



China's Currency: An Analysis of the Economic Issues

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Summary

Over the past several years, the Chinese government has maintained a policy of intervening in currency markets to limit or halt the appreciation of its currency, the renminbi (RMB) against other major currencies, especially the U.S. dollar. This policy appears to be largely intended to keep China's export industries competitive internationally and to attract FDI, which have been major factors behind China's rapid economic growth. Critics charge that this policy constitutes a form of currency manipulation that is intended to make Chinese exports cheaper, and imports into China more expensive, than they would be under a floating exchange system. Some claim that China's currency policy is a major cause of the large U.S. trade imbalance with China and the loss of numerous U.S. jobs. Many Members have urged the Obama Administration to designate China as a "currency manipulator" in order to pressure it to let the RMB appreciate, and several bills have been introduced (including H.R. 2378, S. 1254, S. 1027, and S. 3134) which seek to address China's currency policy.

The current global economic crisis has further complicated the currency issue for both China and its trading partners. From July 2005 to July 2008, the RMB was allowed to gradually appreciate against the dollar, rising by about 21% over this period. However, once the effects of the global economic crisis began to become apparent, China halted appreciation of the RMB to the dollar in an effort to limit job losses in industries dependent on trade. From July 2008 to late June 2010, China kept the exchange rate of the RMB at roughly 6.83 yuan (the base unit of the RMB) to the dollar. On June 19, 2010, the Chinese central bank stated that, based on current economic conditions, it had decided to "proceed further with reform of the RMB exchange rate regime and to enhance the RMB exchange rate flexibility." Events following the announcement demonstrate that a flexible RMB exchange rate could move both up and down over short periods of time. On June 22, the RMB appreciated by 0.43% against the dollar to 6.80 yuan over the previous day, the largest daily rise since reforms were implemented in 2005, but it depreciated to 6.81 the next day.

Many economists have argued that RMB appreciation is an important factor in helping to rebalance the world economy. They have also urged China to implement policies to make consumer demand, rather than exports and fixed investment, the main sources of economic growth. Some see RMB appreciation as a way of boosting China's imports, which could contribute to a faster global economic recovery. While Chinese officials acknowledge the need to rebalance the economy, they have strongly resisted international pressure to appreciate and reform the currency, calling it "protectionism." Some attribute this policy to concerns by the Chinese government that implementing policy changes too rapidly could lead to social instability.

The U.S. federal budget deficit has increased rapidly since FY2008, causing a sharp increase in the amount of Treasury securities that must be sold. While the Obama Administration has pushed China to appreciate its currency, it has also encouraged it to continue purchasing U.S. Treasury securities. China is the largest foreign holder of U.S. Treasury securities, which totaled \$900 billion as of April 2010. Some analysts contend that, although an appreciation of China's currency could help boost U.S. exports to China, it could also lessen China's need to buy U.S. Treasury securities, which could push up U.S. interest rates. It could result in higher prices of Chinese-made goods for U.S. consumers, as well as for Chinese-made inputs that U.S. firms use in their production. Many economists contend that, even if China significantly appreciated its currency, the United States would still need to increase its savings and reduce domestic demand (particularly the budget deficit), and China would have to lower its savings and increase consumption, in order to reduce trade imbalances in the long-run.

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Introduction

China's policy of intervention to limit the appreciation of its currency, the renminbi (RMB), or yuan, against the dollar and other currencies has become a major source of tension with many of its trading partners, especially the United States.¹ Some analysts contend that China deliberately "manipulates" its currency in order to gain unfair trade advantages over its trading partners. They further argue that China's undervalued currency has been a major factor in the large annual U.S. trade deficits with China and the loss of millions of U.S. manufacturing jobs, and, because of the current high rate of U.S. unemployment, can no longer be tolerated. President Obama stated in February 2010 that China's undervalued currency puts U.S. firms at a "huge competitive disadvantage," and he pledged to make addressing China's currency policy a top priority.

Chinese officials have maintained that China's currency policies are intended to promote economic stability and do not negatively impact other countries. From July 2005 to July 2008, China allowed the RMB to gradually appreciate against the dollar. However, once the effects of the global economic crisis became apparent, the appreciation of the RMB was halted and the exchange rate with the dollar was held constant at 6.83 yuan. This move was criticized by many of China's major trading partners, including the United States and the European Union. China responded by calling the growing international pressure on China to appreciate its currency "protectionism." However, on June 19, 2010, the People's Bank of China stated that, based on current economic conditions, it had decided to "proceed further with reform of the RMB exchange rate regime and to enhance the RMB exchange rate flexibility."

Although economists differ as to the extent of the RMB's undervaluation against the dollar and the economic effects that undervaluation has on China's major trading partners, including the United States (many cite both positive and negative effects), most agree that currency flexibility would be an important factor in helping to reduce global imbalances, which are believed to have been a major factor that sparked the global financial crisis and economic slowdown. They further contend that currency reform is in China's own long-term economic interest. However, many economists argue that a Chinese currency appreciation will do little to reduce trade imbalances in the United States and China unless such action is accompanied by changes to U.S. and Chinese macroeconomic practices (i.e., the United States would need to save more and consume less and China would need to save less and consume more), which could lower overall U.S. imports (including from China) and boost China's overall imports (including from the United States). In addition, some analysts contend that Chinese industrial policies pose a much greater challenge to U.S. economic interests than an undervalued currency.

This report provides an overview of the economic issues surrounding the current debate over China's currency policy. It identifies the economic costs and benefits of China's currency policy for both China and the United States, and possible implications if China were to allow its currency to significantly appreciate or to float freely. It also examines proposed legislation in the 111th Congress that seek to address China's currency policy.

¹The official name of China's currency is the renminbi (RMB), which is denominated in yuan units. Both RMB and yuan are used interchangeably to describe China's currency.

Historical Background on China's Currency

Prior to 1994, China maintained a dual exchange rate system. This consisted of an official fixed exchange rate system (which was used by the government), and a relatively market-based exchange rate system that was used by importers and exporters in “swap markets,” although access to foreign exchange was highly restricted in order to limit imports, resulting in a large black market for foreign exchange. The two exchange rates differed significantly. The official exchange rate with the dollar in 1993 was 5.77 yuan versus 8.70 yuan in the swap markets. China's dual exchange rate system was criticized by the United States because of the restrictions it (and other policies) placed on foreign imports.

In 1994, the Chinese government unified the two exchange rate systems at an initial rate of 8.70 yuan to the dollar, which eventually was allowed to rise to 8.28 by 1997 and was then kept relatively constant until July 2005. The RMB became largely convertible on a current account (trade) basis, but not on a capital account basis, meaning that yuan are not regularly obtainable for investment purposes. From 1994 until July 2005, China maintained a policy of pegging the RMB to the U.S. dollar at an exchange rate of roughly 8.28 yuan to the dollar. The peg appears to have been largely intended to promote a relatively stable environment for foreign trade and investment in China (since such a policy prevents large swings in exchange rates) -- a policy utilized by many developing countries in their early development stages. The Chinese central bank maintained this peg by buying (or selling) as many dollar-denominated assets in exchange for newly-printed yuan as needed to eliminate excess demand (supply) for the yuan. As a result, the exchange rate between the RMB and the dollar basically stayed the same, despite changing economic factors which could have otherwise caused the yuan to appreciate (or depreciate) relative to the dollar. Under a floating exchange rate system, the relative demand for the two countries' goods and assets would determine the exchange rate of the RMB to the dollar.

2005: China Reforms the Peg

The Chinese government modified its currency policy on July 21, 2005. It announced that the yuan's exchange rate would become “adjustable, based on market supply and demand with reference to exchange rate movements of currencies in a basket,”² and that the exchange rate of the U.S. dollar against the RMB was adjusted from 8.28 yuan to 8.11, an appreciation of 2.1%. Unlike a true floating exchange rate, the RMB would be allowed to fluctuate by up to 0.3% (later changed to 0.5%) on a daily basis against the basket.

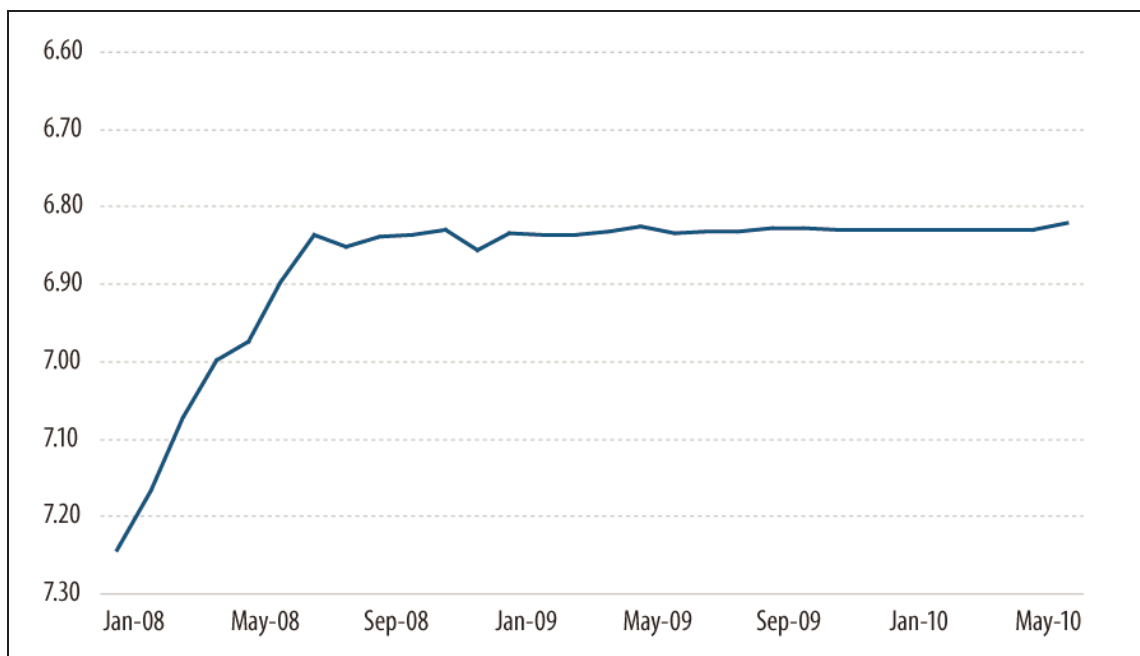
After July 2005, China allowed the RMB to appreciate steadily, but very slowly. From July 21, 2005 to July 21, 2008, the dollar-RMB exchange rate went from 8.11 to 6.83, an appreciation of 18.7% (or 20.8% if the initial 2.1% appreciation of the RMB to the dollar is included). The situation at this time might be best described as a “managed float”—market forces determined the general direction of the RMB's movement, but the government retarded its rate of appreciation through market intervention. China halted its currency appreciation policy around mid-July 2008

² It was later announced that the composition of the basket would include the dollar, the yen, the euro, and a few other currencies, although the currency composition of the basket has never been revealed. If the value of the yuan were determined according to a basket of currencies, however, it would not have shown the stability it has had against the dollar between mid-2008 and mid-2010, unless the basket were overwhelmingly weighted toward dollars.

(see **Figure 1**) mainly because of sharp decline global demand for Chinese products that resulted from the effects of the global financial crisis. The RMB depreciated against the dollar slightly in July-August 2008 and in December 2008, but generally was kept constant at 6.83 yuan for every month through around mid-June 2010.

