

# Global Imbalances and the U.S. Trade Deficit

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## 1. Introduction

As the U.S. and foreign economies slowly recover from the financial crisis and Great Recession of 2008-9, attention naturally shifts to potential sources of future instability. One longer-term problem that continues to haunt the prospects for a sustained recovery is the large U.S. trade deficit and the correspondingly large surpluses of several key U.S. trading partners, a recurrent situation that has come to be known as “global imbalances.” Indeed, the rapid rise of the trade deficit during the recovery has been a major reason for the sluggish increases in U.S. employment since the recession officially ended in mid-2009.

These large international trade imbalances can be viewed to a large extent as the result of different national solutions to the same underlying problem: the fact that real wage growth has lagged behind productivity growth, thereby suppressing incomes of working-class and middle-class households and creating a latent deficiency of aggregate demand in both the U.S. and many other countries (see von Arnim, 2010; Cripps et al., 2011; and the chapters by Palley and Setterfield ## in this volume). In the boom that preceded the Great Recession, the U.S. solved this problem by relying on the housing price bubble and household debt accumulation to boost consumption in spite of stagnant earnings, while the surplus nations instead relied on export markets to augment weak domestic demand and lent the U.S. the funds required to finance the resulting trade imbalances. Those U.S. citizens who managed to keep their jobs and didn’t have to compete with imports were able to benefit from cheaper imported consumer goods, while U.S. multinational corporations profited from outsourcing to lower-wage locations abroad, but these gains were obtained at the cost of chronically depressed manufacturing employment and average wages at home.<sup>1</sup>

The global trade imbalances were not a direct cause of the financial crisis and Great Recession, although trade linkages were an important mechanism for transmitting the impact of the recession from the U.S. to other countries. Nonetheless, this chapter argues that the U.S. trade deficit and foreign trade surpluses were at least a contributing factor (and in some respects a necessary enabling factor) in the run-up of unsustainable financial positions by U.S. households and financial institutions that more directly led to the crisis and recession. Furthermore, the U.S. deficit will not disappear automatically during the post-crisis period, and the more rapid is the recovery, the more likely it is to increase again unless countermeasures to rebalance the global economy are adopted.

## **2. The Trade Deficit Trap**

No single factor explains the U.S. trade deficit or the global imbalances. As argued in Blecker (2009), the U.S. has been caught in a “trade deficit trap,” in which the trade deficit is sustained by “a web of interconnected and self-reinforcing mechanisms,” both at home and abroad, “that make it very difficult to reduce the deficit through conventional policies.” The trade deficit trap argument encapsulates a number of factors that have been argued by some to be “the” main cause of the U.S. trade deficit, and shows how these factors—far from being mutually exclusive causes—have interacted in mutually reinforcing ways to maintain a large trade deficit (except during the worst of the recession in 2008-9).<sup>2</sup>

The U.S. trade deficit originated in the last three decades of the twentieth century through a loss of competitiveness of U.S. industries relative to their foreign rivals combined with periodic bouts of dollar overvaluation (Blecker, 1996, 2009). By the first decade of the twenty-first

century, so many industries had moved offshore or outsourced their inputs that, even when the dollar has depreciated, many goods (both final and intermediate) have continued to be imported and prior levels of domestic production have not been restored.<sup>3</sup> This is an example of what economists call “hysteresis,” or long-lasting effects of a temporary cause (Baldwin, 1988).

At the same time, a complex set of financial linkages developed that sustained and further widened the trade deficit. A trade deficit must always be financed by a net sale of assets to (or net borrowing from) other countries, and other countries were eager to lend to the U.S. due to their own excess of saving and suppression of domestic consumption, as well as their desire to sustain domestic employment. By lending the U.S. the funds required to pay for its excess of imports over exports, the surplus countries effectively transferred manufacturing employment from the U.S. to themselves. By the same token, U.S. borrowing from abroad allowed American households and businesses in the aggregate to finance expenditures beyond what national income and domestic saving would otherwise have permitted.

However, the low personal saving rate in the U.S. economy in the run-up to the Great Recession should be seen at least partly as an effect, rather than a cause, of the large trade deficit. The disappearance of good-paying industrial jobs in industries battered by imports (and the suppression of wages for those workers who kept their jobs) contributed to the stagnation of middle class incomes, which meant that families increasingly relied on debt rather than income growth to sustain their consumption standards prior to the crisis (see the chapters by Setterfield and Palley ## in this volume). Thus, the rise in the trade deficit and the fall in the saving rate mutually reinforced each other, and the latter was not an independent cause of the former.

In some periods (for example, 1997-2002), large financial inflows into the U.S. helped to boost the value of the dollar, thereby disadvantaging U.S. producers. However, even when the

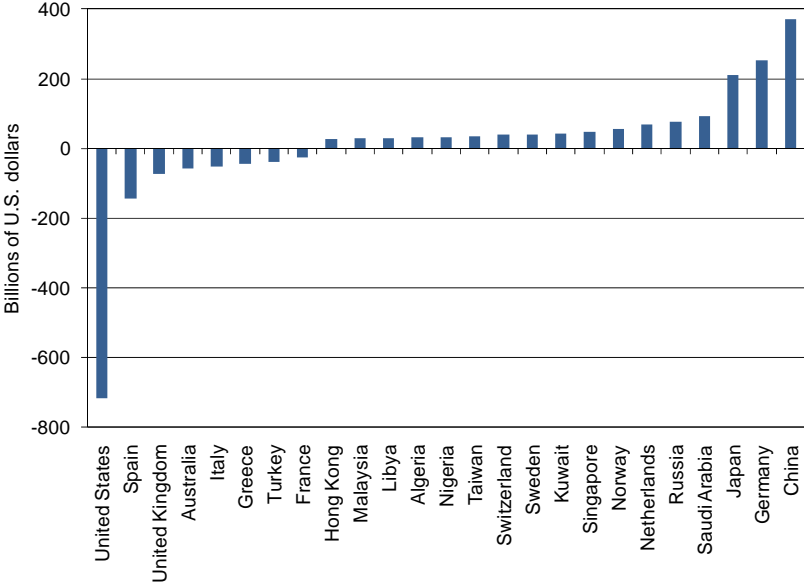
dollar fell (for example, from 2002 to early 2008), so many U.S. industries had moved offshore that it was difficult to replace many imported goods with domestic ones (although U.S. exports did increase significantly). Meanwhile, the private lending that had sustained the trade deficit was replaced by official lending (foreign central banks buying dollar assets) that had the same effect. The official intervention was largely concentrated in China and certain other East Asian countries, with the result that their currencies did not appreciate as much as the major currencies (especially the euro, British pound, and Canadian dollar) did after 2002. This growing discrepancy in the value of the dollar vis-à-vis different currencies became another obstacle to trade deficit adjustment, since the lower value of the dollar relative to the major currencies gave a misleading impression of how much it had depreciated relative to the currencies of the developing countries that supply a majority of U.S. imports. We will return to the role of exchange rates and international financial flows below, but first we present a global perspective on the U.S. trade deficit followed by an account of its recent behavior.

### **3. A global perspective on trade imbalances**

The term “global imbalances” is really a misnomer, because only a handful of nations account for the lion’s share of the world’s current account surpluses and the U.S. is the only country with a truly large deficit. Figure 1 shows all the nations that had current account imbalances in excess of (positive or negative) \$25 billion at the peak of the last global expansion in 2007. These data clearly reveal the skewed nature of the world’s trade imbalances. No other nation came close to the U.S. deficit of \$718 billion in that year. The three countries with the largest surpluses (all over \$200 billion) were China, Germany, and Japan. After them, the

countries with the next two biggest surpluses were major exporters of natural resources, Saudi Arabia and Russia. Many of the world’s largest economies, such as those of Brazil, Canada, and India, did not have imbalances that reached the \$25 billion threshold for inclusion in Figure 1.

