

The Serendipitous Global Imbalance

James Riedel*

Abstract: This paper rejects the widely-held view that global current account imbalances are the result of a global saving glut that was (in part) the consequence of China's policy of undervaluing its currency. Evidence is presented that increases in China's current account surpluses and United States' deficits from 2003 to 2008 resulted from exogenous shifts in domestic expenditure in opposite directions in the two countries and not from the effects of exchange rate policy in China or declining real interest rates in the U.S. It is argued that the offsetting increases in the current account balances of the two countries constitute a serendipitous global imbalance.

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* William L. Clayton Professor of International Economics, Johns Hopkins University, School of Advanced International Studies (Washington DC). Email: jriedel@jhu.edu

The Serendipitous Global Imbalance

It is a widely held view that the global current account imbalance imperils the stability of the world economy.¹ The global current account imbalance, so it is argued, results from a global saving glut that is (in part) the consequence of China's policy of undervaluing its currency.² Undervaluation supposedly causes China to export more than it imports and to spend less than it earns (i.e. save more than it invests). China's excess saving flows into the U.S. capital market, pushing down interest rates and causing the U.S. to spend more than it earns and to import more than it exports, producing ever larger current account deficits in the U.S.³ This imbalance—China's growing surpluses and the United States' growing deficits—is deemed to be unsustainable, and because it is unsustainable threatens the stability of the world economy.

This paper argues (not to put too fine a point on it) that this popular thesis is wrong. Inflows of foreign saving, econometric evidence indicates, do not explain much of the decline in U.S. real long-term interest rates, nor does the decline in long-term interest rates explain increases in U.S. current account deficits. Evidence is presented that the increase in China's surpluses and the United States' deficits from 2002 to 2008 resulted from exogenous shifts in domestic expenditure in opposite directions in the two countries and not from the effects of exchange rate policy in China or declining real interest rates in the U.S. Because the offsetting increases in the current account balances of the two countries were caused by exogenous shifts in expenditure, and not endogenous adjustment via changes in relative prices (real exchange rate and real interest rate), the offsetting increases in the

¹ See for example, Martin Wolf, *Fixing Global Finance*, Johns Hopkins University Press, 2008.

² Morris Goldstein and Nicholas Lardy, *The Future of China's Exchange Rate Policy*, Peterson Institute for International Economics, 2009.

³ Ben S. Bernanke, "The Global Saving Glut and the U.S. Current Account Deficit," Sandbridge Lecture, Virginia Association of Economics, Richmond VA, April 14, 2005.

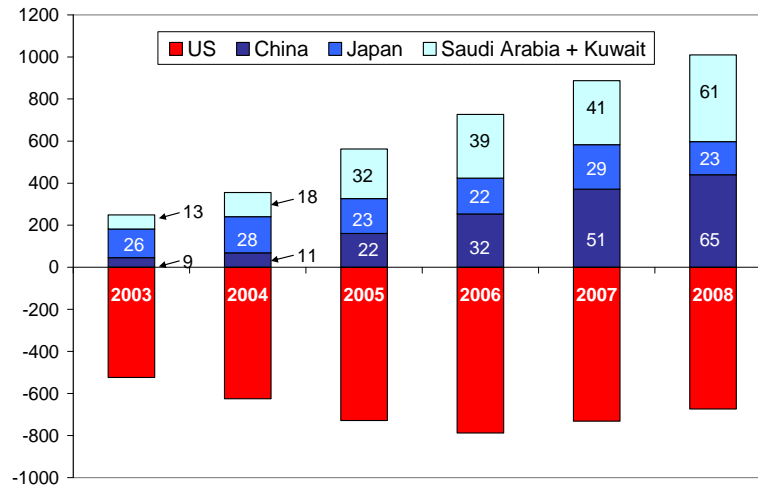
current account balances of the two countries constitute a serendipitous global imbalance, not an unsustainable imbalance that threatens the world economy. That this global imbalance is unsustainable is a foregone conclusion, at least on China's side, since what caused the exogenous increase in China's saving-investment balance will not be (and is not being) sustained. Thus, many of the concerns in the international policy community about China's excess saving and the often repeated recommendation that domestic consumption replace investment and exports as the engine of growth in China are, we argue, misplaced.

Semantically, the term "global current account imbalance" is inapt. The balance on current account for the world as a whole is, by definition, zero (and will remain so until there is a pick up in interplanetary trade and financial flows). In a world of N countries, the current account balance of any one country is matched in equal and opposite amount by the sum of the current account balances of the other $N-1$ countries. Normally it does not make sense to consider the current account balance of any one country (e.g. the U.S.) as the counterpart of the current account balance of any one other country (e.g. China). As Figure 1 indicates, China's current account surpluses do not match the United States' deficits, but even if they did that would not justify the assumption that the two are necessarily linked, one causing the other, and that circumstances in the other $N-2$ countries are immaterial.

Nevertheless, since China's surplus has grown to a level approaching that of U.S. deficit, and because the two countries are major trade partners and the dominant economies in the world today, one the largest and the other the fastest growing and potentially the largest, this paper

accedes to what has become a convention in the literature and analyzes the “global imbalance problem” primarily as a matter between two countries, the US and China.⁴

Figure 1: Current Account Balances of Selected Countries: 2003-2008
(\$ Billions and as a Percent of the US Deficit)



Source: IMF, World Economic Outlook database online.

1. The China Side of the Imbalance

a. *Exchange Rate Policy in China*

There is a widespread consensus that the renminbi (RMB) is undervalued, but no agreement as to how undervalued it is because there is no consensus as to what is the unobservable equilibrium exchange rate.⁵ Is it the purchasing power parity rate, adjusted or unadjusted for the Balassa-Samuelson effect? Is it the mean long-run real exchange rate? Is it the rate that would yield external balance and, if so, what is external balance? Is external balance a zero current account balance or a deficit or surplus that is deemed to be “sustainable”? Perhaps the equilibrium rate is that which would obtain in the market if the

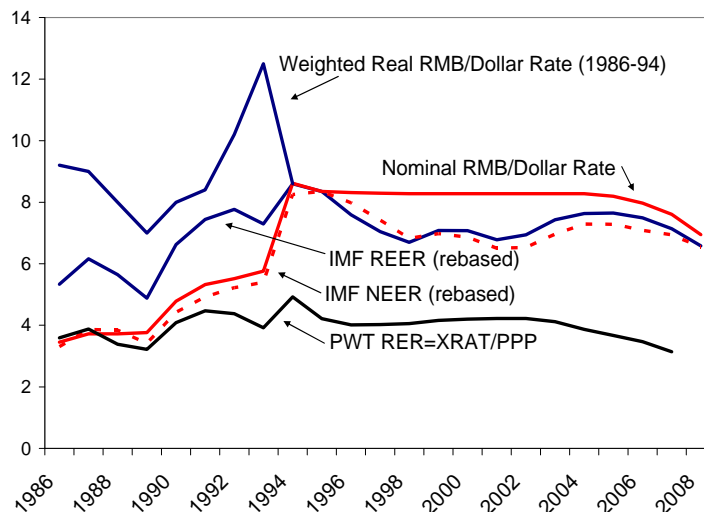
⁴ According to IMF World Economic Outlook projects, China’s current account surplus will exceed the U.S. current account deficit in 2009 and will reach \$800 billion in 2014, 70 percent higher than the projected U.S. deficit.

