of demand for China's trade than do others. Because China's imports and exports have been growing faster than GDP, the size of its traded-goods sector is larger now than it was even half a dozen years ago. This means that a smaller exchange rate change will be needed, *ceteris paribus*, to achieve a given trade-balance target than when the traded goods sector was smaller; this, in turn, can produce different estimates of renminbi misalignment when the

studies are done at different points in time (even when the same methodology is employed). Some authors obtain point estimates that show very large renminbi undervaluation but do not regard the confidence level on that estimate as sufficiently strong to warrant an undervaluation conclusion; other authors obtain similar estimates and accept the point estimate. And finally, there are several methodologies for inferring exchange rate misalignments—ranging from the macroeconomic balance approach, to various structural models of exchange rate determination, to a whole family of purchasing-power-parity models—and different authors have not always chosen the same methodology—even if some of those are regarded as more reliable than others.<sup>16</sup>

The contention of the large undervaluation school is that were one to “standardize” the misalignment exercise and to restrict attention to the better methodologies and the more reasonable assumptions, the large undervaluation verdict would emerge more clearly. They also point out that some of the initial agnostics on renminbi undervaluation have recently come round. In its 2004 Article IV consultation report for China, the IMF (2004, 12) concluded that “it is difficult to find persuasive evidence that the renminbi is undervalued.” Two years later the Fund’s conclusion was quite different, namely, that “All of these developments point to the currency (the renminbi) as being undervalued and that this undervaluation has increased further since last year’s Article IV consultation” (IMF 2006a, 17).

#### (ii) Effectiveness of Renminbi appreciation

Another bone of contention is whether a renminbi appreciation would have much effect on China’s global current account position. Those in the pessimistic camp cite low wages and high profit margins (that would allegedly permit exporters to absorb the cost of appreciation without raising export prices), a high import content of exports, and low

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<sup>16</sup> See IMF (2006b) for a discussion of different methodologies for assessing misalignment of exchange rates.

price elasticities of demand for imports and exports, as reducing the effectiveness of exchange rate action.<sup>17</sup>

The optimists see it differently. They agree that manufacturing wages in China are very low relative to those in say, the United States but point out that Chinese productivity is also very low vis-à-vis the US level—and it is the combination of the two (unit labor cost) that matters for competitiveness (Lardy 2006a). If wages alone mattered why is Germany, with the highest wages, the world's largest exporter? Moreover, why are some very low wage countries extremely modest exporters? Profit margins in China's traditional export industries (e.g., textiles, electronics, machinery, toys, sporting goods, furniture) are modest (i.e., in the low to mid-single digits), reflecting strong competition in domestic and external markets. True, profit margins are higher in the newer and faster growing export industries (e.g., aircraft parts, autos, ships, telecom equipment). But there is so far little evidence that profit margins move systematically to offset the effects of nominal exchange rate changes on export prices. Anderson (2007b) observes that broad indices of China's export prices have been rising over the past two to three years, in contrast to falling export prices over the previous three year period.

The import content of exports in China is high—on the order of 30–35 percent. As suggested earlier, this implies that (unilateral) renminbi appreciation will lower the cost of imported inputs and produce a smaller increase in export prices than if exports had no import content. But this does not imply that renminbi appreciation would be ineffective—only that the exchange rate change needs to be larger to achieve a given trade-balance objective. China's role as a regional processing center does distort the meaning of China's bilateral trade imbalances with some industrial countries like the United States, since goods previously exported directly from some supplier-countries now get assembled in China and thus show up in China's exports. But these imported inputs wash out when you look at China's global trade imbalance.

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<sup>17</sup> Some (Bosworth 2004) also argue that there is no obvious channel by which a renminbi revaluation would correct China's saving-investment imbalance.

Because the manufactured goods that China exports are typically quite price-elastic (around the world) and because the goods that China imports are also produced in China, it is highly likely that the Marshall-Lerner conditions for an effective revaluation are satisfied. Although econometric studies of China's trade flows are still limited and have to contend with poor price data, relatively short sample periods, and large structural and cyclical changes, more and more researchers are finding significant price elasticities of demand.<sup>18</sup>

Optimists also make the debating point that if the demand for China's exports really was price inelastic, then the authorities should hardly be fearful of revaluation since higher export prices would then increase—not decrease—export revenue.

### (iii) The costs of a more appreciated Renminbi

Even if a significant renminbi appreciation/revaluation would be effective in reducing China's large external imbalance, some analysts—including many in China—claim that the internal cost of such a policy would be too high in terms of China's growth, employment, and social stability.

The counter-argument that the costs of a large renminbi appreciation should be manageable stresses the following observations. The last time China's real effective exchange rate exhibited a large real appreciation, namely, between 1994 and early 2001 when it appreciated by nearly 30 percent, China's growth did fall but still averaged 9 percent per year and in no single year did growth drop below 7.5 percent. As mentioned earlier, recent estimates (Shu and Yip 2006; Anderson 2006a) point to a 10 percent real effective revaluation of the renminbi lowering economic growth by roughly 1 percent a year (over a two or three year period). If even this modest decline in growth were seen to be too contractionary, revaluation could be paired with an increase in government

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<sup>18</sup> See Goldstein (2007b) for a summary of the results of many of these studies. In view of the difficulties of estimating the price elasticities for China's trade, some analysts choose instead to simply assume reasonable values for those elasticities. For example, Cline (2005) assumes that the import and export elasticities of demand are each unity. Anderson (2006a) assumes that the sum of the elasticities is just slightly above one.

expenditure directed at health, education, and pensions; reducing the need for precautionary savings and contributing to a reduction in China's external imbalance.

Employment growth has been noticeably slower during the recent period when investment and export-led has been most pronounced than during the period when China's economic growth was oriented more toward consumption (Lardy 2007). Employment in China's export industries accounts for roughly 6 percent of total employment—not 30 or 40 percent (Anderson 2007d). Tens of millions of Chinese workers lost jobs when state-owned enterprises were reformed in the mid to late 1990s; if there was no social meltdown during that reform, why should there be one after a renminbi revaluation? If the concern is with income losses in low-margin traditional export industries, why not introduce a trade adjustment assistance package along with a renminbi revaluation? Since China's exports are produced more in the high-income coastal provinces than elsewhere, exchange rate action that reduces profitability in export industries should not exacerbate income inequality in China. And if the concern is that farmers and other rural inhabitants will be hurt by the lower cost of food imports following a revaluation, why can't the authorities take fiscal measures to cushion the impact of revaluation on that sector's standard of living?

#### (iv) Explaining the surge in China's global trade surplus

One of the yet unsolved mysteries on the external front is what was primarily responsible for the upsurge in China's global trade (and current account) surplus between 2004 and 2007? How do we account for a quadrupling of net exports of goods and services as a share of GDP, from 2.5 percent in 2004 to an estimated 10.6 percent in 2007.<sup>19</sup> Several hypotheses—not mutually exclusive—have been put forward, with different implications for China's exchange rate policy.

One hypothesis, highlighted by Lardy (2007), is that differential growth in total factor productivity between traded and nontraded goods has made Chinese goods far more competitive in international markets than is suggested by conventionally calculated

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<sup>19</sup> As noted earlier, the explosion of the global current-account surplus was similar—from 3.6 percent of GDP in 2004 to an estimated 12-13 percent of GDP in 2007.

real effective exchange rates. In short, while China's conventionally calculated real effective exchange rate changed little over this period, appropriately measured the renminbi appears to have depreciated significantly since June 2005. The "real" adjustment in the JPMorgan index is based on the rate of core prices for finished manufactured goods, excluding food and energy, for the country in question compared with its trading partners.

But this methodology appears to be a poor measure of the change in the prices of China's exports. Despite a 9 percent appreciation of the renminbi vis-a- vis the US dollar between June 2005 and August 2007, the price of Chinese goods imported into the United States was basically unchanged.<sup>20</sup> The available evidence does not support the view that Chinese firms producing exports cut their margins in order to avoid passing through the renminbi appreciation to US consumers. If anything profit margins in Chinese industry, which produces almost all of China's exports, have increased (World Bank 2007, 7). The most likely explanation is that productivity growth in those industries exporting to the United States was sufficiently large that firms could more than absorb the adverse effect of the rising value of the renminbi on their earnings. The combination of a nominal appreciation of the renminbi vis-a-vis the dollar of about 9 percent and unchanged prices of Chinese imports in the United States suggests that total factor productivity growth in China's export industries was 9 percent between June 2005 and August 2007. Over this period US prices rose about 7 percent. Since the prices of Chinese exports fell 9 percent while prices in the United States rose 7 percent, the Chinese currency would have had to appreciate in nominal terms against the dollar by about 16 percent to maintain the initial level of competitiveness of Chinese exports in the US market. But the rate of nominal appreciation was only about half that pace, so Chinese goods became much more competitive vis a vis import competing goods made in the United States. And the prices of imports into the United States from countries other than China rose 10.9 percent over the same period, so Chinese goods gained even greater competitiveness vis-a-vis alternative external suppliers to the US market than they did

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<sup>20</sup> Prices of Chinese imports in August 2007 were 0.2% less than in June 2005, according to the estimates of the International Price Project (US Department of Labor, Bureau of Labor Statistics). These estimates are not based on unit values of imports but take into account the changing composition and quality of import goods.

against US domestic producers (US Department of Labor, Bureau of Labor Statistics). A key implication of this “hidden Chinese export productivity” story is that were recent productivity trends to continue, the renminbi would need to appreciate by a much larger degree against the US dollar than in the recent past if exchange rates are going to contribute to a deterioration in China’s competitive position vis-à-vis the United States.

