

IMF Surveillance over China's Exchange Rate Policy

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Introduction

By the provisions of section 3(a) of the revised Article IV of the IMF Articles of Agreement, the Fund is charged with the overarching responsibility to “...*oversee the international monetary system in order to insure its effective operation...*,” as well as with the more specific responsibility to “...*oversee the compliance of each member with its obligations under Section 1 of this Article.*” In order to fulfill these functions, the Fund is instructed to “...*exercise firm surveillance over the exchange rate policies of members, and...adopt specific principles for the guidance of all members with respect to those policies.*”

When I joined the IMF staff as the Economic Counsellor and Director of the Research Department in September 1991, it is fair to say that—despite the clear requirements of Article IV--exchange rate policies and their role in the effective functioning of the international monetary system were not subjects that attracted much attention or effort by the IMF staff, Management, the Executive Board, or the membership.¹ Indeed, while the G5/G7 countries began in 1987 to involve the Managing Director in surveillance discussions among their finance ministers and central bank

¹ Much work had been done by the Fund on exchange rate issues under the par value system of the original Articles of Agreement, during the interregnum when the Second Amendment was being debated and agreed, and in the late 1970s and the early to mid 1980s. This included a good deal of work in the Research Department that found significant practical application, including in the actually setting of exchange rates. The histories of the Fund prepared by Margaret de Vries (1976) and (1985) describe some of these activities. Jacques Polak's essay (1994) provides an excellent survey.

governors, he was specifically invited only “in his personal capacity;” not in his institutional capacity as Chairman of the IMF Executive Board. Moreover, the G-7 generally excluded the Managing Director from detailed discussions of exchange rate policies, including interventions and other actions designed to influence exchange rates.

The European countries involved in the Exchange Rate Mechanism of the European Monetary System were, if anything, even more aggressive in excluding the IMF from any role in their discussions of exchange rate policies. Not surprisingly in view of the example set by the industrial countries, developing countries generally did not welcome meaningful IMF surveillance over their exchange rate policies. Thus, by a pact of mutual non-aggression among the members of the Executive Board (as representatives of the countries in their constituencies), the annual Article IV surveillance reports on each IMF member and their discussions by the Executive Board rarely involved any substantive consideration of exchange rate policies. Indeed, in describing the IMF’s “firm surveillance” over exchange rate policies, I once characterized it “as about as firm as an overripe avocado—without the pit.”

As a senior member of the IMF staff especially devoted to the Articles of Agreement, I was deeply dissatisfied with this situation. Beginning in August 1992, with the essential and invaluable support of Managing Director Michel Camdessus, I directed an effort to reinvigorate IMF exchange rate surveillance and bring it much closer to the role envisioned in Article IV. This effort made significant progress from the pitiful state into which the IMF’s exchange rate surveillance had fallen; but there were also important failures (such as in foreseeing Mexico’s need for exchange rate adjustment in 1994); and much remained to be done when I left the IMF in 2001. Notwithstanding some highly relevant and well-taken criticisms of IMF exchange rate surveillance in a recent report of the IMF’s Independent Evaluation Office (IMF 2007c), progress has been made in this area since 2001.²

² See the staff response included in the IEO report. In view of where the Fund was with its exchange rate surveillance at the beginning of the 1990s (well before the period covered by the IEO evaluation), I would say that considerable progress has been made, and from the material presented in the IEO report itself, I would say that significant progress has been made since I left the Fund staff in 2001. However, as the IEO report concludes, a good deal yet remains to be done.

This progress included continued attention to, and more refined analysis of, global economic and financial developments and of key risks to stable and sustainable world economic growth—consistent with the Fund’s responsibility to oversee the international monetary system in order to ensure its effective operation. This surveillance was carried out primarily in connection with the Executive Board’s semi-annual assessments of the World Economic outlook, the documentation for which carefully analyzed many key issues relevant for assessing potential problems or risks for the world economy and the smooth functioning of the international monetary system. In particular, beginning as early as the year 2000, the IMF staff and Executive Board have consistently identified the large and (until late 2006) growing U.S. current account deficit as a critical international imbalance that needs to be significantly reduced and whose potential for disorderly correction could pose a threat to global growth and hence to the effective functioning of the international monetary system. The need for significant real effective depreciation of the U.S. dollar, along with other key adjustments, was as an important element in the agreed strategy for correcting this key global payments imbalance. And, significant progress has been made in most (but not all) of the elements of the strategy espoused by the Executive Board for addressing the problem of global imbalances.

In stark contrast to this success for Fund surveillance at the global level, stands the catastrophic failure of Fund surveillance in the critical case of China—now the third largest trading economy in the world and a vital driver of global economic growth. Since 2002, the Chinese authorities have used massive, largely sterilized, official intervention to resist substantial, economically-warranted appreciation of the yuan. They kept the nominal exchange rate pegged at 8.28 to the dollar until July 2005 and have allowed about 8 percent nominal appreciation over the next two years. With the substantial appreciation of many other currencies against the U.S. dollar (including those of South Korea, Indonesia, Thailand and to some extent India), the real effective exchange rate of the yuan has depreciated significantly since 2002.³ Enormous official intervention by the Chinese authorities, amounting to \$1 trillion over the past five years has been applied to resist strong upward pressures on the exchange rate of the yuan.

³ The extent of the real depreciation of the yuan since early 2002 (when the U.S. dollar was at its peak on a real effective basis) depends on the particular measure that is used. If one takes account of rapidly rising productivity in Chinese manufacturing and rapidly falling unit labor costs in this critical tradable goods sector, the real effective depreciation of the yuan could easily be as large as 20 to 25 percent.

Meanwhile, China's current account balance, which typically ran a modest surplus of one to two percent of GDP in the decade through 2002, has exploded to over 9 percent of GDP by 2006 and appears to be headed significantly higher in 2007. This astounding upsurge in China's current account balance has occurred despite the fact that Chinese economic growth (which should drive import growth) has substantially exceeded growth in all of its trading partners. It has also overwhelmed the negative effect that rising energy import costs have had on the current accounts of most other major oil importers.

All of this establishes—beyond any reasonable doubt—that the exchange rate of the Chinese yuan is substantially undervalued and is being kept in this position by Chinese government policies that powerfully resist, and are intended to resist, significant appreciation of the yuan. Indeed, China is the one major country whose exchange rate policy and current account performance are clearly operating strongly in the wrong direction with respect to reducing the major global payments imbalances and the Fund has identified as major concern for the world economy.⁴

Yet, in its surveillance of China before the summer of 2006, the IMF staff reports and the Summings Up of the IMF Executive Board deliberations on these reports speak only vaguely about the desirability of “greater flexibility” in the yuan's exchange rate. After the Chinese authorities decided (in July 2005) to allow modest and gradual appreciation of the yuan against the U.S. dollar, the desirability of greater appreciation was noted in the 2006 discussions of the IMF. But the substantial magnitude of the appropriate appreciation was not assessed or commented upon by the Fund. Several key members of the IMF staff, particularly in the Asian and Pacific Department, have been openly skeptical that any significant appreciation of the yuan is needed. A recent research paper prepared in the Asian and Pacific Department (APD) estimates that the present undervaluation of the yuan is somewhere between zero and 35 percent—allowing the Chinese authorities to maintain the notion that there is really no need for anything more than a very leisurely path of yuan appreciation.

⁴ Several major oil exporting countries, most notably Russia and Saudi Arabia, have seen recent major increases in their current account surpluses while resisting substantial exchange rate appreciations. However, in contrast with China, the enormous and relatively sudden rise in world oil prices accounts for these current account gains, and based on past behavior these surpluses may reasonably be expected to erode over time.

The present Managing Director, Rodrigo de Rato, has repeatedly emphasized that gentle persuasion (generally not in public) is the only appropriate means for the IMF to deal with the Chinese authorities on the sensitive issue of their exchange rate policy. Pointing out forcefully to Chinese authorities what they are obliged to do to fulfill their specific obligations or general obligations under Article IV—either in public, in discussions of the IMF Executive Board, or even in private—is not something that the Managing Director (or key IMF staff) appear to be prepared to undertake. Nor does the Managing Director, the IMF staff, or the Executive Board give any indication of a willingness to identify and emphasize that the essential role that substantial appreciation of the yuan must play in reducing global payments imbalances in an orderly and non-disruptive fashion. This is undermining both the achievement of one of the IMF’s fundamental purposes (as provided in Article I (vi)) “...to shorten the duration and lessen the degree of disequilibrium in the international balance of payments of members...” and the fulfillment of the Fund’s foremost responsibility under Article IV, Section 3(a) “[to] oversee the international monetary system in order to ensure its effective operation.”

In my view, this approach to the application of Fund surveillance to China’s exchange rate policy constitutes gross misfeasance, malfeasance, and nonfeasance by the Managing Director and more generally by the IMF. Included in this indictment are key members of the staff (especially in the Asian and Pacific Department), much of the Executive Board, and the national authorities of leading members, most importantly senior officials of the U.S. Treasury (with the notable exception of former Undersecretary Timothy Adams).

To provide a more substantial basis for this conclusion, this essay will take up the following issues. First, the meaning of Article IV and its implications for Fund Surveillance over exchange rates is explored. Second, the actual practice of Fund surveillance over exchange rates is reviewed, with the purpose of extracting key insights about what this surveillance may reasonably be expected to accomplish and how it is likely to be conducted in the future. Third, a critical assessment of Fund surveillance in the important case of China from 2003 to 2006 is presented, with the conclusion that this case has been a catastrophic failure. Fourth, a traditional analytical tool developed in the Fund and elsewhere—the monetary approach to the balance of payments—is applied to explain some otherwise puzzling features of the recent spectacularly surge in China’s current account surplus and the

corresponding rise in its saving/investment balance despite enormous increases of fixed investment in China. Fifth, the general problem of global imbalances and the strategy to address that problem developed by the Fund are reviewed, and China's glaring failure to play its proper role in this strategy is highlighted. Sixth, the issue of what to do now in the case of China is discussed. Finally, an appraisal of accountability for the failures of Fund surveillance in the case of China is offered.

I. The Basis for Fund Surveillance under Article IV

Faced with considerable criticism of its exchange rate surveillance, in the case of China, the IMF has recently undertaken an intensive review of this subject. This has included an assessment of Fund surveillance by the Independent Evaluation Office (IEO) which concluded that there were significant deficiencies in Fund surveillance, including in the area of exchange rate policies, and recommended improvements. Also as part of this review, Fund's Legal Department prepared an excellent paper (discussed by the Executive Board) that elucidated the meaning of key elements of Article IV. The Policy Development and Review Department (PDR) produced companion paper that provided a very useful basis for the Executive Board's consideration of a comprehensive revision of the 1977 Decision on Surveillance over Exchange Rate Policies. Most recently, in June 2007, this review culminated in formal decision of the Executive Board to revise extensively the guidelines for members exchange rate policies (originally set forth in the 1977 Executive Board decision. Although the 2007 decision does contain one egregious error where it apparently contradicts the Articles of Agreement, this error could be relatively easily corrected and the new decision offers considerable hope for establishing a firmer basis for more consistent and vigorous fulfillment of the Fund's responsibilities under Article IV. [Add references to these papers]

A. The Meaning and Interpretation of Article IV

For the present discussion of IMF surveillance of exchange rate policies, the interpretation of Article IV is key because it is from the Articles of Agreement that both the obligations of members and the authority of the Fund derive. Decisions of the Fund's Executive Board, taken under the authority of and consistent with the Articles, are of the next order of importance in governing the conduct of Fund surveillance. In this regard, the 1977 Executive Board decision on *Surveillance over Exchange Rate Policies* retains primary relevance in the present discussion as that decision was operative until June 2007. Nevertheless, the staff papers prepared in conjunction with the recent review of the 1997 decision and underlying the new decision, particularly the Legal Department paper, contain much useful information that helps to clarify some important misunderstandings about Article IV and the function of Fund exchange rate surveillance. Also highly relevant for this purpose is the book (Edwards 1984), *International*

Monetary Collaboration, especially chapters 11 and 12, as well as several papers of Jacques J. Polak, the Fund's long-serving and highly distinguished Economic Counsellor and Director of Research who later served as an Executive Director of the Fund, and is now the last surviving participant in the Bretton Woods conference. See also Sir Joseph Gold's writings, including Gold (1990).⁵

A Sovereign Right to Determine Exchange Rate Policy?

Recently, Chinese authorities, most prominently Premier Wen Jiabao have asserted that countries have the fundamental right to determine their own exchange rate. They may listen politely to what the Fund (and others) say on the subject, but as a matter of national sovereignty a country's government has the unilateral authority to determine its exchange rate. Somewhat surprisingly, the U.S. Treasury Secretary John Snow agreed with this position of Premier Win. Indeed, demonstrating almost incomprehensible incompetence, the Fund's Managing Director, Rodrigo de Rato, joined in affirming this nonsense.

The proposition of unilateral sovereign authority to determine a country's exchange rate is a logical absurdity if the exchange rate at issue is that between different national currencies. For example, if China possess the sovereign right to set the value of the yuan at, say, 8 yuan to the dollar, then the United States must symmetrically possess the absolute sovereign right to set the exchange rate of the dollar at 4 yuan per dollar.

The old version of Article IV dealt with this problem because it specified that each member of the Fund had to establish a par value for its currency in terms of **gold**. The member had essentially absolute discretion concerning the par value that it set; but once set, the member was required to keep its actual exchange rate within a narrow range of its established par value and could not adjust the par value by more than ten percent without the permission of the Fund. Clearly, under the old Article IV members of

⁵ I was referred to the Edward's book by a senior member of the Fund's legal department as providing an excellent exposition of the legal basis for the Fund's activities. This book was written shortly after Prof. Edwards spent some time in the Fund's legal department and it is dedicated to Sir Joseph Gold, the Fund's distinguished general counsel. Several of Jacques Polak's more recent papers that are relevant to the present discussion are collected in a volume edited by James Boughton (2005); chapters 3 and 10 are particularly relevant.

⁶ The original version of Article IV may be found in de Vries (1976, Vol II).

the Fund were, by their choice to be and remain members of the Fund, very considerably constrained in what they could do with their exchange rates.

Article IV Section 2(b) gives far wider latitude to IMF members in choosing their “exchange arrangements” than under the old par value system. A nation that is not a member of the Fund (or chooses to withdraw from membership) would have potentially wider discretion. In particular, a non-member might choose to peg the value of its national currency to gold—something that is specifically prohibited to Fund members by Section 2(b) of Article IV. More importantly, as the Legal Department paper makes clear, while members of the Fund have considerable discretion in determining their “exchange arrangements” these “exchange arrangements” and the “exchange rate policies” pursued under this arrangements must comport with the obligations of members set out in this Article and, more generally, with other obligations that members have under the Articles.

The General Obligation to Collaborate with the Fund

Section 1 of Article IV makes clear that IMF members cannot do whatever they like with respect to their exchange arrangements or exchange rate policies.⁷ They are subject to the general obligation “...*to collaborate with other members and with the Fund to assure orderly exchange arrangements and to promote a stable system of exchange rates.*” The meaning of this general obligation to collaborate is somewhat vague, and the Legal Department paper (IMF 2006a) goes into some detail to explore and expound its meaning. A key conclusion of this legal analysis is that the general obligation to collaborate is intended to be broader than the four specific obligations listed afterward in Section 1. Indeed, the Legal Department concludes that the general understanding of the concept of “collaboration” prevailing before and at the time of the Second Amendment “...**was relied upon as a basis for the Fund to call on members to take specific actions or to refrain from taking specific actions.**” [Emphasis in original]

This has long been my understanding of the import of the general obligation to “collaborate” in Article IV, Section 1. My reasoning was somewhat different from (but necessarily better than) that of the Legal

⁷ Article IV Section 2 (b) specifically precludes pegging to gold as an acceptable exchange arrangement. This is a complete reversal of the original Article IV which required members to establish a parity for their currency in terms of gold.

Department. In the bureaucratic organization of the IMF staff, the area departments are primarily responsible for the staff work underlying “bilateral surveillance” that focuses on the specific obligations of members listed in Article IV Section 1. The Research Department has primary responsibility for staff work underlying “multilateral surveillance,” including the preparation of the World Economic Outlook, presentation of the World Economic and Monetary Development (WEMD) sessions (which include multilateral exchange rate assessments) and, during my time at the Fund, preparation of the International Capital Markets Reports. Thus, the Research Department has primary responsibility within the staff for the Fund’s foremost responsibility—oversight of the international monetary system “...to assure its effective operation.” In this regard, I would ask myself, “Self, how is that the Fund is supposed to fulfill this august responsibility? Surely not by magic.”

The answer had to be that under Article IV Section 1, the Fund could call on its members’ general obligation to collaborate with it and with each other as required to remove any significant impairment or forestall any threatened impairment of the effective functioning of the international monetary system. While the Fund’s Legal Department might not have accepted my reasoning on this point, I was greatly reassured that Michel Camdessus, the Managing Director during 8 ½ years of my ten-year service on the Fund staff, appeared to share my view. When faced with what appeared to be a meaningful threat to the effective functioning of the international monetary system, Michel was more than willing to press relevant members of the Fund, in private and sometimes in public, informally and sometimes formally, to do what reasonably seemed necessary and appropriate to counteract the threat.

Specific Obligations under Article IV Section 1(iii)

Another issue regarding the interpretation of Article IV on which the Legal Department paper is relevant concerns the meaning of the third specific obligation listed in Article IV Section 1, “...*each member shall... (iii) avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain unfair competitive advantage over other members....*” This is the key specific obligation that relates to exchange rates. The first two deal with macroeconomic policies to foster growth with low inflation and policies to

promote economic and financial stability; and the fourth is a general injunction to “...*follow exchange rate policies compatible with this section.*”

Some have argued that a country with a pegged exchange rate, such as China until July 2005, cannot “manipulate” the exchange rate because the exchange rate does not change. Others have argued that countries like the United States that allow exchange rates to fluctuate freely in response to market forces cannot be said to “manipulate” their exchange rates because they are generally not intervening in foreign exchange markets to influence the rate. Some have suggested that countries with substantially overvalued exchange rates cannot be in violation of Article IV, Section 1(iii) because overvaluation implies competitive disadvantage. Also, a good deal of controversy has arisen over the issue of intent embodied in the language, “for the purpose of.” Some have argued that unless a country confesses that it is manipulating its exchange rate for the purpose of securing unfair competitive advantage or to frustrate balance of payments adjustment, it cannot be found in violation of Article IV, Section 1(iii) because the country must be given the overwhelming benefit of the doubt in any assertion that its behavior was for some other purpose. Indeed, in its recent decision not to conclude that, under U.S. law, China was not guilty of proscribed exchange rate manipulation, the U.S. Treasury cited specifically the absence of conclusive evidence of intent; see Sobel (2007).

The paper by the IMF Legal Department (IMF 2006a) makes clear that all of this is largely nonsense, as is indicated by the following quotation:

“First, there are different ways in which a member could potentially ‘manipulate’ exchange rates within the meaning of Article IV, Section 1(iii). For example, it could occur through excess intervention in exchange markets or through the imposition of capital controls. Moreover, manipulation would not necessarily require that official intervention—whatever its form—result in movement of the exchange rate. In some cases, the manipulation may be designed to prevent movement in the rate.

“Second, the term “in order to prevent balance of payments adjustment” is sufficiently broad to cover situations where a member is manipulating its exchange rate in a manner that makes it either overvalued or undervalued.

“Third, and perhaps most importantly, a member may only be found in breach of Article IV, Section 1(iii) if the determination is made that the member manipulated its exchange rate for the purpose of preventing effective balance of payment adjustment [or to gain unfair advantage over other members]. The fact that the measure has the effect of preventing adjustment [or conferring unfair advantage] is not sufficient—the use of the phrase “in order to” means that a determination of intent is required. This does not mean, however, that the Fund has to accept the member’s own representation of intent. ...The Fund would ask the member to explain the motivation behind its actions. The Fund would give this representation the benefit of any reasonable doubt. Ultimately, however, the Fund would make an independent assessment whether the member’s representation was correct, taking into account all available and relevant information regarding the member’s exchange rate policy.”

I would add the following from my understanding international economics and of the Articles and from my experience with the actual application of Article IV. Virtually any significant policy action by a national government, or any decision not to take any significant action, is likely to have some effect on a country’s exchange rate, either inducing it to move or not to move as the case may be. This certainly includes monetary and fiscal policy, as well as policies that more directly affect a country’s international payments such as trade policy, regulations of capital movements, exchange market intervention, and the like. Policy actions in all of these areas, regardless of their purpose or intent, can be considered “manipulation” of the exchange rate or of the international monetary system.

The new Executive Board Decision on bilateral surveillance (see IMF 2007b) addresses this problem of the potentially very broad scope of exchange rate “manipulation” by proclaiming (in an Annex to the Decision) that

“‘Manipulation’ of the exchange rate is only carried out through policies that are targeted at—and actually affect—the level of the exchange rate. Moreover, manipulation may cause the exchange rate to move or may prevent such movement.”

The second sentence is a useful clarification for those (fools) who previously did not understand that holding an exchange rate constant through various policy actions is as much “manipulation” of the exchange

rate as causing it to move. The first sentence has a laudable purpose but is cast too narrowly. Standard international economics tells us that a combination of an ad valorem import tariff and an ad valorem export subsidy is equivalent to a devaluation. Moreover, a tax on consumption of imported goods and their domestic substitutes, together with a subsidy to domestic producers of import substitutes is equivalent to an import tariff. And, a tax on production of exportables, together with a subsidy to domestic consumption of these goods is equivalent to an export tax. Bring in taxes and subsidies on the use of various factors of production, the list of equivalences can be expanded ad nauseam. The point is that it can be very difficult to say when a policy is not “targeted at...the level of the exchange rate,” although it may be possible to speak with greater confidence about some policies, notably intervention in the foreign exchange market, that are clearly targeted at the exchange rate. The issue needs to be examined in the circumstances of each individual case, looking at the range of government policies, and examining whether there are other combinations of policies that would plausibly achieve similar domestic objectives without affecting the exchange rate or the balance of payments.

An Issue of Intent

Because this concept of exchange rate manipulation is potentially so broad, virtually all countries could be considered to be “manipulating” their exchange rates almost all of the time. Correspondingly, however, there is no presumption that exchange rate “manipulation” is generally bad. Indeed, under Article IV Section 1(iii) only exchange rate “manipulation” that is pursued “...**in order to** prevent balance of payments adjustment or gain unfair competitive advantage over other members”[emphasis added] is specifically precluded under this sub-point of Section 1. Exchange rate manipulation that occurs for other reasons, especially as the ancillary and unavoidable consequence of policies legitimately pursued for domestic economic stabilization, does not run afoul of Article IV Section 1(iii) and is not generally precluded under the rest of Article IV or other provisions of the Articles of Agreement.⁸

⁸ My disagreement with the recent Executive Board decision (Annex, paragraph 2(a)) is that it attempts to define the concept of “manipulation” too narrowly and in a manner that is economically indefensible. Much the same result is achieved by reading Article IV Section 1(iii) as it is written. It does not enjoin exchange rate “manipulation” as a general matter, it condemns such manipulation only when it is used in order to prevent effective balance of payments adjustment or gain unfair advantage.

This does not mean, however, that only exchange rate manipulation that runs afoul of Article IV Section 1 (iii) is subject to criticism by the Fund or is potentially a violation of a member's obligations under the Articles. Indeed, the Fund's *Principles for the Guidance of Member's Exchange Rate Policies*, adopted pursuant to Article IV Section 3(b), explicitly instruct that members "...should intervene in foreign exchange markets if necessary to counter disorderly conditions..." The Fund's Legal Department points out that this instruction is not contained in the language of the Articles of Agreement and it therefore not an "obligation" of members. However, it is quite clear that if a member intervened in foreign exchange markets with the effect creating disorderly conditions to the detriment of other members, the Fund could and should caution the member about such behavior. If the member refused to desist or to offer a plausible justification for its behavior when called upon to do so by the Fund, then the offending member could be found in violation of its general obligation under the Article IV Section 1 "to collaborate with the Fund and with other members and with other members in order to assure orderly exchange arrangements and promote a stable system of exchange rates."

More broadly, it is clear that the Fund has the authority to call upon members to modify their exchange rate policies and other policies if this reasonably appears needed to counteract an actual or threatened impairment of the effective functioning of the international monetary system. Without such authority, the Fund has no way to fulfill its foremost responsibility under Article IV Section 3(a) to "...oversee the international monetary system in order to ensure its effective operation..." The general obligation of members under Article IV Section 1 to "collaborate with the Fund and with other members to assure orderly exchange rates and promote a stable system of exchange rates..." provides the Fund with the requisite authority. It implies an obligation of members to comply with reasonable requests from the Fund—acting on behalf of the world community—to ensure the effective operation of the international monetary system.

Moreover, the issue of "intent" does not arise in situations where the Fund calls upon members to undertake (or refrain from) policy actions needed to ensure the effective functioning of the international monetary system. The language which appears in Article IV Section 1(iii) raises the issue of "intent" only with respect to the specific obligation in this sub-point. It does not apply to the general obligation of members to collaborate with the Fund, especially when such collaboration is needed to ensure the

effective functioning of the international monetary system. Thus, a member could not deflect a request by the Fund for policy action needed to ameliorate or forestall an actual or threatened impairment of the functioning of the international monetary system with the assertion that its policies were not intended—and could not be proved to be intended—to disrupt the effective functioning of the international monetary system. The relevant issue is effect, not intent. A member might argue that the requested policy actions were not really needed to contribute to the effective functioning of the international monetary system or created greater difficulty and danger for the member than the prospective benefit for the functioning of the system. But, it would be up to the Fund to weigh the merits of such arguments and to decide on what actions a member was obligated to undertake. This would and should probably begin with an admonition to the member concerning what adjustments to its policies were appropriate and needed in the interests of the proper functioning of the international monetary system. If the member refused to act and to offer a convincing explanation for its refusal, then the issue of a violation of obligations under Article IV Section 1 would become relevant.

B. The Guidelines for Fund Surveillance over Exchange Rates

Article IV Section 3(b) calls on the Fund to “...adopt specific principles for the guidance of members with respect to those [exchange rate] policies.” The Executive Board responded to this call, even before the Second Amendment was formally ratified, with a decision on, “Surveillance Over Exchange Rate Policies,” dated April 29, 1997. This decision, which will be referred to as, “The 1977 Guidelines for Fund Surveillance over Exchange Rate Policies” or more briefly as, “The 1977 Guidelines.” (This decision is regularly reproduced in the IMF Legal Departments *Selected Decisions* which is issued every few years.)

These Guidelines consist of several parts. The first three parts, “General Principles,” “Principles for the Guidance of Member’s Exchange Rate Policies” (PGM) and “Principles for Fund Surveillance over Exchange Rate Policies” (PFS), remained essentially unchanged though a long series of reviews until a major revision was adopted by the Executive Board in June 2007. The part of the 1977 Guidelines dealing with procedures for surveillance was amended several times and a series of Executive Board decisions made a variety of detailed adjustments to surveillance procedures, but these developments are not important for the present discussion.

The new June 2007 decision, which will be referred to as the 2007 Guidelines, reorganized the material in the 1977 Guidelines, incorporated new material on “bilateral surveillance” and made some moderately important changes to the substantive material in the 1977 Guidelines. With one important caveat, I believe that the 2007 Guidelines are an improvement over what they replace. The new guidelines are generally better adapted to the ways in which both the international monetary system and the actual practice of Fund surveillance have evolved over the past three decades. It may be hoped, although it remains to be seen, that the 2007 Guidelines will provide a better basis for further improvements in Fund surveillance.

Nevertheless, this discussion will deal primarily with the 1977 Guidelines, taking occasional note of important changes that have been made in the 2007 Guidelines. There are two main reasons for this. First, the main purpose of the present analysis is to examine the actual practice of Fund surveillance over member’s exchange rate and related policies, especially the catastrophic failure of that surveillance in its most important case of recent years—surveillance over the exchange rate and related policies of China. The old guidelines, not the new ones, are relevant for this purpose. Second, the substantive changes to the 1977 Guidelines made in 2007 are relatively modest. For example, the new guidelines usefully make clear that that Fund surveillance should give special emphasis to the external implications of member’s policies, taking into account the fact that many of these policies are properly directed at important domestic objectives, in particular those enumerated in Article IV Sections 1(i) and (ii). This is intended to address the problem that, for many years, the Fund’s bilateral surveillance has given primary emphasis to assessing whether member’s policies serve the key domestic goals of fostering growth with reasonable price stability and promoting financial stability--at the expense of adequate treatment of the external effects of member’s policies. But, nothing in the 1977 Guidelines conflicts with the emphasis suggested by the 2007 Guidelines, quite the contrary. Rather, the problem has been that Fund staff, Management, the Executive Board, and member countries have generally wanted to avoid controversies over sensitive issues related to members’ exchange rate and related policies and, accordingly, have shied away from assiduous application of the 1977 Guidelines.

General Principles

The relatively brief statement of “General Principles” in the 1977 Guidelines which essentially repeats parts of Article IV and indicates that what follows in the decision “...applies to all members...” is “...adopted by the Fund in order to perform its functions under [Article IV] Section 3(b)...” and “...does not explicitly deal with the Fund’s responsibilities referred to in Section 3(a).” The 2007 Guidelines expand substantially this initial part of the 1977 Guidelines by including significant material concerning how the Fund will carry out its responsibilities for “bilateral surveillance,” i.e., the responsibility mandated by the second clause of Article IV Section 3(a), “[the Fund] will oversee the compliance of each member with its obligations under Section 1 of this Article.” No mention is made, however, of what the Fund will do regarding its responsibility under the first clause of Article IV Section 3(a), to “...oversee the international monetary system in order to ensure its effective operation.”

This is a key point where the 2007 Guidelines are not an improvement, but rather an important step backward from the 1977 Guidelines. This backward step is both unwise and contradicts the clear language of the Articles. Specifically, Article IV Section 3(b) says, “In order to fulfill its obligations **under (a) above**, the Fund shall exercise firm surveillance over the exchange rate policies of members, and shall adopt specific principles for the guidance of all members with respect to those policies.”[emphasis added] The words, “...under (a) above...,” unambiguously refer to the first clause of Section 1 of Article IV, as well as to its second clause. Thus, the explicit language of Section 3(b), as well as the clear intent of the framers of Article IV was that firm surveillance of members’ exchange rate policies and the establishment of principles to guide those policies were critical tools that the Fund would use fulfill **both** of its responsibilities under Section 3(a). No decision of the Executive Board may contradict this.

The 1977 decision says that it is “...adopted by the Fund to fulfill its functions under section 3(b)...[and does] not deal directly with the Fund’s responsibilities under Section 3(a).” This is fine. It is Section 3(b) that mandates the Fund to “...adopt specific principles for the guidance of all members with respect to those [exchange rate] policies,” and the 1977 decision responds to that mandate. The 1977 decision applies generally to Fund surveillance in its overall function of assisting the Fund in fulfilling both of the responsibilities stated in Section 3(a), without prejudice toward either one. The 2007 decision, by contrast, explicitly seeks to cover only

“bilateral surveillance,” effectively the combination of Section 3(b) with the second clause of Section 3(a).