Figure 1. Nominal RMB/Dollar Exchange Rate: January 2008 to June 2010

Yuan per \$U.S. (Monthly Averages)

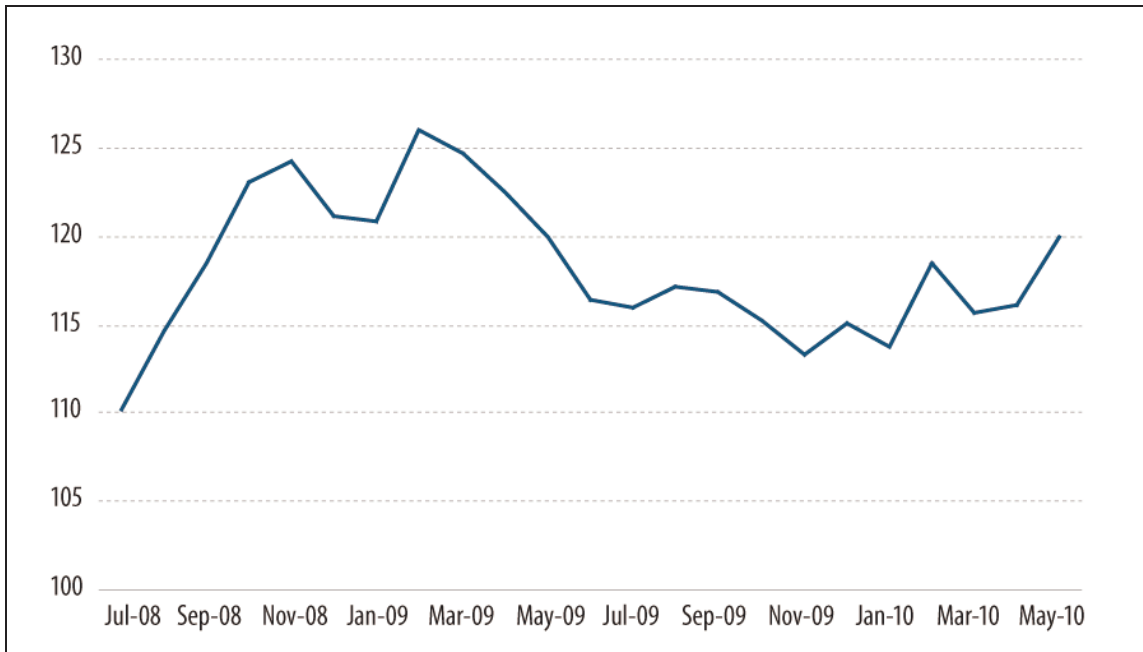


Source: Global Insight and the Bank of China “middle rate.”

Note: Chart inverted for illustrative purposes. A rising line indicates appreciation of the RMB to the dollar and a falling line indicates depreciation.

China's relative peg to the dollar after July 2008 has meant that as the dollar depreciated or appreciated against a number of major currencies, China's currency depreciated or appreciated as well (even though the RMB's exchange rate with the dollar remained constant). From July 2008 to through May 2010, the real (inflation adjusted) trade-weighted exchange rate of China's currency based on its trade with 57 economies appreciated by 8.9%. Although China's real trade-weighted exchange rate depreciated through much of 2009, it began to rise in 2010, due in part to the effects of the debt crisis in the Eurozone countries and the depreciation of the euro to the dollar (see **Figure 2**).

Figure 2. Change in China's Real Trade Weighted Exchange Rate: July 2008-May 2010
Index Based on Average Annual 2005 Data (2005=100)



Source: Bank of International Settlements.

Note: Weights calculated based on China's trade with 57 economies. Inflation calculated using measurements of national consumer price indexes.

Recent RMB Developments

Chinese leaders have expressed strong opposition to outside pressure on its currency policy, calling it a form of protectionism and interference in China's domestic economic policy, and some have even questioned whether the currency is undervalued at all. However, on June 19, 2010, the Chinese central bank, the People's Bank of China (PBC) stated that, based on current economic conditions, it had decided to "proceed further with reform of the RMB exchange rate regime and to enhance the RMB exchange rate flexibility." It ruled out any large one-time revaluations, stating "it is important to avoid any sharp and massive fluctuations of the RMB exchange rate," in part so that Chinese corporations could more easily adjust (such as through upgrading) to an appreciation of the currency. Many observers contend the timing of the RMB announcement was intended in part to prevent China's currency policy from being a central focus of the G-20 summit in Toronto from June 26-27, 2010, and possibly to head off threatened congressional action over the issue (see "U.S. Legislative Proposals").

On June 22, 2010, the RMB appreciated by 0.43% against the dollar (to 6.80 yuan) over the previous day, which was the largest daily rise since reforms were implemented in July 2005. However, on the following day (June 23) it depreciated to 6.81 yuan. On June 26, Secretary of the Treasury Timothy Geithner stated: "China is acting to allow its exchange rate to appreciate in

response to market forces. This is a very important step towards helping China better meet its own challenges and helping provide a more level playing field for all its trading partners.”³

By July 7, the currency appreciated to 6.78 per dollar. Analysts note that it is not yet clear if China has committed itself to use a basket of currencies to determine exchange rates (as the PBC stated was China’s policy when reforms were announced in 2005) or if the currency will remain largely tied to the U.S. dollar, which many analysts believe has been the case for many years. The sharp appreciation of the currency one day and depreciation the next raises a number of questions as to what extent the PBC will allow the RMB to appreciate. Many observers believe that this is a sign that appreciation of the RMB will happen over a long period of time, but in an unpredictable way (i.e., it will both appreciate or depreciate on a daily basis) in an effort to limit RMB speculation and inflows of “hot money.”⁴

Overview of the Debate Over China’s Currency Policy: U.S. and Chinese Perspectives

Concerns in the United States: Trade Deficits and Jobs

Many U.S. policymakers and business and labor representatives have charged that the Chinese government manipulates its currency in order to make it significantly undervalued vis-à-vis the U.S. dollar, thus making Chinese exports to the United States significantly cheaper, and U.S. exports to China much more expensive, than they would be if exchange rates were determined by market forces. They note that, while a pegged currency may have been appropriate during China’s early stages of economic development, it can no longer be justified, given the size of China’s economy and its large volume of trade.⁵

Critics further argue that the undervalued currency has been a major factor behind the burgeoning U.S. trade deficit with China, which surged from \$10 billion in 1990 to \$266 billion in 2008 (but declined to \$226 billion in 2009). Other factors viewed by some as evidence of Chinese currency manipulation are China’s massive accumulation of foreign exchange reserves, which grew from \$403 billion in 2003 to \$2,447 billion as of March 2010 and its large annual current account surpluses, which grew from \$46 billion in 2003 to \$426 billion in 2008 (although it fell significantly in 2009) (see **Figure 3**).

Some analysts contend that there is a direct correlation between the U.S. trade deficit and U.S. job losses, especially in the manufacturing center. For example, a study by the Economic Policy Institute claims that the U.S. trade deficit with China led to the loss or displacement of 2.4 million manufacturing jobs between 2001 and 2008.⁶ The current high rate of unemployment in the

³ The White House, *Press Briefing by the Secretary of the Treasury Timothy Geithner*, June 26, 2010.

⁴ If speculators believe that China’s currency will continue to appreciate over time, they will attempt to purchase yuan assets in China despite restrictive government regulations on capital inflows. This poses a dilemma for the PBC because it is forced to purchase hard currency inflows in order to maintain its targeted exchange rate. The hot money inflows add to inflationary pressures in China.

⁵ China became the world’s second largest merchandise exporter in 2009 (after the European Union) and accounted for 9.5% of global exports. China is also estimated to be the world’s second or third largest economy.

⁶ Economic Policy Institute, *Unfair China Trade Costs Local Jobs 2.4 Million Jobs Lost, Thousands Displaced in Every U.S. Congressional District*, Briefing Paper #260, March 23, 2010, available at http://epi.3cdn.net/91b2eefce66c1a10_v5m6beqhi.pdf.

United States appears to have intensified concerns over the perceived economic impact of China's currency policy. Furthermore, some analysts contend that China's currency policy induces other East Asian economies to intervene in currency markets in order to keep their currencies weak against the dollar in order to compete with Chinese goods, which is viewed as preventing further depreciation of the dollar to other Asian currencies, and thus diminishes U.S. exports throughout Asia. Based on the assumption that China's currency is undervalued by at least 40% against the dollar and 25% on a trade weighted basis, C. Fred Bergsten from the Peterson Institute for International Economics estimates that a market-based Chinese currency would result in a large appreciation of the RMB and other Asian currencies against the dollar (or in other words a depreciation of the dollar to Asian currencies), which would boost U.S. exports and generate an additional 600,000 to 1.2 million jobs in the United States.⁷ U.S. economist Paul Krugman contends that the undervalued RMB has become a significant drag on global economic recovery, estimating that it has lowered global GDP by 1.4%, and has especially hurt poor countries.⁸ Claims about the negative effect of China's exchange rate on U.S. employment and trade are often juxtaposed with the observation that China's economy grew more rapidly than any advanced economy from 2007 to 2009, averaging 10.4% per year.⁹ This has led some commentators to complain that China's exchange rate peg represents a "beggar thy neighbor" policy at a time of global economic crisis. (The validity of claims about the RMB's effect on the U.S. economy will be analyzed in the section below entitled "An Economic Analysis of the China Currency Issue.")

⁷ C. Fred Bergsten, Peterson Institute for International Economics, Testimony before the Committee on Ways and Means, US House of Representatives, March 24, 2010.

⁸ New York Times, March 14, 2010 and December 31, 2009. Krugman also estimates that China's currency policy has caused 1.4 million job losses in the United States.

⁹ Based on data from the International Monetary Fund.

Figure 3. China's Current Account Balance and Annual Change in Foreign Exchange Reserves: 2001-2009

\$billions



Source: Economist Intelligence Unit and Chinese State Administration of Foreign Exchange.

Note: Year end values.

Is China a “Currency Manipulator?”

The U.S. Department of the Treasury is required on a biannual basis to issue a *Report to Congress on International Economic and Exchange Rate Policies* of major U.S. trading partners,¹⁰ and to “consider whether countries manipulate the rate of exchange between their currency and the United States dollar for purposes of preventing effective balance of payments adjustments or gaining unfair competitive advantage in international trade.”¹¹ If such manipulation is found to exist with respect to countries that have material global current account surpluses and have significant bilateral trade surpluses with the United States, the Secretary of the Treasury is directed to initiate negotiations with such countries on an expedited basis in the International Monetary Fund or bilaterally, for the purpose of ensuring that such countries regularly and promptly adjust the rate of exchange between their currencies and the U.S. dollar to permit effective balance of payments adjustments and to eliminate the unfair advantage. China was cited as a currency manipulator five times by Treasury from May 1992 and July 1994 over such issues as its dual exchange rate system, periods of currency devaluation, restrictions on imports, and lack of access to foreign exchange by importers.

Many Members of Congress have expressed frustration that Treasury has not cited China as a currency manipulator in recent years.¹² Observers note that the language in the statute is somewhat unclear as to what policies constitute actual currency manipulation (and the extent of Treasury’s discretion to make such a determination). A 2005 Treasury Department report stated that such a determination under the guiding statute was “inherently difficult” because of the interplay of macroeconomic and microeconomic forces throughout the world, but said that such a designation could be made if the authorities of an economy “intentionally act to set the exchange rate at levels, or ranges, such that for a protracted period the exchange rate differs significantly from the rate that would have prevailed in the absence of action by the authorities.”¹³ A 2005 Government Accountability Office (GAO) report on the Treasury Department’s currency reports stated that in order for Treasury to reach a positive determination of currency manipulation, a country would have to have a material global current account surplus and a significant bilateral trade surplus with the United States, and would have to be manipulating its currency with the “intent” of gaining a trade advantage. Some observers contend that Treasury will not cite China as a currency manipulator because it can not prove that China’s currency policy is “intended” to give it an unfair trade advantage, since Chinese government intervention in currency markets attempts to slow or halt the appreciation of the RMB (as opposed to sharply depreciating the RMB). Other observers contend that as long as China continues to take steps to make its currency more flexible, Treasury will refrain from citing China. A third theory states that citing China as a currency manipulator would have no practical effect (especially since China and the United States are already engaged on this issue at the highest government level) other than to “name and shame,” a policy that could anger the Chinese government without producing any concrete results. However, some U.S. policy analysts and Members of Congress have strongly urged the Treasury Department to designate China as a currency manipulator in order to “name and shame it.” By doing so, it is argued, the United States would be sending a message that it was no longer willing to tolerate China’s currency policy and it could encourage other countries to rally behind the U.S. position (including within the International Monetary Fund which exercises surveillance of its members currency policy), and could possibly lead to multilateral meeting/agreement on global exchange rate realignment.¹⁴ Several bills have been introduced in Congress over the past few years that would attempt to limit the Treasury Department’s discretion in taking action on undervalued currencies by requiring it to identify certain misaligned currencies based on a specific criteria, regardless of intent of the currency policy.

¹⁰ As required under Section 3004 of Omnibus Trade and Competitiveness Act of 1988 (22 U.S.C 5305).

¹¹ This language appears to have been taken from Article IV, Section 1 (iii) of the Articles of Agreement of the International Monetary Fund (IMF) which states that members should, among other things “avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members.”