**Figure 1**  
**Countries with current account imbalances in excess of \$25 billion, 2007**



Source: International Monetary Fund (IMF, 2010).

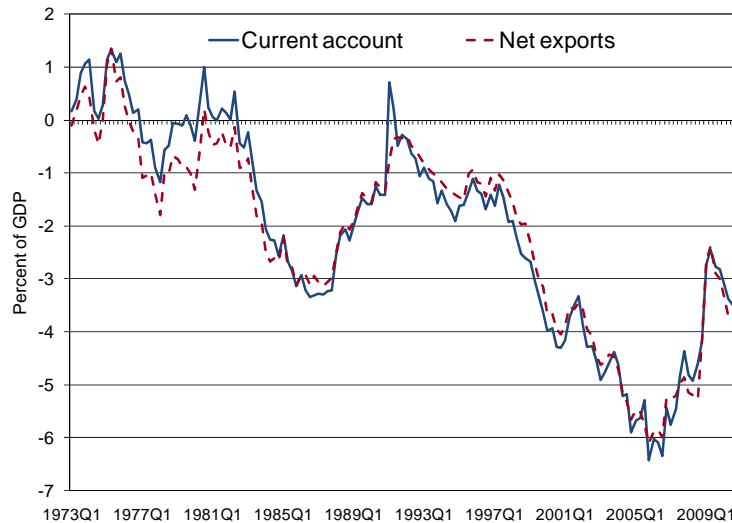
Several conclusions emerge immediately from the data in Figure 1. First, there really isn’t a *global* problem of current account imbalances—rather, there is a very large U.S. deficit that is primarily matched by surpluses in just three countries. Second, one cannot generalize about current account surpluses or deficits for broad groups of countries such as the industrialized, developing, and emerging market nations.<sup>4</sup> Third, two regional neighbors that have large bilateral trade surpluses with the U.S.—Canada and Mexico—do not have large multilateral imbalances (and do not appear in Figure 1) because their surpluses with the U.S. are offset by deficits with the rest of the world. Fourth, although some individual countries in the European Union (EU) have had relatively large surpluses or deficits, these have mostly offset

each other and the EU as a whole has generally had a moderate current account deficit in recent years (except for a big spike in its deficit in 2008). Overall, the so-called global imbalances are primarily a US-East Asian phenomenon, with secondary imbalances of smaller magnitudes both within the EU and (with some exceptions) between resource-importing and resource-exporting nations generally.

#### **4. Trends and cycles in the U.S. trade deficit**

Returning to the U.S. trade deficit, Figure 2 shows two alternative measures: the current account balance and net exports of goods and services, both measured as percentages of gross domestic product (GDP) on a quarterly basis from 1973 to 2010. These two measures have generally been fairly close in magnitude, so for the rest of this chapter we will use the terms “current account” and “trade balance” interchangeably except where the distinction is important.<sup>5</sup> By either measure, the trade deficit increased steadily during the fifteen-year period between 1992 and 2007, with only a brief pause during the recession of 2001. The trade deficit worsened notably in 2003-6, when consumer spending boomed as a result of the housing price bubble and household debt accumulation. The current account deficit peaked at \$803 billion, or about 6% of GDP, in 2006.<sup>6</sup> The collapse of domestic consumer and investment demand during the 2008-9 recession reduced the current account deficit substantially, cutting it to \$378 billion or 2.7% of GDP in 2009. But even the tepid recovery of late 2009 and 2010 led to a strong rebound in the trade deficit, which rose to \$496 billion for net exports of goods and services (\$470 billion measured by the current account balance) in 2010 (U.S. Bureau of Economic Analysis [BEA], 2011b) in spite of sluggish GDP growth and unemployment that averaged 9.6% in that year.

**Figure 2**  
**U.S. current account balance and net exports of goods and services**  
**as percentages of GDP, 1973Q1 to 2010Q4**



Source: U.S. Bureau of Economic Analysis (BEA, 2011a) and author's calculations. Net exports of goods and services and GDP are from Tables 1.1.5 and the current account balance is measured by "net lending" in Table 5.1.

The changes in the trade deficit diminished the magnitude of the changes in output and employment during the recession and recovery (both on the downside and in the upswing), while transmitting these shocks to other countries. For example, between 2008Q2 and 2009Q2, real GDP fell by 4.1% but real imports of goods fell by 21.1%, while between 2009Q3 and 2010Q3 GDP increased by 3.2% but goods imports rose by 18.3% (U.S. BEA, 2010a, Table 8). The much greater swings in imports were due in part to the contraction of trade financing during the financial panic in late 2008 and early 2009,<sup>7</sup> but were also due to the strong dependency of the U.S. economy on imports of final goods and outsourced inputs alike in the most cyclically sensitive sectors, particularly manufacturing.

As a result of these large fluctuations in imports, some of the job losses during the recession were transmitted to other countries that export to the U.S., but by the same logic a large portion of rising domestic demand during the recovery was siphoned off to purchase imports and



did not contribute to output or job growth in the U.S. economy.<sup>8</sup> Although it may be hard to believe, the recession of 2008-9 would have been even worse in the U.S. in the absence of the fall in the trade deficit, but the impact was correspondingly more severe in U.S. trading partners. By the same token, the rising trade deficit was a major reason why the recovery in U.S. output and employment was so sluggish in 2009-10.

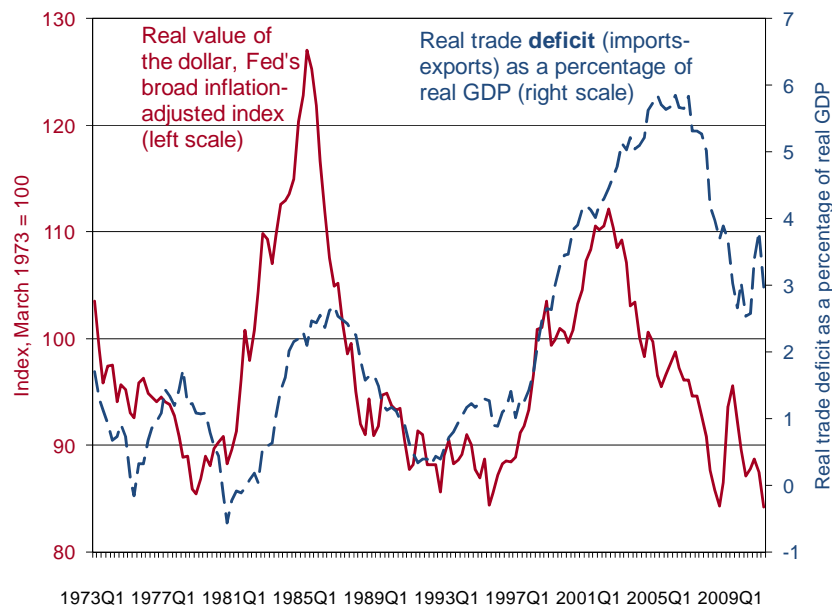
Taking a longer historical view, it is clear that—in spite of these large cyclical swings—the U.S. trade balance has trended downward (i.e., the deficit has increased) as a percentage of GDP during the entire period since the abandonment of the Bretton Woods system of fixed exchange rates and capital controls in 1973. Contrary to what was predicted by early advocates of flexible exchange rates and financial market deregulation (e.g., Friedman, 1953), floating rates and financial liberalization have led to greater, not smaller, global trade imbalances (see Eatwell and Taylor, 2000; Kregel, 2008). The next sections focus on the reasons for this long-term worsening trend.

