Speech

Currency Wars and the International Economic Order

C. Fred Bergsten
Senior Fellow and Director Emeritus
Peterson Institute for International Economics

Lecture delivered at the Stockholm School of Economics, Stockholm, Sweden

August 22, 2014

Introduction

I will address six central points in this lecture:

1. International currency conflict is very sizable and very widespread; its intensity has declined a bit recently but it is almost certain to become much worse;

2. International currency conflict has very large economic effects, especially on the United States and the weak peripheral countries of the euro area but also on a number of other countries that do not intervene in the currency markets;

3. These developments stem from a gaping hole in the international economic architecture, indeed the most fundamental flaw in the entire global regime, encompassing both the monetary and trading systems;

4. There is a feasible set of effective systemic reforms that can be adopted to counter the objectionable practices now and especially to deter them in the future; and

5. It is very much in the interests of the major economic powers to initiate a multilateral effort to do so, but a "coalition of the willing" should be ready to act on its own if necessary.

6. In short, it is time to declare war on the currency wars.

I address all this through the lens of the international monetary system because, as Joseph Nye has famously said about the security system, the monetary system is like oxygen: You never notice it until its absence poses serious, even existential, problems. I also do so because the

system is clearly suffering from secular erosion. Crises have become much more frequent. They are intensifying, with the latest downturn the worst since the 1930s. They have afflicted all major regions: Asia in the late 1990s, the United States in 2007–09, and Europe most recently. The rich countries were of course the epicenter of the latest disruptions, broadening their impact. The calls are clearly getting closer. The system is undergoing its most severe stress test to date.

The international monetary system now faces the clear and present danger of currency wars. Virtually every major country has been seeking depreciation, or at least nonappreciation, of its currency to strengthen its economy and create jobs.[1] My colleague Joe Gagnon has identified *more than 20 countries that have been intervening directly in the foreign exchange markets for this purpose for a number of years, resulting in cumulative buildups of reserves exceeding $10 trillion in total and averaging more than $1 trillion annually of late (table 1).*[2] They have done so mainly by buying dollars and euros, to keep those currencies overly strong and their own currencies weak, mainly to boost their international competitiveness and trade surpluses. Those surpluses have averaged over $1 trillion per year for almost a decade (tables 2 and 3).

The list of currency manipulators includes some of the largest economies in the world, both developing and developed. It is led of course by China but includes a number of other Asians as well as several oil exporters and a couple of Europeans. *They account for almost one*

[1] Goldstein (1995) presciently raised this issue as early as 1995, noting that "the focus of attention is likely to shift away from G-7 exchange rate relationships to those between industrial and developing countries." He contributed extensively to the Institute's work on the topic with a series of papers from 2003 through 2011.

[2] Gagnon and I (2012) note that some reserve buildups, particularly by exporters of oil, are justifiable, and we include only our estimates of the "excessive" buildups in deriving the cumulative annual average of about $1 trillion and in our calculations of its economic effects. We include holdings of foreign assets of sovereign wealth funds (Truman 2011) along with reported holdings of foreign exchange.

third of the world economy and more than two thirds of global current account surpluses. Broadening the list beyond China roughly doubles its magnitude.[3] *Currency manipulation is very large and very widespread.* The list excludes many countries that intervene justifiably and solely for defensive purposes to keep their already overvalued currencies from becoming even more misaligned, like Brazil, though their reactions further increase the international conflict that derives from the manipulation itself.

Gagnon shows that the *global surpluses of the currency manipulators have increased by $700 billion to $900 billion per year as a result* and created corresponding deficits in other countries, with consequent losses of output and jobs there under current and foreseeable conditions of slow growth and high unemployment (figure 1, taken from Gagnon 2012 and Gagnon 2013).[4] *The largest loser by far in absolute terms is the United States, whose trade and current account deficits have been $200 billion to $500 billion per year larger as a result, at least half of its total external imbalances. The United States has suffered 1 million to 5 million job losses* in the present and likely continuing environment of excess unemployment.[5] *Correction of this situation would have a powerful positive effect on the US economy, on a scale comparable to the fiscal stimulus of 2009 or the Fed's quantitative easing (QE) initiatives taken*

---

[3] The "target list" of manipulators for priority policy response identified by Bergsten and Gagnon (2012) included China, Hong Kong, Korea, Malaysia, Singapore, Switzerland, and Taiwan, which accounted for half the estimated amount of unjustified intervention in 2011. Cessation of intervention by these countries would probably persuade many of the other interveners to desist as well because much of their action is aimed at avoiding competitive loss to the largest manipulators (especially China); see Subramanian and Kessler (2012). Japan should be put on a "watch list," as it is in essence already by the G-7 (see below). Most of the remaining intervention is by major oil exporters, both members of OPEC led by Saudi Arabia and nonmembers such as Norway and Russia.

[4] Gagnon (2013) demonstrates that reserve buildups, largely generated by intervention, lead to current account surpluses rather than the other way around as often argued.

[5] There are two sources for these employment effects. One is a simulation of the Federal Reserve's general equilibrium model of the US economy, which implies 2 million to 5 million job losses. The other is the Commerce Department's finding that each $1 billion in exports creates 5,000 jobs. On that view, a reduction in the US trade deficit of $200 billion would create 1 million jobs, and a reduction of $500 billion would create 2.5 million jobs. Edwards and Lawrence (2013, 83) conclude, using very different methodologies, that the trade deficit reduced manufacturing employment opportunities by 2.7 million in 2010.

together.[6] For their part, most of the manipulators can and should be expanding domestic demand instead of relying on large trade surpluses—the famous "rebalancing" that has been a staple of G-20 statements but which has brought precious little accomplishment from the very outset of the global crisis.

Europe is the second largest loser, with trade deterioration of $150 billion to $200 billion annually and corresponding job losses. Research by the International Monetary Fund (IMF) shows that several of the southern European crisis countries were particularly adversely affected by Chinese competition including through the "very sharp nominal appreciation of the euro" (Chen, Milesi-Ferretti, and Tressel 2012). Studies by the European Commission, while also diplomatically refraining from explicitly calling out currency manipulation, concur that "strengthening in the nominal exchange rate of the euro" especially hurt the euro area's deficit members and inveigh against euro appreciation (European Commission 2013). *The global imbalances clearly intensified the euro crisis*.

The global imbalances, and the currency manipulation that has been one of their major causes, also played a central role in bringing on the recent *global* financial and economic crises. When the imbalances reached record levels in the middle 2000s, the large net capital inflows to the United States that arose largely from the surpluses of the intervening countries promoted continuation of the easy monetary conditions and lax regulation that triggered the subsequent crisis. The inflows of official money alone depressed US long-term interest rates by 50 to 100 basis points (Warnock and Warnock 2009) and go far to explain the famous "conundrum" enunciated by Chairman Greenspan when the Fed (belatedly) sought to tighten monetary conditions in 2004–05 but could not get longer-term rates to rise. They reflect the "savings

[6] See CBO 2012 for estimates of job creation from the fiscal stimulus of 2009 and Yellen 2013 for QE.

glut" that so troubled Ben Bernanke at the time and subsequently; Bernanke (2010) argues that "whatever complex story we wind up telling about this crisis, clearly part of it was the fact that a lot of capital flowed into the industrial countries…. There is a close interaction, I think, between capital inflows and (the shortcomings of) the financial regulatory system."

The Chinese and other surplus countries of course did not force US banks to make stupid subprime loans.[7] *Their currency manipulation played a central role in creating the macroeconomic and monetary environment that laid the foundation for the crisis*, however, which had such devastating effects on the world economy as a whole as well as on the United States at its epicenter.[8] In his definitive study of the international role of the dollar, Eichengreen (2011, 5, 179–80) concurs that "the cheap finance that other countries provided the US…underwrote the practices that culminated in the crisis" and that the capital inflows both helped explain Greenspan's "conundrum" and clearly exacerbated the crisis and its costs.

The reserve buildups and imbalances have declined lately, and China, in particular, has let its currency rise substantially and sharply reduced its current account surplus. But the currencies of all of the Asian manipulators remain substantially undervalued—several of them by considerably more than the renminbi (Cline and Williamson 2012). Moreover, much of the adjustment progress is due to cyclical factors, mainly the sharp slowdown in growth in

[7] Although Darvas and Pisani-Ferry (2010) argue that "the low level of long-term rates resulting from capital inflows led investors to diversify from Treasury securities and look for higher yield paper, thereby encouraging investment banks to manufacture securities that were granted AAA status by rating agencies but which offered a higher return than Treasury bonds. This contributed to explain the success of structured products like CDOs [collateralized debt obligations]." They conclude that the global imbalances "could have indirectly caused the crisis by contributing to failure within the financial system."
[8] Pettis (2013) puts it even more strongly, arguing (155) that "it is just as correct, and probably more so, to say that foreign accumulation of dollars *force* [italics in original] Americans to consume beyond their means" and (157) that "foreign accumulation of dollar assets at best permits and, at most, exacerbates and even forces" the US trade deficit, low saving level, and high levels of private and public debt.

(especially) Europe and the United States, *and the IMF projects that the imbalances are likely to rise again in the near future, especially for China and the United States.*

There are signs that they have already begun to do so, especially in China. Its reserves rose by about $500 billion in 2013, as rapid a pace as at the peak of its current account surpluses in 2007. The IMF estimates that its surplus will triple from 2012 to 2018, rising to almost $650 billion.