⁵ William R. Cline and John Williamson, “Estimates of the Equilibrium Exchange Rate of the Renminbi: Is there a Consensus and, If Not, Why Not?” Institute for International Economics, 2009.

currency floated freely and China had a fully liberalized financial system, no capital controls, and a western-style welfare system, each of which is a stated long-run goal of the government. Fortunately it is beyond the scope of this paper to answer those unanswerable questions. The aim here is simply to determine how China's exchange rate policy has affected its international price competitiveness and contributed to its growing current account surpluses.

Several measures of the real and nominal exchange rate from 1986 to 2008 are shown in Figure 2. In order to interpret the exchange rate indexes presented there, one needs to take account of the fact that until 1994 China had two nominal exchange rates, an official rate set by the government and a parallel market-determined rate that operated in swap centers where exporters and importers traded foreign exchange freely.

Figure 2: Nominal and Real Effective Exchanges



Notes: The weighted real RMB/Dollar rate is a trade weighted average of the official and market rate. IMF REER and NEER are the inverse of the indexes published in the IFS scaled to the nominal rate in 1995. PWT RER (Real Exchange Rate) is the official rate divided by the Purchasing Power Parity rate published in Penn World Tables.

Source: IMF, International Financial Statistics; Penn World Tables, online; Riedel, Jin and Gao (2007), p. 175.

In 1994, China unified the exchange rate by devaluing the official rate to the level of the parallel rate (8.7 RMB/\$) and thereafter made current account transactions fully

convertible. In 1995, the currency was allowed to appreciate to 8.3 RMB/\$, where it remained more or less constant until July 2005, when the authorities began successive revaluations which culminated in a lowering of the dollar rate about 20 percent by mid- 2009.

Calculating the real exchange rate on the basis of the official exchange rate alone gives a distorted picture of China's relative price competitiveness before 1994. The IMF real effective exchange rate (REER) and the real purchasing power parity exchange rate (RER), because they do not take account of the parallel rate that applied to a large and growing share of trade before the 1994 exchange rate unification, indicate a significant rise in China's price competitiveness (real depreciation) from the mid-1980s to 1995. If a trade weighted average of the official and parallel rate is used, however, the real exchange rate is shown to be rather constant with a modest downward trend (declining price competitiveness) over the entire period.⁶ From 1995 to 2005, while the nominal rate was tightly fixed to the dollar, movement in China's REER mirrors the U.S. REER—appreciating in the 1990s and depreciating in the 2000s in lockstep with the dollar. Since 2005, revaluation of the nominal dollar rate has led to a real appreciation (fall) of the real exchange rate and presumably a decline in undervaluation, if indeed the currency was undervalued to begin with.

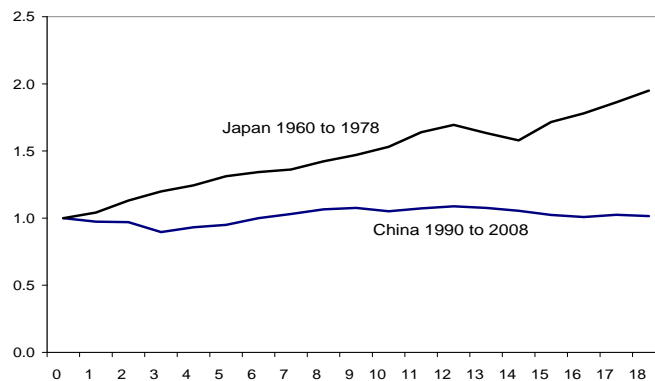
Those who are concerned about the undervaluation of the RMB are not satisfied with the average annual 3 percent revaluation since July 2005, arguing that the rate of revaluation should be another 2 to 3 percent per year to take account of the Balassa-Samuelson effect.⁷ Cross country estimates of the Balassa-Samuelson effect indicate that the real exchange rate should appreciate, other things equal, at a rate equal to about 40 percent of the percentage

⁶ Yin-Wong Cheung, Menzie D. Chinn and Eiji Fujii, "China's Current Account and Exchange Rate," unpublished manuscript, December 31, 2008.

⁷ Jeffrey A. Frankel, "Comment: Equilibrium Exchange Rate of the Renminbi," in William R. Cline and John Williamson, "Estimates of the Equilibrium Exchange Rate of the Renminbi: Is there a Consensus and, If Not, Why Not?" Institute for International Economics, 2009.

differential between real per capita income growth in China and the U.S. If, in the future, the rate of growth of real per capita income in China exceeds that in the U.S. by about 6 percent per annum, as it did the past decade, then an additional 2 to 3 percent annual revaluation is required to account for the Balassa-Samuelson effect. What is missing in this analysis, however, is that the Balassa-Samuelson effect does not apply in a labor-surplus economy, since there is no necessary trade-off between the tradable and non-tradable goods sectors and productivity growth in industry leads mainly to rising employment and not rising real wages, the mechanism that pushes up the relative price of non-tradable goods according to the Balassa-Samuelson hypothesis. One would not expect the Balassa-Samuelson effect to be present in China's labor-surplus economy and indeed, as Figure 3 indicates, it is not. Using the ratio of consumer price index to manufacturing producer price index as a proxy for the relative price of non-tradable goods, we find a strong Balassa-Samuelson effect in Japan (1960 to 1978), but none in China (1990-08).

Figure 3: Ratio of the CPI to the PPI in China and Japan



Source: China Statistical Yearbook online and IMF, International Financial Statistics.

b. Trade and the Balance of Payments in China

In China the real exchange rate does not bear a relationship to the volume of trade or the trade balance that is usually expected. As Figure 4 indicates, China's trade balance exhibited a strong upward trend, soaring from 2003 to 2007, in spite of a steady, even

slightly declining (appreciating) real exchange rate. As Figure 5 indicates, the dramatic increase in China's trade surplus 2003-07 was mainly due to a collapse in the growth of imports, not to a surge in exports. The collapse in import growth, according to Jonathan Anderson, formerly chief of China research for UBS, was mainly the unintended consequence on China's stop-go macroeconomic policies.⁸ In 2001-02, when the economy was slowing down, the government directed a large expansion of credit to heavy industry, mainly steel and other basic materials processing industries. When the economy became overheated in 2004, the government tightened credit growth, the brunt of which fell on the construction industry. As a result, just as production capacity was expanding, domestic demand for steel and other basic materials declined, causing a decline in imports and an expansion of exports, the net effect of which was a large increase in the trade balance. In short, the real exchange rate played no significant role in the rise in China's trade balance. The trade balance from 2003 to 2007 rose in spite of, not because of, changes in China's real exchange rate.