## **5. The role of the dollar's exchange rate**

During the first two decades after the dollar began to float in value in 1973, there was a positive correlation between the value of the dollar and the trade deficit. Figure 3 shows this by plotting the real trade *deficit* (i.e., net exports of goods and services with the sign reversed, so that a positive number indicates a deficit, measured as a percentage of real GDP, with both net exports and GDP expressed in chained 2005 prices) versus the Federal Reserve's broad index of the real (inflation-adjusted) value of the dollar.<sup>9</sup> Although the correlation is far from perfect, it is clear that, until the late 1990s, increases in the dollar's value normally led to increases in the

trade deficit (and decreases in the former usually led to decreases in the latter), with time lags that averaged about 1-2 years. The lags are explained by the time it takes to order, produce, and ship goods in response to changes in international prices.<sup>10</sup> The period from 2002 to 2007 was unusual, however, because the trade deficit did not begin to decline until five years after the dollar began to fall.

**Figure 3**  
**The real value of the dollar and the real trade deficit, quarterly, 1973Q1 to 2010Q4**



Source: U.S. BEA (2011a), Tables 1.1.5 and 5.1; U.S. Federal Reserve Board (2011b); and author's calculations. The real trade deficit is measured by net imports of goods and services at chained 2005 prices.

An important reason for the disappointing trade benefits from the falling value of the dollar in this period was the uneven degree to which the dollar fell relative to different currencies at that time. The Federal Reserve's broad index of the real value of the dollar (the solid line in Figure 3) shows a decline of 25.4% between its peak in February 2002 and its trough in April 2008. However, this decline masks important differences between the dollar's performance in relation to different groups of currencies. During the same period, the dollar fell 32.4% relative to the "major" currencies (the euro, Canadian dollar, Japanese yen, British pound, Swiss franc,

Australian dollar, and Swedish krona), but only 15.6% relative to the currencies of what the Fed calls “other important trading partners,” i.e., the developing countries and transition economies, many of which have fixed or managed exchange rates (data from U.S. Federal Reserve, 2011b). Yet, the “other” countries (which include major exporters such as China and Mexico) account for more than half of total U.S. imports and two-thirds of the trade deficit.<sup>11</sup> It is very difficult for an exchange rate adjustment to eliminate a large trade deficit when most of the imports are coming from precisely those countries whose currencies are not adjusting as much.

Nevertheless, the drop in the dollar vis-à-vis the currencies of the major industrialized countries from 2002 to early 2008 did some good at the time. Since U.S. exports of manufactures compete in global markets mainly with the products of other industrialized nations, the lower dollar relative to the euro, pound, and Canadian dollar (and, to a lesser extent, the Japanese yen) helped to stimulate U.S. exports from 2003 to 2008. Especially in 2007 and early 2008, as the housing sector collapsed and the economy was falling into a recession, exports were one of the few bright spots. This strong export growth was reversed in 2009, however, as the global recession sharply cut demand for U.S. exports.

At the end of 2008, the dollar temporarily strengthened as a perverse result of the financial crisis. Even though the crisis broke out in U.S. financial markets for securitized mortgages and derivative instruments, the global loss of confidence led to a “flight to safety” in what was still perceived as the world’s safest asset, U.S. treasury bills, thus increasing the demand for dollars. A similar phenomenon occurred in mid-2010, when panic over the Greek financial crisis led currency speculators to temporarily dump euros and seek “safe haven” in the dollar and other strong currencies. In spite of these upward blips in the dollar, its overall trend remains downward, and by April 2011 (the last month for which data were available at the time

of this writing) the Fed's broad index of the dollar's real value reached its lowest level since the index began in January 1973 (U.S. Federal Reserve, 2011b). Nevertheless, the future course of the dollar remains uncertain, as it continues to be driven more by global financial market conditions rather than the requisites of balancing U.S. trade. As three prominent economists have observed, "So long as the dollar exchange rate continues to be driven more by capital flows than by the correlates of the current account, and so long as the U.S. treasury market continues to be seen as a safe haven, it is hard to see how [...] the halving of the U.S. current account deficit [via dollar depreciation] can be sustained." (Chinn et al., 2010, p. 4).

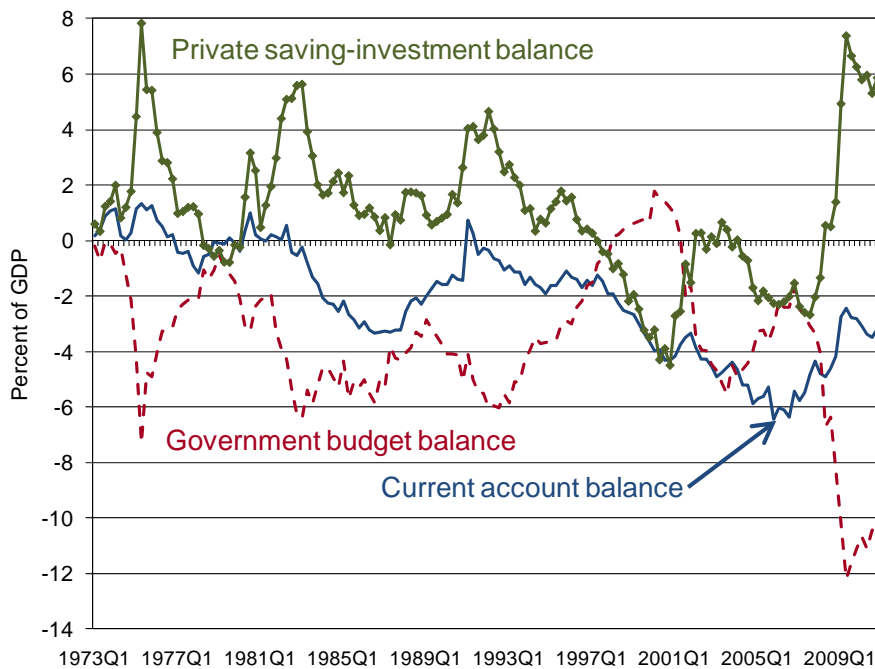
## **6. The trade and budget deficits are not twins**

Since dollar depreciation has not sufficed to eliminate the trade deficit, some economists and policy analysts have sought to revive the twin deficits hypothesis that was popular in the 1980s.<sup>12</sup> This hypothesis blames the trade deficit primarily on the government budget deficit, and claims that the most important way of reducing the former is by lowering the latter. The main motivation behind the twin deficits argument is to absolve international trade policies and industrial competitiveness factors from any responsibility for the burgeoning U.S. external deficit, so as to weaken the case for "protectionist" responses. The fault, it is claimed, lies strictly in ourselves, in that we (the American public) have been unwilling to make the "hard choices" (tax increases or spending cuts) required to reduce the budget deficit.