Some find this hidden productivity story unpersuasive because it covers only China’s exports to the United States (about a third of total exports) and these may not be representative (e.g., on product mix) of total Chinese exports. Anderson (2007b), for example, argues that China’s export prices for both traditional exports (like clothing and toys) and IT electronics have been rising by 3–4 percent a year since 2004—whereas they were falling by 3–4 percent a year during the 1995–2003 period.<sup>21</sup> He also wonders why if rising productivity is responsible for the net export surge we haven’t seen more of a continuous move toward more domestic sourcing in labor-intensive export industries. He speculates that China’s now large export market share in some products (toys, footwear, and other low-end products) permits Chinese exporters to pass on their increased costs to overseas buyers. This cannot go on indefinitely if rising wages and renminbi appreciation persist, but he thinks it has been going on recently.

A second hypothesis is that the large and growing trade surplus is primarily cyclical, with little relation to exchange rate developments. Anderson (2007c) argues that any good theory about China’s surging trade surplus has to confront several facts, namely: that the shift in the trade balance occurred primarily in the heavy industrial sector, that it involved more of a collapse in imports than a jump in exports, that the net export shift was highly correlated with domestic demand swings, that the swing was concentrated in metals and industrial materials, and that profit margins in heavy industry fell during the initial increase in the trade surplus. His explanation is as follows: the 2000–2003 period witnessed a boom in property, housing construction, and auto sales, brought on by rapid structural changes in home ownership and new consumer finance

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<sup>21</sup> Anderson’s analysis is based on Chinese export price data and Hong Kong data on prices of goods of Chinese origin that are reexported from Hong Kong. Unlike the price data analyzed in Lardy (2007), both of these are calculated from unit values.

instruments; with sharply rising profits in industrial materials and machinery sectors, local governments and state enterprises invested heavily in smelting, refining, and machinery production. The boom soon turned into a bubble, and by early 2004, the authorities drastically curtailed lending for real estate and construction; but the central government couldn't slow the pace of investment in heavy industry. As a result, productive capacity grew much faster than domestic demand for the next three years; as profits fell, China began to cut its surplus capacity aggressively, by cutting way back on imports and by becoming a sizeable net exporter in a few industrial categories. In short, it is as if a large stock of new excess capacity sprang out of the ground and subsequently played havoc with China's balance of payments. Anderson expected the excess capacity problem to soon abate. Indeed, as late as March 2007, Anderson (2007a, 35) argued that "China's trade surplus is already peaking and should begin to fall by the latter part of the year." He saw China returning to a more balanced trade position in the course of 2008 and 2009.

But questions also arise about the "cyclical, excess capacity" view of the surge in China's trade balance. Most fundamentally, unless one understands what is driving investment decisions in what later become industries with excess capacity, it is difficult to either forecast when excess capacity will contract/expand or to apportion influence among many plausible factors. Illustrative of the former point, writing in July 2007, Anderson (2007c) acknowledged that there was no sign whatsoever of stabilization of the trade balance, that excess capacity in the steel industry (which accounted for about a quarter of the trade surplus surge) showed no sign of a slowdown, and that after-tax profit margins in overall heavy industry had risen—in part because Chinese firms were doing a better job of exploiting export opportunities. More striking, even though the exchange rate allegedly had practically no role in the origin of the net export surge, Anderson (2007b, 9) recently recommended renminbi appreciation "... as the only real tool left available to the authorities to offset the effects of excess capacity creation ..."

But then how do we know that Chinese producers didn't take the expected level of the exchange rate into account when making investment in tradable goods industries; after all, an undervalued exchange rate offered the safety valve of better access to

overseas markets if domestic demand proved less buoyant than they expected. Similarly, doesn't an increasingly undervalued exchange rate and the spur it gives to exports help explain why investment and profits have slowed much less in this investment cycle than in earlier ones? And why should the same Chinese producers who allegedly paid no attention to the exchange rate in 2004–06 in making investment decisions now do so if the renminbi appreciates faster this year and next?

Yet a third explanation for the post-2003 net export surge comes from Mussa (2007). He notes that China was operating under a fixed exchange rate regime until July 2005 and that it has been in a quasi-fixed regime since then. He maintains that application of the monetary approach to the balance of payments can help to explain not only the net export surge but also the corresponding and seemingly bizarre improvement in China's national saving-investment imbalance despite exceptionally rapid growth in investment, as well as the large and undesirable distortion of investment and output toward the tradable goods sector of the Chinese economy.

Mussa (2007) observes that China has an exceptionally high ratio of base money to GDP, about 37 percent of GDP in 2006, compared with about 7 percent of GDP in the United States. With nominal GDP growing at a very rapid rate of 16 percent, annual growth in demand for base money in China is large, about RMB 1.24 trillion in 2006 (almost 7 percent of GDP); in contrast, the increase of base money in the United States amounted to less than 0.1 percent of GDP. Unlike the United States and many other countries, however, the Chinese central bank does not expand its holdings of net domestic assets to meet the rising demand for base money. Instead, the central bank reduces its net domestic assets (to more negative levels) in order to "sterilize" the monetary effect of a substantial fraction of foreign exchange reserve inflows and to keep the domestic money supply from exploding. The result is that Chinese residents are forced to reduce their spending below their income by an amount corresponding to the central bank's accumulation of foreign exchange reserves, less private capital inflows. For 2006, this amounted to 9 percent of GDP.

The reduction in spending, however, is not uniformly distributed over the Chinese economy. Businesses, especially in the tradable goods sector, may feel little or no constraint on their investment spending because they enjoy favorable access to domestic credit and to foreign capital inflows. In contrast, Chinese consumers (and many of the businesses that serve them) do not enjoy such favorable access and their spending is seriously constrained. The result is that overall domestic spending is suppressed and the spending that does take place is strongly tilted toward investment, particularly in tradable goods. Favorable access to capital operates as a subsidy to output and investment for firms that enjoy it, especially for capital-intensive firms in the tradable goods sector. Strong investment by these firms translates into rapidly rising labor productivity and falling unit labor costs. This, in turn, means—as emphasized above in the hidden productivity hypothesis—that the real effective exchange rate of the renminbi is significantly more depreciated than appears from standard indices that utilize relative consumer price levels rather than the economically more meaningful comparisons of relative unit labor costs in tradable goods industries. And, this exchange rate effect is further enhanced by policies that keep domestic energy prices low and impose limited controls on pollution, thereby creating effective subsidies to energy-intensive, pollution generating enterprises, which are heavily present in the tradable goods sector.

The main policy implication of the monetary approach is that so long as the authorities continue to engage in heavy sterilization while economic growth and demand for base money are increasing rapidly, they will perpetuate the large external surplus by creating a monetary disequilibrium.<sup>22</sup> If they want to reduce the large surplus, they should cut back both on sterilization and on their massive exchange market intervention.

This monetary explanation too leaves some things unanswered. Would the predictions of the monetary approach also be consistent with reserve, current account, and investment behavior in China over a longer time period? Similarly, would that monetary approach be helpful in explaining the variation in international reserves in other

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<sup>22</sup> The thrust of the argument here is similar to the conclusion that large-scale sterilization of reserve increases perpetuates external disequilibrium for a country with a large capital inflow because it prevents that inflow from lowering the interest rate and thereby discouraging further capital inflows.

Asian economies, some of which have had even larger sterilization operations than in China? If an excess demand for base money in China led to a weakening of consumption demand during the last few years, why was the lower rate of import growth concentrated in heavy industrial sectors? Is this postulated excess demand for base money in China consistent with the observed saving behavior of the corporate sector over this period?

(v) Renminbi revaluation and global imbalances

Another vigorously debated question is the contribution that a renminbi appreciation could or should make to the correction of global payments imbalances, particularly the large US current account deficit, which hit \$811.5 billion (6.15 percent of GDP) in 2006 and is running at just a slightly reduced ratio this year.