Not only is this approach inconsistent with the phrase that begins Article IV Section 3(b), it is unwise for substantive reasons. The most important cases for Fund surveillance are likely to be those where developments in particular countries and in their policies have systemic implications. It is important, therefore, that the decisions governing Fund surveillance should give particular emphasis to the role that Fund surveillance over individual countries should play in supporting the fulfillment of the Fund’s responsibility to oversee the international monetary system. The new decision appears to go in the opposite direction.

Principles for the Guidance of Member’s Exchange Rate Policies

The *Principles for the Guidance of Members’ Exchange Rate Policies* (PGM) in the 1977 Guidelines consists of three principles:

- A. A member shall avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain unfair competitive advantage over other members.
- B. A member should intervene in the exchange market if necessary to counter disorderly conditions which may be characterized inter alia by disruptive short-term movements in the exchange rate of its currency.
- C. Members should take into account in their intervention policies the interests of other members, including those in whose currencies they intervene

The first of these principles is simply a repetition of Article IV Section 1(iii). The next two principles are injunctions to members that they “should” intervene to counteract disorderly conditions in foreign exchange markets and “should” take account of the interests of other members in their exchange market interventions. The word “should” indicates that members would ordinarily be expected to do these things but are not necessarily required to do them—unless in particular circumstances or cases the Fund

were to determine that action was obligatory. It is noteworthy the both principles B and C deal with foreign exchange market intervention. This was clearly understood to be the premier tool of exchange rate policy.

The 2007 Guidelines make no changes in the three principles of the 1977 GPM, but they do add a fourth principle:

D. A member should avoid exchange rate policies that result in external instability.

This additional principle is useful. It is consistent with the emphasis in the 2007 Guidelines that Fund surveillance should focus with particular attention on the external effects of members policies. It also sounds like it would be helpful in cases where countries endeavor to maintain unrealistically overvalued exchange rates which are likely to collapse in a crisis. There were a number of important cases where this was a critical problem in the years from 1994 through 2003.

It is less clear, however, that the new principle would be helpful in dealing with those relatively rare but important cases where countries seek to maintain unrealistically undervalued exchange rates. In undervaluation cases, there is usually much less danger, than in overvaluation cases, that misguided policy will lead to a disruptive financial crisis, even though the policy still has important effects in distorting a country's external position and its economic interaction other countries. I would have preferred language that was more symmetric between problems of overvaluation and problems of undervaluation., for example, "A member should avoid exchange rate policies result in substantial overvaluation or undervaluation or that threaten to produce external instability."⁹

Principles for Fund Surveillance (PFS)

⁹ A senior member of the IMF staff usefully pointed out that the "Companion Paper" for the 2007 Executive Board decision, included in IMF (2007b), which is part of the legislative record relevant for interpreting this decision, includes the key clarification, "The concept of external stability takes account of spillovers across countries, and applies to both surplus and deficit countries. ...a country building up net assets, inconsistent with the economy's fundamentals, might be able to do so for a long period. However, at least one of its partners is likely to be building up an excessive net liability position, at the risk of abrupt reversals." This clarification is quite helpful. However, I would still have preferred more explicitly balanced language in the formal statement of the new guidelines.

The *Principles of Fund Surveillance over Exchange Rate Policies* in the 1977 Guidelines are comprised of three main principles:

[Insert this document]

Principle 1 expounds the essential link between the Fund's assessment of the evolution of the international monetary system and the requirements for its effective operation and the conduct of Fund surveillance over exchange rate policies. The "needs for international adjustments as they develop" refers both to systemic changes in the international monetary system (such as the growing importance of private capital flows) and to needs arising from the general state of the global economy (such as the present concern with global payments imbalances). The assessment of the operation of the international adjustment process, by the Executive Board and the IMFC, must be taken appropriately into account in the exercise of Fund surveillance over individual members.

The New Guidelines (in the 2007 Executive Board Decision, see IMF 2007b) omit Principle 1 from the 1977 PFS, but the same ideas are covered elsewhere in the decision. In particular, paragraph 9 of the June 2007 decision says:

"The Fund's assessment and advice in the context of bilateral surveillance will be informed by, and consistent with, a multilateral framework that incorporates relevant aspects of the global and regional economic environment, including exchange rates, international capital market conditions, and key linkages among members. The Fund's assessment and advice will take into account the impact of a member's policies on other members to the extent that the member's policies undermine external stability."

Also, paragraph 3 of the new decision includes the language, "Fund surveillance over members' policies will be adapted to the needs of the international monetary system as they develop." Together, this new language repeats most of what is in old Principle 1, but includes subtle changes that I regard as more unhelpful than helpful. The old approach of combining the language in a single "Principle" gives it somewhat more emphasis. The old language concerning "the needs of international adjustment as they develop" and the proper "functioning of the international adjustment process" also

suggests a clearer link to the Fund's responsibility to oversee the international monetary system. In contrast, as previously noted, the new decision says explicitly that, "It does not deal directly with the Fund's responsibility to oversee the international monetary system..." Moreover, the new language in the new decision appears to downgrade the importance of systemic issues in Fund surveillance by calling on the Fund to "take into account the impact of a member's policies on other members **to the extent that the member's policies undermine external stability.**"[emphasis added]

An important difficulty here is that the staff has expressed a rather narrow concept of "external stability." The background staff paper (also contained in IMF 2007b) for the Executive Board's June 2007 decision explicitly states, "External stability is achieved when the balance of payments position does not, and is not likely to, give rise to disruptive adjustments of exchange rates." It also indicates how the staff intend to go about determining whether "external stability" may be a concern by estimating a country's exchange rate is significantly "misaligned."¹⁰ This approach focuses on individual countries and asks whether there is important reason to worry that their specific situation implies potential external instability for them that may spill over to other members. There is little or nothing in this approach that looks to the global situation and asks about what individual countries need to do from system perspective in order to ensure an effectively operating international monetary system with an orderly balance of payments adjustment process.

The focus on "external stability" as defined by the staff may well be successful in identifying countries with large current account deficits that are in relatively imminent danger of a disruptive foreign exchange crisis and sudden depreciations of their currencies. This focus is understandable because there have been many instances during the past decade or so where countries have gotten into such situations and damaging financial crises have

¹⁰ This procedure is essentially the procedure developed by the CGER while I was serving as Economic Counsellor. An estimate is made of the "underlying current account balance" would be at the current real effective exchange rate if temporary factors affecting the current account are removed. If this underlying current account balance differs significantly from the capital flows assessed to be consistent with sustainable developments in a country's net external asset position, then the exchange rate is judged to be misaligned. (See Clark, et.al. 1994 and Isard and Faruquee 1998 for a more detailed description of this methodology as it developed.) I found such analysis quite useful, at least for the range of countries where it was possible to form reasonable estimates. However, it was not be the sole tool upon which I placed reliance in Fund surveillance over exchange rates.

followed. The Fund has been criticized for failures in its surveillance to detect such problems as they are developing and urge policy actions to forestall potential crises. Therefore, in accord with the time-honored practice of “fighting the last war and thereby preparing to lose the next one,” the new surveillance decision tilts the direction of Fund surveillance toward guarding against problems of overvaluation.

This asymmetry, however, is not justifiable. The next war may not be like the last, as the present case of China powerfully demonstrates. Moreover, it is a bedrock principle that Fund surveillance should not be highly asymmetric between deficit and surplus countries. Deficits are not necessarily bad and surpluses are not necessarily good. By the rules of double-entry bookkeeping, it is not possible to have deficits without also having an equal volume of surpluses. The drafters of the original Articles of Agreement and of the Second Amendment were aware of this fundamental fact. They understood that for the balance of payments adjustment process to function at all, let alone very well, adjustments were needed symmetrically from both deficit and surplus countries. Accordingly, the new Article IV was structured so that members’ obligations and the application of Fund surveillance would apply with reasonable symmetry to both deficit and surplus countries. The language in Article IV Section 1(iii) obliging members to avoid exchange rate policies directed at **preventing effective balance of payments adjustment** is intended to apply with at least equal force to surplus countries as to deficit countries.¹¹ No desire of the staff or the Executive Board to focus on “external stability” can overturn or contradict this principle of symmetry embodied in the Articles.

Principle 3 from the 1977 PFS is also omitted from the new Guidelines, but this material is incorporated, in somewhat different language in paragraph 9 the June 2007 decision.

Interpreting The Items Under Principle 2

Principle 2 provides a list (not necessarily exhaustive) of developments that might indicate serious problems with a member’s exchange rate and related policies from the perspective of Fund surveillance

¹¹ I say “with at least equal force” because the injunction against policies directed at gaining unfair competitive advantage logically applies only to countries with undervalued exchange rates and the injunction against preventing effective balance of payments adjustment may, therefore, have been intended by the authors of Article IV to apply particularly to surplus countries.

Two remarkable features of this list are that explicit reference is made to the *balance of payments* only in the qualifying phrase “for balance of payments purposes” in items (ii), (iii), (iiib) and (iv) and not at all in items (i) and (v), and explicit reference to the *exchange rate* or *exchange rate policies* is made only in item (v) and nowhere else. This seems quite odd for a list of items that the Fund is supposed to look at in conducting its firm surveillance over members’ exchange rate policies, and it appears odder still in light of the instruction in Principle 3 that “The Fund’s appraisal of a member’s exchange rate policies shall be based on developments in the member’s balance of payments...”

These oddities have a good explanation and one that is relevant to interpreting and applying Principle 2 in the case of China and more generally. In this regard, it is important to recall that the version of the PFSERP adopted in April 1977 evolved from earlier efforts within the Fund to establish reasonable rules of the game for exchange rate policies in the aftermath of the collapse of the Bretton Woods par value system enshrined in the original version of Article IV. These rules were intended to be applicable to an international monetary system in which exchange rates among some currencies (particularly the largest countries) fluctuated fairly freely in response to market forces but where many countries pegged the exchange rate of their national currency (tightly or loosely) to some other currency.

Item (i) of Principle 2 was expected to be particularly relevant to countries that maintained some form of pegged or tightly managed exchange rate, although it might also apply in some cases to countries with floating exchange rates if they chose to intervene extensively in foreign exchange markets. Mention does not need to be made of either “the balance of payments” or “the exchange rate or exchange rate policies” in item (i). This is because the most important measure of the balance of payments of a country with a pegged or quasi-pegged exchange rate is normally the *official settlements balance* which corresponds precisely to the extent of official intervention (ie., the net purchase (surplus) or net sale (deficit) of foreign exchange assets by the national monetary authority.¹² Official intervention in the foreign exchange market is always a policy to influence both the

¹² Depending on institutional arrangements in different countries, the national monetary authority is not always synonymous with the central bank. If foreign exchange reserves are held by other agencies of the government (such as the Finance Ministry in Japan), then the relevant operations of these agencies need to be consolidated with those of the central bank.

exchange rate (cause it to move or not to move) and the balance of payments (especially the official settlements balance). Accordingly, the qualifying phrase “*for balance of payments purposes*” does not appear in item (i) because official intervention is, by definition, always for balance of payments purposes. And, in applying item (i) in connection with Article IV Section (iii), there can never be any question “intent” concerning whether official intervention is being used “in order to” influence the balance payments. Whether the effect of such influence is to “...prevent effective balance of payments adjustment” (rather than counter short-term disturbances), of course, does need to be examined, as well as the issue of whether a country may be using the effects of official intervention “...in order to...gain unfair competitive advantage over other members.”

Item (v) of Principle 2 is the only item that refers directly to the *exchange rate*. It is meant to apply to countries with floating exchange rates, although it also may apply to countries with pegged or quasi-pegged exchange rates. The idea of item (v) is that even countries that do not intervene very much in foreign exchange markets (as well as some that do) may have exchange rates that diverge substantially from the levels implied by “underlying economic and financial conditions including factors affecting competitiveness and long-term capital movements.” This needs to be assessed by the Fund. If it is found that the exchange rate does depart significantly from level implied by underlying fundamentals, the Fund would have to assess whether this misalignment is a problem (e.g. it is preventing effective balance of payments adjustment) and whether it is related to policies of the member that should be adjusted in order to correct the misalignment.

The procedure to be used to assess whether an exchange rate is misaligned relative to underlying fundamentals is hinted at in the specification of item (v) and is consistent the techniques used by the Fund under the old Article IV and subsequently. The basic idea is that the sustainable level of country’s capital inflows (or outflows) determines the sustainable level of its current account deficit (or surplus). The actual current account deficit depends on various temporary factors (especially the stage of the business cycle at home and abroad) and on the country’s underlying trade competitiveness which depends, in turn, on productivity, on wages and other production costs, and on the country’s exchange rate. If the current account deficit (or surplus), adjusted for the effects of temporary

factors, is close to the estimated sustainable level of capital inflows (or outflows), then the exchange is not significantly misaligned.

If the current account balance, adjusted for the effects of temporary factors, differs significantly from its estimated sustainable, then the exchange rate is misaligned: It is overvalued if either the adjusted current account deficit is significantly larger than the sustainable deficit or if the adjusted surplus is significantly smaller than the sustainable surplus; and conversely for undervalued exchange rates. The amount by which the exchange rate is judged to be misaligned and hence the magnitude of the needed correction depends on the size of the difference between the adjusted current account balance and its estimated sustainable level and on the estimated responsiveness of current account balance with respect to changes in the exchange rate.

Because the various estimates used in assessing whether an exchange rate is significantly misaligned are subject to considerable margins of error, the judgment of misalignment and of its magnitude are necessarily not very precise.¹³ This is an important drawback if, for example, one is advising a country that has decided to peg its exchange rate (or re-peg it) on precise what exchange rate it should set. The problem is less serious in Fund surveillance because the objective is, or at least should be, to identify cases where exchange rates are substantially misaligned (say at least 10 percent) and avoid controversies with national authorities when exchange rate misalignments are relatively minor.

It is noteworthy that under the above procedure for assessing exchange rate misalignments, item (v) is logically linked to item (i). The official settlements balance is the sum of the current account balance and the capital account balance (the net inflow of capital excluding official foreign exchange market interventions). Hence, the conclusion that the exchange rate is not seriously misaligned implies that the country would not need to engage in large-scale and persistent official intervention in one direction in order to maintain the value of the exchange rate near its existing level. Conversely, the conclusion that the exchange rate is seriously misaligned implies that a country's authorities would need to engage in large-scale, persistent, one-way intervention to keep the exchange rate near

¹³ This lack of precision and its importance in applying the CGER estimates to exchange rate surveillance were emphasized to the Executive Board; see Mussa and Isard (1998).

its existing level—or something else would need to produce this result, or the exchange rate would need to change.

For a country that runs a floating exchange rate without significant intervention and without pursuing policies that essentially replicate the effects of official intervention, the presumption is either that the exchange rate will change when the temporary factors accounting for its assessed misalignment go away or that the Fund is wrong in its assessment of significant misalignment. The factor that is most likely to be at work in these circumstances is a private net capital flow, into or out of the country, that is significantly different than what the Fund believes to be sustainable in the longer term. If the Fund is wrong and the seemingly aberrant net private capital flow continues, the exchange rate is not misaligned and it need not adjust. If the Fund is correct, then the aberrant net private capital flow will eventually subside and the exchange rate will adjust naturally in response to market forces. If the Fund is strongly convinced that its assessment of misalignment is correct, it may seek to persuade a country's authorities to take policy actions, possibly including foreign exchange market intervention, to hasten the correction of the misalignment and thereby limit the damage it could generate. In these circumstances, however, it would generally not be appropriate for the Fund to accuse a country of violating its obligations under Article IV—unless the country were pursuing policies that appeared to be intended to create or sustain the exchange rate misalignment.

Among such policies, the first and foremost would be persistent, large-scale, one-way intervention in the foreign exchange market. Thus, such intervention is not only, in its own right as item (i) on the list under Principle 2 of the PFS, the foremost and self-sufficient indicator of likely violation of obligations under Article IV. Also, under item (v), persistent, large-scale, intervention in the direction that creates or sustains an assessed exchange rate misalignment is crucial supporting evidence that supports the assessment of serious misalignment. Moreover, when an exchange rate that is assessed to be misaligned is supported by persistent, large-scale, one-way intervention, this conclusive evidence that the exchange rate misalignment is the consequence of deliberate government policies directed at affecting a country's exchange rate and its balance of payments.

Items (ii), (iiia), (iiib) and (iv) on the list under Principle 2 of the PFS are intended to deal with situations where a country's exchange rate is assessed to be seriously misaligned but persistent, large-scale, one-way

intervention is not being used to create or sustain the misalignment. The reason for the Fund to consider these items is that a country that is not intervening officially in the foreign exchange market may be able to, and may seek to, have much the same effect as such intervention through alternative policy means. For example under item (ii), if government quasi-government agencies (other than the national monetary authorities) exchange in extensive foreign borrowing, this does not count as official intervention, but it can be an effective substitute for official intervention to resist depreciation of the exchange rate. The reverse is true for official or quasi-official foreign lending (which is excluded from official foreign exchange market intervention).

Alternatively, the government might not do things itself that simulate official foreign exchange market intervention, but might try instead to induce private economic agents to do these things. This might include the use of trade restrictions or other measures to influence current account transactions (item (iia)), or restrictions or incentives to influence private capital flows (item (iib)). Monetary policy and other domestic financial policies might also be used to influence net private capital inflows (item (iv)). And based on recent experience, several things could be added to the list, including denomination of domestic debt in foreign currency rather than domestic currency, engaging in extensive forward foreign exchange market operations not reported as official intervention, or providing special incentives (such as exchange rate conversion guarantees) to domestic banks or other financial institutions to hold the proceeds of capital inflows offshore.

With almost all of these things, however, there is question of whether they are being done as a sub rosa substitute for official foreign exchange market intervention instead of for other normal and legitimate purposes. This is why the qualifying phrase “*for balance of payments purposes*” is included in items (ii), (iia), (iib) and (iv). In assessing whether a country’s behavior is somehow amiss regarding these items, the Fund must conclude more than that the behavior is having effects on the exchange rate and/or the balance of payments that the Fund finds objectionable. The Fund must also reach the reasonable assessment that the behavior is being pursued primarily to have these effects. With some actions that are little more than thinly disguised official intervention (such as re-denominating domestic debt into foreign currency or engaging in extensive forward foreign exchange market operations) the conclusion that the action is “for balance of payments

purposes” is obvious. In other cases it is less clear. Even in the questionable cases, however, the Fund is not required simply to accept the assertion of a member that its actions are not “for balance of payments reasons” without a reasonable explanation of what the primary purpose of the actions really is, and especially so if the circumstances and facts indicate otherwise.

Moreover, a country may still be on the hook with respect to these items if the Fund can suggest alternative actions which would achieve the member’s purposes (without creating other important difficulties) but would avoid the objectionable balance of payments effects.

For example, a country with a weak economy is likely to adopt an easy monetary policy in an effort to stimulate output and employment growth. The results would normally be expected to include a depreciation of the exchange rate that, in turn, would tend to improve the current account balance and net exports, thereby providing part of the expected boost to domestic production and employment. The effect could even be to push the exchange rate into substantial undervaluation reasonably assessed as a significant misalignment. Nevertheless, the Fund would find it difficult to object to this policy under Article IV, despite its effects on the exchange rate and the balance of payments, because the easy monetary policy is being used for the primary and normal purpose of responding to a weak economy, in accord with the objective of “fostering orderly economic growth with reasonable price stability” espoused in Article IV Section 1(i).

The conclusion might change, however, if the member pursued a tight fiscal policy together with an easy monetary policy in circumstances where there was not an overriding need to reduce the member’s fiscal deficit and where other countries faced significant problems with underemployment. The combination of tight fiscal and easy monetary policy would normally be expected to benefit domestic output and employment by putting usually strong pressure for improvement in the current account balance. The member would address its employment and output growth problem, but at the expense of other members that need to do the same. Unless the member’s need for fiscal consolidation was urgent and overwhelming, the Fund **could** object and insist that the member should pursue a better balance of monetary and fiscal policy. Less fiscal tightening and less monetary easing would preserve the overall stimulus to domestic output and employment, but would put greater emphasis on stimulus of domestic demand and less on improvement in net exports. For other countries and for the world as a whole, the expected outcome would improve.

Whether the Fund **should** object to the member's policies in this hypothetical situation depends critically on the proper application of Principle 1 of the PFS. It is not just the member's policies and their effect on the member's exchange rate and balance of payments that matter, it is also the international context in which this is happening. If other members are not facing problems of underemployment (or even have economies in danger of overheating) and if some worsening of their balance of payments positions is not a concern, then the Fund has little reason to object to the combination of macroeconomic policies of the member in question. However, if other members are facing underemployment problems or if their balance of payments positions are in critical need of improvement, then the Fund would have valid reason to object to the macroeconomic policy combination of the member in question. More generally, it is clear that the global economic situation and the functioning of the international adjustment process need to be taken into account in applying to individual members the various items under Principle 2 of the PFS.

In paragraph 15 of the Executive Board decision establishing the 2007 Guidelines, the sub-points under Principle 2 of the PFS are retained as in the 1977 Guidelines, with the exception that item (v) is replaced by three separate items, designated here with a "prime" (') to indicate that they are part of the new Guidelines:

- (v') fundamental exchange rate misalignment;
- (vi') large and prolonged current account deficits or surpluses; and
- (vii') large external vulnerabilities, including liquidity risks arising from private capital flows.

Item (v') may reasonably be read as a shortened form of item (v) in the 1977 PFS, without any specific indication of factors to be considered in judging whether an exchange rate is fundamentally misaligned. Item (vi') indicates what is arguably the most important factor to consider in assessing whether an exchange rate is fundamentally misaligned. However, no explicit mention is made of the broader conception in old item (v) of "...underlying economic and financial conditions including factors affecting competitiveness and long term capital movements." The new (v') and (vi') appear to be a step backward from the old (v) for two reasons. First, a

judgment about whether an exchange rate is fundamentally misaligned ought reasonably to depend not of whether a current account deficit or surplus is “large and prolonged,” but rather on an assessment of whether this prolonged current account deficit or surplus is large relative what a country might plausibly be expected to finance with reasonable and sustainable private capital inflows or outflows. Second, some reference to “factors affecting competitiveness” seems reasonable in a list of items to be used in assessing whether, contrary to the strictures of Article IV Section 1(iii) a country may be pursuing policies “...in order to gain...unfair competitive advantage over other members.” In view of the experience with damaging foreign exchange and financial crises between 1995 and 2003 (and before), item (vii’) appears to be a relevant and useful addition to the list of items that the Fund should focus on in conducting its firm exchange rate surveillance.

Finally, in interpreting the list of items under Principle 2 of the PFS in the 1977 Guidelines (or in paragraph 15 of the 2007 Guidelines), it is important to emphasize that this is not a report card where a passing grade on four items, an incomplete on one item, and failure on only one item implies an overall pass. Failure on item (i) alone is generally enough for overall failure if the extent of official intervention persists for a sufficiently long time, is of very large-scale, is (almost) always in the same direction, and especially if much of this intervention is sterilized. Failure on item (v), in connection with failure on item (i) also implies overall failure, whether or not there are failures on the other items. Failure on anyone of these other items, together with failure on item (v) or item (i) also usually implies overall failure.

The Primacy of Balance of Payments Adjustment

In the discussions that led to the foundation of the International Monetary Fund, the key concern was the restructuring of an international monetary system that would support the recovery of world trade and thereby promote general economic recovery after the war. The perception was that the cataclysmic collapse of international trade in the decade before the war was not only a consequence of, but also a key factor contributing to, the depression of output and employment in the 1930s. Malfunctioning of the international monetary system was seen, in turn, as an important factor behind the collapse of world trade.

As countries with overvalued real exchange rates under the interwar gold-exchange standard came under pressure in their balance of payments, notably the United Kingdom in 1930-31, they were compelled to adopt contractionary measures to try to stem reserve losses and preserve their gold parities. When this proved too painful, parities were abandoned (by the U.K. in 1931 and the U.S. in 1933) and exchange rates plunged. This helped in some measure to contain output and employment losses in the countries that depreciated but transferred the problem to countries (notably France) that remained pegged to gold—the so-called “beggar-thy-neighbor” effect. Indeed, some countries were thought to have used exchange rate depreciation as a deliberate policy to solve their domestic employment problems at the expense of other countries—so-called “competitive depreciation.” The result was that economic depression and collapsing trade were spread around the world by the malfunctioning of the international monetary system.

The International Monetary Fund was designed and established primarily to correct this malfunctioning and guard against its recurrence. This is clear from Article 1 of the Articles of Agreement of the IMF:

[Insert Article 1]

It is noteworthy that the phrase, “...and to avoid competitive depreciation,” is included in purpose (iii). Clearly, this was one problem that the IMF was supposed to solve. The means for doing so was provided by the so-called “Bretton Woods system” of par values for exchange rates. In this system countries set “par values” for their currencies in terms of gold, and they were required to limit fluctuations of their actual exchange rates to narrow ranges around their respective par values. Changes in par values were permitted on the initiative of the member, but changes of more than 10 percent required the approval of the Fund. Thus, the system served one of the key purposes of the Fund (stated in Article 1(iii) “To promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation.” Notably, protection against competitive depreciation is the third-stated of these objectives. The general objective is to promote a properly functioning international monetary system with “exchange stability” and “orderly exchange arrangements among members.”

Purposes (ii) through (vi) are also focused on a properly functioning international monetary system and on the need to avoid serious malfunctions of the balance of payments adjustment process. Purpose (ii) recognizes that a properly functioning international monetary system, under the stewardship of the Fund is needed to facilitate “the expansion and balanced growth of international trade” which, in turn, is important for achieving the primary objectives of high employment and real income. “Balance growth of international trade” is emphasized because if trade expands in a substantially unbalanced manner, countries will likely face significant balance of payments adjustment problems. The Fund should seek to assure that the international monetary system operates in ways that forestall such problems while still supporting the expansion of world trade. Purpose (iv) again relates to a properly functioning international monetary system. Such a system should allow countries to settle their international payments balances on a multilateral basis, rather than through complex and distortionary bilateral arrangements, and countries should avoid foreign exchange restrictions (at least for current payments) that hamper the growth of world trade.

Purpose (v) clearly relates to the balance of payments adjustment process. It establishes the objective for Fund lending of providing to members the “opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.” Consistent with the theme in the other purposes, Purpose (vi) establishes the general objective of limiting the duration and degree of “disequilibrium in the international balances of payments of members.” Large sustained disequilibria in balances of payments create serious risks of disruptive adjustments needed to correct them. Hence the Fund was endowed with the general purpose to avoid such risks through the effective operation of the international monetary system with a properly function mechanism for correcting balance of payments disequilibrium. (The language in Article IV Section 2 (c) and in Schedule C and in Article XI makes clear that members’ exchange rate policies adopted under the new Article IV must be consistent with the purposes of the Fund set out in Article I.)

The par-value exchange rate system mandated in the Bretton Woods agreement came under increasing strain in the 1960s and collapsed in the early 1970s. The problem was not wide-scale efforts to practice competitive depreciation that the Fund was unable to forestall. The key problem was

that the balance of payments adjustment process was not working smoothly. The United States government believed that it needed to retain a significant current account surplus, partly as a safeguard to its position as the premier reserve currency country. As the economies and trade of other countries grew, they naturally wanted to increase their holdings of foreign exchange reserves—to an extent substantially exceeding to normal increase in monetary gold stocks. The gap was filled by expanding foreign official holdings of U.S. dollars and drawings of gold from the United States by other countries. Even with a significant current account surplus to help reinforce confidence in the U.S. capacity to continue to serve as the principal reserve currency country, there were serious worries that the system could collapse. In the meantime, the U.S. authorities felt that they were unduly constrained by their balance of payments concerns to address their domestic policies appropriately to the key goal of maintaining reasonably full employment. With the U.S. unwilling to accept a general increase in the price of gold (which would be interpreted by many as a humiliation for the United States), and with key surplus countries unwilling to appreciate their currencies substantially against the dollar for fear of losing competitiveness, the international monetary system was in stalemate. The crisis came in August 1971. After a short-lived effort to revive the par-value system based on the Smithsonian Agreement, the crisis of March 1973 marked the effective end of the par-value system.

Not surprisingly, the policy debates that surrounded the formulation and adoption of the Second Amendment to the Fund's Articles of Agreement in the mid 1970s, were dominated by the concerns that arose in connection with the collapse of the Bretton Woods system. How would the process of balance of payments adjustment operate under a more diverse set of exchange arrangements than permitted under the par-value system? Would floating exchange rates prove to be too unstable and disruptive and what authority would the Fund have to do something about it if they did? What would ensure orderly the balance of payments adjustment process and an appropriate distribution of the burden of adjustment between deficit and surplus countries? More specifically, in the face of a need to reduce international payments imbalances, was the burden to be exclusively with deficit countries to deflate their economies and/or depreciate their exchange rates, or did surplus countries have a symmetric responsibility for balance of

payments adjustment to inflate their economies and/or allow their currencies to appreciate?¹⁴

This last question, the consensus was clear. The burden of balance-of-payments adjustment needed to be shared appropriately between deficit and surplus countries. Deficit countries that needed to reduce their balance of payments deficits generally needed to deflate their economies and/or devalue their currencies (for those with pegged exchange rates) or allow them to depreciate (for those with floating rates). Surplus countries had either to inflate their economies deliberately or by allowing foreign exchange inflows to have their normal inflationary effect, or they needed to revalue their currencies (for those with pegged exchange rates) or allow their currencies to appreciate (for those with floating rates). Deficit countries would normally be expected to deflate at least to the extent of reducing growth of domestic demand; and they would often also need to accept some (but not too much) devaluation or depreciation of their currencies. Surplus countries have more of a choice. They do not have to inflate. But, if they decided not to inflate, as would be the normal consequence of allowing the domestic money supply to expand in response to foreign exchange inflows, then surplus countries have to revalue or allow their currencies to appreciate.¹⁵

The new Article IV (which replaced the Article mandating the old par value system) was formulated to adapt the Fund to an evolving international monetary system. In Section 2(a) it allowed members to adopt a wide variety of exchange arrangements, from free floating to rigid pegging (except to gold) and many things in between. While leaving an opt-out for individual countries, Section 4 of the new Article IV also allowed for a return to a new form of par value system (spelled out in Schedule C) if so decided by 85 percent of the voting power of the membership. To ensure that the international monetary system did not become chaotic and dysfunctional, members of the Fund were obligated under Section 1 of the new Article IV “to collaborate with the Fund and other members assure orderly exchange arrangements and to promote a stable system of exchange

¹⁴ When gold functioned the ultimate reserve asset in the international monetary system, before the adoption of the second amendment, it was sensible to talk about depreciation by some countries (against gold) without appreciation by other countries against gold. In the present system where key national currencies function as reserves, it is not logically possible for a reserve currency country to depreciate its exchange rate unless other countries appreciate their exchange rates in terms of the reserve currency.

¹⁵ See Edwards (1985) for a useful summary of the debate and its conclusion on this issue in the context of the formulation and interpretation of Article IV.

rates.” Thus, the two general objectives in Article 1(iii) were to be achieved, not by obligating members to adhere to the old par value system, but by obligating them to collaborate with the Fund to achieve these objectives. By being and remaining members of the Fund after ratification of the Second Amendment, members accepted this newly stated general obligation.