¹² Many Members sharply criticized the Department of the Treasury’s decision in April 2010 to delay issuing its first 2010 exchange rate report (usually issued in March or April). That report was issued on July 8, 2010 (after China made its announcement on currency reform) and it did not cite China (or any other country) for currency manipulation.

¹³ U.S. Department of Treasury, *Semiannual Report on International Economic and Exchange Rate Policies, Appendix: Analysis of Exchange Rates Pursuant to the Act*, November 2005.

¹⁴ Testimony by C. Fred Bergsten, Peterson Institute of International Economics, *Correcting the Chinese Exchange Rate: an Action Plan*, before the House Ways & Means Committee, March 24, 2010.

U.S. Legislative Proposals

Numerous bills have been introduced in Congress over the past few years that would seek to induce China to reform its currency policy or would attempt to address the perceived effects that policy has on the U.S. economy. For example, one bill introduced in the 108th Congress by Senator Schumer (S. 1586) sought to impose additional duties of 27.5% on imported Chinese products if China did not appreciate its currency to near market levels.¹⁵

In the 111th Congress, currency bills include H.R. 2378 (Tim Ryan), S. 1027 (Stabenow), S. 1254 (Schumer), and S. 3134 (Schumer). These bills would seek to address the effects of misaligned currencies in the following ways:

- S. 1254 and S. 3134 would redefine the criteria under which a country would be cited for possible action in the Treasury Department's biannual reports on exchange rates. Rather than use the term "manipulation" and the implied criteria of "intent" to gain an unfair trade advantage, the bills would instead require the Treasury Department to identify "fundamentally misaligned currencies."
- All four bills make references to currencies that are fundamentally misaligned according to specified indicators and methodologies, which would trigger certain actions. Each bill specifies how currency misalignment is to be determined.
- S. 1254 and S. 3134 would, under certain circumstances, mandate a number of other actions in regards to countries whose currencies were identified for priority action, including a ban on their participation in federal government procurement (unless the country is a member of the World Trade Organization's Agreement on Public Procurement or for loan programs administered by the U.S. Overseas Private Investment Corporation (OPIC)).¹⁶ In addition, U.S. executive directors at multilateral banks would be required to oppose the approval of new loans of the targeted country, and U.S. officials would be directed to request action in the International Monetary Fund (IMF) and the World Trade Organization (WTO).
- All four bills require that currency misalignment be used as a factor for the purposes of U.S. anti-dumping investigations and the calculation of anti-dumping duties for imported products determined to be sold at less than fair market value and injure a U.S. industry. H.R. 2378 and S. 1027 also require currency misalignment to be used as a factor in U.S. countervailing investigations (involving government subsidies) and the calculation of countervailing duties for imported products that are determined to injure a U.S. industry.¹⁷ S. 3134 would require the Commerce Department to investigate and determine whether currency undervaluation is providing, either directly or indirectly, a subsidy that is already applicable under U.S. countervailing laws.

¹⁵ The sponsors of the bill at that time arrived at the 27.5% tariff figure by taking a simple average of the range of estimates of China's undervaluation, which were listed at 15%-40%.

¹⁶ OPIC operations in China have been suspended by the United States since 1989 because of the Tiananmen Square massacre.

¹⁷ For an explanation of U.S. trade remedy laws and procedures, see CRS Report RL32371, *Trade Remedies: A Primer*, by Vivian C. Jones.

Supporters of provisions that would apply U.S. anti-dumping and countervailing measures to address the effects of China's undervalued currency contend that the WTO allows countries (under certain conditions) to administer their own trade remedy laws, and thus, making currency undervaluation a factor in determining countervailing or anti-dumping duties is consistent with WTO rules. Critics of the bills counter that WTO rules do not specifically include currency undervaluation as a factor that can be used to implement trade remedy actions, and thus, such legislation, if enacted, would likely be challenged by China and other WTO members as a violation of U.S. WTO commitments.

China's Perspective and Concerns: Economic Growth and Stability

Chinese officials argue that their currency policy is not meant to favor exports over imports, but instead to foster economic stability through currency stability. The policy reflects the government's goals of using exports as a way of providing jobs to Chinese workers and to attract FDI in order to gain access to technology and know-how. The Chinese government has stated on a number of occasions that currency reform is a long-term goal which will be implemented gradually. Officials have strongly condemned international pressure to induce China to appreciate the currency, arguing that it interferes with China's "sovereignty" to implement its own domestic economic policies. In December 2009, China's media reported unnamed government officials as stating that "it would be difficult to make the case of an immediate renminbi appreciation in a country where 40 million people live on less than 1 U.S. dollar a day."¹⁸ It also reported Chinese Premier Wen Jiabao stating that "some countries demand the yuan's appreciation, while practicing various trade protectionism against China. It's unfair and actually limits China's development."¹⁹

Despite the government's pledges on currency reform, some Chinese officials have publicly denied that the RMB is undervalued at all and some have even gone as far as to say it is overvalued.²⁰ In addition, they have argued that promoting rapid domestic growth, rather than appreciating the currency, is the most significant policy China can undertake to promote global economic recovery. They note that during the first six months in 2010, Chinese imports have risen by nearly 53% over the same period in 2009, compared with a 35% rise in exports, and monthly surpluses have shrunk significantly from pre-crisis levels (see **Figure 4**). China's trade surplus from January-June 2010 was down 43% over the same period in 2009. In addition, China experienced a trade deficit in March 2010, the first such monthly deficit in six years. Chinese officials contend that the rapid growth in its imports proves that the currency policy does not restrict trade or promote Chinese economic growth at the expense of other countries.

Chinese officials view economic growth as critical to sustaining political stability, and thus appear very reluctant to implement policies that might disrupt the economy and cause widespread unemployment, which could cause worker unrest.²¹ They note that global financial crisis had a significant impact on China's trade and FDI flows. For example, from January to September 2008, China enjoyed nearly double-digit growth in monthly exports, imports, and FDI on a year-on-year basis. However, China's year-on-year exports and imports dropped for 11 consecutive

¹⁸ *Xinhua News Agency*, December 1, 2009.

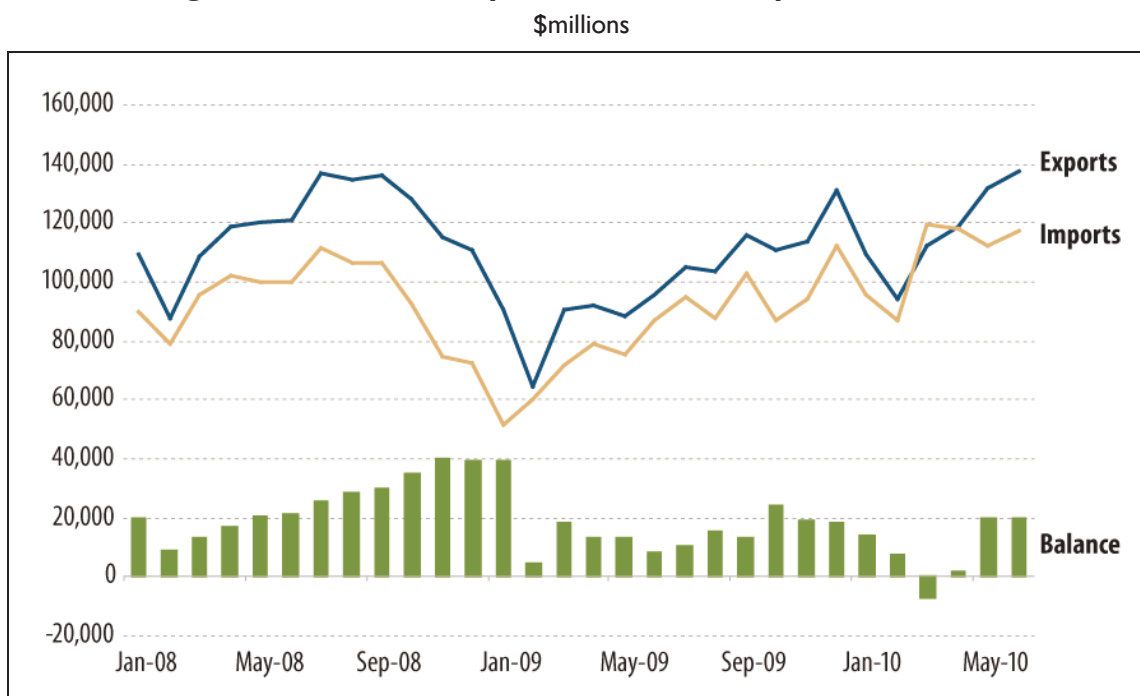
¹⁹ *Ibid.*

²⁰ See, for example, *China Daily*, *Yuan is Overvalued, not Undervalued: Report*, June 17, 2010.

²¹ There have been numerous reports of labor unrest and strikes in different parts of China in 2010, mainly over pay issues. Chinese officials are concerned that an appreciation of the RMB could induce Chinese export producers to try to hold down wages to remain competitive, or could force them out of business, which could provoke more unrest.

months from November 2008 to October 2009, and FDI declined 9 consecutive months from October 2008 to July 2009. For the full year in 2009, Chinese exports, imports, and FDI declined by 15.9%, 11.3%, and 2.6%, respectively, over 2008 levels. As a result, thousands of export-oriented factories reportedly were shut down and over 20 million migrant workers reportedly lost their jobs in 2009 because of the direct effects of the global economic slowdown. Although China has been able to weather the global economic slowdown through enactment of a \$586 billion stimulus program and a loose monetary policy, which helped produce real GDP growth of 9.1% in 2009, the government remains concerned whether it can continue to effectively manage the economy and achieve fast rates of growth in the years ahead.

Figure 4. China's Monthly Trade Flows: January 2008-June 2010



Source: Global Trade Atlas using official Chinese statistics.

An Economic Analysis of the China Currency Issue

This section examines a number of issues pertaining to the effects of China's undervalued currency on the U.S. and Chinese economies.

Is the RMB Undervalued, and if so, by How Much?

Given the rapid increase of China's exports and FDI inflows from 1994 (when the dollar peg was established) through the present time, one would have expected China's currency to have appreciated against the currencies of its major economic and trading partners, including the United States, had the RMB exchange rate been determined solely by market forces. To prevent appreciation, China has accumulated official foreign reserves equal to \$2.5 trillion. The IMF over

the past few years has stated that the RMB is undervalued, but in February 2010, it stated that the RMB was “assessed to be substantially undervalued from a medium-term perspective.”²²

There are numerous estimates of the RMB’s undervaluation against the dollar, although the results vary widely depending on the methodologies and various assumptions used.²³ Recent estimates of the RMB’s undervaluation (and the year the estimate was made) include:

- 12% (December 2009) by Helmut Reisen with the Organization of Economic Cooperation and Development;²⁴
- 25% (December 2009) by Dani Rodrik of Harvard University (2009);²⁵
- 30% (April 2010) by Arvind Subramanian at the Peterson Institute for International Economics;²⁶
- 40.2% (January 2010)²⁷ and 24.2% (June 2010)²⁸ by William R. Cline and John Williamson at the Peterson Institute for International Economics; and
- 50% (October 2009) by Niall Ferguson (Harvard University) and Moritz Schularick (Free University of Berlin).²⁹

Why do Estimates of the RMB’s Undervaluation Differ so Much?

There are two main methods used in the estimates presented above. One method is referred to as the fundamental equilibrium exchange rate (FEER) method. It is based on the belief that current account balances around the world are temporarily out of line with their “fundamental” value. Once an estimate has been made of what the fundamental current account balance should be, one can calculate how much the exchange rate must change in value to achieve that current account adjustment. To calculate the level of misvaluation for one country under this method, estimates of how far exchange rates for every country are out of equilibrium, including countries with floating exchange rates, must be made.

²² IMF, Meetings of G-20 Deputies, Seoul, Korea, *Global Economic Prospects and Policy Challenges*, February 27, 2010.

²³ For a survey of methodologies used to estimate a currency’s true value, see CRS Report RL32165, *China’s Currency: Economic Issues and Options for U.S. Trade Policy*, by Wayne M. Morrison and Marc Labonte.

²⁴ Reisen, Helmut, *On the Renminbi and Economic Convergence*, December 17, 2009. Available at <http://www.voxeu.org/index.php?q=node/4397>.

²⁵ Rodrick, Dani, *Making Room for China in the World Economic*, December 17, 2009. Available at <http://www.voxeu.org/index.php?q=node/4399>.

