

while obligated to surrender all of their export earnings to the Chinese government.¹⁴³ The new, unified exchange rate was described by China as a single and managed floating exchange rate regime based on supply and demand.¹⁴⁴

Within a few years thereafter, despite intervention in the exchange markets by the Chinese central government to purchase U.S. dollars with renminbi, the renminbi had appreciated relative to the U.S. dollar to a rate of 8.30 renminbi/U.S. dollar, and China's foreign-exchange reserves had jumped from U.S. \$26 billion to U.S. \$78 billion.¹⁴⁵ Beginning in 1997, the renminbi was *de facto* pegged (fixed) by China in nominal terms to the U.S. dollar at a rate of 8.28 renminbi/U.S. dollar.^{146, 147}

With the outbreak of the Asian Financial Crisis in 1997, other Asian countries depreciated their currencies, but China maintained its fixed-exchange rate of 8.28 renminbi/U.S. dollar.¹⁴⁸ Having emerged from this severe turmoil with China's economy relatively unscathed, Chinese governmental officials concluded that the renminbi's peg to the U.S. dollar was one of the reasons why China's economy had fared reasonably well,¹⁴⁹ and so China left this policy in place and continued to enforce its currency's nominal peg relative to the U.S. dollar. While the renminbi's exchange rate was officially determined through trading on China's (now centralized)

¹⁴³ *Id.* at 88; and Congressional China Currency Action Coalition, "Petition for Relief Under Section 301(a) of the Trade Act of 1974," at Exhibit 1, pages 18-19 (May 17, 2007).

¹⁴⁴ Jianhuai Shi, "Are Currency Appreciations Contractionary in China?" at 7 (17th Annual East Asian Seminar on Economics, June 22-24, 2006). This description also was employed by China in its negotiations to join the World Trade Organization, *see, e.g.*, "Report of the Working Party on the Accession of China," at 6, ¶ 31 (WT/ACC/CHN/49, Oct. 1, 2001), even though the IMF in April 1999 had formally recognized that China's foreign-exchange regime was a conventional, pegged arrangement, not a managed float. Congressional China Currency Action Coalition, "Petition for Relief Under Section 301(a) of the Trade Act of 1974," at Exhibit 1, page 20 (May 17, 2007).

¹⁴⁵ Congressional China Currency Action Coalition, "Petition for Relief Under Section 301(a) of the Trade Act of 1974," at Exhibit 1, page 20 (May 17, 2007); and "Trade Policy Review: Report by the Secretariat – People's Republic of China," at 12, ¶ 15 (WT/TPR/S/161, Feb. 28, 2006).

¹⁴⁶ Tao Wang, "China: Sources of Real Exchange Rate Fluctuations," at 4 (IMF Working Paper WP/04/18, Feb. 2004).

¹⁴⁷ "The exchange rates for other foreign currencies were based on the rates of RMB against the US dollar and cross-exchange rates of other foreign currency on the international market." "Report of the Working Party on the Accession of China," at 6, ¶ 31 (WT/ACC/CHN/49, Oct. 1, 2001).

¹⁴⁸ Jianhuai Shi, "Are Currency Appreciations Contractionary in China?" at 7 (17th Annual East Asian Seminar on Economics, June 22-24, 2006).

¹⁴⁹ Morrison, Wayne M. and Marc Labonte, "China's Currency: Economic Issues and Options for U.S. Trade Policy," at 7 (Cong. Research Service, Jan. 9, 2008).

foreign-exchange market, the number of participants in this market was limited by China's government to a few participants. This restrictiveness kept the foreign-exchange market thin and underdeveloped, with the result that the central government, acting "anonymously," could intervene in the exchange market and keep the renminbi's exchange rate at the targeted value of 8.28 renminbi/ U.S. dollar.¹⁵⁰

In practice, the achievement of this desired rate typically meant that China's governmental authorities purchased with renminbi printed by China the U.S. dollars and other foreign currencies that were being earned by exports from China in order to keep the renminbi from appreciating. To avoid or minimize inflation caused by the substantial and growing amounts of renminbi being injected in this manner into the Chinese domestic economy, the central government then issued bonds to borrow those renminbi as part of a practice often called "sterilization" that is discussed further below in Section IV.C.