The first two specific obligations under Article IV Section 1 recognized that issues regarding the effective operation of the international monetary system and about exchange rates and balance of payments could not be addressed in a vacuum. An effectively functioning international monetary system was a means to other more important ends: specifically in Section 1(i) “orderly economic growth with reasonable price stability;” and in Section 1(ii) “orderly underlying economic and financial conditions and a monetary system that does not tend to produce erratic disruptions.” Policies directed toward achieving these broad objectives were recognized to be important for the effective functioning of the international monetary system. Acceptance of these specific obligations to pursue broad policy objectives was not seen as an undue burden upon members as it would be virtually inconceivable that members would not want to achieve these objectives on their own. The wording “endeavor to direct,” “seek to promote” and “with due regard to circumstances” clearly indicate that the Fund is to give wide deference to members in assessing what policies were appropriate in pursuit of these broad objectives.

The third specific obligation under Section 1 is much more emphatic, “*members shall...avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment to gain unfair competitive advantage over other members.*” This specifically obliges members not to do things with their exchange rate and related balance-of-payments policies that are in contradiction of the purpose stated in Article 1(iii). As in the statement of that purpose, the general objective of assuring an effectively functioning international monetary system is given priority over the narrower concern of guarding against competitive depreciation.

Section 3 of the new Article IV replaces the Fund’s authority to supervise significant exchange rate changes under the old par value system. The rationale for this section is well explained by the Fund’s long-serving and distinguished General Counsel, Sir Joseph Gold (1990, p.15):

“Various safeguards have been included in the amended Articles, therefore, to reduce the risk that chaos in exchange rates would develop in the permissive system now in existence.

“Foremost among these safeguards is the requirement that the IMF must oversee the international monetary system to ensure that it will operate effectively. In addition, the IMF must oversee the conduct of members in order to determine whether they are complying with their obligations under Article IV, Section I. To fulfill these functions, the IMF must perform two tasks under Article IV Section 3. First, it must exercise firm “surveillance” over the exchange rate policies of members. Second, the IMF must adopt ‘specific principles’ for all members with respect to their exchange rate policies.”

The clear intention was that the Fund should use this new tool not simply to guard against the specific transgression of competitive depreciation, but primarily for the more general and important issue of ensuring an effectively functioning international monetary system, including a reliable and non-disruptive mechanism for achieving necessary balance of payments adjustments.

Of course, a good deal has changed in the world economy and financial system since the Bretton Woods conference in 1944 and since the adoption of the Second Amendment in 1978. The par-value system of exchange rates, based on gold and the U.S. dollar, has collapsed and been replaced by a much more diverse system of exchange arrangements. At the Bretton Woods conference, private international capital flows were thought likely to remain relatively small and, if anything, were likely to be a source of instability in countries’ balances of payments. This implied both that official settlements flows would need to be the principal means for settling payments imbalances among nations and that most nations should retain controls on private capital flows in order to contain their potentially destabilizing effects. Instead, private international capital flows have grown enormously, especially in the past three decades; and capital account restrictions have been removed by many countries. While private capital flows have sometimes been an important source of instability, they have also provided reasonably reliable financing for countries with current account deficits and surpluses on a scale and duration unimaginable at Bretton Woods or even in the mid 1970s.

All of this means that the conception of how the international monetary system operates and, in particular, what is likely to constitute an unsustainable payments imbalance, needs to change from what it was at the time of the Bretton Woods Conference or since the Second Amendment was adopted in 1978. Indeed, the 1977 *Principles for Fund Surveillance over Exchange Rate Policies* explicitly recognize that the International monetary system will continue to evolve over time. Principle 1 from the 1977 PFS specifically commands: (1) that "...surveillance over exchange rate policies shall be adapted to the needs of international adjustment as they develop," (2) that "...The functioning of the international adjustment process shall be kept under review by the Executive Board and the Interim Committee [now the IMFC]," and (3) that "...its operation shall be taken into account in the implementation..." of Fund surveillance.

The most important change in the international monetary system is surely that the system now allows much greater room for balance of payment adjustment through market driven movements of exchange rates, without the severely damaging consequences that many feared would follow from floating exchange rates. It also allows much greater room for countries to finance through private capital flows relatively large and long-lived current account deficits and surpluses, without creating serious difficulties for themselves or for other countries. Correspondingly, official settlements financing has generally become less important, as symbolized by the fact that no industrial country has requested an IMF loan for three decades.

Nevertheless, Article 1 continues to define the purposes of the International Monetary Fund and it still mandates that "The Fund shall be guided in all of its by the purposes set forth in this Article." This is not merely an arcane legal matter. Although it has evolved considerably over six decades, there is still an international monetary system. The notion that this system can always be relied upon to work perfectly smoothly on its own, and the individual nations safely be allowed to distort and disrupt the operation system whatever manner they choose, without any official oversight from a competent international institution backed by the will of the international community is, to put it bluntly, a gross stupidity. Payments imbalances can grow too large and go on too long, and exchange rates can become seriously misaligned. This may reflect either errant government policies or market forces that have gone wrong, or a combination of the two. The correction of such disequilibria can be damaging and disruptive for individual countries and their trading partners, for regions, and even for the

world as a whole. Thus, although the specific policies and practices of the International Monetary Fund have adapted and need to continue to adapt along with the evolution of the international monetary system, the Fund remains the vital international institution to oversee that international monetary system and to secure the cooperation of its members to ensure its effective operation. Fund surveillance remains the essential and flexible tool to enable it to fulfill these responsibilities.

II. The Practice of Fund Surveillance over Exchange Rates

The responsibilities of “the Fund” set forth in Article IV Section 3 refer specifically to the Executive Board which, under Article XII Section 3(a), is “...responsible for conducting the general business of the Fund.” By decision of the Executive Board, consideration of issues “multilateral surveillance” (that is, issues relating to the overall functioning of the world economy and the international monetary and financial system) take place primarily in the semi-annual discussions of the World Economic Outlook and more frequent informal briefings of World Economic and Financial Developments, as well as in Board considerations of a variety of policy papers. The IMF staff, under the supervision of IMF Management, provides the documentation that is the basis for these discussions of the Executive Board. In these discussions, the Executive Board considers the requirements for fulfilling its first responsibility under Article IV Section 3(a) to “...oversee the international monetary system in order to ensure its effective operation.”

Fulfillment of the Executive Board’s second responsibility under Article IV Section 3(a), to “...oversee the compliance of each member with its obligations under Section 1 of this Article,” occurs primarily in the Board’s consideration of the Article IV consultations with individual members. An IMF staff team, led by and comprised mainly of staff from the relevant Area Department, visit the country, confer with its officials, and draft a report for consideration by the Executive Board. Often in recent years, the staff team has issued a public statement at the end of its visit (before submitting its report to the Board) that summarizes the conclusions of the staff team (which usually have been endorsed by Management). Thus, the impression arises that it is the IMF staff that conducts the Article IV consultation—an impression that is not entirely without substance. As a legal matter, however, it is the consideration by the Executive Board of the staff report and any comments or responses from the member that constitutes heart of the consultation, and it is the summing up of this discussion by the Chairman of the Executive Board that formally concludes the consultation.

In practice, Article IV consultations, including all of the documentation in the related staff reports, often cover a wide range of issues. At a minimum, they are supposed to cover the four specific subpoints under Article IV Section 1, as well fulfill the Fund’s responsibility under Article

IV Section 3(b) to “...exercise firm surveillance over the exchange rate policies of members...”

In principle, Article IV consultations are supposed to occur on an annual basis with each member. This is generally the case with the Fund’s larger members, but frequency is somewhat less than annual with smaller members. Nevertheless, since Article IV was ratified 29 years ago, the number of consultations under its auspices has probably reached something between forty and fifty thousand. In most of these consultations, issues regarding the member’s exchange rate and exchange rate policy have received scant attention. In **none** of these consultations has the Executive Board ever concluded that a member was out of compliance with its obligations regarding its exchange rate policies or any other matter!

In addition to the (in principle) annual Article IV consultations, the procedures established by the Executive Board provide that “If, in the interval between Article IV consultations, the Managing Director...considers that a members exchange rate policies may not be in accord with the exchange rate principles [established by the Fund under Article IV Section 3(b)], he shall raise the matter informally and confidentially with the member, and shall conclude promptly if there is a question of observance of the principles. If he concludes that there is such a question, he shall initiate and conduct on a confidential basis a discussion with the member under Article IV Section 3(b).” Two such “special consultations” have been conducted: with Sweden in 1982 and with South Korea in 1987. Neither proceeded to the point of formal Executive Board consideration of a possible violation of the member’s obligations under Article IV. In the past 20 years, no other “special consultations” have been conducted.

With this record, it is not entirely surprising that the recent evaluation of the Fund’s exchange rate surveillance activities by the Independent Evaluation Office, IMF (2007c), concluded that “...there were considerable gaps and deficiencies and room for improvement in these activities.” Despite my efforts (and some accomplishments) on strengthening exchange rate surveillance during ten years on the IMF staff, and despite important progress since then, I basically share the assessment of the IEO. However, like the IEO, my concern is not primarily the total absence of cases in which the Executive Board has formally considered an outright violation of obligations under Article IV. Rather the principal concern is the substantial

deficiencies in the actual practice of IMF exchange rate surveillance before in reaches that stage where--on very rare occasions—such a formal consideration by the Executive Board may be appropriate.

Michel Camdessus and the CFA Franc

I few examples will help to clarify this point. First, the IEO report (in Box 4.2) assesses in a generally favorably way the Fund's involvement with the realignment of the CFA franc in early 1994? In which 13 of the 14 members of the African franc zone depreciated the values of their currencies by 50 percent viz-a-viz the French franc. My first official involvement with this issue came two years earlier when, in private conversation with Michel Camdessus, the Managing Director of the IMF, I noted that most economists had concluded that the CFA franc was substantially overvalued and that this was a serious cause of economic distortions that were impeding the growth and development of the CFA countries. Knowing that the issue was extremely sensitive with officials of both the CFA and France, I pressed Michel (a former deputy finance minister and central bank governor of France) on what should be done about this problem. With a slight smile and a twinkle in his eye, he responded somewhat enigmatically, "I'm working on it."

Even with his superb connections with the government of France and key officials in the governments of the countries of the CFA zone, it took about two years before Michel's work bore fruit. Suddenly it was announced that the CFA franc would be devalued by half against the French franc. Senior officials in the African Department of the IMF clearly knew about this somewhat in advance because Fund teams were immediately dispatched to all 14 of the CFA countries to negotiate Fund financial support for adjustment programs that would ensure the success of the exchange rate adjustment. Negotiations were rapidly concluded and the Executive Board promptly approved all of these programs. Thus, it was clear that the Board heartily approved of the adjustment of the exchange rate of the CFA franc.

Indeed, many members of the Executive Board, like many others outside as well as inside the Fund, probably thought that a substantial depreciation of the CFA franc was long overdue. No doubt, an honest analysis of the exchange rates of the CFA countries would have concluded, as early as the late 1980s, that these exchange rates had become seriously overvalued and that this was both a cause of persistent balance of payments

difficulties for these countries and an important impediment to their economic development. Looking to Article IV and to the guidelines established by the Fund for surveillance over members' exchange rate policies, a reasonable assessment would have concluded that there were, at a minimum, very serious concerns the maintenance of the peg of the CFA franc to the French franc was impeding desirable balance of payments adjustment and was potentially a violation of obligations under Article IV.

I know of no one, however, who has ever suggested that consideration by the Executive Board of possible violations of obligations under Article IV by the CFA countries (or by France) would have been a useful or appropriate way to address the problem of the substantial overvaluation of the CFA franc. That notion is simply ludicrous. The only reasonable way to deal with this case was for the Managing Director (and the IMF staff) to press the relevant national authorities with convincing arguments that a substantial devaluation of the CFA franc was clearly needed and for the Executive Board to applaud loudly when that task was accomplished.

The Mexican Peso 1994-95

Another relevant example—this time where the Fund's exchange rate surveillance was a failure—concerns the Mexican peso in the lead up to the devaluation of mid December 1994. Mexico was running a crawling band exchange rate regime in which the peso was allowed to depreciate slowly against the U.S. dollar (and fluctuate in a narrow range around its central rate). This regime worked successfully for a few years, but the Fund seemed to be oblivious to signs of trouble that began to emerge in 1992-93 as Mexico's current account deficit began to exceed 6 percent of GDP (an important danger signal of serious overvaluation for most emerging market countries, in particular for Mexico). The situation grew even more worrying during 1994—a Presidential Election year in Mexico—as the Banco de Mexico intervened massively (on a completely sterilized basis) to keep the peso from depreciating outside of the crawling band. In addition, to relieve downward pressures on the peso in the foreign exchange market, the Mexican government converted large amounts of domestic currency denominated bonds (cetes) into dollar-linked bonds (tesobonos).

The signs of an impending foreign exchange market crisis for Mexico were clear for those who cared to read them—as Rudi Dornbusch declared at the time. Officials in the U.S. government were also quite concerned and

communicated those concerns confidentially to senior Mexican officials. The Fund, however, took no particular note of the rising risk of crisis in Mexico (or of its possible spillover effects). In particular, the Fund's Management and staff did not warn the Mexican authorities forcefully of the dangers of the situation nor press them to make the policy adjustments that would need to accompany a virtually inevitable decision to adjust the exchange rate and thereby lessen the risk of a disastrous collapse of confidence.

In the aftermath of the "tequila crisis" that was initiated by Mexico's botched devaluation in mid December 1994, the Fund was roundly and rightly criticized for its failure to anticipate the crisis and to press for measures that might have lessened its impact. Some of this criticism was in public by senior official of member governments. There was also a confidential report on the Fund's performance in the Mexican case prepared by Sir Alan Whittome, a distinguished former member of the Fund staff. The Whittome Report has never been made public, but it is not revealing a deep secret to say that it was fairly critical of Fund staff for its surveillance work on Mexico in the build up to the crisis and that Fund management was also faulted for its failures of supervision and leadership. In its review of the Wittome Report, the Executive Board agreed with most of its conclusions, including its criticism of the performance of Fund staff and Management.

Notably, the Whittome report did not suggest that the proper course to have followed in the Mexican case would have been for the staff Article IV report in 1992, 1993, or 1994 to state explicitly that the peso had become significantly overvalued and was in serious danger of a disorderly collapse, or to suggest that Mexico might be in violation of its obligations under Article IV by maintaining an overvalued exchange rate that was interfering with needed balance of payments adjustment. Sir Alan, the Executive Board, and everybody else knew that this would be a ridiculous way to proceed. Discussion of any such report by the Executive Board would have great danger of leaking, and helping to trigger a disastrous crisis that all wanted to avoid. No member of the Executive Board would have wanted to consider, certainly not vote in favor of, a decision that Mexico was not in compliance with its obligations under Article IV. Instead, what was needed greater attentiveness by the Fund staff and Management to the rising risks of a disorderly correction of the overvaluation of the Mexican peso and more vigorous confidential efforts to persuade the Mexican authorities to take actions to reduce these risks.

The ERM Crisis 1992-93

A third relevant example concerns Fund surveillance related to the exchange rates of the largest, most systemically important countries. Dissatisfied with the Fund's performance of its surveillance responsibilities in the case of the ERM crises of 1992-93, I requested and the Managing Director approved of an effort to upgrade the Fund staff's analysis of exchange rates, especially of circumstances where they may be significantly misaligned relative to reasonable assessments of underlying medium-term economic fundamentals. This effort, which evolved into the Coordinating Group on Exchange Rates [check title] was co-chaired by the Research Department (which did most of the analytical work) and the Policy Development and Review Department (PDR) and involved the area departments and a couple of functional departments. The effort began with work defining and estimating of medium-term equilibrium exchange rates for the industrial countries and broadened later to cover emerging market countries.

The Dollar's Plunge in Early 1995

By early 1995, preliminary estimates were available for medium-term equilibrium exchange rates (both real effective rates and bilateral real rates) for the major industrial countries. These estimates, together with other information and analysis persuaded me that with its sharp recent depreciation against both major European currencies and the Japanese yen, the U.S. dollar had become significantly under valued relative to its medium-term economic fundamentals. Moreover, with both major European economies and the Japanese economy barely starting to recover from recent recessions and with the Federal Reserve tightening U.S. monetary policy significantly in 1994 to avoid potential inflationary over heating, the further depreciation and significant under valuation of the dollar appeared to be inconsistent with what was desirable from perspective of improving global macroeconomic conditions. The interests of other countries, which need to rely on the major currencies to conduct most of their international trade and finance, could also be significantly adversely affected by substantial misalignments and excessive volatility in major currency exchange rates. Thus, this analysis indicated both the key exchanges rates were significantly misaligned and that this misalignment

potentially posed a threat of significant impairment of the effective functioning of the international monetary system.

The Executive Board was briefed informally on this assessment and on the policy measures of coordinated intervention by the G-7 countries and monetary policy adjustments that were recommended to deal with the excessive depreciation of the dollar in the winter and early spring of 1995. These points were also made confidentially to the G-7 Deputies. The Managing Director then informed the G-7 Finance Ministers and Central Bank Governors of the Fund's analysis and policy recommendations. To my astonishment, the Managing Director then went public and used an important press conference to declare that the dollar's depreciation had become excessive and to call upon the major industrial countries to take actions, including official intervention and monetary policy adjustments, to countervail this excessive depreciation. Clearly, Michel Camdessus had decided that in this instance, his duty as Managing Director of the Fund and as its chief spokesman required that he press forward with every reasonable effort to fulfill the Fund's responsibilities as set forth in the Articles of Agreement.

In the event, the G-7 did act to resist the dollar's depreciation with a public declaration and with coordinated intervention, and monetary policy adjustments were undertaken that supported this effort. Whether the Fund played any significant role in these decisions is not clear. What is clear is that a formal decision by the Executive Board to call on the G-7 countries to act in order to fulfill their obligations under Article IV was never made or even discussed. Such a procedure would have been preposterous—and, if suggested, would surely have been blocked by the G-7 Executive Directors to preserve the freedom of action of their national authorities. Several (non G-7) Executive Directors did indicate their approval of the activities of staff and Management either privately or during the informal briefing of the Board. But in this example, as in the two others just discussed, it was clear that the Fund's responsibilities needed to be undertaken primarily by actions of Management and the staff, not by formal exercise of the Executive Board's authority under Article IV.

Regarding cases of significant undervaluation, as previously discussed, significant undervaluation of the U.S. dollar was identified as a problem in early 1995 by Fund management and staff. The Executive Board was apprised informally of this problem; and policy adjustments to correct it

were suggested by management and staff, both privately and publicly. But, there was no basis for arguing--and it was never suggested--that Executive Board should consider that the United States or other major industrial countries were in violation of their obligations under Article IV because of the undervaluation of the U.S. dollar.

The Very Weak Yen in the late 1990s

The Fund staff and management was also concerned that the Japanese yen was significantly undervalued relative to medium-term economic fundamentals during the latter half of the 1990s. Suddenly in the spring of 1998, the yen slumped sharply from what already appeared to be a significantly undervalued level down to 148 yen per U.S. dollar. This sudden slump coincided with a rise in the “Japan premium” in the global (eurodollar) interbank market, reflecting rising concerns about the situation of major Japanese banks in the aftermath of the collapse of Japan’s “bubble economy” earlier in the decade and the spillover effects onto the balance sheets of Japanese banks from the crises in Asian emerging market economies. There were also signs that Japanese residents were becoming increasingly concerned about problems in Japanese banks and were moving bank deposits into cash or into postal savings deposits.

In this situation of near financial panic, my judgment was that the further sharp depreciation of the yen was not only a symptom of, but was also adding materially to, a sense panic, as both Japanese and foreigners watched the precipitous decline of the foreign exchange value of the yen. In addition to impairing the efforts of other Asian countries to recover from their own financial crises, the slump in the yen was hurting more than helping the Japanese economy. Japanese businesses were already highly internationally competitive with the yen at 120 to the dollar and little was additional stimulus to Japan’s economy was likely to be gained by an even weaker yen. The further decline of the yen, however, and the sense of crisis to which it contributed, were undermining consumer confidence and weakening already weak domestic demand in Japan.

To forestall this process, I recommend on behalf of the Fund that actions, including specifically coordinated foreign exchange market intervention, be taken to resist the further unwarranted and unhelpful depreciation of the yen. The Japanese authorities apparently saw the situation similarly and were joined in this by the U.S. authorities. The

Japanese intervened heavily in the foreign exchange market and the U.S. authorities indicated that they were supporting the Japanese intervention. Whether this intervention was the cause or not, the yen did stop falling in June, stabilized over the summer, and suddenly bounced back to about 120 yen to the dollar in the early autumn.

Aside from this action in the spring of 1998, nothing was done to attempt to push the yen up from levels that were reasonably assessed to be significantly undervalued relative to medium- and longer-term fundamentals. The judgment was that because the Japanese economy was generally quite weak and the Japanese price level was generally falling (from 1995 through 2005), it was appropriate for Japan to maintain a very easy monetary policy. These conditions naturally tended to make the foreign exchange value of the yen weak relative to what would be the case with a more normally performing Japanese economy. At the same time, other factors were tending to make the foreign exchange value of U.S. dollar quite strong, not only against the yen but also on a multilateral basis; and this general strength of the U.S. dollar, as well as the strength against the yen, was judged not to be a problem in light of U.S. and global economic conditions. Indeed, the persistent weakness of the Japanese economy and Japanese deflation were seen to justify Japanese official intervention to resist appreciation of the yen, especially when (in 2000) such appreciation appeared to threaten prospects for continuing recovery in the Japanese economy. However, when the Japanese economy did begin a more durable recovery in 2003, exceptionally massive intervention by the Japanese authorities to resist appreciation of the yen (toward levels that still looked meaningfully undervalued) was questioned within the G-7 and stopped abruptly at end March 2004.

The Strong Dollar in the late 1990s

Among the industrial countries, the most prominent case of overvaluation was that of the U.S. dollar which recovered rapidly from its 1995 lows to become significantly overvalued by 1999/2000.¹⁶ Both the

¹⁶ The UK pound also appeared to be somewhat overvalued, especially relative to the euro. This would have been a serious concern if the UK was about to join the euro area, but otherwise was not seen as a problem. Nor were there any policy measures to suggest that might have ameliorated the perceived overvaluation of sterling. Similarly, questions might have raised about whether the currencies of Australia, Canada and New Zealand were somewhat undervalued (in 199-2000 and perhaps somewhat overvalued today), but no serious problems appeared to be associated with these exchange rates and there were no

substantial real effective appreciation of the dollar and the growing U.S. current account deficit which reached 4 ½ percent of U.S. GDP in 2000 (exceeding by a percentage point its previous record in 1987) testified to this increasing overvaluation. The multi-country analysis prepared by CGER confirmed this conclusion, suggesting overvaluation in excess of 20 percent. And, it was recognized by the Fund staff, management and the Executive Board that a significant downward correction of the dollar's exchange rate and of the U.S. current account balance would probably be needed over the medium-term and that problems could arise in making these adjustments.

Nevertheless, in the circumstances of the late 1990s the strong dollar and the rising U.S. current account deficit were seen as generally favorable developments in the circumstances of the world economy at the time. Growth was not particularly robust in much of Europe and was very weak in Japan. A number of important emerging market countries faced severe foreign exchange and financial crises and needed to bring large and rapid improvements to their current account balances. These countries benefited from the boost to growth and room for balance-of-payments improvement provided by the expanding U.S. net export deficit. At the same time, the United States was able to accommodate both rising consumption and rising investment that enhanced productivity growth, without the growing excess of U.S. domestic demand above U.S. potential output generating excessive inflationary pressures. In addition, the strong dollar and the rising U.S. current account deficit appeared to be the natural consequences of market forces; and with U.S. monetary policy keeping inflation appropriately restrained and U.S. fiscal policy moving the federal budget into significant surplus, these developments were clearly not the consequence of misguided U.S. economic policies. The notion that this situation implied a possible violation by the United States of obligations under Article IV was simply ridiculous.

An Overly Depreciated Euro in 2000

After the recovery of the dollar from its early 1995 lows which was associated with depreciations of most continental European currencies against the dollar, the currencies of the countries that would make up the euro area generally appreciated modestly against the dollar and on a real

policies to recommend to correct undervaluations of these market-determined exchange rates if there were undervalued.

effective basis through end 1998. At its birth at the beginning of 1999, the euro traded briefly at \$1.17. The new currency soon began to depreciate against the dollar, averaging \$1.067 per euro during 1999. It depreciated somewhat less in real effective terms, reflecting the fact that the dollar was generally rising against most other currencies. Depreciation of the euro accelerated during 2000, with the euro rapidly falling below parity with the dollar and declining to around 90 cents U.S. by summer. By late September, the euro had fallen to 85 cents U.S.

At this stage, assessment by the Fund staff in the CGER process concluded that the euro had become significantly undervalued relative to medium-term fundamentals. The Executive Board was apprised informally of this assessment, including a rough estimate of the plausible extent of the euro's undervaluation against the dollar and multilaterally. Directors were not asked and did not offer a formal endorsement of this assessment by the staff, and were not expected to do so. Some Directors did indicate informally that they shared the staff's general assessment if not necessarily its broad quantitative estimates. No Director indicated significant disagreement with the staff's assessment. Of course, no Director and no member of the staff made the bizarre suggestion that the undervaluation of the euro might somehow be considered a violation of obligations under Article IV. The G-7 Deputies and subsequently the G-7 Ministers and Governors were informed through the usual confidential channels of the assessment by the Fund staff.

Unlike his predecessor, however, the new Managing Director, Horst Kohler, did not go public with any statement of concern about apparent undervaluation of the euro (or overvaluation of the dollar). He offered no explanation for this and, as Managing Director, he had no need to offer explanations to his subordinates. My interpretation was twofold. First, as a new Managing Director, Dr. Kohler was naturally somewhat less confident than his predecessor both in making public comments about major currency exchange rates and in assessing how any such statements might be received by officials and by markets. Second, like many German officials, Dr. Kohler tended to believe that exchange rates should be determined by market forces and was skeptical of official efforts to influence exchange rates. This, of course, stands in contrast to the prejudices of many French officials that markets are not entirely to be relied upon on important issues like setting exchange rates and that sometimes guidance by the official sector is useful if not absolutely essential.

As the boss was not prepared to go public with an assessment that the euro had become undervalued or that anything should be done about it, I felt constrained not to initiate my own public statement on the subject. However, I anticipated that the subject was likely to come up in questions that would be asked at the regular press conference on the occasion of public release of the World Economy Outlook on the Wednesday just before the start of the Annual Meetings of the IMF and World Bank in Prague. The relevant question was asked. My response was cautious, but the point was unambiguous:

“...you may recall from the WEO press conference in April 1995...when we had the dollar at 79.5 yen and when we had the dollar/deutsche mark exchange rate at 1.34 [compared with] now at 2.30 to the dollar. I said at that time that the market’s gone a little nuts in pushing the dollar down... I think we have the sort of manic depressive nature of the market. It has now shifted from depressive on the dollar to manic, and the market has pushed the euro too low, I think, relative to a plausible assessment of fundamentals.

“You asked about official intervention. I think the circumstances in which the major countries would want to use intervention to attempt to influence exchange rates are relatively rare, but they do arise from time to time and one would sort of have to ask—If not now, when?”

The world press understood the message. The story on the front page of the *Financial Times* the next day said that the Fund called for intervention to support the euro. To my surprise, the G-7 announced two days later that coordinated intervention was being undertaken to support the euro.

Some of the officials of the G-7 were probably not very happy that they had been scooped and that they might be perceived as acting in response to advice from the Fund. I did not care.¹⁷ If Fund is to exercise firm surveillance over the exchange rate policies of its members, it cannot apply—or be seen to apply—only to its smaller members and not to the G-7 and other very large countries. It cannot be that the attitude toward and practice of exchange rate surveillance by the Fund embodies the principle

¹⁷ I would not have offered the remarks I did at the WEO press conference if I had been informed that the G-7 was considering the possibility of intervention to support the euro. This would have been breaking a confidence.

attributed to the late Leona Helmsley, the Queen of Mean, who upon being accused of tax evasion opined, “Taxes are for little people.” If it applies to any country, Fund surveillance must apply to the largest, most systemically important countries whose currencies function as international monies and whose exchange rates, trade and capital flows, and balances of payments dominate the operation of the international monetary system.

Overvaluations and Emerging Market Crises

For developing and emerging market countries, substantial overvaluations—not substantial undervaluations--were the main exchange rate problems of the 1990s. The cases of the CFA franc and the Mexican peso have already been discussed. In addition, there were many emerging market countries (including Argentina, Brazil, Bulgaria, the Czech Republic, Ecuador, Indonesia, Korea, Malaysia, Russia, Thailand, Turkey, and Uruguay) that faced difficult and in many instances quite damaging financial crises because of disorderly corrections of significantly overvalued exchange rates. In some of these cases (such as Thailand), Fund staff and management were proactive before the crisis, recognizing the problem and recommending policies to mitigate the risks of a potential crisis or ameliorate its effects. In other cases, Fund staff and management were justifiably criticized for being insufficiently attentive to potential risks or unduly restrained in pressing for corrective measures. In none of these cases—at least that I am aware of—did anyone ever suggest that the proper course would have been for the Fund staff and management to seek to persuade the Executive Board to find that a member was in violation of its obligations under Article IV because it was maintaining a significantly overvalued exchange rate that might be in danger of sudden collapse.

Should Fund staff diagnose such problems as they are developing? Yes. Should the staff and management put pressure on the member for corrective actions? Yes. Should Executive Directors be informed confidentially that a problem existed? Yes. Should the support of other members be secured in confidential efforts to persuade a member with an overvalued exchange rate to take corrective measures? Yes. But, should the Executive Board be asked to consider a formal declaration that a member’s exchange rate is overvalued? Almost surely, no. Public declaration of such a decision or its highly probably leak to the media could easily provoke a foreign exchange crisis that the Fund and its members would not want and would not want to be blamed for. Except possibly in a most extreme and

bizarre case, virtually no one really thought that a formal finding by the Executive Board that a country's exchange rate was substantially overvalued would be an appropriate or useful way in which to proceed—and with good reason.¹⁸

An Early Warning about Korea's Exchange Rate Policy in 1999

Indeed, the ten years that I served as the Fund's Economic Counsellor, with considerable involvement in many cases where exchange rate policies were important issues, there was only **one** case where the formal obligations of members under Article IV and the associated *Principles for the Member's Exchange Rate Policies* and the *Principles for Fund Surveillance over Exchange Rate Policies* were brought forward explicitly to the Executive Board. This was in 1999 during an informal World Economic and Market Developments session where I raised the issue of whether Korea's exchange rate policy might be inconsistent with its obligations under Article IV Section 1(iii).