The raw data do not reveal much support for the twin deficit hypothesis. Figure 4 shows the two deficits, both measured as percentages of GDP, using quarterly data from 1973Q1 to 2010Q4. During most of the period shown, the two deficits generally moved in *opposite*

directions, exactly the reverse of what the twin deficit hypothesis implies. For example, when the fiscal balance increased from a deficit of  $-6\%$  of GDP in 1992 to a surplus of  $+2\%$  in 2000, the current account balance did not improve, but rather worsened from about  $-1\%$  of GDP to  $-4\%$  during the same period. This pattern largely reflects the natural operation of the business cycle: the strong economic expansion of the late 1990s increased government tax revenue, thereby reducing the budget deficit, while it also increasing import demand, thus worsening the trade deficit. The fiscal improvement of the 1990s was aided by President Bill Clinton’s tax increases of 1993 and budgetary rules that limited spending growth, but these fiscal belt-tightening measures failed to prevent the current account from worsening instead of improving.

**Figure 4**  
**U.S. current account, government budget, and**  
**private saving-investment balances as percentages of GDP, 1973Q1 to 2010Q4**



Source: U.S. BEA (2011a) and author’s calculations. GDP is from Tables 1.1.5, the current account balance is measured by “net lending” from Table 5.1, and the government budget balance (federal, state, and local combined) is measured by “government net lending” in Table 3.1.

An even more dramatic divergence between the two deficits opened up in 2008-9, when

the budget deficit grew dramatically during the Great Recession to about –12% of GDP, but the current account deficit (as noted earlier) diminished to only about –3% of GDP. This opposite behavior of the two deficits was largely due to the effects of the recession, which reduced tax revenue and prompted stimulus spending (thus increasing the government deficit) but also reduced import demand (thus moderating the current account deficit).

There were two exceptional periods when large tax cuts and increased military spending under presidents Ronald Reagan and George W. Bush helped to spark higher trade deficits in 1981-83 and 2001-3, respectively. In the more recent of these periods, the budget reversed gears and plummeted from the +2% of GDP surplus recorded in 2000 to a –5% of GDP deficit in 2003, and during this brief period the two deficits did move in the same direction. However, this temporary coincidence hardly proves the twin deficit view. After all, the trade deficit was merely continuing its long-term downward trend, and if anything its rate of deterioration *slowed down* during 2001-3 while the budget balance was dropping rapidly.

Statistical studies of the relationship between the fiscal (budget) and trade (current account) balances have yielded mixed results. Empirical estimates in Blecker (2009) show no significant effects of changes in the budget balance on the U.S. trade balance, after controlling for the dollar's exchange rate and the private saving-investment balance (discussed in the next section).<sup>13</sup> Other studies using a variety of different methodologies have found small-to-medium-sized positive effects of the budget balance on the trade balance (see, for example, Erceg et al., 2005; Chinn and Ito, 2007; 2008; Chinn et al., 2010). In these studies, for every one percentage point increase in the fiscal balance (usually measured as a percentage of GDP), the current account balance rises by anywhere from 0.1 to 0.4 percentage points (essentially, ten to forty cents of trade improvement for every dollar of fiscal improvement). However, some of these

studies include the U.S. in a panel data set along with many other countries, and one must be very cautious in applying results from international panel data to the U.S., especially when some of those studies acknowledge that their models don't fit the U.S. data very well.<sup>14</sup> Generally speaking, the larger estimates of this effect come from models that control for many other determinants of the trade balance besides the fiscal balance<sup>15</sup> and models that use the cyclically adjusted budget balance instead of the actual balance.

Overall, these econometric estimates suggest that the relationship between the budget and trade deficits is at most partial, and if anything is probably weaker in the U.S. than in many other countries. The fact that the highest coefficients are obtained in models that control for numerous other variables and which use the cyclically adjusted budget balances suggests the importance of many other causes of changes in the current account besides fiscal policy, even when the effects of the latter are found to be statistically significant. These studies also explain why a positive correlation between the two deficits is observed in the actual U.S. data only at times of relatively large fiscal policy shifts, such as when big tax cuts were enacted in 1981-83 and 2001-3.

## **7. Saving, investment, and the current account**

While the fiscal deficit has not been strongly correlated with the trade deficit, what might be called the “private sector deficit”—the gap between private investment and saving—has been more strongly correlated with the trade imbalance (see Godley, 1999; Godley, et al., 2008; Barbosa-Filho, et al., 2008, among others). To see this, consider the relationship between the two deficits and the gap between domestic (private) saving and investment that emerges from the national income accounts. This relationship, sometimes referred to as the “national income

identity,” can be written as follows:

$$\text{Current account balance} = (\text{Saving} - \text{Investment}) + \text{Government budget balance}$$

This accounting identity is very important: it implies that changes in any one of the three balances (fiscal, trade, and private saving-investment) must be accompanied by offsetting changes in the other two combined.

There are two problems with the way in which this identity is often employed. First, *an accounting identity is not a causal relationship*: there is no implication that causality has to flow in any particular direction between the variables linked by it. Rather than the fiscal balance always driving the trade balance, any other direction of causality among the three balances is also possible, and it is also possible (indeed, likely) that common underlying factors (such as the business cycle) may account for coincident movements in all of these variables that together maintain the identity. Second, the identity includes the private saving-investment balance as well as the current account and government budget balances, so there is no automatic link between the latter two.

Although the fiscal balance seems to have played little role in the widening of the trade imbalance in the late 1990s and the 2003-7 period, there is more evidence that changes in the private saving-investment balance played a significant role in these episodes, at least in an accounting sense. As Figure 4 shows, the saving-investment balance was normally positive in the U.S. economy until the late 1990s. This meant that private, domestic saving was generally more than sufficient to finance private, domestic investment—and the private sector usually had excess funds to lend out, either to the government (if it had a budget deficit) or to foreign



countries (when the U.S. had a current account surplus). The saving-investment balance behaved countercyclically, that is, it rose in recessions and fell in recoveries, because investment is more cyclically sensitive than saving.

However, the private saving-investment balance exhibited an unprecedented drop into negative territory during the 1996-2000 period, and, after rising in the recession of 2000-1, fell back to negative levels in the subsequent recovery (especially 2004-7). During the times when the saving-investment gap was negative, the U.S. private sector was unable to finance domestic investment spending. The negative saving-investment gap had to be filled by some combination of either an increased budget surplus (which means more government net lending to the private sector) or a reduced current account balance (which implies increased borrowing from abroad). At least in an accounting sense, then, the fall in private saving relative to investment “explains” how the trade deficit could continue to worsen in the late 1990s in spite of the big improvement in the fiscal balance. Also, the budget deficit was decreasing in the years 2003-7 while the trade deficit was widening rapidly; it was again the fall in the saving-investment balance that was correlated with the worsening of the current account at that time.

During the crisis of 2008-9, the saving-investment balance recovered to the highest levels since the recession of 1975 (about +7% of GDP) as households were striving to restore their balance sheets and both consumption and investment spending plummeted (see Figure 4). This sharp rise in the saving-investment balance was virtually the mirror image of the sharp decline in the fiscal balance in those same years, and the swings in these two balances utterly swamped the relatively small increase in the current account balance. Taking the previous cycle peak year of 2007 as a base, the saving-investment balance rose by about 8 percentage points of GDP over the next two years, while the government budget balance fell by about 10 percentage points of GDP;

in contrast, the current account improved by only about 2 percentage points of GDP.

Prior to the crisis, what is most striking is that the current account trended downward steadily for more than a decade (from 1993-2007) in spite of large fluctuations in the other two balances that largely offset each other (see Figure 4). This suggests that changes in the other two balances were mostly impacting each other, not the current account balance—an inference that is supported by the estimates from Blecker’s (2009) empirical model. Furthermore, the steadiness of the downward trend in the current account balance (for about 15 years prior to the crisis) suggests that this trend was likely to have been caused by factors that were independent of either the budget balance or private saving-investment balance taken separately, and that the sum of the latter two balances was being pulled along endogenously to match the decline in the current account (even while the division of that sum among the other two balances kept shifting).

