

URI DADUSH and VERA EIDELMAN  
*editors*



# CURRENCY WARS

CARNEGIE ENDOWMENT

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FOR INTERNATIONAL PEACE

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# INTRODUCTION AND SUMMARY

In September 2010, Brazilian Finance Minister Guido Mantega shocked the world by launching the opening salvo in what he called a “currency war.” Mantega claimed that emerging markets were being squeezed by a combination of a depreciating U.S. dollar and an undervalued Chinese renminbi (RMB).

Only weeks later, French President Nicolas Sarkozy placed reform of the international monetary system atop the G20 agenda under France’s chairmanship, prompting the International Monetary Fund (IMF) and other organizations to launch a host of events and studies on the issue. Meanwhile, Congress renewed its bid for legislation to brand China as a currency manipulator, while China, Brazil, and other countries condemned the United States for its quantitative easing policies, claiming that their real purpose was to devalue the dollar.

Over the ten months that followed the ostensible eruption of the “currency wars,” Carnegie economists wrote a series of short articles, collected in this report, to address three questions: What is the nature of the problem that Mantega first brought to the world’s attention? What caused it? And, finally, what can be done about it?

The central message that emerges here is that the international monetary system performed well during an extraordinarily tumultuous time and does not need a major overhaul. The real cause of currency tensions lies in misguided domestic policies and the disequilibrium caused by the crisis in the reserve currency countries. One very important contributing factor is Chinese exceptionalism. China, the world’s largest exporter, is the only major trading nation to maintain a pegged and nonconvertible currency, and also remains almost entirely insulated from global financial markets. This situation requires reforms in China.



The implication is that reformers should focus on putting the reserve currency countries back on an even keel and on making China less exceptional. But, in fact, only incremental changes are needed in the international monetary system. In short, the rules of the game do not need a big change; rather, the big players need to raise their game. Until they do, no conceivable reform of the rules can provide stability.

We explore each of these ideas in the following articles, focusing on the performance of the international monetary system during the crisis in Part I, the tensions arising from the disequilibrium in the core countries in Part II, and the needed policy changes in Part III. A brief summary of each section follows.

## **PART I. THE INTERNATIONAL MONETARY SYSTEM AND THE FINANCIAL CRISIS**

In contrast to its predecessors—the gold and dollar standards—the current international monetary system has served the global economy well, even in the most difficult of times. During the Great Recession—the worst downturn in seventy years—the system exhibited great flexibility and resilience. Countries with flexible exchange rates, which account for 80 percent of global gross domestic product (GDP), used them to good effect as shock absorbers. Several countries with pegged rates switched to more flexible regimes during the crisis and some switched back again when confidence returned. These changes were nearly always orderly, with most currencies following a common path against the dollar, which retained its safe-haven status despite the fact that the United States was at the epicenter of the crisis: Currencies depreciated against the dollar during the worst of the crisis and then appreciated again once it ended. Though some currencies saw large real appreciation, most remained in line with fundamentals; misalignments occurred in only a few instances, usually related to the dysfunctional institutional set-up of the eurozone monetary union. Overall, the global economy avoided the balance of payments crises and protectionist responses that characterized previous episodes of acute economic turmoil.

For these reasons, it is difficult to conclude that today's exchange rate system is fundamentally flawed. At the same time, a number of undesirable developments and responses have occurred in the aftermath of the Great Recession: some developing countries have excessive reserves; several countries have reluctantly resorted to capital controls; a few countries, including Brazil, Switzerland, and Japan, have seen very large exchange rate appreciations; the eurozone is in deep crisis; and fear persists that global imbalances may widen again as the recovery progresses.

## PART II. TENSIONS IN THE CORE COUNTRIES

The roots of these problems, however, lie not in inadequate international exchange-rate arrangements, but in the fact that countries and regions holding the main reserve currencies—the United States, the eurozone, Japan, and the United Kingdom—are severely off balance: their output gap (actual versus potential GDP) is large, unemployment is high, public debt is soaring, monetary policy remains extremely loose, and divergences in economic performance and fiscal management within Europe have placed the survival of the euro itself in question. Not surprisingly, doubts about the soundness of these economies have big repercussions: No one welcomes currency appreciation when demand is weak and uncertainty reigns; nervousness about exchange-rate levels and competitiveness, and hot money flowing into emerging markets, are two of the most severe manifestations of the turmoil. At the same time, China's extraordinary advances in world markets have compounded these fears, as perceptions that the renminbi is undervalued are widespread, and China's capital controls have kept out inflows that are flooding other, much smaller developing economies.

## PART III. POLICY CHALLENGES

In response to the sharp domestic imbalances that were the main cause and are now also the effect of the financial crisis that engulfed them, the reserve currency economies—beginning with the United States and the eurozone—are scrambling to find an international fix to their problems. It is often easier to place the focus on reducing “global” imbalances or on reform of the international monetary system than to recognize that the politically thorny solutions to their problems lie at home.

The United States' fundamental problem is not a loss of competitiveness, and it will not be corrected by dollar devaluation—nor, as is more politically correct in Washington these days, by demands that China and other countries allow their currencies to appreciate. Instead, the United States must find ways to durably raise its household savings rate and reduce its budget deficit.

The eurozone must move faster toward fiscal and labor market integration in support of its single currency, while the countries in its periphery must accelerate their structural reforms and budget consolidation if they are to regain access to the government debt markets.

China cannot aspire to be both the world's largest trading nation and largest economy while conducting itself as if it were an outsider to the international

monetary system. It must move faster on the far-reaching reforms required to internationalize its currency, open its capital markets, and make the RMB more flexible.

All of these moves are necessary not only to ease currency tensions—which may be alleviated naturally as the reserve currency economies regain their footing and as the RMB plays an increasingly important role in international transactions—but also, and more important, to restore the health of the advanced economies and to make China’s growth more balanced and sustainable.

Meanwhile, any efforts to reform the international monetary system should recognize the resilience that the system exhibited during the crisis, and that the changes needed are incremental rather than revolutionary. These changes include encouraging more exchange-rate flexibility where appropriate, increasing the diversity of reserve holdings, and further expanding IMF resources and the organization’s surveillance role. While these improvements will make the international exchange rate system work more smoothly and help alleviate currency tensions, they are of secondary importance to the reforms needed in the major countries.

PART I

# THE INTERNATIONAL MONETARY SYSTEM AND THE FINANCIAL CRISIS

## Chapters

Exchange Rates During the Worst of the Crisis

If It Ain't Broke, Don't Fix It

Exchange Rates and Protectionism

Why Are Capital Controls So Popular?

Why Are Reserves So Big?



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# EXCHANGE RATES DURING THE WORST OF THE CRISIS

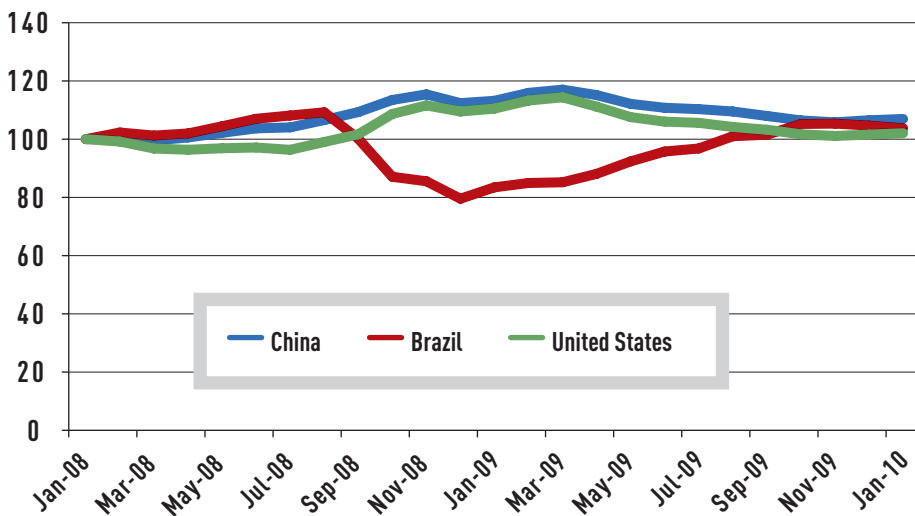
At the outbreak of the Great Recession, the state of the world's exchange rate "system"—a messy construct of flexible, managed, and pegged regimes, including a few currency boards and a large currency union, as well as varied approaches to capital controls and reserve accumulation—was not reassuring. The dollar, the world's reserve currency, belonged to the country at the epicenter of the crisis. The specter of the protectionism, competitive devaluations, and sovereign debt crises that wrecked the world economy during the Great Depression loomed, and the International Monetary Fund (IMF), the system's ostensible watchdog and lender of last resort, had essentially been sidelined. Yet, over the worst days of the crisis, from September 2008 to June 2009, the international monetary system remained orderly and flexible currencies provided a safety valve. Exchange rates adjusted quite smoothly and, while month-to-month volatility increased in 2009, changes in real exchange rates were modest. Those changes that did occur appeared justified by economic fundamentals. Generally, different exchange rate regimes helped account for only modest differences in growth performance across countries—with those closed to capital flows doing better than financially integrated countries (not surprisingly, given the nature of the crisis)—and countries with floating currencies slightly outperforming those with pegs. Several countries switched from fixed to flexible regimes, usually without trauma.

## THE BIG PICTURE

From Lehman's collapse in September 2008, to June 2009, when the recovery began, most exchange rates followed a common path, largely determined by shifts in risk aversion and the United States' status as a safe haven. This path consisted of two stages. First, from September 2008 until roughly March 2009,

most currencies (represented by Brazil in the graph below) depreciated against the dollar as investors sought a safe haven. The dollar appreciated by 13.6 percent in nominal effective terms<sup>1</sup> over that period. Then, in the second stage, from March through June 2009, confidence returned, reversing much of the previous exchange-rate shift. This continued through November, by which time the dollar had depreciated by 11.7 percent in effective terms since March.<sup>2</sup>

**FIGURE 1.1** A COMMON PATH  
NOMINAL EFFECTIVE EXCHANGE RATES JAN 2008 = 100



Source: International Monetary Fund International Financial Statistics database.

However, three main exceptions to this pattern emerged. First, countries that pegged their currency to the dollar—including China, Saudi Arabia, Venezuela, and Hong Kong (as shown by the China line in the graph above)—maintained their pegs with the aid of strong external balance sheets and large current account surpluses. Their nominal effective exchange rates followed a path close to the dollar despite large differences in geographic trade weights. During the worst of the crisis, this meant currency appreciation, which helped other countries adjust.

Second, the yen appreciated and remained high as Japan, long the sole zero-interest economy and the main source of funding for the carry trade,<sup>3</sup> lost its monopoly. As other countries lowered their policy interest rates, the yen appreciated by more than 20 percent in nominal effective terms—helped by a strong balance of payments position—despite massive and rising public debts.

Third, chronically weak currencies, such as the Argentine peso and Pakistani rupee, joined other currencies in depreciating during the first stage but then continued to depreciate in the second. In nominal effective terms, Argentina's exchange rate depreciated by 14 percent from September 2008 to June 2009.

### MODEST SHIFTS IN COMPETITIVENESS

The path of real effective exchange rates (REER), which are used to proxy competitiveness, reflected the order maintained in nominal rates during the crisis. Across the 56 countries for which comparable data are available, real effective exchange rates depreciated by an average of 0.9 percent from September 2008 to June 2009.<sup>4</sup> Shifts of more than 5 percent occurred in only fifteen of the 35 major economies over that period, less than half of which experienced appreciation. The explanations for many of the outliers—Venezuela, Japan, Saudi Arabia, and Argentina, for example—mirror those detailed above.

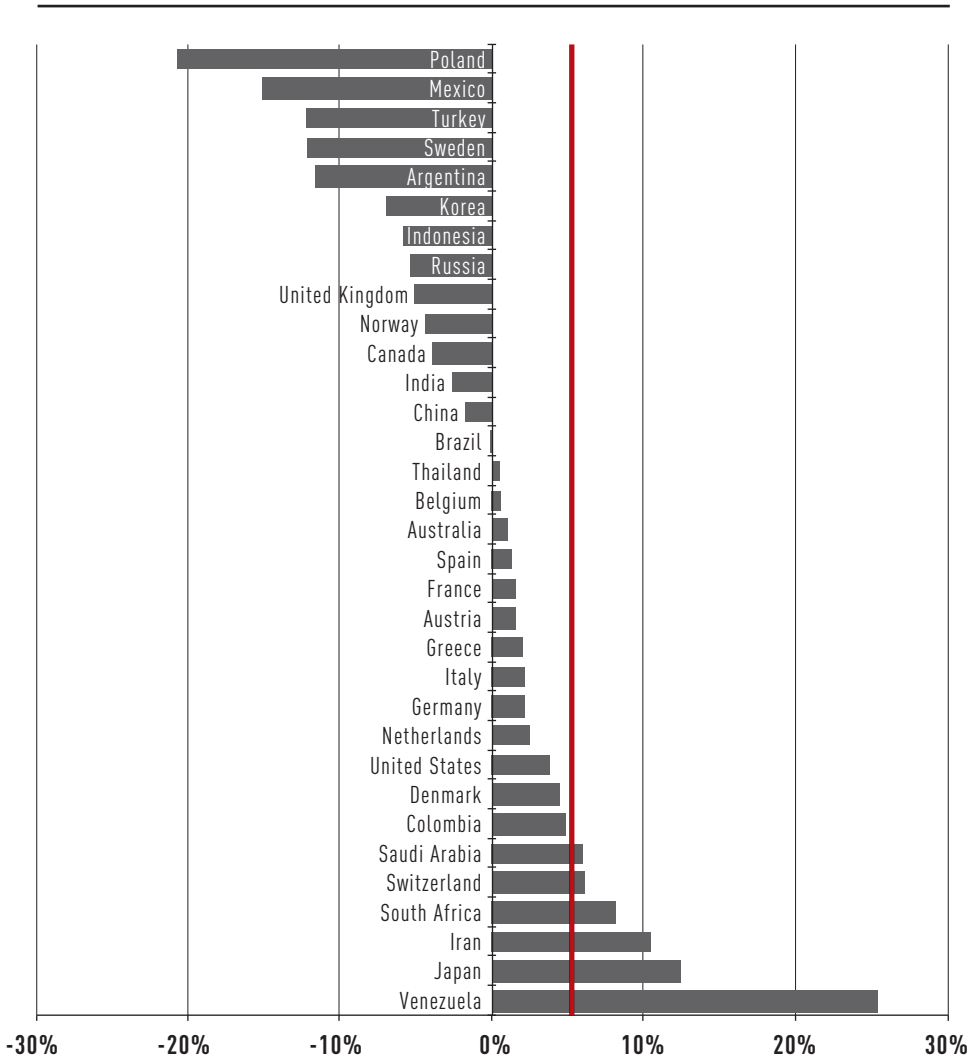
Non-euro members, like the United Kingdom and Sweden, account for several of the outliers on the depreciation side. These countries were able to depreciate in response to the depth of the crisis, though the United Kingdom may have softened the demand blow to others by allowing its fiscal deficit to rise by much more than the European Union average. Among the newly acceded countries, Poland—one of the few economies to grow in 2009—saw the zloty depreciate by 20.7 percent, as Eastern Europe was hit hardest by the crisis.

Moreover, few signs of major new misalignments existed: Only eleven of the 40 largest economies saw their real exchange rates appreciate by more than 10 percent from their pre-crisis ten-year averages to June 2009—and four of these (Iran, Venezuela, Russia, and Indonesia) had strong (and, in the case of the three former countries, oil-supported) current account surpluses in 2009, suggesting appreciation there was justified or at least less of a concern. Among the remaining seven countries—Greece, Spain, Turkey, Canada, Australia, Colombia, and Brazil—the appreciation in Greece and Spain came on top of a long-term loss in competitiveness associated with the adoption of the euro; both countries face grave economic concerns (see *The Euro: On Recall?*). The



appreciation in Turkey, Colombia, and Brazil is also a serious problem for their macroeconomic management. Australia and Canada, advanced countries benefiting from the commodity boom, are among the countries least affected by the financial crisis.

**FIGURE 1.2 COMPETITIVENESS SHIFTS MODEST**  
 PERCENT CHANGE IN REER,  
 SEPTEMBER 2008–JUNE 2009 • 35 MAJOR COUNTRIES

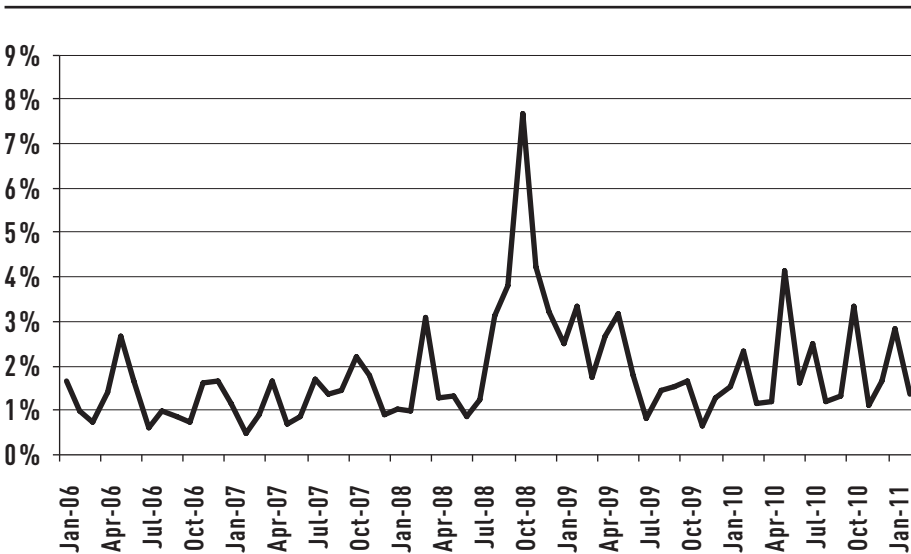


Sources: Bank for International Settlements, International Monetary Fund International Financial Statistics database.  
 Note: Data for United Arab Emirates and Taiwan, which also account for more than 0.5 percent of world GDP, are not available.

## FLEXIBLE EXCHANGE RATES HELPED

Several economies used exchange rates as shock absorbers. The average monthly change (depreciation) in the dollar exchange rate of about 40 major exporting countries<sup>5</sup> peaked at 7.4 percent in October 2008, compared to a maximum of only 2.6 percent in the three years before the crisis.

**FIGURE 1.3** AVERAGE MONTHLY CHANGE IN EXCHANGE RATES OF MAJOR EXPORTING ECONOMIES VIS-À-VIS U.S. DOLLAR



Source: International Monetary Fund International Financial Statistics database.

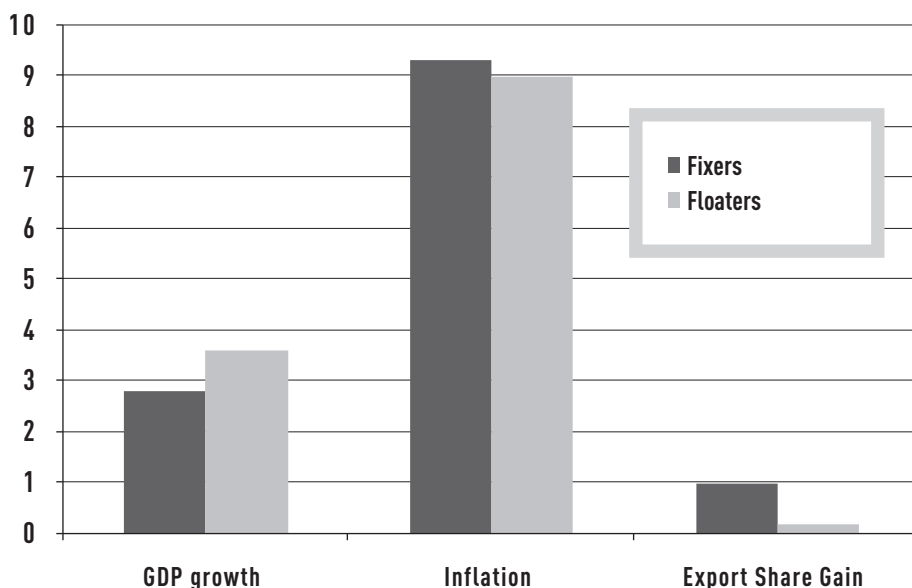
Though most exchange rates followed a common path during the crisis, that path entailed more volatility than in the past few years.<sup>6</sup> In 2009, the volatility of effective exchange rates in 24 of 33 large economies, including the United States, Japan, China, and the United Kingdom, exceeded their 2000–2008 averages. The sharpest increases in volatility occurred among commodity exporters such as Australia, Canada, Colombia, and South Africa. Several formerly planned economies—Russia, Poland, the Czech Republic, and Hungary—also saw relatively high exchange rate volatility, reflecting the dramatic shifts in confidence they experienced. Remarkably, the euro saw less volatility in effective terms in 2009 than it had in previous years.

At the same time, exchange rate volatility during this crisis did not reach the levels that immediately preceded the collapses of the Bretton Woods system and the gold standard (see *If It Ain't Broke, Don't Fix It*).<sup>7</sup> Furthermore, only five of the 25 major currencies for which comparable data are available are seeing bigger real effective exchange rate shifts than they did either before the collapse of the fixed exchange rate in 1973 or before the concerted interventions around the Plaza Accord in 1985.

## DIFFERENT REGIMES DURING THE CRISIS

Not surprisingly, given the vehemence of the global credit crunch, the 83 developing economies with closed capital accounts at the start of the crisis outperformed their financially integrated counterparts, irrespective of currency

**FIGURE 1.4** FINANCIALLY CLOSED DEVELOPING COUNTRIES  
PERCENT



Note: GDP growth and inflation represent annual 2008–2009 average. Export share gain represents change in share of world exports from 2007 to 2009.