The Korean economy had recovered very rapidly from the crisis of late 1997/early 1998, and the country's current account had moved into massive surplus of over 10 percent of GDP from a moderate deficit of about 4 ½ percent of GDP before the crisis. The exchange rate of the won had bounced back from its crisis lows to around 1200 won to the U.S. dollar, compared with just over 800 won to the dollar before the crisis. Some real effective depreciation of the won from its pre-crisis level was plausibly needed to secure a current account close to balance, but depreciation beyond about 1000 won to the dollar appeared to me to be excessive from the perspective of Korea's medium-term economic fundamentals. By late 1999, Korea's foreign exchange reserves had risen above \$70 billion, beyond 7 months imports, compared with a usual standard for prudent reserve holdings of about 3 months imports for most countries. Under Korea's apparent policy of resisting appreciation of the won beyond 1150 to

¹⁸ The situation is different when the Fund is considering lending to a country that has a significantly overvalued exchange rate. The Fund and its members (perhaps especially the members supply credit to the Fund to support its lending) do not want to see the proceeds of Fund loans frittered away in doomed efforts to defend an overvalued exchange rate. In some cases, a country may be required to depreciate its exchange rate as a pre-condition for Fund lending.. In the cases of large Fund lending committed to Brazil in late 1998 and to Argentina in early 2001, some key officials in the governments of leading Fund members were highly skeptical whether the loans made sense in the absence of an exchange rate adjustment.

the dollar, it appeared likely that foreign exchange reserves would rise above \$100 billion within about a year and would continue even higher.

This looked like a repeat of the policy of resistance to warranted appreciation of the won for purposes of maintaining unfair competitive advantage that had made Korea the subject of a special consultation under Article IV in 1987. In particular, Korea's exchange rate policy in 1999 and its prospective continuation appeared to violate two of the *Principles for Fund Surveillance over Exchange Rate Policies*: namely: "(i) protracted large-scale intervention in one direction in the foreign exchange market;" and "(v) behavior of the exchange rate that appears to be unrelated to underlying economic and financial conditions including factors affecting competitiveness and long term capital movements."

In 1999, Korea's apparent policy of "competitive non-appreciation" had not gone on long enough or proceeded far enough to warrant a formal assessment by the Executive Board of whether this policy violated Article IV Section 1(iii). The Korean authorities could argue that accumulation of an unusually large stock of foreign exchange reserves was prudent insurance against difficulties like those faced by Korea in the recent crisis. There was, however, a limit to how far this argument could reasonably be pushed, and I wanted to warn the Korean authorities, and the authorities of some other countries that seemed to be following similar policies, that they could run into trouble with the Fund if the policy of competitive non-appreciation persisted too long and reserve holdings rose far above reasonably justified levels. It was also intended as a wake up call to senior staff, especially in the area departments, that the long neglected guidelines for exchange rate policies of members and for Fund surveillance over such policies should not be ignored entirely. There were cases where these guidelines were relevant and where potential violations of members of their obligations under Article IV needed at least serious consideration, analysis and discussion.

Cases of Undervaluation

The dearth of cases where potential breaches of members' obligations under Article IV received even cursory consideration might suggest that the Fund's staff and management (as well as the Executive Board) were less assiduous than they should have been in bringing possible cases to the attention of the Executive Board. Perhaps so. But, more fundamentally it reflects the fact that, even when significant misalignments of exchange rates

can be identified with reasonable confidence, relatively few of them merit treatment where the Executive Board is asked to consider possible violations of obligations under Article IV. As previously discussed, there are generally good reasons to avoid this approach in cases of significant overvaluation and the threat of provoking a foreign exchange crisis. As a more general matter, countries and their representatives on the Fund Executive Board are usually reluctant to express harsh formal criticism of the policies of other countries. This is simply not consistent with the polite tone of most diplomatic discourse. Moreover, Executive Directors are reluctant to establish precedents under which members of their constituencies might sometimes be subject to harsh criticism—especially Executive Board decisions concluding that a member is explicitly in violation of obligations under the Articles.

Moreover, during 1990s the Fund did not confront significant cases that shared four key characteristics: (i) the exchange rate of the country could be reasonably be identified as significantly undervalued; (ii) this undervaluation posed meaningful problems or dangers for that country, for other countries, or for the effective functioning of the international monetary system; (iii) there were policies that could readily be recommended to correct the assessed undervaluation; and (iv) when asked to do so, the country in question refused to undertake reasonable actions that would help to correct the undervaluation.¹⁹

The debates surrounding the drafting and adoption of the revised Article IV in the mid 1970s clearly envisioned that such cases were possible. The provisions of the new Article IV, and the 1977 Guidelines and surveillance procedures established under it, were clearly intended to deal with such situations. The cases of Sweden in 1982 and Korea in 1987 indicated that serious concerns about countries that ran substantially undervalued exchange rates could become a reality. But, aside from my

¹⁹ Some, including at least two of my colleagues at the Peterson Institute (see Cline 2007 and Williamson 2006) might suggest that countries that run persistently large current account surpluses, such as Switzerland, Singapore, or (before the advent of the euro made this issue moot) Belgium, Luxembourg, and the Netherlands, are obvious and perennial candidates for identification as practitioners of exchange rate undervaluation. I have long been reluctant, however, to embrace this as a necessary conclusion. For reasons that neither I nor anyone else fully understands, some relatively small and highly open economies, especially those with high developed capital centers relative to their economic size, run persistently large current account surpluses. The procedure developed by the CGER to estimate “norms” for countries current account balances that reflected the histories of their respective current account positions provided a useful correction for this difficulty. Countries that normally ran large current account surpluses (or deficits) would tend to be identified as having significantly undervalued (or overvalued) currencies only if their surplus (or deficit) was large relative to its normal level.

preliminary warning about Korea in 1999, the circumstances of the 1990s did not appear to generate any pressing cases. That situation would change in the new millennium.

III. The Case of China 2003-2007

Following the unification of the Chinese exchange rate regime in 1993, the nominal exchange rate of the yuan against the U.S. dollar fluctuated within a relatively narrow range before being pegged quite rigidly at 8.28 to the dollar in 1996. It was kept at this pegged rate until July 2005. Subsequently it moved gradually to about 7.50 yuan to the dollar as of October 2007. While the yuan's nominal exchange rate against the dollar has been quite stable, the real effective exchange rate of the Chinese yuan fluctuated over a fairly wide range from 1994 through 2002, as illustrated in Figures 1 and 2 for different measures of the yuan's real effective exchange rate.

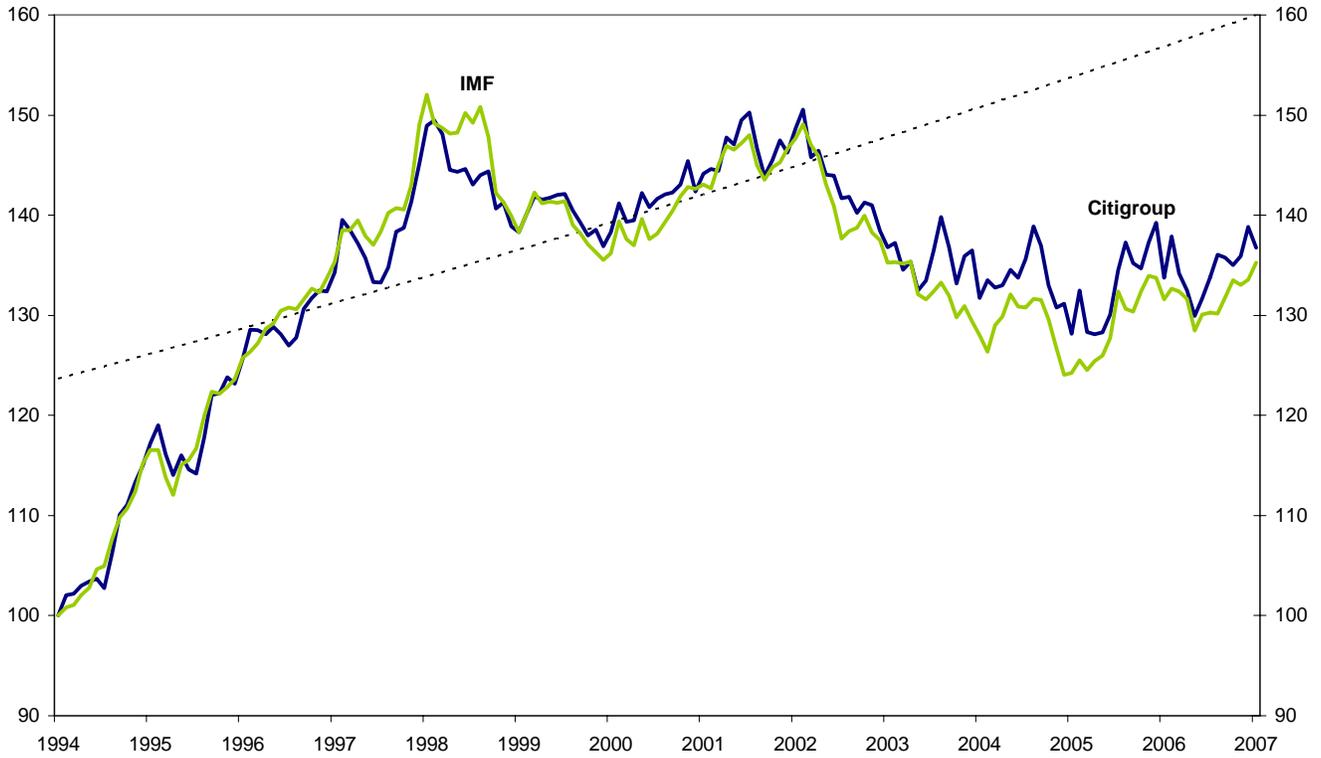
The Chinese economy grew rapidly, with annual real GDP growth averaging 9 ½ percent and not falling below 7 ½ percent. Chinese trade with the rest of the world grew at 1 ½ times this pace, transforming China from the tenth to the fourth largest trading economy in the world between 1994 and 2002. Chinese imports grew at nearly the same pace as Chinese exports, and the Chinese trade and current account balances (as shares of Chinese GDP) were in moderate surplus and did not show pronounced and persistent tendencies to move into substantial surpluses, as illustrated in Figure 3. During this period official holdings of international reserves grew substantially, rising from \$53 billion at end 1994 to \$291 billion at end 2002, with half of this increase occurring in the 2001 and 2002; see Table 1. Reserve holdings were already relatively high at 5.4 months of imports even in 1994. Over the next eight years they rose to 8.9 months of imports in 2002

Consistent with the well-known Balassa-Samuelson effect, movements in China's real effective exchange rate and in its current account balance in the period 1994 to 2002 suggest that the long-run equilibrium path for China's real exchange rate has moderate upward tilt of about 2 percent per year.²⁰ In two panels of Figure 1, this is indicated by a rising path for an artificially constructed estimate of the longer-run equilibrium

²⁰ See Balassa (1964) and Samuelson (). Impressive work that has demonstrated the general relevance of the Balassa-Samuelson idea that nominal exchange rates will normally diverge from levels suggested by purchasing power parities was presented by Kravis, Heston and Summers (1978). Further development of this work by these and other scholars, with substantial support from the World Bank, has refined the initial analysis and extended the range of countries. This work provided the foundation for the innovation introduced in the IMF's *World Economic Outlook*, beginning in May 1993, of using PPP based exchange rates to aggregate different country's GDP growth to obtain a world total.

Figure 1: Real effective exchange rate of the renminbi, January 1994–September 2007

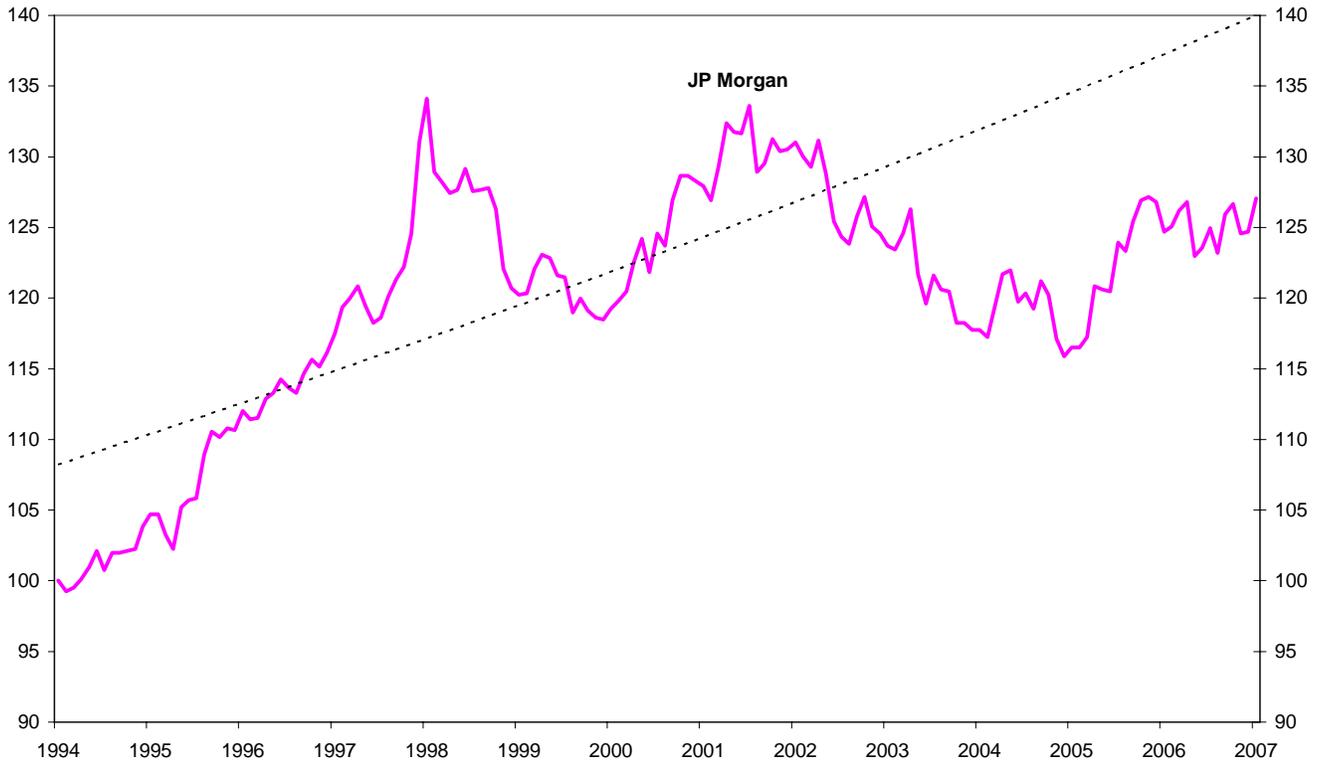
index (January 1994 = 100)



Source: Citigroup and IMF.

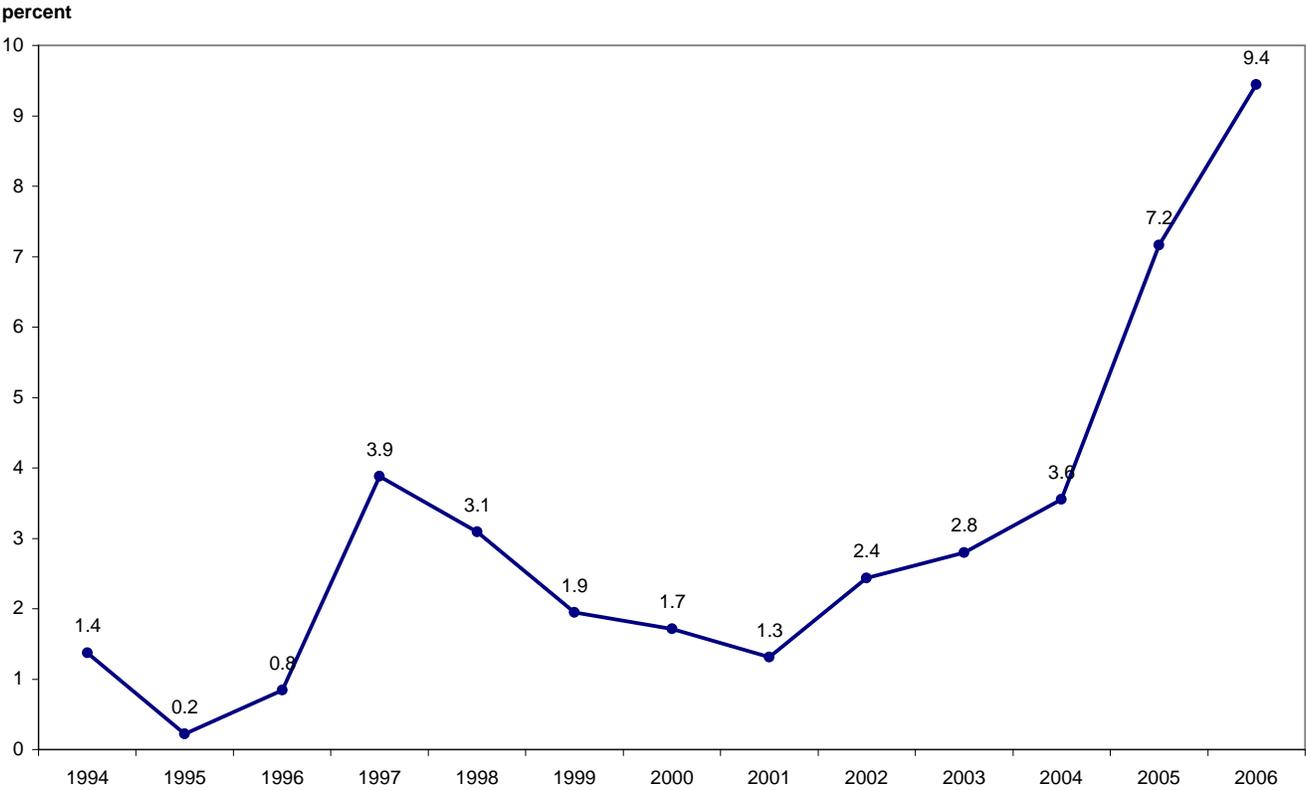
Figure 2: Real effective exchange rate of the renminbi, January 1994–September 2007

index (January 1994 = 100)



Source: JP Morgan.

Figure 3: China's global current-account balance (as a percent of GDP), 1994–2006



Source: China State Administration of Foreign Exchange.

exchange rate with a positive tilt of 2 percent per year.²¹ The actual real exchange rate started out below this long-run equilibrium path in 1994-95. With the usual lag of about 2 years, this undervaluation was reflected in an improvement in the current account from a surplus of about 0.8 percent of GDP in 1994-96, to a surplus of about 3 ½ percent of GDP in 1997-98. By 1997 the cumulative effects of somewhat higher inflation in China than in partner countries had pushed China's real exchange rate from below its long-run equilibrium path to modestly above it, and the collapse of a number of Asian emerging market currencies in the crises of 1997-98 pushed China's real exchange rate even higher. With the usual lag, the consequences of substantial real exchange rate appreciation are reflected in the decline of China's current account surplus about 1 ½ percent of GDP in 2000-2001. Taking account of the upward trend in China's equilibrium real exchange rate, the dip and recovery in the actual real effective exchange rate between 1998 and 2001-02 plausibly took the real exchange rate from overvaluation in 1998 to near long-run equilibrium in 2001-2002.

This situation began to change around dramatically after 2001. As shown in Figure 1, China's real effective exchange rate began to depreciate during 2002 and, depending on the specific measure, fell between 10 and 17 percent by 2005. Taking account of the upward trend in the long-run equilibrium exchange rate, this depreciation was even larger when measured against the long-run equilibrium path. As shown in Figure 2, the China's current account balance moved into larger and larger surpluses especially after 2002, with the current account surplus exceeding 9 percent of GDP in 2006 and apparently headed up to 12 percent of GDP in 2007. The depreciation of the real effective exchange rate relative to its long-run equilibrium path helps to explain this rise in the current account surplus,

²¹ The IMF measure of the real effective exchange rate and the Citigroup measure are sufficiently similar that the same assumed path for the longer-run equilibrium real effective exchange rate of the yuan makes sense. The behavior of the J P Morgan measure of the yuan's real effective exchange rate is sufficiently different from the other two measures, that a different path for the yuan's longer-run equilibrium exchange rate is appropriate, also with a 2 percent upward tilt. There is absolute no inconsistency in having different "estimates" for the longer-run equilibrium path of the real effective exchange rate associated with different measures of the actual behavior of this real effective exchange rate. The relevant question is whether the position and upward tilt of the assumed paths for the longer-run equilibrium real effective exchange rates reflect reasonably justified assumptions. I believe that they do. The general evidence supporting the Balassa-Samuelson effect and its likely relevant to China is quite strong, and the two percent upward tilt of the path of the longer-term equilibrium rate is reasonable in light of the evidence. The choice of the vertical of the two longer-run equilibrium paths is suggested by the behavior of China's current account balance. However, there should be no illusion. The assumed paths of the longer-run equilibrium real effective exchange rates are based on assumptions that I believe are well-justified but that others might dispute.

although it leaves at least part of extraordinary surge of the past two years as a mystery that would benefit from further explanation.

The Chinese economy has expanded even a little more rapidly from 2002 to 2007 than from 1994 to 2002, turning in an average growth rate for real GDP of over 10 percent. Meanwhile Chinese total trade with the rest of the world (both exports and imports combined) expanded at a phenomenal 30 percent annual rate. However, in contrast with the earlier period when Chinese real GDP was also growing very rapidly and Chinese trade was growing in a balanced manner, in the past four years Chinese trade growth has become highly unbalanced, with export growth substantially outstripping import growth. This is indicated by China's surging trade and current account surpluses.²² It is also reflected in significantly stronger growth of real GDP than of real domestic demand. Thus, in contrast with the 1994-2001 period when the rapid growth of China's GDP was supported by growth of domestic demand with no net contribution from net exports, during the recent period China has been importing demand growth from the rest of the world, through rising trade and current account surpluses, to achieve high real GDP growth.

This is somewhat surprising in view of the fact that investment growth has recently been exceptionally strong in China, with fixed investment rising to an enormous 43 percent of GDP. Moreover, the rapid and massive growth of the Chinese trade and current account surpluses is also surprising in view of sharply imports of raw material (including energy) and steeply rising world prices for these materials. This contrasts sharply with the experiences of most other countries that export diverse manufactured products and import raw materials that have seen downward pressure on their trade balances in recent years.²³ In addition, as reported in Table 1 official foreign exchange holdings of the Chinese authorities have exploded since 2002, rising to a world record of \$1.07 trillion and exceeding 16

²² The focus here is, as it should be, on China's overall trade, not its bilateral trade with the United States. China's bilateral trade balance with the United States has moved into enormous surplus, reflecting in part China's role in assembling products from many (particularly Asian) countries for final export to the United States.

²³ Germany's trade surplus has expanded in recent years, but against a background of very weak growth of domestic demand and with a real effective exchange rate (particularly when measured using unit labor costs in manufacturing) that has depreciated substantially in recent years vis-a-viz key European trading partners. In contrast, Spain has had rapidly rising domestic demand and rising import costs and has experienced large deterioration of its trade balance. The euro area as a whole has seen modest deterioration of its trade and current account balances since 2002, as should be expected for an area with generally weak growth of domestic demand, an appreciating exchange rate, and rising energy import costs.

months of Chinese imports in 2006 and headed substantially higher, to the neighborhood of \$1.4 trillion (and about 18 months of imports) in 2007.

On their face, these facts suggest that the Chinese yuan has become substantially undervalued since 2002. It has been kept in this position by deliberate policies of the Chinese authorities. Specifically, the Chinese authorities have intervened massively in the foreign exchange market to keep the exchange rate of the yuan against the U.S. dollar at a pegged rate of 8.28 until July 2005 and have subsequently used even larger intervention to resist appreciation of the yuan/dollar exchange rate at more than about 5 percent per year. To offset the effect that this enormous intervention would otherwise have on China's supply of base money and therefore on the broader domestic money supply and on the price level in China, the authorities have engaged in massive sterilization operations in which the net domestic assets of the Chinese monetary authorities (the Peoples Bank of China) have been reduced from half of the monetary base at end 2001 to minus 10 percent of the monetary base by end 2006. This has effectively frustrated the other mechanism for adjustment of China's real exchange rate and its balance of payments, namely the classic *price-specie-flow mechanism* described by David Hume. The exceptional nature, scale and duration of these policies, together with the extraordinary upsurge in China's balance of payments surplus over the past five years leaves no reasonable doubt that China's is in violation of its specific obligation under Article IV Section 1(iii) to "...avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain unfair advantage over other members."²⁴

Moreover, the Fund's Executive Board has, for the past seven years, repeatedly expressed its increasing concern with the problem of global payments imbalances, specifically the large and growing balance of payments deficit of the United States and the corresponding growth in the balance of payments surpluses of other countries, including prominently China. The Executive Board has espoused a clear strategy to deal with the problem of global imbalances, including the contributions that are needed from various countries. All major countries, except China and possibly

²⁴ Formal consideration by the Executive Board of a violation of obligations under Article IV (and the recommendation for such consideration by the Managing Director) should only come after all other vigorous efforts at persuasion have been rejected without plausible justification. Unfortunately, in the case of China, did not begin these efforts when it should have in 2004 and 2005, and there is little indication that appropriately vigorous efforts at persuasion have so far been attempted.

Japan, are making some reasonable contribution to implementing the espoused global strategy, consistent with their circumstances. China stands out as the one major exception where explicit policies directed at China's exchange rate are driving China's balance of payments massively in the wrong direction. Thus, China could well be considered to be in violation of its general obligation under Article IV "to collaborate with the Fund and with other members to ensure orderly exchange rate arrangements and to promote a stable system of exchange rates." China's policies also stand in clear contravention of the purposes of the Fund set out in Article I, specifically purposes (ii), (iii), (iv) and (vi).²⁵

By failing to take up these issues with the Chinese authorities in an appropriately timely and vigorous manner, the Fund should be judged to have failed in fulfilling both of its responsibilities under Article IV Section 3(a): the specific responsibility to oversee the compliance of members with their general and specific obligations under Article IV Section 1; and the foremost responsibility to "oversee the international monetary system in order to ensure its effective operation."

The following discussion takes up these issues in greater detail. It begins with the application of the *Principles for Fund Surveillance over Exchange Rate Policies* (PFS) from the Fund's 1977 guidelines to the Chinese case, yielding the conclusion that China's exchange rate and related policies are in clear violation of Article IV Section 1(iii). This is followed, in the next section, by an analysis using the monetary approach to the balance of payments that provides further important insight into how China's policy of massive, mainly sterilized, official intervention to resist appreciation of the yuan is contributing significantly to: (1) the surprisingly massive and rapid rise in China's current account surplus beyond what seems plausible from the growth of China's economy and the behavior of its real effective exchange rate (as usually measured), (2) the equally massive and surprising improvement in China's savings-investment balance despite exceptionally large increases in domestic investment, and (3) the substantial distortion of development of the Chinese economy away from the priorities set by the Chinese authorities for stronger consumption growth and more

²⁵ The Fund could strongly admonish the Chinese authorities that their policies are seriously inconsistent with the need to correct global imbalances and ensure effective operation of the international monetary system without going to the final formal step of proclaiming China to be in breach of its obligations under Article IV. The point again here is that there is little indication that the Fund has pressed the Chinese authorities very hard on this important issue.

rapid development of the interior of the country. Next comes the section that exposits the problem of global payments imbalances, the global strategy to address this problem espoused by the Fund's Executive Board, the progress made by most countries in implementing this strategy, and the signal failure of China to play its proper role. The discussion then turns to who within the Fund bears the main responsibility for the catastrophic failure of Fund surveillance in the China case

Applying the Fund Guidelines

Beginning in 2003, my colleagues at the Peterson Institute, Morris Goldstein and Nicolas Lardy, have written a series of papers presenting analyses demonstrating significant undervaluation of China's currency and estimating its magnitude using various techniques; see Goldstein (2004), (2006a), (2006b), and (2007), and Goldstein and Lardy (2003), (2005) and (2006). I endorsed their analyses at the time, and I still do; see Mussa (2004), (2005) and (2007).²⁶ The massive increase in China's current account surplus since 2002, and the even more massive increase in exchange market intervention by the Chinese authorities to resist appreciation of the yuan, testify to the correctness of the basic conclusion of Goldstein and Lardy—the yuan is substantially undervalued. They also give the lie to an enormous amount of nonsense that has been written suggesting that the yuan is not undervalued.²⁷

I shall not reiterate the Goldstein-Lardy analysis here, but rather incorporate it by reference. Instead, for the purposes of this paper, I will examine China's exchange rate and related policies from the perspective of the guidelines that the Fund has established for its exchange rate surveillance. The 1977 version of these guidelines, rather than the new version adopted in June 2007, will be used because this was the version that was in force and is relevant to the time period we will examine (and for which we have data). In my view, the new version of the IMF guidelines is (with the exception of one important fault) generally an improvement on the old. On the specific points that are relevant to an IMF assessment of

²⁶ The proposition that the dollar needs to depreciate and that the yuan (and several other Asian currencies including the Japanese yen) need to appreciate as part of the process for reducing global payments imbalances is widely shared by the senior fellows of the Peterson Institute, despite our frequent disagreements on other important issues. See Bergsten (2005) and (2007), Cline (2005) and (2007), and Williamson (2004) and (2007).

²⁷ See Goldstein (2006a) and (2007) for a discussion and refutation of a number of arguments that the yuan is not undervalued.

China's exchange rate policy (the specific items under Principle 2 of the *Principles for Fund Surveillance over Exchange Rate Policies* (PFS)), the old and new guidelines do not differ materially. Thus, no one should entertain the notion that applying the list of specific items (in paragraph 15 of the 2007 *Decision on Bilateral Surveillance over Member's Policies* (the New Guidelines) would yield any different conclusion that applying the old guidelines to China's exchange rate and related policies. The catastrophic failure of the Fund surveillance in this case is not somehow due to deficiencies in the old guidelines nor will it magically be remedied by the new guidelines.

Applying the 1977 PFS to China

In applying the *Principles for Fund Surveillance over Exchange Rate Policies* to China, it is efficient to look at Principles 1 and 3 and then turn to the list of items under Principle 2

Principle 1, which requires that Fund surveillance over specific countries must take account of needs for the proper functioning of the international adjustment process is highly relevant in the case of China.²⁸ The Executive Board and the IMFC have kept the functioning of the international adjustment process under close and continuous review. As discussed in detail below, they have concluded that global payments imbalances are a major concern, and they have developed and espoused a strategy to deal with this concern that clearly involves China and its exchange rate and related policies. Bilateral surveillance over China (the Article IV consultation and any special consultation) should have taken account of these systemic concerns.

Principle 3, which requires that the Fund consider developments in a country's exchange rate and balance of payments in the context of developments in its domestic economy and the country's policy objectives, is also highly relevant in the case of China. Recent developments in China's balance of payments and reserve position have certainly been remarkable and present clear evidence of serious external payments disequilibrium.

²⁸ It is highly relevant in other cases as well. Resolution of the problem of global payments imbalances requires efforts by many countries that should be examined in the context of the Fund's bilateral surveillance. Taking an earlier example, the strong dollar and the large and rising U.S. current account deficit was not regarded by the Fund as an immediately pressing problem in the late 1990s because the international adjustment process generally benefited from a strong U.S. economy that could absorb the improvements that other more weakly performing economies needed to make in their current accounts.

China's stated policy objectives (as expressed in the Outline of the 11th Five-Year Program approved by the Central Committee of the Chinese Communist Party) include the maintenance of rapid growth of output and employment, with low inflation and financial stability. They also include a clearly stated preference and intention to achieve better-balanced growth and economic development: specifically a shift of growth toward lesser reliance on the tradable goods sector and the coastal regions (where development has been very rapid) and greater expansion of consumption and more rapid development of interior regions of the country.²⁹ The fact that this objective is not being achieved, and the essential linkage of this failure to China's growing external payments disequilibrium and to its exchange rate and related policies (as discussed further below) is further reason for the Fund to call for reform of these policies.