Nevertheless, some have argued that the drop in the private saving rate during the 1997-2007 period could be an independent causal factor in explaining the rise in the current account deficit (see Chinn, 2010). While corporate savings held steady during that period, the personal saving rate declined for reasons that are explained elsewhere in this volume (see the chapters by Setterfield, Palley, and Cynamon and Fazzari ##). As median wages and household incomes stagnated in spite of rising productivity, households increasingly relied on debt to finance consumption expenditures, and this was aided by the boom in housing prices as well as innovative (and irresponsible) lending practices in deregulated financial markets. Thus, even if government profligacy is not to blame for the trade deficit, perhaps the consumption spending binge of the pre-crisis decade, which pulled the personal saving rate down to historic lows, is a culprit?

One problem with this argument is the issue of “reverse causality.” As a product of the

U.S. exporting manufacturing jobs, which contributed to the suppression of median wages and middle-class incomes at home, the trade deficit was at least partly a *cause* of the low saving rate rather than an effect. Also, what matters in the national income identity is the *difference* between saving and investment, not saving *per se*. Thus, the decline in saving alone cannot explain the rise in the trade deficit; rather, the interesting question is why private investment was able to remain relatively robust in the late 1990s and early 2000s (i.e., before the housing bubble burst in 2007-8) in spite of the decrease in private saving. To understand how this was possible, we need to examine the role of the net financial inflows from abroad that are the proverbial “other side of the coin” of the current account deficit—and which were one of the enabling factors permitting that deficit to reach new heights.

### *7.1 Net financial inflows and the “global saving glut”*

When the private saving-investment balance turned negative in the late 1990s and again in the early 2000s, the openness of the U.S. economy to international financial flows meant that the extra saving needed to finance domestic investment (which includes housing construction) could be borrowed from other countries. This international borrowing was a necessary enabling factor for the decline in the private saving-investment balance to occur. Without the increase in the current account deficit and the corresponding net inflow of foreign funds, it would have been impossible for the saving-investment balance to fall as far as it did up to 2006-7. To be clear, the argument is *not* that, in the absence of the increasing trade deficit, the fall in the saving rate would have raised interest rates and “crowded out” investment. Rather, the argument is that, in the absence of the trade deficit and the associated financial inflows, the saving rate could never

have fallen (or consumption could not have increased) so much to begin with.

What factors drew so much foreign capital into U.S. financial markets beginning in the mid-1990s? One factor was the increases in interest rates instigated by the Federal Reserve in 1994-95, 1999-2000, and 2004-6, when it was launching pre-emptive strikes against possible higher inflation during periods of economic recovery or boom. Another factor was the “IT” bubble in the U.S. stock market, which attracted inflows of foreign funds in the late 1990s, followed by another stock price bubble that popped up and attracted more inflows in the mid-2000s. Yet another factor was the financial crises of the late 1990s in Asia and other developing regions, which induced risk-averse investors to park their funds in the safe haven of U.S. assets. Also, as we will discuss in more depth in the next section, an increasing portion of the net purchases of U.S. assets after the dollar began to fall in 2002 were “official” purchases by foreign central banks attempting to resist market pressures toward appreciation of their countries’ currencies or seeking insurance against possible future financial crises.

One controversial explanation for the rise in net financial inflows is the hypothesis of a “global saving glut.” In a series of speeches, Bernanke (2005, 2007) argued that the U.S. current account deficit has to be explained by policies and events in the surplus countries as well as in the U.S., and that any explanation that rests solely upon U.S. domestic causes will miss the mark. He claimed that the emerging market nations (including but not limited to China) developed a significant excess of domestic saving in the late 1990s and early 2000s that was invested in financial markets in the U.S. rather than in productive domestic investment in those nations. He expressed skepticism of orthodox economic explanations of those increased saving rates, such as a life-cycle view, because demographic factors (e.g., aging of the population) could not account for the timing and location of when and where the excess saving originated. He also rejected the

twin deficit view as a leading explanation of the U.S. trade deficit.

Bernanke was right in drawing attention to economic conditions and policies in the surplus countries and in rejecting the misleading focus on the U.S. fiscal deficit. Moreover, his “saving glut” concept makes some sense if interpreted as reflecting “deficient demand” (a term due to Bibow, 2008) in the global economy. The real issue is why consumption and investment have been systematically depressed in the surplus countries, relative to their national incomes.. The core reason why consumption is repressed in most of the surplus countries is the phenomenon of wages lagging behind productivity (von Arnim, 2010; Cripps et al., 2011), a problem also found in the U.S. as discussed in the chapters by Palley and Setterfield ##. Instead of encouraging households to borrow to finance additional consumption, as the U.S. did, these countries have instead relied upon export markets to fill the resulting demand gap and maintain high employment. Their low wages (relative to productivity) and, in many cases, undervalued currencies (discussed more in the next section) contribute to their export surpluses, while their excess savings are invested in financial assets overseas (especially in the U.S.) thereby financing the resulting trade imbalances (and keeping the dollar overvalued).

Bernanke argued that the outflow of excess saving from the emerging market nations contributed to the high value of the dollar and to the bubbles in U.S. stock prices and housing prices that occurred at various times in the late 1990s and early 2000s. To the extent that these factors in turn facilitated the rise in U.S. consumer spending, the inflow of excess saving from abroad could be considered a contributing factor in causing the low saving rates of U.S. households during those years, and hence causation between low saving rates and the current account deficit runs both ways. This argument also implies that the rest of the world was relying on U.S. consumer borrowing and asset price bubbles to sustain global demand, and these were

not sustainable as the recent crisis has painfully illustrated.

However, other aspects of the global saving glut argument are more dubious. The exclusive focus on emerging market nations seems misplaced, since as noted earlier not all of these nations have had large surpluses while some of the largest surpluses have been found in industrialized countries (Germany and Japan). Also, both Bernanke and others have claimed that the global saving glut helps to explain low long-term interest rates in the early 2000s, based on the classical “loanable funds” doctrine of interest rate determination.<sup>16</sup> However, it is more credible to believe that short-term interest rates are determined by the monetary policies of central banks, while longer-term rates depend on both current short-term rates and expectations of future monetary policies and inflation rates. It is true that financial inflows that went toward purchasing longer-term U.S. bonds helped to keep their yields low during the middle of the decade of the 2000s, while the Fed was raising short-term rates in 2004-6, resulting in an “inverted yield curve” at that time. And low interest rates on long-term debt did facilitate the expansion of U.S. consumption and investment demand during those years, as noted earlier. But at a global level, if the excess saving of the surplus countries were simply offsetting the reduced saving of the deficit countries, it is hard to see how the total world “supply of saving” was really higher as a result or how that could explain low interest rates at that time.

Bernanke (2005) also suggested that “the attractiveness of the U.S. as an investment destination” and “sophistication of the country’s financial markets” as factors pulling foreign savings into U.S. financial markets, while Bernanke (2007) argued that “an underdeveloped financial sector” within the emerging market nations led to their savings being invested abroad rather than domestically. These claims have given rise to the hypothesis that “capital market imperfections” in the emerging market nations make it difficult to channel saving into

investment in those countries, so that rising domestic savings result in current account surpluses rather than increased domestic investment (see Caballero et al., 2008). Empirical tests by Chinn and Ito (2008) fail to find evidence that indicators of financial market development and the strength of financial institutions are inversely related to saving rates in emerging market nations. Chinn et al. (2010) find some evidence that the interaction of capital account openness and financial market development has a negative effect on current account balances across countries, but they do not find that this is a quantitatively significant factor in explaining the U.S. deficit.