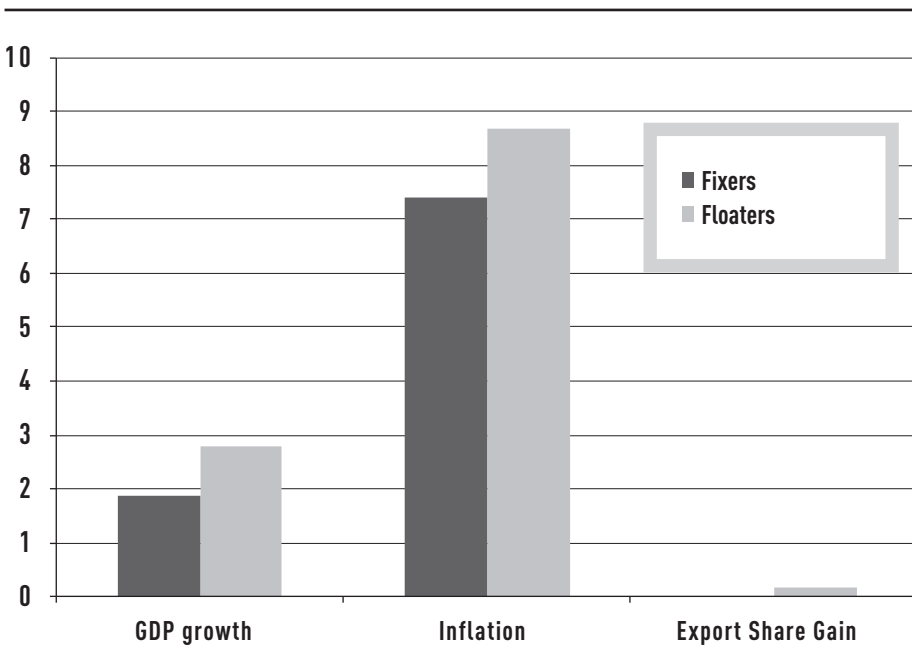
Source: International Monetary Fund.

regime. They grew faster, gained more global export share, and saw moderate, though somewhat higher, inflation.

Interestingly, even among this group, the floaters outperformed the fixers during the crisis—their average annual GDP was higher and inflation was lower, though the fixers gained more export share.

Among developing countries with open capital accounts, floaters also outperformed fixers. Over 2008 and 2009, average annual GDP growth was nearly 1 percentage point higher in floaters than in fixers, and floaters gained 0.2 percent of world export share compared to zero for fixers. Though average annual inflation was 1.3 percentage points higher in floaters than in fixers, it remained moderate in both groups.<sup>8</sup>

**FIGURE 1.5** FINANCIALLY INTEGRATED DEVELOPING COUNTRIES  
PERCENT



Note: GDP growth and inflation represent annual 2008–2009 average. Export share gain represents change in share of world exports from 2007 to 2009.

Source: International Monetary Fund.

These findings suggest that different exchange-rate regimes helped account for modest differences in performance during the crisis. First, developing countries with closed capital accounts fared somewhat better, irrespective of currency regime.

Second, developing countries with flexible currency regimes performed somewhat better than fixers, irrespective of their level of financial integration. In fact, nearly 20 percent of fixers switched to a float system between the onset of the crisis and spring 2009, opting for more monetary policy control when they needed it most (Tsangarides 2010). Several countries have switched back to a pegged exchange rate since then.<sup>9</sup>

Perhaps the greater lesson is that today's international monetary system is remarkably resilient. The system maintained order even in the middle of a massive crisis, and it enabled countries to respond to their particular circumstances, including by temporarily or permanently adopting a more flexible exchange rate regime. It also helped countries avoid protectionism during the Great Recession, a feature explored later (see *Exchange Rates and Protectionism*).

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# IF IT AIN'T BROKE, DON'T FIX IT

How today's highly eclectic and flexible international monetary arrangements came about is best understood by referring to their long history. After a century of attempts to fix exchange rates—first to gold and then to the dollar—today's system (some observers call it a “non-system”) enables countries to tailor their exchange rate regimes to their needs. This has made flexible exchange rates and independent monetary policy more common, reserves more diversified, and current account convertibility nearly universal.

In terms of GDP weight, today's system is overwhelmingly composed of countries that float their currencies and have open capital accounts, including nearly every advanced country and most large developing countries. China is a notable exception. As explored in the rest of Part I, increased flexibility has served the global economy well, both over the past four decades and during the Great Recession.

## HOW WE GOT HERE

In the mid-nineteenth century, currencies were linked to silver and gold. But as international trade expanded, maintaining stability in both the domestic economy and the unit of exchange for global transactions became more difficult. After France was defeated in the 1870 Franco-Prussian war, a British-dominated gold standard regime emerged, based around unrestricted capital mobility and the commitment to sell gold at a fixed price.<sup>10</sup>

Under the gold standard, fixed exchange rates and capital mobility facilitated trade and financial integration. However, they also meant that countries could not use monetary policy to manage their business cycles. During a recession, for example, countries that lowered interest rates in an attempt to stimulate domestic demand would instead see gold supplies leave their borders as investors searched for higher yields—as happened during the United Kingdom's banking

panic in 1825 (Bordo 1998)—which could exhaust the country’s gold supply at the fixed price. Without monetary policy as a tool, countries experienced great domestic economic volatility.

Combined with the pressures and costs of war, this volatility led countries to suspend gold sales in 1914, and they struggled to return to prewar parities during the 1920s. The system finally collapsed during the Depression of the 1930s, when governments—beginning with the United Kingdom—refused to see their economies destroyed to maintain their gold commitments.

As World War II drew to a close, the framers of the new international monetary system were keen to draw lessons from the Great Depression. Fixed exchange rates and a commitment to convertibility for current transactions would avoid the potential for competitive devaluations that some observers argued had contributed to the collapse of trade during the Great Depression (see *History Lessons*). Reserves and International Monetary Fund resources would finance temporary imbalances, while restrictions on private capital movements would allow monetary policy to target domestic demand (McKinnon 1993). Changes in parities would take place only in cases of “fundamental disequilibrium.” And the entire system would be tied to the dollar, with the United States committed to gold sales at the fixed exchange rate.

The idea was to achieve the best of both worlds: the discipline of the gold standard and the ability to realign exchange rates when necessary. These arrangements, lubricated by loans from the United States, successfully supported the postwar recovery. On the whole, the major powers experienced stable growth with low inflation for two decades.

But cracks emerged over time. In part, this reflected the more limited, and thus less credible, commitment to fixed exchange rates compared to those under the gold standard. In part, the problem was the U.S. role at the center of the system.

While U.S. capital outflows provided the global liquidity required for growth, the increasing supply of dollars undermined confidence in the United States’ ability to maintain the fixed dollar price of gold.<sup>11</sup> By 1960, U.S. external liabilities already exceeded its gold reserves (Eichengreen 1993). U.S. fiscal and monetary expansion in the second half of the 1960s intensified this dilemma, inducing higher U.S. inflation, real appreciation of the dollar and increasing inflationary pressures in other countries.<sup>12</sup> Surplus countries, reluctant to revalue their currencies or let their dollar reserves increase without limit, insisted on more restrictive U.S. policies.

The United States was unwilling to sacrifice domestic economic goals to maintain the credibility of the dollar, however, and its leaders became increasingly

concerned about the country's declining competitiveness and the growing balance-of-payments deficit.<sup>13</sup> In 1971, the Nixon administration announced a suspension of gold sales and an import tariff surcharge. Countries abandoned pegged exchange rates shortly thereafter, and the period of floating exchange rates began.

## FREEDOM OF CHOICE

Of course, we are hardly in the textbook world of freely floating currencies today. Various attempts were made to return to fixed exchange rates in the 1970s, and several coordinated interventions have been undertaken to moderate large shifts in exchange rates (for example, the Plaza Accord in 1985 and, most recently, following the March tsunami in Japan). Exchange-rate arrangements in the developing world are today an eclectic mix of pegged rates (to various currencies or currency baskets), dirty floats, and flexible rates. Some countries—such as Ecuador and El Salvador—have resorted to dollarization.

Today's international monetary system is best characterized by the pronounced tendency of countries to tailor their exchange rate regime to their own needs. Most important, countries decide whether to float or peg their currency, and to what currency or mix of currencies they should peg. They also set their own capital controls policy (see *Why Are Capital Controls So Popular?*) and choose which combination of currencies and gold to use as reserves.

As shown in the table below, this flexibility allows for more independent monetary policy (available to countries with an open capital account that choose flexible exchange rates and to those with a closed capital account, whether or not they peg their currencies).<sup>14</sup> As a result, governments are better able to target domestic inflation and employment outcomes.

### FIGURE 1.6

	<b>Gold Standard</b> (1879–1913)	<b>Dollar Standard</b> (1945–1973)	<b>Current System</b> (1992–present)
<b>Parity</b>	Fixed to gold	Fixed to dollar	Floating, intermediate, fixed
<b>Reserve Holdings</b>	Gold	Dollar, gold	Dollar, euro, yen, pound, gold
<b>Monetary Policy</b>	Prioritize parity	Follow U.S. Fed	Independent in many instances
<b>Current account convertibility</b>	Not convertible	Mainly in advanced countries	Nearly universal



The freedom of choice in how reserves are held has led to diversification and an increased number of reserve currencies, so whether a currency gains reserve status is determined to a degree by the market.<sup>15</sup> In addition, current account convertibility is now nearly universal—compared to 1970, when just 30 percent of countries adopted it—and the number of countries with dual or multiple exchange rates has also fallen substantially (from 40 in 1984 to only fourteen in 2002). At the same time, frequent changes in exchange parities do not appear to have significantly impeded trade, which has continued to grow rapidly. The development of futures markets has helped to contain exchange rate risk.

## **AN OPEN, FLOATING SYSTEM**

Given the choice, a minority of countries—68 of the 188 countries classified by the IMF—have chosen to float their currencies. However, this group includes nearly all of the advanced economies and several of the large developing countries, such as Brazil, Mexico, India, and South Africa; together, they account for almost 80 percent of world GDP and 76 percent of world trade. Thus, in terms of economic weight, today's exchange rate system is overwhelmingly a floating system.

Of the 120 countries that elect to peg their currencies (or heavily manage them, according to the IMF classification), only seven countries account for more than 0.5 percent of world GDP—China, Russia, Saudi Arabia, Taiwan, Iran, Denmark, and Venezuela. China stands out in this group. With 9.3 percent of world GDP and more exports and foreign exchange reserves (\$2.85 trillion at the end of 2010) than any other country, it is alone among the large economies to peg its currency, although it recently resumed gradually increasing the flexibility of the renminbi.

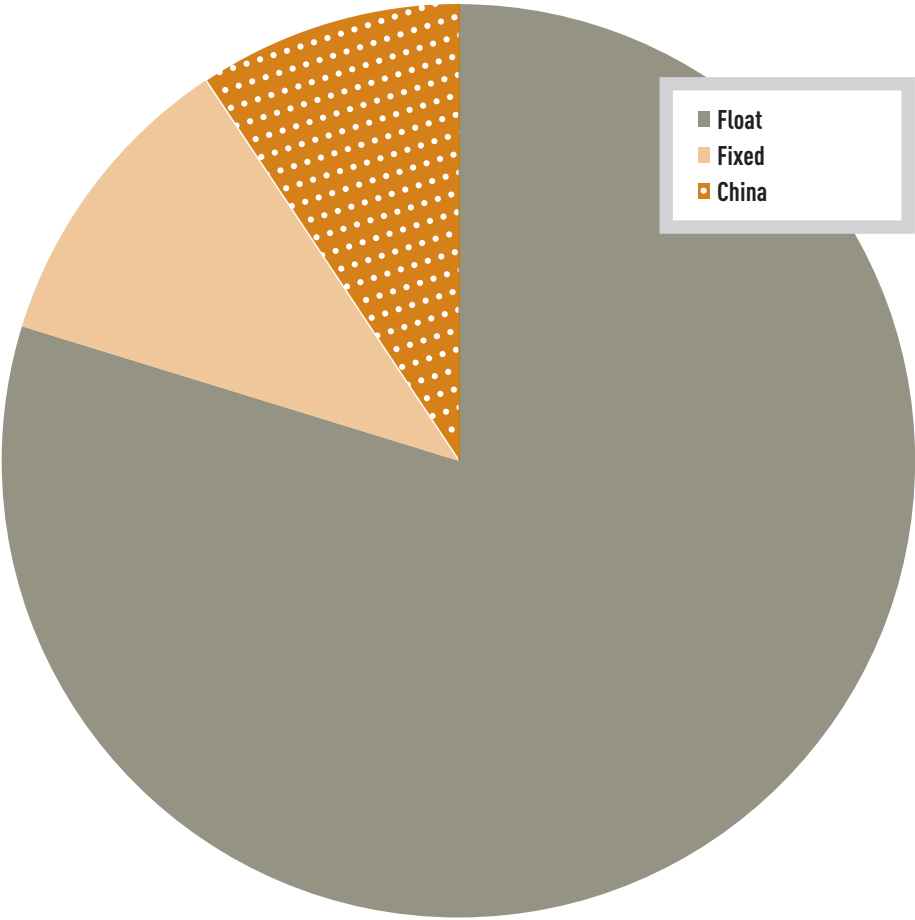
The dominance of countries with open capital accounts is even more overwhelming. According to the Chinn-Ito Index, 105 countries—including nearly all of the advanced countries and representing more than 80 percent of world GDP—have open capital accounts.<sup>16</sup> These economies can only use monetary policy to affect domestic activity if they allow their exchange rates to float. As it turns out, about half of the countries choose that course and the other half opt to peg their currencies.

The 73 countries that have relatively closed capital accounts include China, India, and Russia, but are for the most part small, open, developing economies that are typically attracted to a stable exchange rate.<sup>17</sup> Being relatively insulated from global financial markets, they can retain control of their monetary policy if they “sterilize” the effect of their exchange-rate interventions on the domestic money supply by selling government bonds or changing banks' reserve

requirements. Accordingly, 59 of the 73 countries in this group chose to peg their exchange rate and only fourteen countries opted to float it.<sup>18</sup>

As discussed in *Exchange Rates During the Worst of the Crisis*, these different regimes led to modestly different GDP and export growth outcomes during the crisis. But the system's most impressive feature turned out to be its resilience.

**FIGURE 1.7** EXCHANGE RATE REGIMES  
SHARE OF WORLD GDP



Source: International Monetary Fund.

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URI DADUSH, SHIMELSE ALI, and RACHEL ESPLIN ODELL

# EXCHANGE RATES AND PROTECTIONISM

Exchange-rate reforms have helped support a more liberal trade regime over the last several decades. Important shifts have included widespread currency convertibility, the move toward unified exchange rates, and the increased adoption of flexible exchange rates. The latter was particularly helpful during the Great Recession, when countries with floating currencies appear to have enacted fewer protectionist measures than did those with fixed exchange rates, and several countries switched from a pegged to a floating regime.

Nevertheless, certain characteristics of the international monetary system—and the ways that countries take advantage of them—continue to hinder trade. Countries with pegged exchange rates, for example, tend to have the most restrictive trade regimes. Moreover, those with heavily managed exchange rates that are also perceived to be undervalued—beginning with China—present an obvious source of trade tensions.

## EXCHANGE RATE REFORMS AND OPEN TRADE HAVE GONE HAND IN HAND

Historically, non-convertible currencies—currencies that cannot be readily exchanged for another currency to make payments and transfers—have hampered trade. Before establishing currency convertibility in 1958, for example, European economies entered into hundreds of clearing agreements<sup>19</sup> with one another. These agreements were one cause of large transaction costs that undermined the growth of trade (Tschoegl 1978). Indeed, studies have demonstrated that exchange controls reduce exports (International Monetary Fund 1999).

Meanwhile, dual/multiple exchange rates—that is, different official exchange rates for different international transactions, with one rate for essential imports and an-

other for luxury imports, for example—led to black markets for foreign exchange, creating inefficiencies and further complicating international transactions.

As discussed in *If It Ain't Broke, Don't Fix It*, however, countries have moved toward current account convertibility and unified exchange rates over the last several decades, often facilitated by the International Monetary Fund (IMF). These moves have helped promote trade by lowering transaction costs. They have also served as the precursors to trade liberalization in many countries. Three years after European countries adopted current account convertibility, for example, most of them removed restrictions against U.S. exports. The majority of developing countries, which retained current account restrictions until the 1980s and 1990s, followed a similar pattern (Eichengreen and James 2003). After China introduced current account convertibility and a unified exchange rate in 1993–1994, its average import tariffs fell from 40 percent in 1992 to 17.6 percent in 1997. In India, similar changes from 1994 to 1996 led average import tariffs to drop from 94 percent in 1992 to 34 percent in 1997.

However, numerous developing countries continue to employ significant foreign exchange restrictions. In 2008, the IMF identified about 30 developing economies that maintained exchange restrictions, from limits on payments for current transactions to requirements of prior approval for business-related transactions (International Monetary Fund 2008). Such restrictions reinforce trade barriers, hamper domestic trade reforms, and limit the gains from international trade integration.

## FLEXIBILITY AND PROTECTIONISM

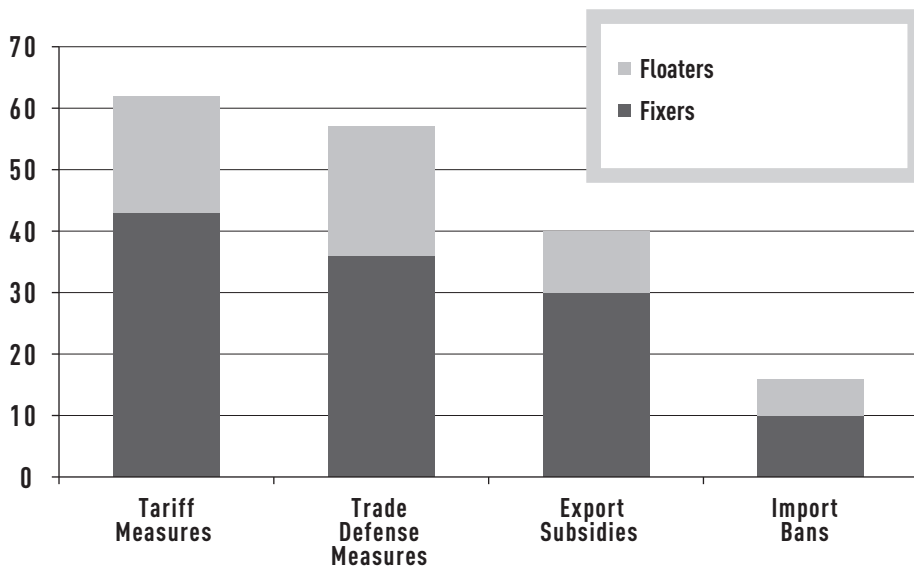
Countries today are free to choose whether to peg or float their rates, and about one-third of economies—which account for nearly 80 percent of world GDP—have chosen flexible exchange rates. In these countries, exchange rates function as shock absorbers, helping them deal with financial shocks and continually adjust their competitive positions to differences in inflation and the business cycle.

The available evidence suggests that countries with flexible exchange rates tend to have less restrictive trade regimes. For example, of the 30 countries with the most restrictive trade regimes, according to the World Bank's Trade Restrictiveness Index, only six have flexible exchange rates.

The importance of such flexibility is perhaps best illustrated by comparing crisis experiences, when protectionist pressures are strongest. During the recent financial crisis, nearly 20 percent of countries with less flexible arrangements switched to more flexible regimes, and protectionism was contained. In

contrast, during the Great Depression, many countries tried hard—but ultimately failed—to maintain their gold parities, and protectionism surged. To be sure, the recent success owes much to other factors—including countercyclical macroeconomic policies, World Trade Organization (WTO) disciplines, difficult-to-change, open national trade regimes, and regional agreements, as well as structural changes that have made trade more pervasive (Dadush et al. 2011). But the more flexible international monetary system also helped.

**FIGURE 1.8** NUMBER OF COUNTRIES THAT IMPLEMENTED DISCRIMINATORY TRADE POLICY MEASURES SINCE 2008



Source: Authors' Calculation based on Global Trade Alert.

Moreover, though exchange-rate volatility increased during the crisis, big, new exchange-rate misalignments were largely avoided (see *Exchange Rates During the Worst of the Crisis*). As a result, countries may have felt less need to restrict trade. Flexible currencies also seem to have kept countries from resorting to competitive devaluation. According to the Global Trade Alert, only five countries—Nigeria, Vietnam, Kazakhstan, Venezuela, and Ethiopia, all relatively small exporters—engaged in competitive devaluation during the crisis.

Countries with pegged rates, on the other hand, tended to resort to trade restrictions somewhat more frequently (see chart above), echoing the experience of strict adherents to the gold standard during the Great Depression. For example, Ecuador (which adopted the U.S. dollar as its currency in 2000) responded to a widening current account deficit in 2009 by announcing import restrictions

that affected 23 percent of its imports—far higher than the less than 1 percent of world trade affected by protectionist measures during the crisis.

Ecuador is just one example. Countries with fixed-exchange-rate regimes account for 64 percent of all countries in the world, but they account for 75 percent of the countries that have implemented trade discriminatory export subsidies and 70 percent of those that have implemented tariff measures since January 2008.

Certain countries that peg their currencies at rates that are widely perceived to be undervalued, including China, present a special problem, heightening trade tensions and becoming targets of retaliation. For example, the United States has significantly increased the antidumping (AD) and countervailing duties (CVD) it imposes on China in recent years, particularly as a share of total U.S. ADs and CVDs. The sharpest and most sustained increase occurred after the renminbi became a target of international complaint for being undervalued.<sup>20</sup>

## CONCLUSION

While more flexible exchange rate regimes are often a companion to an open and predictable trading system, one size does not fit all. A range of considerations—including a high degree of openness, weak financial institutions, and reliance on a single commodity export—can lead countries to prefer a pegged exchange-rate regime. Moreover, a pegged exchange rate and a very open trade regime are not mutually exclusive, as exemplified by Hong Kong, which has pegged its currency tightly to the dollar for decades but has no tariffs.

However, economies that have large domestic markets, diversified exports, and play a systemically important role, notably China, would be well advised to adopt more flexible currencies. This is not only in their interest—allowing monetary policy to target domestic demand as their financial markets become more integrated with those in the rest of the world—but would also help preempt trade tensions and ensure the smooth functioning of the international monetary system.

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WILLIAM SHAW and VERA EIDELMAN

# WHY ARE CAPITAL CONTROLS SO POPULAR?

Two types of capital controls exist: permanent and temporary. Both forms have developed a bad name among economists—they distort markets and have obvious costs—yet countries continue to use them. Why? Permanent controls—which many advanced countries relied on in past decades and many developing countries use today—are best understood as part of a long-term development strategy, which, among other things, aims to insulate a country from external financial shocks or to maintain independence of monetary policy. Temporary controls, on the other hand, are emergency measures imposed in response to hot money flows. If designed—and eventually dismantled—correctly, neither poses a threat to country welfare or to the global economy.