Protracted, large-scale, one-way intervention

Turning to Principle 2 of the 1977 PFS, the first item on the (not necessarily exhaustive) list of factors that the Fund should consider in assessing whether there are serious problems with a country's exchange rate and related policies is, "(i) protracted large-scale intervention in one direction in the exchange market." This item has pride of place on the list because official intervention in the foreign exchange market corresponds precisely to a key measure of a country's balance of payments, the *official settlements balance*. Thus, it has always been understood, going back before the adoption of the Second Amendment and before the Bretton Woods Conference, that protracted large-scale deficits or surpluses in the official settlements balance are, by themselves alone, a clear indicator of disequilibrium in a country's international payments and a critical signal that the adjustments are required in country's balance of payments. Moreover, in contrast with other policies that may influence a country's exchange rate for reasons ancillary to their main intended purposes, official intervention in the foreign exchange market is, by its very nature, a policy that is intended to influence the exchange rate and the official settlements balance; it is always carried out "for balance of payments purposes."

A (non-reserve-currency) country that persistently runs official settlement deficits will ultimately run out of reserves and rapidly so if the

²⁹ For further discussion of the Chinese government economic priorities and how they might better be achieved, see Bergsten, et. al. (2006, chp. 2) and Lardy (2005), (2006a), (2006b), and (2007b).

official settlements deficits are large. The result will almost always be a sharp depreciation of the exchange rate in the midst of a foreign exchange crisis as speculation mounts against the currency peg and reserve outflows become very large. In such cases, protracted, large-scale intervention to support an exchange rate is, by itself, a clear indicator that an exchange rate is seriously overvalued and the policy that is used to keep it overvalued—protracted large scale intervention—is, by its very nature an exchange rate policy that is pursued in order to prevent effective balance of payments adjustment—in contravention of Article IV Section 1(iii).

For countries with pegged (or tightly controlled) exchange rates and persistent official settlements surpluses, such as China at present, the judgment on whether this signals a significantly undervalued exchange rate and an important failure to allow appropriate adjustment in the balance of payments is somewhat more complicated. Countries that operate pegged or quasi-pegged exchange rates generally need foreign exchange reserves to operate their chosen exchange regimes, and prudent holdings of reserves tend to grow with the size of the economy and the volume of trade. There are reasonable standards for prudent levels of reserves, for example, usually reserves equivalent to about three months of imports are thought prudent, and there also reasonable ratios for reserves to GDP and to a country's monetary base. Reserves that are below these standards signal potential problems, including the risk of a disruptive foreign exchange crisis and a sudden large depreciation. Reserve levels above the standard also signal potential problems. Countries that run excessively large and persistent official settlements surpluses are not only frustrating adjustment of their own balance of payments, they are making it more difficult for deficit countries that need to reduce their official settlements deficits to achieve the adjustments that are necessary and appropriate. Thus, in applying surveillance to countries with persistent official settlements surpluses, the Fund needs to make a judgment about what level of reserves and what pace of reserve accumulation is prudent and reasonable in light of the circumstances of the country but also with a view to needs for balance of payments adjustment from the perspective of the international monetary system.

The United States is the principal reserve currency country whose liabilities serve as the bulk of the foreign exchange assets of other countries, including China. In recent years, the large and rising U.S. current account deficit has increasingly been financed by official accumulations of U.S.

based assets, especially U.S. Treasury obligations. Thus, the United States has been running an increasingly large official settlements deficit, which for a reserve currency country is measured by the net increase in its official foreign exchange liabilities (i.e., the increase in foreign official holdings of U.S. dollar reserves less the increase of U.S. holdings of foreign currency reserves). This situation is not nearly as threatening as under the old Bretton Woods system where the dollar was pegged to gold and the rising ratio of U.S. net official foreign exchange liabilities to its gold stock was a signal of impending crisis.³⁰ Nevertheless, the Executive Board has, in recent years, repeatedly expressed concern about persistently large and growing U.S. balance of payments deficits (and the shift in their financing toward official flows). In accord with Principle 1 of the 1977 PFS, these concerns about global payments imbalances imply that the present period is not one when Fund should not apply an overly lax standard in assessing when official settlement surpluses have become too large and persisted too long.

Looking to the circumstances of individual countries, the Fund has long maintained that foreign reserves equivalent to about three months of imports are prudent. Reserves of up to six months of imports probably should not be regarded as excessive. These ratios imply that for countries where imports as a share of GDP are similar to the world average for this ratio, about 30 percent, a prudent ratio for reserves to GDP would be between 5 and 15 percent of GDP.

However, as discussed earlier and as reported in Table 1, China's foreign exchange reserves rose to 16 months imports in 2006, from the already very high level of about 9 months imports in 2000. As a share of GDP, China's reserves are up from the 10 to 15 percent range in 1994 through 2001, to over 40 percent of GDP in 2006. In view of the reserve inflows so far this year, reserves appear headed for 18 to 20 months imports in 2007 and to nearly 50 percent of GDP. This is massively beyond any reasonable standard of prudence.

³⁰ This, of course, is the famous Triffin dilemma, so-named in honor of the distinguished economist who analyzed and made clear the key problem. The creation of the SDR under the First Amendment to the Articles of Agreement was, in important part, an effort to resolve the Triffin dilemma. This was to be accomplished by introducing "paper gold" (SDRs) as a supplement to real gold and U.S. dollars for use as foreign exchange reserves and allowing the supply of this "paper gold" to expand (or contract) in order "to meet the long-term global need...to supplement existing reserve assets..." as provided for in the amended Articles of Agreement.

Table 1
Indicators of Reserve Adequacy

Year	Non Gold Reserves \$ billions	Ratio of Reserves To GDP percent	Reserves As months of Imports Months	Ratio of Reserve to Monetary Base percent
1994	53	9.5	5.5	25.9
1995	75	10.4	6.4	30.2
1996	107.	12.5	9.3	33.0
1997	143	15.0	12.0	38.7
1998	149	14.6	12.8	39.4
1999	158	14.6	9.6	38.8
2000	168	14.0	9.0	38.2
2001	216	16.3	8.9	44.8
2001	291	15.1	8.9	40.2
2003	408	24.9	12.1	64.0
2004	614	31.1	11.0	85.2
2005	822	36.6	14.8	103.0
2006	1068	40.4	16.2	108.1

The Implications of Sterilized Intervention

Another important standard for judging whether reserve accumulation is excessive is to look at its monetary implications. A growing economy of a non-reserve-currency country that is maintaining a pegged or tightly managed exchange rate will normally want to acquire additional foreign exchange reserves that correspond to a reasonable fraction of the annual increase in the domestic monetary base (what the Fund refers to as *reserve money*, reported on line 14 in the Fund's *International Financial Statistics*). If China were maintaining a high but not grossly excessive levels of reserves equal to six months of imports, reserve accumulation in 2006 would have been the equivalent of about 450 billion yuan. This would have supplied almost exactly one-third of the increase in the monetary base of about 1,340 billion yuan—a not unreasonable result for a country in China's situation. In fact, however, China's foreign exchange reserves during 2006 rose by the

equivalent of about 2,234 billion yuan—an increase that is more than four times as large as what would be reasonable from a monetary perspective.³¹

Looking beyond the results for a single year, the facts concerning China's reserve accumulation and its relationship to the monetary base since 1994 are easily calculated from Table 2 which appears in the next section. It is noteworthy that from 1994 through 2001, foreign exchange reserves are less than half of the monetary base but are rising gradually as a share of the monetary base from 26 percent to 50 percent. During this period, as one would normally expect, net domestic assets (the other component of the monetary base) are also consistently rising, providing on average somewhat less than half of the increase in the monetary base. In 2001-2002, increases in foreign exchange reserves provide almost all of the increase in the monetary base and net domestic assets are essentially flat. After 2002, sterilization proceeds with a vengeance with increases in foreign exchange reserves outstripping growth of base money and net domestic assets declining rapidly ultimately to negative levels.

Economic understanding of what China's policy is doing here goes back at least 2 ½ centuries to David Hume's explanation of the *price-specie-flow mechanism*. Since Hume's (1752) essay, "Of the Balance of Trade," economists have understood how the balance of payments adjustment process works when countries nominal exchange rates are effectively pegged through adherence to a common metallic monetary standard (usually silver, gold, or bi-metallism). Countries that are in balance of payments (official settlements) deficit lose specie. This deflates the domestic money supply and forces domestic prices to fall in terms of the metallic standard. This makes exports cheaper on world markets and makes imports more expensive in the domestic market, thereby improving the balance of payments and reducing the outflow of specie. Using modern terminology, we would now say that this happens because the loss of reserves causes the monetary base to decline, inducing a fall in the domestic money supply. This induces domestic deflation that causes depreciation of the real exchange rate. This, in turn, encourages exports, discourages imports and improves the balance of payments. Conversely, countries with balance of payments surpluses

³¹ The measure of foreign exchange reserves used in this discussion and in the discussion in the next section on applying the monetary approach to China is restricted to the foreign exchange assets held by the People's Bank of China. This is the measure of foreign exchange reserves that is most relevant for analyzing monetary issues. The foreign exchange assets of the People's Bank constitute the vast bulk of China's non-gold reserves reported in Table 1. Accordingly, key conclusions of the analysis are not sensitive to the relatively minor differences in the two series.

experience inflows of specie that expand their domestic money supplies, thereby inducing domestic inflation, appreciation of the real exchange rate, and a reduction in the balance of payments surplus.

Applied to China today, the point is that the sterilization of the monetary effects of very large foreign exchange inflows chokes off the normal mechanism of adjustment of the real exchange rate through domestic price inflation. How large might this effect be if it was not being frustrated? As useful thought experiment, is to consider what would probably have happened in China if the monetary effect of the foreign exchange inflow in 2006 had not been sterilized, but had been allowed to have its full impact on China's monetary base, assuming for simplicity that the net domestic assets of the monetary authority had been held constant at their 2002 level (rather than being expanded to account for at least half of the growth of the base). By end 2006, the hypothetical result would have been a monetary base of 10,677 billion yuan rather than the actual monetary base of 7,776 billion yuan, an increase of 37 percent.³² Assuming, as is reasonable, a roughly proportional reaction of China's price level to the massive increase in the money supply implied by this large hypothetical increase in base money, China's real exchange rate would have appreciated by 37 percent relative to its actual level. This would be equivalent to a nominal appreciation of the yuan, relative to the U.S. dollar to 5.7 yuan to the dollar, rather than the actual rate at end 2006 of 7.81 yuan to the dollar. The real appreciation of the yuan brought about, in the absence of sterilization, through David Hume's price-specie-flow mechanism would have eliminated all, or virtually all, of what most estimates suggest is the present undervaluation of the yuan.

Of course, this is not to argue that Chinese economic policy should have fostered or permitted an explosion of domestic price inflation in order to induce appreciation of the real exchange rate. Rather, the point is that the Chinese policy of extraordinary resistance to nominal appreciation of the yuan through massive sterilized intervention is preventing clearly warranted adjustments in China's real exchange rate and China's balance of

³² An alternative and arguably more reasonable hypothetical experiment would assume that the Chinese authorities supplied half the increase in demand for base money with expansion of net domestic assets and, in addition, allowed the entire inflow of foreign exchange reserves to pass through to affect the domestic monetary base. This would imply a 58 percent increase in the monetary base relative to actual and presumably a 58 percent rise of the Chinese price level and of the real foreign exchange value of the yuan. However, it is clearly inappropriate to assume that the foreign exchange inflow would have remained unchanged in the face of such massive real appreciation. The point of the hypothetical experiment is not to try to be too precise, but to indicate the order of magnitude of the effects involved.

payments—in violation of China’s obligations under Article IV Section 1(iii). The solution is not to allow a large surge of domestic inflation; rather it is to scale back intervention in the foreign exchange market and permit significantly more rapid nominal appreciation of the yuan.

Nothing more really needs to be said to conclude that China’s exchange rate and related policies stand in violation of its obligations under Article IV. The facts concerning China’s massive, protracted, one-way intervention to resist appreciation of the yuan are, by themselves, overwhelmingly sufficient to make the case. Nevertheless, it is instructive to consider briefly some of the other items under Principle 2 of the 1977 PFS.

A Substantially Undervalued Yuan

Among these other items, the most important is (v), essentially the issue of whether there is clear evidence that the exchange rate of the yuan is significantly undervalued relative to a reasonable assessment of longer-term economic fundamentals. Here, too, the evidence is convincing.

As noted earlier, there is fairly clear evidence that, consistent with the familiar Balassa-Samuelson effect, there is a longer-term upward trend in the equilibrium level of China’s real effective exchange rate. The basis for the Balassa-Samuelson effect is that in rapidly growing economies productivity growth tends to be significantly higher in tradable goods industries than in the rest of the economy. Hence, measures of the real effective exchange rate that use broadly based domestic price indices (such as consumer price indices or GDP deflators) will tend to show more real appreciation than measures based cost competitiveness in tradable goods industries. Or, equivalently, for rapidly growing countries, when measures of the real exchange rate based on broadly based domestic price indices look flat, better measures of the real exchange rate using relative cost competitiveness in tradable goods industries will be depreciating.

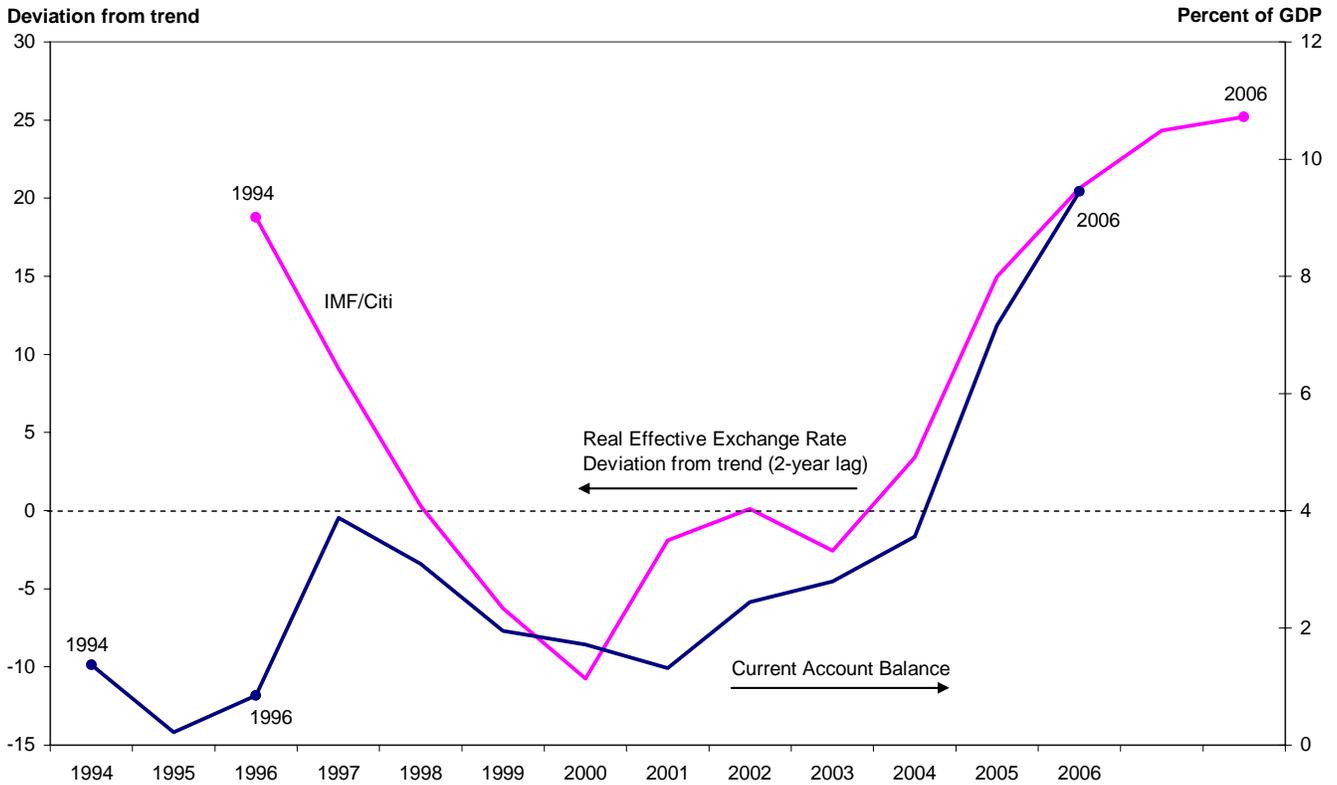
In general, the more rapid the growth of the economy and the more rapid the growth of the tradable goods sector within the economy, the stronger the Balassa-Samuelson effect is likely to be. China’s growth since 2002 has been even higher than between 1994 and 2002, and the growth of the tradable goods sector has picked up considerably more than growth of the economy in general. The evidence suggest that in 1994-2002, China’s equilibrium real exchange rate was probably appreciating at something like a

2 percent annual rate. Developments since 2002 provide no reason to believe that the slope of the upward trend in the equilibrium real exchange rate has diminished. Hence, if the China's real exchange rate (based on broad domestic price indices) was approximately in long-run equilibrium in 2002, the long-run equilibrium exchange rate (based on the same broad domestic price indices) is probably 10 to 15 percent higher in 2007.

This phenomenon was exhibited in Figures 1 and 2 by the depiction of an assumed path for the longer-run equilibrium real effective exchange rate of the yuan with a 2 percent annual upward tilt. According to that depiction, the divergence between the actual real effective exchange rate of the yuan and its assumed longer-run equilibrium path widened substantially between 2002 and 2005 and has at least maintained that divergence subsequently. This is broadly consistent with the widening of China's current account surplus since 2002. Indeed, if we assume, that there is roughly a two-year lag between movements in the real exchange rate relative to its longer-run equilibrium path and associated movements in the current account balance as a share of GDP (as appears to be the case for the United States and some other countries), then the empirical relationship upon which to focus is that shown in Figures 4 and 5. Although both the method and the results are rather crude, these figure do illustrate that there is a meaningful relationship between deviations of the actual real effective exchange rate from its posited longer-run equilibrium path and the behavior (two years later) of the current account balance.

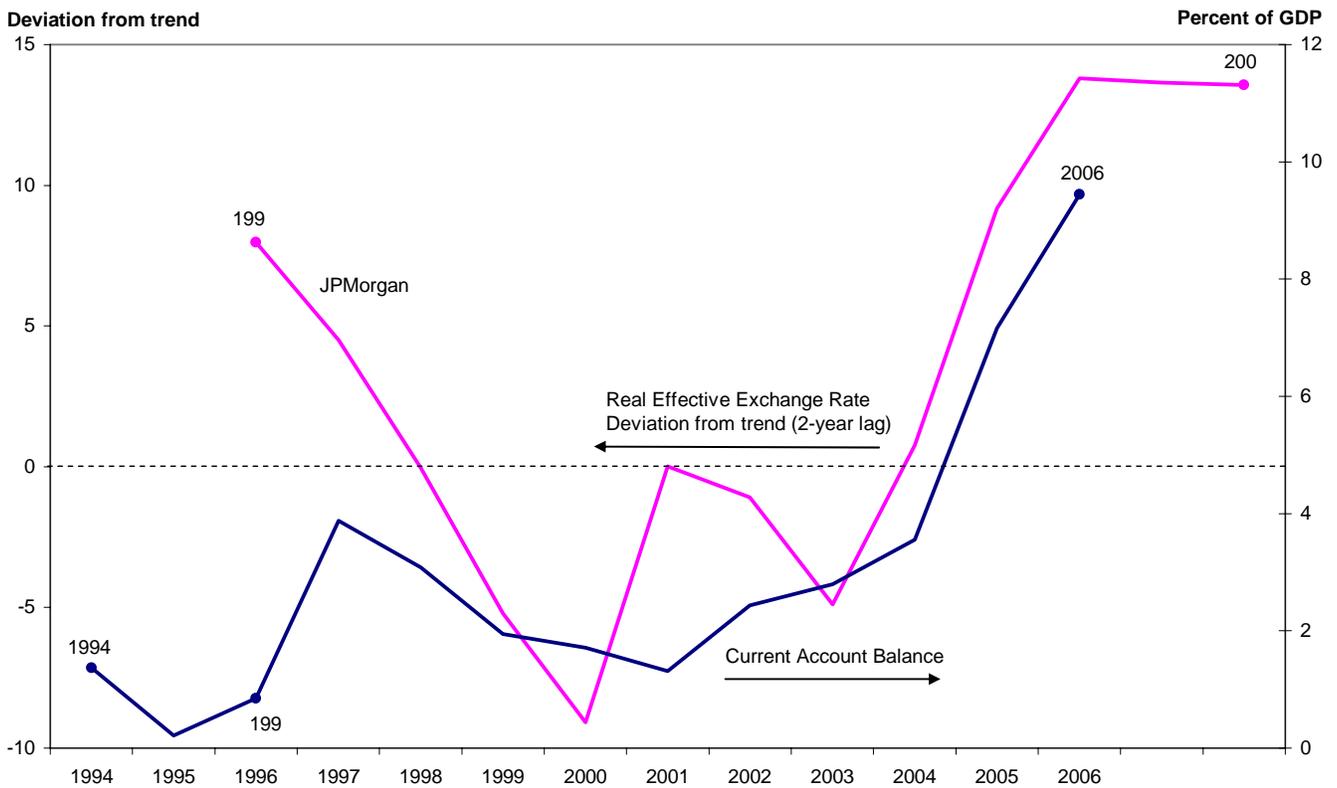
In 2003, when the Chinese current account surplus was still below 3 percent of GDP, Goldstein and Lardy argued that this surplus was probably too large, taking into account both the likelihood that China would be a net recipient of capital inflows and the likelihood that the dollar would need to depreciate on a real effective basis, including significant depreciation against the Chinese yuan. At the time, there could have been some dispute about this conclusion, especially on the issue of whether the longer run equilibrium level of China's current account balance was a modest deficit or a surplus of less than about 1 percent of GDP. Now, however, with China's current account surplus running above 9 percent of GDP in 2006 and rising for 2007, with private capital still trying to flow into China, and with the real effective exchange rate of the U.S. dollar still in apparent need of significant downward correction. There really can be no reasonable conclusion except that the yuan is substantially undervalued. And, this substantial undervaluation is not consequence of forces beyond the control of the

Figure 4: Real effective exchange rate of the renminbi and China's current-account balance



Source: China State Administration of Foreign Exchange, IMF, Citigroup.

Figure 5: Real effective exchange rate of the renminbi and China's current-account balance



Source: China State Administration of Foreign Exchange, JPMorgan.

Chinese government; it is the result of that government's the policy of intervening massively to resist appreciation of the yuan.

The other items on the list under Principle 2 of the 1977 PFS are essentially superfluous. It may be noted that there is some indication that the Chinese authorities engaged in disguised intervention in the foreign exchange market in 2006 by inducing financial institutions to hold offshore some of the proceeds from inward foreign investment flows. If correct, this reinforces somewhat the case that Chinese policies are in violation of obligations under Article IV, but that case is already overwhelming.

Unfair Competitive Advantage?

The fact that the Chinese government is using massive, protracted, sterilized intervention to resist appreciation of the yuan resolves the issue of intent with respect to the stricture against preventing effective balance of payments adjustment. But it does not resolve the issue of intent with respect to the stricture against creating unfair competitive advantage. There are, however, important (if not absolutely conclusive) grounds for the Fund to find that there is the requisite intent.

First, some of the Chinese authorities (and others) have argued persuasively that China faces a critical problem of assuring growing employment opportunities that will enable millions workers in the rural and poorly developed sectors of the Chinese economy to move to the more modern sectors. A highly competitive exchange rate for the yuan, it is also argued, is instrumental in stimulating employment gains in the more highly developed, higher wage sectors of the Chinese economy. This too is probably true. However, while the achievement of high levels of employment and employment growth is a domestic policy objective that is lauded by the Fund, there is one means for achieving this goal that is specifically prohibited by the Fund's Articles of Agreement. Purpose (iii) in Article 1 and the strictures in Article IV Section 1(iii) make clear that "competitive depreciation" is banned as a means for achieving domestic employment objectives. The assertion by Chinese officials that China is using its exchange rate and related policies for the purpose of stimulating domestic employment is a confession of guilt to violation of Article IV Section 1(iii).

Second, aside from an explicit admission of guilt to pursuing a policy of competitive depreciation, the fact that the Chinese authorities have persisted for a number of years to maintain a substantially undervalued

exchange rate that confers competitive advantage on Chinese producers relative to foreign rivals is important evidence that this effect is not unintentional. If the Chinese authorities are pursuing their exchange rate and related policies with the clear effect, but not the intent, to conferring competitive advantage on Chinese producers, then they owe the Fund and the world a convincing explanation of why this is not an meaningful part of what they intend their policies to achieve.

Third, the Fund needs to weigh carefully its responsibilities to the international economic system when considering how much deference to give to member's assertions that they are not pursuing policies for the prohibited purpose of competitive depreciation when that is clearly the effect of the member's policies. Supervising operation of the international trading system is not the responsibility of the Fund. But the effective operation of that system is an important concern of the Fund. If, with substantial justification, people and businesses in other countries see themselves as the victims of substantial and prolonged competitive depreciation practiced by the Chinese authorities, and if the Fund does not even acknowledge the problem, then the disaffected will seek redress through other channels—and will be justified in doing so. The result could ultimately be that—disgusted with the Fund's failure reasonably to fulfill its assigned responsibilities—others will be given the job. In view of the results that have been achieved with the use and abuse of anti-dumping and countervailing duties to address other trade complaints, it should be worrying to contemplate that this would become the substitute for somewhat more assiduous action by the Fund to deal with cases that appear to involve substantial and prolonged competitive depreciation.

Explaining China's Policy

If the purpose of China's policy is not actively to pursue unfair competitive advantage to boost domestic employment, one might well ask, why have the Chinese authorities engaged for so long in such massive, largely sterilized, intervention to resist appreciation of the yuan?

The answer to this intriguing question is provided by the Fund's long-time and highly distinguished Economic Counsellor, Jacques Polak, at virtually the same time that China embarked on its present exchange rate policy. In an essay on the occasion of the fiftieth anniversary of the Fund in 1994, Dr. Polak surveyed, "Fifty years of Exchange Research and Policy at the International Monetary Fund." He concludes this survey with the following trenchant observation:

“Taking the past fifty years as a whole, the exchange rate problems that the Fund has had to deal with in connection with requests for use of its resources, or more generally in the surveillance of the policies of the great majority of its members, have been problems of overvaluation. In policy advice handed out by the Fund, “exchange rate flexibility” has almost always served as only a slightly veiled euphemism for devaluation or depreciation. In the most recent years, however, this has no longer necessarily been so. As an increasing number of developing countries are faced with large inflows of capital, some real appreciation of their currencies can usually not be avoided.... A few developing countries...have in recent years taken steps toward some revaluation of their currencies. These steps, however, have been quite modest, **providing confirmation of an asymmetry in countries exchange rate policy that can be observed over the entire period covered by this paper: countries often fail to take action needed to improve competitiveness, but they hesitate to take any action that would reduce it.**”[emphasis added]

This conclusion accords perfectly with the experience that I had as the Fund’s economic counselor from 1991 to 2001. In at least eight instances, I had serious and extended discussions with senior officials of countries (both industrial and developing) that had clearly overvalued exchange rates. They advanced all sorts of arguments for why their exchange rates were not really overvalued, at least not to any significant extent. Ultimately, only collapse of these overvalued exchange rates proved to be a convincing argument, and by then the officials had usually been replaced. I had less experience dealing with officials of countries with clearly undervalued exchange rates. But, in that more limited experience there was at least equal determination of the officials to deny that the exchange rate was meaningfully misaligned. The simple truth is, as Jacques Polak observes, even when there is persuasive evidence that an exchange rate is significantly misaligned, either overvalued or undervalued, there is a determined desire to deny this by the officials of the country concerned.

I believe that the fundamental reason for this is that changing an exchange rate that is pegged, either de jure or de facto, is almost always seen as a defeat for the government officials involved; they have been forced to change their policy. More than that, a change in an exchange rate is a price change that always hurts somebody, even as it benefits others. When an exchange rate is changed as a visible act of government policy, the government is blamed by those who feel the hurt and gets little credit from those who are benefited. As Charles Schultze explains in his book *Memos to the President* (1992), the fundamental rule among policy makers in Washington is, “Do no visible harm.” The same is true in London, Paris,

Berlin, Tokyo, or Beijing. Revaluing or appreciating an exchange rate is even worse from this perspective than devaluing or depreciating one. In the latter case there is almost always the excuse, “The devil (in the form of evil foreign speculators) made me do it.” With revaluation or appreciation, there is no similarly convincing excuse; the government can almost always go on longer accumulating ridiculously large piles of foreign exchange reserves.

There are those who argue that China’s policy is actually a wise and desirable policy, benefiting not only the people of China but also spreading munificence around the world.³³ In 2002-03, when China’s current account surplus was rising from its previous average of between 1 and 2 percent of GDP to 2 ½ to 3 ½ percent of GDP, I did not find these stories particularly persuasive, but they could not be rejected out of hand. Now, however, we have seen China’s current account surplus surge to over 9 percent of GDP in 2006 and it appears headed for about 12 percent of GDP in 2007 and conceivably even higher in 2008. Gross saving by China (including accumulation of official foreign exchange reserves) already exceeded 48 percent of China’s GDP in 2005, will probably be over 50 percent of GDP when the results are finally reported for 2006, will be higher than that in 2007, and even higher in 2008. We have clearly surpassed the point at which reasonable people can plausibly maintain that these developments are, by design or inadvertence, the manifestation of some benign or even noble purpose from the perspective of China or the rest of the world.

At this stage, the alternative is really to argue--Dr. Pangloss does indeed live. And, all really is for the best in the best of all possible worlds! In reply to such assertions, should anyone care to make them, I can only quote Sir Winston Churchill when told that a proper sentence of the English language should never end in a preposition, “This is nonsense up with which I will not put!”

³³ The “Deutschebank Trio,” Michael Dooley, David Folkerts-Landau and Peter Garber (2003) are probably the most prominent, but far from the only, analysts who have argued that China’s current account surplus and its growing stock of reserves are beneficial both for China and for the rest of the world—a supposedly symbiotic relationship that they have dubbed the Bretton Woods II system. Like my colleague Morris Goldstein (2006a) and (2007), I am highly skeptical of this view, and I find it less and less credible as China’s balance of payments surplus surges ever upward.

IV. The Monetary Approach—Explaining Some Chinese Puzzles

The preceding discussion establishes clearly that China's exchange rate and related policies stand in violation of Article IV Section 1(iii) and are inconsistent with China's general obligation to collaborate with the Fund and other members in addressing the critical problem of global imbalances. There remain, however, some important puzzles concerning China's extraordinary performance in recent years, especially as it relates to China's exchange rate and its balance of payments. There is an explanation of these puzzles that sheds further light on how China's exchange rate and related policies are inducing such extraordinary effects that are, in fact, contrary to the policy goals of the Chinese authorities. The analytical approach that is most useful in exploring these issues is the monetary approach to the balance of payments—an approach that was originated to an important extent inside the Fund, that is still used there especially in program cases involving Fund lending, but has fallen somewhat out of style in the academic community.