With the passage of time, pressure on the renminbi to appreciate grew dramatically.¹⁵¹ In the mid- to late 1990s, improvements in productivity and the quality of Chinese goods led to increased demand and foreign direct investment in China. With the accession of China to the World Trade Organization in December 2001, these trends became more pronounced and intensified the pressure on the renminbi to appreciate. Compounding the problem, foreign investors found ways around the Chinese government's capital controls and were able to purchase renminbi in expectation of its appreciation. Despite these speculative inflows and the influx into China of earnings from exports and funds from FDI, however, the renminbi's *de facto* peg to the U.S. dollar remained in place until July 21, 2005, when China announced a one-time 2.1-percent revaluation of the renminbi to a rate of 8.11 renminbi/U.S. dollar¹⁵² In taking this measure, China appears to have been moved by the international community's widening chorus of exhortations that the renminbi be allowed by the Chinese central government to strengthen.

4. Revaluation: July 2005 to the Present

With the renminbi's revaluation relative to the U.S. dollar in July 2005, China stressed that it was terminating the renminbi's peg to the U.S. dollar and that the renminbi's value would henceforth reflect a weighted basket of currencies, the contents and weightings of which were not explicitly made public and remain unclear to the present. In addition, the number of participants in China authorized to trade the renminbi was increased.¹⁵³ Under China's new exchange-rate policy, designated traders such as banks and large enterprises in China are to buy and sell renminbi on the central currency exchange. China's central government through its

¹⁵⁰ Goodfriend, Marvin and Eswar Prasad, "A Framework for Independent Monetary Policy in China," at 22-23 (IMF Working Paper WP/06/111, May 2006).

¹⁵¹ *Id.* at 25.

¹⁵² Barboza, David and Joseph Kahn, "China Says It Will No Longer Peg Its Currency to the U.S. Dollar" (N.Y. Times, July 21, 2005).

¹⁵³ "People's Republic of China, 2006 Article IV Consultation - Staff Report," at 16 (IMF, Oct. 2006).

financial arm, the PBC, is no longer a direct participant in the market, but is now a client of the traders. However, the PBC's size and governmental influence mean that China's political leadership retains control over the renminbi's rates of exchange.¹⁵⁴

At first, the Chinese government restricted the daily movement of the renminbi to a narrow band of no more than 0.3% higher or lower relative to the U.S. dollar. In May 2007 the range of trading was increased to +/- 0.5%. In contrast to the previous *de facto* peg, following the revaluation in July 2005 the renminbi has slowly appreciated in nominal terms relative to the U.S. dollar and, as of early September 2008, had reached a level of approximately 6.8 renminbi/U.S. dollar. Yet, this modest nominal strengthening of the renminbi points toward a disproportionately heavy weighting of the U.S. dollar in China's basket of currencies. The U.S. dollar has rapidly depreciated against many other currencies, but not by as much *vis-à-vis* the renminbi, even as the pressure on the renminbi to appreciate has grown due to China's burgeoning exports and rising inflows into China of foreign currencies.¹⁵⁵ Moreover, on a trade-weighted, fundamental-equilibrium-exchange-rate basis, recent estimates conclude the renminbi remains undervalued relative to the U.S. dollar by about 30 percent.¹⁵⁶ The Chinese government insists that its control of the pace of liberalization of China's exchange-rate system is warranted in light of China's history of poverty, colonial subjugation, and civil wars.¹⁵⁷

C. Measures Employed by China in Lieu of Market Forces to Control the Renminbi's Rate of Exchange Vis-à-Vis Foreign Currencies and the Rate of Inflation in China

As just discussed, after various, sometimes inconsistent efforts during the approximately three decades of the post-Mao era, the Chinese government since the mid-1990s has had an established exchange-rate policy under which China's national authorities very deliberately have set the relative value of the renminbi by means of governmental measures rather than through the workings of the market. Based upon the Chinese government's actions and evident resolve, there seems little chance at this juncture that China's leaders will revise this stance at anytime in the foreseeable future, barring some dramatic change in conditions or events. Aside from the questions of why and with what effect China has taken this fundamental decision, therefore, there is the matter of how China actually accomplishes – essentially by governmental fiat – the task of overriding the market's forces and determining the renminbi's worth relative to other countries' currencies. An evaluation of the mechanics, so to speak, and the extensive

¹⁵⁴ Id.