But those forecasts could well prove to be too conservative. China could maintain or even increase its renewed intervention if its recent slowdown continues and/or its stated goal of relying more heavily on domestic demand growth continues to progress slowly and/or it were to experience the long-feared banking crisis. The US Treasury Department's latest semiannual report on exchange rate policies (U S Treasury 2014), while it again shamefully failed to designate any of the intervening countries as "manipulators," expressed concern about Korea and Taiwan, stressed that China had again "apparently resumed large-scale foreign exchange intervention" and that its current account surplus is likely to double as a share of global GDP by 2017, and once again concluded that the renminbi is "significantly undervalued." The latest estimates of "fundamental equilibrium exchange rates" by my colleagues at the Peterson Institute for International Economics show that the renminbi would need to rise by 14 percent to eliminate the projected Chinese surplus (and that the dollar would have to fall by a trade-weighted 15 percent to eliminate the US deficit).[9] The G-20 and G-7 continue to inveigh against the global

[9] Cline and Williamson (2012, 7) find that the dollar is overvalued by only 2.2 percent (and the renminbi undervalued by only 3 percent), but that is based on a conceptual framework that aims only to keep countries' global imbalances within 3 percent of their respective GDP levels. Edwards and Lawrence (2013; 169, 241) find that a 15 percent depreciation of the real dollar exchange rate would be needed to eliminate the current US deficit of about $500 billion.

imbalances and were sufficiently alarmed at their meetings in February 2013, with an eye especially to developments in Japan under the Abe government, to emphasize their "commitments to avoid exchange-rate targeting." Brazil has taken the issue to the World Trade Organization (WTO).

The outlook is most worrisome because *some of the world's largest and richest economies have already joined, or seem to be contemplating joining, the "currency wars."* *Switzerland* became the world's largest manipulator in 2012, most immediately for monetary policy reasons but also to preserve its huge current account surplus in the midst of continuing recession in its main trading partner, the euro area. *Japan* triggered a wave of concern in late 2012 and early 2013 when its new government, both before being elected and immediately after taking office, aggressively talked down the yen by about 30 percent against the dollar.[10] The president of France has called for a weaker *euro* and so have a number of economists, including in the United States (Feldstein 2012), indeed viewing that as the only feasible escape for Europe from many more years of stagnation or worse—especially if Germany continues to resist expanding domestic demand more rapidly to promote intra–euro area rebalancing (Bergsten 2014a). Some perceptive British observers believe that its officials have subtly "talked down the pound" (Brittan 2013, Ferguson 2013).

A significant recent development is the insistence by a unique bipartisan majority of both houses of the US Congress that all new US trade agreements, including those now being negotiated across the Pacific and Atlantic, include a "currency chapter" that will include "enforceable disciplines against manipulation." They will almost certainly list this issue among

[10] Widespread criticism of that behavior led Japan to cease its oral intervention, and the subsequent adoption of aggressive QE by the Bank of Japan may justify the depreciation. The Cline-Williamson calculation of fundamental equilibrium exchange rates (FEERs), however, suggests that the yen has moved from being slightly overvalued to being significantly undervalued.

the priority US negotiating objectives if and when they pass renewed Trade Promotion Authority (aka "fast track") to facilitate both compacts. It would in fact greatly behoove the US administration, including to enable it to retain control of the issue, to anticipate such congressional initiatives by attacking the problem preemptively along the lines outlined below.[11]

The concept of defensive intervention enters the picture at this point. The United States, as the world's largest deficit and debtor country, would clearly be operating defensively if it chose to start intervening. The currencies of a number of countries have become overvalued and produced external deficits, importantly due to the widespread manipulation. Counteractions by them are fully justified and have already been taken by some such as Brazil, Australia, and New Zealand.[12]

There is also a degree of defensiveness in some of the manipulators themselves, particularly the Asians that emulate China's intervention policies to avoid deterioration of their own competitiveness against their formidable neighbor. However, they run large surpluses of their own and could let their currencies rise without suffering undue damage. Even recipients of "hot money" inflows, such as Switzerland, can hardly justify their protracted one-way intervention on such grounds when they continue to run very large current account surpluses.

---

[11] Sharp increases in dollar overvaluation, as in the early 1970s and middle 1980s, have traditionally generated sharp increases in congressional pressure for protectionist trade policies. It is thus encouraging that the latest bout of overvaluation, coupled with the Great Recession, has produced relatively little trade policy erosion, although the Global Trade Alert, created to monitor the situation, argues that the erosion has been much greater than is widely realized and that the G-20 has repeatedly failed to implement its pledges to avoid adopting new restrictive measures. It is instructive that both the Nixon-Connally and Baker initiatives to weaken the dollar in 1971 and 1985, respectively, were undertaken partly to keep Congress from seizing control of trade policy.

[12] Bergsten and Gagnon (2012) estimate that 91 countries accounting for 18 percent of global output in 2011 were defensive interveners.

The systemic problem arises with the maintenance of significant and continuing currency undervaluation generated primarily through substantial and prolonged intervention. Table 4 illustrates the application of these principles to the present situation; its northwest cell constitutes the objectionable behavior.

Table 4

	Undervaluation	**Overvaluation**
Intervention	China	Brazil
No Intervention	Sweden	United States

Note the inclusion of Sweden in the southwest cell of the matrix. It is one of the very few countries that our studies at the Institute show is running a large current account surplus and substantially undervalued exchange rate without governmental intervention. Some analysts would suggest this means that the rate is not undervalued at all, resulting as it does from private capital flows and market forces; our approach emphasizes current account balances, however, and defines "misalignments" as primarily reflecting trade competitiveness. Given the sustained absence of intervention, however, we would not target Sweden for any countervailing policy action (although the occasional suggestions by top Swedish officials that the country needs more reserves could conceivably change that situation if it led to sizable dollar or euro purchases while the external surplus remained large).

In the absence of agreement on what exchange rate policies are justified, however, even legitimate defensive intervention intensifies the perception of growing currency conflict. The global macroeconomic picture heightens these risks considerably. Fiscal policy is constrained in almost all the "advanced" economies by their large debt burdens. The result is widespread

reliance on QE, including in the United States, that has led to charges of "competitive devaluation" against it (and more recently Japan and the United Kingdom). Such charges are analytically foolish: The transmission of all monetary policy occurs to some extent through the exchange markets. QE aims primarily, if not solely, at domestic economic outcomes. It is conducted in domestic rather than foreign currency. Successful QE *helps* rather than hurts a country's trading partners by strengthening growth, and thus imports, of the country undertaking the policy (IMF 2011). The distinction between QE and direct currency manipulation should be crystal clear.

However, QE does move exchange rates in the same direction as direct manipulation. Hence countries on the receiving end of those policies, and the broader public, understandably conflate the two. Brazil, which leads the international criticism of "currency wars," has done so as have other Latin American countries (Larrain 2013) and, more mischievously, China. Continued reliance on QE for some time in some countries, even as the Federal Reserve completes its "taper," will sustain this tension. *The three-way conflation among QE, aggressive manipulation, and defensive intervention is analytically unjustifiable but psychologically understandable and adds to the perception of budding currency conflict.*

In addition, QE along with fiscal policy has limits and doubts over its efficacy are widespread. Hence there is inevitably a search, in many countries, for additional policy tools to enhance growth and create jobs. Former Governor Mervyn King of the Bank of England worried "that we will see the growth of actively managed exchange rates as an alternative to the use of monetary policy" (King 2012). This search is likely to be most acute where performance has

been poor, notably Europe in addition to Japan. It of course heightens the risk of a new wave of currency conflict.

The bottom line is that we have witnessed extensive competitive depreciation for a number of years. The practice is widespread. Much more seems quite possible in the near future, and the Fed's withdrawal from QE will provide a convenient (and perhaps prolonged) justification for it. The economic damage that has already resulted is immense and could become much worse.

The Global Economic Order

Can we blame these developments at least partly on the failures of the international monetary system? The answer is unambiguously positive. The entire postwar economic order aimed to avoid replication of the competitive devaluations that occurred in the 1930s with such disastrous consequences.[13] But it was not structured to deal effectively with surplus countries in general, let alone currency manipulation in particular, importantly because the United States as the surplus country of the day would not permit it to do so.[14] Thus the international monetary system has done very little to head off such problems or to respond when they occurred.

The single greatest flaw in the entire international financial architecture is its failure to effectively sanction surplus countries, especially to counter and deter competitive currency

[13] Irwin (2011) emphasizes that the flaws of the international monetary system of the day were instrumental in bringing on the Great Depression. That system, under the supposedly symmetrical "rules" of the gold standard, was also unable to bring effective pressure on surplus countries (notably France and the United States during the interwar period). Its dominant "gold standard mentality" prevented the most important countries, including Germany as well as the United Kingdom and United States, from moving off their increasingly overvalued fixed exchange rates in a timely manner.
[14] See Stiel (2013) for a recent account.

policies. Indeed, this systemic failure almost assures that the problem will continue because the manipulators get away with it and thus are presented a policy option, especially attractive in tough economic times,[15] through which they can subsidize exports, import substitutes, and jobs without budget costs domestically or effective restraint internationally.

Nor is currency manipulation a new phenomenon (although it has grown much greater in recent years). We do not have comprehensive data for earlier years, but one of my very personal experiences with this practice occurred in the middle 1970s, when on my first extended trip to Japan (ironically as a guest of the Ministry of International Trade and Industry [MITI], as it was known then), I discovered that the Japanese were intervening heavily to keep the yen from rising but parking the dollar proceeds in Japanese banks to hide their actions. I was delighted to be able to return to Tokyo six months later, traveling as assistant secretary of the US Treasury with Vice President Mondale at the very outset of the Carter administration, to tell them with the full authority of Secretary Blumenthal, and indeed the President, to get their "(censored) hands off the exchange rate." This was hardly the optimal way to manage the monetary system but, to the credit of the Japanese, they did so immediately.

There are two plausible and complementary explanations, one primarily political and one primarily financial, for these current shortcomings of the international economic order. The broader perspective returns to the seminal insight of my old professor in graduate school, Charlie Kindleberger (1986), that the world economy collapsed in the 1930s because of the absence of leadership to save it: The United Kingdom was no longer able and the United States was not yet

[15] For example, China started letting its currency appreciate gradually in 2005, but it suspended the adjustment in 2008, when the global crisis hit, and only resumed in 2010 after it had restored rapid economic growth.

willing. Today's analogue would of course be that the *United States is no longer able and China is not yet willing.*

China is a unique economic superpower, however. It remains a relatively low-income country. Its economy has not yet fully marketized, and it retains extensive capital controls and a currency that remains far from full convertability. Its political system is hardly compatible with those of the traditional economic powers (Bergsten et al 2008). Despite the predictions of my colleague Arvind Subramanian (2011), it would be a bit premature to expect China to shoulder full global economic leadership. There are strong reasons to doubt that China will even become a "responsible stakeholder," to use Bob Zoellick's famous term, any time soon.[16] Indeed, as indicated throughout my remarks, China is a large part of the contemporary problem rather than a leader in resolving it.