Some Chinese Puzzles

China's current account surplus has expanded enormously from an average of about 2 percent of GDP in 1994 through 2001 to over 9 percent in 2006, and it appears headed for about 12 percent in 2007. The depreciation of China's real effective exchange rate since 2001 (especially relative to a plausible estimate of its upward sloping, longer-run equilibrium path) helps to explain part of this improvement in China's current account. But the cause of some of this extraordinary improvement is a mystery. The mystery is deepened considerably by consideration of two factors that should have tended to reduce significantly China's current account surplus. China's economy has been growing significantly faster than its trading partners. Normally, this is associated with a deterioration in a country's current account because imports tend to grow along with the growth of domestic GDP while exports tend to grow more in line with economic growth abroad. Also, China is a major importer, of raw materials, including oil for which China is the second largest importer after the United States. World prices for raw materials have soared in recent years. This has typically brought major improvements in the current accounts of commodity exporters, but has tended to worsen the current accounts of raw material importers. China is the glaring exception. What explains this?

A country's current account surplus is necessarily equal to its national savings/investment balance. A rising current account surplus, therefore, necessarily corresponds to an equal increase in the excess of national

saving over national investment. In China over the past four years, there has been extraordinary boom of investment, with fixed investment rising to over 40 percent of GDP and with the annual growth rate of real fixed investment significantly outstripping the annual growth rate of China's real GDP. It is surprising, even bizarre, that with such rapid growth of investment, China's saving/investment balance has improved by 6 percentage points of GDP between 2002 and 2006. Indeed, if one adds the net accumulation of foreign assets by Chinese residents (including accumulation of foreign exchange reserves by the authorities), total gross saving by China in 2006 reached an unprecedented 48 percent of GDP! Why has national saving in China risen so much faster than China's extraordinary growth of investment and why has saving run up to such enormous levels?

A third puzzle concerns the distribution of investment in China. Fixed business investment (excluding real estate) has been particularly heavily concentrated in the tradable goods sector (along with related infrastructure and real estate development), and in capital-intensive industries, with the result that capital/labor ratio in these industries have risen.³⁴ One result has been that total factor productive growth in these industries has been relatively poor, although labor productivity growth has benefited from rising capital/labor ratios. Employment growth in these sectors has also been relative meager for the amount of capital invested, contrary to the government's priority for employment growth. What is causing this pattern of investment growth that is running counter to the priorities of the government?

A variety of special factors help to explain these puzzles, and some of these factors will be mentioned later. However, all of these puzzles are logically tied together: The extraordinary rise in China's current account surplus is clearly linked both to the remarkable improvement in China's saving/investment balance and to the extraordinary rise in productive capacity in China's tradable goods industries. Hence, an explanation that relies on entirely on coincident accidents involving special factors relevant to the individual puzzles is neither satisfying nor convincing. It is relevant to ask whether there is common factor that helps to explain all of the puzzles?

The Basic Ideas of Monetary Approach to the Balance of Payments

In spirit, the monetary approach to the balance of payments dates back at least to David Hume's (1752) explanation of the *price-specie-flow mechanism*, and it can be traced through the writings of prominent (and

³⁴ See Lardy (2007) for further discussion of these phenomena.

competent) economists well into the twentieth century. The modern formulation of the monetary approach owes much to work done in the Research Department at the Fund, most notably by Jacques J. Polak.³⁵ In the early to mid 1970s, the monetary approach enjoyed a surge of interest in the academic community, particularly among economists associated with the University of Chicago.³⁶ However, interest in the monetary approach waned in the academic community and among researchers in the Fund in late 1970s. This reflected two factors: The theoretical underpinnings and implications of the monetary approach had been quite thoroughly explored by then; and, even more important, the monetary approach was particularly relevant for countries operating under pegged exchange rates and by the late 1970s it was clear that exchange rates among the major currencies were unlikely to return to a system pegged exchange rates anytime soon. Nevertheless, inside the Fund key elements of the monetary approach continued to be applied especially in cases of countries for which the Fund was providing financial support.³⁷

The essential ideas of the monetary approach that are relevant for the present discussion can be explicated relatively concisely. In all countries, domestic residents have a demand for domestic money, both currency and bank deposits, to use in transactions and as a liquid reserve or form of savings. The quantity of money demanded, M , depends on the level of real income, the general domestic price level, interest rates, and other factors, including the degree of financial development in the country. For present purposes, it costs little and is convenient to assume that the demand for money is proportional to nominal GDP, that is, $M = kY$, where k is a (constant) that summarizes all factors affecting money demand other than nominal GDP, denoted by Y . It is also convenient (and costs little) to assume that domestic residents want to hold currency, C , as a fixed fraction, a , of their total money holdings, $C = aM$, with the rest held as bank deposits, $D = (1-a)M$. Banks need to hold reserves, R , with the monetary authority equal to a fraction, r , of their deposition; $R = rD$. As its liabilities to the public (including banks), the monetary authority supplies base money, B , which is equal to currency plus bank reserves; $B = C + R = C + rD = aM +$

³⁵ A useful and concise exposition of the monetary approach and a review of work done at the Fund on this subject is provided in Polak (1998) reprinted in Boughton (2005). A number of the papers produced by IMF staff over the years up to the mid 1970s are collected in IMF(1977), including Polak (1957) and Polak and Boissenneault (1960).

³⁶ A number of the Chicago papers dealing with the monetary approach are collected in Frenkel and Johnson (1976). Several of Rudi Dornbusch's insightful papers reappear in various chapters in Dornbusch (1980). The work of Robert Mundell (1968) and Harry G. Johnson (1958) provided much of the stimulus for many who worked on the monetary approach at the University of Chicago, including my colleague on the faculty at Chicago and my immediate predecessor as the Fund's Economic Counsellor, Jacob Frenkel (1971) and (1976) and my long-time friend Alexander Swoboda (1973). For a general description of the monetary approach and its field of relevance see Mussa (1974) and (1979) and Frenkel and Mussa (1985).

³⁷ See Robichek (1957), IMF (1987), and Mussa and Savastano (1999).

$r(1-a)M = (a + r(1-a))M = (a + r(1-a))kY = bY$, where $b = (a + r(1-a))k$. Thus the effective demand for base money arising out of the demand of domestic residents to hold money (both currency and bank deposits) is proportional to nominal GDP, with the factor of proportionality b .

Two items appear on the asset side of the (consolidated) balance sheet of the monetary authority: foreign exchange reserves, F , which are the foreign assets held by the monetary authority; and net domestic assets held by the monetary authority, N . The net domestic assets of the monetary authority are (by definition) all of the assets held by the monetary authority except F , less all of the liabilities and capital (and any other items net) of the monetary authority, except base money, B . Thus, necessarily as a fact of accounting, $F + N = B = C + R$.

It follows immediately that in order for the monetary base to meet the effective demand for base money, $B = bY$, we must have $F + N = bY$. This is an economic equilibrium condition, not an accounting identity. If $F+N$ is not equal to bY , then either the monetary authority will need to adjust $F+N$ or allow $F+N$ to adjust, or the public's effective demand for base money, bY , will need to change. In the latter case, if b is a constant, then Y will have to change. For example, if $F+N < bY$ and the monetary authority refuses to allow any increase in $F+N$, then the public will scramble to acquire the base money they want to hold by cutting back on spending, thereby putting downward pressure on output and the price level and therefore on Y until monetary equilibrium is achieved. Alternatively in this situation, if the monetary authority did not want to force a contraction in Y , it could issue additional base money and use it either to buy foreign exchange F or acquire more net domestic assets N . These simple ideas can be applied both to countries that allow their exchange rates to float and to countries that peg their exchange rates.

Applying the Monetary Approach to the United States

Before turning to China, it is useful to consider how the monetary approach would apply to the United States in present circumstances. The monetary authorities in the United States almost never intervene in the foreign exchange market.³⁸ Hence, we can safely ignore the foreign exchange operations of the U.S. treasury and identify the U.S. monetary authority with the Federal Reserve. The Federal Reserve conducts U.S. monetary policy by setting and adjusting the interest rate in the overnight

³⁸ Variations in U.S. holdings of foreign exchange reserves now occur almost exclusively as a consequence of changes in U.S. net creditor position in the Fund (and in changes in U.S. holdings of SDRs) which are associated with Fund operations, not with intervention by the U.S. in the foreign exchange market. The monetary effect of these operations is always fully sterilized.

interbank market for federal funds. The federal funds rate is varied in order to keep inflation well contained and to smooth out fluctuations in economic activity. Given the level of the federal funds rate set by the Federal Reserve, the supply of base money expands or contracts automatically to meet whatever the demand for base money may be. Thus, N adjusts to meet any changes in the demand for base money, B , while F stays constant. Meanwhile, the U.S. authorities allow the exchange rate of the dollar to fluctuate freely in response to market forces.

Because the U.S. official settlements balance (as measured by changes in U.S. foreign exchange reserves) has been effectively zero for many years, and because the Federal Reserve has followed a policy for many years of keeping the U.S. economy on a reasonable track and meeting the generally rising demand base money by expanding its net domestic assets, it is obvious that the standard application of the monetary approach is not going to help us very much in understanding why the U.S. current account deficit has grown from 1 ½ percent of GDP in 1994 to about 6 percent of GDP today. It is also the case that the monetary approach would probably not help very much if U.S. policy toward meeting increasing demand for base money had been significantly different.

For instance, suppose that the dollar had still been allowed to float, but U.S. policy had been to meet rising demands for base money only by increasing U.S. foreign exchange reserves, with the net domestic assets of the monetary authorities held constant.³⁹ Assuming that the demand for base money would not have evolved significantly differently (a reasonable assumption), U.S. foreign exchange reserves would have risen by about

³⁹ This analysis is not entirely consistent with present U.S. institutional arrangements, but expositional purposes it is convenient to proceed under the assumption that in this scenario, the Federal Reserve would not buy domestic assets (U.S. Treasuries) to expand the monetary base but would instead purchase foreign exchange assets. In fact, under present U.S. institutional arrangements, the “monetary authority” that would hold the increased U.S. foreign exchange reserves would probably include the exchange stabilization fund at the U.S. Treasury. The Federal Reserve would expand the monetary base as needed to support its monetary policy (determined by setting the path for the federal funds rate). The assets purchased by the Fed for this purpose could include both domestic assets (primarily U.S. Treasury obligations) and foreign exchange assets; and it would remit almost all of the income earned on these assets to the Treasury. The Fed would also purchase some foreign exchange assets on behalf of the Treasury which the Treasury would pay for out of the proceeds from issuing additional debt. The net result would be that U.S. Treasury bonds outside of those held by the Federal Reserve would rise to the same extent as they would rise if the Federal Reserve purchased all of the additional foreign exchange assets for its own account rather than purchasing some on behalf of the Treasury. This additional U.S. Treasury debt outside of the Fed would rise by the amount of the combined increase in foreign exchange holdings of the Fed and the Treasury, relative to what would have been the outstanding stock of such debt if the Fed’s expansion of the monetary base had been accomplished exclusively by purchasing domestic assets and there had been no acquisition of foreign exchange assets by either the Fed or the Treasury. The additional outstanding Treasury debt would be sold in world capital markets to both U.S. and non U.S. residents, and global asset portfolios (which are immense) would be adjusted at the margin to accommodate the increased supply of U.S. Treasury bonds and the diminished supply of the foreign exchange assets purchased by the U.S. authorities (either the Treasury or the Federal Reserve).

\$120 billion between end 2002 and end 2006. This is not a trivial figure. But, annual average increase in foreign exchange reserves as a share of U.S. nominal GDP is quite small, about 0.3 percent. The principal reason for this is that ratio of base money to GDP in the United States, the coefficient b in our equations, is only about 0.6, and the annual average growth rate of nominal GDP has been running at about 6 percent. (For China, we will see that these figures are very different).

If the Federal Reserve did not generously provide U.S. residents with the \$30 billion of additional base money they wanted to accumulate on average for each of the past four years, then they would have had to cut back their spending (absolutely and relative to their income) and/or borrow more from abroad, or probably some of both. The result would have been a slightly smaller U.S. current account deficit, to the extent that U.S. residents decreased their spending. To the extent that they increased foreign borrowing, the improvement in the current account would have been even smaller. Presumably, the foreign exchange value of the dollar would have been pushed down very slightly, as would be consistent with a very modest improvement in the current account and a very modest increase in U.S. net demand for foreign assets (corresponding to the increase in official foreign exchange reserves less the increase in private net borrowing).

The key point is that all of these effects would have been very small. The fundamental reason for this is not in how the theory of the monetary approach is applied to the United States; it is in the quantitative facts. Even a complete shift from meeting the rising demand for base money through expanding net domestic assets of the monetary authority to meeting it all through foreign exchange reserve accumulations means quantitative shifts that are very small relative to U.S. GDP, relative to the U.S. current account deficit, and relative to capital flows in world financial markets to which U.S. residents have excellent access.

There is an alternative perspective from which the monetary approach is somewhat more useful in explaining developments in the U.S. exchange rate and balance of payments. The United States is the principal reserve currency country. U.S. based assets, especially Treasury obligations, are held by other countries as the most important part of their official reserves. These foreign official holdings of U.S. based assets are quite large and have grown rapidly in recent years. No one really knows how large or how rapidly. The U.S. government reports figures on foreign official holdings of assets in the United States, broken down into U.S. government securities, U.S. liabilities reported by banks, and other foreign official assets. These data show large annual increases in recent years: \$259 billion for 2005 and

\$440 billion total 2006. The true figures are probably somewhat larger because there are indirect and probably some direct foreign official holdings of dollars that are not reported to the U.S. authorities. The IMF data for non-gold reserves shows an increase of SDR 507 billion (equivalent to about \$750 billion) in 2005 and SDR 427 billion (equivalent to about \$ 630 billion) in 2006. In view of what is known about the countries that accumulated large amounts of reserves and their currency preferences, it seems likely accumulations of U.S. based assets accounted for meaningfully more than half of the total increase for these two years combined, say at least \$900 billion rather than the \$700 billion in the U.S. figures. In any case, the annual increases since 2002 have surely been very large, probably on the order of \$300 billion to \$500 billion per year, with a cumulative increase over four years on the order of \$1.5 trillion.

Clearly, \$1.5 trillion is not a negligible figure even relative to the cumulative U.S. current account deficit of about \$2.8 trillion over these four years. Presumably it would have made some difference to the U.S. and to the rest of the world if foreign governments had not accumulated an additional \$1.5 trillion of U.S. based assets as foreign exchange reserves. These effects would probably have been most pronounced if the lack of reserve accumulation corresponded to an increase in spending relative to income in the rest of the world (i.e. a reduction in the “net saving glut”) rather than to an increase in foreign net purchases of assets other than foreign official holdings of exchange reserves.

With the world economy growing very rapidly and with world trade expanding even more rapidly, even in a hypothetical exercise it would be implausible to suppose that there would have been no significant increase in foreign official reserve holdings of U.S. based assets. To set a round figure, suppose instead that additions for dollar reserve holdings were \$800 billion less than actually occurred and the accumulations of other foreign exchange assets by other countries were not changed, implying that total non-gold reserves would have increased from about \$2.4 trillion at end 2002 to about \$4 trillion (rather than \$4.8 trillion) at end 2006. Applying the monetary approach, what difference would this have made, especially for the exchange rate of the dollar and the U.S. current account balance?

A very simple-minded answer would suggest that reducing foreign purchases of U.S. based assets by \$800 billion cumulatively over four years would have the following effects: (1) Spending by residents of the countries that cut back reserve accumulation would rise one-for-one with the cut because there would no longer be the forced domestic saving induced by foreign exchange market intervention and sterilization, (2) The exchange

rates of these countries would appreciate and their current account surpluses would recede (or their current account deficits would enlarge). (3) In the United States, the reduction in foreign official purchases of U.S. assets would force one-for-one reductions in U.S. domestic demand. (4) The U.S. current account would improve due to the direct effect of the reduction in domestic demand and because the reduced official demand for dollars in foreign exchange markets would force the dollar to depreciate. The implication of all of these assumptions is that the cumulative U.S. current account deficit would have been \$800 billion smaller over these four years, i.e., \$2 trillion rather than 2.8 trillion.

Unfortunately, this is too simple. Economic agents in the United States and in other countries will usually not respond in the assumed one-for-one manner if they have flexibility to do otherwise. Regarding other countries, consider first Japan. The Japanese authorities intervened massively to resist appreciation of the yen during 2003, to the tune of over \$200 billion, replicated this amount of intervention in the first quarter of 2004, and then stopped their sterilized intervention abruptly.⁴⁰ When they stopped, nothing happened. The yen did not jump suddenly upward. Domestic spending did not surge in Japan, The Japanese current account surplus did not contract sharply. This was because the intervention carried out until the end of the first quarter of 2004 was having very little effect, so stopping it did not matter very much

The reason why even massive (sterilized) intervention was having such a negligible effect relates to the very special circumstance then prevailing in Japan. To combat persistent economic weakness and deflation, the Bank of Japan was maintaining a zero interest rate policy; the Japanese public and banks could get whatever additional currency and bank reserves they wanted at zero interest cost. Indeed, under its policy of quantitative easing, the Bank of Japan was flooding Japanese banks with excess reserves to the extent of about 30 trillion yen. Under these circumstances, issuance trillions of yen of domestic debt to finance purchases of \$400 billion of foreign exchange assets over a fifteen-month period had no crowding out effect on spending in Japan. It did not really matter, and stopping it did not matter either.

In contrast to Japan, consider the situation in several important oil exporting countries. Successive large increases in the world price of oil from the summer of 2002 through the summer of 2006 massively boosted

⁴⁰ The institutional arrangement in Japan is that foreign exchange market intervention is always automatically sterilized. The Ministry of Finance, not the Bank of Japan holds almost all of Japan's foreign exchange reserves.

the export earnings of these countries. The governments of the countries that received this bonanza could not and/or did not want to raise their spending by more than a fraction of their increased revenues. In most cases, domestic residents (other than the government) had no or only very limited means to go into world capital markets and borrow against their governments' oil surpluses in order to raise their own spending beyond what their governments permitted through domestic spending of some of their increased oil export revenues. Thus, most of the increased oil export revenues that governments of the major oil exporting countries did not spend showed up in increases in net national saving (the excess of national saving or national investment) and hence in rising current account surpluses.

For China, it will be argued, the accumulation of large volumes of foreign exchange reserves has had consequences similar to those of the major oil exports, although for somewhat different reasons. Other reserve accumulating countries generally lie somewhat between Japan on the one side and the oil exporters and China on the other side. All told, it is reasonable to surmise that of the \$800 billion of hypothesized unreasonable accumulation of foreign exchange reserves between end 2002 and end 2006, at least half, but no more than three-quarters, ended up as part of the rise in net savings (the excess of national saving over national investment) outside of the United States—what Chairman Bernanke refers to as the global (net) savings glut.

Explanation of 25 percent to 50 percent of the deterioration of the U.S. current account between 2002 and 2006 by application of the monetary approach to analyze the implications of unusual accumulation of foreign exchange reserves by other countries is not trivial. However, it is only a plausible explanation for part of the deterioration, and even for that part it is not complete. Specifically, the explanation plausibly works for part of the supply side of the great global net savings glut, but it does not explain the demand side. It does not explain why the United States was the great global net saving glutton!

Significant and more or less simultaneous increases in national net saving by a number of countries pump additional resources into global capital markets. If at the initial stage the inflows are targeted relatively heavily toward purchases of U.S. based assets, this has some tendency to push the prices of such assets up and push their associated yields or interest rates down. But, efficiently functioning global capital markets can redirect capital flows through adjustments in prices and yields; financial capital is fungible. Thus, it is necessary to have some explanation for why the United States was so willing to absorb the increase in net national saving in some

other parts of the world--both that part that is induced by unusual accumulations of foreign exchange reserves and the other parts of the global net savings glut. The conduct of U.S. monetary and fiscal policy probably had something to do with this. But this is not really part of the monetary approach to the balance of payments, and it is beyond the scope of the present discussion to explore the issue further.

Applying the Monetary Approach to China

China's economy is quite different from the U.S. economy in ways that make application of the monetary approach to explain developments in China's balance of payments far more relevant and fruitful. In particular, Chinese monetary aggregates, relative to the size of the economy, are much larger than in the United States. Key data on Chinese monetary aggregates and other relevant information are reported in Table 2 for the period 1994 through 2006. The money supply in China, currency plus ordinary bank deposits, is roughly 50 percent of China's GDP and currency alone is about 12 percent. Broad money is about 150 percent of China's GDP, while the monetary base is close to 40 percent of GDP. The comparable ratios for the United States are money (M1) to GDP only about 12 percent, with currency to GDP running not quite 6 percent of GDP and with about half of U.S. currency thought to be circulating abroad. Broad money in the United States is about 50 percent of GDP, and the monetary base runs only slightly over 6 percent of GDP.

From the perspective of the monetary approach, the most important of these figures is the ratio of base money to GDP, the coefficient b in our formulas. This ratio averages about 37 percent in China versus barely 6 percent in the United States. Moreover, the annual growth rate of nominal GDP in China has been running about 16 percent versus about 6 percent in the United States. The implication is that annual growth of demand for base money in China runs about 6 percent of GDP, while annual growth of demand for base money in the United States (more than on-third of which is U.S. currency used abroad) is only about 0.3 percent of GDP.

In the United States, the Federal Reserve automatically meets the growing demand for base money by increasing its net domestic assets. Also, as previously discussed, it would make little difference for the U.S. current account balance if the U.S. authorities accumulated foreign exchange reserves rather than net domestic assets as the counterpart to expansion of the supply of base money. This is because the annual increase in demand for base money is so small and U.S. residents enjoy excellent access to global capital markets.

In China by contrast, the annual increase in demand for base money is large, and the Chinese monetary authorities do not meet this demand by expanding their net domestic assets. Indeed, as reported in Table 2, the Chinese monetary authorities have been reducing their net domestic assets since 2002 and have actually pushed them below zero in 2006. These reductions in net domestic assets reflect precisely the efforts by the Chinese authorities to **sterilize** the effect of accumulations of foreign exchange reserves (resulting from intervention to resist appreciation of the yuan) on the domestic monetary base and therefore on the domestic money supply. To effectuate such sterilization in the face of the massive foreign exchange market intervention of recent years, it has been necessary, beginning in 2002, for the Peoples Bank of China to issue sterilization bonds to Chinese banks to sop up what would otherwise been large additional increases in base money. These bonds are a negative item in the net domestic assets of the Chinese monetary authorities. In 2006, the volume of sterilization bonds outstanding reached almost 3 trillion yuan (about \$375 billion).

The policy of the Chinese government of not expanding the net domestic assets of the monetary authority to meet the rising demand for base money and of sterilizing a substantial part of what would otherwise be the effect on the supply of base money of massive foreign exchange market intervention has very important consequences. When China's income rises by an amount dY (with d standing for "change in"), the demand for base money by Chinese residents rises by bdY , where b is the desired ratio of base money to nominal GDP explained earlier. There are two basic sources from which Chinese residents can obtain the additional base money, bdY , that they demand: (1) from an expansion of net domestic assets of the monetary authorities, dN ; and (2) as the consequence of base money that the monetary authorities issue as the counterpart of the increase in their foreign exchange reserves, dF . The increase in foreign exchange reserves must, in turn, correspond to China's official settlements balance which must equal the sum of China's current account balance, CA , and the net capital inflow into China (other than accumulation of official foreign reserves), dK ; that is, $dF = CA + dK$. Formally, therefore, we know that it must be the case that $bdY = dN + CA + dK$.⁴¹

Net saving by all Chinese residents (other than the monetary authorities), S , is equal to the excess of national income, Y , over total nominal spending by Chinese residents, E , which is the sum of consumption

⁴¹ If the accounting by the authorities was all done in a completely consistent manner and if exactly the right data were used in this paper, then all of the accounting identities discussed here would hold exactly in the numbers presented here. This is not exactly the case, but it is close enough not to materially affect the argument.

spending, investment spending, and government spending. Net saving by Chinese residents is equal to China's current account surplus, CA, defined as the excess of the value of Chinese exports of goods and services over the cost of Chinese imports of goods and services plus net income received by Chinese residents from abroad⁴². Thus, we may conclude that $bdY = dN + dK + (Y-E) = dN + dK + S$. Switching things around, we get

$$bdY - dN = dF = CA + dK = (Y - E) + dK = S + dK .$$

This expresses the key implication of the monetary approach. To the extent that the rising demand for base money, bdY , is not met by an increase in the net domestic assets of the monetary authority, dN , there must be an inflow of foreign exchange reserves, dF . This reserve inflow is equal to the sum of the current account balance, CA, and the net capital inflow, dK .⁴³ The current account balance, in turn, is equal to the excess of national income over national spending, $CA = Y - E = S$.

Under a pegged exchange rate regime such as that run by the Chinese authorities, this is the way things work. Normally, the monetary authorities supply a substantial fraction of rising demand for base money by expanding their net domestic assets. To the extent that domestic residents are not supplied with the increase in base money that they desire through increases in the monetary authorities net domestic assets, they will save in order to acquire what they want or they will use the proceeds from capital inflows to accomplish it. Saving shows up in the current account balance and capital inflows show up in the capital account balance. The authorities are compelled by their exchange rate policy to increase foreign exchange reserves by the sum of CA and dK . If the authorities do not want as much creation of base money as is implied by this, they can sterilize some of the gain in foreign exchange reserves by making dN negative. This reduction in credit supplied to residents by the monetary authority tends to make Chinese residents reduce their expenditure further in order to save even more, and perhaps to seek somewhat larger capital inflows. The reduction in domestic spending induced by the sterilization helps to keep upward pressures on

⁴² For the purposes of the analysis here, it is assumed that the official figures for China's GDP and its composition are correct and the official figures for the current account balance are correct. The identification of China's national income, Y, with China's nominal GDP (which was used in describing the demand for money) needs to be modified to take account of net income received from abroad (a relatively small item for China in comparison with GDP). To make the accounting identities work out, it is convenient simply to define Y as the sum of E plus CA, where CA is the current account balance and E is domestic demand from the GDP accounts, the sum of consumption spending, government spending, and investment spending. Also, to avoid a mess of relatively insignificant details, the small parts of foreign exchange reserves that are not the foreign assets of the Peoples Bank of China are ignored.

⁴³ The figures for dK are calculated as $dF - CA$, where dF is the change in the foreign exchange assets of the Peoples Bank of China and CA is the officially reported current account balance.

domestic prices in check, with the result that the increase in demand for base money, bdY , is also restrained.

The figures reported in Table 2 indicate that, broadly speaking, this is the right interpretation to apply to monetary developments in China. The quantity of currency has risen consistently from 1994 through 2006, with the ratio to China's GDP declining gradually from around 15 percent to around 13 percent. This is entirely consistent with what one observes about the behavior of the demand for currency in other countries at China's level and pace of development—demand rises in a slightly declining proportion to nominal GDP. The level of broad money in China has been rising somewhat more than proportionately with nominal GDP. This too is consistent with experience in other countries at roughly China's level of development where the income elasticity of demand for broad money is generally a little above unity. The implication is that the demand for base money should rise essentially in proportion to nominal GDP, as a modestly declining ratio of demand for currency relative to GDP is offset by a slightly rising ratio of bank reserves to GDP occasioned by a rising ratio of the demand for broad (and narrow) money relative to GDP. This is what we observe in a ratio of the monetary base to nominal GDP that has fluctuated in a relatively narrow range around an average of about 36 percent of GDP. The regularities in the behavior of these monetary aggregates leaves little doubt that, given the course of China's nominal GDP, we are observing demand determined behavior of the monetary aggregates held by the public and this is determining the demand for the monetary base.

The behavior of the determinants of the supply of the monetary base is an entirely different story. In 1994, we begin with net domestic assets providing almost 75 percent of the monetary base and foreign assets of the monetary authority supplying barely more than 25 percent of the base. Over the next six years through the end of 2000, increases in net domestic assets of the central bank supply an important but declining fraction of the increasing in demand for base money, with the ratio N/B falling from 74 percent to 57 percent. The Chinese authorities are restraining the growth of net domestic assets below the growth rate of the economy (the growth of GDP) and below the growth rate of the demand for base money in order to offset rapid growth in the foreign exchange assets of the central bank which are occurring as the counterpart of intervention to hold the peg of the nominal exchange rate. The result, of course, is that the ratio F/B rises from 26 percent to 43 percent. If the authorities had not offset an important part of the growth in F by reducing the ratio of N to B , the result would have been more rapid growth of the monetary base, leading to more rapid growth of the money supply, to more rapid growth of nominal GDP and to higher

inflation. With the nominal exchange rate pegged at 8.28 yuan to the dollar, higher inflation would have meant a more strongly appreciating real exchange rate of the yuan.

Table 2

China Monetary Aggregates

Year	Nominal GDP	Monetary Base	Of which Currency	Foreign Assets	Net Domestic Assets	Money (M1)	Money Plus quasi Money (M2)
1994	4820	1722	728	445	1297	1967	4692
1995	6079	2076	788	667	1388	2308	6074
1996	7118	2689	880	956	1643	2753	7609
1997	7897	3063	1017	1345	1722	3481	9187
1998	8440	3134	1120	1376	1758	3869	10556
1999	8968	3362	1345	1486	1868	4698	12104
2000	9922	3649	1465	1558	2091	5454	13596
2001	10966	3985	1569	1986	2001	6169	15641
2002	12033	4514	1728	2324	2190	7088	18501
2003	13582	5284	1975	3114	2173	8412	22122
2004	15988	5886	2131	4696	1190	9582	25305
2005	18387	6434	2366	6344	156	10690	29838
2006	21087	7776	2707	8577	- 801	12604	34609

This indicates that from the perspective of maintaining monetary equilibrium in the form of reasonably constant ratios of N and F to the monetary base, pressures for appreciation of the exchange rate were being repressed. Notably, this repression appears to have occurred mainly in the years 1994 through 1997 when the relatively low value of the real effective exchange rate of the yuan (relative to its suggested longer-run equilibrium path) was inducing rising ratios of the current account surplus to GDP. From the end of 1997 through the end of 2000, the ratios of N and F to B remained essential constant at about 56 percent and 44 percent, respectively.

From the end of 2000 to the end of 2003, the authorities provide for essentially no increase in the supply of the monetary base by expanding net domestic assets. Rapid growth in the monetary authorities' foreign exchange assets that is the result of intervention to keep the yuan from appreciating is supplying all of the additional base money that the authorities wish to tolerate. This means that from the perspective of maintaining monetary equilibrium, pressures for appreciation of the yuan are being repressed, especially during 2003 when the gain in F is particularly large. This confirms the diagnosis of Goldstein and Lardy (2003), using a non-

monetary analytical approach, that the yuan was already meaningfully undervalued by 2003.

After 2003, the monetary authorities contract their net domestic assets very rapidly, with declines each year of approximately 1 trillion yuan. This extremely aggressive sterilization is necessary to offset an explosion of foreign exchange reserves that is the result of massive intervention to resist upward pressures on the exchange rate of the yuan. Obviously from the perspective of maintaining a reasonable monetary equilibrium, this is overwhelming evidence that the yuan is being held at a substantially undervalued level.