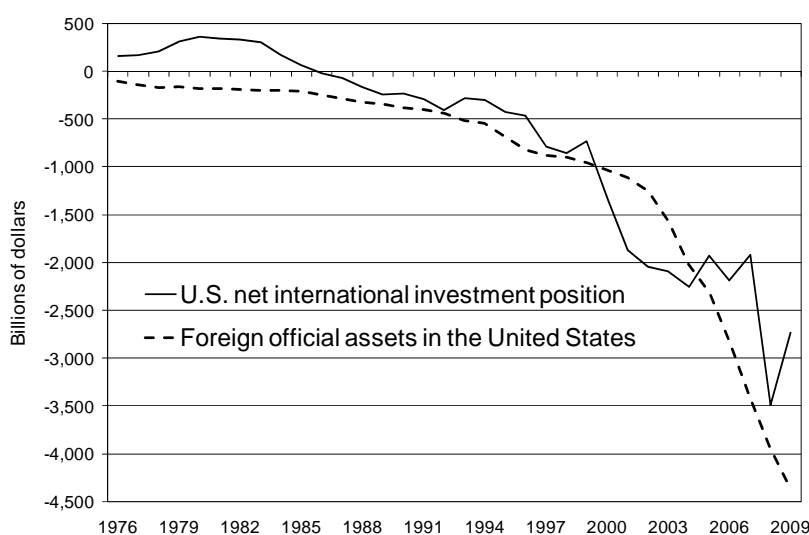
## **8. Policy interventions and structural factors**

The cumulative effect of the all borrowing to cover the trade deficits of the last generation has been to transform the U.S. from the world's largest creditor into the world's largest debtor nation. While the U.S. switched from an overall net creditor position to net debtor status in 1986, the net debt really ballooned after 2000 when it passed the \$1 trillion threshold and rapidly climbed to \$3.5 trillion at the end of 2008 before dipping slightly in 2009 (see Figure 5). Although the U.S. status as a net debtor has been much commented on, the degree to which it reflects the impact of foreign governments' official intervention in global currency markets has not received the same attention.<sup>17</sup>

Figure 5 shows that foreign *official* assets in the U.S.—essentially, U.S. currency, treasury bills, and other government-issued securities held by foreign central banks—more than account for the total net international debt in every year since 2005. In fact, by the end of 2009, foreign official assets in the U.S. of \$4.4 trillion were 60% higher than the overall U.S. net debtor position of \$2.7 trillion. In other words, *excluding this enormous debt to foreign central*

banks, the U.S. was still a net creditor country to the tune of about \$1.7 trillion in all of its other (unofficial, i.e., non-central bank) international financial activities as of yearend 2009.

**Figure 5**  
**U.S. net international investment position and foreign official assets in the US, yearend 1976 to 2009**



Source: U.S. BEA (2010b).

Thus, the growing foreign accumulation of U.S. assets after 2000 was not primarily the result of increased confidence in the U.S. economy or U.S. assets by private-sector agents abroad, as contemplated in the models of “capital market imperfections.” On the contrary, it was mainly foreign central bank intervention that financed the growing U.S. current account deficits and allowed the U.S. to build up this enormous foreign debt. The countries whose central banks have bought large volumes of U.S. government assets as foreign exchange reserves have done so for two main reasons. First, these countries learned the lesson from the emerging market financial crises of 1997-99 in East Asia, Russia, and Brazil that having large volumes of reserves is essential to be able to defend their currencies from speculative attacks. Second, many of these same countries have deliberately sought to prevent their currencies from appreciating as much as



they would have if they had been allowed to float more freely.

The leading offender in this respect is China, which (not coincidentally) has the largest surplus globally and also the largest bilateral surplus with the U.S. China did allow its currency to appreciate very slowly between 2005 and 2008, and again starting in mid-2010.<sup>18</sup>

Notwithstanding this limited appreciation, China increased its foreign exchange reserves *more than seventeen times*, from \$166 *billion* at the end of 2000 to \$2.8 *trillion* at the end of 2010 (International Monetary Fund, 2011). Assuming (as seems likely) that the vast majority of its reserves are held in U.S. assets, China's reserves probably accounted for about half of the \$4.4 trillion in total foreign official assets in the U.S. as of yearend 2009 (when China's reserves stood at \$2.4 trillion). Cline and Williamson (2009) estimate that the yuan would have to rise another 40% relative to the dollar to reduce China's current account surplus from 10% of its GDP in 2009 to a more sustainable 4%. The persistent undervaluation of the yuan helps explain not only why China is the country with which the U.S. has the largest bilateral deficit, but also why the U.S. deficit with China is so disproportional. In recent years, U.S. imports from China have averaged more than four *times* U.S. exports to China, a ratio far greater than with any other major trading partner.<sup>19</sup>

In addition to these currency market interventions, changes in global trade patterns and trade policies can have an independent impact on the trade balance. One factor that has played into rising trade deficits is the uneven impact of recent trade agreements, including the North American Free Trade Agreement (NAFTA) of 1994, the Uruguay Round agreement that created the World Trade Organization (WTO) in 1995, and—perhaps most significantly—the extension of “permanent normal trade relations” (formerly known as “most-favored nation” status) to China and China joining the WTO in 2001. While ostensibly these trade agreements have

reciprocally opened markets both in the U.S. and abroad—and foreign tariff reductions have often exceeded those of the US—the actual impact has been a disproportionate opening of the U.S. market to imports from other countries. The main reason for this outcome is that these so-called “trade agreements” also include “deep integration” provisions protecting the rights of foreign investors and extending trade liberalization into services, and these provisions have largely operated to make other countries more attractive locations for production or outsourcing by U.S. corporations. Combined with the undervaluation of currencies and the suppression of wages and consumer demand in the surplus countries, the foreign market-opening provisions of the trade agreements have thus taken a back seat to their impact in encouraging importing by U.S. companies.

Finally, it is important to note that the hollowing-out of the U.S. industrial structure in the past few decades has had a lasting impact in making it more difficult for the U.S. to replace imports with domestic products when the dollar depreciates. Blecker (2007) estimates that the rise in the value of the dollar after 1995 had the cumulative effect of reducing the capital stock of the U.S. manufacturing sector by 17% by yearend 2004, compared with what it would have been if the dollar had remained at its 1995 level. These estimates also show that annual investment in manufacturing was 61% lower in 2004 than it would have been if the dollar had remained at its 1995 value. Not only have significant portions of manufacturing capacity been “offshored,” but also the remaining manufacturing industries have become increasingly dependent on imports of intermediate goods (parts and components) that are no longer made at home. As a result, the dollar will have to go much lower and stay down much longer to make it profitable for corporations to revive their production of tradable goods in the U.S.