Figure 4: The real exchange rate and the trade balance as a % of GDP

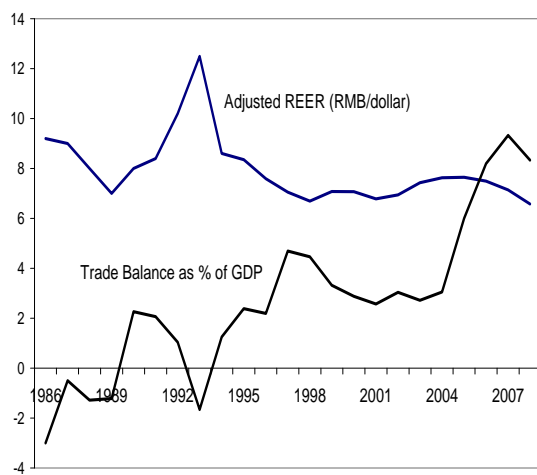
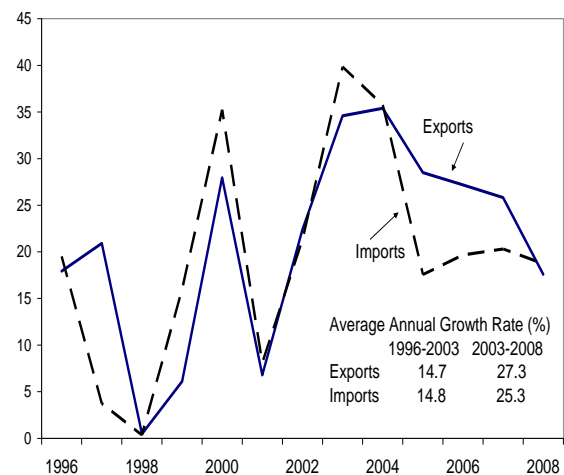


Figure 5: The annual growth rate (%) of exports and imports

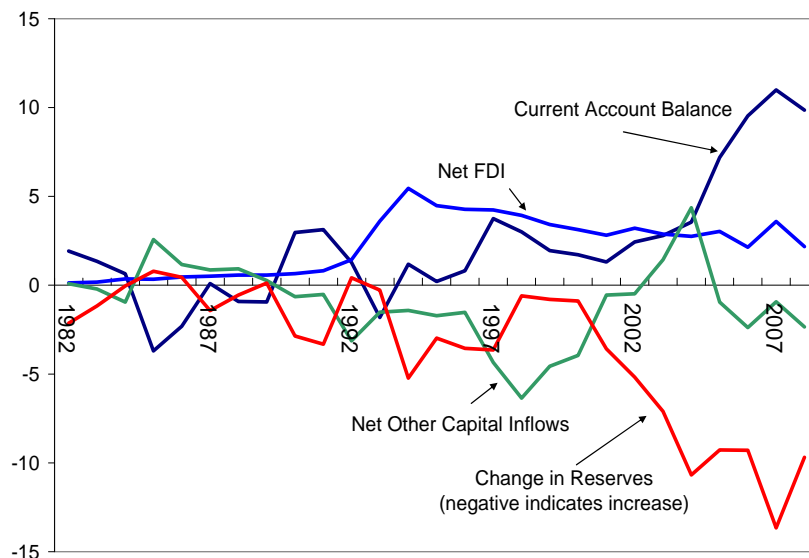


Source: IMF, International Financial Statistics, online

⁸ Jonathan Anderson, "The One Number to Watch This Year," UBS Research, 10 March 2005

China's balance of payments from 1982 to 2008 is presented in Figure 6. Two key turning points can be identified, the first in 1994 when the exchange rate was unified and the climate for foreign direct investment was improved; the second, in 2001, when China acceded to the WTO, after which the trade and current account surpluses increased dramatically. It is also apparent in Figure 6 that in spite of strict controls, portfolio capital flows, both inward and outward, have on occasion been significant. Immediately following the Asian Financial Crisis in 1997 there were significant net portfolio outflows and later, in 2003, significant inflows, presumably in anticipation of a revaluation of the yuan. Increases in foreign reserves have been disproportionately large only since 2003, when the central bank (People's Bank of China or PBOC) began buying up foreign exchange flooding into commercial banks through the current and capital accounts of the balance of payments.

Figure 6: The Balance of Payments of China as a % of GDP: 1988-2008

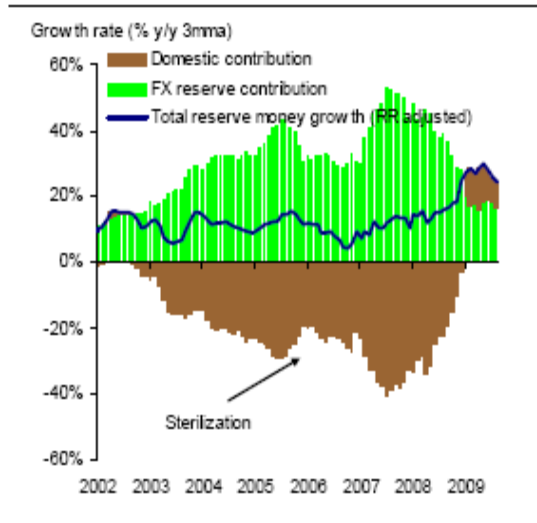


Source: IMF, International Financial Statistics, online.

While there is no evidence to indicate that China took measures to raise its international price competitiveness since the mid-1990s, there is irrefutable evidence that it took measures to avoid a decline in price competitiveness from nominal appreciation of the

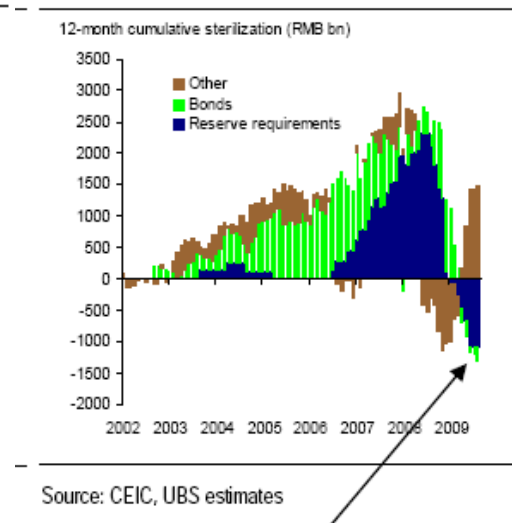
currency that would have otherwise resulted had the PBOC not intervened. Moreover, as Figures 7 and 8 indicate, from 2003 to 2008 the PBOC undertook to sterilize the monetary effect of its large foreign reserve purchases by compelling commercial banks to buy PBOC sterilization bonds and by raising commercial bank's reserve requirement ratio. Through sterilized intervention the PBOC was able to keep the growth of base money supply in line with demand and thereby avoid the inflation that would otherwise have resulted from the monetary effect of its massive purchases of foreign reserves.