## PERMANENT CAPITAL CONTROLS

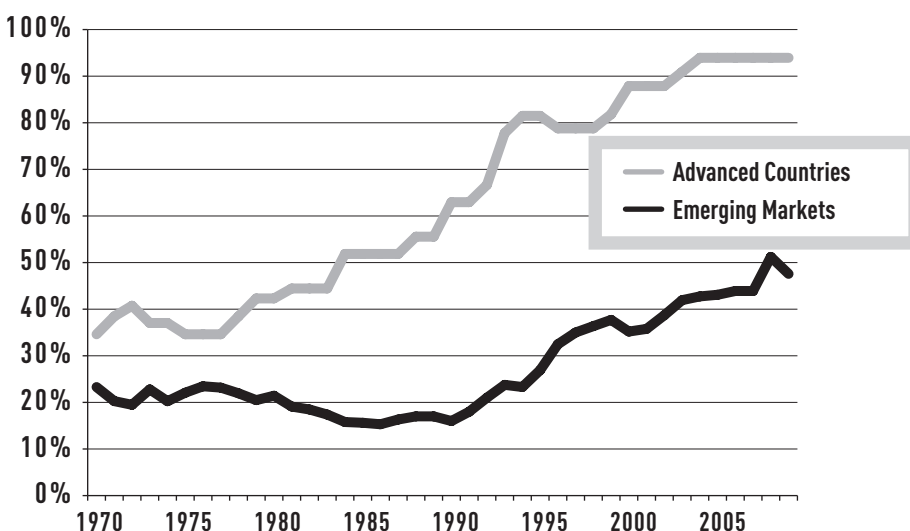
Today, long-term capital-control regimes are much more prevalent in developing countries than in advanced countries. Every advanced country, with the exception of Iceland, has a relatively open capital account (see *If It Ain't Broke, Don't Fix It*). According to the Chinn-Ito Index, this was not always the case, however: Less than one-third of advanced countries had open capital accounts in 1970 and only half did in 1984.

Developing countries are now where advanced countries were in 1984: About half of developing countries—which account for less than one-fifth of world GDP—are considered financially closed. Of these, countries in Asia, Africa, and Eastern Europe have generally maintained permanent capital controls, while those in Latin America have fluctuated between open and closed regimes.

Generally, countries use permanent controls as part of a longer-term strategy to reduce volatility, protect underdeveloped financial systems, limit currency appreciation from large capital inflows, and maintain a degree of independence

in monetary policy while retaining a pegged exchange rate. Several countries have achieved rapid income and export growth with permanent controls. By contrast, countries that maintained an open capital account while trying to fix their nominal exchange rates have faced booms and busts driven by volatile capital flows.<sup>21</sup>

**FIGURE 1.9** FINANCIALLY OPEN COUNTRIES  
PERCENT OF COUNTRY GROUP WITH RELATIVELY OPEN CAPITAL ACCOUNTS



Note: Number of countries for which data is available varies by year.  
Source: Chinn-Ito Index.

Today, China is the most prominent example of the practice of permanent capital controls. China’s controls help its state banks provide low-interest-rate loans to businesses.<sup>22</sup> These subsidized loans support China’s industrial production. Capital controls also help China limit volatility that could otherwise impair the soundness of its commercial banks—especially given the country’s weak regulatory institutions—and induce price volatility in its real estate market, the main investment opportunity for Chinese households. Capital controls also allow China to peg its currency—which many observers believe is undervalued—while retaining a degree of independence in its monetary policy.

At the same time, however, permanent capital-control regimes like China’s limit the country’s ability to integrate into world capital markets and establish a modern financial sector. Controls on outflows limit investment opportunities for citizens, while controls on inflows discourage foreign direct investment

in some sectors. The closed capital account also hinders the international use of China's currency and may encourage excess reserve accumulation (see *The Future of the Renminbi*). To the extent that controls are used to maintain an undervalued exchange rate, they also invite protectionist responses (see *Exchange Rates and Protectionism*). More generally, capital controls—both temporary and permanent—can increase the cost of capital, misdirect finance to investments favored by the capital-control regime, and encourage corruption.

In addition to facing these costs, countries do not always reap the benefits of controls. Studies disagree on whether capital controls lower the volume of inflows, though several find that controls can change the composition of inflows (International Monetary Fund 2011).<sup>23</sup> By contrast, capital controls are notoriously ineffective in limiting capital outflows (“capital flight”), except perhaps where the domestic financial sector is state-owned and/or severely controlled. This difference in effectiveness can bias capital-control regimes toward an undervalued exchange rate.

## TEMPORARY CAPITAL CONTROLS

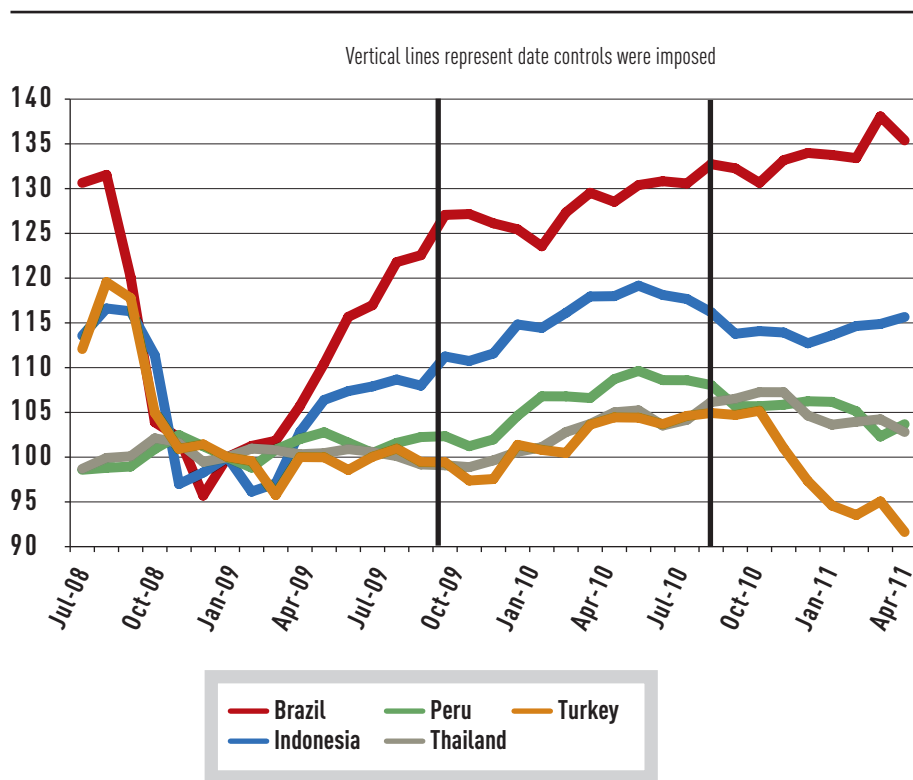
Though permanent controls are more common, the use of temporary controls has recently gained traction as developing countries respond to surging capital inflows.<sup>24</sup> The inflows have been prompted by the low interest rates, low growth potential, and high debt in advanced countries relative to that in emerging markets, as well as high commodity prices that have created new investment opportunities in many emerging markets.

The surge of capital flows has placed upward pressure on emerging markets' exchange rates, leading some countries—including Brazil, Indonesia, Korea, Peru, Thailand, and Turkey—to impose controls. Some measures are variations on old themes, such as Brazil's tax on portfolio inflows—originally established in 1993, reinstated in 2009, and increased twice in 2010—while others are new, such as disincentives for holding central bank papers in Peru and Indonesia. Generally, currency appreciation slowed or halted around the time these measures were introduced, though the International Monetary Fund (IMF) expects their longer-term impact to be limited (IMF 2011).

In addition to the costs discussed above, countries considering short-term controls must also examine available alternatives. When responding to surging inflows, governments theoretically have several other options: Rein in fiscal policy to decrease domestic demand; tighten financial regulations (for example, raise reserve or collateral requirements); issue securities to dampen the expansionary impact of rising foreign exchange reserves; or allow the exchange rate to appreciate.

A finance minister confronted by a short-term surge in capital flows would be unlikely to respond by adjusting fiscal policy, however, as that could involve distorting taxation or unnecessarily reducing the provision of public goods. And the formulation of fiscal policy often requires complicated and protracted political compromises that could hardly be held hostage to the vagaries of exchange-rate changes—imagine U.S. budget negotiations being interrupted with the news that more cuts are needed because the dollar strengthened last week.

**FIGURE 1.10 CAPITAL CONTROLS SLOWED EXCHANGE RATE APPRECIATION**  
 NOMINAL EFFECTIVE EXCHANGE RATE, JANUARY 2009 = 100



Sources: International Monetary Fund, Bank for International Settlements.

Other policy choices also have their downside. Allowing modest exchange-rate appreciation may be an appropriate response to a rise in capital inflows, but a large appreciation could lead to costly reallocations of resources between traded and non-traded sectors if it is subsequently reversed. Given that the current surge in inflows is driven in part by unusually low interest rates in advanced

countries, there is considerable danger that a reversal will occur as interest rates return to more normal levels.

Tighter prudential regulations could help calm capital-flow-induced lending booms—either across the board or in particular sectors, such as real estate—but excessive controls on lending can impair banks and encourage more difficult-to-regulate lending channels. Issuing securities could also help by mopping up excess liquidity, but this can be expensive—as governments would hold low-interest foreign bonds but issue higher-interest domestic bonds—and potentially counterproductive, as raising domestic interest rates tends to attract more capital inflows.

Thus, depending on the context, both permanent and temporary capital controls can be useful tools.

## POLICY

As with instability in the broader international monetary system (see *History Lessons*), much of the cause for increased capital flows originates in the core advanced countries—specifically, their low policy rates, low (potential) growth, and the diminished confidence markets have in them. Continuing to push for their own recoveries may be the best thing advanced countries can do to limit capital-flow surges to developing countries (see *Countries at the Core Off Balance*).

The IMF and other international institutions also have a role to play in monitoring the spillovers that policies in core economies can have on the multilateral system. The reports that the IMF is planning to issue on the spillover effects from the five biggest economies—the United States, the eurozone, the United Kingdom, Japan, and China—are a step in the right direction (IMF Survey online 2011). In addition, countries and international institutions should collaborate to better monitor capital flows. Currently, IMF data have a three- to six-month lag and are not available for all countries; private-sector data are more limited in the types of flows and countries covered.

In the end, however, countries faced with the threat of surging capital inflows will make their own decisions. And, sometimes, that choice will—rightly—involve capital controls. Even the IMF now recognizes their validity—a sharp turnaround from its 1997 attempt to amend its Article of Agreements to promote capital-account liberalization. And, while economists often mention capital controls and trade protectionism in the same breath, the two differ significantly: Capital flows carry obvious costs as well as benefits, while trade flows are more clearly beneficial, making controls against the former more justifiable.

In addition, long-term capital controls are perfectly consistent with robust growth, both at the country level (for example, China) and at the systemic level (for example, advanced countries following World War II). At the same time, as a country's income rises, it will need to gradually dismantle controls to gain the benefits of a more open and competitive financial system. But lifting controls should be done cautiously, keeping in mind the frequent and costly crises that many emerging markets have suffered as they struggled to manage volatile capital movements.

The renewed imposition of temporary capital controls by some emerging markets—or the maintenance of permanent controls in China and India—should not be looked upon as a serious impediment to development or as a challenge to the international economic order. Instead, they should be seen as what they are—a useful part of the policy toolbox, sometimes necessary for domestic growth and stability.

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## WHY ARE RESERVES SO BIG?

Between 2000 and 2009, developing countries added almost \$5 trillion to their foreign exchange reserves—a number deemed too high by many observers, prompting accusations of protectionism. However, estimates of what level is “adequate” are inherently subjective, as risk perceptions and tolerance vary.

Moreover, policies in developing countries are only one factor driving reserve accumulation. Other causes include policies pursued by advanced countries and coordination failures by the international community. As a result, slowing reserve growth requires action by both developing and advanced countries.

### A QUESTION OF EXCESS

Foreign exchange reserves play a crucial role in macroeconomic management. They provide a safety net during times of economic turmoil and, for most developing countries, a means to peg the nominal exchange rate. They also provide a means to manage windfalls from commodity exports or from sudden surges of capital.

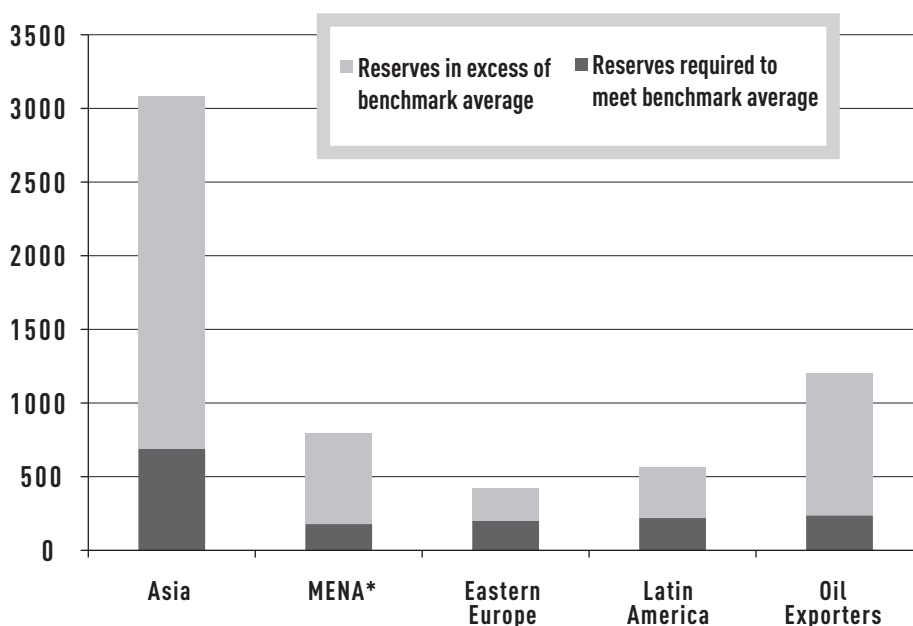
One traditional benchmark to assess reserve levels is whether they can cover six months of imports; another is whether they can cover all short-term external debt. In the last decade, economists have proposed adding 20 percent of M2<sup>25</sup> to these benchmarks, as increased financial integration means that a large part of a country’s monetary base can head for the exits during a crisis (de Beaufort Wijnholds and Kapteyn 2001). Recently, the International Monetary Fund (IMF) suggested a measure that uses exports (EX), short-term debt (STD) and other portfolio liabilities (OPL), and M2 as factors in determining reserve (R) adequacy (International Monetary Fund 2011).<sup>26</sup>

These benchmarks yield vastly different estimates of reserve adequacy; as a result, the range of excess reserves now held by all developing countries is between \$1 trillion and \$4 trillion. From 2000 to the start of 2011, developing countries



increased their nominal stock of foreign exchange reserves from around \$750 billion (11 percent of GDP) to nearly \$6.3 trillion (29 percent of GDP), a staggering increase compared to a rise from \$1.3 trillion (5.1 percent of GDP) to \$3.4 trillion (8.1 percent of GDP) in Organization for Economic Cooperation and Development (OECD) countries. Developing countries paused their accumulation only briefly during the Great Recession.

**FIGURE 1.11** 2009 RESERVE LEVELS IN THE 20 LARGEST DEVELOPING COUNTRY RESERVE HOLDERS  
BY REGION, U.S. DOLLARS, BILLIONS



Note: Sub-Saharan Africa, which includes only Nigeria, is excluded; reserves there totaled \$46 billion. Regional aggregates include oil exporters.

\* Middle East and North Africa

Sources: World Bank, authors' calculations.

Twenty countries<sup>27</sup> hold more than 90 percent of developing-country reserves. These countries now have enough reserves to cover more than a year of imports or nearly five times their short-term debt. Even according to the more demanding criteria recently put forward by the IMF and other organizations, most of these countries have excess reserves.<sup>28</sup>

As always, the average reserve levels of these 20 countries conceal large variations, as shown in the chart above. Reserves fall below at least one of the two traditional measures in Mexico, Poland, and Turkey, while China alone accounts for more than half of the sample's excess reserves.

## HOW MUCH IS TOO MUCH?

Despite these striking figures, estimates of reserve adequacy must be made with caution. Benchmarks provide a useful guide, but countries differ in the probability they attach to crisis and in their aversion to risk—two of the main factors that guide accumulation. Just as some individuals buy minimal healthcare because they are not risk-averse or do not believe they will become sick, while others buy coverage for every conceivable treatment, countries have different demands for insurance as well.

Moreover, though holding reserves entails an opportunity cost—reserves are, by definition, safe, low-yielding assets—which is estimated to be about 0.5 percent of GDP in the median emerging market (IMF 2011),<sup>29</sup> this opportunity cost is itself subjective; it is based on an estimate of the expected yield on higher-risk assets. Furthermore, this cost pales in comparison to the deep and prolonged cost of financial crises, which, in severe cases, can hand sovereignty over to international creditors.<sup>30</sup>

Reserves cannot completely insure countries against crises, but countries with large reserve holdings are better able to maintain consumption growth during periods of market pressure. They also have greater fiscal flexibility, allowing them to further mitigate the effects of a crisis.<sup>31</sup>

## THE GLOBAL LIQUIDITY GLUT

Why did developing countries begin to rapidly accumulate reserves ten years ago? Following the financial crisis in developing Asia in 1997–1998, savings rates there rose steadily from around 31 percent of GDP in the 1990s to 45 percent in 2009. However, investment, which had collapsed during the crisis, was slower to return, rising from 33 percent to 41 percent of GDP over the same period—implying a large current account surplus. Rising oil and commodity prices also played a role, with reserves held by oil exporters reaching about \$1.5 trillion in 2010.

However, even a cursory review of the evidence suggests that, while these factors were clearly important, they do not tell the whole story. Policies in reserve-currency countries—including the United States, the eurozone, the United Kingdom, and Japan—helped create a “global liquidity glut” that contributed to the reserve build-up in many emerging markets. Though this story differs from the “global savings glut” theory—which hypothesizes that increased savings in emerging markets forced lower long-term interest rates on advanced countries—the two explanations are complementary.

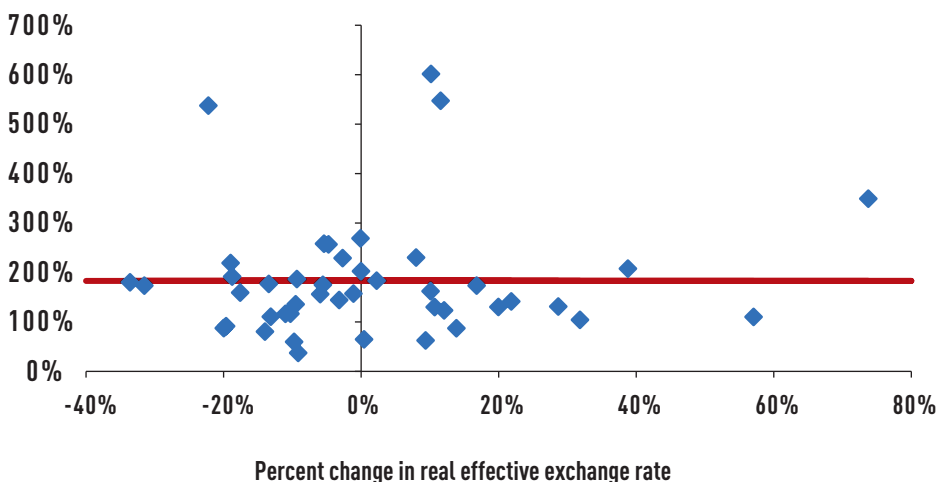
Beginning around 2000, the United States, the United Kingdom, and peripheral Europe went on a spending binge that pushed their cumulative current

account deficit from -0.5 percent of world GDP in the 1990s to -2 percent in 2005–2008. In the United States, low interest rates, tax cuts, unfunded war spending, and a housing boom steadily widened the current account deficit from -1.6 percent of GDP in the 1990s to -6.1 percent of GDP in 2006. The United Kingdom also saw a big housing and financial boom. Meanwhile, the interest rate decline associated with creation of the euro sparked a dramatic rise in demand in peripheral Europe, causing the average current account deficit in Greece, Ireland, Italy, Portugal, and Spain to widen dramatically from -0.9 percent in the 1990s to -9.1 percent in 2008.

Meanwhile, prodded by improvements in developing countries and low international interest rates—most evident in deflation-stricken Japan—private capital flows to emerging markets grew from less than 4 percent of emerging-market GDP in 2000 to nearly 9 percent in 2007. This surge of capital—combined with current account surpluses—was so big in many instances that it resembled a commodity price windfall and could not be absorbed quickly.

**FIGURE 1.12** CHANGE IN REAL EXCHANGE RATES AND RESERVE LEVELS FROM 2000 TO 2007  
 RED LINE DENOTES AVERAGE INCREASE IN RESERVES

2007 reserves as a percent of 2000 level,  
 in months of imports



Note: Includes 44 developing countries for which data are available.  
 Source: World Bank.

Developing countries could respond in one of two ways: allow a sharp appreciation of the real exchange rate, which would eventually lead to a reduced current account surplus and stop capital inflows; or accumulate official reserves. As it happens, real exchange rates in major emerging markets appreciated by an average of 7.8 percent from 2000 to 2007 (though many countries saw different outcomes; see figure 1.12). As the chart shows, over the 2000–2007 time period, changes in reserves and real exchange rates in developing countries show no correlation. This raises doubts about the claim that countries intervened mainly to limit appreciation and thereby avoid a loss of competitiveness, but is in line with a large body of literature that suggests that prolonged intervention often fails to influence real exchange rates, even though it impacts nominal exchange rates.<sup>32</sup>

The story is incomplete without a reference to coordination failures. Despite the literature's findings, if emerging markets' main motivation for accumulating reserves was to prevent real exchange rate appreciation, then agreeing to allow their exchange rates to appreciate together would have made the loss of competitiveness less of a concern. Moreover, advanced countries—which would have benefited from the increased demand—would likely have let policy interest rates rise faster, thus reducing the capital flows to developing countries. However, if, as we suspect, reserve accumulation was motivated by cash windfalls and precautionary concerns more than by fears of exchange-rate appreciation, coordination among emerging markets would only have helped if global macroeconomic stability had fundamentally improved.

## POLICY

Trying to impose hard and fast limits on reserve accumulation is both futile and misguided. Individual countries have different perceptions of risk exposure and risk tolerance, and are willing to pay different amounts for insurance.