But there is enough truth in the proposition from the US side to merit close perusal. *The United States is caught in a scissors movement. On the one hand, it has become increasingly, and in some instances critically, dependent on the world economy—at least four times as much as when I entered this business in the early 1960s. On the other hand, it has become decreasingly able to influence, let alone dictate, the outcome of global economic developments—with half the share of global output it had half a century ago.*[17] Figure 3 depicts this transformation, which represents nearly a mirror image of the two trends: *US dependence on*

[16] The careful analysis of "China and Global Governance" in Shambaugh (2013, chapter 4) is not encouraging. It concludes (153–55) that "China's distrust of global governance (is) deeply engrained in Chinese political culture" and that we "should not expect China to become a full-fledged 'responsible stakeholder'" any time soon. He sees a nation that "knows what it is against but not necessarily what it is for, and one that finds it easy to say no but still difficult to say yes," and "a China that is consistent in its view that the existing international system is unequal and unfair."
[17] However, the US share of the economy of the countries in the Organization for Economic Cooperation and Development (OECD) has risen for the past 20 to 30 years as presciently observed by Posen (2004). National output of the EU15 (its members before 2006) exceeded that of the United States by 15 percent in the early 1990s but is now 10 percent lower and is expected to be 17 percent lower by 2017 (Darvas, Pisani-Ferry, and Wolff 2013).

the world economy, defined as the share of trade in goods and services plus factor incomes in our own GDP, has risen from 10 to 40 percent, while the US share of global output has dropped from 40 to 20 percent.

Since 2000, both trends have accelerated more rapidly than at any time since the 1970s. *Time is not on the side of the United States in seeking to promote its global economic interests.* It needs to start pursuing the needed systemic reforms as soon as possible.

I believe there is an even more fundamental if subtle reason, however, for both the systemic erosion and its adverse consequences for the United States: the international role of the dollar. Under either "fixed" exchange rates prior to 1971 or "floating" rates since, there is a basic asymmetry in the rules of the game. The dollar, by far the most widely used international money, is the "nth currency" in a world in which only n-1 exchange rates can exist without conflict. Hence the United States is expected to remain passive in the currency markets, and the exchange rate of the dollar, while obviously reflecting US fundamentals, is to a substantial degree determined by the combined actions of other countries including their direct, indirect, and oral intervention in the currency markets. *Global monetary arrangements are based on an implicit "grand bargain" in which the United States accepts the deficits that result from the dollar's role and other countries finance those deficits without complaining too much* (Williamson 2011).

The conventional wisdom is that the international role of the dollar is good for the United States and bad for the world. In reality, the opposite is true: Other countries clearly benefit from the convenience and cost reduction of a single currency and the ability to set its price in

terms of their own, but the United States suffers two very tangible costs (and the offsetting systemic benefits of the past have diminished sharply, as I have argued). *On the real side, other countries can determine the exchange rate between their currencies and the dollar by buying dollars in the foreign exchange markets to avoid appreciation.* As we have seen throughout the postwar period, this contributes importantly (if not always decisively) to substantial dollar overvaluation, large US external deficits and debt buildup, and loss of domestic output and employment. The Chinese clearly recognize this effect: In his famous pronouncements on the international monetary system in 2009, Governor Zhou Xiaochuan of the Peoples' Bank of China seems to invite the United States to exit the international currency business by noting that "when a country's currency is no longer used as the…benchmark for other economies, the exchange rate policy of the country would be far more effective in adjusting economic imbalances" (Zhou 2009).

One advantage of the (otherwise dysfunctional) interwar monetary system was that gold was still the "nth currency" so that everyone could (and did) ultimately devalue against it. The resultant increase in the price of gold was expansionary and part of the remedy to the Great Depression. *But the dollar is now the closest equivalent of gold in the interwar period. Hence the United States inherently suffers the adverse consequences of the depreciations of other countries and must ultimately lose any "currency war" under the current system.*

On the monetary side, the "automatic" buildup of dollar balances by surplus countries, very directly when those balances accrue as a result of intervention, enables the United States to

run large external deficits for prolonged periods of time.[18] This carries certain advantages for the United States, including cheaper imports and anti-inflationary pressure. It also conveys short-term macroeconomic benefits, mainly the ability to sustain excessive domestic spending including by the government via fiscal deficits, which is highly desirable during periods of crisis, as we have just experienced.

The problem is that *this represents the ultimate moral hazard: an absence of market pressure on the United States to adjust its economic policies when it should be doing so,* like the boom period of the early and middle 2000s, to keep its imbalances from reaching unsustainable levels that may require very sharp and very costly correctives, as we in fact saw subsequently. *The international role of the dollar does indeed create "deficits without tears" for prolonged periods, but this provides the United States with such a long leash that it will be constantly tempted to hang itself.*[19] We experienced this effect as far back as the late 1970s, when the United States was still the world's largest creditor country, when a sharp fall of the dollar contributed importantly to the onset of double-digit inflation for three consecutive years and the rise in interest rates beyond 20 percent—which I can testify personally, from sitting at the Treasury at the time with the exchange rate falling by 2–3 percent daily for a number of market sessions in a row, felt very much like a "hard landing" (Marris 1985). Our inability or unwillingness to tighten monetary or fiscal policy in time to head off the collapse of the housing bubble and the Great Recession provides recent evidence of this powerful impact.

[18] Bernanke (2005) agrees that "[b]ecause the dollar is the leading international currency…the saving flowing out of the developing world has been diverted relatively more into dollar-denominated assets, such as US Treasury securities." He added that "the dollar probably strengthened more than it would have if it had not been the principal reserve currency."
[19] Pettis (2013, 177) proposes that the traditional characterization of this effect as an "exorbitant privilege" for the United States be relabeled an "exorbitant burden" and that the former phrase be abolished.

There is some similarity between the huge inflows of capital to the United States and the huge inflows to southern Europe in the early years of the euro. Both reflected market judgments, driven by key features of the institutional framework, that kept interest rates very low in the capital importing area. We know the result in the European periphery and must be alert to a similar risk on the other side of the Atlantic.

But "dollar primacy mentality" is very potent. It seems virtually on a par with the "gold standard mentality" that prevented so many countries from moving off gold in the 1930s and thus suffering so needlessly from the Great Depression (Irwin 2012). In the early 1980s, the editorial page of the *Wall Street Journal* and many others extolled the soaring dollar of the first Reagan administration, even though it converted the United States from the world's largest creditor country—where I had left it upon departing my responsibilities in that area in January 1981—to world's largest debtor in just five years. (The *Wall Street Journal* also excoriated my secretary of the Treasury, Mike Blumenthal, for allegedly "talking down the dollar," while uttering nary a peep when Jim Baker drove it down by at least three times as much with the Plaza Agreement a few years later.) I also recall how Bob Rubin recounted in his memoirs that selling dollars for yen in 1998 was the hardest decision he had to make as secretary of the Treasury, even though the yen at the time was approaching 150:1 against the dollar—a hugely undervalued rate. His successor Larry Summers was uneasy about selling dollars for euros in 2000 when the euro was approaching 80 cents to the dollar—another grossly undervalued rate. I regarded these actions as highly desirable, indeed indispensable, to restore a level playing field for the American economy and strongly supported Bob's and Larry's actions. But our best and brightest were extremely reluctant, which I can only ascribe to "dollar primacy mentality." I believe *it will have*

to be overcome if US policy is to effectively pursue termination of currency manipulation and thus provide an effective response to the current and systemic problem.

It is not necessary for the *United States* to take policy steps to drive or even talk the dollar down (though it should avoid repeating the meaningless "strong dollar" rhetoric of the past). It *simply needs to make sure that other countries refrain from taking actions to push the dollar up. This should become the main thrust of US international monetary policy.*

What Is To Be Done?

Systemic reform is clearly required. It *should include both changes in the rules themselves and much tougher enforcement of those rules.* The governance structures through which the rules are implemented must of course also be substantially revised to legitimize the new regime and thus promote both its initial acceptability and then its sustainability.

An important part of the needed reform is likely to occur through the increasing multipolarization of the global currency regime. The role of the dollar has declined over the past three decades, from about 75–85 percent to about 50–60 percent of the global total (figure 4) and will almost certainly continue to do so. Once the euro area has definitively resolved its current crisis and emerged with a stronger and comprehensive institutional foundation, including banking union and partial fiscal union, the euro is likely to trend upward as a global asset (Bergsten 2012). Whenever China liberalizes its capital controls and embraces current account

convertability, the renminbi will become at least a third international currency.[20] If the United States fails to put its own house in order, these alternatives could attract substantial diversification from the dollar and generate considerable market pressure on the United States.[21]

The advent of a multiple currency system cannot be relied upon to implant an effective adjustment process, however, and its establishment will in any event take many years or probably decades.[22] In the meanwhile, the perennial absence of effective means to prompt adjustment by surplus countries, especially to preclude their intervening in the foreign exchange markets to undervalue their currencies, will persist. *We should in fact seek to move as quickly as possible to a multiple currency system with manipulation-free floating, rather than today's dollar-based system with extensive competitive intervention, and specific changes will have to be adopted for that purpose.*

Such changes should be implemented through both the International Monetary Fund and the World Trade Organization.[23] Both already have rules against competitive undervaluation. The IMF rule is clearer but has no followup enforcement mechanism.[24] The WTO has an enforcement mechanism, but its rule is much more ambiguous. The United States has tried for a

---

[20] Eichengreen (2011, 150–52, 176), who has previously published definitive histories of the international monetary system, notes that the system has almost always embraced multiple key currencies (and that the dollar-dominated second half of the 20th century was thus a historical aberration) and argues that there is no reason for the United States to fear or resist such an evolution.