¹⁵⁵ Morrison, Wayne M. and Marc Labonte, "China's Currency: Economic Issues and Options for U.S. Trade Policy," at 10 (Cong. Research Service, Jan. 9, 2008).

¹⁵⁶ "Estimation of the Fundamental Misalignment of the Chinese Renminbi" (The China Currency Coalition, July 2008), available at www.chinacurrencycoalition.org; and Cline, William R. and John Williamson, "New Estimates of Fundamental Equilibrium Exchange Rates," Policy Brief Number PB08-7 (Peterson Institute for International Economics, July 2008).

¹⁵⁷ Steven R. Weisman, "China and U.S. Clash at Trade Talks" (International Herald Tribune, Dec. 14, 2006), available at <http://www.iht.com/articles/2006/12/14/business/trade.php>.

arrangements relied upon by China to undervalue the renminbi is instructive in its own right and as a way of gaining insight into this practice for purposes of more fully appreciating the monetary-trade interrelationship and hybrid nature of currency undervaluation.

1. China's Basic Regulation on Foreign Exchange

China's basic regulation on the management of foreign exchange dates from 1996, has been amended twice since then (in January 1997 and, more recently, in August 2008), and is administered by the People's Bank of China and the State Administration of Foreign Exchange.¹⁵⁸ These FOREX Rules are sweeping in their reach and lay down the framework and essential guidelines by which the Chinese government monitors and controls the flow of currency into, out of, and within China. In practice, this oversight means that the Chinese central government can insulate the renminbi to a great degree from the market's pressures and undervalue the renminbi relative to the values of the currencies of China's trading partners. As the articles next highlighted illustrate, the current version of the FOREX Rules continues to vest extensive powers in the People's Bank of China and the State Administration of Foreign Exchange.

- Article 7 - All foreign-exchange transactions or changes in foreign-exchange accounts must be reported to the foreign-exchange administration.
- Article 8 - All foreign currencies are prohibited from circulating within China. The prices of Chinese goods cannot be quoted in foreign currency unless the government states otherwise.
- Article 9 - The Chinese government holds the power to decide when and how foreign currency earned by domestic companies operating overseas may be repatriated.
- Article 11 - In the event or the possible event of a "serious disequilibrium" in China's balance of payments with China's trading partners or a "severe crisis" of the national economy, the government may impose currency safeguards, controls, or other necessary measures.
- Article 12 - Financial institutions engaging in foreign-exchange transactions must examine foreign-exchange receipts and expenditures against import and export licenses or against the customs declarations for imports and exports.
- Article 19 - All bonds or guarantees issued outside China must be approved by the government.

¹⁵⁸ State Council of the People's Republic of China, "Rules of the People's Republic of China on Foreign Exchange Control (Jan. 29, 1996, amended Jan. 4, 1997, and Aug. 5, 2008), current version [available at www.pbc.gov.cn/english/showaccdoc.asp?col=6400&id=1088](http://www.pbc.gov.cn/english/showaccdoc.asp?col=6400&id=1088) ("FOREX Rules"). As part of this revision to the FOREX Rules, the PBC also announced the formation of a new Foreign Exchange Department within the PBC that expands and builds upon the previous Exchange Rate Policy Division of the PBC's Monetary Policy Department.

- Article 20 - Lending by Chinese non-banking institutions to institutions or individuals outside China must be approved by the Chinese government.
- Article 32 - The foreign-exchange administration may intervene in the Chinese foreign-exchange market to reduce the volatility of this market.
- Article 33 - The foreign-exchange administration may inspect the records of any foreign-exchange operation in China or any operation suspected of illegal foreign-exchange operations in China.

With these extraordinary powers, China's government clearly is in a position to seal off foreign currencies – as much or as little as it chooses at any given time – from the Chinese domestic market. This segregation allows the Chinese government to intervene effectively in the foreign-exchange markets to undervalue the renminbi.