Instead, policies should focus on the causes of excess global liquidity and volatility. The United States, Europe, and Japan—which own the reserve currencies and still account for the large majority of world output and trade—will continue to determine the economic environment within which emerging markets operate (see *Countries at the Core Off Balance*). Until the core advanced countries regain their footing, lower their fiscal deficits, and raise their interest rates, developing countries will continue to struggle with windfalls of foreign money, and to seek insurance against global recessions and sudden stops in capital flows.

That said, some emerging markets—beginning with China—should take a more serious look at their reserve levels and the associated costs. Not only does the accumulation of excess reserves imply direct opportunity costs, it can also contribute to inflation and overheating credit and asset markets. In addition, efforts

to sterilize the effect of reserve levels on the domestic money supply can distort domestic banking systems, while their ability to prevent real-exchange-rate appreciation in the long run is, at best, unproven (Mohanty and Turner 2006).

No one size fits all countries, but enhancing international coordination between developing and advanced countries—through the G20’s mutual assessment process, for example—could also help mitigate excessive reserve accumulation, provided it does not become another mercantilist negotiation or an alibi for inaction (see *The Dangerous Obsession*). What is certain is that advanced and developing countries can all benefit from a deeper understanding of the forces driving the remarkable acceleration of foreign exchange reserves.

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PART II

# TENSIONS IN THE CORE COUNTRIES

## Chapters

The Dangerous Obsession

History Lessons

How Long Will the Dollar Be King?

The Internationalization of China's Renminbi

Countries at the Core Off Balance



URI DADUSH

# THE DANGEROUS OBSESSION

With tensions between countries building as each looks to grab a greater share of global demand, the idea of “rebalancing” global demand—that is, increasing demand in trade-surplus countries to lessen the world’s dependence on demand growth in the United States and other trade-deficit countries—continues to attract attention. The international monetary system has become one of the most popular staging grounds for this battle, as most of the major players—the United States, Japan, the United Kingdom, the eurozone, and China—choose to pursue different exchange-rate policies.<sup>33</sup>

But this emphasis on current account balances is misguided. Most imbalances are not a problem in and of themselves, and many came down substantially during the Great Recession. In theory, negotiations on trade imbalances enable countries to coordinate international policies, but, in practice, reducing imbalances has become an end in itself. Leaders have become embroiled in what feels like—but isn’t—a zero-sum game. Endless discussions about imbalance “indicators” have mainly succeeded in stoking currency tensions and protectionist sentiment. Most important, debates around imbalances divert attention from what is really needed: domestic reform in the major economies, beginning with the United States, which has driven the process.

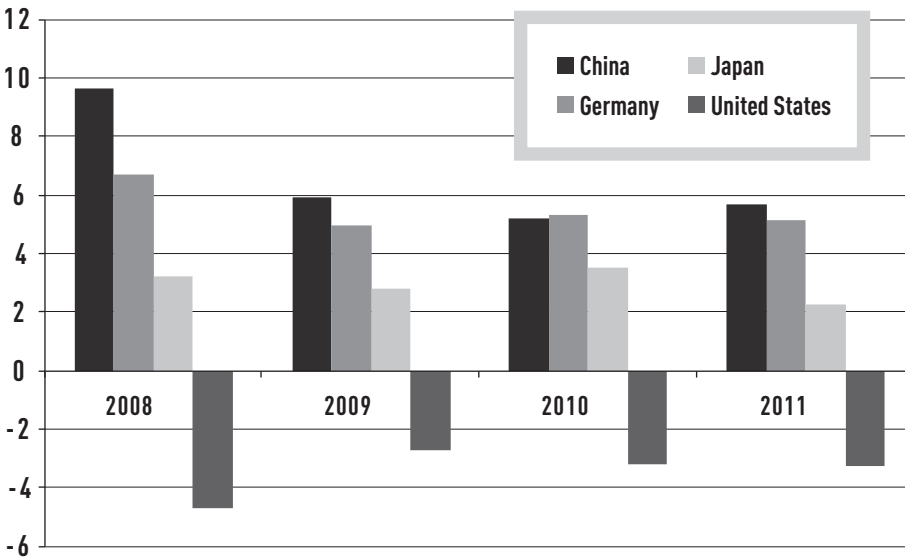
## REBALANCING DURING THE CRISIS

The global credit crunch naturally rebalanced a large portion of global demand. Prior to the crisis, deficit countries—such as the United States and Spain—had the biggest housing bubbles and most extended consumers. Therefore, they experienced greater reductions in demand over 2008–2009 than did current account surplus countries. International negotiations had little to do with the shift.



By and large, that rebalancing is expected to persist. Chastened households in the United States, Spain, and Greece are saving more money; their banks are deleveraging; and many of their governments are retrenching, or will need to retrench. Meanwhile, China is appreciating its real exchange rate at a 10 percent annual clip, and its latest five-year plan emphasizes domestic demand.

**FIGURE 2.1** CURRENT ACCOUNT BALANCE, SELECTED COUNTRIES  
PERCENT OF GDP



Source: International Monetary Fund.

Further rebalancing in the short-term is unlikely, however. Faced with large underutilized capacity and high unemployment, external deficit countries are now looking to revitalize domestic demand, while China and many other surplus countries are overheating.

**IS REBALANCING ALWAYS GOOD?**

Current account deficits and surpluses in the range of 3 percent to 5 percent of GDP—where most large countries fall today and will likely remain in the medium term—are not exceptional. Historically, they have been financed comfortably and adjusted to over time. In addition, these imbalances—and the international capital flows that mirror them—reflect mainly market-driven differences in savings trends and investment opportunities, and are not primarily the result of manipulated currencies or hidden protectionism.

Consider the United States. Its household-savings rate is extraordinarily low and its fiscal deficit is huge, yet it ranks among the highest in the world in competitiveness, governance, and business climate scores. Moreover, it has the world's largest and deepest financial markets and holds the dominant reserve currency (see *How Long Will the Dollar Be King?*). With such a low savings rate and favorable investment climate, it is hardly surprising that the United States attracts as much foreign investment—the mirror image of its current account deficit—as it does.

Now consider China. Its competitiveness, governance, and business climate rankings are mediocre. Its capital markets are underdeveloped and its currency is not freely convertible (see *The Internationalization of China's Renminbi*). But its national savings rate is the highest in the world. Not surprisingly, despite its high investment rate, it generates excess savings, which are invested abroad and form the counterpart to China's current account surplus.

Viewed from this perspective, the imbalances simply reflect underlying domestic conditions and are only bad if they are clearly unsustainable—not the case today—or if something is amiss in the underlying domestic conditions. If the latter is the case, however, countries must act on those domestic conditions and not the imbalances directly. Acting on the symptom does not cure the disease and, in this case, can only make it worse by, for example, penalizing trade (James 2011).

## NO INTERNATIONAL FIX

Countries cannot rely on adjustments by their trading partners instead of enacting their own reforms. Suspend disbelief and imagine, for example, that China suddenly reduces its savings by 10 percent of GDP (approximately \$500 billion) and spends all of it on imports, thereby becoming a larger external-deficit nation, proportional to its GDP, than the United States is today. Assuming the new spending reflects current patterns, this massive shift would add just \$40 billion to the demand for U.S. exports—equivalent to a 0.3 percentage point reduction in the U.S. current account deficit (or 0.3 percent of America's GDP). In other words, asking Chinese policy to reduce the U.S. current account deficit is like asking the tail to wag the dog.

Similarly, insisting that China reduce its currency intervention will—if accompanied by more rapid growth—help China increase its income and consumption, but will have little effect on the external balance of most other countries. Moreover, because China's revaluation would raise the price of its exports, it would almost certainly widen the deficits of countries that import significantly more from China than they export there, such as Italy and the United States (Ikenson 2010), and could even raise their domestic inflation (Auer 2011).

## THE REAL ISSUES ARE DOMESTIC

Why, then, does the global rebalancing dispute persist? Mainly because it is the easy way out: Blaming others is easier than confronting domestic problems and the constituencies that oppose change. But such a course will fail to sustain global growth.

To accomplish global growth, change must start with the three countries at the heart of the dispute—the United States, China, and Germany—and the changes that are only indirectly linked to current account deficits and surpluses.

The United States will not be able to rely on a large demand boost from its trading partners, most of which are either overheating or—in the case of the European periphery—retrenching for good reason. Rather than focus on external demand (-3 percent of GDP), U.S. policy should concentrate on how it can grow its domestic demand (103 percent of GDP) sustainably. The overwhelming priority now is to put into place a long-term plan to reduce the country's fiscal deficit and remove a host of tax incentives that artificially depress its household savings rate (see *Competitiveness: The Great American Distraction*).

China needs to encourage more investment in its backward regions and to remove artificial incentives that favor its corporate sector at the expense of consumers. These include low-dividend requirements for state companies and artificially low interest rates on consumer deposits. A better social safety net, financed by reductions in government surpluses, could also encourage private consumption. Continued gradual real renminbi appreciation (say 20 percent over three years) would—with these other measures—help boost incomes and encourage spending while helping to contain inflationary pressures, even if it does not necessarily do much for its trading partners (see *Who Will Gain From a Renminbi Revaluation?*).

Germany—with its large sway in Europe and solid fiscal and external positions—needs to help the fiscal and competitive adjustment in the eurozone's periphery as part of the euro rescue operation. Insofar as German wages and consumption are allowed to rise faster, the deflation needed in the periphery will be shallower and shorter and the need for expensive rescue operations will decrease (see *The Euro: On Recall?*).

## CONCLUSION

These reforms may or may not reduce global imbalances. Fiscal consolidation in the United States may, for example, increase not just savings but also confidence and investment there, leaving the modest current account deficit mostly unchanged. Meanwhile, currency appreciation and increased wages may lead

not only to increased consumption but also to reduced investment in China, having little effect on its trade surplus. But if countries do not enact these reforms, the most significant adverse consequences will be domestic—a possible fiscal crisis in the United States; an unsustainable and unbalanced growth model in China; and the unraveling of the eurozone.

Moreover, if confidence in the United States and the eurozone fails to recover—and especially if both continue to rely on very expansionary monetary policies—the stage may be set for another speculative boom-bust cycle, particularly in rapidly growing emerging markets. Another crisis and surge in unemployment will lead to more currency tensions and possibly a wave of protectionism (see *Countries at the Core Off Balance*).

Thus, instead of obsessing over global imbalances, hard-working G20 sherpas and International Monetary Fund officials would be well advised to “speak truth to power” and insist that leaders place domestic reforms and sustained growth at the center of their discussions.

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URI DADUSH and VERA EIDELMAN

# HISTORY LESSONS

Though today's currency tensions are arising from forces unique to the current economic environment—such as divergences in growth potential exposed by the Great Recession and the subsequent two-speed recovery—a historical perspective on the break-up of the gold standard and of the fixed-rate dollar regime helps shed light on today's predicament. On the one hand, the past suggests that consecutive competitive devaluations are less likely today than is commonly feared. On the other hand, the forces that led to the collapse of previous exchange-rate systems—misalignment between domestic priorities and those needed to maintain a fixed exchange rate, concerns about sufficient reserves, and the unique role of the core economies—remain highly relevant.

## LESSON 1: DEVALUATIONS WERE NOT MAINLY COMPETITIVE

The gold standard's ultimate collapse in the 1930s provides the fodder for fears of a currency war today. From 1930 to 1938, 20 countries devalued their currencies by more than 10 percent at least once. Some countries—including France, Greece, and Spain—employed this tactic more than five times between 1923 and 1938, as shown in figure 2.2.

## FIGURE 2.2 DEVALUATIONS OF MORE THAN 10 PERCENT, 1929–1938

Year	Country
1929	Spain
1930	Spain
1931	Austria, Italy, Spain
1932	Austria, Denmark, Finland, Greece, Japan, Norway, Sweden, Spain, United Kingdom
1933	Canada, Denmark, Greece, Japan, United States, Yugoslavia
1934	Canada, Denmark, Greece, Japan, United States, Yugoslavia
1935	Belgium
1936	Italy, Romania, Spain
1937	Czechoslovakia, France, Italy, Spain, Switzerland
1938	France, Netherlands

Source: Simmons (1994).

The successive devaluations were part of the vicious cycle of depression and tariffs that ensued over that period, leading world trade to collapse by more than one-third. However, the devaluations were directly responsible for only a small part of the deterioration in world trade. Research suggests that countries that abandoned the gold standard and devalued their currency were less likely to engage in direct protectionism (see *Exchange Rates and Protectionism*) (Eichengreen 1992).

Most important, it is not clear that competition for export markets provided the main motivation for these devaluations: Studies suggest that the decision of a country's main trading partners to leave gold and devalue their currency was not a major factor in that country's own exchange rate choice (Simmons 1994, Wandschneider 2008).<sup>34</sup> Trade competition also does not appear to have been a major factor behind the decisions to float currencies after the collapse of the second fixed exchange-rate system—the fixed-dollar rate—from 1971 to 1973. In fact, one study suggests that the countries most open to trade were less likely to adopt a floating exchange-rate regime (Legernes and Vardal 2000).<sup>35</sup>

At the same time, the tensions associated with the collapse of that regime also led to increased protectionism—the United States imposed a 10 percent import tax when it suspended gold convertibility, though it eliminated the tariff four months later as part of the Smithsonian Agreement, which marked the end of the fixed-exchange-rates regime. Still, the dollar devaluation was followed by a decade of “neo-protectionism,” including quotas, subsidies, and non-tariff measures (van der Wee, 1986).

## LESSON 2: RESERVES ARE ALWAYS A CONCERN

While trade competition played a smaller role in the collapse of both systems than is often assumed, insufficient reserves were clearly instrumental to both collapses. Both regimes rested on gold and became unsustainable as world liquidity needs outpaced the growth of the gold supply.

Today, concerns about the adequacy of reserves are once again an important part of currency tensions, but in a different way. Following the Asian financial crisis in 1997–1998, developing countries learned the importance of keeping sufficient reserves. Arguably, however, some countries, such as China, have taken this lesson too much to heart (see *Why Are Reserves So Big?*), locking themselves into assets with little return and, to some extent, supporting (though not causing) the consumption binge of some advanced countries.

## LESSON 3: THE ROLE OF CORE COUNTRIES IS CRITICAL

These consumption binges—and other unsustainable policies—of major economies pose the biggest threat to the international monetary system and have been the biggest culprits in past collapses. The “core” countries—those whose currencies serve as global reserve currencies and can be held by other countries for trade, investment, and liquidity purposes—are the most critical in this regard. Under the gold standard, France, the United Kingdom, and the United States formed the core; with the fixed-dollar rate, that list dwindled to only the United States. Today, the United States and the eurozone include the central countries, but the United Kingdom, Japan, and increasingly China are also major players.

Given the critical role these countries’ currencies play in the international monetary system, it is no surprise that confidence in their currencies—and, more fundamentally, in their policies—is essential to the smooth functioning of the system. Moreover, history supports this observation. Under the gold standard, confidence in the core eroded as the ratio of currency to gold grew. When the United Kingdom finally broke away from the gold standard in 1931, more than two dozen countries went with it. And after President Richard Nixon broke the dollar’s link with gold in August 1971, the dollar depreciated by almost 30 percent in real effective terms over the following decade and the monetary order collapsed.

Today, the dollar no longer anchors all currency pegs, but it remains the world’s main reserve currency and the baseline for half of the world’s currencies (Goldberg 2010; see *How Long Will the Dollar Be King?*). As the outcry over the Federal Reserve’s second round of quantitative easing—QE2—shows, other



countries remain uniquely sensitive to U.S. policy and the dollar's fluctuations. Similar unorthodox measures by the Bank of England, for example, draw little attention. The euro plays a smaller (but by no means small) role, and concerns about its stability clearly contribute to currency tensions today (see *Countries at the Core Off Balance*).

#### LESSON 4: DOMESTIC CONCERNS TEND TO WIN OUT

But what leads confidence in the core to erode? Generally, the process begins when domestic objectives call for one set of monetary and fiscal policies, while currency objectives call for another. Domestic concerns played a larger role than trade considerations did in dissolving both previous international monetary systems.

Under the 1930s gold standard, maintaining prewar gold parities—which did not accurately reflect postwar prices—required tight monetary policy and deflation (particularly in Britain). Under the fixed-dollar rate standard, the fixed rates instead required higher inflation—especially in the United States, which saw inflation rise from 1.5 percent between 1961 and 1967 to about 3.5 percent in 1968—but many economies, including Germany, resisted this. In both cases, domestic objectives eventually won out: The United Kingdom devalued in 1931, and Germany was one of the first countries to allow appreciation against the dollar.

Today, too, each of the five countries at the center of the tensions sees an inconsistency between its exchange rate and domestic policy objectives. High unemployment and weak safety nets most concern the United States; excessive reliance on exports is a dominant issue in China; a history of deflation is plaguing Japan; severe competitive divergence and sovereign debt crises threaten the future of the eurozone (see *The Euro: On Recall?*); and overheating is a constant threat in emerging markets. Moreover, all of the large advanced countries face a major medium-term fiscal consolidation challenge.

As a result, each group is looking to avoid appreciation or favors depreciation. Since all groups together account for the bulk of global trade, however, this is, by definition, impossible.<sup>36</sup> In other words, the solution to their collective problem cannot lie mainly in exchange-rate shifts (or for that matter, changes in current accounts; see *The Dangerous Obsession*), but must come from changes in domestic policy.

Furthermore, the inconsistency the groups currently see between domestic and international objectives may be more apparent than real. For example, a deterioration of competitiveness is not actually the main cause of the structural current

account deficit in the United States—and currency depreciation is therefore not an effective solution (an idea we explore in greater detail in *Competitiveness: The Great American Distraction*). Countries may be focusing on exchange-rate levels not because economic logic compels them to, but because it is easier to blame others than to agree on politically thorny domestic reforms. Setting the core economies' fiscal and competitive situations on a sound and sustainable path is the most necessary requirement for keeping the currency peace.

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WILLIAM SHAW

# HOW LONG WILL THE DOLLAR BE KING?

The dollar remains the bedrock of the international monetary system. Its dominant status benefits the United States and reduces transaction costs for the rest of the world. But, with the United States pursuing fiscally irresponsible policies that keep the debt high and other economies gaining world GDP share, a multi-reserve-currency system is likely to emerge in the long run. This is not necessarily bad news—the United States can still retain most of its economic benefits, and transaction costs will stay low as long as the number of dominant currencies is limited.

## DOLLAR DOMINANCE

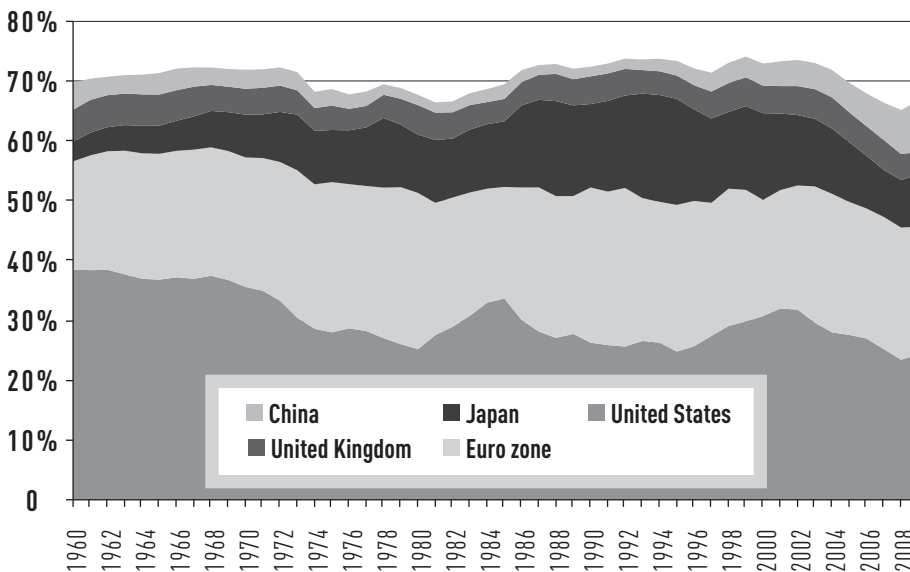
The dollar is the world's main currency. It accounts for 61 percent of official reserve holdings, is used in 85 percent of foreign exchange transactions (Bank for International Settlements 2010), serves as the currency of choice for 45 percent of international debt securities (Eichengreen 2009), and is used to invoice more than half of world exports (Cohen 2008).

This is not a trivial advantage. Dollar dominance helps U.S. firms and residents avoid the costs and uncertainty of dealing in foreign currencies.<sup>37</sup> It also enables U.S. firms to issue debt at relatively attractive rates and with no exchange-rate risk. And the U.S. government benefits from low Treasury yields and foreign holdings of dollar bills.<sup>38</sup>

Meanwhile, the rest of the world benefits from reduced transaction costs. On a small scale, tourists worried about their ability to exchange their country's currency while abroad can hold dollars instead. More broadly, governments and banks need not hold a large menu of currencies to intervene and trade in exchange markets, as the dollar can facilitate trade between currencies (McKinon 1993).

But dollar dominance also holds significant costs. The dollar's status makes it easier for the United States to consume and invest beyond its means. Demand for the currency also pushes its value up—as seen several times during the Great Recession when the dollar appreciated as investors fled to safety—posing a challenge for U.S. exports. And, because the currency is used heavily for investment purposes, its value tends to be more volatile than that of currencies used purely for commercial purposes. At the same time, irresponsible U.S. economic policy also contributes to swings in the dollar's value, leaving countries vulnerable to fluctuations in the value of their wealth. And loose U.S. monetary policy leaves other countries vulnerable to importing inflation from the United States.

**FIGURE 2.3** COUNTRY COMPOSITION OF WORLD GDP  
PERCENT OF GLOBAL CURRENT DOLLAR GDP



Source: World Bank.

Basing most international transactions in dollars was practically inevitable after World War II, when the United States accounted for about 50 percent of global output (Manzi 2008) and held the only major convertible currency. But the subsequent recovery of Europe and Japan, followed by rapid growth in emerging markets, has shifted the regional composition of world GDP, as shown in the chart above, and a number of convertible currencies have appeared. This raises the question: Is the dollar still right for the job?

## SEARCHING FOR AN ALTERNATIVE

The benefits of a world reserve currency, just like a domestic currency, depend on its remaining liquid and stable. This requires the country that issues it to have deep financial markets and an open capital account. The United States is strong in this regard: It possesses the world's largest and most liquid financial markets, has a long tradition of open financial policies, and maintains a strong legal system.