²⁶ Subramani, Arvind, *New PPP-Based Estimates of Renminbi Undervaluation and Policy Implications*, Peterson Institute For International Economics Policy Brief, number PB10-8, April 2010. Available at <http://www.iie.com/publications/pb/pb10-08.pdf>.

²⁷ Cline, William R and John Williamson, *Notes on Equilibrium Exchange Rates*, Peterson Institute for International Economics, Policy Brief PB10-2, January 2010, available at <http://www.iie.com/publications/interstitial.cfm?ResearchID=1472>. This study also made estimates of the fundamental equilibrium exchange rate for 29 other countries, of which a number of which were estimated to be undervalued while some were deemed to be overvalued.

²⁸ Cline, William R and John Williamson, Peterson Institute for International Economics, Peterson Institute for International Economics, *Estimates of Fundamental Equilibrium Exchange Rates, May 2010*, Policy Brief 10-15, June 2010. Available at <http://www.petersoninstitute.org/publications/interstitial.cfm?ResearchID=1596>.

²⁹ Harvard Business School, *The End of Chimerica*, by Niall Ferguson and Moritz Schularick, Working Paper 10-937, October 2009. Available at <http://www.hbs.edu/research/pdf/10-037.pdf>.

The main source of contention in FEER estimates is choosing an “equilibrium” current account balance for each country. Estimates of the RMB’s undervaluation are typically defined as the appreciation that would be required for China to attain “equilibrium” in its current account balance. But there is no consensus based on theory or evidence to determine what equilibrium would be, so a subjective opinion is used.³⁰ Yet this assumption is crucial—Dunaway et al. demonstrate that changing the assumed equilibrium current account balance by 2 percentage points of GDP changes the estimated undervaluation by as much as 25 percentage points.³¹ Some economists argue that the current account balance would always be close to zero in equilibrium, but this neglects the fact that countries with different saving and investment rates may willingly and profitably lend to and borrow from one another for long periods of time. If one uses China’s neighbors as a reference point, the same combination of large foreign exchange reserves and a large current account surplus can be seen in several other countries in the region, even though these countries range in their exchange rate regimes from a float (Japan and South Korea) to a currency board (Hong Kong). Wang argues that, based on estimates derived from other developing economies, China’s equilibrium current account surplus may be even larger than the actual surplus, implying by the FEER method that the RMB is overvalued.³²

The other method for estimating the RMB’s undervaluation is based on the theory of purchasing power parity (PPP)—the theory that the same good should have the same price in two different countries. If it did not, then arbitrageurs could buy it in the cheaper country and sell it in the more expensive country until the price disparity disappeared. While PPP is a simple idea that is theoretically powerful, it has proven to be unreliable in reality: prices are consistently lower in developing countries than industrialized countries, for example. Some economists have tried to estimate what the RMB’s value would be by attempting to control for predictable divergences from PPP. Still, these estimates should be considered with caution—even when sophisticated modifications have been made, PPP has been shown to help predict exchange rates only over the long run. Estimates based on PPP would identify any country’s currency as overvalued or undervalued relative to the country to which it is being compared, regardless of whether the exchange rate is fixed or floating. Another drawback to the PPP approach is that the estimate will not tend to change much over time (if prices are relatively stable), even if the trade deficit is significantly changing.³³

The Treasury Department’s December 2006 report to Congress on exchange rates discusses the use of economic models and methodology to estimate a currency’s “misalignment” or what the fair market rate exchange rate should be. The report noted that there is no single model that accurately explains exchange rate movements, that such models rarely, if ever, incorporate financial market flows, and that their conclusions can vary considerably, based on the variables used. However, the Treasury Department stated that examining such models can produce useful information in understanding exchange rate movements if they: focus only on serious misalignments; use real effective, not bilateral, exchange rates; utilize several different models, recognizing that no one model will provide precise answers; focus only on protracted

³⁰ A thorough attempt to estimate exchange rates using this method can be found in John Williamson, ed., *Estimating Equilibrium Exchange Rates* (Washington, DC: Institute for International Economics, 1994).

³¹ Steven Dunaway et al., “How Robust are Estimates of Equilibrium Real Exchange Rates: The Case of China,” IMF working paper 06/220, October 2006.

³² Tao Wang, “Exchange Rate Dynamics,” in Eswar Prasad, ed., “China’s Growth and Integration into the World Economy,” International Monetary Fund, Occasional Paper 232, 2004, Ch. 4.

³³ William Cline and John Williamson, “Estimates of the Equilibrium Exchange Rate of the Renminbi,” paper presented at the Conference on China’s Exchange Rate Policy, Peterson Institute, October 12, 2007.

misalignments where currency adjustments are not taking place; supplement judgments about misalignment with analysis of empirical data, indicators, policies and institutional factors; and verify whether there are any market-based reasons for a currency's misalignment.³⁴

The two sharply different estimates of the RMB's undervaluation made by Cline and William in 2010 are a case in point of the challenges posed by economic models. The authors note that they utilized different methods and assumptions for their two studies, which attempt to determine fundamental equilibrium exchange rates (FEERs) for various currencies, including the RMB.³⁵ For example, they note that the economic data used for their estimates came from the IMF's World Economic Outlook on projections of future economic variables (such as GDP growth and current account balances). The first study used data from the IMF's October 2009 Outlook while the second used the IMF's April 2010 Outlook. Using different forecast data thus helped produce widely different results. Because there is no universally accepted methodology for determining a country's real market exchange rate, the economic conditions that are used to determine "equilibrium" exchange rates change continuously, and since estimates of China's currency valuation differ so significantly, many analysts question their usefulness to U.S. policymakers in terms of providing a precise goal for an appreciation of the RMB or for use in trade remedy legislation that would seek to offset the benefit conferred by the RMB's undervaluation, such as in U.S. anti-dumping and countervailing measures.

The Debate over the Effects of Exchange Rate Appreciation on Trade Flows and the Deficit

Many policymakers might expect that if China significantly appreciated its currency, U.S. exports to China would rise, imports from China would fall, and the U.S. trade deficit would decline within a relatively short period of time. For example, C. Fred Bergsten contends that a market-based RMB would lower the annual U.S. current account deficit by \$100 billion to \$150 billion.³⁶ But the issue of the possible effects of an RMB appreciation on the U.S. economy is complicated by the fact that there are short-term and long-term implications of RMB appreciation, and that exchange rates are but one of many factors that affect trade flows. Other factors affecting the bilateral trade balance are discussed below.

The Bilateral Trade Deficit Continued to Grow during the Previous Period of RMB Appreciation

To illustrate that exchange rates are only one factor that determine trade flows, one can look at the effect of the 21% RMB appreciation of the RMB to the dollar from July 2005 to July 2008 on U.S.-China trade flows. On the one hand, during this period U.S. imports from China increased

³⁴ U.S. Treasury Department, *Report on International Economic and Exchange Rate Policies*, December 2006, Appendix II.

³⁵ Cline and William define a FEER as "an exchange rate that is expected to be indefinitely sustainable on the basis of existing policies. It should therefore be one that is expected to generate a current account surplus or deficit that matches the country's underlying capital flow over the cycle, assuming that the country is pursuing internal balance as well as it can and that it is not restricting trade for balance-of-payments reasons." For China, the authors assume that the exchange rate should be one consistent with a Chinese current account surplus of no more than 3% of GDP.

³⁶ *Correcting the Chinese Exchange Rate: An Action Plan*, by C. Fred Bergsten, Peterson Institute for International Economics, Testimony before the Committee on Ways and Means, US House of Representatives, March 24, 2010.

by 39%, compared to a 92% increase from 2001 to 2004 (when the exchange rate remained constant).³⁷ On the other hand, U.S. exports to China during the 2005-2008 period did not grow as fast as during the 2001-2004 period (71% versus 81%).³⁸ Despite the RMB's appreciation from 2005 to 2008, the U.S. trade deficit with China still rose by 30.1%, although the overall U.S. current account deficit declined by nearly 6%.³⁹ The appreciation of the RMB appears to have little effect on China's overall trade balance from 2005 to 2008. During this time, China's merchandise trade surplus increased from \$102 billion to \$297 billion, an increase of 191%, and China's current account surplus and accumulation of foreign exchange reserves both increased by 165% over this period.

The J Curve Effect

Part of the problem in attempting to evaluate the effects of the RMB's appreciation is that it can take time before changes in exchange rates are reflected in changes to prices of tradable goods and services, and hence results in changes to imports, exports, and trade balances. An appreciated RMB could actually worsen the U.S. trade deficit in the short-run if the volume (demand) of imports from China did not decline at the same rate that prices increased (the so-called J-Curve effect). It would take time for U.S. consumers of higher-priced Chinese products to find lower-priced (non-Chinese) products or other alternatives and thus reduce overall demand for Chinese imports.⁴⁰ In addition, there would be a lag time in terms of the effects of an appreciated RMB on prices of Chinese products, since prices for many exports are set several months ahead of time in contracts. If an appreciated currency lowered prices for U.S. products, it could take time for increased Chinese demand to be signaled to U.S. producers and exporters and for them to boost production to meet the new demand. Over time, one would expect the effects of currency appreciation to affect the flow of bilateral trade and, possibly, produce a decrease in the bilateral trade imbalance (although the size of the overall U.S. trade deficit might not change because that is determined by a number of factors other than exchange rates).

The Role of Exchange Rate Pass-Through

Another factor to consider in attempting to evaluate the effects of an RMB appreciation on trade flows is to examine how price changes would be passed on or distributed. If the RMB appreciates against the dollar, not all of the price increase resulting from the appreciation may be passed on to the U.S. consumer. Some of it may be absorbed by Chinese laborers, producers, or exporters, and some by U.S. importers, wholesalers, retailers, etc. According to the U.S. Department of Labor, from July 2005 to July 2008, the price index for U.S. imports from China from July 2005 to July 2008, rose by 5.2% (compared to a 13.2% rise in import prices for total U.S. imports of non-

³⁷ Some analysts contend that U.S. imports from China grew rapidly from 2001-2004, and slowed from 2005 to 2008, not because of the appreciation of the RMB, but because of changes to U.S. consumer demand relating to macroeconomic conditions.

³⁸ Trade varied from year to year. In 2008, U.S. imports from China rose by 5.1% over the previous year, compared to import growth of 11.7% in 2007; however, U.S. exports over this period were up 9.5% in 2008 compared with an 18.1% rise in 2007.

³⁹ The current global economic slowdown led to a sharp reduction in U.S.-China trade in 2009; both U.S. exports to and imports from China fell sharply, though imports fell at a bigger rate. As a result, the U.S. trade deficit with China was down 14.8% over the previous year.

⁴⁰ Depending on the elasticity of demand for the product, some might be willing to pay the extra price and buy the same level as before, some might buy less of the product, and some might stop purchasing the product altogether.

petroleum products).⁴¹ This would suggest that very little of the price increase that might have resulted from the RMB's appreciation was passed on to U.S. consumers.⁴² If prices are not completely passed through to consumers, than consumer demand for Chinese imports will fall less than if they were, all else equal.

China's Role in the Global Supply Chain

The issue of exchange rate effects is further complicated by China's role as a major assembly center for multinational corporations. Many analysts contend that the sharp increase in U.S. imports from China over the past several years (and hence the growing bilateral trade imbalance) is largely the result of movement in production facilities from other (primarily Asian) countries to China. That is, various products that used to be assembled in such places as Japan, Taiwan, Hong Kong, etc., and then exported to the United States are now being made in China (in many cases, by U.S. and other foreign firms in China) and exported to the United States. According to Chinese data, foreign-invested firms in China account for over half of China's trade flows (both exports and imports). Such firms import raw materials, intermediate goods (such as components), and production machinery to China. One study of Apple Inc.'s iPod found that the product itself was assembled in China in factories owned by a Taiwanese company from components that were produced by numerous multinational corporations. The level of value added by Chinese workers who assembled the iPod in China was estimated to be small relative to the total cost of producing each unit (about 3%), and much smaller relative to the retail price of the unit sold in the United States.⁴³ Some analysts contend that, because of the high level of imported inputs that comprise a large share of China's exports, an appreciated RMB would have little effect on the prices of Chinese exports, and hence have little effect on bilateral trade flows. Others contend that, even if foreign-invested firms in China faced significantly higher costs because of an appreciated RMB, they would move production to another low-cost country, and thus, while the U.S. trade deficit with China decreased, the U.S. trade deficit with other countries would increase.