## **9. Conclusions: what kind of global rebalancing?**

This chapter has shown that the U.S. trade deficit has been sustained by a set of self-reinforcing, mutually supportive mechanisms that are difficult to break out of, although they were temporarily suppressed during the severe economic downturn of 2008-9. No single policy lever will quickly or painlessly alter the position of the U.S. as the main deficit country in the global pattern of trade imbalances. Traditional remedies, such as reducing the budget deficit or depreciating the dollar, will not be sufficient, although the latter is likely to be much more helpful than the former. Moreover, the U.S. trade deficit results not only from U.S. actions and policies, but also from events and policies in other countries—especially the insufficient domestic demand and currency market interventions of the major surplus nations in East Asia and elsewhere. For the U.S. to be weaned off of its reliance on imports of cheap consumer goods and outsourced intermediate goods and its dependency on external borrowing, the rest of the world needs to be weaned off of its reliance on U.S. markets for export demand and U.S. assets as repositories for wealth accumulation.

This brings us to the frequently discussed idea of the need for “global rebalancing.” As conventionally proposed, rebalancing involves increasing private savings and reducing budget deficits in the U.S. and other deficit countries, while increasing consumption and investment spending or engaging in fiscal expansion in the surplus countries. Often, rebalancing is thought to require a realignment of exchange rates in which the dollar falls further or stays low, and the currencies of the surplus countries appreciate.

One problem with this view is that all the major surplus countries have significant structural or ideological impediments to the kinds of adjustments that would be required of them

(see Kregel, 2008; Chinn et al., 2010). For example, Japan has had slow growth for two decades in spite of chronically low interest rates and repeated fiscal stimuli that have led to a large government debt; no one has yet solved the puzzle of how to boost domestic consumption and investment in Japan and replace its reliance on export demand. Germany has a deeply rooted aversion to fiscal deficits, and the European Central Bank is mandated by the Maastricht Agreement to uphold the German view that monetary policy should focus strictly on price stability and not on output or employment targets. Even if Germany were to find a way to stimulate its economy, this would mainly benefit the deficit countries in Europe (United Kingdom, Ireland, Portugal, Spain, Italy, Greece, and various eastern European nations) rather than the U.S.

China presents an interesting paradox. On the one hand, China currently depends on its undervalued currency and export surplus to maintain industrial employment and social peace. It has also systematically repressed household income and consumption in order to effectively subsidize manufacturing production, employment, and exports (Pettis, 2009). Chinese leaders seem aware that they need to bolster the internal market and not rely so much on export markets in the long term, but they seem fearful of taking dramatic steps in this direction in the short term (and they don't respond well to outside pressure). On the other hand, Chinese workers are becoming more restive and in recent years have won significant wage increases, which so far the government has not stepped in to prevent. Rising wages in China will have the same effect on its external competitiveness as a currency revaluation, with the added benefit of boosting Chinese workers' consumption. China also adopted the largest fiscal stimulus in the world, estimated at 12.3% of its GDP, during the 2008-9 crisis (Kohli, 2010). While China did this for its own self-interest, its fiscal stimulus helped to prevent a worse collapse in East Asia and made a much

greater contribution to promoting global recovery than that of any other nation (including the U.S., where Obama's modest stimulus at the federal level was largely offset by budget cutbacks at the state and local levels). Thus, while China may not want to be pressured into agreeing to revalue its currency today, it may be effectively more willing to contribute to rebalancing efforts over the long haul than some other surplus countries provided that it sees its own self-interest in doing so.

On the U.S. side, it should be clear from the analysis in this chapter that a reduction in the fiscal deficit would do little if anything to lower the trade deficit. A strategy of budget deficit reduction would be especially inappropriate at a time when the economy still has high unemployment and underutilized resources, and in which private demand is likely to remain depressed due to collapsed housing prices and high debt burdens (see von Arnim, 2010). In the long run, the federal budget deficit will not decline significantly unless and until the economy recovers and tax revenue inevitably picks up, so it makes more sense to focus on stimulating the economy than to target deficit reduction via tax increases or spending cuts (see also the chapters on fiscal policy by Baker ## and by Cynamon and Fazzari ## in this volume). As for inducing U.S. households to save more and spend less, this has occurred spontaneously through the collapse of asset values and the tightening of credit availability since the financial crisis, but the result has been to depress aggregate demand and slow the recovery. What does make sense, as emphasized in the chapters by Setterfield and Palley ##, is to restore high employment and recreate a policy environment in which wages can grow more in step with productivity so that household incomes can keep up with the growth of consumption and consumers can finance their expenditures out of income rather than debt.

With regard to exchange rate realignment, it should be recalled that the dollar's fall thus

far has occurred disproportionately in relation to the major currencies of the other industrialized nations, so its future depreciation needs to occur more in relation to the other currencies of the emerging market and developing nations (not only China, but also all the other countries that would gain competitive advantages if China revalues and they don't). In other words, a currency realignment will be more effective (and possibly more acceptable to China) if it is multilateral and not just a bilateral Chinese appreciation with the dollar. A lower dollar combined with the high prices of energy and transportation costs (both of which have rebounded since collapsing in 2009) can bring some industries back to the U.S., especially producers of heavy goods such as steel and furniture. This was already starting to happen before the trend was interrupted by the financial crisis and recession (see Rubin and Tal, 2008; Mui, 2008), and the trend may resume now that the dollar is back down and transportation costs are back up—provided that the recovery picks up steam.

Although a sustained lower dollar would eventually help to restore more balanced trade, we cannot count on global financial markets in a world of floating exchange rates to keep the dollar at an appropriately low level for rebalancing trade. The dollar is valued chiefly because of its still-preeminent role in global financial markets and as a central bank reserve asset. The dollar's exchange rate is determined mainly by the relative demand for dollar-denominated assets versus assets denominated in other currencies, not by the requisites of balancing U.S. trade. In the long term, replacing the dollar with a global currency or currency basket as the world's main reserve asset could possibly help to eliminate the dollar's recurrent overvaluation due to financial market factors, but the political prospects for such a new global monetary system seem dim at present. More immediately, an international agreement to manage the exchange rates of the major currencies within target zones—similar to the Plaza Accord of the late 1980s—could help

to moderate global trade imbalances. President Barack Obama tried to get the international community to agree on quantitative limits on current account imbalances and currency market intervention at the G20 summit in Seoul, South Korea, in November 2010, but ran into strong resistance from the surplus countries and left with only a vague commitment to continue negotiations on the subject.

In the end, the U.S. is stuck in somewhat of the same situation in which it found itself in the late 1960s and early 1970s under the old Bretton Woods system of adjustable pegs, as a result of being the “ $n^{\text{th}}$  country” in a world of  $n$  currencies but only  $n-1$  exchange rates. Once again, this country lacks enough policy levers to reduce its own trade deficit at an acceptable domestic cost (i.e., without a permanently depressed economy), while the surplus countries lack incentives to cooperate. As a result, U.S. policy makers may need to think “outside the box” about unconventional remedies.

If international cooperative efforts fail, the U.S. should consider adopting an across-the-board tariff surcharge, as allowed for balance-of-payments purposes under Article XII of the General Agreement on Tariffs and Trade (which has been incorporated into the WTO—see Stewart and Drake, 2009). If the tariff was across-the-board and not just targeted on China, it would not be discriminatory—and the fact that the tariff hit other countries (for example, EU members) would only encourage them to join efforts to pressure the currency manipulators to cease and desist.<sup>20</sup> Alternatively, there have been proposals for an import certificate program, in which the right to import goods would be auctioned or sold to companies who purchase certificates from either exporters (Buffet, 2003) or the government (Papadimitriou et al., 2008), with the quantity of certificates limited so as to achieve a target level for the trade balance. My view is that import certificate schemes would be unduly complex to administer, and a tariff is

both technically simpler and (at least marginally) more politically feasible (see Blecker, 2009).