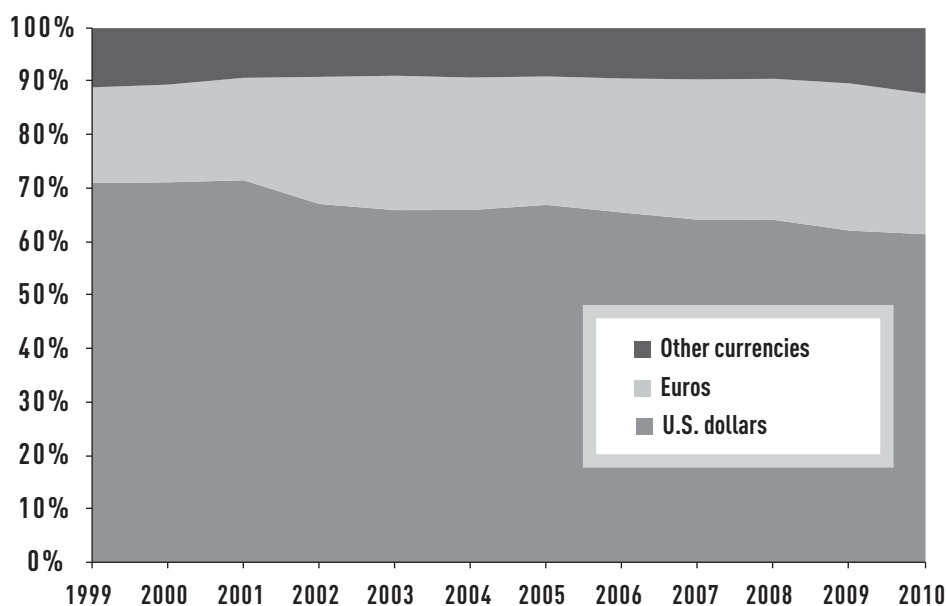
But the greenback also faces problems. After eight years of burgeoning fiscal deficits under the George W. Bush administration, followed by necessary increases in government spending during the financial crisis, the deficit reached 9 percent of GDP and gross federal government debt amounted to 93 percent of GDP in 2010. In addition, the crisis made a mockery of U.S. pretensions of having a “sophisticated” and “efficient” financial system.

Together, irresponsible fiscal policy and the financial crisis have devastated confidence in the dollar's stability. Moreover, the willingness of future U.S. governments to impose sharp reductions in expenditures and increases in taxes to ensure debt sustainability—rather than ease the debt burden through inflation and dollar depreciation—remains uncertain, particularly as a substantial percentage of that debt is held by foreigners (see *Competitiveness: The Great American Distraction*).

Nevertheless, the dollar maintains its role as the dominant currency for two reasons. First, reserve currency status, like computer operating systems, is subject to “first mover advantage”: The fact that the dollar is already accepted in most transactions increases the demand for dollars and makes it harder for newcomers to gain market share.

Second, no reasonable alternative appears better for the job, at least in the short term. The euro, which accounts for the second largest share of international reserves (as shown in figure 2.4), may seem like the most logical alternative. But Europe's financial markets are not as deep as those of the United States; significantly, Europe has no instrument comparable to U.S. Treasury bills in market size or liquidity. And many policies that affect the value of the euro require political agreement between the seventeen member countries (which may be difficult and time-consuming to reach), rather than decisions by the European Central Bank. The euro crisis has exposed the instability inherent in a monetary union that has no binding arrangements for coordinated fiscal policies (see *The Euro: On Recall?*).

**FIGURE 2.4** CURRENCY COMPOSITION OF OFFICIAL FOREIGN EXCHANGE RESERVES  
PERCENT



Note: This captures only allocated reserves (those for which the composition is reported). Allocated reserves represent 55 percent of total foreign exchange reserves.

Source: International Monetary Fund Currency Composition of Official Foreign Exchange Reserves database.

The yen is the third most common reserve currency, but Japan remains mired in slow growth and burdened by high levels of debt. An aging population, coupled with strong resistance to immigration, is likely to limit the economy's prospects and thus its potential for the large, liquid markets required for a major reserve currency.

There has also been much discussion of increasing the use of the International Monetary Fund's (IMF) special drawing rights (SDR)—a basket of the dollar, euro, pound, and yen—particularly since China proposed such a move in 2009. But SDRs account for only about 1 percent of international reserves and the private sector does not hold SDRs, impairing their usefulness in currency market interventions (Carbaugh and Hedrick 2009).<sup>39</sup> Considerable investment would be required to create deep markets to trade SDR-denominated financial instruments. And the SDR suffers even more acutely from the euro's problem of having no single government backer. For example, SDR issuance requires agreement among 85 percent of the IMF's 187 members—an overly cumbersome process when liquidity is urgently needed.

A few diehards are holding out for a return to the gold standard, but linking global monetary developments to a metal of uncertain supply could be considered reckless. More important, under the pre-1914 gold standard, countries surrendered control of their monetary policy to maintain fixed parity rates (see *If It Ain't Broke, Don't Fix It*). Present-day governments committed to establishing full employment would not (and should not) surrender the ability to manage their economies in order to maintain parities.

Finally, the importance of the renminbi is likely to increase as China continues to grow rapidly and integrate with the global economy. China hopes to transform Shanghai into an international financial center by 2020, and has recently taken at least symbolic steps to increase renminbi use in international financial transactions. However, China's financial market lacks depth, and official limits on currency trading and on the renminbi's convertibility make it considerably less attractive to foreign holders.

The logical solution—opening the capital account—could expose China to considerable volatility, however. In addition, it would require that China rely less on exports and industrial production financed by captive bank deposits (Chinese depositors could transfer their deposits to foreign banks, driving up domestic interest rates) and supported by an undervalued exchange rate (capital inflows could force appreciation). Finally, China is still a relative newcomer to the international scene and its political system is not free from challenges. Building investor confidence in the renminbi will take time (see *The Internationalization of China's Renminbi*).

## THE DOLLAR'S PROSPECTS

Given today's lack of alternatives, the dollar should retain its dominant status for a while. How long depends on how quickly Europe can build common fiscal arrangements and political unity, and how long China—and potentially other developing countries, such as Brazil or India—take to transition to more open and sophisticated financial systems. A decade may be sufficient for the first task, while the second may require more time. In the interim, the international monetary system will likely move toward a multi-currency arrangement, reflecting the system's flexibility, as countries on the European periphery expand their use of the euro and Asia increasingly accepts the renminbi (see *Who Will Follow?*).<sup>40</sup>

At the same time, the pace of the dollar's decline will depend to a large degree on U.S. policy. Inertia is a powerful force in international monetary arrangements, but not an immutable one. British weakness enabled the dollar to gain dominance over the pound in international reserves in the 1920s—only ten



or so years after its entry onto the international scene. Without commitment to a credible fiscal program to achieve a sustainable debt position, the dollar will inevitably suffer the same fate as flight from the dollar accelerates, perhaps spurring progress in China and Europe or even building pressure for greater reliance on international alternatives like the SDR. In this regard, the recent political circus that surrounded the raising of the debt ceiling will hardly improve confidence in U.S. policies, as underscored by Standard and Poor's decision to downgrade the U.S. credit rating.

A reduced role for the dollar would not spell disaster across the international monetary system—the dollar would retain most of its benefits even as one of a few dominant currencies, and transaction costs for the rest of the world would stay low as long as the number of reserve currencies was limited. But it is indicative of irresponsible U.S. policies that have more significant domestic and international consequences.

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PIETER BOTTELIER and URI DADUSH

# THE INTERNATIONALIZATION OF CHINA'S RENMINBI

China is successfully promoting the use of its currency, the renminbi (RMB), for international trade and investment. Economic logic suggests that this will eventually require full convertibility—the ability to change the RMB into another currency for any purpose and in any amount, without restriction. RMB reserve currency status<sup>41</sup> will further require that China establish an open capital account and deeper, more competitive capital markets.

Thus, although internationalization of the RMB has attractions for both China and the rest of the world, it presents substantial challenges. In the short term, China's highly controlled exchange rate, capital account regime, and structural current account surplus complicate efforts to generate outflows of RMB and manage return inflows of RMB. Current inflationary pressures, which require relatively tight monetary policy, also make authorities reluctant to facilitate returning inflows of RMB.

In the longer term, opening the capital account would force China to make its exchange rate more flexible in order to retain control over domestic interest rates. Given the reduced role this would imply for the government in the economy, political considerations may block complete convertibility for investment purposes for many years to come. A more flexible exchange rate would also reduce the need for the central bank to buy excess dollars. This would slow reserve accumulation and reduce Chinese demand for U.S. Treasuries, putting upward pressure on their yield.

## WHY INTERNATIONALIZE?

In 1993, China indicated that it was committed to achieving full currency convertibility by the end of the century. It began removing capital account restrictions gradually and established current account convertibility (as required by

Article VIII of the International Monetary Fund's (IMF) Articles of Agreement) in December 1996. When the Asian financial crisis erupted the following year, however, China dropped its full-convertibility target.<sup>42</sup> And, while senior financial officials still maintain full convertibility as an objective in private discussions, the government no longer provides official commitments or timetables.

Nevertheless, since late 2008, China has accelerated efforts to promote the RMB as an international currency. Why?

A primary motivation is to reduce its dependence on the dollar. Public opinion—pushed by a Chinese bestseller, *Currency Wars*—appears inclined to believe that the United States is seeking to reduce its debt burden by depressing the value of the dollar and is concerned about the value of China's ample dollar reserves (Hongbing 2007).<sup>43</sup> Meanwhile, authorities worry that China's reliance on the dollar<sup>44</sup> for invoicing and settling trade can hurt exports.<sup>45</sup> After Lehman Brothers collapsed in 2008, Chinese exports plummeted—not only because final demand fell, but also because credit froze in many importing countries, limiting importers' access to trade financing.

Turning the RMB into a trade settlement currency will reduce the risk of such shocks to China. It will better protect Chinese exporters from currency risk and reduce or eliminate costs associated with hedging against that risk. Similarly, using the RMB as an investment currency will help eliminate exchange-rate risk for Chinese firms seeking to borrow money for international investment. In addition, increasing RMB use should, over time, help lower China's excessive foreign exchange reserves. In the short run, however, the opposite has happened and reserves have increased at a faster rate, which was surely not the intention.<sup>46</sup>

## IMPLEMENTATION IN THE SHORT RUN

Following the global financial crisis, China worked to better protect itself by intensifying efforts to internationalize the RMB and to develop an offshore market for it. However, the country's capital account restrictions, current account surplus, and high growth have complicated attempts to get foreigners to hold large amounts of RMB outside of China; traders want to use their RMB to buy Chinese goods, investors want to invest their RMB in Chinese assets, and corporations in China want to borrow RMB in the offshore market to circumvent domestic borrowing restrictions.<sup>47</sup> In fact, given these pressures, only the widespread expectation of further RMB appreciation made China's push to create an offshore RMB market possible.

Motivated, in part, by liquidity concerns during the worst of the financial crisis, China began its effort with a number of bilateral currency swap agreements in 2008 (with South Korea, Malaysia, Belarus, Indonesia, Argentina, Iceland, and Singapore), more recently adding similar agreements with Hong Kong (January 2009), New Zealand and Uzbekistan (April 2011), and Russia (June 2011). In July 2011, swap agreements were valued at RMB 829.2 billion (about \$130 billion). China is also reportedly discussing the use of local currencies to settle trade with Brazil.

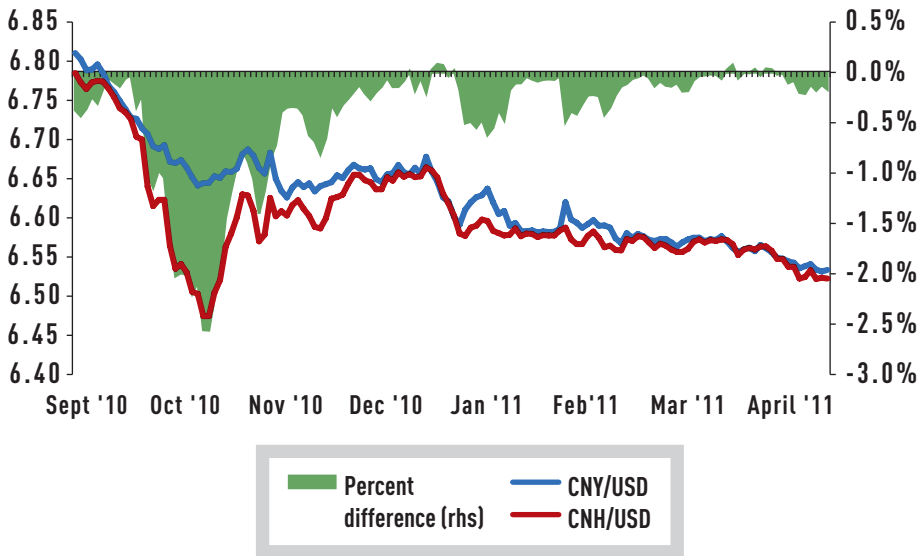
In July 2009, China piloted an RMB trade-settlement scheme.<sup>48</sup> By the end of 2010, it had licensed more than 67,000 exporters in 20 provinces to invoice in RMB. Though further expansion is likely, concerns about inflation—mainly caused by China’s excessive, stimulus-related credit expansion in 2009 and 2010—have put licensing efforts on hold, as authorities worry that invoicing in RMB could create additional liquidity.<sup>49</sup> China is now focusing on encouraging importers to pay with RMB instead. Once domestic monetary stability is re-established, China should be able to promote use of the RMB for both imports and exports.

As for offshore RMB markets, China has made considerable progress in Hong Kong, where residents were first permitted to open limited RMB accounts in 2004—well before the financial crisis. The amounts involved remained small until 2010, however, when deposits surged by almost 400 percent as RMB internationalization intensified.<sup>50</sup>

These deposits underpin Hong Kong’s primary market for RMB-denominated financial instruments. The market has expanded rapidly since 2009, when China’s Ministry of Finance issued a small amount of RMB-denominated bonds to promote the market. Since then, several large multinational corporations such as HSBC, McDonald’s, and Caterpillar have also issued so-called “dim sum” bonds. The first RMB-denominated initial public offering (IPO) took place in April 2011. A secondary market for RMB-denominated securities has yet to develop, however.

Because of China’s complex regulations to keep onshore and offshore RMB markets separate and to restrict cross-border arbitrage, interest rates and the dollar exchange rates can and do diverge in the two markets, if only a little (see figure 2.5). The arrangements are reminiscent of China’s deliberate “dual-track” approach to domestic market reforms in the 1980s and early 1990s, though today’s arrangements may be maintained longer.

**FIGURE 2.5** ONSHORE (CNY) AND OFFSHORE (CNH) EXCHANGE RATES



Source: Conor Foley, MA student at Johns Hopkins SAIS, based on Bloomberg data.

The People’s Bank of China is currently in discussions with Singapore to create a second hub for offshore RMB trading; Kuala Lumpur, Jakarta, Manila, and Seoul, and eventually perhaps even Taipei may be in line as well. Outside Asia, the RMB is hardly traded, but that may change in the years ahead. In January 2011, the Bank of China (China’s third largest bank) began offering limited RMB deposit services in London, New York, and Canada.<sup>51</sup>

China announced significant additional initiatives for RMB internationalization in January 2011. Chinese firms are now permitted to transfer RMB offshore for investment abroad and Chinese banks are allowed to extend RMB loans for that purpose. Any profits from such investments can be repatriated in RMB. In addition, residents of Wenzhou—a prosperous, entrepreneurial city on China’s east coast—can now directly invest up to RMB 200 million (about \$30 million at the current exchange rate) per year overseas. Shanghai’s municipal government has reportedly requested similar privileges for its residents.

## LONG-TERM OUTLOOK

Despite proactive efforts to promote RMB internationalization, China may not approve all of the measures necessary to achieve full convertibility any time soon. Most significantly, full convertibility would require Beijing to remove its capital account restrictions and many domestic financial controls—measures it relies on for a variety of economic and political purposes, including maintaining a repressed financial system and an undervalued exchange rate.

If its leaders were to open the capital account, China would have to integrate its capital markets into world markets, with major implications for its state-owned banking system and privileged lending to state enterprises. It would also have to choose between a managed exchange rate and monetary autonomy, as the two are only possible together when capital controls are in place (see *If It Ain't Broke, Don't Fix It*). In addition, China would have to develop the capacity to conduct monetary policy in ways that resemble those of other large economies.<sup>52</sup> These changes would have to occur more or less simultaneously.

Paradoxically, a decision by China to stop intervening in foreign exchange markets and float its currency now—a move that U.S. politicians have been advocating for years—would create financial problems for the United States, because the reduced demand for U.S. Treasuries and other debt securities would put upward pressure on yields in U.S. bond markets.

China's obvious progress in promoting the RMB as an international currency—despite macroeconomic constraints and its apparent unwillingness to commit to full convertibility—can be explained by the widespread expectations of rapid growth in China and of further RMB appreciation against the dollar. China's large and growing presence in the global economy and concerns about the soundness of U.S. macroeconomic policies add to the impetus toward RMB internationalization.

Even if China stops short of full convertibility, the RMB can gain limited reserve currency status. In fact, Malaysia and some smaller countries in the region have announced that they have already invested, or plan to invest, a portion of their foreign exchange reserves in RMB-denominated financial instruments. This may be done, in part, for political reasons; whether such decisions are based on ad hoc convertibility agreements with China is unclear.

This very limited reserve role is a good first step, but the world should more fully embrace the RMB as a reserve currency. An international monetary system based on multiple currencies—with the RMB joining the dollar and

the euro as the third major reserve currency—offers a natural extension of the current monetary system and has the potential to alleviate present currency tensions while promoting system stability.

Turning the RMB into a fully convertible international currency would also be good for China. It would, for example, require ending domestic financial repression. This would help China rebalance its economy, give its central bank greater independence, and win recognition as a real “market economy.” It is neither possible nor prudent to make the RMB fully convertible overnight, but the objective should be made clear and an approximate timetable would help all concerned.

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VERA EIDELMAN and BENNETT STANCIŁ

# COUNTRIES AT THE CORE OFF BALANCE

The economies at the core of the international monetary system—the United States and Europe, in particular—are in disequilibrium. Interest rates and investment are at historic lows, while government spending and unemployment are at all-time highs. This imbalance—*not* the design of the international monetary system—is at the center of today’s currency tensions. As a result, tensions will abate only when growth returns and balance is restored. Until then, countries outside of the core are right to respond with caution, limiting capital inflows and accumulating reserves.

## WHERE IS THE CENTER?

The dollar and the euro serve as the core of the international monetary system, accounting for nearly 90 percent of known reserves. The yen and the pound, which account for more than half of the remaining 10 percent, also serve an important role.

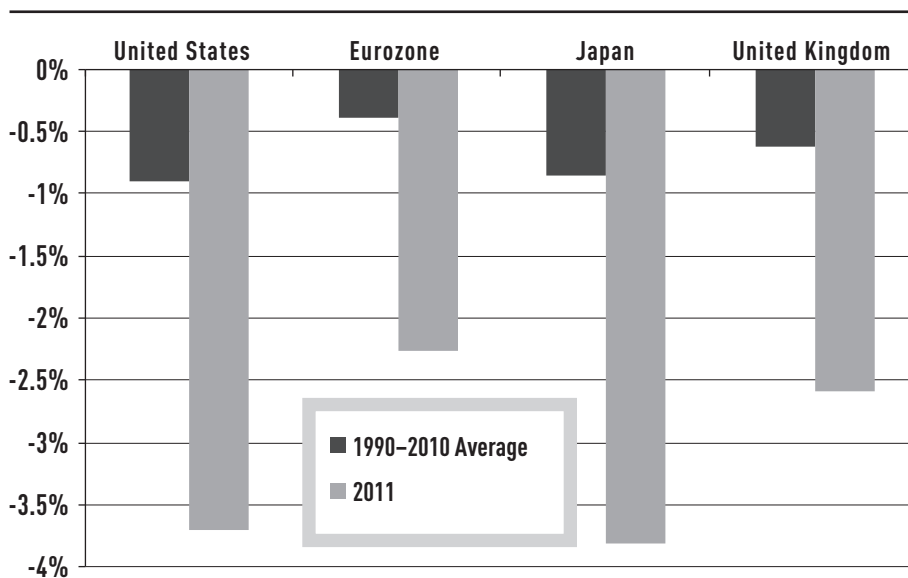
This design makes sense. Invoicing global trade in just a few currencies greatly reduces transaction costs, particularly if the currencies belong to the world’s largest economies—the United States and the eurozone together account for about 40 percent of global output and trade (see *How Long Will the Dollar Be King?*). If Japan and the United Kingdom—the next largest advanced economies—are included, those shares rise to around 50 percent.

Moreover, Europe and especially the United States are considered the world’s most stable and trustworthy economies—a characteristic they pass along to their currencies. This safe haven status was evident in 2008, when—despite the eruption of a historic economic crisis in the United States—U.S. government ten-year bond yields dropped from 3.8 percent in January to as low as 2.1 percent in December, as investors fled to the safest available assets.



Although the United States remains a safe haven, the Great Recession has left both it and other core countries deeply off balance. Output is running well below trend; unemployment is stuck at record highs; and government debt is soaring.

**FIGURE 2.6** 2011 OUTPUT GAP  
ACTUAL OUTPUT AS A PERCENT OF POTENTIAL OUTPUT



Source: International Monetary Fund.

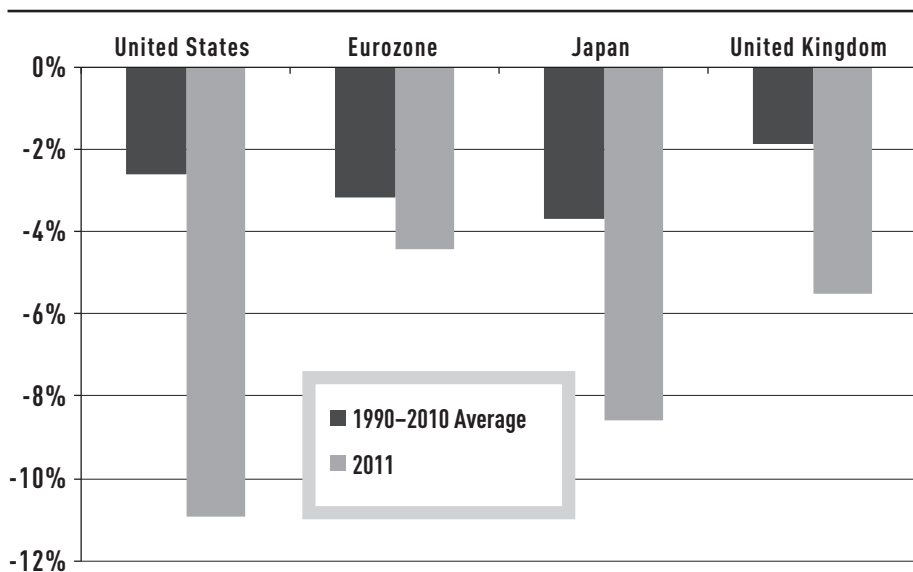
As the chart above shows, the 2011 output gaps (the difference between current and potential output, as a percentage of potential output) of the countries at the center of the international monetary system are several times larger than their twenty-year averages. If production were at its historic level relative to potential, these four economies would be nearly \$900 billion larger in 2011 than they are projected to be. Similarly, with the unemployment rate 3 percentage points above its 1990–2010 average in the United States and almost 1 percentage point above its average in the other three economies, approximately 6.5 million more workers are unemployed than historic averages would suggest.