Underlying Macroeconomic Imbalances Are Unlikely to Disappear

By accounting identity, the overall trade deficit is equal to the shortfall between domestic saving and investment, while an overall trade surplus is equal to a surplus of domestic saving relative to investment. For many years, China has been a high-saving country that has run overall trade surpluses and the United States has been a low-saving country that has run overall trade deficits (see **Appendix**). China's use of an exchange rate peg and capital controls may have contributed to its high saving rate, but it is unlikely that movement to a floating exchange rate would eliminate the large disparity between U.S. and Chinese saving rates. Thus, it is likely that the U.S. would continue to be a net debtor and China would continue to be a net creditor if the RMB rose in value. If so, economic theory predicts the countries' bilateral trade imbalance would either persist or possibly be replaced by new bilateral imbalances with third countries.

⁴¹ Bureau of Labor Statistics, *Import/Export Price Indexes*, Press Release, various issues.

⁴² Some of the costs may have been borne by Chinese producers or workers. Alternatively, China might have been able to boost efficiency, thus lowering costs, or production could have moved inland where labor is cheaper.

⁴³ Communications of the ACM, *Who Captures Value in a Global Innovation Network? The Case of Apple's iPod*, March 2009.

Differing Opinions on Making RMB Appreciation a Top U.S. Trade Priority

As noted earlier, a number of U.S. economists have argued that China's undervalued currency has negatively affected the U.S. and global economies. However, other economists contend that, while an undervalued RMB may have distorted trade flows to some extent, it is not the most significant challenge to U.S. economic interests vis-à-vis China, and therefore, they argue, an appreciation of the currency by itself would do little to boost the U.S. economy. For example,

- Derek Scissors at the Heritage Foundation contends that appreciation of the RMB would have little impact on U.S. employment, stating it would create “a few thousand jobs at best.”⁴⁴ He argues that the Chinese government's extensive use of industrial policies, namely subsidies and regulatory protection (such as state-sponsored monopolies) sharply limits imports of goods and services that compete with the state sector, which would remain unaffected even if the RMB was appreciated. He notes: “Guaranteed revenue and economies of scale make state firms modestly competitive as exporters when they would otherwise be uncompetitive. The real harm, however, is to imports of goods and services from the U.S. The degree of state predominance caps the total share available to all domestic private and foreign companies, leaving American producers in a vicious battle for permanently minor market segments. This is a far more stringent limitation than an undervalued currency.”⁴⁵
- Michael Pettis with the Carnegie Endowment for International Peace makes a similar argument except that he contends that Chinese government “financial repression” policies have kept real returns to deposits low (and sometimes negative) in China in order to keep real lending rates artificially low (since they are set by the government, not market conditions) for Chinese firms (especially state-owned firms). He states that this constitutes a forced transfer of income from Chinese households to Chinese producers, which has led to over-investment and over-capacity by Chinese firms, with much of that excess capacity being exported. Pettis concludes that “as long as China continues to subsidize its production growth at the expense of household income, it will have difficulty increasing domestic demand and cutting its reliance on exports.”⁴⁶

Winners and Losers of RMB Appreciation from an Economic Perspective

Economists generally oppose the use of policies (such as subsidies and trade protection) that interrupt market forces and distort the most efficient distribution of resources. A fixed or managed float exchange rate whose level is not adjusted when economic conditions change might be viewed as a such a distortion.⁴⁷ Thus, from an economist's perspective, adopting a more market-

⁴⁴ He also argues that reducing the Federal budget deficit in the long run is the best way to boost employment and states that “in comparative importance, the value of the RMB is a footnote.

⁴⁵ Heritage Foundation, WebMemo, *Deadlines and Delays: Chinese Revaluation Will Still Not Bring American Jobs*, April 6, 2010.

⁴⁶ Carnegie Endowment for International Peace, *How Can China Reduce Its Reliance on Net Exports?* June 24, 2010.

⁴⁷ The standard economic model for determining whether countries should have a floating exchange rate is the “optimal currency area” model. According to this model, two countries can gain from fixed exchange rates if their goods and (continued...)

based currency would be a win-win situation for China, the United States, and the global economy as a whole, in the sense that it would lead to a more efficient allocation of resources in both countries (though not necessarily any effect on overall employment levels, as discussed below). From a policy perspective, it could be argued that China's current undervalued currency produces economic "winners and losers" in both countries, and therefore, an adjustment to that policy would produce a new set of economic "winners and losers." Although numerous factors affect global economic growth and trade flows, let us assume that an appreciation of the RMB produces a significant change in trade. What would the effects be for the U.S. economy?

Effect on U.S. Exporters and Import-Competitors

When exchange rate policy causes the RMB to be less expensive than it would be if it were determined by supply and demand, it causes Chinese exports to be relatively inexpensive and U.S. exports to China to be relatively expensive. As a result, U.S. exports and the production of U.S. goods and services that compete with Chinese imports fall, in the short run.⁴⁸ Many of the affected firms are in the manufacturing sector.⁴⁹ This causes the trade deficit to rise and reduces aggregate demand in the short run, all else equal. A market-based exchange rate could boost U.S. exports and provide some relief to U.S. firms that directly compete with Chinese firms.

Effect on U.S. Consumers and Certain Producers

According to economic theory, a society's economic well-being is usually measured not by how much it can produce, but how much it can consume. An undervalued RMB that lowers the price of imports from China allows the United States to increase its consumption through an improvement in the terms-of-trade. Since changes in aggregate spending are only temporary, from a long-term perspective, the lasting effect of an undervalued RMB is to increase the purchasing power of U.S. consumers. Imports from China are not limited to consumption goods. U.S. firms also import capital equipment and inputs from China to produce finished goods. An undervalued RMB lowers the price of these U.S. products, increasing their output, and thus making such firms more internationally competitive. An appreciation of China's currency could raise prices for U.S. consumers, lowering their economic welfare, meaning they have less money to spend on other goods and services. In addition, firms that use imported Chinese parts could face higher costs, making them relatively less competitive.

Effect on U.S. Borrowers

An undervalued RMB also has an effect on U.S. borrowers. When the United States runs a current account deficit with China, an equivalent amount of capital flows from China to the

(...continued)

labor markets are highly interconnected and their business cycles are closely synchronized. By these criteria, China and the United States are unlikely to form an optimal currency area.

⁴⁸ Many such firms contend that China's currency policy constitutes one of several unfair trade advantages enjoyed by Chinese firms, including low wages, lack of enforcement of safety and environmental standards, selling below cost (dumping) and direct assistance from the Chinese government.

⁴⁹ U.S. employment in manufacturing as a share of total non-agricultural employment fell from 31.8% in 1960, to 22.4% in 1980, to 13.1% in 2000, to 9.1% in December 2009. This trend is much larger than the Chinese currency issue and is caused by numerous other factors, including productivity gains in manufacturing and the rise of employment in the service sector.

United States, as can be seen in the U.S. balance of payments accounts. This occurs because the Chinese central bank or private Chinese citizens are investing in U.S. assets, which allows more U.S. capital investment in plant and equipment to take place than would otherwise occur. Capital investment increases because the greater demand for U.S. assets puts downward pressure on U.S. interest rates, and firms are now willing to make investments that were previously unprofitable. This increases aggregate spending in the short run, all else equal, and also increases the size of the economy in the long run by increasing the capital stock. The effect on interest rates is likely to be greater during periods of robust economic growth, when investment demand is strong, than when the economy is weak.

Private firms are not the only beneficiaries of the lower interest rates caused by the capital inflow (trade deficit) from China. Interest-sensitive household spending, on goods such as consumer durables and housing, is also higher than it would be if capital from China did not flow into the United States. In addition, a large proportion of the U.S. assets bought by the Chinese, particularly by the central bank, are U.S. Treasury securities, which fund U.S. federal budget deficits. According to the U.S. Treasury Department, China held \$902 billion in U.S. Treasury securities as of April 2010, making it the largest foreign holder of such securities and accounting for 23% of total foreign holdings. The U.S. federal budget deficit has increased rapidly since FY2008, causing a sharp increase in the amount of Treasury securities that must be sold. While the Obama Administration has pushed China to appreciate its currency, it has also encouraged it to continue to purchase U.S. securities. Some analysts contend that, although an appreciation of China's currency could help boost U.S. exports to China, it could also lessen China's need to buy U.S. Treasury securities, which could push up U.S. interest rates. In the unlikely worst case scenario, if China stopped buying Treasury securities at a time when the U.S. budget deficit is unusually high, it could destabilize financial markets by throwing into doubt the U.S. government's ability to sustain its current fiscal policy.

Net Effect on the U.S. Economy

In the medium-run, according to economic theory, an undervalued RMB neither increases nor decreases aggregate demand in the United States. Rather, it leads to a compositional shift in U.S. production, away from U.S. exporters and import-competing firms toward the firms that benefit from Chinese capital flows. Thus, it is expected to have no medium or long-run effect on aggregate U.S. employment or unemployment. As evidence, one can consider that since the 1980s, the U.S. trade deficit has tended to rise when unemployment was falling and fall when unemployment is rising. For example, the current account deficit peaked at 6% of GDP in 2006, when the unemployment rate was 4.6%, and fell to 3% of GDP in 2009, when the unemployment rate was 9.3%.

However, the gains and losses in employment and production caused by the trade deficit will not be dispersed evenly across regions and sectors of the economy: on balance, some areas will gain while others will lose. And by shifting the composition of U.S. output to a higher capital base, the size of the economy would be larger in the long run as a result of the capital inflow/trade deficit (although the returns from foreign-financed capital will not flow to Americans).

Although the compositional shift in output has no negative effect on aggregate U.S. output and employment in the long run, there may be adverse short-run consequences. If U.S. output in the trade sector falls more quickly than the increases in output of U.S. recipients of Chinese capital, aggregate U.S. pending and employment could temporarily fall. This is more likely to be a concern if the economy is already sluggish than if it is at full employment. Otherwise, it is likely

that government macroeconomic policy adjustment and market forces can compensate for any decline of output in the trade sector by expanding other elements of aggregate demand. The U.S. trade deficit with China (or with the world as a whole) has not prevented the U.S. economy from registering high rates of growth in the past.

A Yale University study estimated that a 25% appreciation of the RMB would initially decrease U.S. imports from China and lead to greater domestic production in the United States and increased exports to China. However, the study estimated that benefits to the U.S. economy would be offset by lower Chinese economic growth (because of falling exports), which would diminish its demand for imports, including those from the United States. In addition, the RMB appreciation would increase U.S. costs for imported products from China (decreasing real wealth and real wages), and cause higher U.S. short-term interest rates. As a result, the sum effect of the 25% RMB appreciation was estimated to a negative effect on U.S. aggregate demand and output and result in a loss of 57,100 U.S. jobs – less than 1/10th of 1% of total U.S. employment.⁵⁰

The Effects of an Undervalued RMB on China's Economy

If the RMB is undervalued vis-à-vis the dollar, then Chinese exports to the United States are likely cheaper than they would be if the currency were freely traded, providing a boost to China's export industries, and helping to make it the world's largest merchandise exporter. Eliminating exchange rate risk through a managed peg also increases the attractiveness of China as a destination for foreign investment in export-oriented production facilities. However, there are a number of negative aspects to China's export growth strategy and currency policy.

- Overdependence on exporting (and fixed investment relating to exports) and FDI inflows made China particularly vulnerable to the effects of the global economic slowdown. Analysis by the IMF estimated that fixed investment related to tradable goods plus net exports together accounted for over 60% of China's GDP growth from 2001 to 2008, (up from 40% from 1990 to 2000), which was significantly higher than in the G-7 countries (16%), the euro area (30%) and the rest of Asia (35%). GDP growth in China fell from 13% in 2007 to 8.7% in 2009, still one of the fastest growth rates in the world.⁵¹
- An undervalued currency makes imports more expensive, hurting Chinese firms that import parts, machinery, and raw materials. Such a policy, in effect, benefits Chinese exporting firms (many of which are owned by foreign multinational corporations) at the expense of non-exporting Chinese firms. This may impede the most efficient allocation of resources in the Chinese economy. Resources that might go to other sectors, such as the service sector, are diverted to the export sector.
- If one considers an undervalued currency as a form of export subsidy, then China, in effect, is subsidizing American living standards by selling products that are cheaper than they would be under market conditions. This in effect lowers China's terms of trade – the level of imports that can be obtained through exports. Chinese citizens on the other hand pay more for tradable goods, not only

⁵⁰ Fair, Ray C., "Estimated Macroeconomic Effects Of A Chinese Yuan Appreciation," Cowles Foundation Discussion Paper 1755, March 2010.