One school maintains that China's potential and fair contribution to this international problem is quite limited. After all, China's weight in the Federal Reserve's trade-weighted index for the dollar is about 15 percent. A unilateral 20 percent renminbi appreciation by itself therefore would translate into only a 3 percent depreciation in the trade-weighted dollar—a move that would perhaps reduce the US global current account deficit by roughly \$40–55 billion dollars—hardly a major contribution. The United States should instead raise its own low national saving rate—and particularly decrease government dis-savings over the medium to long run—if it wants to significantly improve future US current account deficits and future US net foreign indebtedness (Roach 2007). Claims that foreigners will at some point soon tire of adding dollar assets to their portfolios underplays the decline of “home bias” in investment decisions, the attraction of the US capital market, and the moderate size of the US external financing needs relative to the large stock of financial wealth in US trading partners (Cooper 2005).

The large bilateral US trade deficit with China should not be a matter of concern since it is a country's global current account position that matters; also, the share of the US global trade deficit with emerging Asia hasn't changed much over the past several years: the share with China has increased while the share with other Asian economies has fallen—just what you would expect from China's emergence as a major regional

processing center. A renminbi revaluation will merely induce a substitution away from Chinese products toward other low-cost producers, with little effect on total US imports.

China's large global current account surplus and the current renminbi exchange rate cause no major damage either to the United States or to the global economy. The US economy has been operating at full employment; the trend decline of employment in US manufacturing has been long running (well before any evidence of renminbi undervaluation); US consumers benefit from low-cost imports from China; and US borrowers benefit from low interest rates that would otherwise be higher if China were not purchasing as many US government and other dollar denominated securities in its exchange-market intervention operations. If renminbi appreciation were to generate a wider and rapid depreciation of the US dollar, there might not be enough slack in the economy to accommodate the expansion in US net exports without generating inflationary pressures. If there is a competitive benchmark for currencies in Asia, it is more apt to be the Japanese yen than the renminbi (Park 2007). Other countries benefit from the rapid growth of their exports to China. And China also benefits from this so-called Bretton Woods II arrangement since the low value for the renminbi assists China in dealing with its formidable employment problem and in attracting enough foreign investment to build a world-class capital stock for tradable goods (Dooley et al. 2003).

The opposing view sees much less justification for complacency about global payments imbalances or the undervalued renminbi.

True, a unilateral revaluation of the renminbi wouldn't much affect the real effective exchange rate of the dollar. But China is a competitive benchmark for many others and if other Asian economies follow China's lead by revaluing their currencies, the effects on the dollar and on the US current account deficit would be anything but trivial. Emerging Asia plus Japan has roughly a 40 percent weight in the Fed's trade-weighted dollar index. A 20 real appreciation in all Asian currencies would translate into an 8 percent real depreciation of the dollar and probably a \$100–140 billion improvement in the US current account deficit (Goldstein 2007). This is not small potatoes if the objective is to cut the US deficit, say, roughly in half. If China and Japan don't act to

remove the currently large undervaluation of their currencies, other Asian economies that have allowed their currencies to appreciate significantly (e.g., Korea) might reverse course and use large-scale intervention to lower the value of their currencies (Park 2007). The dollar is still overvalued by a considerable degree (Obstfeld and Rogoff 2006). Failure of Asian currencies to share appropriately in the needed real effective depreciation of the dollar would imply either of two undesirable scenarios: either other nondollar currencies—like the Euro, the Canadian dollar, and the Australian dollar—would have to appreciate unduly when they already have made an important contribution (having risen in real effective terms since the dollar peak in February 2002 by 26, 20, and 48 percent, respectively), or the total amount of dollar depreciation would be too small to produce a meaningful reduction in the US global deficit (Truman 2005). The fact that financing of the US global current account deficit has relied heavily on official lenders and on short maturity instruments—with much of the proceeds going to stoke consumption rather than investment—ought to be regarded as worrisome (Summers 2005).<sup>23</sup> Recent turbulence in global financial markets linked to the US sub-prime market illustrates both how quickly risk perceptions can change and how financial contagion can operate. A disorderly correction of the US dollar—coupled with a much lower demand for US equities—could push the Federal Reserve into a thorny dilemma where higher US interest rates were needed to defend the dollar while lower interest rates were called for to limit the contractionary effects of an increasingly weak housing market. And if the US economy does enter or get close to a recession, adverse effects on US trading partners would be widespread. A renminbi revaluation will not necessarily result in a switch of US imports to other low-cost emerging economies if those emerging economies also allow their currencies to appreciate.

Yes, the United States should implement a credible medium-term plan for fiscal consolidation that would help raise the low US national saving rate. But satisfactory resolution of the global imbalance problem should not be an “either or” choice. We need both US fiscal action and a better alignment of key exchange rates, including the renminbi, to obtain the correction of global payments imbalances in the least costly way

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<sup>23</sup> Setser (2007), writing in early October 2007, reports that almost all of the financing of US current-account deficit over the past four quarters was financed by central banks in developing countries.

in terms of economic growth or inflation for both deficit and surplus countries alike (Mussa 2005).

The market for US government securities is very large, deep, and liquid. When Japan suddenly ceased its exchange market intervention in the second half of 2004 after having intervened (cumulatively) to the tune of about \$320 billion in 2003 and the first quarter of 2004, we did not see a major run-up in US interest rates.<sup>24</sup> Emerging economies that have an export basket broadly similar to that of China do suffer a competitive disadvantage from the “export subsidy” (to echo Fed Chairman Bernanke’s (2006) characterization) that a highly undervalued renminbi imparts to China; some US industries are adversely affected as well. Seeking to maintain a highly undervalued renminbi as a means of implementing an investment and export-led growth strategy is not a sensible development plan for China (Lardy 2007), and many of the assumptions made in support of the Bretton-Woods II story (e.g., the importance of the export sector in growth and employment, the role of FDI in financing total investment, the share of the United States in total trade, the ownership of export industries) simply do not fit the specifics of the Chinese economy (Goldstein and Lardy 2005a).

Recent experience with the effect of the renminbi on other countries’ exchange rates in Asia would seem to contradict two polar assumptions. In the Bretton Woods II thesis, it is argued that Asian economies as a group share a strong self interest in maintaining an undervalued fixed exchange rate (since, among other benefits, it supports employment in their export industries). But if one looks at the evolution of real effective exchange rates for Asian economies since the dollar peak in February 2002, the record is diverse. More specifically, whereas Indonesia (35), Singapore (29), Korea (22), Thailand (22), and the Philippines (19)—call them the “movers”—have registered large appreciations in their real effective rates (ranging from 19–35 percent), Hong Kong (–25), Japan (–15), Malaysia (–14), Taiwan (–4), and China (–3)—the “stickers”—have recorded real effective depreciations (ranging from 3–25 percent). If self interest is revealed by behavior, the “movers” must have therefore decided that the benefits of

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<sup>24</sup> See Ito (2004) for a full discussion of the motives for Japan’s large intervention during this period.

resisting real exchange rate appreciation, emphasized in Bretton Woods II, were considerably less than the costs.

At the same time, the diversity of real exchange rate behavior within Asia also casts doubt on the assumption that unless China allows the renminbi to appreciate, nobody else in Asia will do so. Clearly, there must be other factors (e.g., the strength of domestic demand, pressures from capital inflows, inflation threats, costs of sterilization, etc) besides remaining competitive with China that affect Asian exchange rate policy. Since we can't observe the counter-factual, it could be of course that we would have seen even more real appreciation among the movers—and much more appreciation among the stickers—if the renminbi had appreciated substantially since February 2002. Still, estimates of the maximum induced effects of renminbi appreciation on other Asian currencies probably need to be lowered. For example, if one assumes that a 20 percent appreciation of the renminbi would elicit no further appreciation among the movers but a 20 percent appreciation among the stickers, then the weight of the appreciating currencies in the Federal Reserve's dollar index (inclusive of China) would be 31 percent (not 40 percent as in the earlier example) and this would lead to about a 6 percent real effective depreciation in the US dollar (about twice as large as for a unilateral renminbi revaluation).

Outside Asia, if one goes down the list of the 25 largest US trading partners and looks for economies that have had depreciating real effective exchange rates or only mildly appreciating ones (since the dollar peak in February 2002) and where this exchange rate behavior could possibly have been influenced by competition with China, Mexico (-5), Israel (-8), Argentina (-4), and India (+7) make the cut;<sup>25</sup> together, those four countries have a weight of 12 percent in the Fed's trade-weighted dollar index (with the lion's share of that, almost 10 percent, contributed by Mexico).