## UNPRECEDENTED STIMULUS

Policymakers have responded to this sharp downturn with unprecedented expansions of fiscal and monetary policy. As a result, both due to fiscal stimulus and, more important, automatic revenue and spending adjustments triggered by the recession, core countries' government deficits widened dramatically during the crisis and are expected to remain elevated, especially in the United States, over many years.

The corresponding accumulation of debt—which pushed the cumulative gross government debts of the United States, the eurozone, Japan, and the United Kingdom from \$26 trillion (or 78 percent of GDP) in 2007 to \$38 trillion (or 109 percent of GDP) in 2010—has shaken markets, most clearly in Europe. Confidence in the core countries is beginning to wane, even in the United States. With 60 percent of the world’s reserves held in dollars, tremors regarding U.S. creditworthiness could undermine the international monetary system (see *History Lessons*).

**FIGURE 2.7** 2011 GOVERNMENT DEFICITS  
PERCENT OF GDP

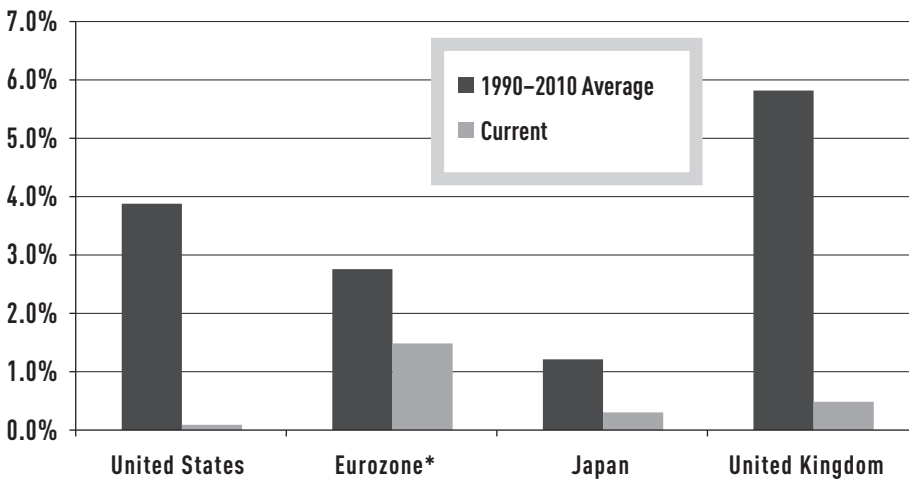


Source: International Monetary Fund.

Monetary policy has been equally expansionary. Central banks cut interest rates by an average of 3.25 percentage points from 2007 to 2010, dramatically increasing the money supply. With rates at or near zero, monetary authorities took further unconventional steps to support demand. For example, the Federal Reserve expanded its balance sheet by approximately \$1.2 trillion during two rounds of quantitative easing and has indicated that it intends to maintain an exceptionally low rate through mid-2013, while the European Central Bank (ECB) initiated a program to purchase government bonds.

This enormous increase in liquidity—and the absence of high returns in advanced countries—is pushing capital into fast-growing emerging markets: private flows to emerging markets increased from 3.9 percent of their GDP in 2009 to 5.1 percent in 2010, according to the Institute of International

**FIGURE 2.8** CENTRAL BANK POLICY INTEREST RATES  
PERCENT



\*1999-2010 average  
Source: International Monetary Fund.

Finance (2011). Already, increasing capital flows are driving up exchange rates and domestic prices there. Commodities such as food and oil, which are priced in dollars, are also subject to inflation.

Moreover, the core’s reliance on monetary policy, especially “unconventional” measures such as QE2, to drive demand has prompted accusations of currency devaluation and debt monetization. The concerns extend beyond mercantilism. With trillions of dollars and euros held in reserve around the world, devaluation would impose a direct cost on many countries’ balance sheets (see *The Internationalization of China’s Renminbi*). Legitimate or not, these charges intensify the political tensions between advanced and developing countries and further the notion that the international currency system has become a zero-sum game.

**SOLVE THE BIGGER PROBLEM**

This review, along with the chapters in Part I, suggests that today’s currency tensions do not stem primarily from flaws in the design of the international monetary system, but rather from the economic weaknesses at the system’s core. Once these major economies recover and their supportive policies end, tensions are likely to abate.

This implies that the policies driving the recovery could ultimately relieve currency tensions—even if they make them worse in the meantime. Moreover, the

economic losses associated with premature policy withdrawal and slow recovery—or even a double-dip recession in the world’s largest economies—are large and would affect both advanced and developing countries.

Nevertheless, policymakers in advanced countries should show more awareness of the effects of their actions on developing countries. Responding to accelerating inflation and other overheating pressures and fearful of becoming uncompetitive, emerging markets are stepping up reserve accumulation and enacting more forceful capital controls. While these tactics have drawbacks, current circumstances justify them—and advanced countries should accept that (see *Why Are Reserves So Big?* and *Why Are Capital Controls So Popular?*).

## GOING FORWARD

Currency tensions are likely to persist until the core countries recover and normalize their policies. Even under the best of circumstances, this road is likely to be rocky. Given the range of economic (and political) problems plaguing the United States and Europe, when, how, and at what speed leaders should tighten policy is unclear, increasing the potential for economic accidents.

For example, the United States is in the midst of a highly polarizing debate—over which economists sometimes disagree just as fervently as politicians—about its fiscal future. Despite an agreement by political leaders to reduce the budget deficit by \$2.1 trillion to \$2.4 trillion through 2021, U.S. public debt is still expected to grow faster than GDP. In Europe and the United Kingdom, austerity bills have already been passed, but doubts are emerging over whether these budget cuts can be sustained economically and politically.

Laying out credible, long-term fiscal plans would help core economies resolve these issues. This is particularly important in Europe, where the survival of the currency depends on leaders agreeing to such a plan (see *The Euro: On Recall?*).

The future of monetary policy is equally uncertain, and holds just as much potential for disruption. Rapidly tightening interest rates in core countries—a process that only the ECB has begun—can cause both a premature slowdown in advanced economies (Adrian and Estrella 2009) and a dangerous reversal of capital flows to developing countries. Waiting too long to raise rates, however, can entrench global inflation pressures, as the Bank for International Settlements (BIS) argues may already be happening (Bank for International Settlements 2011).

To reduce any shocks caused by rate hikes, monetary authorities should be as transparent as possible and give markets time to anticipate changes. In this regard, the Fed’s new quarterly press conferences are a step in the right direction.

Looking out over the longer term, the international monetary system should reduce its reliance on the core by incorporating more reserve currencies. As discussed in *How Long Will the Dollar Be King?*, however, this process—although already underway—could take decades. Attempts to accelerate it—before policies or capital markets are ready to support new reserve currencies—could add even more volatility to the system (see *The Internationalization of China's Renminbi*). Besides, a proliferation of reserve currencies may defeat the purpose. The chief benefits of reserve currencies—lower transaction costs and limited potential for arbitrage—become diluted as more reserve currencies enter the mix.

Thus, for now, the more important solution lies in correcting the disequilibrium in the core. As advanced countries recover, tighten monetary and fiscal policy, and regain market confidence, many of the underlying causes of today's tensions will abate (for specific recommendations, see *Summary of Policy Recommendations*). In the meantime, countries in the periphery cannot be blamed for being cautious.

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PART III

# POLICY CHALLENGES

## Chapters

Competitiveness: The Great American Distraction

The Euro: On Recall?

Who Will Gain From a Renminbi Revaluation?

Renminbi Revaluation: Will Other Asian Currencies Follow?



URI DADUSH and WILLIAM SHAW

# COMPETITIVENESS: THE GREAT AMERICAN DISTRACTION

U.S. policymakers worry constantly about the nation's declining competitiveness<sup>53</sup>—so much so that the theme dominated this year's State of the Union address. The country's assumed inability to compete is blamed for everything from its structural current account deficit and declining number of manufacturing jobs to its rising debt levels and even its reduced influence in the world.

But the evidence does not support this story. Instead, it suggests that the United States is in solid competitive shape: Per capita income is high and productivity in manufacturing is rising rapidly. The real problems lie in misguided fiscal policy, which contributes to low government and household savings and inefficient spending—the same policies that could lead investor confidence in the country to falter, generating tensions in the international monetary system.

Therefore, fiscal reforms that tilt incentives toward exporting more and importing less would help growth in the long run. On the other hand, a lower dollar or lower wages—traditional solutions to competitiveness problems—would do little good.

## IT'S NOT COMPETITIVENESS

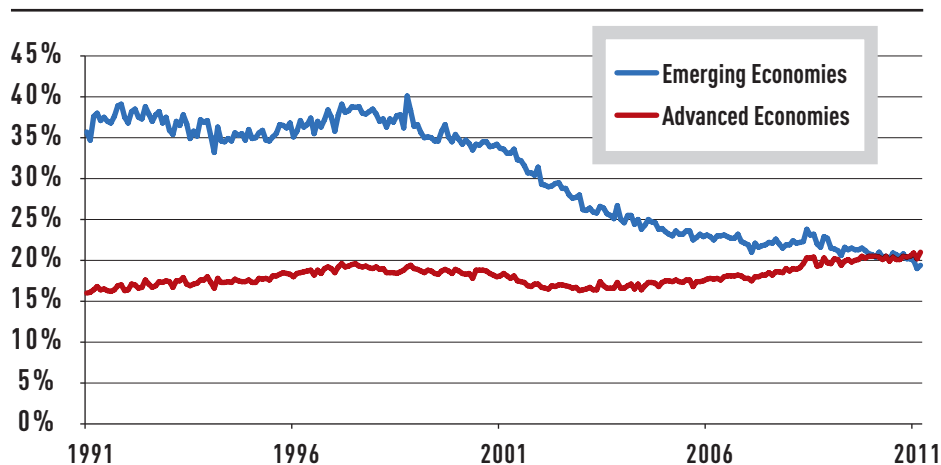
Economists prefer to measure “competitiveness”—a murky term—through productivity, proxied by indicators such as per capita income and output per hour.<sup>54</sup> According to those indicators, the United States is in excellent shape. At around \$48,000, U.S. per capita income is higher than that of all but a handful of countries, most of which are oil-rich. The supposedly declining U.S. manufacturing sector increased output per hour by 5 percent annually from 1990 to 2009, compared to an average of 3.4 percent in the other major, developed countries. And the United States tends to export relatively sophisticated, high-value-added products<sup>55</sup> for which demand is growing and in which low-wage economies are less likely to compete.



Potential competitive handicaps—such as a rising dollar or higher inflation—are also unlikely to be responsible for the U.S. current account deficit, which deteriorated from \$400 billion (4 percent of GDP) in 2001 to \$700 billion (6 percent of GDP) in 2007. In fact, the dollar’s real effective exchange rate declined by 17 percent over that period. With that in mind, it is puzzling that politicians worried about competitiveness pay so much attention to the dollar exchange rate.

As the chart below shows, the United States has lost export share to China and other emerging markets. That growth, however, reflects a one-time sea change in the policies of emerging markets (opening to the global economy and establishing sound conditions for growth) (Dadush and Shaw 2011). Moreover, as developing countries gain export share, they are also importing more, fueling the continued, rapid growth of world trade. There is, therefore, little evidence of a long-term slowdown in U.S. export growth: The United States has maintained its export share relative to that of other advanced countries, and the decline in its share against developing countries has been more than offset by the rapid growth of world trade.

**FIGURE 3.1** U.S. EXPORTS AS A SHARE OF EMERGING AND ADVANCED ECONOMY EXPORTS  
PERCENT OF GROUP'S TOTAL EXPORTS



Source: CPB Netherlands Bureau for Economic Policy Analysis.

There are, however, at least two concerns about the U.S. ability to maintain its competitive edge going forward: U.S. education and infrastructure. Despite spending an average of \$14,000 annually per student (Organization for Economic Cooperation and Development 2010a)—more than any other country—the United States ranks 31st in math and 22nd in science out of a

sample of 65 countries, including many developing countries (Organization for Economic Cooperation and Development 2010b). Moreover, following a long period of low investment, U.S. infrastructure is deteriorating. The American Society of Civil Engineers (ASCE), for example, gave U.S. infrastructure a “D” in March 2009 and claimed that the country will require \$2.2 trillion in infrastructure investment over the next five years—about twice the amount committed (American Society of Civil Engineers 2009). This is only one indication that the government could be spending its money more efficiently.

## AMERICA’S SPENDING PROBLEM

Just as some high earners live from paycheck to paycheck and some low earners always have a nest egg to fall back on, the United States—a rich (productive) nation—is profligate, while some poor (unproductive) countries are parsimonious.

Before the Great Recession, U.S. household and government savings were deteriorating, fueling an unsustainable boom. In 2005, household savings plummeted to as low as 1.4 percent (compared to an OECD average of 4.4 percent) and down from over 5 percent in the early 1990s. In 2007, the Congressional Budget Office (CBO) projected that debt held by the public would approach 200 percent of GDP within a generation (2007). In other words, the fiscal deterioration occurred as the economy was expanding, and it continued for years.

This overspending was accompanied by a large deterioration in the current account deficit. Though the household savings rate has rebounded to over 5 percent since the crisis (but still lags the OECD average, now 7.3 percent) and the current account deficit narrowed to 2.7 percent of GDP during the recession in 2009, policymakers worry that the trade balance may widen again when the U.S. recovery accelerates.

## TAX REFORM

Insofar as the U.S. structural current account deficit reflects inadequate savings—as it clearly does to some extent—reducing it is desirable. Doing so efficiently requires that policymakers focus on fiscal reforms that not only reduce the budget deficit directly but also make public spending more effective and nudge the private sector toward producing more exports and reducing imports. Three types of tax reforms clearly meet these criteria: increased gasoline taxes, a value-added tax, and a phased-in elimination of the mortgage-interest deduction.

The United States has held its federal gasoline tax at 18.4 cents per gallon since 1994,<sup>56</sup> while other OECD countries have instituted much higher rates.<sup>57</sup> Raising the U.S. gas tax would directly improve the fiscal deficit—raising the tax to only half the OECD average could generate approximately 1 percent of

GDP in revenues<sup>58</sup>—and it would help reduce the current account balance by discouraging oil imports. Because it would curb the disposable income of consumers, other imports and consumption could decrease as well.

This is not enough, however. Over time, renewable energy sources, alternative means of commuting (including telecommuting), changes in residence or work location, and more efficient cars will mitigate the effect of the initial rise in gasoline prices. The gain in tax revenues will also be smaller as Americans adapt by consuming less gasoline.<sup>59</sup>

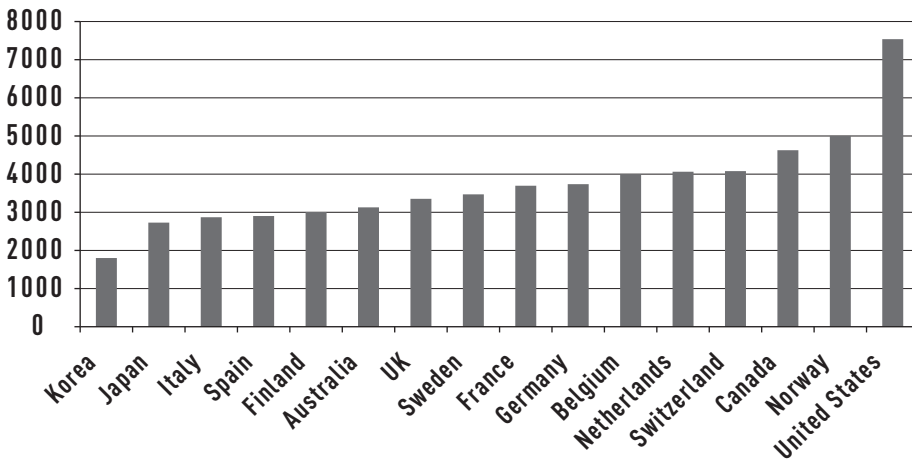
A value-added tax (VAT) could also reduce the fiscal and current account deficits. The CBO estimates that applying a 5 percent VAT to most goods and services, beginning in 2013, would raise \$180 billion (1.2 percent of GDP) that year and \$2.5 trillion through 2021 (1.4 percent of GDP over the period) (2011). Meanwhile, charging VAT on imports while rebating VAT payments to exporters, a universal practice, would tilt incentives in favor of exporters. Similarly, a VAT could increase household savings by taxing all consumption goods but allowing households to earn interest on savings free of VAT. In addition, introducing the VAT could increase the efficiency of the tax system and would require limited administrative resources for enforcement, as firms purchasing inputs have an incentive to ensure that sellers fully state their VAT payments.<sup>60</sup>

The mortgage-interest-tax deduction, on the other hand, must be gradually eliminated to reduce the fiscal deficit. It will cost an estimated \$100 billion in 2011 and artificially encourages spending on and investment in real estate, a highly volatile sector.<sup>61</sup> Eliminating the subsidy would help direct savings to more stable assets, reduce individuals' reliance on household equity to finance consumption during booms, and improve income distribution (subsidizing home purchases disproportionately benefits the rich, who typically buy houses, over the poor, who typically rent). It would also free resources for investment in internationally competing sectors.

## EXPENDITURE REFORMS

Reforms in government spending, particularly in healthcare, could also improve the trade balance indirectly. Health expenditures already account for close to one-fifth of government spending and are, by far, the fastest-growing segment. Yet U.S. health outcomes are disappointing. As shown in figure 3.2, U.S. spending on health—public and private combined—is 50 percent higher per capita than that of the next highest country, but the U.S. infant mortality rate, at 6.7 deaths per 1,000 births, is higher than all OECD countries except Turkey and Mexico. Furthermore, life expectancy, at age 65, is about the OECD average.

**FIGURE 3.2** TOTAL HEALTH EXPENDITURES IN 2008  
U.S. DOLLARS, PPP



Note: Data for Australia and Japan from 2007.

Source: Organization for Economic Cooperation and Development Health Statistics.

While high spending may reflect higher incomes, and poor health outcomes may be due to poorer lifestyle choices and higher pollution, less efficient procedures are clearly also responsible. One easy fix would be to allow the government to bargain for price reductions, but other solutions abound, even putting aside radical steps such as a single-payer system.<sup>62</sup> If reforms lowered healthcare spending only halfway toward the OECD average, nearly 3.6 percent of GDP could be saved. More efficient provision of healthcare would free up resources, some of which would be reallocated toward export- and import-competing sectors.

Defense spending also takes up about 20 percent of the budget. In 2010, the United States accounted for 43 percent of global defense spending (almost six times the number two defense spender, China) and equaled 4.7 percent of GDP (compared to 1 percent to 2.5 percent in Germany, France, and the United Kingdom). The United States has global responsibilities and, to some extent, the huge U.S. military establishment enables its allies to spend less. Nevertheless, given the huge resources it consumes, the United States must examine the effectiveness and efficiency of its defense spending.<sup>63</sup>

## CONCLUSION

The United States does not suffer from low productivity or competitiveness. It does not need a lower dollar or to cut wages. Instead, inadequate government and household savings, misguided incentives, and inefficient public

expenditures handicap the economy. A phased-in reform of the tax system and more efficient spending could not only increase national savings and reduce the structural current account deficit, but they could also raise the U.S. potential growth rate and improve its provision of essential public goods. These steps would help the United States become even more competitive in the years ahead, while also mitigating today's currency tensions and restoring faith in the international monetary system.

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BENNETT STANCIL

## THE EURO: ON RECALL?

Once a rising star in the international monetary system, the euro is now fighting for its life. Dangerous imbalances, created over the last decade by inadequacies in the currency's design, are now in clear view thanks to the current debt crisis. If the euro is to survive—much less challenge the dollar—policymakers must greatly strengthen the European fiscal union and enhance market integration.

### A STRONG BEGINNING

When it was introduced on January 1, 1999, the euro appeared destined to become a—if not *the*—leading global reserve currency. Backed by nearly a dozen democratic, politically stable countries, the newly created eurozone accounted for 30 percent of world trade (half of which occurs within the region)—double the 15 percent U.S. share. Moreover, the European Central Bank (ECB), which underpins the euro, was created in the Bundesbank tradition, with strong anti-inflation credentials.

The euro's quick rise in the international monetary system was therefore hardly surprising. Official reserves began shifting from dollars to euros—from 1999 to 2008, the euro's share rose from 17.9 percent to 26.4 percent, while the dollar's share dropped from 71 percent to 64.1 percent. Similarly, after an early dip, the dollar-euro exchange rate rose from \$1.15 at the euro's debut to a peak of \$1.60 in April 2008. These developments prompted several prominent observers—including U.S. Federal Reserve Chairman Alan Greenspan—to speculate that the euro could one day surpass the dollar as the world's premier reserve currency (Reuters 2007).

However, the honeymoon ended in 2008. As the Great Recession erupted, investors fled to the dollar—the euro hit \$1.25 in October 2008, after plummeting by more than 20 percent in the preceding six months—demonstrating that,

even during crises that originate in the United States, the dollar's dominance remains unchallenged.