⁵¹ Guo, Kai and Papa N'Diaye, *Is China's Export-Oriented Growth Sustainable*, IMF Working Paper, August 2009.

because imported goods are more expensive because of the de facto tariff an undervalued currency entails, but also because domestic competition is restricted as well. Rather than use its trade surpluses to purchase goods and services from abroad, China is forced, because of its need to maintain its peg to the dollar, to put a large share of its foreign exchange holdings into U.S. debt securities, which earn a relatively low return.

- The use of a pegged system effectively limits the ability of the central government to use monetary policy to control inflation. If the government raised interest rates, “hot money” would flow to China from abroad, forcing the government to increase the money supply to buy up the foreign currency necessary to maintain the targeted peg, which has often lead to easy credit policies by the banks, resulting in overcapacity in a number of sectors, such as steel, and speculative asset bubbles, such as in real estate.⁵² As a result, the Chinese government has tried to use administrative controls, with limited results, to limit bank loans to sectors where overcapacity is believed to exist.

Although a rebalancing of China’s economy, including the adoption of a market-based currency, would likely entail significant adjustment costs, it would also likely produce long-term benefits to the Chinese economy. For example it could:

- boost China’s term of trade by increasing the level of imports that can be purchased by its exports;
- increase economic efficiency (and hence economic growth), by re-directing resources away from inefficient (and often subsidized) sectors of the economy to those that are more efficient and competitive;
- lower prices for imported goods and services and expose more of the domestic economy to greater global competition, thus lowering prices for consumers and improving Chinese living standards;
- improve the efficiency and competitiveness of many Chinese domestic firms (including those that produce only for the domestic market) by lowering prices for imported inputs, raw materials, and machinery, thus boosting their output;
- expand the ability of the government to use monetary policies to control inflation and to allocate capital according to its most efficient use through a market-based credit system;
- help alleviate the large disparities of economic development between the coastal regions of China (as well as growing income disparities throughout China) that have been driven in part by China’s export growth strategy and is viewed by many analysts as posing a potential risk to stability;
- help reduce or eliminate a major source of tension between China and many of its trading partners, some of whom view China’s undervalued currency and its use of subsidies as beggar-thy-neighbor policies that promote economic development in China at the expense of growth in other countries.

⁵² The government can and has attempted to sterilize the increase of the money supply by forcing state banks to buy and hold government bonds.

The great challenge for Chinese leaders, assuming that they are committed to greater economic reform and rebalancing the economy (and there is no clear evidence indicating whether or not they are), would be to quickly generate new sources of economic growth and job opportunities in order to offset the decline of those sectors that would no longer be able to compete once preferential government policies (such as subsidies and an undervalued currency) are eliminated. However, some analysts contend that this rebalancing could prove difficult for China politically and could take several years to achieve. For example, according to Michael Pettis, reforming China's economic policies would have to involve political reforms because "eliminating the mechanisms by which Chinese policymakers can transfer income from households to manufacturers will reduce their control over the commanding heights of the economy, and it will sharply reduce the power and leverage the ruling party has over business and local governments."⁵³ On the other hand, China's economy has consistently generated annual growth rates near 10% in recent decades, making adjustment much easier.

Policy Options for the RMB and Potential Outcomes

If the Chinese were to allow their currency to float, it would be determined by private actors in the market based on the supply and demand for Chinese goods and assets relative to U.S. goods and assets. If the RMB appreciated as a result, this would boost U.S. exports and the output of U.S. producers who compete with the Chinese. The U.S. bilateral trade deficit would likely decline (but not necessarily disappear). At the same time, the Chinese central bank would no longer purchase U.S. assets to maintain the peg. U.S. borrowers, including the federal government, would now need to find new lenders to finance their borrowing, and interest rates in the United States would rise. This would reduce spending on interest-sensitive purchases, such as capital investment, housing (residential investment), and consumer durables. The reduction in investment spending would reduce the long-run size of the U.S. capital stock, and thereby the U.S. economy. In the present context of a large budget deficit, some analysts fear that a sudden decline in Chinese demand for U.S. assets (because China was no longer purchasing assets to influence the exchange rate) could lead to a drop in the value of the dollar that could potentially destabilize the U.S. economy.⁵⁴

If the relative demand for Chinese goods and assets were to fall at some point in the future, the floating exchange rate would depreciate, and the effects would be reversed. Floating exchange rates fluctuate in value frequently and significantly.⁵⁵

A move to a floating exchange rate is typically accompanied by the elimination of capital controls that limit a country's private citizens from freely purchasing and selling foreign currency. The

⁵³ Pettis, Michael, *Sharing the Pain: The Global Struggle Over Savings*, Carnegie Endowment for International Peace, November 2009, p. 7.

⁵⁴ For more information, see CRS Report R40770, *Economic Effects of a Budget Deficit Exceeding \$1 Trillion*, by Marc Labonte.

⁵⁵ Some economists argue that short-term movements in floating exchange rates cannot always be explained by economic fundamentals. If this were the case, then the floating exchange rate could become inexplicably overvalued (undervalued) at times, reducing (increasing) the output of U.S. exporters and U.S. firms that compete with Chinese imports. These economists often favor fixed or managed exchange rates to prevent these unexplainable fluctuations, which they argue are detrimental to U.S. economic well-being. Other economists argue that movements in floating exchange rates are rational, and therefore lead to economically efficient outcomes. They doubt that governments are better equipped to identify currency imbalances than market professionals.

Chinese government maintains capital controls (and arguably one of the major reasons China opposes a floating exchange rate) because it fears a large private capital outflow would result if such controls were removed. This might occur because Chinese citizens fear that their deposits in the potentially insolvent state banking system are unsafe. If the capital outflow were large enough, a banking crisis in China could result and could cause the floating exchange rate to depreciate rather than appreciate.⁵⁶ If this occurred, the output of U.S. exporters and import-competing firms would be reduced below the prevailing level, and the U.S. bilateral trade deficit would likely expand. In other words, the United States would still borrow heavily from China, but it would now be private citizens buying U.S. assets instead of the Chinese central bank. China could attempt to float its exchange rate while maintaining its capital controls, at least temporarily. This solution would eliminate the possibility that the currency would depreciate because of a private capital outflow. While this would be unusual, it might be possible. It would likely make it more difficult to impose effective capital controls, however, since the fluctuating currency would offer a much greater profit incentive for evasion.

Another possibility is for China to maintain the status quo. Even without adjustment to the nominal exchange rate, over time the real rate would adjust as inflation rates in the two countries diverged. The Chinese central bank acquires foreign reserves by printing yuan to finance its trade surplus. As the central bank exchanged newly-printed yuan for U.S. assets, prices in China would rise along with the money supply until the real exchange rate was brought back into line with the market rate.⁵⁷ This would cause the U.S. bilateral trade deficit to decline and expand the output of U.S. exporters and import-competing firms. This real exchange rate adjustment would only occur over time, however, and pressures on the U.S. trade sector would persist in the meantime.

None of the solutions guarantee that the bilateral trade deficit will be eliminated. China is a country with a high saving rate, and the United States is a country with a low saving rate; it is not surprising that their overall trade balances would be in surplus and deficit, respectively. As the **Appendix** discusses, many economists believe that these trade imbalances will persist as long as underlying macroeconomic imbalances persist. At the bilateral level, it is not unusual for two countries to run persistently imbalanced trade, even with a floating exchange rate. If China can continue its combination of low-cost labor and rapid productivity gains, which have been reducing export prices in yuan terms, its exports to the United States are likely to continue to grow regardless of the exchange rate regime, as evidenced by the 21% appreciation of the RMB from 2005 to 2008 which did not lead to any reduction in the trade deficit over that period.

⁵⁶ This argument is made in Morris Goldstein and Nicholas Lardy, "A Modest Proposal for China's Renminbi," *Financial Times*, August 26, 2003. Alternatively, if Chinese citizens proved unconcerned about keeping their wealth in Chinese assets, the removal of capital controls could lead to a greater inflow of foreign capital since foreigners would be less concerned about being unable to access their Chinese investments. This would cause the exchange rate to appreciate.

⁵⁷ To some extent, China can reduce the effects of the accumulation of foreign reserves on the money supply through credit controls, although this is unlikely to be completely effective.

Appendix. Indicators of U.S. and Chinese Economic Imbalances

The issue of rebalancing economic growth by both the United States and China has been a central focus of the U.S.-China Strategic and Economic Dialogue (S&ED) talks held in July 2009 and May 2010. Secretary of Treasury Timothy Geithner stated at the July 2009 S&ED that: “Recognizing that cooperation between China and the United States will remain vital not only to the well being of our two nations but also the health of the global economy, we agreed to undertake policies to bring about sustainable, balanced global growth once economic recovery is firmly in place.”

The global financial crisis and subsequent GDP decline among many countries have resulted in new scrutiny by many economists of “global imbalances,” namely the disparities in savings and investment levels among various countries (i.e., some countries save too little and some too much relative to their investment needs), and subsequent current account imbalances that have resulted (i.e., countries where domestic savings exceed investment run trade surpluses and countries where domestic investment exceeds saving run current account deficits). China and the United States are not unique in having these imbalances – Japan, Germany, and other East Asian countries are other examples of high savers, while southern and eastern European countries are other examples of high borrowers. Nevertheless, the United States and China have come under particular scrutiny because of their relative overall size (they are projected to be the two largest economies in the world in 2010) and the relative size of their saving, investment, and trade imbalances. Some analysts also claim that China’s exchange rate policy is preventing other East Asian countries from adjusting, because those countries are unwilling allowing their currencies to appreciate and lose export market share to China unless the RMB appreciates too.

Many economists contend such imbalances were a major cause of the current global economic slowdown. For example, high savers, such as China, loaned their money to low savers, such as the United States, which helped keep real U.S. interest rates low and contributed to the bubble in the U.S. housing market and subsequent financial crisis. Many of the high savings countries (especially those in Asia) heavily relied on exporting as a source of their economic growth and thus were significantly impacted when global demand for imports sharply fell.⁵⁸ As a result, many economists have called for economic restructuring among many of the world’s major economies, especially the United States and China. Fundamental restructuring of this sort would take time, and if not well coordinated, could deepen the global output gap in the short run. For example, if low saving countries attempt to increase their saving rate (e.g., by reducing their government budget deficits) at a time of high unemployment, and high saving countries do not simultaneously increase their consumption, then worldwide demand could decline and cause unemployment to rise further in the short run.

This section provides an overview of some of the unique differences between the economies of the United States and China that have played a role in global imbalances.

⁵⁸ For an overview of this argument, see Blanchard, Olivier and Gian Maria Milesi-Ferretti, “Global Imbalances: In Midstream?” IMF Staff Position Note, December 22, 2009.

Current Account Balances, Savings, and Investment

The level of U.S. gross savings is far below total U.S. investment, indicating that the U.S. must borrow capital abroad to meet its investment needs. By definition, domestic savings minus gross investment (from domestic and foreign sources) equals the current account balance.⁵⁹ Nations that do not save enough to meet domestic investment needs run current account deficits and those that save more than they need for domestic investment run current account surpluses.⁶⁰ In 2008, the ratio of U.S. gross domestic savings to gross investment in 2008 was 66.9%, the lowest among the world's major economies. On the other hand, the ratio for China was 122.2% (see **Table A-1**).

Table A-1. Ratio of Gross National Savings to Gross Investment and Current Account Balances as a Percent of GDP for Various Economies: 2008

	Gross National Savings/Gross Investment (%)	Current Account Balance/GDP (%)
United States	66.9	-4.9
Italy	84.1	-3.4
Australia	84.6	-4.6
France	89.8	-2.2
United Kingdom	91.0	-1.5
Brazil	91.5	-1.5
India	93.1	-2.4
Mexico	94.5	-1.5
South Korea	95.2	-0.7
Thailand	99.9	0.0
Indonesia	100.4	0.1
Canada	102.2	0.5
Japan	113.6	3.2
China	122.2	9.6
Russia	124.2	6.2
Taiwan	127.5	6.2
Germany	134.5	6.6
Singapore	163.9	14.4
Malaysia	191.8	17.6

Source: Economist Intelligence Unit.