[21] Eichengreen (2011, chapter 7) devotes an entire chapter of his definitive study of the international role of the dollar to the risk of a "dollar crash," concluding that "[t]he United States will suffer the kind of crisis that Europe experienced in 2010" if we fail to deal effectively with our budget and other domestic economic problems.

[22] That process could be accelerated by new policy actions, such as the creation of a Substitution Account in the IMF to enable countries to offload unwanted dollar balances without disrupting markets and other measures to enhance the role of Special Drawing Rights, or the creation of credible new "global safety nets" to reduce the incentives for countries to build such excessive levels of foreign exchange reserves.

[23] Irwin (2011) agrees that "the solution is for the international community, in particular the IMF and the WTO, to work out new rules to help defuse current and future disputes over exchange rate policy and clarify the conditions under which trade sanctions might be considered an appropriate remedy."

[24] As Goldstein (2010) puts it, "[t]here has to be some credible penalty in the middle between the Fund's opinion on exchange rate policy (easily dismissed) and expulsion from the Fund (too drastic to be useful)."

decade to persuade China to let its currency appreciate much faster and by much larger amounts, but its success has been modest, importantly due to the absence of effective international rules and procedures that it could mobilize for that purpose.[25]

In the case of the IMF, the chief need is to add effective policy instruments to enforce the two existing rules: the proscription of significantly undervalued exchange rates that are maintained by "protracted large-scale intervention in one direction" in the exchange markets, and a failure by violators to consult with the country in whose currency they plan to intervene before doing so. *The current regime should thus be reinforced to provide, for the first time, effective sanctions against countries that meet a two-part test: maintenance of significantly undervalued exchange rates inter alia through extensive intervention in the currency markets.*

Determining the existence and extent of currency misalignment, especially as a possible trigger for remedial action, has proven enormously difficult, however, both intellectually and politically. Numerous conceptual approaches to defining and measuring currency "misalignment" have been attempted. The IMF uses three different measures that often produce very different results. Most official discussions, and even many academic efforts, have foundered at this initial level.

Gagnon's (2013) proposal to ignore the determination of "misalignment" *per se* in favor of more straightforward and objective indicators thus has considerable merit. The goal of the exercise would be simply to prevent a country from running large and persistent external

[25]The relevant US law, deriving from the International Trade and Competitiveness Act of 1988, is also imprecise and toothless (though its directive to Treasury to name and shame "currency manipulators," even though usually ignored, has attracted enormous attention despite its lack of operational follow-through).

surpluses that result from efforts to depress the value of its exchange rate in the currency markets.[26] Only three variables would need to be identified: current account surpluses, levels of reserves (to determine if they are "excessive"), and amounts of intervention (or changes in reserve levels as a proxy if actual intervention numbers are not available on a timely basis).

Agreement would have to be reached on several dimensions of these key variables. First, what constitutes an "excessive" level of reserves beyond which a country should avoid further increases? A number of countries in recent years have sought much higher reserve levels than in the past as a form of "self-insurance" against future crises. This has been particularly true in Asia, where profound unhappiness with the region's treatment by the IMF (and the Washington Consensus more broadly) during its crisis in 1997–98 produced a strong resolve to never again become beholden to conditional lending from outside.

The traditional rule of thumb, among both officials and economists, is that a country should hold an amount equal to the value of three months' worth of imports. In light of the enhanced self-insurance motive and recent practice in many countries, a free trade agreement might permit a considerably higher level of reserves, say six months' equivalent. A more recently suggested criterion is the level of a country's short-term (less than one year) external debt denominated in foreign currencies. Either or both of these variables could be included as the threshold for determining an "excessive" level.[27] A higher range might be allowed for countries whose exports are dominated by nonrenewable resources, such as oil, to provide for their future generations, and for poorer countries that may face higher economic volatility.

[26] See Mattoo and Subramanian (2008) for a similar construct.
[27] All countries cited as manipulators by Bergsten and Gagnon (2012) far exceed both thresholds.

Second, what constitutes an "excessive" level of intervention? In principle, any net intervention to prevent appreciation (or generate depreciation) should be banned for a country that is already beyond the agreed ceiling for reserve levels. Some minimal exceptions could be granted, particularly for brief time periods, and offsetting interventions aimed at smoothing market fluctuations should be permitted. But there is no rationale for adding further to reserves that are already fully (or, in many cases much more than fully) adequate. Doing so cannot be justified as more "self-insurance" and can only be interpreted as aimed at preventing appreciation in order to strengthen the country's price competitiveness.

Third, what constitutes an "excessive" current account surplus? Traditional economic analysis suggests that high-income capital-abundant countries should run current account surpluses and low-income labor-abundant countries should run current account deficits.[28] Countries can of course run surpluses, and even sustain undervalued exchange rates for some time, without intervening, primarily due to the interplay of markets and especially private capital movements (as Sweden has done in recent years). But any prolonged surpluses that coincide with extensive intervention seem inappropriate when reserves have already reached an agreed threshold level. Again, some minimal exceptions could be permitted with respect to amounts and/or time periods, and a modest surplus that was clearly due to cyclical factors could be viewed as acceptable.

High degrees of precision are not essential in defining and applying these concepts. The goal is to identify and sanction sizeable and prolonged imbalances run by important countries

---

[28] On that reasoning, *any* surplus in China and other developing countries should be viewed as "excessive" (and any US deficit should be viewed as inappropriate).

that have significant economic and systemic effects, to a substantial extent due to their currency intervention, and thus to deter such practices.[29] There is no need to pick up every single deviation from "equilibrium." Pragmatic implementation of the construct should be quite feasible.[30]

The most promising sanction would be countervailing currency intervention (CCI) through which countries in whose currencies intervention took place, if their requests to stop the objectionable practice were unsuccessful, would buy the currencies of would-be manipulators in sufficient amounts to offset the impact on their own exchange rates (Bergsten 2003, Bergsten 2011).[31] Such a measure would parallel the well-established WTO rule under which countries can apply countervailing duties against prohibited export subsidies. If the indicted manipulators felt they were being treated unjustly, they could protest to the Fund, and the counter-interveners would have to desist if the Fund ruled against them.[32]

Two changes should also be made in the rules of the WTO. *The simpler would be to explicitly add "manipulated currency undervaluation" to the list of proscribed export subsidies against which countervailing duties can be levied* by member countries. This could be quite potent if a "coalition of the injured" then used the new authorization to countervail in a variety of their sectors that are injured by the manipulation.[33]

---

[29] Some deficit countries are forced to intervene in the foreign exchange markets to keep their currencies from becoming even more overvalued. Such "defensive intervention" to prevent manipulation by surplus countries from worsening the positions of these deficit countries is fully justified. In addition, countries can run current account surpluses and undervalued exchange rates without intervening in the currency markets due to private capital exports (as in the case of Sweden at present) or simply market misperceptions of their equilibrium positions ("market errors").

[30] More details on these concepts can be found in Bergsten (2014a).

[31] Pettis (2013, 195) agrees that "the only way" that a manipulator's trading partners can defend themselves is by "themselves intervening—effectively retaliating in the form of a currency war." There are of course some who believe that sterilized intervention is ineffective but, if so, it is hard to explain why so many important countries do it so extensively as integral parts of their economic policy.

[32] A variant would be to require advance IMF authorization for such national actions. As with countervailing duties themselves, however, this would risk substantial delay that would permit a great deal of damage to occur before remedial action could take effect.

[33] See Lima-Campos and Gaviria (2012) and Lima-Campos (2013).

The second, and potentially even more significant, change would be to amend or re-interpret Article 15(4) to clarify that manipulated undervaluation by individual countries justifies the erection of across-the-board barriers against their exports by all members of the organization that choose to do so (Mattoo and Subramanian 2008). As under its current rules, the WTO would first ask the IMF under both remedies for a judgment as to whether a currency is "undervalued" and "manipulated" and then apply its own standards to the trade measures that were proposed in response. [34]

These changes could be made either through amendment of the charter or (more likely) via developing a consensus on the issue.[35] The latter approach, following standard WTO practice, could be achieved initially by a plurilateral group that fell short of the full membership of the organization as laid out in detail by my colleagues Gary Hufbauer and Jeffrey Schott.[36] Another tactic would be to begin including such mechanisms in bilateral or regional trade agreements, rather than or in addition to the WTO itself, that would suspend the benefits of the agreement to countries that were found to be manipulating their currencies; the United States should seek to add such chapters to the Trans-Pacific Partnership, which already includes several current and former manipulators, and the Transatlantic Trade and Investment Partnership, where the participating countries are more like-minded.

---

[34] More details can be found in Bergsten and Gagnon 2012. These WTO requirements reinforce the central role of the IMF on the issue and thus the importance of reforming the Fund's rules and procedures.
[35] Consideration of trade sanctions was also recommended by the Palais-Royal Group (2011) among its proposals for international monetary reform. Its report emphasized the "major risk… of the resurgence of prolonged and ultimately unsustainable current account imbalances" and the "accumulation of an unprecedented volume of international reserves as a result of policies to limit exchange rate appreciation," and called for the establishment of exchange rate "norms" that *inter alia* would expect each country to refrain from exchange rate policies that pushed or kept its exchange rate away from its norm. That group was convened by Michel Camdessus, Alexandre Lamfalussy, and the late Tommaso Padoa-Schioppa and included such luminaries as the late Andrew Crockett, Arminio Fraga, Toyoo Gyohten, Horst Köhler, Guillermo Ortiz, Ted Truman, and Paul Volcker.
[36] Hufbauer and Schott (2012) provide a detailed proposal for such a plurilateral agreement.