Figure 7: Foreign Exchange Reserves, Sterilization, and Base Money Growth



Source: CEIC, UBS estimates

Figure 8: Sterilization by Component



Source: CEIC, UBS estimates

The PBC's sterilization remains moderate

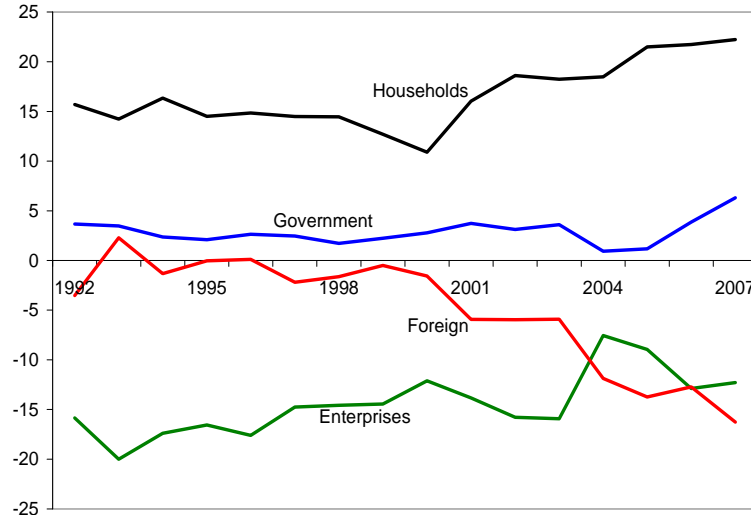
Source: UBS Investment Research, Asian Economic Monitor, "China By The Numbers," September 2009

Figures 7 and 8 further indicate that since the outbreak of the global economic crisis, China has ceased sterilized intervention. To counter the deflationary effects of the crisis, after 2008, China allowed the growth of base money to accelerate by ceasing sterilization of reserve purchases, lowering the reserve requirement ratio and by buying back some of the sterilization bonds it has previously issued to commercial banks. Whether or not sterilized intervention will resume, once the crisis ends, remains to be seen.

c. *Saving-Investment Balances in China*

The current account measures of the balance between exports and imports of goods and services, but also the balance between income and expenditure and its equivalent, the saving-investment balance. In order to determine whether the government engineered the massive expansion in its current account surplus from 2003 to 2008, it is useful to assess to what extent each sector of the economy contributed to the financial surplus that flowed out of the economy mainly as additions to foreign reserves. For this purpose, we rely on flow-of-funds data published in the China Statistical Yearbook. These data allow us to examine the saving-investment balance in the three main sectors of the economy—the enterprise, household and government sectors. The saving-investment balances of each sector, expressed as a percent of GDP, are presented in Figure 9.

Figure 12: Saving-Investment Balances as % of GDP by Sector



Source: China Statistical Yearbook, Flow of Funds Tables, selected years.

Not surprisingly, the household sector is shown to be a net saver and the enterprise sector a net investor. The government, over the entire period, ran a modest financial surplus. The most striking development from 2003 onward is the dramatic increase in net flow of saving abroad, mainly as increases in foreign reserves. It is evident in Figure 12 that the

source of the increase in the net saving outflow from 2003-2007 was the household sector, whose saving-investment balance increased from 11 percent of GDP in 2000 to 22 percent in 2007, during which time the foreign sector financial balance fell from a negative 2 to a negative 16 percent of GDP.

The picture that is presented in the flow-of-funds data, which identifies the household sector as the main source of the increase in China's saving-investment surplus, does not accord with the popular view, stated succinctly by Martin Wolf:

“...the core of the Chinese saving story over the past five or six years has been the rise in corporate saving. The Chinese government told state enterprises to become profitable and they have done what they were told. The corporate sector has become profitable by disposing of surplus workers, yet the government has not taken some of the increased profits as dividends on the assets it owns, even to finance safety nets for displaced workers. Remarkably (and shockingly), the government has left the money with enterprise insiders. But the government itself is a large saver. China has about 800 million poor people, yet the country now consumes less than half of GDP and exports capital to the rest of the world. This is highly peculiar. It is also why the country has such a huge surplus.”⁹

The data presented in Figures 13 and 14 simply do not support this view. In Figure 13 it is shown that the rise in the household saving-investment balance is fully explained by a fall in the share of household disposable income consumed since 2001 and, of course, a corresponding rise in the share saved. Figure 14 further indicates that non-financial enterprise (NFE) investment as a share of GDP was remarkably stable over the period. Saving by NFEs, which is essentially value-added minus wages and taxes plus net transfers from government, was somewhat more variable, rising steeply during the 2003-04 boom and declining there after. Clearly these data do not support Wolf's contention that the government engineered the large increase in China's current account surplus by using its

⁹ Martin Wolf, *Fixing Global Finance*, Johns Hopkins University Press, 2008, p.69.

control over state-owned enterprises. Instead, “the core of the Chinese saving story” since 2003 is in the household sector, over which the government has limited control. Even the government’s heavy-handed credit controls have little influence in the household sector, since households have limited access to bank credit.

Figure 13: Household Consumption, Saving and Saving-Investment Balance as a % of Disposable Household Income

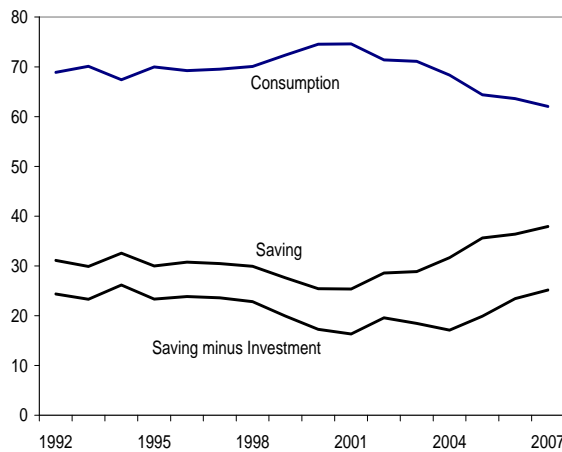
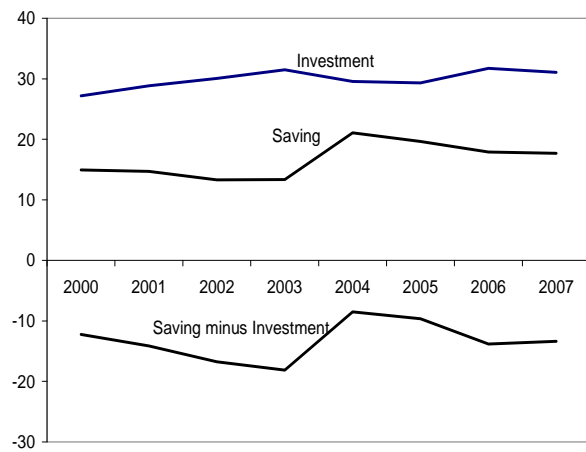


Figure 14: Non-Financial Enterprise Investment, Saving and Net Saving as a % of GDP



Source: China Statistical Yearbook, Flow of Funds, online.