Note: The current account data for most of the countries changed significantly in 2009 as a result of the global financial crisis.

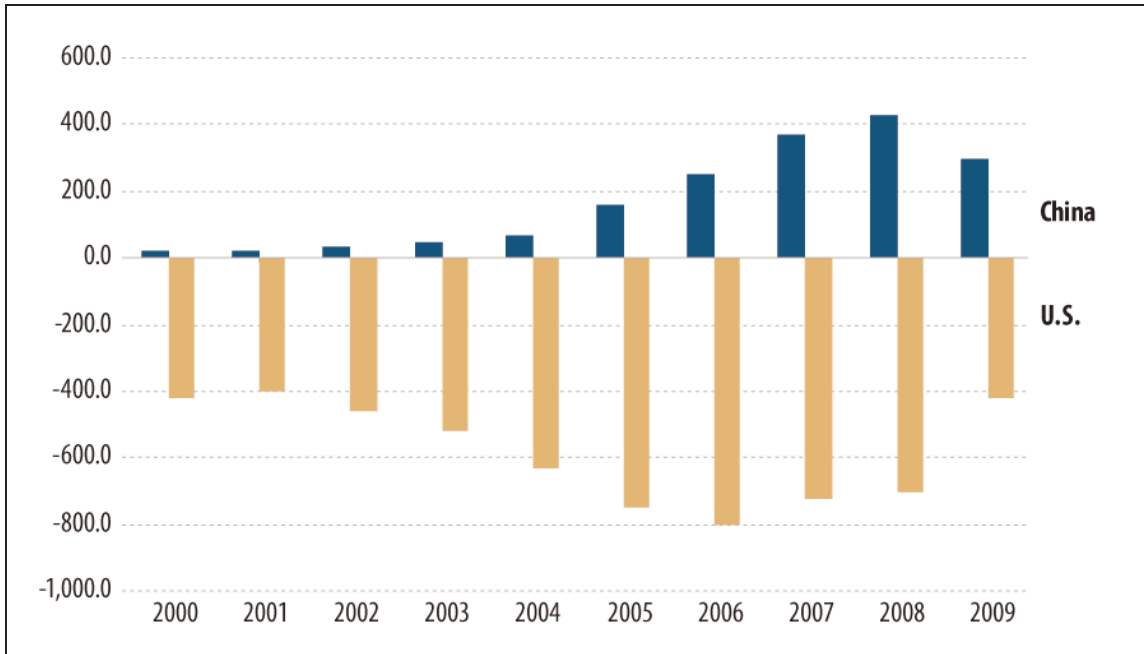
⁵⁹ The current account balance is the broadest measurement of a country's financial flows. It includes the balances for trade in goods and services, net income (investment income and compensation for overseas workers), and net unilateral transfers.

⁶⁰ A current account deficit also reflects that a country consumes more than it produces, while a current account surplus indicates that a country produces more than it consumes.

In nominal dollar terms, the United States had the world's largest current account deficit at \$706 billion in 2008, while China had the largest current account surplus at \$426 billion (see **Figure A-1**).⁶¹ These balances were also significant as a share of GDP: 9.6% for China and -4.9% for the United States (see **Figure A-2**).⁶²

Figure A-1. Chinese and U.S. Current Account Balances: 2000-2009

\$billions

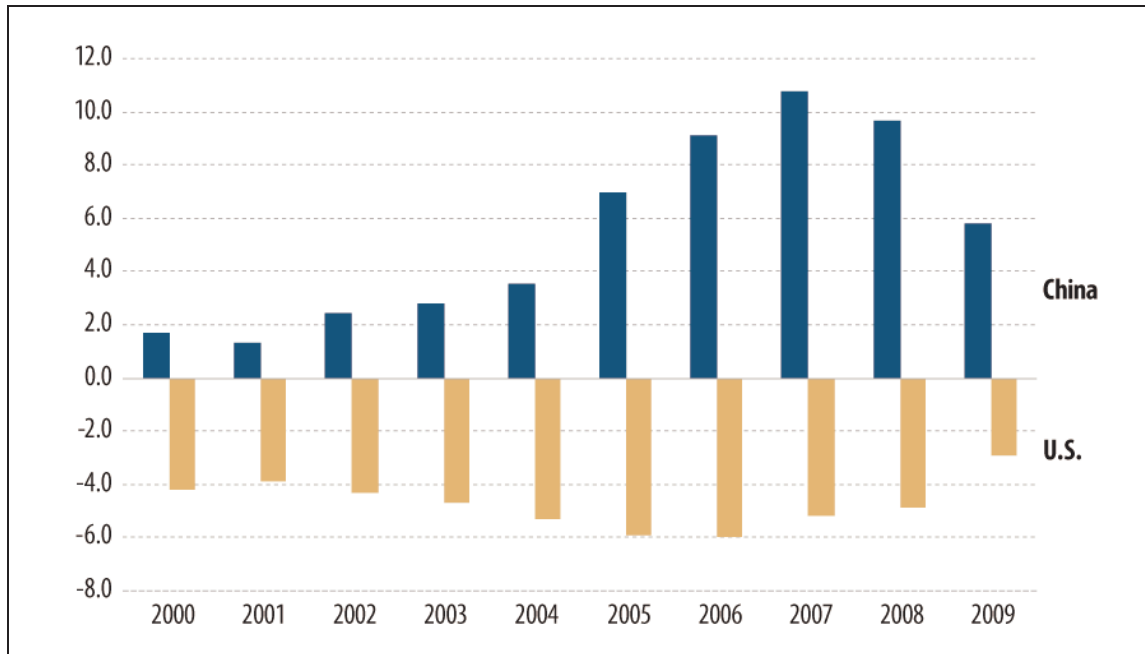


Source: Global Insight.

⁶¹ The U.S. current account deficit, and China's current account surplus, both fell in 2009 as a result of the global economic slowdown.

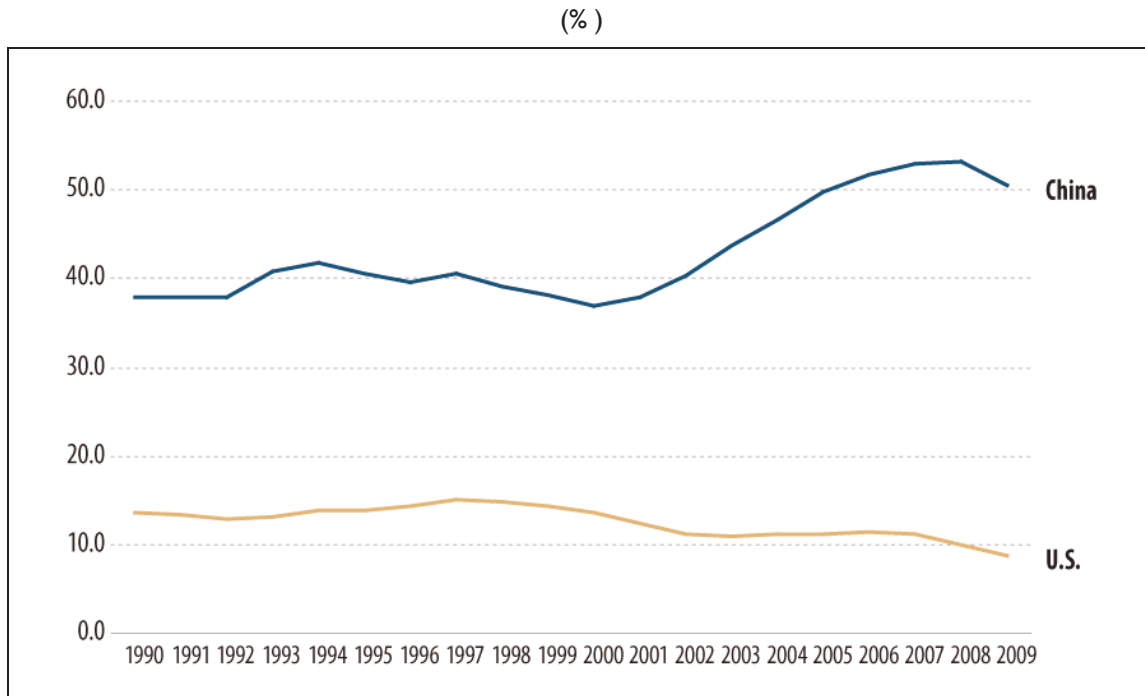
⁶² The U.S. current account deficit as a percent of GDP fell in 2008 and 2009. China's current account surplus as a percent of GDP fell each year from 2007 to 2009.

Figure A-2. Chinese and U.S. Current Account Balances as a Percent of GDP: 2000-2009
(%)



Source: Global Insight.

Gross savings are the total level of domestic savings, including private, corporate, and government. Savings represents income that is not consumed. Physical investment spending on plant and equipment can be financed from domestic or foreign savings. Over the past several years, the United States has maintained one of the lowest gross savings rates (i.e., total national savings as a percent of GDP) among developed countries, while China has maintained one of the world's highest national savings rates. From 1990 to 2009, U.S. gross national savings as a percent of GDP declined from 13.5% to 8.7%, while China's rose from 37.8% to 50.5% (see **Figure A-3**).

Figure A-3. Gross National Savings as a Percent of GDP for China and the United States: 1990-2009

Source: Economist Intelligence Unit.

Notes: Aggregate national savings by the public and private sector as a percentage of nominal GDP.

Some “rebalancing” has taken place during the global recession. The U.S. current account deficit has declined from 6% to 3% of GDP between 2006 and 2009. It has fallen because domestic investment spending has fallen and the private saving rate has risen from 14% of GDP in 2007 to 17% of GDP in 2009. On the other hand, this rebalancing has been partly offset by the increase in the U.S. budget deficit from 1.2% of GDP in 2007 to 9.9% of GDP in 2009, which directly reduces national saving. What remains to be seen is how much of this rebalancing is cyclical, and will be reversed when the U.S. economy improves, and how much of it is permanent. China’s current account surplus fell from 10.8% of GDP in 2007 to 5.8% of GDP in 2009.

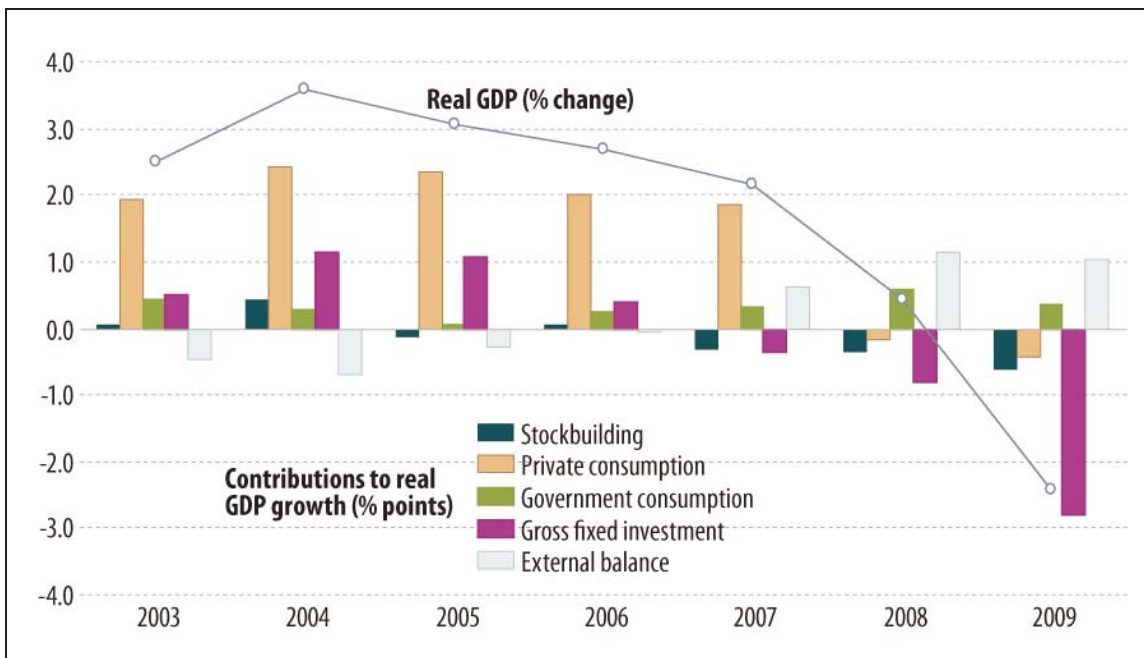
Despite the rebalancing that has already taken place, some economists would not consider either country to have reached a position that is sustainable in the long run. Before the late 1990s, the United States had never had a current account deficit of 3% of GDP. And even with China’s reduced current account surplus, and the diminished U.S. current account deficit over the past few years, China’s net holdings of foreign assets and the U.S. net foreign debt continue to grow. Likewise, the decline in China’s current account surplus was caused by a more rapid decline in China’s exports than imports during the worldwide economic downturn—when worldwide growth picks up again and reaches pre-crisis levels, that trend could reverse. Global demand for Chinese products (despite economic slowdowns in many countries) has increased sharply over the past few months.