These trade policy responses would be decidedly inferior to the monetary alternative because they would apply to only one side of the trade balance—imports from the manipulating country (and perhaps only a subset thereof via countervailing duties)—and only to trade with countries that implemented the newly permitted devices. The monetary option, by dealing directly with the intervention itself, would by contrast be comprehensive both geographically and across the trade account. The trade policy approaches should nevertheless be part of an overall strategy because the WTO already has a culture of authorizing enforcement actions and a dispute settlement mechanism to oversee their use, whereas the IMF would have to develop both and could thus take much longer to start playing its new role.

The fundamental purpose of these systemic reforms would of course be deterrence. Countries contemplating competitive undervaluation should be placed on clear notice that such policies would trigger prompt and forceful reactions by their trading partners under agreed rules and procedures. This was the central goal of the original Bretton Woods arrangements, but their absence of precision and teeth, due ironically to US resistance, rendered the effort impotent, and it now needs to be revived.

How to Get There?

The preferred approach is clearly to negotiate the proposed reforms internationally, and the United States should seek to mobilize a coalition of nonmanipulators to achieve the needed systemic changes. Fortunately, there are a number of potential candidates. The euro area as a whole floats freely, like the United States, and suffers the competitive effects of both direct

intervention in its currency (as by Switzerland) and diversification into euros out of the dollar (as by China and others); it should be the closest ally of the United States on this issue. There are at least 13 countries (counting the euro area as one), including Sweden, whose currencies are held as foreign exchange reserves and thus can experience unwanted appreciation as a result of diversification by national monetary authorities.[37] Japan, despite being charged with manipulation itself, has criticized China's manipulation and successfully negotiated at least a temporary response to it, [38]and would find it difficult to line up against the United States due to its geostrategic problems and likely participation in the Trans-Pacific Partnership. Brazil has adopted the most aggressive stance on the issue of any country. Russia too has been a vocal critic of manipulation. India, Mexico, and a number of other emerging markets have spoken out against it.[39]

The G-7 has maintained a reasonably effective commitment that its members will consult each other before intervening and recently added agreement that "our fiscal and monetary policies have been and will remain oriented towards meeting our respective domestic objectives using domestic instruments," i.e., warning Japan not to conduct its QE by buying foreign assets as mooted by some advisers to the Abe government there. The G-20 has agreed that "we will not

[37] The countries include the two major reserve centers, the United States and euro area; the three traditional minor reserve centers of the United Kingdom, Japan, and Switzerland; and at least eight others, including Australia and Canada, which have just been added to the official list by the IMF, and Denmark, Korea, Singapore, Sweden, New Zealand, and Norway (Truman 2012). Some of these minor reserve centers have begun meeting together in recent years, initially in an effort simply to find out the extent to which their currencies are being used.

[38] Japan recently instituted a unilateral variant of "countervailing currency intervention." When China began diversifying its reserves into yen by buying Japanese bonds, Japan protested that it could not buy Chinese bonds reciprocally and eventually won Chinese agreement to do so. More broadly, Pettis (2013, 158) suggests that Japan's heavy intervention in 2011was intended at least partially to offset diversification into yen "by certain Latin American and Asian central banks."

[39]"Emerging market solidarity" or even "BRICS [Brazil, Russia, India, China, South Africa] solidarity," along with fear of China per se, may limit the willingness of some countries to criticize their "brethren." This recalls how many developing countries cheered on the OPEC cartel in the 1970s, on the thought that it would both champion their position in the global economy and provide unlimited financing for them, when many of them in fact turned out to be the largest losers from the sequential oil shocks and then suffered a "lost decade" as a result of their unsustainable debt buildup via petrodollar recycling through the commercial banks.

target our exchange rates for competitive purposes." These pledges give the United States and other aggrieved countries a basis for exerting peer pressure on the manipulators.

But they do not go very far. G-7 members can proceed with intervention even if their consultations elicit negative responses. G-20 countries can and do claim they are intervening for other reasons than "competitive purposes." It would be worthwhile to continue the efforts to strengthen the G-7 and especially G-20 understandings on these issues. But these informal pledges cannot substitute for changing the permanent and binding rules of the formal international institutions, and those initiatives should command priority attention.

As with most systemic change, however, it may be necessary for one or several major countries to break some crockery to galvanize serious consideration of the issue and launch the multilateral reform process. This was the case with the most far-reaching systemic reform of the postwar period, the shift from the adjustable peg ("fixed exchange rate") system of Bretton Woods to (relatively) free floating. The United States made tentative efforts to negotiate such systemic change, both at the end of the Johnson administration in 1968 and in the early part of the Nixon administration in 1969–70. Those efforts were rebuffed by the Europeans, however, and change occurred only when the United States floated the dollar in August 1971 by abandoning its link to gold and adopted an across-the-board import surcharge to strengthen its negotiating posture. *The US "unilateralism" of the time, which was then almost universally excoriated (including by Bergsten 1972), turned out to be essential to achieve systemic reform and produce a better world economy, although that was certainly not its original intent.*

The contemporary analogue to 1971 (and to a lesser extent, the Plaza-Louvre initiative of Secretary of the Treasury James Baker in 1985–87) would be for the United States on its own, or preferably with as many allies as could be assembled, to implement one or more of the three steps proposed above: countervailing currency intervention against manipulation, application of countervailing duties against imports that are subsidized by currency manipulation and injure domestic industries, and/or submission of an Article 15(4) case to the WTO that would seek authorization to apply across-the-board import restraints to offending countries (as spelled out in detail in Bergsten and Gagnon 2012). A wide range of tactics could be deployed, from prior warning to the target countries in a final effort to get them to cooperate voluntarily, to initiation of countervailing currency intervention by one or more aggrieved parties in one or more currencies without any announcement at all, or to a highly public launch of "all of the above." The goal, to repeat for the sake of emphasis, would be to galvanize the needed global systemic reforms in the only manner that would seem to have much chance for doing so and thus to create an effective deterrent to currency manipulation in the future.

Conclusion

Such systemic reforms and/or unilateral actions to terminate the contemporary currency wars would have substantial payoff for the countries that are adversely affected by the competitive depreciations or nonappreciations. The United States could see its current account deficit cut by $200 billion to $500 billion per year and its unemployment rolls drop by 1 million to 5 million. The euro area would be the second largest beneficiary, to the tune of more than

$100 billion and a very large number of jobs, and one would in fact hope that it would take on a leadership role with respect to those parts of the problem, like the massive Swiss intervention, that affect it much more than the United States. The threat of protectionist trade policies and hard landings in deficit countries with overvalued currencies should recede substantially.

For the longer run, *the greatest flaw in the global economic order of the past 70 years—the absence of effective mechanisms to prompt adjustment by surplus countries and avoid currency wars—would be overcome.* The system would become much stronger in responding to large imbalances and to heading them off by deterring predatory currency policies. Its institutional pillars, the International Monetary Fund and the World Trade Organization, would become far more effective and credible.

Addressing another vital issue of US national interest in which China also plays a central role, cybersecurity, President Obama used these words in his State of the Union message in February 2014: "We cannot look back years from now and wonder why we did nothing!" I would submit that we should adopt the same attitude toward widespread currency manipulation, which violates the most basic precepts of the international economic system while destroying growth and jobs in numerous economies. The time for action has clearly come. *It is time to declare war on the currency wars.*

Table 1 Official foreign assets of selected countries (billions of US dollars at year end)

Country	2013 Level	2012 Change	2013 Change	Average change, 2012–13 (percent of GDP)
Algeria	195	8	6	3
Angola[1]	38	10	0	4
Azerbaijan	50	5	5	7
China[2]	4,065	159	566	4
Denmark	86	4	4	1
Hong Kong	311	32	–6	5
Israel	82	1	8	2
Japan[3]	1,239	–28	45	0
Kazakhstan[2]	142	16	69	20
Korea[3]	349	20	26	2
Kuwait	442	3	120	33
Libya[1]	119	14	3	11
Malaysia[3]	138	6	–1	1
Norway[3]	880	128	144	27
Qatar	212	46	65	28
Russia	471	32	–2	1
Saudi Arabia	726	115	85	14
Singapore[3,4]	543	11	57	12
Switzerland	498	197	30	18
Taiwan	417	18	14	3
Thailand	162	6	–10	–1
United Arab Emirates[1]	1,044	57	181	31
Total	**12,207**	**860**	**1,410**	

1. 2013 reserves data based on latest available: September (UAE), November (Angola, Libya).
2. Includes only the share of sovereign wealth fund assets that are invested in foreign assets as estimated by Bagnall and Truman (2013).
3. Includes only the share of sovereign wealth fund assets that are invested in foreign assets, as reported by the respective authorities.
4. Assumes that 50 percent of the foreign exchange reserves of the Monetary Authority of Singapore are managed by the Government Investment Corporation and make an adjustment to avoid double counting.

Note: This table reports the sum of foreign exchange reserves and foreign assets in sovereign wealth funds.

Sources: Reproduced from Policy Brief 14-17, Alternatives to Currency Manipulation: What Switzerland, Singapore, and Hong Kong Can Do by Joseph E. Gagnon, Peterson Institute for International Economics, June 2014. Foreign exchange reserves data were obtained from the IMF's *International Financial Statistics* database. Assets of sovereign wealth funds (SWFs) for the following countries were obtained from national sources: Azerbaijan, Korea, and Norway. All other countries' SWF data were obtained from the Sovereign Wealth Fund Institute. GDP is from IMF's *World Economic Outlook*.