Through what mechanisms does an increasing demand for base money that is not met by increases in net domestic assets of the monetary authority bring about an increase in saving and a reduction in spending and thereby contribute to a larger current account surplus? The monetary approach has identified a number of such mechanisms. In the case of China, Rudi Dornbusch's classic "hoarding function" is highly relevant.⁴⁴ Chinese households own much of the currency and bank deposits that constitute the money supply. Lacking other financial alternatives, much of the saving of Chinese households takes the form of increased money holdings. The part of these increased money holdings arising from household savings that is not base money (i.e. not currency or the reserves that banks hold against their deposits) gets recycled as loans by the banking system and ultimately contributes to somebody's spending. That part of increased money holdings that is sequestered into base money does not get recycled; it is impounded by the monetary authorities and used to add to an already huge hoard of foreign exchange reserves.

Rewriting our equation one more time, we may obtain the result that

$$CA = Y - E = S = (bdY - dN) - dK.$$

Using this formula, the current account balance may be decomposed into a monetary factor, $bdY - dN$, the excess of the growth of demand for base money over the increase of net domestic assets of the monetary authorities, and a capital flow factor, $-dK$, the net capital outflow (i.e., minus the net capital outflow), excluding official reserve transactions. For the United States, the monetary component is effectively zero (and would be very small if it were not zero). For the United States, the explanation the massive rise in the current account deficit gets virtually nothing from the monetary component; the issue is the various factors at home and abroad, including the

⁴⁴ See Dornbusch (1971) and Dornbusch and Mussa (1975).

effects of accumulations of dollar reserves by foreign monetary authorities, that have interacted over the years to move the current account into huge deficit and the capital account into correspondingly large surplus.

To assess the same issue for China, Table 3 is constructed on the assumption that growth in the demand for base money, bdY , corresponds to the actual growth in base money. This assumption implies that the monetary component, $bdY - dN$, corresponds exactly to the gain in foreign exchange reserves of the monetary authority, dF . The table reports the levels of dB , dN , $dB - dN = dF$, and the current account balance, CA , all measured in billions of yuan (with the current account converted from dollars using the yearend exchange rate. The changes in the monetary base and its components are measured from the end of the preceding year to the end of the designated year. The current account balance is the balance during the designated year. The last two columns report, CA/GDP and $(dB - dN)/GDP$, respectively the ratios of the current account balance and the “monetary factor” to GDP.

In examining the results in Table 3, it is noteworthy that the monetary factor, $dB - dN$, is of significant scale relative to GDP, with an average ratio to GDP of 4.4 percent compared with an average ratio of the current account balance to GDP of 3.0 percent. The monetary factor varies considerably over the period from 1994 to 2006, ranging from under one percent of GDP in 1994 and 1998 to over ten percent in 2006. The movements in the monetary factor as a share of GDP roughly match movements in the current account as a share of GDP, especially the large upsurges in both $(dB - dN)/GDP$ and CA/GDP at the end of the period. It is particularly noteworthy that this rough relationship works when the movement in the monetary factor is related to the movement in the current account balance a year or so later. Thus, the relatively large values of $(dB - dN)/GDP$ in 1995-97 are reflected in the relatively high values of CA/GDP in 1997-98. The much lower values of $(dB - dN)/GDP$ in 1998-2000 are reflected in the lower levels of CA/GDP in 1999-2001. The upsurge in the monetary factor begins in 2003 and strengthens significantly in 2004 is followed one year later by an upsurge in the current account surplus (as a share of GDP) which also grows through 2006. And, data so far available for 2007 indicate that the further rise in the monetary factor to 10.6 percent of GDP in 2006 will be reflected in a further rise in the current account surplus this year to about 12 percent of GDP.

Table 3

Monetary Factors and the Current Account in China
1994-2006

Year	Change in Monetary Base dB Yuan bill.	Change in Net Domestic Assets dN Yuan bill.	Change in Monetary Factor dB - dN = dF Yuan bill.	Current Account Balance Yuan bill.	Current Account Balance Relative To GDP CA/GDP percent	Change in Monetary Factor Relative To GDP (dB-dN)/GDP percent
1994	407	117	290	58	1.7	0.6
1995	354	137	222	13	0.2	3.6
1996	613	324	289	60	0.8	4.1
1997	457	68	389	306	3.9	4.9
1998	88	57	31	261	3.1	0.4
1999	245	135	110	130	1.4	1.2
2000	313	235	72	170	1.7	0.7
2001	380	- 48	428	144	1.3	3.9
2002	521	183	338	311	2.4	2.8
2003	825	35	790	380	2.8	5.8
2004	501	- 1041	1552	568	3.6	9.7
2005	549	- 1099	1648	1318	7.2	9.0
2006	1341	- 892	2233	1992	9.4	10.6

This timing in the relation between movements in the monetary factor, $(dB - dN)/GDP$, and the current account balance, CA/GDP , as well as the rough correspondence of the gross magnitudes of these two series is powerful evidence that the monetary factor is driving at least an important part of the developments in China's current account. The monetary approach tells us why, for a country like China, we should expect that the policies resisting appreciation of the exchange rate with massive, largely sterilized intervention would drive the economic behavior of Chinese residents to produce a large and growing excess of income over spending and a correspondingly large and growing account surplus.

Of course, this powerful conclusion should be interpreted with due caution, especially as there is an issue of reverse causation. With their policy of resisting appreciation of the yuan, the Chinese authorities automatically respond to the upward pressures on the exchange rate with official intervention, and they tend to sterilize this intervention to the extent that its effects in increasing base money threaten to generate too much domestic inflation. This reaction of the authorities to a rising current account surplus tends to push up the monetary factor, $(dB - dN)/GDP$, in reaction to increases in CA/GDP , creating a process of reverse causation. The timing of the relation between movements in the monetary factor and movements in the current account shows that causation must also be going

in the primary direction—from movements in the monetary factor to subsequent movements in the current account. Whatever the reason for the government's actions, they affect the behavior of Chinese residents. They cause them to raise their saving by reducing their spending relative to their income in order to acquire the additional base money that the authorities both refuse to supply by expanding the domestic assets of the central bank and attempt to suppress by sterilizing the monetary effects of official foreign exchange reserve gains. Causation goes in both directions. This generates a vicious spiral in which more and more vigorous efforts to resist appreciation of the yuan and to sterilize the domestic monetary consequences of official reserve accumulation lead to stronger efforts by Chinese residents to raise saving to acquire the additional base money they require, thereby generating larger and larger current account surpluses.

Capital flows are also clearly an important part of the story. Capital flowed into China in 1995 through 1997, then flowed out in 1998 through 2000 (perhaps reflecting spillovers from the crises in other Asian emerging market economies), and then turned back to inflows since 2001. The very large capital inflow in 2004 (and correspondingly the large gain in official reserves relative to current account balance) undoubtedly involved some speculative flows motivated by expectations that the yuan might be revalued. It is also likely that some of the capital inflows of recent years have been motivated by efforts to circumvent the government's policy of repressing increases in the supply of base money (and hence the broader expansion of credit inside China). In other words, some Chinese residents with access to foreign capital may have decided to exploit this access, rather than reducing their spending and raising their saving, as the means for acquiring additional base money. This strategy, however, was not broadly available to all Chinese residents, especially not to most Chinese households. Here is another important difference between China and the United States. In the United States, even relatively poor households generally have good (indirect) access to global capital markets through the financial institutions with which they deal and through the financial instruments that spread U.S. liabilities such as home mortgages (including subprime mortgages) and credit card receivables to investors all around the world—including, as we have learned recently, German Landesbanks and French hedge funds.

Explaining Some of the Puzzles

The preceding discussion of the application of the monetary approach to the case of China clearly explains why we should not be surprised by the massive improvement in China's saving/investment balance in recent years. The government's policy of resisting yuan appreciation with largely

sterilized official intervention naturally tends to induce large increases in net saving as Chinese residents seek to acquire the additional base money that they want to hold in a rapidly growing Chinese economy. This also helps to explain why the Chinese current account balance has improved substantially more than would normally be expected in view of the real effective depreciation of the yuan since 2002. Increases in net saving through restraint on domestic spending growth automatically tend to improve the current account (by reducing import demand) even if the exchange rate does not change.

How can one explain the combination of an enormous investment boom in China with substantial improvements in the saving/investment balance? Here the explanation is that Chinese policies put strongly biased downward pressure on consumption spending while actually giving stimulus to investment, especially by businesses in the tradable goods sector. In the face of government policies that sharply reduce the net domestic assets component of the monetary base, Chinese households that want to accumulate additional currency and bank deposits have little alternative but to achieve this by increasing their saving through restraining growth of their spending. In contrast, many Chinese businesses have favorable access to credit from domestic banks which households generally lack, and those that enjoy such favorable access can afford to invest. The increases that households ultimately achieve in their money balances that is not impounded in base money provides the financing for this investment. Also, Chinese businesses, much more than Chinese households, enjoy access to foreign capital inflows, much of which come in the form of financing for direct investment. Thus business investment has another important avenue to escape the downward pressure on domestic spending that is exerted by the government's exchange rate, intervention, and sterilization policies.

Some businesses are much more advantaged than others in these regards, and these businesses tend to be in the tradable goods sector of the Chinese economy. The policy of keeping the yuan substantially (and probably increasingly) undervalued is an important part of this special advantage. This policy keeps the prices of the outputs of firms in the tradable goods sector high relative output prices for firms in the non-tradable goods sector. This tends, *ceteris paribus*, to make firms in the tradable goods sector more profitable and hence makes these firms both more able to generate internal funds to finance investment and more attractive to domestic lenders and to domestic and foreign investors.

It is also relevant that capital (including bank loans) is not allocated by price and through market mechanisms in China. Interest rates on bank

deposits in China have often been negative in recent years. Interest rates charged to bank borrowers are not very high in real terms and the quantity and distribution of bank lending is largely controlled by rationing, either by the bank itself to favored borrowers or on the basis of guidance from the government (national, provincial, or local). It may also be that lack of strong discipline on firms that receive bank loans to deliver high profits contributes to the phenomenon that rapidly growing firms can get by selling their products at prices that are not fully remunerative. The result of all of this is that firms that have access to credit, notably those in the tradable goods sector, often get it at quite favorable terms. This operates as a subsidy to these firms for production of their outputs and for their investment. If they enjoy access to such credit, the firms that are most advantaged by it are capital-intensive firms for the obvious reason that firms that employ much capital benefit most from a subsidy to capital. Accordingly, it should not be surprising that we see a heavy concentration of Chinese investment in precisely such firms, that their output grows rapidly for these firms, but that relatively little employment growth is associated with each unit of investment by these firms.

Another perverse implication of the interaction between this mechanism that distorts the allocation of capital in China and China's exchange rate, intervention and sterilization policies is that it enhances the undervaluation of the yuan. The effective output subsidy for capital-intensive firms in the tradable goods sector does this directly. In addition, increases in capital-intensity normally increase labor productivity by raising the capital labor ratio. This would show up in measures of the real effective exchange rate of the yuan if these measures used relative unit labor costs, rather than relative consumer price indices; but it does not show up as the indices are now calculated. As recently argued by Nicolas Lardy (2007a), there are good reasons to believe that if account is taken of productivity growth in China's key tradable goods industries, the real depreciation of the yuan in recent years appears much larger than using traditional measures that rely on consumer prices. The direct and indirect effects of China's exchange rate and related policies are not the only reason why productivity has advanced particularly rapidly in these industries, relative to the rest of China's economy, but it is part of the reason. The bottom line is that a better measure of the yuan's real effective exchange rate would show significantly more undervaluation than the indices that rely on relative consumer price levels.⁴⁵

⁴⁵ In contrast to consumer price indices which are essentially universally available, meaningful and consistent measures of unit labor costs in tradable goods industries are not generally available for a wide range of countries. Also, relative unit labor costs in manufacturing (the key tradable goods industries for most countries) have some deficiencies of their own when used in calculating real exchange rates. Nevertheless, where reliable measures of unit labor costs are available, they can be very useful. For

In sum, it would be an exaggeration to say that the monetary approach and insights drawn from it explain all or almost all of the puzzles that were described earlier. However, it clearly helps to have a framework that does not rely only on individual ad hoc explanations for each seeming anomaly but rather explains at least important parts of these puzzles in a consistent way and suggests reasons for why and how things that seemingly ought to be linked are in fact linked. The most worrying feature of this explanation is not that it is incomplete, which it surely is, but rather that it suggests that the phenomenon of China's rising current account surplus and its interaction with the policies of the Chinese authorities to resist its exchange-rate effects by increasingly massive, increasingly sterilized foreign exchange market intervention has a self-reinforcing internal dynamic. China was started down the path of a substantially undervalued yuan by the decision to maintain the nominal peg of the yuan against the U.S. dollar as the dollar depreciated substantially against many other important currencies. This policy is now operating like a huge snowball that is rolling rapidly down hill, augmenting in size and increasing in speed as it goes.

example, in measuring real exchange rates within the euro area, the nominal exchange rate between different member countries has been fixed since the start of 1999. Inflation rates measured by consumer price indices have moved somewhat differently in euro area different countries, but these differences do not indicate large changes in real exchange rates. Hence, CPI based measures of euro area real exchange rates are not very useful in explaining the quite wide divergences in the current account performances of different euro area countries, in particular the large growth of Germany's surplus versus the growth of Italy's deficit. Relatively unit labor costs in manufacturing a very large, more than 30 percent real depreciation of Germany's exchange rate vis-à-vis Italy.

V. The Problem of Global Imbalances

The large and growing U.S. current account deficit and the significant apparent overvaluation of the U.S. dollar relative to medium-term economic fundamentals were already a matter of concern to the Fund in the late 1990s. This was the assessment of the Fund staff and management and was broadly shared by much of the Executive Board. [footnote Nord, etc] This concern, however, was primarily forward looking. For reasons already noted, in the second half of the 1990s, the strong U.S. dollar and the rising U.S. current account deficit were, in the circumstances of the time, more of a solution to the world's economic problems than a cause of them—even if the U.S. external deficit and the dollar's overvaluation would eventually need to be corrected.

By mid 2000, the U.S. economy began to slow significantly and it fell into outright recession during 2001. Nevertheless, the U.S. dollar not only remained exceptionally strong but continued to appreciate in real effective terms through early 2002. With import growth sharply curtailed by the recession, the U.S. current account deficit dipped briefly to just below 4 percent of U.S. GDP in 2001, but then began to expand again as the U.S. economy recovered. The U.S. dollar depreciated sharply against other industrial country currencies, except the Japanese yen, and against some emerging market currencies during 2002-2004. In real effective terms, according to the Federal Reserve's broad index, the dollar declined about 15 percent from its early 2002 peak by end 2004. Probably partly as a result of this real effective depreciation, in real volume terms (as measured by real net exports in the U.S. National Income and Product Accounts), the U.S. trade balance stabilized at about 630 billion of chained 2000 dollars from the fourth quarter of 2004 through the third quarter of 2006. Reflecting usual J-curve effects and the impact of sharply rising energy import costs, however, the U.S. current account continued to deteriorate in nominal terms and as a share of U.S. GDP through the summer of 2006 (but has shown modest improvement since then); see Figure 5.

As U.S. current account deficits have mounted over the years, the U.S. net foreign asset position has deteriorated, reaching - \$2.5 trillion in 2006, as illustrated in Figure 6. In fact, the deterioration of the net asset position over, for example, the past decade is less than one would have naively expected from the accumulated sum of the current account deficits over this period. This reflects a variety of factors, including the mistreatment of capital gains in measuring the current account and substantial distortion in the measurement of income flows from direct foreign investment.

Nevertheless, assuming that these data problems affect primarily the detailed items in the current account rather than the overall balance, the implication is that stabilization of the current account deficit at around 6 percent of GDP would imply that U.S. net foreign liabilities would rise to over 100 percent of GDP within two to three decades.

Experience from the United States and with other countries that have built up large net foreign liabilities indicates that there is no hard limit to how large the U.S. current account deficit might become or how high and how fast U.S. net foreign liabilities might rise. However, I and many others have concluded that for a huge economy like the United States, current account deficits much beyond 3 percent of GDP and net foreign liabilities beyond 50 percent of GDP raise very serious questions of long-run sustainability. Fund staff who have examined this issue apparently share a similar conclusion. While neither they nor I fear that a sudden disorderly and disruptive correction of the U.S. external deficit is highly likely, there is at least some meaning risk that this could happen. Indeed, private financing for the U.S. external deficit has shrunk considerably in recent years, offset by huge increases in official accumulations of U.S. assets primarily by Asian countries including China and by major oil exporters. Meanwhile, the U.S. dollar has depreciated considerably against industrial country currencies (except the Japanese yen) where exchange rates are primarily market determined and, therefore, where they are sensitive to private financial flows. This suggests that further sharp declines in the dollar might not be far off, especially if countries with already very large dollar reserves tire of further massive accumulations.

The Agreed Strategy for Reducing Global Imbalances

Some might dispute this diagnosis. But, as far as IMF surveillance is concerned, the issue is beyond dispute. The Fund Executive Board, which is under international law the adjudicator of issues concerning the effective operation of the international monetary system, has found repeatedly in connection with its semi-annual assessments of the World Economic Outlook (going back at least six years) that global payments imbalances—specifically the large U.S. external payments deficit and the corresponding surpluses of several other countries, including China—are an issue of major concern. The Summing Up of the Chairman at the conclusion of the Spring 2006 discussion of the WEO, provides a comprehensive yet concise expression of these concerns and of the economic and policy adjustments that are needed around the world in order to address them:

“Of most concern to Directors...was the further widening of global imbalances. The U.S. current account deficit has widened further to record levels, which is being matched by large surpluses in oil exporters, a number of small industrialized countries, Japan, China, and a number of Asian emerging market countries. While noting that the financing of the U.S. deficit has not been a problem so far, Directors were of the view that these imbalances pose increasing risks over time to the global growth outlook. Directors generally believed that the probability of a disorderly unwinding of imbalances remains low. However, such an outcome, should it occur, could have sizable negative effects for the global economy and the international financial system. Directors considered that this assessment calls for actions aimed at reducing these vulnerabilities, whose implementation should be facilitated by the current favorable environment. Directors believed that a progressive narrowing of imbalances will need to be based on a significant rebalancing of demand across countries, and adjustments in exchange rates.

“Directors emphasized that, while the private sector will play a key role in the resolution of global imbalances, a purely market-driven adjustment carries significant risks. This underscores the importance of more rapid implementation of the agreed policy strategy to address imbalances, including raising national saving in the United States—with measures to reduce the budget deficit and spur private saving; allowing currencies in surplus countries, including parts of Asia and a number of oil producers—to appreciate; and implementing structural and other reforms to boost domestic demand in surplus countries with large current account surpluses. In this context, the importance of achieving a better balance externally and domestically led growth and undertaking reforms financial reforms to help boost domestic demand was also noted. Given the economic interlinkages, all countries and regions should therefore increase the flexibility of their domestic economies to adapt better to changing global patterns of domestic and external demand.

“Elaborating on the required policies in surplus countries, Directors welcomed the staff analysis on the relationship between oil prices and global imbalances. They urged oil exporters to take advantage of the current conjuncture to undertake structural reforms and boost domestic expenditure to support long-term growth, which would also have beneficial effects for reducing global imbalances. Some Directors pointed out that the scope for such spending increases in oil exporting countries would vary, depending on country specific circumstances. With regard to exchange rate adjustment as well, a number of Directors observed that the need for, and size of, any exchange rate appreciation would have to be assessed on a case-by-case

basis, taking into account the economic fundamentals in individual countries. Some Directors noted that the structural measures aimed at improving market flexibility and enhancing productivity should complement exchange rate adjustment in bring about an effective correction of global imbalances.

“Directors considered that the Fund continues to have a central role to play in promoting a coordinated, multilateral, medium-term solution for reducing global imbalances. With the broad strategy espoused by the Fund broadly agreed, the challenge now is to work out the precise modalities and accelerate implementation.”

Amen!

Implementation of the Agreed Strategy

Given that the strategy espoused by the Fund for addressing the problem of global imbalances (as summarized in the quoted statement of the Executive Board) has been “broadly agreed,” it is relevant to ask how implementation has been going? Where has significant progress been made? Where is progress limited? Where have things been going in the wrong direction?

The United States

As far as the essential contribution from the United States is concerned, it is noteworthy that the federal budget deficit has contracted substantially since its peak in FY 2004: in dollar terms down from \$413 billion to \$162 billion in FY2007, and as a share of nominal GDP down from 3.6 percent in FY2004 to 1.2 percent in FY2007. While it would be desirable to see more progress in reducing the structural fiscal deficit to the point of restoring moderate surpluses at the peak of the business cycle, there can be no dispute that important progress has been made in reducing the actual fiscal deficit. Also, in recent quarters, there are clear signs that the growth of domestic demand in the United States is slowing, from better than 3 ½ percent annually from 2003 through early 2006 to less than 2 percent annually since the first quarter of 2006. With a sharp decline in residential investment and with falling home values likely to slow general consumption growth, improvements in the private sector savings/investment balance appear likely to continue into the years ahead.

Most Other Industrial Countries

For other industrial countries, there has generally been some acceleration of domestic demand growth in the past two to three years, and progress on structural reforms in several countries appears to be paying at least modest dividends in terms of enhanced growth and growth prospects. Moreover, with the notable exception of Japan, the currencies of other industrial countries have appreciated substantially (in nominal and real terms) against the U.S. dollar since the peak in the dollar's effective real foreign exchange rate in early 2002. These developments have undoubtedly contributed to the leveling off of the U.S. real net export deficit between the fourth quarter of 2004 and the third quarter of 2006 and to the improvement in this measure of the real trade balance beginning in the fourth quarter of 2006. Key facts concerning the adjustments of these countries exchange current account balances and their exchange rates against the U.S. dollar in nominal and in real terms are reported in Table 4.⁴⁶

Canada, which is a key U.S. trading partner, continues to run significant current account surpluses (particularly in comparison with the significant deficits that characterized the 1990s and 1980s), but these surpluses reflect primarily high world prices for Canadian commodity exports, especially energy. Leaving these commodities aside, Canada's trade balance has deteriorated substantially, as should be expected in view of the appreciation of the Canadian dollar and strong domestic demand growth in Canada. With very strong currencies and notwithstanding buoyant revenues from commodity exports, both Australia and New Zealand have large current account deficits relative to their respective GDPs. Here surely is not the place to look for further significantly contributions toward reducing the U.S. current account deficit.

Relative to its size, the Netherlands continues to run a large current account surplus, and Germany is running a substantially larger and growing surplus. Within the euro area, however, these surpluses are offset by large and (in some cases) growing current account deficits of other countries, notably Spain and to a lesser extent Italy. In view of the strong appreciation of the euro since early 2002 and the more recent strengthening of growth in the area, the euro area appears to be playing its role in the strategy for gradually reducing global imbalances. Looking ahead, it would not be inappropriate for the current account of the euro area to fall into moderate deficit (of 1 to 2 percent of area GDP), reflecting high world energy prices and the euro area's position as a major energy importer. While the real

⁴⁶ In this table, nominal exchange rate changes are measured from the end of 2001 (which is very close to the peak in the real effective value of the U.S. dollar in early 2002) to the end of 2006. Real exchange rate changes are calculated by adjusting the nominal exchange rate change for the ratio of the rise in consumer prices from 2001 to 2006 for the country (or region) in question to that of the United States. GDPs for 2005 are converted into \$US using the average exchange rate for 2005.

effective exchange rate of the euro does not seem to be significantly misaligned, some further appreciation of the euro against the U.S. dollar might well be warranted in the context of a significant appreciation of Asian currencies against the euro and the dollar. Market forces can reasonably be relied upon to continue drive developments in the euro/dollar exchange rate.

The United Kingdom boasts a 15-year record of solid growth with low inflation, a strong currency, and a current account that has been showing a modestly worrying recent tendency toward larger deficits, although still below 4 percent of GDP. The real effective exchange rate of the pound sterling is quite strong and, if anything, appears to be moderately overvalued. Thus, there is nothing to complain about in terms of the United Kingdom's contribution to reducing global imbalances.

For Norway, the current account surplus is huge relative to GDP, but this reflects large revenues from oil exports out of rapidly depleting North Sea fields. Saving of much of these temporary revenues, to support a sustainable stream of spending for decades to come, is good public policy.

In contrast to Norway, both Switzerland and Sweden are both diversified exporters of goods and services. Here, especially for Switzerland, there is more of a legitimate question about persistent large current account surpluses relative to economic size. With both of these economies growing in line with or somewhat above potential output growth, it is relevant to ask whether moderately firm monetary policies (in line with recent central bank

Table 4

Exchange Rate and Balance of Payments Developments
United States and Industrial Countries
2002 to 2006

Country	Change in Exchange Rate v. \$US percent	Change in Consumer Prices Percent	Change in Real Exchange Rate v. U.S. percent	Current Account Balance In 2002 \$ billions	Current Account Balance In 2006 \$ billions	Nominal GDP In \$US \$ billions
United States		13.9		- 472	- 857	12,456
Australia	55.0	15.1	56.6	- 16	- 41	685
Canada	36.7	11.6	33.9	13	21	1,130
United Kingdom	35.3	14.3	35.9	- 25	- 80	2,232
Euro Area	49.4	11.4	46.1	51	- 20	9,609
Germany	49.4	7.9	41.6	41	147	2,787
France	49.4	9.9	44.2	11	- 28	2,137
Italy	49.4	12.7	47.9	- 9	-28 in 05	1,770
Spain	49.4	17.1	53.6	- 22	- 106	1,125
Netherlands	49.4	9.6	43.8	10	57	629
Belgium	49.4	10.2	44.7	12	7	372
Norway	44.0	8.3	36.9	24	56	296
Sweden	55.4	7.8	47.1	13	24 in 05	357
Switzerland	37.4	2.0	23.1	25	63	366
Japan	10.7	- 1.1	- 1.7	112	171	4,549

actions) are appropriate from a domestic prospective, as well as likely to induce modest exchange rate appreciations that tend to contribute to a reduction in global payments imbalances. With a combined current account surplus this year running about \$100 billion, it is conceivable that over several years a reduction in this surplus might, at the outside, become the counterpart to a \$30 to \$40 billion reduction in the U.S. external payments deficit.

Thus, excluding Japan, for the non-U.S. industrial countries, important contributions have already been made to the strategy for reducing global payments imbalances. More will need to come from these countries, and more can and likely will come, including from adjustments in the private sector as well as from policy actions. But, in view of what has already

been accomplished or is in train, this is not the place to look for all or the vast bulk of the adjustment that is needed as the counterpart of efforts in the United States to address the problem of global imbalances.

Japan

In the case of Japan, since the 1970s the current account has generally been in significant surplus both in absolute terms and as a share of Japan's GDP. More specifically, from 1991 through 2002, Japan's current account surplus fluctuated between roughly \$70 billion and \$130 billion and correspondingly between about 1 ½ percent and 3 ½ percent of Japan's GDP. Since 2003, Japan's current account surplus has risen to about \$170 billion and in the past year to about \$190 billion, bringing the surplus to 4 ½ percent of Japan's GDP. This recent widening of Japan's current account surplus, together with the acceleration of economic growth in Japan since 2003 and with the fact that Japan has faced major increases in costs of imported materials including energy that should normally deteriorate the balance of payments, indicates that Japan has not been making the contribution that should reasonably be expected toward the successful resolution of the problem of global payments imbalances.

The behavior of the exchange rate of the Japanese yen reinforces this conclusion. For the past decade, with the possible exception of the year 2000, the Japanese yen may plausibly be judged to have been significantly undervalued relative a reasonable assessment of medium- and long-term economic fundamentals. This undervaluation became particularly acute in the late spring of 1998 when fears about the health of Japanese banks and about the spillover effects from financial crises in much of emerging Asia propelled the foreign exchange value of the yen down to 1/148 to the U.S. dollar. This extraordinary yen depreciation was resisted by Japanese official intervention to support the yen that was applauded and reinforced by the U.S. Treasury and Federal Reserve. This crisis passed and by the autumn of 1998, in the midst of global financial turmoil arising from other sources, the yen sprang back to about 120 to the U.S. dollar—a level that was still judged to be significantly undervalued relative to medium- and long-term economic fundamentals.

As the Japanese economy strengthen in 1999-2000, the yen briefly rose above 105 to the U.S. dollar. The yen fell back against the dollar to 120-125 in 2001-2002 as the Japanese economy slowed (even more than the U.S. economy) and deflation deepened in Japan. Subsequently, as the Japanese economy began a more sustained recovery beginning in 2003, the yen regained some ground against the U.S. dollar, but it depreciated

considerably against other industrial country currencies that were rising rapid against the U.S. dollar. The net result was that in real effective terms (as measured by the IMF), the Japanese yen depreciated considerably, reaching it spring 1998 low by mid 2005 and falling 15 percent or more below this low by June 2007.

This is not the occasion to go into further detail on the question of whether Japan is making the contribution that it should to the resolution to the problem of global payments imbalances. Suffice it to say that, at a minimum, there are important questions that deserve serious attention—not the least in the surveillance activities of the IMF.

The Major Oil Exporters

Looking next to the major oil exporters, their current accounts generally have moved into massive surpluses over the past five years as world oil prices have nearly quadrupled from around \$25 per barrel in mid 2002 to about \$80 per barrel in mid 2007. Allowing for the fact that the rise in the world oil price has proceeded more slowly than in the shock increases in 1973 and 1979, this fits the pattern of earlier sustained increases in world oil prices in the 1970s and 1980s.⁴⁷ When world oil prices rise sharply, exporters initially find it difficult or inefficient to spend all of the increased export revenues and foreign assets are accumulated.⁴⁸ Relatively rapidly, however, oil exporters do increase their spending out of export revenues and their current account surpluses consequently decline, although not necessarily back to their levels before the oil price rise. This is also what appears to be happening in the present round of world oil price increases; spending by oil exporters of their increased revenues is going up and fairly rapidly in a number of cases. For example, Russia imports have surged upward by 160 percent between 2002 and 2006, but in the face of a tripling of export revenues, this import surge has not been enough to keep pace with a tripling of export revenues. Similarly, in Saudi Arabia, imports rose by 150 percent between 2002 and 2006, but this could not keep pace with a 240 leap in exports.

⁴⁷ As noted in the earlier quotation from the Summing Up of the Executive Board discussion, the April 2006 *World Economic Outlook* provides (in chapter 2) a detailed analysis of the effects of oil price shocks.

⁴⁸ There was considerable concern after the first world oil price shock whether the surpluses of the major oil exporters could be “recycled” efficiently to countries that raise their spending (in reasonable and productive ways) to offset the negative impact that higher savings by the oil exporters would otherwise have on world aggregate demand and hence on world output and employment. This has not been a significant concern in the present round of oil price increases, although it is still possible that the very low interest rate environment to which increased savings by oil exporters have contributed may yet lead to important difficulties.