Looking ahead, Goldstein (2007b) has argued that China's currency policy could generate an unfavorable demonstration effect in other emerging economies. One reading

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<sup>25</sup> Switzerland (-11) and Saudi Arabia (-25) also appear on the depreciation list but their exports would appear to be less competitive with those of China.

of China's post-2002 experience is that countries should engage in huge, persistent intervention in the exchange market, plus large-scale sterilization, and they too will be able to generate and sustain a highly undervalued real exchange rate that is advantageous for growth. Were that the message, one might then see in the future much less real exchange rate appreciation in surplus countries and a smaller role for exchange rates in the correction of external imbalances—both bad news. Others would say that such a demonstration effect is quite unlikely. There are many earlier (non-China) examples in Asia of an undervaluation strategy (if one wants such a role model). As noted above, since 2002 some emerging economies in Asia have strongly discouraged real exchange rate appreciation but some others have not. And the Chinese economy has some features (e.g. a still predominately state-owned banking system that can be persuaded to buy large amounts of low-yielding sterilization bills), not shared by other emerging economies, that contribute to the sustainability of an undervaluation strategy.

#### (vi) Management of China's international reserves

In late September 2007, China formally established the Chinese Investment Corporation (CIC) to manage a portion of China's massive US\$1.3 trillion in foreign exchange reserves. Many questions have been raised about the implications of CIC's management of cross-border assets (Truman 2007). Will CIC be motivated by political considerations rather than conventional risk and rate of return?<sup>26</sup> Because of its potentially large size and method of operation, could CIC contribute to uncertainty and turmoil in international financial markets? These concerns led a leading economic official of the European Union to warn in September 2007 that the EU was likely to take steps to restrict investments by sovereign wealth funds that are not transparent.

Although CIC could become the world's largest sovereign wealth fund, it will at least initially be relatively small and will invest primarily within China. Indeed, CIC is probably more accurately described as a holding company than a sovereign wealth fund. The latter typically invest entirely off shore. In contrast, CIC will incorporate Central

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<sup>26</sup> Summers (2007) contrasts the investment motives of sovereigns and private investors and discusses the potential problems that this could generate.

Huijin, which has existed for a number of years, the conduit through which the government has transferred foreign exchange reserves to a variety of domestic financial institutions as part of their recapitalization and restructuring. To date these injections amount to \$66.4 billion (see note 5) and it is widely anticipated that the government soon will inject \$40 billion into the restructuring of the Agricultural Bank of China and \$20 billion into the China Development Bank. Since the initial funding of CIC is only \$200 billion, these domestic investments will absorb about two-thirds of CIC's resources.

In addition, CIC will absorb China Jianyin Investment (Limited), which manages domestic assets and will create a third arm responsible for international investments, both strategic and portfolio. Direct strategic investments will presumably be concentrated in energy, resources, and commodities. Some strategic investments may take the form of loans to Chinese domestic companies seeking to expand abroad. And the management of some if not most of the portfolio investments is likely to be outsourced.

The magnitude of these international investments is likely to be limited since there are no concrete plans to transfer additional funds from the state's official reserves to the CIC and the ongoing flow of foreign exchange purchased by the central bank will continue to be added to state official reserves rather than going to CIC.

Those who do worry about the potential prospective size of the CIC argue that to limit potential economic and political conflicts with its trading partners, the CIC should reject the approach taken by many state-controlled investors in Asia and the Middle East of keeping information secret. The CIC should instead adopt the Norwegian model of full transparency and accountability.<sup>27</sup> Full transparency, it is argued, will ensure both that political intentions are known and fully communicated and that financial and economic disturbances are minimized.

Others argue that transparency is only secondary, and could even pose a threat to other priorities. Disclosing essential information—so the argument goes—about assets, investment strategy, or performance could sacrifice some control over how a sovereign

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<sup>27</sup> El-Erian (2007) argues that in encouraging transparency and disclosure for sovereign wealth funds, politicians in industrial countries should focus on issues of governance, process, and risk management.

wealth fund is administered. Furthermore, CIC management may be concerned that, despite the success of the Norway Pension Fund, full transparency could lead to inferior returns or greater volatility in domestic financial markets. These kinds of arguments have been made by similar state-owned investment firms like Singapore's Government Investment Corporation (GIC). Senior officials at GIC have maintained for years that "it is not in the nation's interest to detail our assets and their yearly returns" (Lee Kwan Yew 2001) and that "publishing this information would make it easier for would-be speculators to plan their attacks" (Lee Hsien Loong 2001).

In this connection, Truman (2007) has proposed a set of best practices for sovereign wealth funds that would cover four elements: structure, governance, transparency and accountability, and behavior. He has also developed a scorecard that rates 32 sovereign wealth funds according to those criteria. The highest maximum score is 25 points. The average score was just over 10 points, with the Norway's sovereign wealth fund at the top (with 24 points), and with two Abu Dhabi funds at the bottom (with a 0.5 score). On this metric, China Jianyin Investment scored well below average (6 points); there was not yet enough public information on CIC to warrant a score.

#### (vii) China's alleged currency manipulation and IMF exchange rate surveillance

Another bone of contention is whether, as a member of the IMF, China has been living up to its obligation (as contained in Article IV, Section I of the Fund's charter) to "... avoid manipulating exchange rates or the international monetary system in order to avoid effective balance of payments adjustment or to gain unfair competitive advantage over other member countries," and similarly, whether the IMF itself is living up to its obligations to "... oversee the compliance of each member country with its obligations," and to "... exercise firm surveillance over the exchange rate policies of members."

Some observers have answered one or both those questions with a resounding "no." Bergsten (2005, 2007), Lachman (2007), Goldstein (2004, 2006a, 2006b, 2007a,

2007b), Goldstein and Mussa (2005), Mussa (2007), and Preeg (2003), among others, have argued that China's persistent, large-scale one-way intervention in the exchange market since 2003—at the same time that China's global current account surplus was large and growing and its real effective exchange rate was depreciating—constitutes strong evidence of currency manipulation. Here, currency manipulation can be interpreted to mean persistent policy efforts either to push the real effective exchange rate away from its equilibrium or to prevent it from returning to equilibrium. Those same authors, along with Adams (2006), Dodge (2006), King (2005), and the IMF's Evaluation Office (IEO 2007), among others, have also suggested that the IMF has been found wanting or worse (“asleep at the wheel,” to use Adams' (2006) characterization) in its implementation of exchange rate surveillance. In some analyses, the criticism of the Fund explicitly or implicitly focuses on the China case, while in others it is more wide-ranging.

Some other economists—including Anderson (2006a, 2007c) and Frankel (2006)—regard the renminbi as misaligned (undervalued) but do not regard China's exchange rate policy as meriting a “manipulation” finding. In its semi-annual Reports to the US Congress on International Economic and Exchange Rate Policies, the US Treasury has, over the past four years, become increasingly critical of China's exchange rate policy but has refused to name China as a manipulator because it could not establish “intent” to manipulate.<sup>28</sup> In its recent consultation reports on China (see IMF 2004 versus IMF 2006a), the IMF has moved from criticizing China's currency regime as insufficiently “flexible” to acknowledging that the renminbi is (also) “undervalued;” it has never however accused China of manipulating the value of the renminbi. This view is consistent with IMF Managing Director de Rato's (2006) repeated statements that he does not think it would be appropriate for the Fund to serve as a global “umpire” for the exchange rate system, and that the Fund should not operate as a special pressure group. Some commentators (Eichengreen 2007) concede that Fund exchange rate surveillance has probably been too timid but emphasize that there are limits to how much leverage the Fund can exert on large, surplus countries that do not borrow from the Fund. In June 2007, the Fund obtained agreement from the membership to revise its 1977 Principles for

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<sup>28</sup> The IMF did name China as a currency manipulator in 1992-94; see Lardy (1994, 86-90), Frankel and Wei [2007], and Henning [2007].

the Guidance of Members' Exchange Rate Policies (IMF 2007a, 2007b), which the Fund felt was out-of-date and did not give it enough authority to be more activist on discouraging antisocial exchange rate policy; while the antimanipulation principle was maintained without alteration as a membership obligation, a new principle was added, recommending that members avoid exchange rate policies that result in "external instability." This new principle was regarded as helpful because it is outcome not intent-based and because it would give the Fund the latitude to label a currency as "fundamentally misaligned" without going the full monty to manipulation.

While the ongoing debate on the consistency of China's exchange rate policy with IMF surveillance guidelines has many facets, the opposing main lines of argument for the defense and the prosecution can be summarized as follows.