The flow-of-funds data provide a plausible explanation for the fall in the household consumption rate after 2002. The fall in the household consumption rate coincided with a significant increase in the rate of growth of household real disposable income, which increased from an average of 7 percent per year from 1992 to 2001 to 14 percent per year from 2002-2007. As Figure 15 indicates, the growth of real household disposable income in recent years outstripped the growth of per capita income in the country as whole.

There are several compelling reasons to suspect that the fall in the household consumption rate was associated with the jump in the rate of growth of real household disposable income after 2002. Firstly, it seems reasonable to assume that the doubling in the rate of growth of real disposable income after 2002 was unanticipated and, in accordance with the permanent income theory of consumption, that households would save a

disproportionate share of it. Secondly, as indicated in Figure 16, it is apparent that acceleration of real disposable income was enjoyed mainly by rural households, which have significantly higher saving rates than urban ones because they are not afforded the same pension, education, health care, and housing benefits that urban households receive.¹⁰ It is reported that, while rural incomes were flat in the 1990s, they rose at a rate above 15 percent per year after 2002 due to a increases in food prices and (more importantly) sharp increases in recent years in the wages that rural migrants earn in factories in the south and eastern seaboard factories.¹¹ The growth of urban incomes does not appear to have accelerated in the 2000s, but it is conceivable the negative wealth effect from the collapse in the stock market, which fell by about 50 percent between 2001 and 2006, could have had a negative impact on the rate urban household consumption.¹²

Figure 15: Three-year Moving Average Rates of Growth of Real Disposable Household Income and Real Per Capita GDP (%)

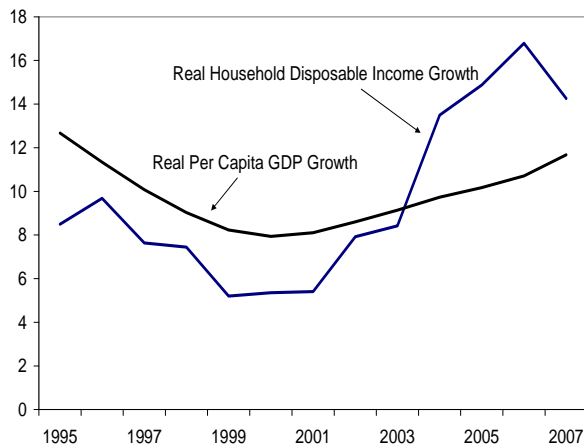
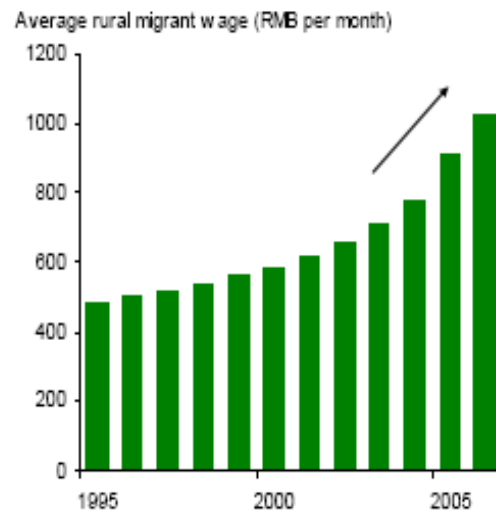


Figure 16: Average rural migrant wages (RMB Per Month)



Source: China Statistical Yearbook; UBS, “The 2008 China Macro Handbook,”

¹⁰ Art Kraay, “Investment and Saving in China,” *World Bank Economic Review*, 14 (3)545-70..

¹¹ UBS, *The 2008 China Macro Almanac*, 28 November 2007, p. 15.

¹² James Riedel, Jin Jing and Jian Gao, *How China Grows: Investment, Finance, and Reform*, Princeton University Press, 2007, Chapter 7 reports that by 2001 there were about 70 million individual stock market account held mainly by urban household and businesses.

It is worth noting that, with real household income rising at 14 percent a year, a decline in the share of household income consumed does not necessarily imply a decline in the level of household consumption. Indeed, there is evidence that the level household consumption rose significantly the past six or seven years, especially in urban areas.¹³

d. Mercantilism and Exchange Rate Protection in China

China's large current account surpluses and increases in foreign reserves have been interpreted as evidence of a policy of mercantilism, the by-product of policies to restrict imports and promote exports.¹⁴ There is no evidence that China became more protectionist in recent years and indeed, from 1994 to 2001, when China entered the WTO, the average import tariff fell from 40 to 10 percent.¹⁵ Neither is there direct evidence that China has taken explicit measures to promote exports. Instead, what China has done is to remove obstacles to exporting. In the 1980s this was done by allowing the formation of "township and village enterprises" and giving them the freedom to operate outside the central plan, where they exploited China's comparative advantage in labor-intensive light manufactures. In the 1990s it was done by unifying the exchange rate, making current account transactions convertible, improving the environment for export-oriented foreign direct investment and, perhaps most importantly, by eliminating import quotas, reducing import tariffs and accepting the terms and conditions of WTO membership. Since removing obstacles to exporting is quite different from explicitly promoting them, it is not at all clear that

¹³ Jonathan Anderson, "The Myth of Chinese Saving," *Far Eastern Economic Review*, November 2009, 24-29.

¹⁴ See, Michael P. Dooley, David Folkers-Landau and Peter Garber, "An Essay on the Revived Bretton Woods System," NBER Working Paper 9971, September 2003; Joshua Aizenman and Jaewoo Lee, "Precautionary versus mercantilist Views, Theory and Evidence," 2006 (forthcoming *Open Economies Review*).

¹⁵ Riedel, et.al., p.

mercantilism explains the increase in China's current account surpluses or its growing stock of international reserve assets.