The U.S. would be required by the WTO to consult with other countries if it put any type of import restriction into effect, and such consultations could lead to negotiations over adjustments that could make actual implementation of the restriction unnecessary. Such a positive outcome would be more likely if the implementation of the import restriction was made contingent on the trade imbalances of the major countries being below some threshold (for example,  $\pm 2\%$  of GDP at full employment). This would hopefully motivate the surplus countries to find other ways to reduce their trade surpluses with the U.S., such as by letting their currencies appreciate or opening their markets more to U.S. exports.

In the absence of such efforts, it is possible that the U.S. will continue to muddle through with a large trade deficit, a depressed industrial sector, and a growing external debt for a long time, with at best a very slow and gradual reduction of the trade deficit if the dollar falls further and remains low. Although one does not want to “cry wolf,” the recent collapse of the U.S. housing bubble and the ensuing financial crisis remind us that unsustainable situations sometimes end very abruptly and unexpectedly, with often dire consequences when they do. Having seen what a “hard landing” looks like in the housing market and on Wall Street, one would hope that both the U.S. and other countries would want to avoid finding out what one would look like in international currency markets and global trade relations.



## Endnotes

<sup>1</sup> Scott (2008) estimated that 5.6 million jobs were lost or displaced by the non-oil trade deficit as of 2007, prior to the 2008-9 crisis. Mishel et al. (2009, pp. 186-200) analyze how trade pressures (not only the deficit, but also low-wage competition and globalization generally) contributed to rising inequality and stagnant incomes for most U.S. families.

<sup>2</sup> Chinn (2010, p. 2) identifies five different explanations for the rise of the global trade imbalances and the U.S. deficit: “(1) trends in saving and investment balances [including the fiscal balance], (2) the intertemporal approach, (3) mercantilist behavior [by the surplus countries], (4) the global saving glut, and (5) distortions in financial markets.” Chinn effectively admits that (2) has no empirical support. The four other explanations are all discussed below.

<sup>3</sup> This phenomenon can be understood economically by noting that there are fixed costs of outsourcing. So, once temporary conditions justify incurring the fixed costs, it’s much more likely that corporations continue to outsource in the future even if the temporary conditions reverse; this only requires that the average variable costs abroad are less than those at home.

<sup>4</sup> Kregel (2008) contends that global trade surpluses are largely attributable to “catching-up by late industrializing developing countries.” This characterization does apply to China and some other East Asian nations (e.g., Taiwan), but not to many other late industrializers (such as India and Brazil) who do not rely on large trade surpluses. In fact, only a few developing or emerging market nations have large trade surpluses, and many of these are major resource exporters rather than late industrializers. Japan and Germany have the second and third largest trade surpluses, but cannot be considered late industrializers today (even if they were in the past).

<sup>5</sup> The current account includes net international investment income and net transfer payments in addition to net exports of goods and services. For the U.S., net investment income is normally positive and net transfers are normally negative, and these two have largely offset each other except for a few periods in the late 1970s and early 1990s.

<sup>6</sup> In this paragraph, dollar values for the U.S. current account are from U.S. Bureau of Economic Analysis (BEA, 2011b), Table 1, but the current account as a percentage of GDP is calculated from data in U.S. BEA (2011a), where the current account is measured by “net lending or borrowing” from Table 5.1 and GDP is from Table 1.1.5.

<sup>7</sup> I am indebted to Rudi von Arnim for suggesting this point.

<sup>8</sup> For example, in 2010Q2, the GDP growth rate would have been 5.2% instead of 1.7%, if not for the decrease in net exports during that quarter; similarly, in 2010Q3, the growth rate would have been 4.3% instead of 2.6%. Data are from U.S. BEA (2010a), Table 2.

<sup>9</sup> Technically speaking, “chained” measures of real imports and exports are not additive, so the real net imports shown here should be regarded as an approximation to the true “real” trade deficit. Because real imports are measured at chained 2005 prices, they are not affected by oil prices as nominal imports would be, so the data in Figure 3 do not reflect the impact of fluctuations in oil prices on the nominal trade deficit. On the exchange rate side, the Fed’s “broad” index measures the dollars’ value relative to 26 other currencies from countries that collectively account for more than 90% of U.S. trade (Loretan, 2005).

<sup>10</sup> This is the famous “J-curve” pattern, named for the tendency of the trade balance to worsen in the first year or two after a currency devaluation and then to improve subsequently.

<sup>11</sup> The “other important trading partners” index includes the 19 currencies from the broad index that are not included in the major currencies index (Loretan, 2005). As of 2008, developing and emerging market countries all together (including ones not included in the exchange rate index shown here) accounted for 57.3% of U.S. goods imports and 69.5% of the goods trade deficit (calculated from data in U.S. BEA, 2011b, Table 2a). See also Krugman (2008) on the changing country composition of U.S. imports and its impact on U.S. wages.

<sup>12</sup> See Feldstein (1992) and Blecker (1996) for retrospectives, and Chinn (2005) and Chinn and Frieden (2009) for more recent restatements.

<sup>13</sup> Blecker (2009) uses a vector error correction model, which controls for nonstationary but cointegrated time-series data and tries to identify the effects of “shocks” to (or “innovations” in) each variable on all the variables in the system.

<sup>14</sup> The U.S. is an outlier in the regression models of Chinn and Ito (2007, 2008), as its current account balance is generally below a 95% confidence interval around the model’s fitted values for the periods 1996-2000 and 2001-4; also their models underpredict the U.S. current account deficit in out-of-sample forecasts. Chinn et al. (2010) find that a dummy for the U.S. in the 2001-5 subperiod is significantly negative, suggesting that their model does not fully explain the decline in the U.S. current account balance at that time.

<sup>15</sup> For example, Chinn et al. (2010) include the following variables in their baseline specification: initial net foreign assets, relative income (level and squared), dependency ratio (young and old), an index of financial development, terms of trade volatility, average GDP growth, trade openness, an oil exporting dummy, and time fixed effects. Their extended model includes additional indicators of financial institutions and financial openness and interactive terms.

<sup>16</sup> See Chinn (2010) for an exposition of this argument and Bibow (2008, 2010) for critiques.

<sup>17</sup> To his credit, Bernanke (2005) recognized that a substantial part of the net financial outflows from emerging market countries were the result of intervention by central banks, rather than the autonomous operation of private capital markets. However, he underestimated how much these interventionist policies were part of mercantilist strategies of undervalued currencies for export promotion.

<sup>18</sup> From 1994 until early 2005, China kept the yuan fixed at approximately 8.28 per U.S. dollar. Starting in July 2005, China allowed the yuan to appreciate very gradually until July 2008, when the exchange rate was effectively re-pegged at around 6.83 per dollar. The gradual rise of the yuan resumed in June 2010, but the exchange rate fell to only 6.49 as of April 29, 2011. Data are from U.S. Federal Reserve (2011a).

<sup>19</sup> Author’s calculation based on data in U.S. BEA (2011b, Table 2a). This ratio declined from almost 6:1 in 2005 to just below 4:1 in 2010. Whether this is the beginning of a long-term trend reduction or merely a result of the greater cyclical slowdown in the U.S. economy remains to be seen.

<sup>20</sup> The U.S. might be legally obligated to exempt partner countries in free trade agreements, especially NAFTA members Mexico and Canada, from such a tariff. This would not necessarily be a bad thing, however, because regional trade in North America supports U.S. industries and employment much more than importing from other regions like East Asia that buy much less U.S. products (see Blecker, 2005; Blecker and Esquivel, 2010).

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