China's exchange rate policy is being unfairly singled out for criticism. China is not the only country either to have recorded large percentage or absolute dollar increases in reserves in recent years, or to have a large global current account surplus relative to its GDP, or to have had a depreciation in its real effective exchange rate (Keidel 2005). Analysis by the US Treasury (2005, Appendix) shows that different single indicators produce different orderings of manipulated currencies. The problem is not with Chinese policies that have led to a strong renminbi, but rather with US policies that have led to a weak dollar (Fan Gang 2006). The Fund's charter permits members a wide choice of currency regimes, including fixed exchange rates, and defense of a fixed exchange rate can involve heavy exchange market intervention. A country that maintains the same parity over an extended period, as China did from October 1997 until July 2005—even resisting pressures to devalue during the Asian financial crisis—can't be "manipulating" since it hasn't taken any active measures to obtain an unfair competitive advantage. Requiring China to undertake a large revaluation of the renminbi would risk social instability and would infringe unduly on China's national sovereignty. Bowing to international pressure and agreeing to an excessive revaluation would condemn China to the same mistake Japan made in 1980s, with a consequent lost decade of negligible economic growth (McKinnon 2007). The concept of currency manipulation itself is ill-

defined and nonoperational since many government policies affect exchange rates and the intent of these policies cannot be identified clearly.<sup>29</sup> If a question arises on policy intent, the strong benefit of the doubt should go to the country. After having weighed the evidence, neither the IMF nor the US Treasury has found China guilty of currency manipulation.

The IMF was timely in its criticism of the inflexibility of the renminbi and labeling China as a currency manipulator would only have discouraged reform. Unlike the WTO, the IMF has no set of penalties (other than the extreme and unlikely one of expulsion from the Fund) for noncompliance with a member's obligations. No country has yet been found in violation of its Article IV obligations since the second amendment of the Fund's Articles of Agreement in the early 1970s, and the requirement to prove intent under the 1977 guidelines on exchange rate surveillance would not have supported a more activist stance on China's exchange rate policies. The term "manipulation" has a conspiratorial connotation that makes it unworkable for negotiations involving sovereign nations. The Fund needed to rebuild relations in Asia after the Asian financial crisis and a confrontation with China over exchange rate policy would not have been received well in the region and might even have renewed calls for an Asian Monetary Fund as an alternative to the IMF. The Fund means the Fund's Executive Board and there was no consensus among the Fund's major shareholders for a more aggressive stance toward China's exchange rate policy. On a broader level, the Fund should not seek to serve as global "umpire" for the exchange rate system because such a role would conflict with the Fund's role as trusted advisor to its members.

Critics of China's exchange rate policy and of Fund surveillance of that policy do not find such arguments persuasive.

China's exchange rate policy has come under increasing international criticism because that policy is thwarting external adjustment, because it runs counter to China's international obligations as a Fund member, and because China is moving too slowly to

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<sup>29</sup> Crockett (2007) argues the macroeconomic policy mix can affect the exchange rate –just as exchange market intervention can.

change it. It is unprecedented for a country of China's size to run a global current account imbalance (of either sign) of 12 percent or more of GDP. There is no other case of a systemically-important country that meets all four of the following criteria: it has been intervening in the exchange market to the tune of roughly 10 percent of its GDP for several years running; its global current account surplus relative to GDP has gone up approximately six-fold between 2002 and 2007; its real effective exchange rate has depreciated over this period; and its domestic economy has been booming (Goldstein 2007b). Unlike major oil exporters, China's rapidly rising international reserves do not reflect the conversion of wealth from nonrenewable resources underground into financial assets above ground (Truman 2007). The IMF charter and guidelines do not prohibit exchange market intervention, but they do discourage prolonged, large-scale, one-way intervention because that particular kind of intervention is symptomatic of a disequilibrium exchange rate that is costly both to the home country and its trading partners. Depending on what is happening to a country's balance of payments, a misalignment of the real exchange rate can occur just as easily from nonmovement as from excessive movement of the nominal exchange rate; similarly, a given level of the nominal exchange rate may be fine when a country's global current account is in deficit or in small surplus but can be problematic when there is a persistent, very large surplus. Blocking needed real exchange rate movement by intervening to keep the nominal rate fixed or quasi-fixed can therefore legitimately be classified as currency manipulation (Goldstein 2004, 2006c, 2007a). Accepting the argument that currency manipulation should be permitted for domestic employment reasons would make it impossible to have meaningful international guidelines discouraging competitive depreciation. Japan's lost decade had little to do with international exchange rate agreements and a lot to do with poor monetary policy and weak banking supervision leading to property and equity price bubbles that subsequently burst. One of the key indicators of manipulation is prolonged, large-scale, one-way intervention in exchange markets and this pointer (unlike some others) does not carry the qualification of "for balance of payment purposes;" this is because there is no plausible nonbalance-of-payments reason for undertaking such a policy (Mussa 2007). More generally, if one accepted the Fund's (or the US Treasury's) standard of proof for "intent" to manipulate, there could never be a violation, short of a

manipulation “confession” by the country, and surely this cannot be what the framers of Article IV had in mind. Judging whether China’s exchange rate policy qualifies as manipulation is not a close call that involves giving the benefit of the doubt to the country. It is, in contrast, as clear a case of manipulation as arises outside of textbooks.

The Fund has done serious damage to its reputation both by not identifying earlier the growing undervaluation of the renminbi and by refusing to enforce its regulatory responsibility for discouraging currency manipulation.<sup>30</sup> Had Fund management and staff been warning the Chinese authorities, say since 2004, that their persistent, large exchange intervention was thwarting external adjustment and was in danger of breaching China’s obligations, the Fund would have enhanced its credibility inside and outside China, as evidence mounted of the internal and external costs of an inflexible and increasingly undervalued renminbi. Major shareholders of the Fund (not just the United States) could perhaps have been persuaded to support this policy line if Fund management and staff had made the effort. But that leadership on the China exchange rate issue was not there (Mussa 2007). Indeed, IMF Managing Director de Rato gave the game away early on by characterizing the issue not as potential manipulation violation but instead solely as a difference of opinion on the optimal speed of renminbi appreciation. Through its rulings, the WTO has helped to define what is and what is not internationally acceptable trade policy; by rejecting its regulatory role, the Fund can claim no such clarification on exchange rate policy. “WTO compatibility” means something; no one speaks of “IMF compatibility” because no one knows what it is. A finding of manipulation by the Fund would exert more pressure for a change in Chinese exchange rate policy than has a difference of opinion between China and the Fund on the optimal speed of adjustment to greater exchange rate flexibility—both because countries are sensitive to alleged breaches of their international obligations and because such a finding from the Fund could aid chances of success for cases taken to the WTO using exchange-rate-related reasons (e.g., Article XV frustration cases). There was nothing missing in the 1977 guidelines for exchange rate surveillance that would have prevented the Fund from enforcing its

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<sup>30</sup> In recent years, the Fund’s forecasts for China’s global current-account surplus have also been systematically too low—seemingly damaging the Fund’s diagnosis and policy prescription for exchange rate policy.

principle against currency manipulation. The June 2007 revision of these guidelines has added a new principle on avoiding “external instability,” but unlike the antimanipulation guideline (which comes directly from the Fund articles), the new guideline is only a recommendation—not a membership obligation—and hence, may have little effect. The term, currency manipulation, comes from the Fund’s Articles of Agreement and accurately describes what has been going in Chinese exchange rate policy; but one could easily substitute another (more neutral-sounding) term for it –say, destabilizing exchange market intervention—without changing the substance of Fund surveillance. The Fund will not rebuild its image in Asia by refusing to supply one of the key public goods in its mandate, namely, an internationally agreed code of conduct for exchange rate policies. Two-thirds of China’s exports go outside Asia; it would make no sense for China to withdraw from the international institution that sets the rules on international monetary relations with some of its most important trading partners.

Last but not least, the critics assert that by rejecting its regulatory role as global umpire for exchange rate and by not enforcing its guidelines on exchange rate surveillance, the Fund has set the stage for national legislatures (e.g., the US Congress) to step in to fill the breach, with a higher consequent risk of tit-for-tat protectionist trade policy. Under this argument, perceived “fairness” in exchange rate policy is a sine qua non for a win-win “grand bargain” between the industrial countries and the emerging economies on market access and power-sharing in the governance of the international economy—but this perceived fairness will not take root without the Fund serving as an unbiased, competent global umpire (Goldstein 2006a).