Table 2 Changes in foreign exchange holdings of currency manipulators (billions of US dollars), 2006–12

Country	2006	2007	2008	2009	2010	2011	2012
Asia							
China	284	654	534	343	413	139	145
Hong Kong	6	15	34	71	9	20	32
Japan	49	14	-74	130	–11	151	–31
Korea	27	22	–55	78	36	22	29
Malaysia	9	14	–3	2	0	5	7
Singapore	16	43	25	24	38	–12	33
Taiwan	13	4	21	57	34	16	18
Thailand	13	18	25	23	31	6	6
Oil Exporters							
Algeria	29	30	37	2	15	8	8
Angola	8	2	5	–7	3	8	7
Azerbaijan	4	7	18	6	15	9	6
Kazakhstan	15	2	9	6	11	11	8
Kuwait	36	23	37	26	29	74	73
Libya	19	28	22	7	8	11	–3
Norway	8	65	30	66	37	144	104
Qatar	14	16	27	18	12	1	31
Russia	143	145	–36	–17	41	31	33
Saudi Arabia	71	80	137	–33	35	123	116
United Arab Emirates	72	76	99	53	17	15	20
Others							
Denmark	–6	0	7	34	5	16	4
Israel	–4	1	17	16	13	1	1
Switzerland	–7	–1	6	47	125	225	196
Total	**818**	**1,257**	**923**	**953**	**915**	**1,024**	**844**

Note: Foreign exchange holdings include estimated foreign assets of sovereign wealth funds.

Sources: IMF, International Financial Statistics (IFS) and World Economic Outlook (WEO) databases; Truman (2011, table 1); US Bureau of Economic Analysis and US Census Bureau; and central bank and finance ministry websites of the above countries.

Table 2 Current account balances of currency manipulators (billions of US dollars), 2006–2016

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Asia											
China	231.8	353.2	420.6	243.3	237.6	201.7	213.7	238.5	287.5	364.4	453.2
Hong Kong SAR	22.9	25.5	29.5	18.0	12.4	12.9	6.1	5.5	7.5	9.4	12.1
Japan	170.9	212.1	159.9	146.6	204.0	119.3	59.0	63.5	97.8	108.2	109.5
Korea	14.1	21.8	3.2	32.8	29.4	26.1	43.1	34.6	31.5	32.8	30.8
Malaysia	26.2	29.7	39.4	31.4	27.3	31.7	19.4	19.6	20.0	19.3	19.5
Singapore	36.1	46.3	28.8	33.5	62.0	65.3	51.4	48.4	51.1	51.8	50.9
Taiwan	26.3	35.2	27.5	42.9	39.9	41.2	49.6	51.2	51.9	54.1	55.7
Thailand	2.3	15.7	2.2	21.9	10.0	5.9	2.7	4.3	5.1	4.9	3.2
Oil exporters											
Algeria	29.0	30.6	34.5	0.4	12.1	19.8	12.3	12.8	9.6	8.1	7.6
Angola	10.7	12.1	8.7	–7.5	6.7	13.1	11.3	4.3	1.7	–0.5	–4.1
Azerbaijan	3.7	9.0	16.5	10.2	14.8	17.1	14.0	8.2	5.3	2.9	0.7
Kazakhstan	–2.0	–8.3	6.3	–4.1	1.8	13.6	9.0	8.6	5.1	5.1	4.6
Kuwait	45.3	42.2	60.2	28.3	38.3	70.8	78.1	70.8	65.9	63.7	63.3
Libya	28.1	29.8	37.1	9.4	14.6	3.2	29.4	24.9	17.8	9.4	4.7
Norway	55.8	49.0	72.4	44.4	50.2	62.7	71.2	63.1	59.4	55.2	52.3
Qatar	15.3	20.2	33.0	10.0	34.1	52.6	54.2	55.3	46.6	36.0	26.2
Russia	94.3	77.0	103.7	49.5	70.0	98.8	81.3	56.4	38.7	23.0	7.3
Saudi Arabia	99.1	93.4	132.3	21.0	66.8	158.5	177.2	143.1	122.3	109.5	105.6
United Arab Emirates	36.1	17.7	24.8	9.1	9.1	33.3	29.4	30.9	30.1	30.1	32.6
Others											
Denmark	8.2	4.2	9.9	10.5	18.4	18.8	16.5	15.4	15.8	16.2	16.7
Israel	7.0	4.6	2.2	7.3	8.1	3.4	–0.2	4.2	6.6	7.1	7.4
Switzerland	58.2	38.8	10.9	53.7	78.6	55.7	84.7	81.8	81.1	79.1	80.0
Total	**1019.4**	**1159.9**	**1263.6**	**812.5**	**1046.2**	**1125.7**	**1113.3**	**1045.3**	**1058.4**	**1089.8**	**1139.5**

Note: Shaded cells indicate IMF estimates

Source: IMF World Economic Outlook (WEO) database April 2013.

Table 3 Current account balances of currency manipulators (percent of GDP), 2006–16

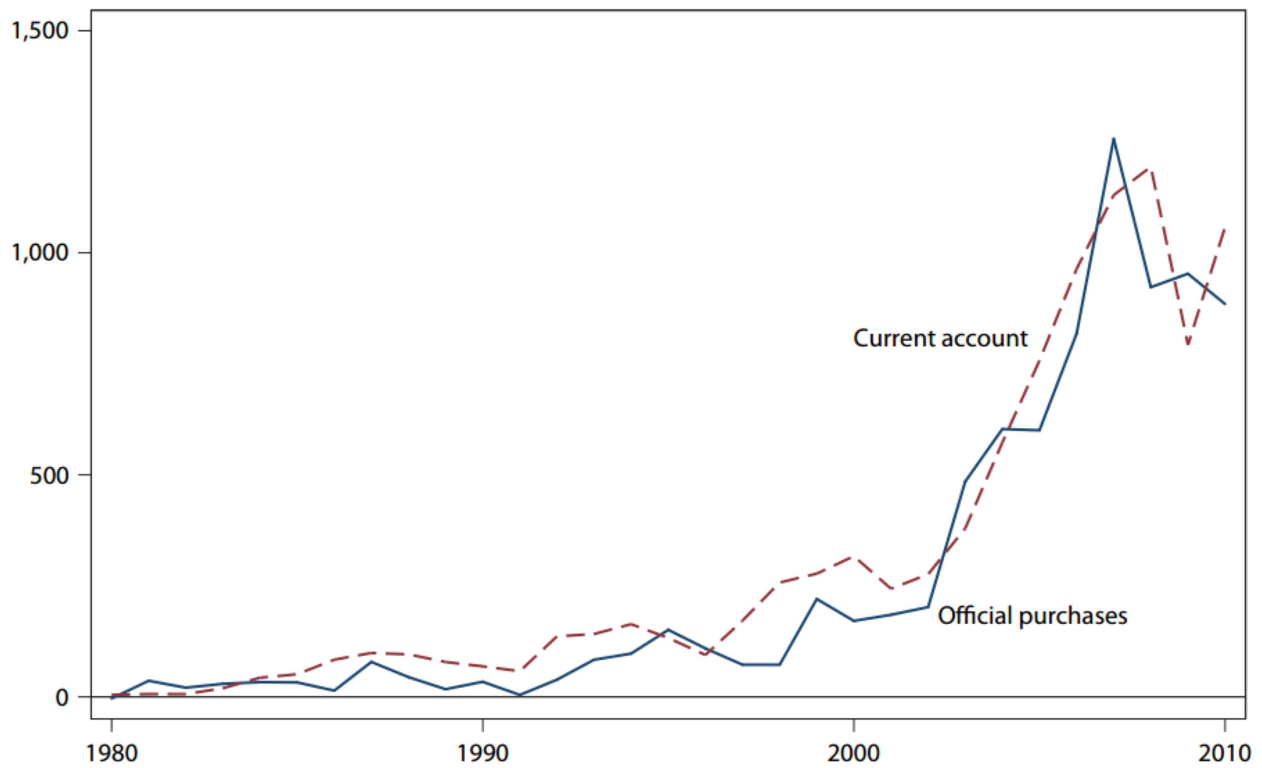
Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Asia											
China	8.5	10.1	9.3	4.9	4.0	2.8	2.6	2.6	2.9	3.3	3.7
Hong Kong SAR	11.9	12.1	13.4	8.4	5.4	5.2	2.3	2.0	2.5	2.8	3.4
Japan	3.9	4.9	3.3	2.9	3.7	2.0	1.0	1.2	1.9	2.0	2.0
Korea	1.5	2.1	0.3	3.9	2.9	2.3	3.7	2.7	2.4	2.3	2.0
Malaysia	16.1	15.4	17.1	15.5	11.1	11.0	6.4	6.0	5.7	5.1	4.8
Singapore	24.8	26.1	15.1	17.7	26.8	24.6	18.6	16.9	17.2	16.9	16.0
Taiwan	7.0	8.9	6.9	11.4	9.3	8.9	10.5	10.3	9.8	9.5	9.1
Thailand	1.1	6.3	0.8	8.3	3.1	1.7	0.7	1.0	1.1	1.0	0.6
Oil exporters											
Algeria	24.7	22.6	20.1	0.3	7.5	10.0	5.9	6.1	4.5	3.8	3.4
Angola	25.6	19.9	10.3	–9.9	8.1	12.6	9.6	3.5	1.3	–0.4	–2.7
Azerbaijan	17.6	27.3	35.5	23.0	28.0	26.5	20.3	10.6	6.0	3.0	0.6
Kazakhstan	–2.5	–8.1	4.7	–3.6	1.2	7.4	4.6	4.0	2.2	2.0	1.6
Kuwait	44.6	36.8	40.9	26.7	31.9	44.0	45.0	40.8	37.6	35.5	34.2
Libya	51.1	44.1	42.5	14.9	19.5	9.1	35.9	25.8	17.7	8.8	4.1
Norway	16.4	12.5	16.0	11.7	11.9	12.8	14.2	11.7	10.9	9.9	9.1
Qatar	25.1	25.3	28.7	10.2	26.8	30.4	29.5	29.3	23.7	17.2	11.7
Russia	9.5	5.9	6.2	4.1	4.6	5.2	4.0	2.5	1.6	0.9	0.3
Saudi Arabia	26.3	22.4	25.5	4.9	12.7	23.7	24.4	19.2	16.1	13.9	12.8
United Arab Emirates	16.3	6.9	7.9	3.5	3.2	9.7	8.2	8.4	7.9	7.6	8.0
Others											
Denmark	3.0	1.4	2.9	3.4	5.9	5.6	5.3	4.7	4.7	4.8	4.9
Israel	4.8	2.7	1.1	3.8	3.7	1.4	–0.1	1.7	2.5	2.5	2.5
Switzerland	14.4	8.6	2.1	10.5	14.3	8.4	13.4	12.6	12.3	11.8	11.8
Total	**16.0**	**14.3**	**14.1**	**8.0**	**11.2**	**12.1**	**12.1**	**10.2**	**8.7**	**7.5**	**6.5**

Note: Shaded cells indicate IMF estimates.
Source: IMF World Economic Outlook (WEO) database April 2013.