Contracting absorption and sterilizing foreign exchange market interventions are also the principal instruments of “exchange rate protection.” As Corden defines it, “There is exchange rate protection when a country protects its tradable goods sector (export and import-competing industries) relative to its non-tradable sector by devaluing its exchange rate, allowing the exchange rate to depreciate more than it would otherwise, or preventing an appreciation that would otherwise take place.”¹⁶ China has not devalued its currency in recent years—in fact it has allowed the opposite to happen—but it has, through sterilized intervention, prevented the real appreciation that would have otherwise occurred. There is, however, an important distinction between devaluing the currency to gain price competitiveness and preventing appreciation to avoid losing it—similar to the distinction between promoting and unshackling exports—one is offensive and the other is defensive. A policy aimed at a major restructuring the economy toward the export sector is far more difficult to justify than one aimed at preventing a major collapse in output and employment in the export sector, which was the policy China chose from 2003-2007. Before October 2008, a fair criticism of this policy was that it entailed a high opportunity cost in terms of the presumably high return on domestic investment foregone relative to the low return China earned on U.S Treasury securities held as reserves. A year after a global financial/economic crisis that saw prices decline on every financial asset other than Treasury securities that argument is not quite as compelling as it once was.

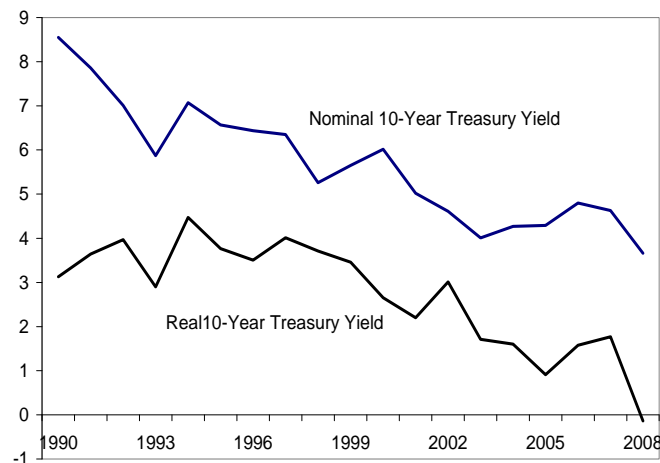
¹⁶ W. Max Corden, “Exchange Rate Protection,” *Protection, Growth and Trade: Essays in International Economics*, Basil Blackwell, 1981.

2. The U.S. Side of the Global Imbalance

a. *The Global Saving Glut*

The concept of a global saving glut was introduced in a 2005 speech by Mr. Ben Bernanke, Chairman of the Federal Reserve, in which he stated that “over the past decade a combination of diverse forces has created a significant increase in the global supply of saving—a global saving glut—which helps to explain both the increase in the U.S. current account deficit and the relatively low level of long-term real interest rates in the world today.”¹⁷ The term “glut” suggests a flood of saving flowing into the U.S. capital market, driving down interest rates and generating endogenous increases in spending. As Figure 17 indicates, there has indeed been a significant decline in U.S. nominal and real long-term interest rates of something on the order of 200-300 basis points over the past 10 years. The question is: to what extent did saving flows from China and elsewhere contribute to the decline in U.S. interest rates?

Figure 17: Nominal and Real Yields on 10-Year Treasury Securities: 1990-2008 (percentages)



Source: U.S. Federal Reserve Board, online data

¹⁷ Ben S. Bernanke, “The Global Saving Glut and the U.S. Current Account Deficit,” Sandbridge Lecture, Virginia Association of Economics, Richmond VA, April 14, 2005.

Econometric analysis of the determinants of U.S. long-term interest rates provides an answer that question. A recently published study estimated a reduced-form equation to explain the nominal 10-year Treasury yield and other U.S. interest rates over the period 1984 to 2005.¹⁸ The empirical model included as explanatory variables inflation expectations, interest rate risk (volatility), expected real GDP growth, expected structural budget deficits and foreign flows into U.S. bonds.¹⁹ The study found that most of decline in long-term interest rates over the estimation period resulted from a decline in inflation expectations and interest rate volatility, but foreign flows into long-term bond markets were found to have a statistically significant negative impact on long-term interest rates. With respect to the yield on 10-year Treasury securities, the study found that, other things equal, foreign inflows over one year at the level of one percent of U.S. GDP were associated with a 19 basis point reduction in the 10-year Treasury bond yield. In the market for U.S. Agency bonds, the impact factor was 26 basis points on one-year inflows at the level of one percent of U.S. GDP.

The composition of China's annual purchases of U.S. financial assets is shown in Figure 18.²⁰ The bulk of China's purchases since 2001 were Treasury bonds and Agency bonds, the "other" category consisting of bank deposits, corporate bonds and equities. It is apparent in Figure 18 that the large increase in purchases of Treasury bonds in 2008 was in part the result of a reshuffling of China's portfolio away from Agency bonds and equities. The impact on Treasury and Agency bond interest rates (measured in basis points), shown in

¹⁸ Francis E. Warnock and Veronica Cacadac Warnock, "International capital flows and U.S. interest rates," *Journal of International Money and Finance*, 28 (2009) 902-919.

¹⁹ For purposes of this paper, we take these results at face value, but recognize that the estimated coefficients are not necessarily reliable for counterfactual analysis since most of the independent variables are themselves endogenous and hence jointly determined with the dependent variable.

²⁰ We are grateful to Arpana Pandey of the Council of Foreign Relations (New York) for providing data on the composition of China's reserve assets.

Figure 19, is derived as the product of the estimated impact factor on Treasury and Agency bond interest rates (negative 19 and 26 basis points respectively) and China’s annual purchases of those assets expressed as a percent of U.S. GDP. The impact of China’s bond purchases, as Figure 19 indicates, was *de minimus*. For the period 1984 to 2005, Warnock and Warnock (p. 904) conclude that “In the hypothetical case of zero foreign accumulation of U.S. government bonds (from all sources) over the course of an entire year, long rates would be 80 basis points higher.”²¹

Figure 18: China’s Annual Purchases of U.S. Treasury and Agency Bonds (\$ billions)

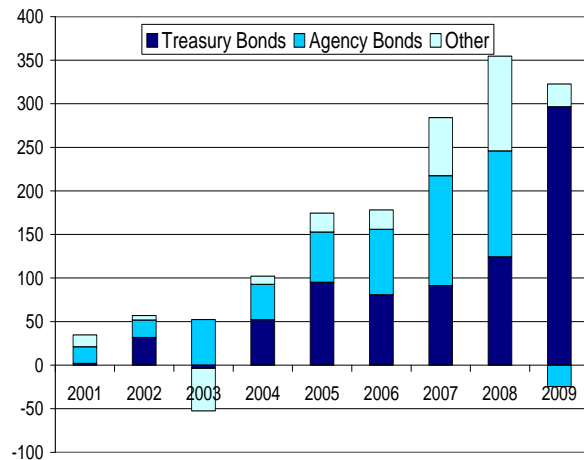
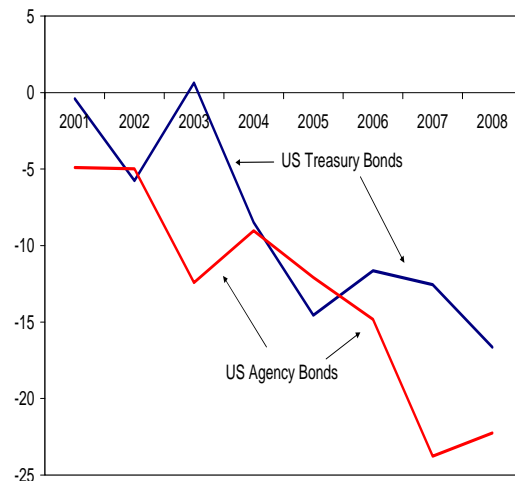


Figure 19: Impact of China’s Bond Purchases on 10-Year Treasury and 30-year Mortgage Interest Rates (Basis Points)



Source: Brad W. Setser and Arpana Pandey, “China’s \$1.5 Trillion Bet: Understanding China’s External Portfolio, Working Paper, Council on Foreign Relations, May 2009 Update.