Sources of Economic Growth

Figure A-4 and

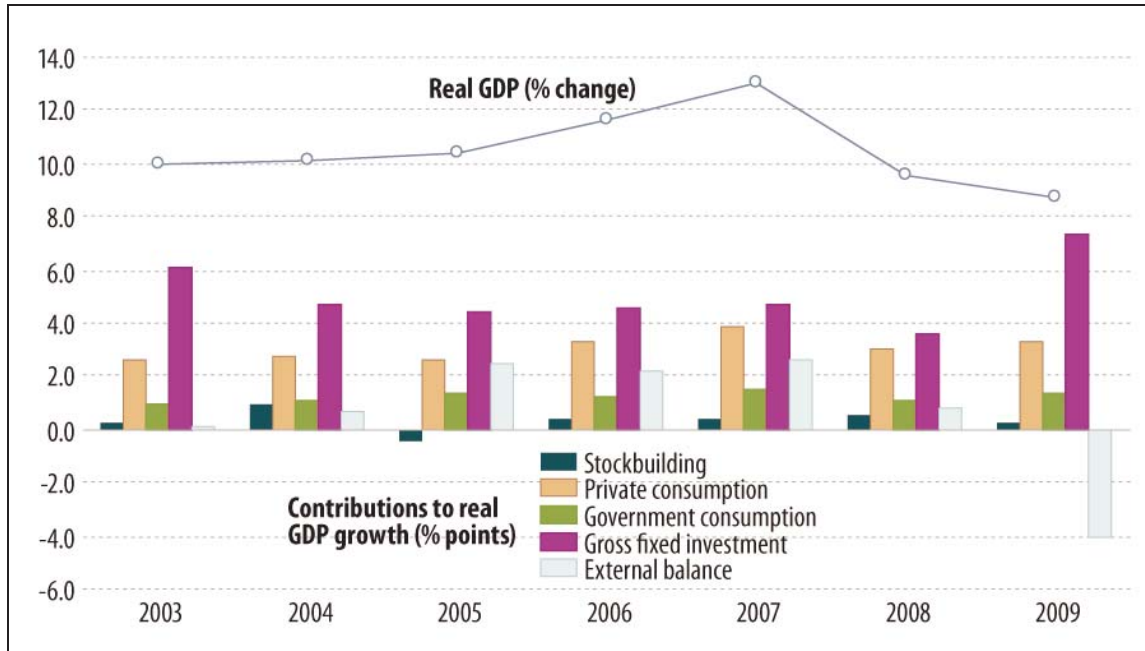
Figure A-5 indicate sources of real GDP growth for the United States and China from 2003-2009. From 2003 to 2007, the largest source of U.S. GDP growth was private consumption. In 2008 and 2009, changes in external balances (i.e., net exports) were the fastest growing sector of the U.S. economy. For China, gross fixed investment (much of it linked to tradable sectors for most years) was the largest contributor to its GDP growth from 2003-2009. In 2009, changes to net exports in China were a drag on the Chinese economy.

Figure A-4. U.S. Real GDP Growth and Sources of GDP Growth: 2003-2009
(% and % Points)



Source: Economist Intelligence Unit.

Figure A-5. Chinese Real GDP Growth and Sources of GDP Growth
(% and % Points)



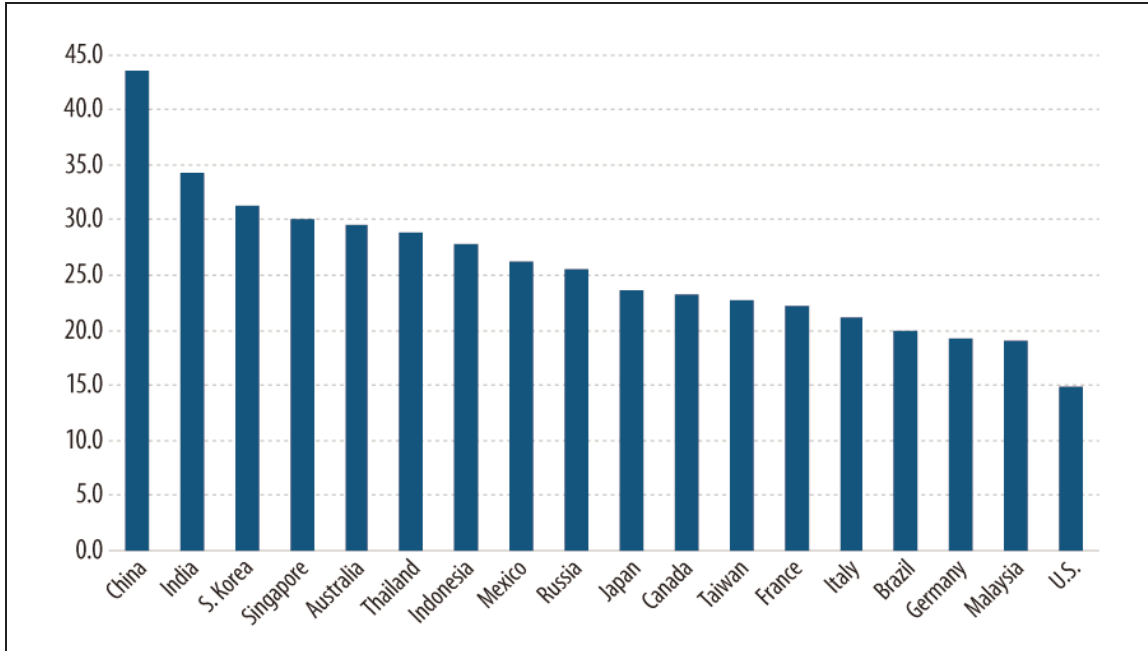
Source: Economist Intelligence Unit.

Investment and Consumption Relative to GDP

As indicated in **Figure A-6**, China's gross investment as a percent of GDP in 2008 was the highest of any major economy at 43.5% in 2008, up from 34.3% in 2000. In comparison, the U.S. total in 2008 was 14.8%, the lowest among the countries listed. Conversely, as indicated in **Figure A-7**, China had one of the lowest rates of private consumption among major economies at 35.5%, which was down from 46.5% in 2000. In comparison U.S. private consumption as a share of GDP in 2008 was 70.1%, among the highest of major economies.

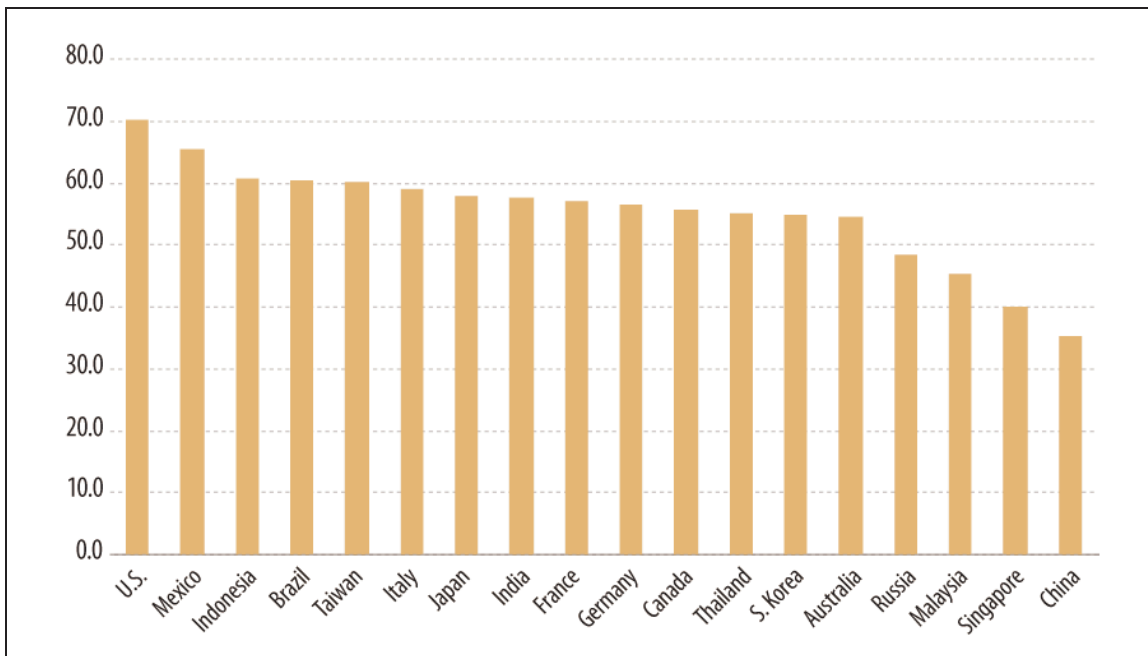
Although the level of Chinese private consumption is small relative to GDP, it is rapidly growing. From 2000 to 2009, real Chinese private consumption grew at an average annual rate of 7.1%, which was much faster than the growth in real U.S. private consumption, but slower than the overall growth rate of the economy (see **Figure A-8**).

Figure A-6. Gross Investment as a Percent of GDP for Selected Economies: 2008
(%)



Source: Economist Intelligence Unit.

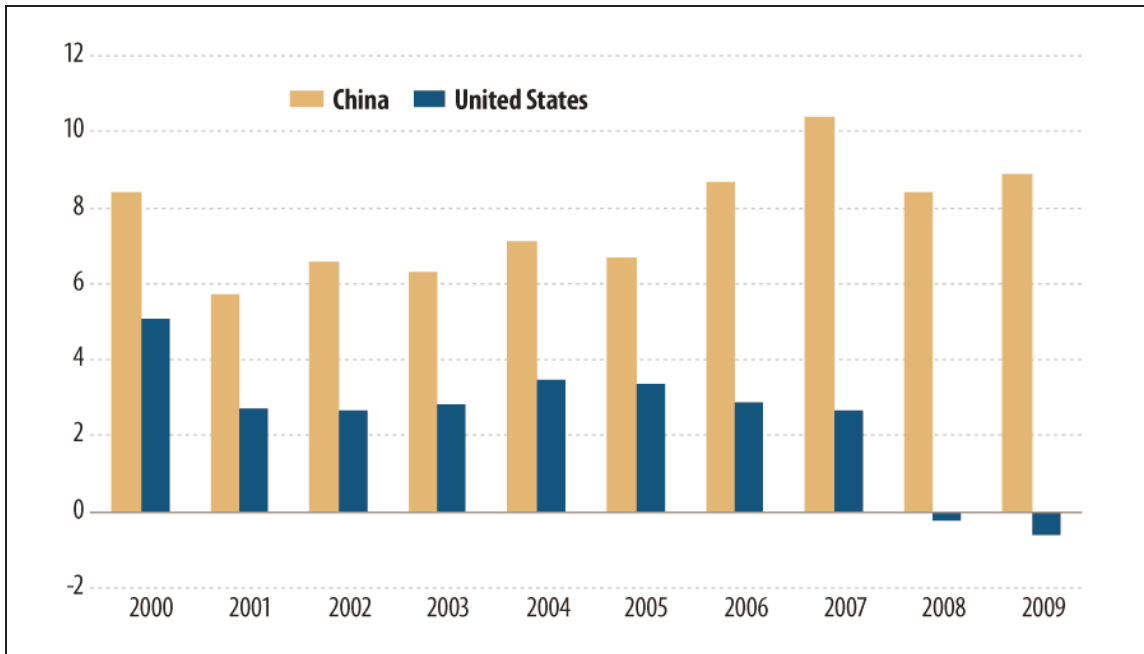
Figure A-7. Private Consumption as a Percent of GDP for Selected Economies: 2008
(%)



Source: Economist Intelligence Unit.

Figure A-8. Annual Growth in Real Chinese and U.S. Private Consumption: 2000-2009

% Increase over the previous year



Source: Economist Intelligence Unit.

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