Table 4 Currency intervention and valuation

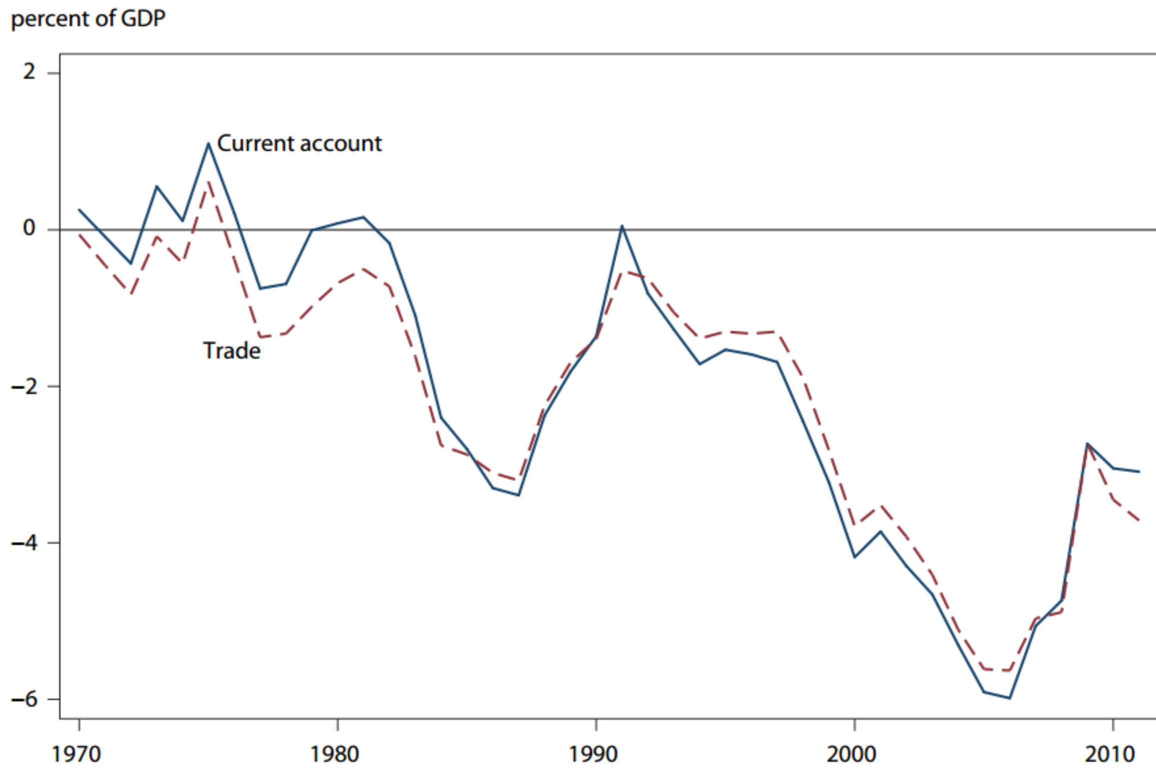
	Undervaluation	**Overvaluation**
Intervention	China	Brazil
No Intervention	Sweden	United States

Figure 1 External balances of currency manipulators, 1980−2010



Source: Adopted from Gagnon (2013)

Figure 2 - US current account and trade balances, 1970−2011



Source: Adopted from Gagnon (2013)

Figure 3 - US “Scissors Movement,, 1960–2012

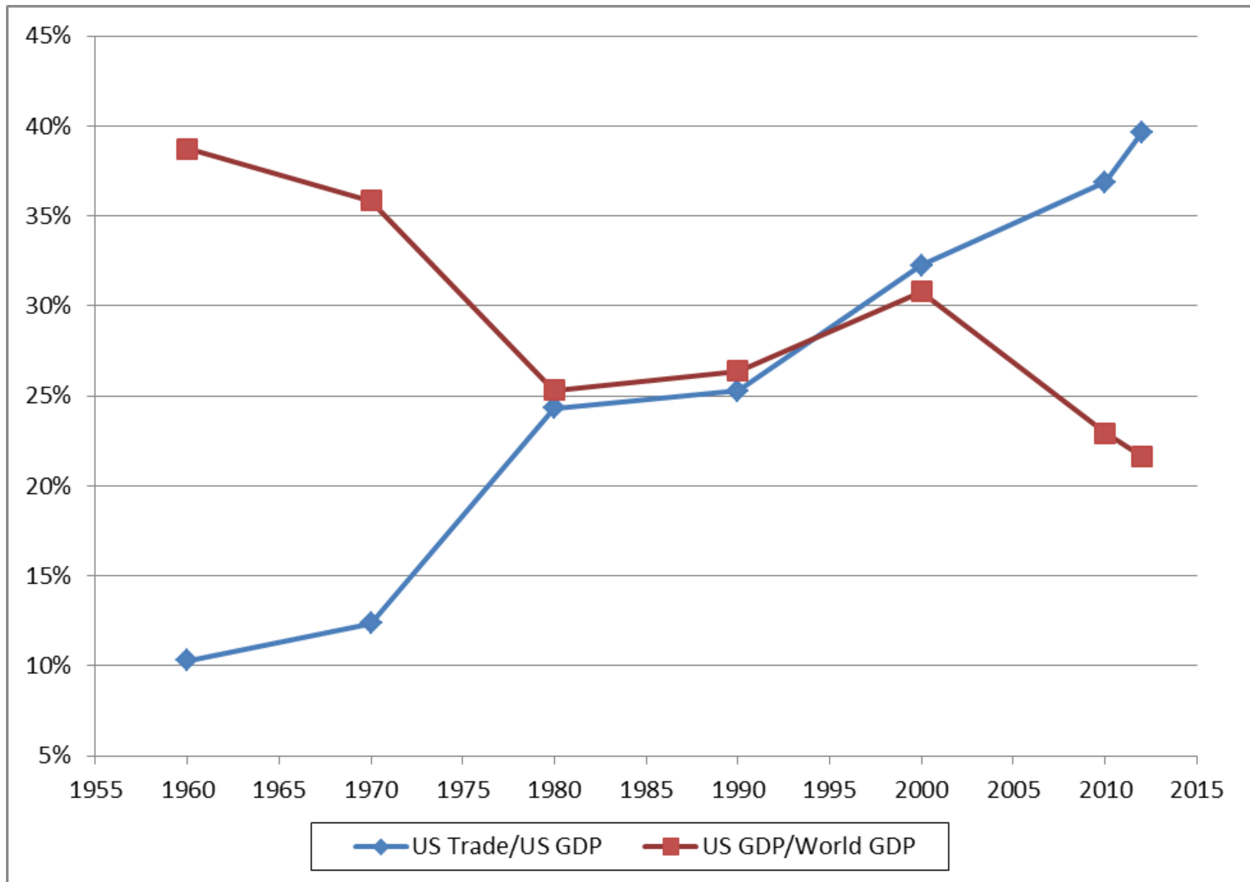
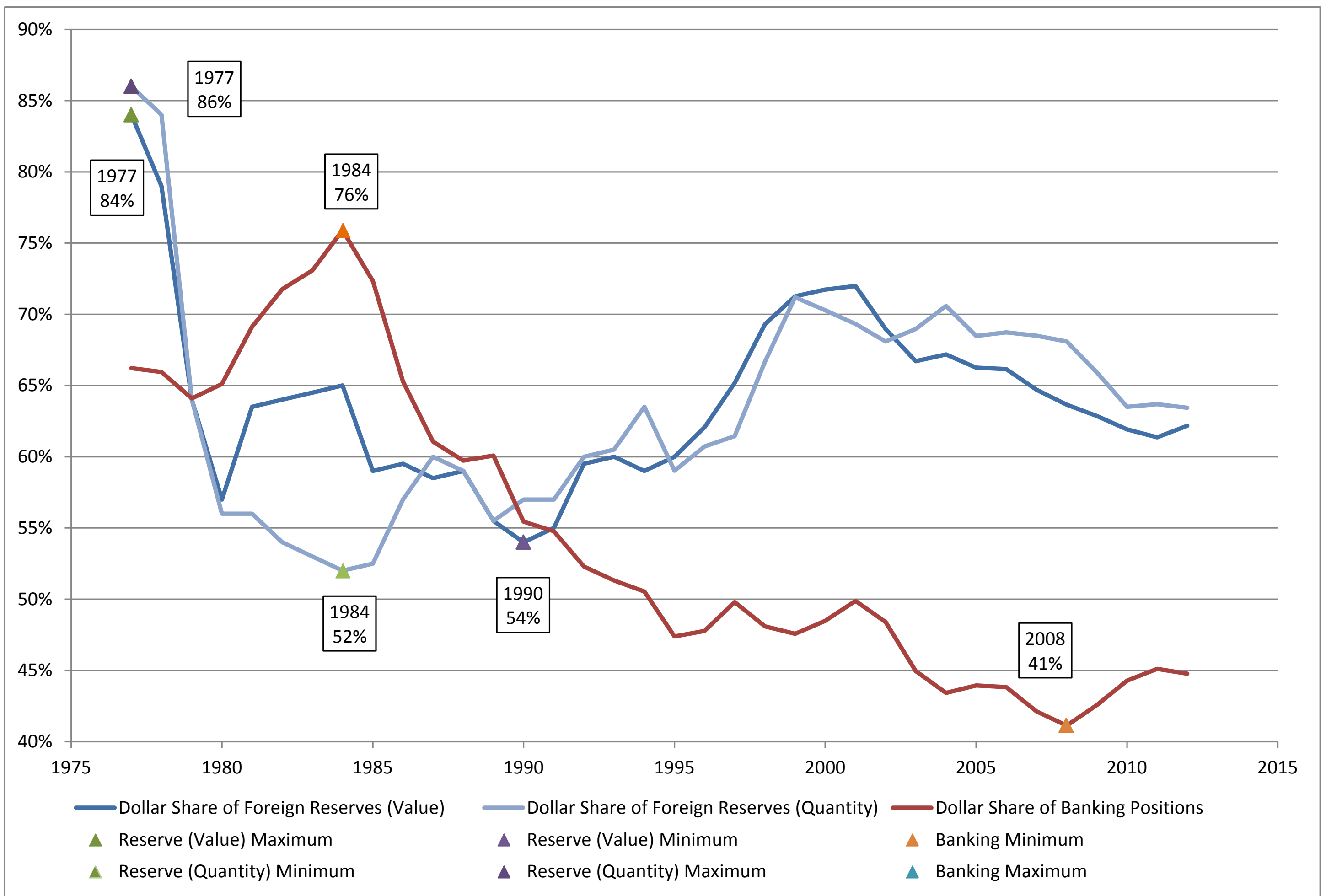