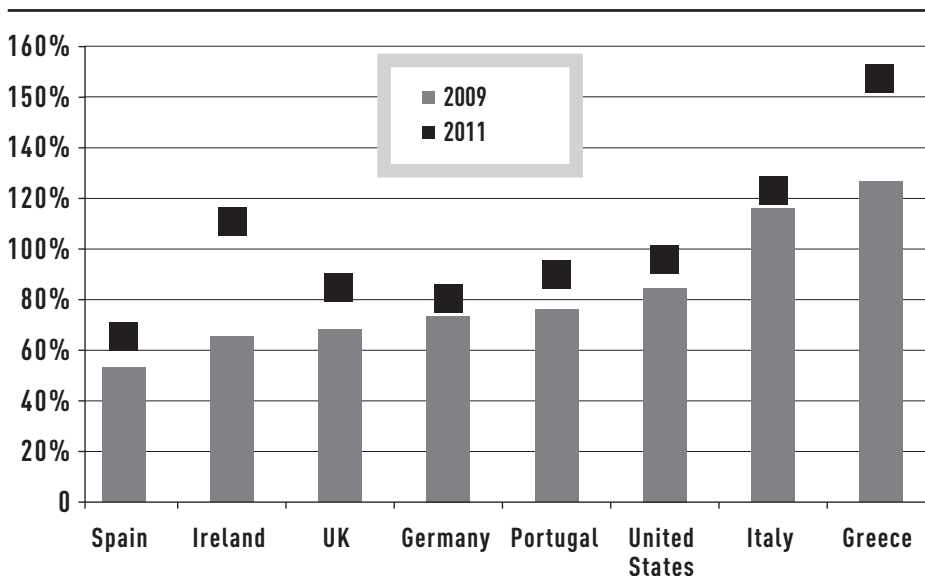
Though the euro recovered as the panic abated, it entered another free fall in 2010, this time pushed by an even more ominous cause—the sovereign debt crisis on its periphery.

### NOT MAINLY A FISCAL CRISIS

The eurozone is now entrenched in a long crisis that will require a slow unwinding—and, in Greece's case at least, restructuring—of massive amounts of sovereign debt. The crisis has also exposed deeper fault lines: weaknesses in the euro's design and its institutional underpinnings. Unless these flaws are corrected, the eurozone's economy will remain volatile and the euro will continue to play second fiddle—at best—to the dollar (see *How Long Will the Dollar Be King?*).

Though fiscal worries are its most evident symptom and politicians remain focused on debt and deficit targets, the current crisis is not “mainly fiscal.” As the chart below shows, before the crisis erupted, debt in Ireland, Portugal, and Spain was at or below German levels, and well below the U.S. level. Moreover, though debt levels in these countries—as well as those of Greece and Italy, which were already high—surged in 2010, Europe would not face a funding challenge if it functioned as a fiscal union: The International Monetary Fund forecasts that

**FIGURE 3.3** GROSS GOVERNMENT DEBT  
PERCENT OF GDP



Source: International Monetary Fund.

the cumulative 2011 deficit in the eurozone will be 1.7 percent, a fraction of the 9 percent deficit in the United States. Similarly, gross debt in the eurozone is expected to reach 87 percent of GDP in 2011—and begin declining by 2014—compared to 229 percent in Japan and 100 percent in the United States. Unfortunately, however, the eurozone is categorically not a fiscal union.

The true causes of the current crisis involve misaligned economic structures and lost competitiveness. When the euro was introduced, interest rates declined across the eurozone—particularly in its periphery—and spending and borrowing surged, increasing wages relative to productivity. To accommodate this rise in demand, domestic sectors, such as construction, grew at the expense of internationally competing sectors, such as manufacturing—entrenching grave economic distortions.

Furthermore, a number of ongoing mechanisms worsened this structural misalignment. The periphery's rigid, less competitive product and labor markets and weak capacity for innovation kept its countries from matching the export prowess of a recently reunited Germany (Ireland, where business climate indicators are strong and labor markets are relatively flexible, was a partial exception). Meanwhile, European monetary policy became too loose for the periphery, fueling construction booms in Greece, Ireland, and Spain and an unprecedented banking expansion in Ireland. The chart below clearly shows the eurozone's misalignments in trade and labor costs.

**FIGURE 3.4** EUROPE DIVERGES  
PERCENT CHANGE SINCE 2000

	Exports as a Percent of GDP		Unit Labor Cost	
	2007	2010	2007	2010
<b>Germany</b>	10.9%	7.6%	-2.8%	4.2%
<b>Greece</b>	-1.0%	-1.7%	23.7%	35.5%
<b>Ireland</b>	-31.9%	-23.7%	28.0%	28.9%*
<b>Italy</b>	2.1%	0.0%	21.2%	31.1%
<b>Portugal</b>	2.9%	1.3%	17.2%	22.7%
<b>Spain</b>	-1.1%	-1.5%	24.3%	31.0%*

\* Refers to 2009

Sources: International Monetary Fund, Organization for Economic Cooperation and Development.



The artificial boom these misalignments created enabled government spending to increase rapidly—but hid the rise as revenues grew just as quickly. When the global financial crisis struck, revenues collapsed and the unsustainable nature of the periphery's growth model was exposed.

## CAN THE EURO BE REVIVED?

Since last year, European Union (EU) leaders have been scrambling to fill the massive fiscal holes in the peripheral countries' budgets. This is necessary—chaotic debt restructuring could cripple the eurozone and even jeopardize the euro's existence. But funding alone is not sufficient. Widespread structural and architectural changes are needed—not only to address this crisis, but also to prevent others from developing.

First, without exchange-rate flexibility, an independent monetary policy, and large-scale fiscal transfers, asymmetric shocks to an economy can make market concerns about sovereign default self-fulfilling (De Grauwe 2011). Since the monetary union precludes both devaluation and independent monetary policies, a much larger mechanism to transfer funds to troubled eurozone members is necessary—the EU budget represents only about 1 percent of its GDP. Though the emergency funds set up during the crisis—the European Financial Stability Fund and its replacement, the European Stability Mechanism—represent a step toward fiscal union, stronger ex ante transfer mechanisms are needed, rather than merely attempts to reverse problems once they occur. For example, basic unemployment insurance provided by the EU could help mitigate fiscal shocks.

Second, despite being one of the most integrated economic regions in the world, the eurozone's markets—particularly labor markets—are too fragmented for a single currency or monetary policy. Eurozone citizens, for example, are 15 to 20 times less likely to move across country lines as U.S. citizens are to cross state lines. This lack of mobility shows in income disparity: The average income in the three richest EU economies excluding Luxembourg (the Netherlands, Ireland, and Austria) is 240 percent of the three poorest (Slovakia, Malta, and Portugal), compared to a smaller, 160 percent disparity between the richest and poorest U.S. states. Given the combination of labor market rigidities in individual countries and the lack of integration between them, wages can spin dangerously out of balance in good times—as over the last decade—and are slow and difficult to adjust in bad times.

Thus far, reform efforts have yielded only modest progress. Not wanting to pay higher interest rates on its borrowing, Germany has repeatedly dismissed the idea of a jointly issued “Eurobond,” while recent EU meetings have failed to

put forward any new, serious proposals for strengthening the fiscal union. Other measures such as the “Euro Plus Pact”—a series of rules designed to improve competitiveness and policy coordination among eurozone members—have reinforced the principle of peer reviews of fiscal and structural reforms established in previous agreements, but offered no new enforcement mechanisms.

## **A THREAT TO THE STABILITY OF THE INTERNATIONAL MONETARY SYSTEM**

Unless these flaws are corrected, the current crisis—which could fester for years—will undermine the stability of the international monetary system. Simultaneously restoring competitiveness—which is necessary to bring growth to the periphery—while lowering debt burdens is a catch-22: Without currency depreciation, regaining competitiveness requires wage and price deflation that will depress growth and make debt burdens harder to bear.

In the longer term, the cracks in the eurozone represent an existential threat to the euro that no other major currency faces. Now that these flaws are highly visible, the euro is unlikely to see its role in the international monetary system increase, and may even see it decline: In 2010, the euro’s share of global reserves fell by 1.2 percentage points to 26.3 percent.

Worries about the euro, which weigh on the currency’s value, can directly destabilize the international monetary system. A low euro increases concerns about currency overvaluation in other countries, while a volatile one makes planning investment and trade more difficult. Moreover, a weak eurozone implies not only slower global growth—26 percent of world imports are currently consumed by eurozone members—but also low ECB interest rates for an extended period. This will encourage capital to flow out of Europe and often into fast-growing emerging markets, adding to appreciation and inflation fears in the latter.

Though the euro will likely remain a major transaction currency—the region does, after all, represent 20 percent of the world economy—investors and reserve managers will be reluctant to hold a currency that may disintegrate when the next crisis strikes. Policymakers in Europe must take the necessary steps—cut budgets and enact structural reforms that boost competitiveness in the periphery, and move toward fiscal union and better integrated labor markets across the union—to assure them that the euro will survive.

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SHIMELSE ALI and URI DADUSH

# WHO WILL GAIN FROM A RENMINBI REVALUATION?

A gradual renminbi (RMB) revaluation will help China and a few other countries that compete with China. It will also make China's growth more balanced and resilient, which is in the general interest.

However, unless RMB revaluation is accompanied by an acceleration in China's domestic demand, most countries will see little benefit and some countries will lose, as their import prices rise and their current account deficits with China widen, at least over the next year or two.<sup>64</sup> Ironically, the United States, which has been leading the charge on RMB appreciation, would likely be among the losers. Certainly, a very large one-off revaluation that disrupts China's growth would hurt everyone.

## RENMINBI UNDERVALUATION AND CHINA'S GROWTH

Various studies have suggested that the RMB is undervalued, with recent estimates ranging from 15 percent to 50 percent (see, for example, Evenett 2010). China's very large interventions in support of its currency (its reserves have increased by 40 percent to \$2.6 trillion since the Great Recession began two years ago) lend credence to the view that its exchange rate is undervalued.

Many economists (see, for example, Corden 2009, McKinnon 2010, Mundell 2010) believe that any RMB undervaluation estimate should be taken with a grain of salt, since it requires many assumptions and China's current account surplus is not primarily caused by an undervalued RMB. Instead, factors such as the household savings rate, fiscal balance, and tax and other incentives offered to investors and exporters play more important roles.

Recognizing that an RMB revaluation increases the purchasing power of its consumers and is in China's own interest, Beijing's leaders allowed the RMB to gradually appreciate, amounting to 20 percent against the dollar between July 2005 and July 2008. While the policy was suspended when the global economic crisis began, it resumed in June 2010; over the following year, the currency appreciated by about 5.5 percent vis-à-vis the dollar.

China's pre-crisis revaluation—combined with its massive demand stimulus—has served both the country and the world well so far. China's domestic demand has increased by 41 percent since 2006–2007, and its current account surplus has declined by 5 percent of its GDP. China has contributed greatly and disproportionately to global growth over 2000–2008 and since the outbreak of the financial crisis. Indeed, global financial markets have become highly sensitive to developments in the Chinese economy.

But RMB revaluation will not work for China or its trading partners if it disrupts China's highly export-dependent economy and undermines investor confidence in its continued growth. According to the International Monetary Fund, net exports and fixed investment linked to the tradable sector accounted for more than 60 percent of China's GDP growth from 2001 to 2008, compared to 35 percent in the rest of Asia and 16 percent in the G7 economies.

## **WHO GAINS?**

The greatest beneficiary of a gradual RMB revaluation, accompanied by measures to stimulate demand, will be China itself. Revaluation will likely establish more balanced and resilient growth, which will have positive spillovers on the rest of the world, including reduced currency and trade tensions. RMB revaluation will be more beneficial for all countries if it comes with measures that accelerate China's domestic demand relative to its GDP. Indeed, without such measures, revaluation may fail to change China's current account surplus, or may even widen it.

The direct effects of RMB revaluation on countries other than China are not straightforward, however, as their consumers will lose from higher import prices, but their producers will gain from improved competitiveness.

China's trading partners can be classified into three groups—low-income commodity exporters, middle-income manufacturing exporters, and high-income manufacturing exporters—and each will see a different impact from RMB revaluation. As a general rule, countries that import more from China than they export there will lose, while those that export more than they import from China will gain.

Low-income commodity exporters increasingly look to China as an export market—it accounted for 7.2 percent of their total exports in 2009, up from 1.3 percent a decade before—and a supplier of cheap consumer goods and machinery (17 percent of their total machinery and transport equipment imports came from China in 2009). As a result, these countries are likely to be much more interested in China's continued growth than in RMB revaluation. In fact, according to an Organization for Economic Cooperation and Development study, a 1 percent slowdown in China's growth rate would result in a reduction of around 0.3 percent in growth of low-income economies.

In the very long run, RMB revaluation could help these countries diversify into basic manufactures. In the short run, however, RMB revaluation would likely have little effect on their exports, as global markets determine the price of their commodities (which are denominated in dollars). And countries that have the largest trade deficits with China, such as Ghana, will be most likely to lose as their terms of trade (the difference between the growth of export and import prices) deteriorate.

The same will hold true for middle-income manufacturing exporters, which have increased their imports from China in recent years—in 2009, nearly 12 percent of their imports came from China. Countries such as Vietnam and Hungary, which import much more from China than they export there, will likely lose due to RMB revaluation, particularly in the short term.

Generally, however, middle-income manufacturing exporters—such as South Korea and Malaysia, which compete directly with China in manufacturing exports—tend to have bilateral current account surpluses with the country. As a result, they are likely to gain the most from RMB revaluation. Like China, machinery and transport equipment account for some 45 percent to 50 percent of their exports. And, as an Oxford University study shows, China's average export prices (unit values) place substantial downward pressure on these countries' prices (but not on those of low-income countries) (Fu et al. 2009). As a result, middle-income manufacturing exporters will see their export volumes and prices expand with RMB revaluation, as they become more competitive with China in third markets and the price pressure relaxes a bit.

In high-income countries, the effects of RMB revaluation will be mixed and will again depend on their bilateral trade positions with China. Generally, high-income countries have smaller deficits with China as a share of GDP than do low- and middle-income countries.

Countries such as Germany and Japan will likely be able to increase prices on their large exports to China. The technology-intensive and differentiated nature of their exports makes their goods less price sensitive, and producers may

choose to leave their RMB prices unchanged, taking increased profits instead. Since they generally do not compete with China directly, they are unlikely to see large gains in third markets or long-term volume gains, however.

**FIGURE 3.5** BILATERAL TRADE WITH CHINA IN 2009  
PERCENT OF COUNTRY'S CURRENT DOLLAR GDP

	Exports to China	Imports from China
<b>High-Income Countries</b>		
United States	0.5	2.2
Japan	2.2	2.4
Germany	1.5	1.9
Italy	0.4	1.3
South Korea	10.4	6.5
<b>Middle-Income Manufacturing Exporters</b>		
India	0.8	2.3
Mexico	0.3	4.1
Philippines	1.9	2.5
Hungary	1.0	5.2
Indonesia	2.1	2.6
Malaysia	9.9	9.0
Poland	0.3	1.8
Sri Lanka	0.2	4.1
Thailand	6.1	6.5
Turkey	0.3	2.1
Vietnam	5.3	17.6
<b>Commodity Exporters</b>		
Nigeria	0.5	3.6
Kenya	0.1	4.7
Ghana	0.5	11.0

Source: International Monetary Fund, Direction of Trade Database.

Other high-income countries—the United States and Italy, in particular—are in a less favorable position. Their imports from China are about three to four times larger than their exports to China. As a result, they are likely to be

significant net losers from a RMB revaluation. They will also see a significant distributional impact, as their imports from China are consumed widely and disproportionately by low-income households.

In both the United States and Italy, the wider bilateral trade deficit with China may be permanent, as neither import nor export volumes are likely to react enough to offset the large deterioration in terms-of-trade. Middle-income exporters may, however, take some U.S. and Italian market share away from China. Intra-firm imports of U.S. multinationals from affiliates in China—which accounted for nearly 30 percent of U.S. imports from China in 2009—will probably be hurt unless they have diversified their sourcing to include competing middle-income manufacturer exporters.

## CONCLUSION

This review does not imply a judgment that a large bilateral trade deficit with China is bad or that a big surplus is good. It only suggests that RMB revaluation will not erase a bilateral trade deficit. Instead, increasing national savings rates in Italy and the United States, and increasing consumption in China, would be more effective.

Given China's high dependence on price-sensitive exports, a large one-time RMB revaluation may carry unacceptable risks to its growth and stability. In the event of a sharp slowdown in China, those countries that are likely to lose due to RMB revaluation anyway—starting with the United States—could suffer a proverbial double whammy.

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URI DADUSH and SHIMELSE ALI

# RENMINBI REVALUATION: WILL OTHER ASIAN CURRENCIES FOLLOW?

Revaluation of the Chinese renminbi (RMB) is often cited as a necessary solution to the problem of global imbalances. In part, the argument goes, an RMB revaluation will lead other Asian countries to revalue their currencies as well (Scott 2011). Indeed, the exchange rates of some Asian economies have tracked the RMB more closely in recent years.

However, such a widespread revaluation of Asian currencies is unlikely. While Asia's middle-income countries—which compete with China in export markets—may move with the RMB, Asia's advanced countries—which account for 45 percent of the region's trade and whose exports complement those of China—are unlikely to follow the RMB's path. In either case, any movement that occurs is unlikely to be large.

As a result, the effect of Asian currency movement on countries such as the United States—which competes more with advanced than with middle-income Asian economies—and on the most infamous global imbalances is likely to be limited.

## THE RMB'S INCREASING INFLUENCE IN ASIA

Most Asian currencies have followed the U.S. dollar for decades—including the RMB, which was tightly pegged to the dollar until July 2005, when it began to liberalize. As China has allowed the RMB to appreciate against the dollar—first from July 2005 to August 2008 (when the financial crisis erupted) and again from June 2010 to the present (as the recovery took hold)—the RMB appears to be exerting independent influence on some Asian currencies, notably those in middle-income Asian economies.

For example, as shown in figure 3.6, during the RMB's first period of reform (July 2005 to August 2008), the real effective exchange rates (REER)<sup>65</sup> of

Malaysia, the Philippines, and Thailand—all middle-income economies—moved with the RMB. Their REER appreciated by 6 percent to 27 percent, compared to the RMB’s 13 percent real effective appreciation and in contrast to the dollar’s 10 percent depreciation. However, the REER of the advanced Asian economies—Japan, Hong Kong, and South Korea—which have similar exports to and compete more with the United States than the middle-income Asian economies do,<sup>66</sup> moved against the RMB, depreciating by 12 percent to 17 percent over the period.<sup>67</sup>

**FIGURE 3.6** CORRELATIONS BETWEEN THE REER OF ASIAN CURRENCIES AND THE RMB AND DOLLAR

	Before RMB Reform (August 2003–July 2005)			After RMB Reform (July 2005–August 2008)	
	RMB	USD		RMB	USD
<b>Advanced Asia</b>					
Singapore	0.88	0.89		0.79	-0.91
Hong Kong	0.93	0.97		-0.81	0.98
Japan	0.12	0.02		-0.58	0.65
South Korea	-0.58	-0.51		-0.76	0.69
<b>Middle-income Asia</b>					
Malaysia	0.93	0.98		0.47	-0.52
Philippines	0.55	0.64		0.77	-0.90
Thailand	-0.04	-0.01		0.54	-0.75
Indonesia	0.34	0.39		-0.16	0.11
China	1.00	0.95		1.00	-0.84

Source: Bank for International Settlements and authors’ calculations.

Although disentangling the factors behind such movements would require deeper research, policy likely played a role. For example, Asian central banks appear to be increasingly including the RMB in the basket of currencies their exchange rates track, partly because of China’s rising weight in the region’s trade. Ito (2007) estimates that Indonesia and Malaysia now give the RMB a 45 percent weight in their basket (with the U.S. dollar, the euro, and the yen accounting for the other 55 percent).<sup>68</sup>

Market forces are likely also responsible for the RMB’s rising influence. Studies show that rising speculation of RMB appreciation often leads Asian currencies

to rise. And certain currencies—the Singapore dollar, for example—appear to serve as proxies for the RMB in futures markets.

Going forward, if the RMB continues to appreciate, it could affect other Asian currencies through three channels: relative prices, demand, and foreign investment. We explore each of these in turn.

## PRICES

Any RMB revaluation against the dollar will make Chinese goods more expensive abroad. As a result, countries that export close substitutes for Chinese goods—due to similar factor endowments, for example—will likely benefit from increased market share. Countries that export complements (for example, parts and components) for Chinese goods, on the other hand, will almost certainly feel an adverse effect.

Middle-income Asian economies, such as Thailand, Malaysia, the Philippines, and Indonesia, appear to comprise the former group. Their export profiles—particularly those of countries with managed exchange-rate regimes—show large similarities with China’s (see chart below).<sup>69</sup> And shifts in their shares of third markets suggest that their competition with China is growing. China’s share of Asia’s exports to the United States tripled from 14.5 percent in 2000 to 44 percent in 2008, while that of middle-income Asian economies fell from 15.2 percent to 11.5 percent over the same period.<sup>70</sup>

**FIGURE 3.7** NET EXPORT SIMILARITY INDEX BETWEEN CHINA AND ASIAN COUNTRIES

	1996	2008	Exchange-Rate Regime
<b>Thailand</b>	43.6	35.3	Managed Float
<b>Malaysia</b>	21.7	30.9	Managed Float
<b>Philippines</b>	44.8	26.1	Float
<b>Indonesia</b>	31.6	19.0	Float
<b>Singapore</b>	10.1	15.8	Managed Float
<b>Japan</b>	10.6	14.9	Float
<b>South Korea</b>	22.2	25.1	Float

The index ranges from 0 to 100; 0 represents completely dissimilar export profiles between two countries, while 100 represents identical export profiles. Similar export profiles suggest that the countries are competitors while different export profiles suggest that they are complements to each other.

Source: International Monetary Fund and Loke (2009).

These countries may gain market share if the RMB revalues, which will eventually put pressure on them to appreciate their currencies as well. At the same time, some of these countries, including Indonesia and Vietnam, import more from China than they export there and will experience adverse effects from rising import prices. Therefore, the direction of the pressure on their currencies will depend on which effect is greater: the benefit from increased export market share or the cost of higher import prices from China.

As for China's advanced neighbors—such as Japan, Korea, Hong Kong (China), and Singapore—an RMB revaluation will likely hurt their trade. Their export structures (controlling for trade in components) have little in common with China's (see figure 3.7). Rather, the two complement each other: The advanced countries provide intermediate goods that China processes and re-exports. About 60 percent of intermediate goods in China come from other Asian countries, particularly the advanced economies. As a result, RMB revaluation could hurt the advanced Asian economies by slowing China's export growth and thus lowering its imports from them.