#### (viii) Congressional currency bills

Increasingly frustrated with the uninterrupted rise in China’s bilateral (with the United States) and global trade surpluses and with the failure of bilateral negotiations to produce a faster and larger appreciation in the renminbi, the US Congress had signaled its intention to pass new currency laws that would penalize any US trading partners that have “manipulated” and/or “fundamentally misaligned” currencies. These bills would replace the 1988 Omnibus Trade and Competitiveness Act of 1988 (which, inter alia,

requires the US Treasury to issue a biannual reports to Congress on whether US trading partners are manipulating their currencies) with new legislation that both has more “teeth” to induce compliance and that limits the discretion of the US Treasury to avoid a designation of manipulation by arguing that there is insufficient evidence to prove intent to manipulate.

The first such currency bill to gain attention was the Schumer (D-NY)-Graham (R-SC) bill, introduced in the US Senate in the fall of 2003; this was a China-specific bill that would have authorized a 27.5 percent tariff on imports from China if negotiations were unsuccessful in eliminating the undervaluation of the renminbi. While 67 senators expressed their intention to vote for Schumer-Graham, its sponsors never brought their bill to a formal vote—delaying a vote several times to see if new bilateral negotiations with China would produce evidence of greater progress and finally, in early 2007, agreeing to join with Senators Baucus (D-MT) and Grassley (R-IA) in sponsoring new legislation. Since then, three prominent currency bills have been introduced. The Senate Finance Committee bill (S.1607), is sponsored by Senators Schumer, Grassley, Graham, and Baucus (hereafter, SGGB bill), and the Senate Banking Committee bill (S.1677) is sponsored by Senators Dodd (D-CT) and Shelby (R-AL)—hereafter, DS bill. There is also a House bill (H.2942), sponsored by Representatives Hunter (R-CA) and Ryan (D-OH), hereafter RH bill. The SGGB bill was voted out of Senate Finance Committee by an overwhelming 20–1 vote; similarly, the DS bill was endorsed by the Senate Banking Committee by a 17–3 margin. In March 2007, testifying before the Senate Finance Committee, Senator Schumer predicted that the SGGB bill would garner bipartisan support in this session and would be “veto proof.”

The main features of these three bills are laid out and discussed in Hufbauer and Brunel (2007). Here, it is sufficient to note: (i) the US Treasury would continue to provide biannual reports to Congress, identifying countries with manipulated or fundamentally misaligned currencies; (ii) the criteria for judging a currency to be manipulated draw heavily on the pointers identified in the 1977 IMF guidelines on exchange rate surveillance (and in the US 1988 Omnibus Act), with the exceptions that proof of intent is not required and that the US bilateral trade imbalance with that country

is added an additional pointer; (iii) where (SGGB bill) fundamental misalignment replaces manipulation, a distinction is made between misalignment attributable to a list of specific government policy actions (like those used to identify manipulation) and misalignment attributable to other causes (presumably, including market failure), with penalties much greater for the former than the latter; (iv) penalties for noncompliance are usually graduated (as the period of noncompliance get longer); for example, these penalties may begin with negotiations with the US Treasury and a call on the IMF to initiate a “special consultation” with the country; later on (e.g., after 30 days or 180 days), the US Executive Director at the Fund would be asked to oppose any rule change that benefits the country (e.g., an increase in its quota, any IMF financing), the country would not be able to qualify for “market economy” status, and the country’s goods would not be eligible for purchases from the US federal government; further down the road (e.g., after 270 or 360 days), trade policy measures of various kinds would kick in (e.g., the Treasury could file a WTO Article XV frustration case, or a misaligned exchange rate would be actionable as a countervailing subsidy, and/or the United States would initiate a WTO dispute settlement case and would consider remedial intervention; (v) there is usually a Presidential waiver of the penalties in cases of vital economic and security interests, although some bills (e.g., SGGB bill) provide for a congressional override.

Not surprisingly, these bills have provoked a heated debate about their desirability and likely effectiveness both within the United States and abroad.

Those opposing these bills offer the following arguments.

Such national currency legislation will usurp the authority of both the IMF and the US Treasury (the Executive Branch) to deal more effectively and less confrontationally with international disputes involving exchange rate policy. The IMF has just revised and strengthened its guidelines on exchange rate surveillance and those new guidelines should be given a chance to work. Similarly, the Strategic Economic Dialogue (SED) with China is making progress the old fashioned way, through consultation and discussion. The US Congress has neither the objectivity nor the expertise to render sound judgments on other countries’ exchange rate policies. Instead,

whatever their original intent, these currency bills will ultimately become instruments of protectionism—much like the US experience with antidumping legislation. Including indicators like the bilateral trade imbalance in determinations of misalignment or manipulation illustrates the weakness of the underlying analysis. In this connection, econometric analysis by Frankel and Wei (2007) finds that “political” variables like the bilateral trade imbalance and the US unemployment rate (in presidential election years) have played as important a role in earlier Treasury manipulation findings as have legitimate economic variables, like the global current account imbalance, the estimated degree of currency misalignment, and the size of changes in international reserves. Although the new currency bills (unlike the original Schumer-Graham bill) may be technically “WTO compatible,” the odds that the United States will actually win these cases before a WTO panel is low because the bills pursue arguments of dubious legal merit (Hufbauer and Brunel 2007). Inserting currency matters into the WTO adjudication process would also risk “politicizing” the WTO dispute settlement process and weakening support for it around the world.

Moreover, these new congressional currency bills will not be effective in producing a faster and larger appreciation of the renminbi or in reducing the US global and bilateral trade deficits. Those policymakers in China who favor bolder currency reform will find their influence weakened by US legislation because reform will then look like capitulation to the demands of the US Congress. The IMF will likewise find it harder to enforce its new currency guidelines because it will look as if it is acting as a surrogate for the US government rather than as an objective international umpire. These bills contain no measures to improve the US saving-investment imbalance. They also run the risk of igniting trade policy retaliation and copycat currency bills abroad. Suppose, for example, that China passed a bill imposing trade penalties on the United States if we didn’t meet some Chinese-imposed target for a reduction in the US budget deficit? If other countries did enact their own national currency bills, we would soon have a completely unworkable and inconsistent network of exchange rate policy guidelines.

Those defending these currency bills offer a different perspective.

The currency oversight process is badly broken—both internationally and in the United States. The IMF hasn't sent even one special consultation to investigate exchange rate policy abuses in twenty years—much less made a finding of currency manipulation. As outlined earlier in this paper, the Fund has been asleep at the wheel in identifying and discouraging currency manipulation in China. In a similar vein, the US Treasury has not enforced the currency manipulation provisions of the 1988 Omnibus Act in the face of overwhelming evidence that China has been thwarting external adjustment. The quiet bilateral diplomacy championed by Treasury Secretaries Snow and Paulson has produced precious little progress on the renminbi—especially when measured, as it should be, in terms of real effective exchange rates, and the currency deliverables from the Strategic Economic Dialogue have also been meager to date. Yes, if both—or even either—the Fund and the US Treasury were exercising their currency oversight responsibly, congressional action would be unnecessary. But even a “third best” policy response to a serious problem is better than no response at all. Congress is not usurping anything. The US constitution gives the Congress the authority over currency matters and Congress has seen fit to delegate that authority to the Executive branch (the Treasury)—but such delegation is conditional on the Treasury performing well (Henning 2007). If currency oversight is neglected, it is perfectly reasonable for the US Congress to reassert its authority in this area—at least temporarily until the Fund and the US Treasury show signs of better performance. It is not “protectionist” for the US Congress to complain that another country (China) is not taking seriously its obligations on exchange rate policy as a member of the Fund, any more than it is protectionist for the United States to complain about China's enforcement of intellectual property rights. Condoning currency manipulation and allowing a “free for all” in the global exchange rate system is not the friend of open markets.

Defenders of these bills might also argue that it remains to be seen whether congressional currency bills will be effective in inducing faster appreciation of the renminbi. The US government does not refrain from criticizing publicly China's human rights abuses for fear it will slow reform; what is different about exchange rate policy? The United States also had conditions for supporting China's entry into the WTO and

those issues were solved in bilateral negotiation. Similarly, Congressional currency bills are part of the negotiation on exchange rate policy and they may alter (in the desired direction) the cost-benefit calculations in Beijing about how fast to move on renminbi appreciation.

### III. Policy Implications and Policy Options

The preceding discussion illustrates that there are multiple considerations bearing on how China should conduct its exchange rate policy in the period ahead. In order to clarify the options available, it may be useful to frame the choice in terms of two competing strategies. The first we call “stay the course.” The second we call the “three-stage approach.”