Bernanke’s thesis that the “principal cause” (his words) of the U.S. current account deficit is located outside the country’s borders is echoed by Wolf (2008), who casts the U.S. as “the borrower and spender of last resort.”²² This thesis requires that one accept that a 50-100 basis point difference in long-term interest rates could have had the effect of increasing the U.S. net saving (current account) deficits from an average of 1.5 percent of GDP in the

²¹ Ibid. 917; Alan Greenspan, former Chairman of the Federal Reserve, conjectured that foreign purchases of U.S. bonds depressed U.S. long rates by less than 50 basis points in “Remarks by Chairman Alan Greenspan to the International Monetary Conference, Beijing, People’s Republic of China,” www.federalreserve.gov.

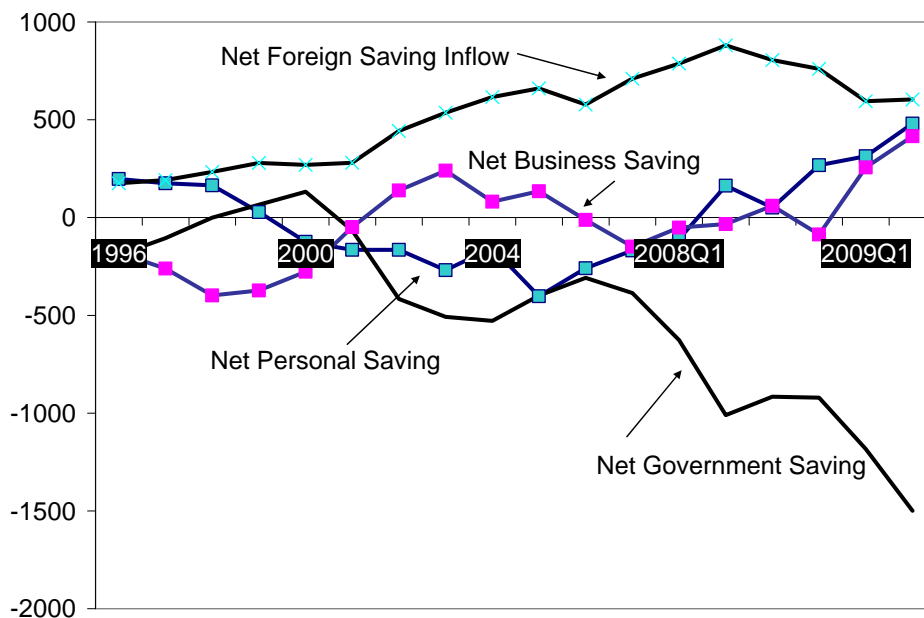
²² Wolf (2008) op.cit. p.98.

1990s to an average of 5 percent of GDP from 2000-07. Econometric estimates of the interest rate elasticity of U.S. consumption and saving do not suggest that is likely to be the case.²³

b. Explaining the Rise in U.S. Current Account Deficits

The place to begin the search for a plausible explanation for the rise in the U.S. current account deficit is the U.S. flow of funds data, which allow one to identify the separate contributions to the overall saving-investment balance of the household, business, government and foreign sectors. Figure 20 presents the net saving-investment balance of each sector—which sum to zero—from 1996 through the second quarter of 2009.

Figure 20: Personal, Business, Government, and Foreign Net Saving-Investment Balances: Annual 1996 to 2007 and Quarterly 2008 Q1 to 2009 Q2 (\$ billions)



Note: Quarterly data for 2008 and 2009 are annualized.

Source: U.S. Federal Reserve Board, Flow of Funds, online.

²³ Douglas W. Elmendorf, “The Effect of Interest-Rate Changes on Household Saving and Consumption; A Survey,” Federal Reserve Board Working Paper, June 1996.

During dot-com bubble in the 1990s the business sector, not surprisingly, ran a financial deficit, but that ended with the dot-com bust in 2000; since then the business sector has been in the process deleveraging—saving more than it invests. The household sector started out in 1996 in the black, with a \$200 billion financial surplus, but by 2005 it was running a financial deficit of \$400 billion. As Figure 21 indicates, the fall in the household financial balance from 1996 to 2000 was associated with a five percentage point decline in the share of disposable household income saved (and an equivalent rise in the share consumed). What explains this shift is not interest rates, but instead a significant increase in household wealth deriving from an extraordinary rise (bubble?) in the prices of equities and other financial assets. As Figure 22 indicates, the ratio of household wealth to household disposable income increased significantly in the late 1990s. It declined with the dot-com bust in 2000, but rose strongly again when the dot-com recession ended in 2002.

Figure 21: Household Residential Investment and Gross Saving as % of Disposable Household Income