## DEMAND

RMB revaluation will also affect China's growth, which in turn will impact the rest of Asia's growth through reduced demand for consumer and intermediate-goods exports. A recent study shows that a 1 percent slowdown in China's growth would lead to a 1.12 percent reduction in the growth rates of a sample of emerging economies, including Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, and Thailand (Levy-Yeyati 2009). A large RMB revaluation that sharply slowed China's growth could therefore lead other Asian economies to suffer and put downward pressure on their real effective exchange rates.

Unless it were massive, however, a revaluation is unlikely to cause such a sharp slowdown. The RMB's appreciation against the dollar from July 2005 to August 2008—nearly 7 percent annually—had little visible effect on China's double-digit growth, for example. Similarly, a 2010 study by Deutsche Bank finds that a 10 percent RMB appreciation would reduce real GDP by only 0.6 percent from its baseline. More generally, studies find little evidence that countries that de-peg their currencies experience a durable growth slowdown as a result (Eichengreen and Rose 2010).

Moreover, China may well adopt other policy measures that stimulate domestic demand, such as renewed fiscal stimulus, to offset the RMB revaluation's impact on growth. Thus, a gradual RMB revaluation would likely put little pressure on other Asian currencies through the demand linkage.

## DIVERSION OF FOREIGN DIRECT INVESTMENT

Finally, an RMB appreciation could affect other Asian currencies through foreign direct investment (FDI). In recent years, China has not only become Asia's trading powerhouse, it has also emerged as the preferred destination for FDI in the region. Reflecting its attractiveness to outside investors, China's share of Asia's FDI inflows rose from about 25 percent in 1992 to 37 percent in 2008, while other Asian economies with similar income levels and relatively cheap labor—Malaysia, the Philippines, and Thailand—saw their share fall sharply over the same period.

Since a revaluation of the RMB may decrease China's attractiveness as an investment destination, FDI flows may go instead to developing Asian economies. However, the profit margin of multinationals in China is reported to be robust (CNC 2011) and—given large fixed and transaction costs and investors' tendency to reinvest profits—a shift in FDI is expected to be gradual.

## CONCLUSION

Though the RMB's influence in Asia is growing, a revaluation will affect the exchange rates of China's advanced and middle-income neighbors differently, reflecting their various trade and investment relationships. With regard to the United States, the high degree of complementarity between its economy and those of China and Asian middle-income countries suggests that it will likely lose out from RMB revaluation as its import prices rise (see *Who Will Gain From Renminbi Revaluation?*). As a result, the potential impact of RMB revaluation on the U.S. current account deficit is smaller than often assumed.

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# SUMMARY OF POLICY RECOMMENDATIONS

The international monetary system has worked remarkably well during the crisis, showing great resilience to a severe global shock. The system is not perfect, however, and improvements can be made, such as increasing resources and strengthening the role of the International Monetary Fund (IMF). But the focus should be on improving the policies of the major players at the core, not overhauling the entire system. The most important policy changes for the international monetary system, the United States, the eurozone, China, and other emerging markets include:

## THE INTERNATIONAL MONETARY SYSTEM

Countries will continue to set their own exchange rate arrangements and decide which reserve currencies they hold. Increased exchange-rate flexibility should be encouraged, as should gradual and cautious capital account liberalization and the progressive elimination of exchange rate restrictions. However, these reforms should proceed at each country's own pace and in a manner consistent with institutional and policy reforms that protect against bouts of external financial volatility.

- Integrate the renminbi (RMB) as an additional reserve currency.
- Encourage developing countries that clearly have excess reserves to reduce their reserve levels, perhaps through the G20 mutual assessment process.
- Increase IMF resources.
- Improve IMF surveillance, especially of spillover effects from core countries, the appropriateness of capital controls, and the linkages between exchange rates and protectionism.



## CORE COUNTRIES

### The United States

Reduce the public debt to a sustainable long-term path. Expenditure and tax reforms should be carried out with an eye on measures that bolster private savings and encourage a reallocation of resources toward the tradable sector.

- Raise the federal gasoline tax.
- Introduce a value-added tax; rebate payments to exporters.
- Eliminate the mortgage-interest tax deduction.
- Reassess healthcare and defense spending to increase efficiency. For example, allow the government to bargain for price reductions in healthcare.
- Be as transparent as possible about monetary policy and act preemptively on signs that inflation is accelerating.

### Eurozone

Correct the competitiveness loss in the periphery countries, while accelerating the progress toward a fiscal union.

- Periphery countries must accelerate structural reforms while achieving an internal devaluation—also requiring fiscal consolidation.
- Germany and other core countries should find ways to expand domestic demand; monetary policy must better reflect the needs of the periphery countries, indicating a more expansionary stance.
- Use the precedent set by the European Financial Stability Mechanism to issue Euro bonds—a joint financing mechanism. Create stronger *ex ante* transfer mechanisms, such as basic unemployment insurance provided by the European Union.
- Increase labor market flexibility and facilitate labor mobility within the eurozone.

## China

Modernize the financial sector and integrate the RMB into the international monetary system.

- Gradually remove capital account restrictions and domestic financial controls. Create deeper bond and equity markets open to foreign investors.
- Remove artificial incentives that favor state corporations at the expense of household income growth and consumer demand, such as low dividend requirements and suppressed deposit rates.
- Further increase government spending for social programs and safety nets.
- Accelerate RMB appreciation in real terms—say 20 percent over three years—and widen the trading band.
- Encourage both state and private investment in underdeveloped regions.
- Markedly increase monetary policy transparency.

## Other emerging markets

Craft policies that manage the risks of external financial shocks while preserving the benefits of openness.

- React to large, easily reversible capital inflows through modest exchange rate appreciation and credit limits if sufficient, but use capital controls if necessary.
- If pegging the exchange rate, keep the capital account closed.
- Reserve levels should reflect financial integration (higher as financial integration increases) and export diversification (higher if export diversification is limited).
- Avoid reacting to external instability by restricting exports or imposing import barriers; instead, work on strengthening institutions and diversifying the economy.

If these recommendations are followed, the world's major economies will have not only reinforced their ability to successfully manage international monetary relations, but also returned to a balanced, sustainable path for growth. This is the best way to avert a global currency war and enable economic growth.



# NOTES

- 1 Effective exchange rates are a trade-weighted average of a country's bilateral exchange rates with its main trading partners.
- 2 After November, exchange rates began to follow various paths against the dollar, reflecting differences in regional prospects. Countries in the eurozone, for example, began to see depreciation, while currencies in Asian countries, including India, Indonesia, South Korea, and Thailand, as well as in Israel and several Latin American countries, appreciated further.
- 3 Carry trades occur when investors sell a low-interest asset to buy a higher-yielding one. They profit from the difference between the rates.
- 4 From December 2007 to June 2009 (the official start and end dates of the U.S. recession), the average real effective exchange rate depreciation was an even more negligible 0.3 percent.
- 5 Countries that account for 0.5 percent or more of world exports.
- 6 Defined as the standard deviation of monthly exchange rates in a given year.
- 7 The standard deviation of the real effective exchange rate shifts of 25 major currencies from their 2006–2007 average to November 2010 is 11 percent, compared to 13 percent both from their 1979–1980 averages to March 1985 (Plaza Accord) and from their 1969–1970 averages to December 1973 (fixed exchange rate collapse).
- 8 Interestingly, among the advanced countries, the five fixers—Hong Kong, Malta, Cyprus, Denmark, and the Slovak Republic, all small, open economies with relatively sound financial systems (with the possible exception of Denmark)—clearly outperformed the 28 floaters. Their GDP contraction was smaller, their exports gained more global share than did that of floaters, and their inflation rose by more but remained moderate.
- 9 Twenty-three developing countries that were floating in 2007 had fixed-exchange-rate regimes in 2010. This is in keeping with the general tendency of developing countries to shift toward more stable regimes following crises (see Aizenmann et al.).
- 10 Suspensions were permitted in the case of war, as long as they were followed by returning to the prewar price (Bordo 1993).

- 11 The United States was committed to converting dollars into gold only for governments that could abstain from such conversions to support the system. However, some governments, for example France, hoarded gold (Copeland 2005).
- 12 It did not help that the supply of gold leveled off and then declined, while private demand for gold rose sharply (Bordo 1993).
- 13 The system did provide a means for the dollar to devalue, but the United States was unwilling to do this while maintaining gold convertibility, for fear that the loss of confidence would intensify pressures on the dollar.
- 14 As described by the term, “the Impossible Trio,” it is impossible for any economy to achieve the following three desirable goals simultaneously: exchange rate stability, capital market integration, and monetary policy autonomy. Any two of the goals are achievable with a given exchange rate regime, but at the expense of the third.
- 15 Because central banks want to hold reserves in currencies that are widely used in transactions, markets largely determine which currencies are used as reserves. Today, 61 percent of the world’s reserves are held in dollars and 27 percent in euros. Sterling and yen each account for 4 percent of total reserves, and a variety of other currencies make up the remaining 4 percent. For more on reserve currencies, see *How Long Will the Dollar Be King?*, *Countries at the Core Off-Balance*, and *The Future of the Renminbi*.
- 16 The Chinn-Ito Index measures the extent of openness in capital account transactions in 182 countries. It is composed of four factors: the existence of multiple exchange rates, restrictions on current account transactions, restrictions on capital account transactions, and any requirement that exporters surrender their proceeds. The Index ranges from -2.5 to 2.5; we consider any country with a positive score to have a relatively open capital account.
- 17 Only four other countries in this group—Turkey, South Africa, Argentina, and Thailand—represent more than 0.5 percent of global GDP.
- 18 Several of these countries, such as Argentina and Thailand, may be imposing lessons from past crises, while others may be preparing for capital control liberalization; still others may simply prefer the insulation of a double-safety approach.
- 19 Clearing agreements represent trade using “book” money and provide liquidity and credit to countries with inconvertible currencies.
- 20 This occurred in 2003—the year that significant undervaluation of the RMB is estimated to have begun and the first year that the RMB became a target of international complaints (Cline and Williamson 2011; Bottelier 2010).
- 21 Indeed, the combination of a pegged exchange rate and an open capital account got a deservedly bad reputation following the East Asian crisis.
- 22 Without capital controls, deposits would flee to higher returns abroad, but with capital controls, the government can freely limit the interest rates banks pay on deposits, thereby enabling banks to lend at similarly low rates.

- 23 In individual cases, the efficacy of capital controls—determined by context and design—is clearer. There is little doubt, for example, that China’s capital control regime has affected the volume and composition of its capital flows, while attempts across Africa to use controls to limit the impact of inflationary and distortionary policies during the 1980s and 1990s led to stagnant growth and unreported capital flight. These differences are due to a variety of factors, including the efficiency of public administration and the ability of markets to adjust through derivative instruments or fraudulent trade invoicing.
- 24 Gross inflows of bonds, equity instruments, and syndicated loan commitments to developing countries rebounded from a crisis-low of about \$80 billion in the second half of 2008 to more than \$300 billion in the second half of 2010, essentially reaching the pre-crisis peak.
- 25 M2 measures the money and “close substitutes” for money in circulation. The latter includes a set of financial assets held principally by households, including savings deposits (which include money market deposit accounts), small-denomination time deposits, and balances in retail money market mutual funds.
- 26 Based on historical evidence, the authors derived the following formulas for the appropriate level of reserves:  
 in fixed-exchange-rate regimes,  $R = 1 \text{ to } 1.5 \times (.3 \text{ STD} + .15 \text{ OPL} + .1 \text{ M2} + .1 \text{ EX})$   
 in floating-exchange-rate regimes,  $R = 1 \text{ to } 1.5 \times (.3 \text{ STD} + .1 \text{ OPL} + .05 \text{ M2} + .05 \text{ EX})$ .
- 27 In alphabetical order: Algeria, Argentina, Brazil, China, Egypt, India, Indonesia, Libya, Malaysia, Mexico, Nigeria, Philippines, Poland, Romania, Russia, Saudi Arabia, Thailand, Turkey, United Arab Emirates, and Venezuela.
- 28 Twelve of the sixteen countries for which sufficient data exists currently hold reserves in excess of short-term debt plus 20 percent of M2. A recent IMF analysis considers fifteen of the 20 largest reserve holders and finds that eight have excess reserves (IMF 2011).
- 29 For countries with low reserves and high debt, the opportunity cost of reserves may be negative (i.e., a net gain) because increased reserves reassure creditors and lower the costs of debt service; for countries with reserves well in excess of benchmarks, such as China and Malaysia, the cost may be as high as 2 percent of GDP (Green and Torgerson 2006).
- 30 Reinhart and Rogoff (2008) find that financial crises, on average, reduce per-capita GDP by 9 percent and returning to the pre-crisis level takes an average of four years. In emerging markets, these effects are often even more severe.
- 31 However, these benefits diminish as reserve levels rise.
- 32 As Montiel (1998) notes, suppressing nominal appreciation through intervention in foreign exchange markets expands the money supply and increases inflation, implying a real appreciation. Policymakers can sterilize this intervention by selling government bonds, thus removing liquidity and reducing real appreciation pressures. However, the effectiveness of such interventions has been long debated. The *Jurgensen Report* (Jurgensen 1983) and Truman (2003) argue that they are largely ineffective; Hutchison (2002) notes that they are effective in the short term, but not necessarily the long term. See Sarno and Taylor (2001) for a broader survey of the literature.

- 33 China and several of the other successful emerging markets heavily manage their exchange rates, while the United States, Japan, and the United Kingdom float their currencies. Though the members of the eurozone technically have a freely floating currency, each individual country is constrained by the common currency. Major competitive divergences among members—Germany, for example, benefits from its relatively higher competitiveness, and greater flexibility outside of the currency area, as in the United Kingdom—also raise tensions.
- 34 Wandschneider finds that trade with countries on the gold standard made a country only 0.05 percent more likely to stay on the standard, while Simmons estimates that larger traders were actually less likely to stick with gold.
- 35 Legernes and Vardal (2000) find that, for every 1 percent increase in openness, countries were 1.29 percent less likely to adopt a floating rate.
- 36 Countries should occasionally remind themselves of the benefits of a strong currency—something they have strived for in the past. In 1968, for example, Germany accepted a higher deutschmark in return for lower inflation. As with undervalued exchange rates, however, overvalued ones can lead to significant problems. In 1925, when Britain agreed to re-adopt gold, it aimed for revaluation but its overvalued rate led to deflation. In 1985, Japan and Germany sacrificed competitiveness to help engineer dollar devaluation and many in Asia today blame the Accord for Japan's ensuing economic problems (though others argue that Japan's banking regulations were at fault).
- 37 A U.S. firm exporting to Japan, for example, is typically paid in dollars, which it can use to pay its suppliers and workers. A Japanese exporter, on the other hand, may not be paid in yen and has to consider how exchange-rate fluctuations could alter the local value of its sales. Non-U.S. exporters can manage such risks through futures and forwards contracts, but at a cost.
- 38 Seigniorage revenues are a part of this benefit, though—at an estimated \$30 million per year—they represent little more than a rounding error in the deficit, and there are some offsetting costs not included in this calculation, such as controlling counterfeiting and maintaining stocks of dollars (Goldberg 2010).
- 39 Countries with dollar holdings are committed to providing them to monetary authorities in return for SDRs, so holding SDRs and then converting them to dollars for the purposes of intervention is a feasible strategy (Williamson 2009). However, the expanded use of SDRs would likely require further international agreement.
- 40 See Eichengreen (2010) for a discussion of the growing regional use of the two currencies.
- 41 Many currencies are fully convertible, but only a few also serve as reserve currencies. The four main reserve currencies, in order of current importance, are the dollar, euro, yen, and pound. The decision to use a currency as a reserve currency is to a considerable degree market-determined, since central banks want to hold reserves in currencies that are widely used in international transactions.

- 42 A proposal to make capital account convertibility a required target for all IMF member countries (pushed by the U.S. Treasury) was on the agenda for the IMF's annual meeting in September 1997. However, as the Asian financial crisis had begun just a few months earlier, the proposal gained no traction, as members worried about how an open capital account would affect economies with underdeveloped financial institutions, including China. In contrast to the 1997 proposal, this March, the IMF came out in support of limited capital controls under certain circumstances.
- 43 The book asserts that the Rothschild banking dynasty has had a pervasive influence on world history over the last few centuries and that even the Federal Reserve is ultimately controlled by private banks owing allegiance to the Rothschilds. Fortunately, well-trained economists in China's central bank recognize this convoluted conspiracy theory for what it is, but that does not mean they can ignore public opinion, which has become very important in Chinese politics. This is bad news for those interested in improving stability in the international monetary system, which requires China's active involvement and cooperation.
- 44 Zhou Xiaochuan, governor of China's central bank, the People's Bank of China, made another proposal for decreasing reliance on the dollar in 2009. He suggested converting the IMF's special drawing rights (SDRs)—a basket of four currencies (the U.S. dollar, euro, yen, and pound)—into a broad-based international currency, usable not only as a reserve asset, but also for trade settlement and corporate accounting around the world. Although the proposal had no chance of practical implementation—the United States has de facto veto power and no incentive to reduce the international role of the dollar by fiat—it was well received by many developing countries and in Europe. Since then, China has made no effort to revive its proposal—Beijing's attention is now focused on RMB internationalization. However, Brazil has taken up the baton by calling for international financial system reform in various international forums.
- 45 HSBC analysts estimates that, prior to the crisis, some 70 percent of China's exports and imports was invoiced and settled in U.S. dollars and the rest mostly in euros and yen (Hongbin and Junwei 2009).
- 46 Of the nearly \$200 billion in foreign exchange reserves that China accumulated during the first quarter of 2011, about 25 percent was due to China using more RMB to pay for imports than to invoice exports. Over that period, about 13 percent of China's imports (including most imports from Hong Kong) were paid for in RMB, while less than 2 percent of China's exports were invoiced in RMB.
- 47 On August 1, 2011, China's central bank halted all offshore borrowing by Chinese corporations.
- 48 China reported that the share of its international trade settled in RMB increased to 7 percent in the first quarter of 2011 (from less than 1 percent in the first quarter of 2010).
- 49 Another factor slowing export invoicing in RMB is that it is reportedly much harder to claim value-added tax export rebates when exports are invoiced in local currency.



- 50 Deposits reached RMB 408 billion (\$62 billion) in February 2011. While this is still a relatively small amount, the rate of growth is astonishing. At the end of March 2011, RMB deposits accounted for 14 percent of non-Hong-Kong-dollar deposits in Hong Kong, up from about 1 percent at the beginning of 2010, mainly at the expense of U.S. dollar deposits. Chinese payments for imports account for the bulk of these deposits, but personal RMB transfers from mainland China—presently capped at RMB 20,000 (just over \$3,000) per day and generally coming from visitors and tourists—are also important.
- 51 The New York branch of Bank of China began accepting up to \$4,000 per day (up to a maximum of \$20,000 per year) in RMB deposits for individual clients and higher amounts for corporate accounts.
- 52 For monetary policy, China still relies heavily on direct deposit and lending rate controls as well as quantitative lending targets. Once its domestic capital markets are more fully developed and integrated into global markets, indirect controls, such as the Federal Reserve's federal funds rate, will have to move center-stage, gradually replacing administrative controls.
- 53 See, for example, Podesta et al. (2010) and National Academy of Sciences (2010).
- 54 Productivity is often defined either as labor productivity (output per worker or hour worked) or total factor productivity (a measure of the efficiency of all inputs to production).
- 55 In 2009, 23 percent of U.S. manufactured exports, for example, were high-technology exports, compared to the OECD average of 17.4 percent.
- 56 State taxes vary from 8 cents in Alaska to 47.7 cents in California.
- 57 The average tax rate on gasoline in the United States was 17.8 percent in September 2010, compared to an OECD average of 53 percent.
- 58 The CBO estimates that a 25 cent-per-gallon increase would raise slightly more than \$25 billion a year. If this correspondence holds for larger hikes, raising the tax from an average (federal and state combined) of 50 cents per gallon to \$1.75 would raise around \$150 billion.
- 59 Other distributional policies could counterbalance the regressive impact of a gasoline tax (in 2009, gasoline expenditures equaled 9.3 percent of the lowest quintile's after-tax income and only 2 percent of that of the highest quintile). A gasoline tax also would reduce U.S. vulnerability to supply interruptions, its reliance on the armed forces to safeguard supply from regions subject to political instability, and its contribution to climate change.
- 60 However, the VAT would not change the tradeoff between current and future consumption, and the impact of the after-tax return on savings is ambiguous due to substitution and income effects. The regressive impact of the VAT (since poor people save less than rich people) could be eased through a tax credit that falls as income rises, zero-rating (or lower-rating) some basic consumption goods, or earmarking a portion of revenues for social spending.

- 61 Other aspects of the tax system also favor home ownership. For example, home-use is not taxable, but renting involves a financial transaction that is subject to taxation. In addition, subsidies channeled through Fannie Mae and Freddie Mac (along with other government programs) back about 90 percent of new housing loans, and PIMCO's Bill Gross estimates that mortgage rates could be 3 percentage points higher if Fannie and Freddie were not implicitly backed by the government.
- 62 See Brookings 2009. Numerous issues are also discussed on [healthaffairs.org](http://healthaffairs.org); see, for example, Bielaszka-DuVernay 2011.
- 63 At the same time, not all measures designed to increase savings or cut spending are worthwhile. Excessive reliance on spending cuts to reduce the fiscal deficit can further impair the provision of important public goods. Ostensible savings that cut or privatize Social Security and Medicare without making provisions for the aged and poor are profoundly inequitable.
- 64 In the economic literature, the initial (one- to two-year) widening of the trade surplus in the event of a revaluation is known as the J-curve effect, and reflects the fact that export and import prices react much faster than volumes.
- 65 We focus on the REER, rather than nominal exchange rates, because the former are the more appropriate indicators of changes in competitiveness in international markets.
- 66 A recent study by the Peterson Institute found that U.S.-manufactured exports are more similar to those of developed Asian economies, such as Japan and South Korea, than they are to Asian developing countries, such as Indonesia, India, and Vietnam. China shows moderate similarity with U.S. exports (Edwards and Lawrence 2010).
- 67 In both cases, there were exceptions. Among the advanced countries, Singapore, often described as an entrepôt economy, saw its dollar closely shadow the RMB, while Indonesia, a middle-income oil exporter, saw its rupiah move mildly against the RMB.
- 68 The dollar's influence is not declining in every country, however; Hong Kong has maintained its parity against the dollar for twenty-five years.
- 69 Examining the net-export values of a product group can show whether an economy's exports add value in that group.
- 70 Shifts at the industry level suggest more intense competition: China's share of Asia's exports to the United States increased in 44 of 47 industries, while that of the middle-income Asian economies fell in 34 of the 47 industries.

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