The stay-the-course strategy begins from the proposition that no one should care much about exchange rate policy for its own sake. It is basically a facilitating mechanism for more fundamental objectives. From this bottom-line perspective, China’s existing exchange rate policy could be regarded by its supporters as quite successful. After all, the average annual rate of growth since the July 2005 reform has been above 10 percent. Core inflation has also been low. The 2007 spike in the CPI is mainly attributable to an excess demand for pork and a few other food products and should prove temporary. Bank credit growth, after running way ahead of targets in 2003, the first quarter of 2004, and the first half of 2006, is back in a reasonable range. The listing of four large state-owned commercial banks and sale of minority stakes to foreign strategic investors has gone well. The investment share of GDP has leveled off after several years of rapid increase. Yes, there are pockets of overheating but the recent series of increases in both interest rates and reserve requirements, along with the continuation of heavy sterilization and targeted window guidance, should be able to take care of them. The stock of outstanding sterilization instruments relative to GDP has, as indicated earlier, grown enormously in recent years but is still low relative to the shares in some other Asian economies. Contrary to the predictions of many outside analysts, it has been possible to implement a gradual appreciation of the renminbi vis-à-vis the dollar and still conduct a reasonably independent monetary policy without being overwhelmed by foreign capital inflows;

when those inflows have gotten large, it seems to be more because of the attractions of the booming equity and property markets than because of strong speculation on further renminbi appreciation. Some progress has meanwhile been made both in liberalizing further the capital outflow regime and strengthening the structure of the foreign exchange market. Yes, external criticism of China's mushrooming global current account surplus and of the scant appreciation of the renminbi's real effective exchange rate is on the rise. But the Bush Administration is on record as opposing new currency bills cum trade sanctions in the US Congress, preferring instead to stick with negotiations within the SED framework. The IMF has a revised set of guidelines for exchange rate surveillance but the new Managing Director, Dominique Strauss-Kahn, may not wish to begin his term with a confrontation on China's exchange rate policy when he is simultaneously trying to garner support for IMF reform in other areas.

Seen from this perspective, some would say that the sensible strategy is to make only minor modifications to China's existing exchange rate policy. The strategy going forward would then contain the following key elements. The renminbi would continue to be allowed to appreciate at a moderate but controlled pace against the dollar—say 5–8 percent a year. The pace of renminbi appreciation would be controlled by the scale of China's exchange market intervention. Coming on top of the 10 percent nominal appreciation already achieved since July 2005, this would produce a nontrivial cumulative appreciation vis-à-vis the dollar over the next few years—presumably enough to keep foreign criticism at bay. Several substitutes for larger exchange rate appreciation, such as reduced VAT rebates and less favorable tax and tariff treatment for exporters, would be employed to put upward pressure on export prices and/or to reduce the profitability of exporting. Also the central government would lean harder on both banks and local authorities not to finance or expand production in industries with clear excess capacity. More foreign buying trips could be arranged to publicize Chinese purchases of big-ticket US exports (e.g., Boeing aircraft). If China's global current account surplus and reserve accumulation prove more resistant to these measures than expected, restrictions on capital outflows can be liberalized somewhat further. The daily fluctuation band for the renminbi vis-à-vis the dollar, which was increased from 0.3 to 0.5 percent in May

2007, could also be increased to say, 0.8 percent, so as to increase uncertainty for speculators betting on renminbi appreciation.

If all this is doable, what then are the objections to the stay-the-course option? The short answer is that renminbi undervaluation and China's external imbalance are much bigger than they were say, four years ago and the size and duration of the problem mean that small and gradual policy responses are not likely to be effective.<sup>31</sup>

Recall that in 2003, China's global current account surplus was about 3 percent of GDP and the undervaluation of the renminbi was probably on the order of 15–25 percent. At that point, it would probably have been possible to eliminate China's entire current account imbalance—albeit not also its surplus on capital account—with a 15 percent step revaluation of the renminbi, without doing undue harm to the domestic economy; indeed, in late 2003, we recommended (Goldstein and Lardy 2003) such action as the first stage of what we called “two-stage currency reform,” where the second stage entailed floating of the renminbi and a gradual lifting of capital account restrictions once China's financial sector was on a firmer footing. Today, China's global current account surplus is 12–13 percent of GDP and renminbi undervaluation is much larger (conservatively, at least 30–40 percent). No longer can the exchange rate disequilibrium be eliminated in one step without a large contractionary impact on the domestic economy. And with such a large difference between the actual and equilibrium exchange rates, any “staged” approach to renminbi appreciation brings with it the challenge of coping with a “one-way bet” for speculators.

Consider several other features of the stay-the-course strategy.

First, tax and tariff substitutes for renminbi appreciation are not likely to have much impact. Reductions in the VAT rebate rate on exports can not be expected to have a major effect on the export performance of firms because the magnitude of VAT rebates is small relative to the value of exports and, unlike appreciation, reducing rebate rates does nothing to make imported goods cheaper in China. In 2006, for example, VAT rebates on

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<sup>31</sup> On the same day that China's new currency regime was announced, Goldstein and Lardy (2005b) argued that the size of the revaluation was likely way too small to achieve any of the authorities objectives.

export goods were only 4.7 percent of the value of exports.<sup>32</sup> So if the government cancelled VAT rebates entirely it would have an effect on the trade balance similar to an appreciation of the renminbi of slightly more than 2 percent. In practice, the scope of adjustment of VAT rebate rates is limited. For example, in the most comprehensive adjustment, which was announced in June and took effect July 1, 2007, the government eliminated rebates for 553 products and reduced the rate of rebate on another 2,268 products. But combined these account for only 37 percent of all products.

The effect of adjustments in the export processing regime likely will be even less significant than the adjustment of VAT rebate rates. On July 23, the authorities added 1,850 products to the “restricted list” for import processing. That means that starting August 1, firms importing parts and components to be assembled into exports could no longer import these items free of both import duties and VAT. Rather, firms now have to deposit with the government an amount equal to half of the import and VAT duties, with these amounts to be refunded when the related final goods are exported. The government estimated that this measure would increase costs to export processing firms by RMB600 million (Shi Lu 2007). But this was extremely unlikely to dampen the growth of processed exports since it represents only 2 percent of the value of processed exports affected by the new restrictions and less than 0.1 percent of all processed exports.

Second, gradual appreciation of the renminbi vis-à-vis the US dollar may do little to produce much of an appreciation in China’s real effective exchange rate, and it is the latter that matters for China’s competitiveness and for engineering a reduction in China’s global surplus via traditional relative-price channels.

Despite announcements at the time that China unveiled its new currency regime that henceforth, the renminbi would be managed against a “basket” of major currencies (rather than the US dollar alone), studies show that the renminbi movements continue to be dominated by movements in the dollar (Frankel and Wei 2007). But if the US dollar declines further over the next several years, the renminbi will, as it has during the 2002–

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<sup>32</sup> Total rebates were RMB428.49 billion, of which RMB 61.3 billion was payment covering arrears. RMB367.19 billion was 4.7 percent of the value of exports in 2006.

07 period, show much less appreciation in real effective terms. As noted earlier, whereas the renminbi has appreciated by about 10 percent relative to the dollar since June 2005, the renminbi's appreciation in real effective terms was only 3 percent. Betting against a dollar decline over the next few years seems a long shot. The global US current account deficit, while no longer growing as a ratio to US GDP, is expected to remain at 5–6 percent of GDP over the next few years (Cline 2007). Also, the weak US housing market and consensus projections of somewhat weaker GDP growth in 2007 and 2008 suggest that relative interest rate movements are apt to be putting downward pressure on the dollar. If say, the dollar declines on a real effective basis by 10 percent over the next two years, the real effective appreciation of the renminbi under a stay-the-course policy is likely to be small—probably too small to make much of a dent in China's huge external surplus. If the dollar decline is more pronounced, this conclusion is reinforced.

Third, with US interest rates expected to fall, with a widening interest rate differential in favor of renminbi denominated assets, and with a large gap between the actual and equilibrium values of the renminbi, it is likely to be harder—not easier—in the period ahead to discourage capital inflows. Small increases in the daily fluctuation band of the renminbi—or even marked differences in the monthly rate of renminbi appreciation—are not apt to offset this increasing incentive for capital inflows. Foreign investors who can make a good guess about the trend rate of appreciation will wait out short-term volatility. By the same token, even if restrictions on capital outflows are eased further, Chinese residents may reason that (with the renminbi expected to appreciate and with the Shanghai stock market booming) this is not a good time to purchase foreign rather than domestic assets.

Fourth, if monthly intervention in the exchange market continues at anywhere close to recent rates (\$45 billion), the sterilization task will become harder over time and the burden placed on the banking system will grow. Recall that sterilization involves not only selling new sterilization bills/bonds to the banks to mop up much of the new reserve accumulation but also rolling over the existing stock of such instruments. Changing the mix among sterilization tools from bill/bond sales to increases in banks' reserve

requirements doesn't really solve the problem because the low interest rate paid on reserves held at the central bank acts as a "tax" on the banks in much the same way as does the low interest rate on sterilization bills/bonds. As indicated earlier, this tax on banks due to sterilization operations is getting larger over time and is already a significant drain on their profitability. Banks' profitability (via interest rate margins) will also be squeezed over time by the increasing availability of alternatives to bank deposits and to bank loans for China's savers and borrowers. The bleaker the prospects for bank profitability, the more difficult it will become to attract foreign strategic partners to take larger stakes in Chinese banks. If bank profitability gets too low, more costly public-sector bailouts of the banks will be required.