The result has been that, despite import spending sprees, current account surpluses and the rates of accumulation of foreign assets of several major oil exporters have soared in recent years. This may reasonably be attributed to the fact that world oil prices have experienced a series of significant upward shocks. Before exporters have fully adjusted their spending to one shock, another hits, and foreign asset accumulation goes up despite significant increases in spending. Once world oil prices stop rising rapidly, spending may reasonably be expected to catch up with much, but not all, of the increase in revenues of oil exporters. The rest will be saved in accumulations of foreign assets, and this increased saving will be relatively efficiently recycled by the international financial system. So far at least, there is no serious reason to doubt that this process, which will help to address the problem of global payments imbalances, will fail to operate effectively.

Emerging Market Countries

For important emerging market that are not significant oil exporters, key results regarding developments in their trade and current account balances and their exchange rates from 2003 through 2006, along with projections for 2007, are reported in Table 5. Leaving aside for the time being China and three smaller Asian emerging market economies (Hong Kong, Malaysia and Singapore), all but two of the countries covered in Table 5 share two general characteristics: their current accounts are either in deficit or in modest surplus as shares of their respective GDPs; and their exchange rates have appreciated significantly against the U.S. dollar since 2003. For these countries, and for the bulk of smaller countries not covered in Table 4, these developments indicate that they are not making the problem of global payments imbalances any worse and are, in many cases, are making modest contributions to resolve this global problem.

The two exceptions (outside of Asia) are Chile and Argentina. For Chile, the explanation of the rising and now significant (as a share of GDP) current account surplus is the boom in world copper prices and the large boos that this has provided to Chilean export revenues as the world's largest copper exporter. In this respect, Chile is like the major oil exporters; the recent improvement in its current account balance (significant relative to Chilean GDP but quite modest relative to global payments imbalances) is properly attributable to an export price boom and is not an indication of a failure to make (an appropriate but modest) contribution to reducing global payments imbalances. For Argentina, the export commodity price boom is also part of the story. However, the Argentine policy of outright and disguised intervention and other measures to resist appreciation of the peso

against the U.S. dollar and indeed to promote modest depreciation does raise important questions about whether Argentina is making its appropriate (but necessarily modest) contribution toward resolving the problem of global payments imbalances

As indicated in Table 5, developments in the balance of payments and exchange rates of Hong Kong, Malaysia and Singapore (Taiwan is not a member of the Fund) raise important concerns that these economies are not making the contributions they should toward resolving the problem of global imbalances. While the contribution that each of these moderate-size economies might plausibly make toward reducing the key global payments imbalance is not huge, that contribution is not trivial, especially when you add the four economies together. Their combined current account surplus was already (about \$80 billion in 2003, equivalent to 12 percent of their combined GDPs) and by 2006 it had risen to \$120 billion (equivalent to about 15 percent of their combined GDPs). A reduction of this combined surplus by about one-third, which is not unreasonable, would provide the counterpart to about 10 percent of the plausibly needed reduction in the U.S. current account surplus. This is not small for countries whose combined GDPs is about 6 percent of that of the United States.

China

Turning at last to China, we find a major economy (with the third largest trade volume of any nation) that continues to make major **negative** contributions to reducing global payments imbalances. China's current account surplus rose by \$200 billion from 2003 to 2006 and appears headed

Table 5

Exchange Rate and Balance of Payments Developments
United States and Selected Emerging Market Countries
2002 to 2006

Country	Change in Exchange Rate v. \$U.S percent.	Change in Consumer Prices Percent	Change in Real Exchange Rate v. U.S. percent	Current Account Balance In 2002 \$ billions	Current Account Balance In 2006 \$ billions	Nominal GDP In 2005 \$ billions
United States		13.9		- 472	- 857	12,456
Asia						
China	6.0	7.6	1.4	46	250	2,278
Hong Kong	Nil	- 3.1	- 14.9	12	21	178
Malaysia	7.6	11.3	5.1	7	26	131
Singapore	20.5	3.2	9.2	12	36	117
India	8.9	18.6	18.6	7	- 13	809
Korea	41.3	15.8	43.7	5	6	801
Philippines	4.7	29.2	18.8	0	5	99
Thailand	22.7	15.2	24.1	5	3	177
Latin America.						
Argentina	- 67.1	81.4	- 47.6	9	8	177
Brazil	8.6	47.8	40.9	- 8	13	882
Chile	22.8	13.4	22.3	- 1	5	119
Columbia	3.4	32.1	19.9	- 1	- 3	123
Mexico	- 16.0	23.9	- 8.6	- 14	- 2	768
Other Regions						
Czech Rep.	73.4	9.5	66.7	- 4	- 5	124
Hungary	45.6	26.6	61.8	- 5	- 6	119
Poland	40.0	9.9	35.1	- 5	- 8	304
Turkey	2.8	144.3	120.5	- 2	- 32	363
South Africa	74.0	16.1	77.4	1	- 16	242
Oil Exporters						
Indonesia	15.3	58.3	91.1	8	10	281
Nigeria	- 11.9	88.8	46.0	1	24 in 05	95
Russia	14.5	80.3	81.2	29	95	764
Saudi Arabia	Nil	4.0	- 8.7	12	87 in 05	316

Source: IMF *International Financial Statistics Yearbook 2007*

Exchange rate change is cumulative from end 2001 to end 2006, positive indicates appreciation.

for at least another \$50 billion increase in 2007. This enormous rise in China's current account surplus has occurred despite China status as the world's second largest oil importer. As previously emphasized, China's exchange rate and related policies have clearly played and continue to play a central role in stimulating China's massively rising current account surplus.

Thus, in assessing implementation of the agreed strategy for reducing global payments imbalances espoused by the Fund in connection with its responsibility to "...oversee the international monetary system in order to ensure its effective operation," the following conclusions are justified. Almost all countries, especially the larger countries including the United States, need to do more to implement the strategy and to bring about, over time, a substantial reduction of present global imbalances. The contributions of the oil exporters need to continue to be monitored and assessed (on a case-by-cases basis) in light of developments in world energy markets. The contributions of a couple of smaller industrial countries appear negative and are certainly inadequate. Adjustments of their policies to induce reductions in their already large current account surpluses appear warranted. Exchange rate adjustments that would facilitate this result should certainly not be resisted. The same conclusion applies, with even greater force, to three medium-size Asian emerging market economies.⁴⁹

This leaves China as the one major player in the world economy that is making large and growing **negative** contributions toward resolving the problem of global payments imbalances. In so doing, China is clearly failing to meet its general obligation under Article IV to "...collaborate with the Fund and with other members..." in implementing the agreed strategy, espoused and repeated reaffirmed by the Fund, for addressing the problem of global payments imbalances.

⁴⁹ Hong Kong requires particularly careful attention because of the strong institutional character of the nearly 30-year peg of the exchange rate of the Hong Kong dollar to the U.S. dollar. For Hong Kong it may be desirable to allow for some real appreciation of the currency by allowing domestic inflation to rise rather than by changing the exchange rate peg. It is noteworthy in this regard that while the exchange rate was under downward pressure during the Asian crisis in the late 1990s, the peg was preserved and adjustment of the real exchange rate involved domestic deflation.

VI. What to Do Now

In view of the above conclusions concerning China's failure to meet both its specific and general obligations under Article IV of the IMF Articles of Agreement, it is relevant to ask what should be done about the substance of Chinese policies that are problematical

Gradual and Expeditious Adjustment

Reduction of the Chinese current account surplus to reasonable proportions will probably require a reduction of a surplus expected to reach about 12 percent of Chinese GDP in 2007 to no more than about 3 percent of GDP. This will need to be accompanied by a very substantial real effective appreciation of the Chinese yuan—probably as much as 25 or 30 percent. Appreciation of the yuan against the U.S. dollar will need to be even larger, while appreciation against some Asian currencies (including the Japanese yen) should be quite limited, and appreciation against the euro and other industrial country currencies will be somewhere in the middle.

It is important not to try to be too precise about these figures and not to be either too lax or too ambitious about the pace for achieving them. There clearly is a long way to go. How far is not something that we estimate very well now; it will become clearer as we move along the path. Indisputably, the pace of adjustment implicit in the Chinese policy, since July 2005, of very gradual appreciation of the yuan against the U.S. dollar and continued massive intervention to prevent more rapid appreciation is woefully inadequate. This is apparent from the fact that China's current account surplus has continued to expand massively. We need a policy that will stop the expansion of China's current account surplus and bring about its gradual decline.

The desired policy is surely **not** an abrupt end to all intervention to resist appreciation of the yuan which would likely induce a very sharp appreciation toward and possibly beyond the yuan's plausible longer-run equilibrium level. The result would probably be a sharp negative shock to both the Chinese and U.S. economies and other economies as well. The key point of the agreed strategy for reducing global imbalances, however, is to achieve the necessary reduction **without** disrupting the global economy. The best policy to try to achieve this must be something like that suggested by several of my Peterson Institute colleagues (most prominently, Fred Bergsten, Morris Goldstein and Nicolas Lardy) : a step appreciation of the yuan sufficient great (probably between 10 and 15 percent) to stop the further widening of China's current account surplus and to permit a

meaningful scaling back of intervention to resist further yuan appreciation; a refocusing of exchange rate policy on a suitable basket of foreign currencies so that further yuan appreciation is better geared to China's real effective exchange rate; a rate of appreciation of the yuan sufficient to bring its value up to a plausible estimate of longer-run equilibrium (that is, consistent with a current account surplus of no more than about 3 percent of GDP) within a period of three to five years;⁵⁰ and an eventual move to a market determined exchange rate contingent on critical reforms of the Chinese financial system and on development of the financial infrastructure necessary for the proper functioning of a (mainly) market-determined exchange rate.⁵¹

Persuasion not Accusation

Before turning to either of these issues, however, it is important to emphasize that the point is not to argue that the IMF Executive Board should immediately take up the case of whether China stands in violation of general and specific obligations under Article IV. The situation might well have reached that point by now if the following four conditions were now met: (1) beginning in 2003 or 2004, the Fund staff and management had done their jobs and had begun, confidentially but forcefully, to impress upon the Chinese authorities the disadvantages and dangers of their exchange rate and related policies and the serious possibility that they violated obligations under Article IV; (2) the Executive Board had been informed, in guarded language formally and more forcefully informally, that Fund staff and management saw important problems with Chinese exchange rate and related policies possibly involving violations of obligations under Article IV; (3) Executive Directors and their respective national authorities shared conclusions similar to those of Fund management and staff, and they too began to press the Chinese authorities, confidentially but also to some extent publicly to make the necessary adjustments in their policies; and (4) the Chinese authorities refused to take relevant and reasonable steps to adjust their exchange rate and related policies significantly beyond the meager

⁵⁰ This part of the policy is tricky to implement because predictable appreciation of the yuan will tend to induce capital inflows. If these inflows are large, then allowing them to come in without sterilization can generate excessive inflation, while sterilizing their monetary effect can, as has been discussed, contribute to other problems.

⁵¹ A properly functioning (mainly) market-determined exchange rate requires market makers (usually banks and other financial institutions) that can take large long and short positions in domestic and foreign currencies and the have some efficient way of laying off part of the risks associated with such positions. To be willing to operate on any significant scale, market makers generally need credible assurance that the government will not suddenly step in (with intervention or regulation) because it does not like the way the exchange rate is moving or for some other reason. In view of the Chinese government's long history of intervention and regulation in markets of all sorts and the fact that it will undoubtedly retain huge foreign exchange reserves, it may well prove somewhat difficult to make commitments that potential market makers will find credible.

appreciation of the yuan against the U.S. dollar that has been permitted since July 2005.

Except for (4), these steps have not been under taken. Until last year, Fund staff (in the published versions of the Chinese Article IV staff reports) spoke only of the desirability for a more flexible exchange rate policy, not about the urgent need for a significant appreciation of the yuan. About a year ago, some senior Fund staff began to use the “A-word” regarding the Chinese exchange rate but without much force concerning the necessary extent and desirable speed of appreciation. The recent staff research paper estimating that the undervaluation of the yuan could be anywhere between 0 and 35 percent would seem to suggest that the Chinese authorities should be quite relaxed about the need for exchange rate appreciation. The present Managing Director, Rodrigo de Rato, has explicitly denied that the Fund is the “umpire” of exchange rate issues in the international monetary system and that the Fund should not function as pressure group to push the Chinese authorities to appreciate the yuan. On sensitive issues like the Chinese exchange rate, his approach is gentle, mainly confidential, persuasion—something which, judged by the results, has either not really been tried or has proved ineffective.

Not surprisingly in view of the performance of Fund staff and management, the Executive Board has not pressed the Chinese authorities on the issue of their exchange rate policy. The Chairman’s Summings Up of Board Discussion of recent Chinese Article IV consultations generally endorse “greater exchange rate flexibility” but place no urgency on either accelerating the pace of appreciation of the yuan or scaling back the immense magnitude of (largely sterilized) official intervention that resists such appreciation. In particular the relevant paragraph from the Summing Up of the 2006 Article IV consultation with China, discussed by the Executive Board on July 31, 2006 (see IMF Public Information Notice (PIN) No. 06/103 released on September 11, 2006 and available on the IMF website, www.imf.org) reads as follows:

“Many Directors found it appropriate for China to continue to allow greater flexibility in its exchange rate in a gradual and controlled manner. They shared the authorities’ concern that accelerating exchange rate flexibility could have an adverse impact on macroeconomic stability. Some Directors also viewed that the exchange rate adjustment alone would have a limited impact on external imbalances. A number of other Directors, however, stressed that the flexibility afforded by the current strength of the Chinese economy provides a favorable context for adjustment and should serve to alleviate the authorities concerns about potential adverse economic

effects. Directors noted that greater exchange rate flexibility, along with other policy changes and reforms in China, will aid in rebalancing the economy over the medium term, and will contribute to orderly resolution of the global current account imbalance, in conjunction with concerted policy efforts by other key economies.”

Such mush, and the even more equivocal language in the Summings Up of Executive Board discussion of China Article IV consultations of earlier years, clearly does not convey to the Chinese authorities any notion that the Fund’s Executive Board has serious and urgent concerns about China’s exchange rate policy and is looking for decisive and expeditious actions to begin correct an important exchange rate misalignment and massively and increasingly unbalanced current account position. Moreover, out of politeness, or out of fear of giving offense, or of raising the specter of criticism of their own policies at present or in the future, or because of simple lack of understanding to the issues, other national authorities have generally not pressed the Chinese on their exchange rate policy.

The U.S. government has made some efforts in this regard, but they have been erratic. During President George W Bush’s first term, the ideological bent in the U.S. Treasury (and more generally in the administration) was to deny that major payments imbalances (including the large and growing U.S. external deficit) were significant problems and to insist that flexible, market-determined exchange rates were the solution to any problems that did exist. This philosophical orientation provided no basis for dealing with a country that used massive official intervention to peg its exchange rate at a substantially undervalued level—other than to suggest that a move to greater exchange rate flexibility with wider room for the operation of market forces would be desirable as a long run goal; see Taylor (2007). In President Bush’s second term, the new Treasury Undersecretary, Timothy Adams, took a substantially more focused approach, pressing the Chinese authorities to allow more rapid appreciation and pressing the IMF to become serious about its surveillance China’s exchange rate policy; see Adams (2006). With the departure of Adams and the arrival of Treasury Secretary Hank Paulson, however, the U.S. approach appears to have shifted away from (relatively mild-mannered) confrontation with the Chinese over their exchange rate policy and moved back toward more gentle efforts at persuasion in the context of a “Strategic Economic Dialogue.” The predictable result: lots of words but little or no real action.

With this being the status of efforts to persuade the Chinese authorities that their exchange rate and related policies are seriously awry both from the perspective of serving China’s own stated objectives, as well

as from the perspective of China's obligations as a leading member of the Fund and of the international community, it would be unreasonable—even outrageous—for the Fund suddenly to leap to the conclusion that China is in serious breach of its general and specific obligations under Article IV. Before reaching such a regrettable conclusion, Fund staff and management need to prepare relevant, insightful and persuasive analyses of just what is wrong with China's exchange rate and related policies and what can and should be done to adjust them in a manner that will serve China's stated interests as well as fulfill the obligations that it has accepted as a member of the Fund. The Managing Director, in particular, needs to press the case with senior Chinese authorities. The Executive Board needs to signal authoritatively both that it broadly shares the assessment of staff and management and that it assigns high priority to expeditious action by the Chinese authorities. If the Chinese authorities still refuse to act responsibly, then a formal finding by the Executive Board of a breach of obligations under Article IV would become necessary—but this is not the outcome that anyone should wish to see.

VI. Accountability

“Mistakes were made,” Ronald Reagan famously observed in connection with the Iran-Contra controversy, but he declined to name who specifically had made those mistakes. In the conduct of Fund surveillance over China’s exchange rate and related policies—the most important and challenging case for Fund surveillance in many years--serious mistakes were also made. These mistakes, however, were not the errors and omissions of a monolithic institution. Particular people in specific positions of responsibility failed to do their jobs as they should have been done, and these were not just temporary lapses or misjudgments. The mistakes were repeated and persisted over considerable periods, and in some key cases have not yet been fully acknowledged or corrected.

With regard to the substance of China’s exchange rate and related policies, it is the senior official of the Chinese government that must take responsibility. As a member of the International Monetary Fund, China has general and specific obligations to fulfill regarding especially its exchange rate and related policies. The failure of the Fund to emphasize clearly to the Chinese authorities what was wrong with their exchange rate and related policies, including the effect of these policies in impairing the achievement of the policy goals explicitly stated by the Chinese authorities, cannot be laid at the feet of these authorities—although it is fair to say that the Chinese authorities did not particularly welcome advice from the Fund (or others) on deficiencies of their exchange rate policy. In the end, however, it is the Chinese authorities who decide upon China’s exchange rate and related policies and they are responsible for the effects of these policies—whether or not they fully understand what all of these effects may be.

Other members of the Fund also have some responsibility for the problems that have arisen out of China’s exchange rate and related policies and the failure of Fund surveillance to recognize and emphasize these problems and press for actions to correct them. The Fund staff and management has always and will always find it difficult to press a member on sensitive surveillance issues such as exchange rate policy if they do not enjoy the support of the Fund’s key members. The United States is usually the most important member of the Fund in this respect. The performance of key officials of the U.S. Treasury (which is responsible for international economic policy issues and relations with the IMF) on the issue of China’s exchange rate policy has been erratic.

Through 2004, the attitude of the key Treasury official, the Undersecretary for International Affairs, was that China should gradually allow greater flexibility of exchange rate in response to market forces, leading ultimately to a fully flexible, market determined exchange rate. This may be a fine idea for the long run, when China has advanced to the point where it can successfully operate a fully flexible exchange rate, but it was irrelevant to the situation of China three years ago, is still irrelevant today and will be irrelevant for a number of years yet to come. With the arrival of a new Undersecretary, Timothy Adams, U.S. policy became much more focused on getting the Chinese authorities to allow their currency to appreciate and on getting the Fund to press China on this issue. The thrust behind this approach, however, has dissipated since Adams' departure. The new Treasury Secretary, Henry Paulson, has instituted a Strategic Dialog with Chinese officials in which China's exchange rate policy is one of many issues being discussed but with a level of priority that is far from clear. In its most recent report to the U.S. Congress on exchange rate policies under The Exchange Rate and Economic Policy Coordination Act of 1988, the Treasury once again declined to name China as an "exchange rate manipulator," citing as a reason that it was not clear (to the Treasury or the IMF) that the Chinese authorities intended to do what they clearly were doing with their exchange rate policy (see Sobel (2007)).

Other members of the Fund have been even less forceful than the United States on the issue of China's exchange rate policy. Because the exchange rate of the yen is also very weak and China is a very important customer for Japanese exports, it is not particularly surprising that Japan has not been a critic of China's exchange rate policy. It is more surprising that Europe has been virtually silent on the issue—while periodically expressing concern about the weak dollar and the weak yen. Among emerging market countries, even those that are clearly suffering from intense competition from Chinese exports, are reluctant to press on the issue of China's exchange rate policy. Perhaps this reflects the (not entirely unreasonable) concern that their exchange rate policies could come under more intense scrutiny by the Fund.

Like most bureaucracies, the Fund is quite poor at recognizing that serious mistakes have been made, at identifying the people who made them, and at holding these people accountable. Personal transgressions such as sexual harassment, getting caught fiddling one's expense account, or gross insubordination typically do bring sanctions, and technical incompetence such as inability to write essential reports or memoranda and get them in on time do tend to blunt career advancement. But, tilting the analysis and assessment in Fund surveillance or program cases in the direction that suits

the sensitivities of the countries under review and that serves objectives or predilections of Fund Management often tends to be career enhancing. Indeed, the ability to get along well with the authorities of the Fund's members is a very highly valued skill for Fund staff, especially in the area departments, and is much appreciated in and by Fund management. Provided that this "clientitis" does not go to far, it is appropriate because the important work of the Fund is with the authorities of its members and is importantly facilitated by a spirit of mutual cooperation. However, Fund surveillance over members' economic policies (as well as the difficult issues that often arise in cases of Fund lending) inherently involve the possibility of serious tension and disagreement, particularly when a member's very sensitive exchange rate policy is rightly subject to criticism by the Fund. In such situations the strong tendency of Fund staff to sympathize with the authorities and ignore, play-down, or explain away important problems undermines the Fund's capacity to fulfill key responsibilities mandated by the Articles of Agreement.

An IEO Assessment

Largely out of frustration with the reluctance of Fund Management to face up to this type of problem and be more forthcoming in recognizing mistakes and more aggressive in seeking to correct them, the Executive Board established in 1999 the Fund's Independent Evaluation Office (IEO). As Executive Director for Canada at the time, Tom Bernes, the present Director of the IEO (succeeding Montek Allawalia) was instrumental in creating the IEO. With the support of other Executive Directors, especially those from the major industrial countries, as well as their Ministers and ultimately the IMFC, Tom Bernes effectively forced the Managing Director, Michel Camdessus, to accept the IEO despite his determined opposition. I note this two reasons. First, while I have a very high regard for Michel Camdessus as Managing Director across the broad range of his responsibilities, a willingness to recognize error on his part or even more so on the part of Fund staff was not a strong point. The IEO was really needed, and it generally has done a very good job. Second, in this episode Tom Bernes demonstrated that an able and hard-working Executive Director can be quite influential pushing important issues to a successful resolution, even in some instances against the opposition of Fund management, if he can organize support from the rest of the Executive Board. Executive Directors are not powerless drones who lack effective authority, and therefore responsibility, for what the Fund does—either well or badly.

In my view, it would be highly desirable for the IEO to conduct an in-depth evaluation of how the Fund has performed on the subject of

surveillance over China's exchange rate and related policies, probably most usefully in the context of a broader evaluation of the Fund's performance in bilateral and multilateral surveillance in connection with the problem of global imbalances. The IEO will have access to virtually all internal Fund documents and memoranda, as well as the ability to consult with relevant officials inside and outside the Fund. This it will be far better able than any outsider to assess not only what went right and what went wrong, but also who was responsible for particular successes or failures.

Pending such as assessment by the IEO, I offer the following observations on who probably did what. These observations reflect my personal biases and are based as much on knowledge of how the Fund operates rather than specific information about particular activities within the Fund (beyond what can be inferred from the public record).

Responsibility within the Fund Staff

On the Fund staff, three departments were principally involved in surveillance over China's exchange rate and related policies. The Research Department (RES) is primarily responsible for preparation of the World Economic Outlook and other materials relevant to analysis and assessment of the problem of global payments imbalances and policies needed to address it. The area departments also contribute to this activity as it relates to countries within their regional areas of responsibility, but the overall responsibility is with RES. While I have a personal bias in favor of RES, I believe that any fair reading of the WEOs of the past six years (since I left the Fund) will find that they have done an excellent job of analyzing and explaining a variety of important issues related to global payments imbalances and, as evidenced by the Summings Up of Executive Board discussions of the WEO, have provided an excellent foundation for the Board to establish an agreed strategy for reducing global imbalances.

As co-chair of the CGER, RES is also primarily responsible (in consultation with other departments) for analysis of exchange rates that might plausibly be assessed as consistent with longer-run economic fundamentals within a comprehensive multi-country model. These estimates are an input into bilateral surveillance, but they do not dominate over analyses prepared by area departments concerning exchange rates of individual countries. Thus, subject to being overruled by management, the Asian and Pacific Department (APD) would normally have final say on issues relating to China's exchange rate, especially in connection with the annual Article IV staff report on China.

We know from the published Article IV staff reports that APD did not press the Chinese authorities on the issue that their exchange rate was substantially undervalued. The desirability of greater exchange rate flexibility was mentioned in 2004 and 2005 as a gentle suggestion that adjustment of China's exchange rate would be desirable. Explicit mention of the appropriate direction of that adjustment, "appreciation," only comes in 2006, and without any clear indication of magnitude or urgency. In the staff reports on Article IV consultations that it presented to the Executive Board, and presumably in its confidential discussions, APD has not pressed the Chinese authorities on the urgent need to allow the yuan to appreciate significantly more rapidly. Nor does it appear to have explained to the Chinese authorities that failure to allow the exchange rate to appreciate significantly more rapidly could easily be seen as a failure by China to fulfill its obligations under Article IV.

I do not know whether CGER has prepared estimates of the longer-term equilibrium rate for China, but if there are such estimates they almost surely must show substantial undervaluation. Estimates have been reported for the U.S. dollar (in the 2007 Article IV staff report) and they show substantial overvaluation of the dollar on a real effective basis. Estimates of long-run equilibrium rates for the euro, pound sterling, and Australian and Canadian dollars cannot now be showing significant undervaluation on a multilateral basis or on a bilateral basis against the U.S. dollar. Thus, for the dollar to be substantially overvalued multilaterally, Asian currencies (which account for most of the rest of U.S. trade) must be substantially undervalued multilaterally and even more undervalued bilaterally against the U.S. dollar. This likely includes the Japanese yen, as well as the currencies of some medium-size emerging market economies. But as a large country with a very large volume of trade and a very large current account surplus, China must surely show up as a country with a substantially undervalued exchange rate in any globally consistent multilateral exchange rate assessment.

The Policy Development and Review Department (PDR) has many important responsibilities within the Fund and many capable and hard working staff to carry them out. One key responsibility is to ensure reasonable consistency across the Fund staff in work on surveillance. If, as appears to be the case, RES was making the case in the context of the WEO and Executive Board discussions of global payments imbalances that substantial exchange rate adjustments were needed as an important part of the strategy to reduce global imbalances, and APD was simultaneously taking the position that there was no clear case for appreciation of the yuan, then PDR should have noted this inconsistency and insisted that it be resolved. Such a resolution would presumably have required either denying

that successful resolution of the global imbalance problem requires significant depreciation of the dollar or affirming the need for significant appreciation of the yuan. I do not know whether PDR played its proper role in forcing Fund staff and management to face up to this inconsistency and resolve it in reasonable and analytically defensible manner.

If, as I have maintained, Fund surveillance has failed catastrophically in the most important case in has faced in many years—the case of China’s exchange rate and related policies—then primary responsibility for this failure at the level of Fund staff unambiguously lies with APD. The Department head, the senior immediate office staff (B4s) responsible for China, and the division chief for China, in that order, are the staff who are most responsible. The fact that Fund management favored the gentle persuasion approach and did not want to press the Chinese authorities aggressively on the issue of their exchange rate policies does not excuse the failures of the staff. You do not tilt the analysis to fit the preferences of Management or of the Chinese authorities. You say, “Well, I’m sorry, sir, but the analysis for China and multilaterally indicates that the yuan probably is seriously undervalued. We need to tell this to the Chinese authorities and try very hard to persuade them to adjust their policies.” If Management nevertheless insists on soft-pedaling the problem, subordinate staff will need to go along, but a Department head should resign.

Clearly, none of this ever happened, or I would have heard about it. Depending on the methodology used, estimates of longer-run equilibrium exchange rates can vary quite widely and usually have large standard errors. Because data become available with a lag, in 2003 and 2004 and even 2005, it could have been difficult to conclude with high confidence, focusing exclusively on available Chinese data, that the exchange rate of the yuan was seriously undervalue. This is especially case if one uses some of the modern techniques for estimating equilibrium exchange rates that pay little or no attention to what is happening to the current account balance or to official intervention. However, staff in APD had the clear responsibility to recognize that the Fund’s established guidelines for surveillance over member’s exchange rate policies clearly place great emphasis on “protracted large-scale intervention in one direction in the exchange market” as a critical indicator that a member’s exchange rate and related policies may be running seriously afoul of its obligations under Article IV. The years of increasingly massive, mainly sterilized intervention by the Chinese authorities to resist appreciation of the yuan should have drawn intense attention from the staff, and its implications should have been forcefully explained to the Chinese authorities, to Fund management, and to the Executive Board. Moreover,

looking at the global situation (which is supposed to be a key factor Fund surveillance at the bilateral as well as the multilateral level), the need for the U.S. dollar to depreciate substantially to correct the global payments imbalance, together with the rapidly rising Chinese current account surplus and massive official intervention to resist appreciation of the yuan, demonstrated beyond any reasonable dispute, that the yuan was seriously undervalued and becoming more so. Staff in APD apparently did not want to press these issues very hard.

Moreover, pending confirmation by the IEO, experience strongly suggests that staff of APD were not pressured by Management to take a gentle persuasion approach toward the Chinese authorities. This was the approach they favored and they would have pressed Management to follow this approach had it not already been so inclined.

The Buck Stops with the Managing Director

The foremost responsibility for Fund's failure in the case of surveillance over China's exchange rate and related policies resides with Fund Management. The Deputy Managing Directors who were involved in the China case probably deserve some of the blame. I am reasonably certain that they were fully on board with "see no evil," gentle persuasion approach. The primary responsibility, however, must rest with the Managing Director. Horst Kohler resigned as Managing Director in May 2004 in order to become President of Germany. This was before China's exchange rate policy really became the burning issue that it is today, but not before a Managing Director focused on the importance of Fund surveillance should have become active on the problem of China's exchange rate problem before it got out of hand. This leaves the next Managing Director, Rodrigo de Rato, holding the bag of blame.

He deserves it. The publicly announced position of the Managing Director himself is simply extraordinary. Under the provisions of Article IV, the Fund has the responsibility both to oversee the international monetary system in order to ensure its effective operation and to oversee members' compliance with general and specific obligations under this Article and is supposed to exercise "firm surveillance over the exchange rate policies of members." The Fund is supposed to function as the cop of the international monetary system. The Managing Director is the top cop, holding in abeyance the possibility of formal censure of a country's policies by the Executive Board as a final resort for those rare and highly regrettable cases where all vigorous but less extreme efforts at persuasion have failed.

The approach may begin with gentle persuasion, but a Managing Director needs to be prepared to move on and to insist that members recognize that as sovereign nations that have accepted membership in the Fund, they have thereby also accepted important general and specific obligations to conform their policies, especially their exchange rate and related policies, to certain requirements determined by the Fund. Mr. De Rato does not understand this; indeed, he explicitly denies it. The situation is similar to the objections I faced from a senior member of the Fund staff more than a decade ago when I was working the resurrect meaningful IMF surveillance over exchange rate policies. I told him, “Look, I can appreciate the position of a conscientious objector who is not willing to participate in armed conflict, but a conscientious objector cannot be—Commandant of the Marine Corps.”

Mr. De Rato should not be and should not have been Managing Director. Fortunately, he is leaving soon. Unfortunately, he leaves his successor with a real mess to straighten out and a real challenge to restore order to, and instill confidence in, the Fund’s essential surveillance activities.

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