Figure 4 - Dollar Share of Global Finance, 1977–2012



Sources: IMF Currency Composition of Official Foreign Exchange Reserves (COFER), Truman and Wong (2006), BIS Locational Banking Statistics (table 5).

References

Bergsten, C. Fred. 1972. The New Economics and U.S. Foreign Policy. *Foreign Affairs* (January).

Bergsten, C. Fred. 2003. Muzzling Our Economic Negotiators. *Washington Post*, September 10.

Bergsten, C. Fred. 2011. An Action Plan for the G-20. Testimony before Senate Committee on Banking, Housing, and Urban Affairs Subcommittee on Security and International Trade and Finance, October 20.

Bergsten, C. Fred. 2012. Why the Euro Will Survive: Completing the Continent's Half-Built House. *Foreign Affairs* (September–October).

Bergsten, C. Fred. 2014a. *Addressing Currency Manipulation Through Trade Agreements*, Policy Brief in International Economics 14-2. Washington: Peterson Institute for International Economics.

Bergsten, C. Fred, and Joseph Gagnon. 2012. *Currency Manipulation, the US Economy, and the Global Economic Order*. Policy Brief in International Economics 12-25. Washington: Peterson Institute for International Economics.

Bernanke, Ben S. 2005. *The Global Saving Glut and the U.S. Current Account Deficit*. Homer Jones Lecture. Washington: Board of Governors of the Federal Reserve System.

Bernanke, Ben S. 2010. *Rebalancing the Global Recovery.* Sixth European Central Bank Central Banking Conference. Washington: Board of Governors of the Federal Reserve System.

Brittan, Samuel. 2013. Britain's Not-so-secret Sterling Devaluation Plan. *Financial Times* (March 1).

Chen, Ruo, et al. 2012. *External Imbalances in the Euro Area*. IMF Working Paper WP/12/236. Washington: International Monetary Fund.

Cline, William R., and John Williamson. 2012. *Updated Estimates of Fundamental Equilibrium Exchange Rates*. Policy Brief in International Economics 12-23. Washington: Peterson Institute for International Economics.

Congressional Budget Office, Congress of the United States. 2012. *Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from October 2011 Through December 2011*. Washington: Congress of the United States.

Darvas, Zsolt, and Jean Pisani-Ferry. 2010. *Future Development of Global Imbalances*. European Parliament Directorate General for Internal Policies IP/A/ECON/FWC/2000_040_C1. Brussels: Bruegel.

Darvas, Zsolt, et al. 2013. *Europe's Growth Problem (and What to Do about It)*. Bruegel Policy Brief 2013/03. Brussels: Bruegel.

Edwards, Lawrence, and Robert Z. Lawrence. 2013. *Rising Tide: Is Growth in Emerging Economies Good for the United States?* Washington: Peterson Institute for International Economics.

Eichengreen, Barry. 2011. *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System*. Cary, NC: Oxford University Press, USA.

European Commission Directorate-General for Economic and Financial Affairs. 2013. *Current Account Surpluses in the EU*. European Economy series 9/2012. Brussels: European Commission.

Feldstein, Martin. 2012. A Weaker Euro Could Rescue Europe. *Wall Street Journal* (June 27).

Ferguson, Niall. 2013. Currency wars are best fought quietly. *Financial Times* (January 25).

Gagnon, Joseph E. 2012. *Combating Widespread Currency Manipulation*. Policy Brief in International Economics 12-19. Washington: Peterson Institute for International Economics.

Gagnon, Joseph E. 2013. *The Elephant Hiding in the Room: Currency Intervention and Trade Imbalances*. Working Paper 13-02. Washington: Peterson Institute for International Economics.

Goldstein, Morris. 1995. *The Exchange Rate System and the IMF: A Modest Agenda*. Policy Analyses in International Economics 39. Washington: Peterson Institute for International Economics.

Goldstein, Morris. 2010. *Confronting Asset Bubbles, Too Big to Fail, and Beggar-thy-Neighbor Exchange Rate Policies*. Policy Brief in International Economics 10-3. Washington: Peterson Institute for International Economics.

Hufbauer, Gary Clyde, and Jeffrey J. Schott. 2012. *Will the World Trade Organization Enjoy a Bright Future?* Policy Brief in International Economics 12-11. Washington: Peterson Institute for International Economics.

International Monetary Fund. 2011. *The United States: Spillover Report—2011 Article IV Consultation*. Washington: International Monetary Fund.

Irwin, Douglas A. 2011. *Trade Policy Disaster*. Cambridge, MA: MIT Press Books.

Kindleberger, Charles P. 1986. *The World in Depression: 1929–1939*. Berkeley: University of California Press.

King, Mervyn A. 2012. *Talk to the Economic Club of New York*. London: Bank of England.

Larrain, Felipe. 2013. QE Takes a Toll on Emerging Economies. *Financial Times* (February 4).

Lima-Campos, Aluisio de. 2013. Predatory Currency Misalignments: A Credible Threat to the International Trade Order. Paper presented at the conference "Currency Wars: Economic Realities, Institutional Responses, and the G-20 Agenda," Peterson Institute of International Economics, Washington.

Lima-Campos, Aluisio de, and Juan Antonio Gaviria. 2012. A Case for Misaligned Currencies as Countervailable Subsidies. *Journal of World Trade* 46.5: 1017 (28).

Office of International Affairs, US Treasury. 2014. Report to Congress on International Economic and Exchange Rate Policies (April 15). Washington.

Olivier, Jeanne, Arvind Subramanian, and John Williamson. 2012. *Who Needs to Open the Capital Account?* Washington: Peterson Institute for International Economics.

Marris, Stephen. 1985. *Deficits and the Dollar: The World Economy at Risk*. Washington: Peterson Institute for International Economics.

Palais-Royal Initiative. 2011. Reform of the International Monetary System: A Cooperative Approach for the Twenty First Century. *Global Journal of Emerging Market Economies* 3:2: 185–93.

Pettis, Michael. 2013. *The Great Rebalancing: Trade, Conflict, and the Perilous Road Ahead for the World Economy*. Princeton: Princeton University Press.

Posen, Adam S. 2004. *Fleeting Equality: The Relative Size of the US and EU Economies to 2020*. U.S.-Europe Analysis Series, September. Washington: Brookings Institution.

Shambaugh, David. 2013. *China Goes Global: The Partial Power*. Oxford: Oxford University Press.

Subramanian, Arvind. 2011. *Eclipse: Living in the Shadow of China's Economic Dominance*. Washington: Peterson Institute for International Economics.

Subramanian, Arvind, and Martin Kessler. 2012. *The Renminbi Bloc Is Here: Asia Down, Rest of the World to Go?* Working Paper 12-19. Washington: Peterson Institute for International Economics.

Summers, Lawrence. 2004. The United States and the Global Adjustment Process. Third Annual Stavros S. Niarchos Lecture. Washington: Peterson Institute for International Economics.

Summers, Lawrence. 2008. Commentary. In *Debating China's Exchange Rate Policy*, eds. Morris Goldstein and Nicholas Lardy. Washington: Peterson Institute for International Economics.

Truman, Edwin M. 2011. *Sovereign Wealth Funds: Is Asia Different?* Working Paper 11-12. Washington: Peterson Institute for International Economics.

Truman, Edwin M. 2012. *John Williamson and the Evolution of the International Monetary System*. Working Paper 12-13. Washington: Peterson Institute for International Economics.

Truman, Edwin M. 2013. *The Congress Should Support IMF Governance Reform to Help Stabilize the World Economy*. Policy Brief in International Economics 13-07. Washington: Peterson Institute for International Economics.

Truman, Edwin M., and Anna Wong. 2006. *The Case for an International Reserve Diversification Standard*. Working Paper 06-02. Washington: Peterson Institute for International Economics.

US Treasury Department. 2014. *Report to Congress on International Economic and Exchange Rate Policies* (April 15). Washington.

Warnock, Frank, and Veronica Cacdac Warnock. 2009. International Capital Flows and US Interest Rates. *Journal of International Money and Finance* 28: 903–919.

Williamson, John. 2011. *Getting Surplus Countries to Adjust*. Policy Brief in International Economics 11-01. Washington: Peterson Institute for International Economics.

Yellen, Janet L. 2013. A Painfully Slow Recovery for America's Workers: Causes, Implications, and the Federal Reserve's Response. Speech at the Trans-Atlantic Agenda for Shared Prosperity Conference. Washington: Board of Governors of the Federal Reserve System.

Zhou, Xiaochuan. 2009. *Reform the International Monetary System: Essay by Dr. Zhou Xiaochuan, Governor of the People's Bank of China*. Basel: Bank of International Settlements.