Fifth, if exchange market intervention and sterilization continue at high levels, the Chinese authorities will continue to foster a monetary disequilibrium that will perpetuate the large external imbalance. As Mussa (2007) argues, with the demand for base money growing briskly in China, the supply of base money has to grow briskly to accommodate that demand. But if the central bank's large-scale sterilization operations push the growth of net domestic assets to be negative, then Chinese residents will reduce their expenditure and borrow money from abroad to satisfy the growing demand for base money—generating the very current account surplus and net capital inflow that the authorities claim that they wish to reduce. To correct that monetary disequilibrium, the amount of sterilized, exchange market intervention has to be reduced. The relevant question is not whether sterilization (in isolation) can be continued indefinitely but rather whether large-scale sterilization can be continued at the same time that China is making significant progress in reducing its huge external imbalance.

Sixth, if the real exchange rate of the renminbi doesn't appreciate very much (i.e., the renminbi remains highly undervalued), it will be very difficult to reduce investment in tradable goods industries with large excess capacity since such industries will then have an export safety valve to dispose of their excess domestic production and to cushion what would otherwise be a steeper fall in their profits. And other (non-exchange rate) approaches to reducing capacity in excess supply industries don't seem to be making much headway. Anderson (2007c) notes that Chinese steel production is still outpacing

domestic demand for steel by a wide margin. Trying to make real progress toward achieving domestic consumption-led economic growth while there is a large undervaluation of the real exchange rate is like pushing a very large boulder uphill.

And seventh, foreign pressure for China to move faster on renminbi appreciation could well accelerate over the next year and half. In 2003, US Treasury Secretary Snow could offer intensified bilateral negotiations and quiet diplomacy as a preferred approach to encouraging China to accelerate its currency reform. Similarly, in 2003–04, US senators contemplating the introduction of currency bills could be persuaded to hold their fire on the argument that China was on the verge of significant currency reform and that perhaps China’s growing external surplus would prove temporary. In 2003, the Republicans held a majority in both the Senate and the House. Now, after two meetings of SED, pleas for more patience are harder to sell because the deliverables on renminbi appreciation from the earlier approach have been very modest. We are also not so far away from the 2008 US Presidential election, in which states that have been most affected by competition from China (e.g., Ohio) could play a pivotal role in the outcome. Looking across the Atlantic, in 2003, the average value of the Euro/dollar exchange rate was \$1.13; today, the Euro is above \$1.40. If the Euro area is not to suffer an excessive deterioration in its competitiveness, some other currencies will need to appreciate faster than the Euro; the renminbi could be a leading candidate for that role. France also has a new President who has already expressed a keen interest in the external adjustment problem. In Asia, as noted earlier, several of China’s neighbors have permitted their own real exchange rates to appreciate significantly (20 percent or more on a trade weighted basis) over the past four-five years; they may start asking, if we have already made our contribution to the global payments problem, why hasn’t China done more? And perhaps the new Managing Director of the Fund will reason that if he is to solve the Fund’s identity crisis and establish some credibility for the Fund’s new guidelines on exchange rate surveillance, he will not be able to avoid having the Fund label the renminbi as at least “fundamentally misaligned” if not “manipulated.”

If the stay-the-course strategy doesn’t look so promising, what is the relevant alternative? In our view, what is called for is a bolder approach that would permit China

to catch up in correcting its very large external disequilibria, while still keeping a lid on domestic social pressures.<sup>33</sup> We label this the “three stage approach” to currency reform. It would have the following broad outlines.

In stage one, to begin immediately, China would undertake a 15 percent revaluation/appreciation of the renminbi (from its existing level). This rise in the renminbi could be implemented either by a step revaluation or by decreasing substantially the amount of official intervention in the exchange market. The daily fluctuation limit on the renminbi with respect to the major currencies would also be increased to 1 or 1.5 percent. The Chinese authorities would accompany these exchange rate moves with an expansion and redirection of government expenditure aimed at existing weaknesses in China’s social safety net (i.e., health, education, and pension systems). A package of trade adjustment assistance would be introduced to help cushion the impact of the initial renminbi revaluation on China’s traditional (low-margin) export industries. Existing restrictions on capital outflows would be retained or liberalized only modestly. China would drop its insistence that the renminbi exchange rate is solely a matter of national sovereignty and would work with the IMF on the design and execution of the three-stage approach.

In stage two, government intervention in the exchange market, along with sterilization operations, would both be reduced, so that the renminbi could continue to float upward over the next several years, albeit at a gradual pace, say, 6–8 percent a year.<sup>34</sup> Limits on foreign ownership of China’s banks would be reduced in an effort to improve the credit allocation process. Interest rate liberalization would continue. Debate within China would accelerate on greater central bank independence and on the merits of an inflation-targeting approach to monetary policy (Goodfriend and Prasad 2006).

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<sup>33</sup> Prasad (2007, p. 3.) also argues that now is the time for China to abandon its incremental reform approach in favor of something bolder: “One key principle, as noted above, is to recognize that there are inherent limits to the incremental reform strategy that has worked well in the past. At a certain level of development and complexity of an economy, the connections among different reforms become difficult to ignore.”

<sup>34</sup> This pace of appreciation would have to be adjusted upward if China continued to achieve rapid productivity growth in export industries, a phenomenon discussed earlier.

Restrictions on capital flows (both incoming and outgoing) would continue to be liberalized but at a gradual pace.

Finally in stage three, say four to six years down the road, intervention in the exchange market, along with sterilization operations, would be reduced still further and the daily fluctuation limit on the renminbi would be dropped—so that the renminbi became essentially “floating.” Monetary policy would continue to evolve toward an inflation-targeting framework. Depending on how much progress had been made on bank reform, restrictions on capital flows could be liberalized much more substantially.

In our view, such a three-stage approach to renminbi reform would offer many advantages over the stay-the-course option.

The immediate 15 percent revaluation/appreciation of the renminbi would represent a credible “down payment” on removing the large existing undervaluation of the renminbi. It would eliminate the need to play around with minor substitutes (e.g., reductions of VAT rebates for exporters) for exchange rate action. It would push the renminbi’s real effective exchange rate in the right direction and provide some immediate offset in case there is a further depreciation of the dollar. Since the initial revaluation would not be so large and since it would be accompanied both by an expansion/redirection of government expenditures and the introduction of a trade adjustment assistance program, the contractionary effects of revaluation on the economy—as well income losses in traditional export industries—should be manageable—especially in view of China’s current 11 percent plus growth rate. Increased expenditure on the social safety net would also reduce the need for such high precautionary saving. The immediate 15 percent revaluation would also reduce the expected gain from speculating on the future appreciation of the renminbi since the gap between the actual and equilibrium rates would be smaller than before. The immediate 15 percent “down payment,” along with the agreement to work with the IMF in implementing this currency reform, should reduce foreign criticism of China’s slow pace of reform—particularly, but not just in the US Congress—and it should lessen the risk of protectionist trade policies being adopted at China’s expense. The increase in the daily

fluctuation limit for the renminbi—if utilized –would permit greater flexibility of the renminbi and provide some increased room for maneuver in the independence of monetary policy—maneuver that would also be enhanced by stopping well short of the elimination of existing restrictions on capital inflows. The greater independence of monetary policy would in turn allow the central bank to act more preemptively in its interest rate policy decisions.

The reduction in both exchange market intervention and sterilization operations in stages two and three would not only further push the real effective exchange rate of the renminbi in the right direction but it would also help to correct any monetary disequilibrium and reduce the strains put on the banking sector. By liberalizing the capital outflow regime only slowly, there would be a degree of “insurance” against large-scale capital flight if a large, unexpected negative shock occurred during the currency reform process. The increase in foreign ownership limits on China’s banks would provide a potential longer-term increase in bank profitability to help offset any transitional strains associated with remaining sterilization operations. Discussions of greater central bank independence and of the merits of an inflation-targeting framework would anticipate the need for a new nominal anchor, as the fixity of China’s exchange rate continued to decline.

Finally, in stage three, China should be close to eliminating any remaining undervaluation of the renminbi. It should also be closer to four of its longer-term goals: having a truly market-determined exchange rate, having an effective framework for independent monetary policy, having a more open capital account, and having a more harmonious relationship with its trading partners.

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