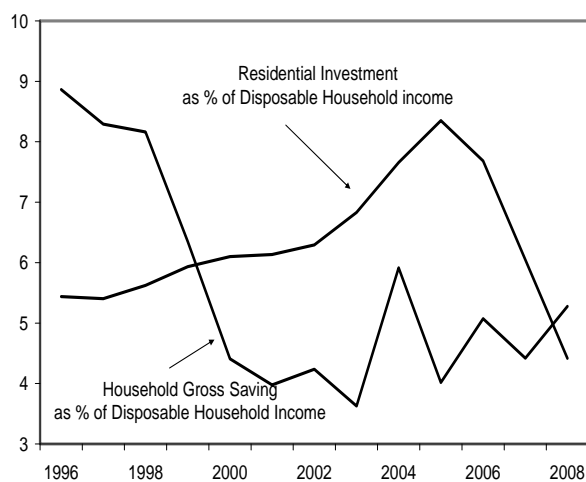


Figure 22: The Ratio of Personal Net Worth to Disposable Personal Income

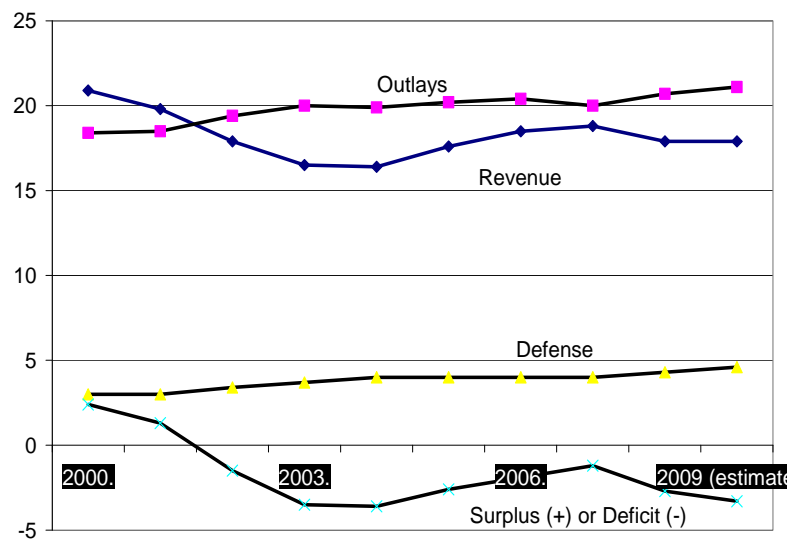


Source: U.S. Federal Reserve Board, Flow of Funds, online.

The principal explanation for the decline in the household saving investment balance after 2000 was an increase in household residential housing investment, presumably driven by expectations that the rapid ascent in house prices would continue indefinitely. Thus, over the period from 2000 to 2006, while the business sector was de-leveraging, the household sector was leveraging up in the real estate market. With house prices rising from 2003 to 2006 at 7 to 8 percent per year, it is unlikely that a 100 basis point difference in interest rates would have done much to curb household speculation in the real estate market. It took the subprime crisis to do that.

The level of dis-saving in household sector, however large, pales when compared to dis-saving in the government sector. The decline in the government saving-investment balance between 2000 and 2008 (shown in Figure 20 above) amounted to \$1,000 billion (from \$132 billion in 2000 to minus \$868 billion in 2008). As Figure 23 indicates, revenues fell as a percent of GDP during the 2000-02 recession and rose thereafter, but not sufficiently to keep up with spending, in particular defense spending.

Figure 23: U.S. Government Budget as % of GDP: 2000 to 2009 (percentages)



Source: Economic Report of the President, 2009, statistical tables online.

Those who embrace the saving glut thesis and view the U.S. as the “spender and borrower of last resort” presumably believe that President Bush would have postponed or scaled back the war on terror and invasion of Iraq had China (and a few other countries) not flooded U.S. credit markets and pushed down long-term interest rates in the U.S. by 100 basis points or so. If the United States would have gone to war no matter what the level of the interest rate, then it is likely that China’s saving surplus was fortuitous, since in its absence the war would have had to be financed out of domestic consumption and investment at what in all likelihood would have been more costly than borrowing from China and other foreign lenders. The question of how to pay for the war—cash (crowding out investment) or credit (borrowing from China)—is presumably secondary to the question of whether its benefits justify its costs, but for some reason the former question gets more attention than the latter.²⁴

c. China’s Surpluses and the Financial Crisis

Before the U.S. financial crisis erupted in the fall of 2008 there was concern that global current account imbalances would be the cause of a major crisis. The view was that once foreign creditors realized what analysts already knew, namely that the global imbalances were unsustainable, they would abandon the dollar, causing to dramatic rise in interest rates, a fall in the dollar and a consequent world-wide recession. The financial crisis that actually occurred, however, had quite the opposite consequences, namely a run to the dollar, dollar appreciation and fall in interest rates.

²⁴ Gordon Bodnor makes the point more clearly by asking the question: “When you buy yourself something and bring it home, what is the first question your spouse asks? How much did you pay for it? Or, did you pay by cash or credit?”

Even though global imbalances did not cause the 2008 financial crisis directly, it is suggested that it contributed to it indirectly by lowering real long-term interest rates.²⁵ The argument is that, compounding an excessively expansionary monetary policy, excess saving from China (and a few other countries), by pushing down interest rates, encouraged households to borrow more than was prudent and lenders, in their quest for higher yields, to disregard the risks they were assuming on assets such as subprime mortgages. Even if one concedes that low real interest rates may have played a role in the subprime mortgage crisis, however, as an explanation of the financial crisis it pales to insignificance when compared to role play by regulatory failures (e.g. allowing banks to engage in regulatory arbitrage), political failures (e.g. politicians compelling banks give mortgages to unqualified borrowers) and market failures (e.g. principal-agent problems in the financial sector).²⁶

3. Conclusion and Caveat

Economics 101 teaches that quantity can increase without any change in the price if exogenous increases in supply and demand occur simultaneously. That is broadly how we interpret the large increase in the flow of saving from China to the U.S. from 2003 to 2008. Chinese households enjoyed an unanticipated increase in real disposable income and chose to save it. U.S. households enjoyed a windfall increase in wealth and chose to consume it. In addition, the U.S. government was required by exogenous events to increase spending on defense and chose to finance it by borrowing rather than by taxing households. The increase in net household saving in China offset (more or less) the fall in net saving in the U.S.—a serendipitous global imbalance.

²⁵ Guillermo Calvo, “Reserve accumulation and easy money helped to cause the subprime crisis: A conjecture in search of a theory,” VoxEU.org, 27 October, 2009.

²⁶ See Charles, W. Calomiris, “Financial Innovation, Regulation, and Reform,” *Cato Journal* (forthcoming), February 2009; Peter J. Wallison, “The True Origins of this Financial Crisis,” AEI Online, February 19, 2009.

We call this imbalance serendipitous because, if Chinese households had not enjoyed an unanticipated increase in real income, they would have been worse off and so too, in all likelihood, would have been U.S. households and businesses. If one takes the decision to go to war as a given, then in the counterfactual case of no increase in net global saving, U.S. household consumption and/or business investment would have been reduced to make room for the increase in government spending and quite possibly the opportunity cost of foregone consumption and (more importantly) investment would have been greater than the cost servicing increases in external debt.

A caveat is in order. A shortcoming of this paper is the implicit assumption that $N=2$. That assumption was justified on grounds of precedence—it is a convention in the literature to discuss the “global imbalance problem” as a matter between two countries, the United States and China. As Jonathan Anderson has recently written, “The incongruous vision of low-income Chinese families scrimping and saving in order to subsidize the insatiable American consumer has become so firmly engrained in the collective consciousness that it is no longer taken as a point of debate, but rather as a fundamental truth.”²⁷ Convention provides an excuse, but it does not justify the $N=2$ assumption.

²⁷ Jonathan Anderson, “The Myth of Chinese Savings,” *Far Eastern Economic Review*, November 2009, p. 24.