2. The Chinese Government's Intervention in the Exchange Markets to Control the Renminbi's Relative Value

As observed above, China officially ended its de facto peg of the renminbi to the U.S. dollar on July 21, 2005, but has continued to manage the renminbi's foreign-exchange rate by means of persistent and heavy interventions in foreign-exchange markets and through controls on capital movements and currency holdings.¹⁵⁹ These direct interventions require the Chinese government to print enormous amounts of renminbi in order to be able to buy on domestic foreign-exchange markets the huge numbers of U.S. dollars and other foreign currencies that are obtained from China's exports and FDI in China.¹⁶⁰ These interventions increase both the supply of renminbi and the demand for U.S. dollars, thus strengthening the U.S. dollar's value relative to the renminbi's value. Put another way, China's currency interventions result in a weakening of the renminbi against the U.S. dollar.

China's policy of protracted, large-scale intervention in the exchange markets has had two principal consequences. First, China has been accumulating massive foreign reserves due to the Chinese government's purchases of the increasing numbers of U.S. dollars that have been entering China each year. As of May 2008, as discussed further below in Section IV.D., it is estimated that China's foreign reserves were approximately \$1.8 trillion.¹⁶¹ Second, in order to earn interest on China's accumulation of foreign reserves, China purchases low-risk, dollar-denominated assets. Historically, the Chinese government has mostly used its foreign reserves to

¹⁵⁹ U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 32 (Dec. 2007).

¹⁶⁰ Id.

¹⁶¹ See, e.g., The London Telegraph, "Beijing Swells Dollar Reserves Through Stealth" (Aug. 26, 2008). Official reserves increased by \$462 billion in 2007 and by \$154 billion in the first quarter of 2008. U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 2 (May 2008).

purchase U.S. Treasury securities.¹⁶² The Chinese government's accumulation of large foreign-exchange reserves held in U.S. Treasury bonds entails an opportunity cost for China, because these funds could be invested elsewhere, such as in infrastructural development in China or in investments with higher rates of return.¹⁶³

3. Inflation and "Sterilization" in China as Consequences of the Chinese Government's Intervention in the Exchange Markets

China's intervention in the exchange markets increases the quantity of renminbi that is in circulation and available for spending in China. This growth in the supply of renminbi, without a coincident expansion in the availability of goods or productivity-enhancing investments, leads to inflation. In an attempt to hold inflation in check, the Chinese government resorts to several methods that collectively are referred to typically as "sterilization." These measures by the Chinese government include (a) the issuance of renminbi-denominated debt in the form of bonds; (b) a requirement that Chinese banks maintain increasing amounts of currency reserves; and (c) "window guidance" by which Chinese banks are strongly encouraged to slow their pace of lending to borrowers in China.

a. "Sterilization" Bonds

The Chinese government's issuance of renminbi-denominated debt is critical to China's ability to limit inflation. When these bonds are purchased by banks and private investors in China, the newly printed renminbi are taken out of circulation. China's cost to issue "sterilization" bonds continues to rise. In its efforts to limit inflation, the Chinese government must ensure that there is a domestic market in China for its bonds to support the "sterilization" process. However, sustaining the market for "sterilization" bonds becomes a delicate and more expensive balancing act over time. As the Chinese government issues more bonds to Chinese banks and to private Chinese investors in order to "sterilize" the Chinese government's purchases of foreign currencies, the increase in the supply of bonds forces the Chinese government to pay greater yields to the Chinese investors.¹⁶⁴ Increasing the return on the bonds increases the cost of "sterilization" in renminbi, because more renminbi are needed for future payments by the Chinese government to the investors.¹⁶⁵

¹⁶² There is also the possibility that the Chinese government has bought securities of Fannie Mae and Freddie Mac. Morrison, Wayne M. and Marc Labonte, "China's Currency: Economic Issues and Options for U.S. Trade Policy," at 9 (Cong. Research Service, Jan. 9, 2008).

¹⁶³ Morrison, Wayne M. and Marc Labonte, "China's Currency: Economic Issues and Options for U.S. Trade Policy," at 28 (Cong. Research Service, Jan. 9, 2008).

¹⁶⁴ Thus, for example, the yields on the Chinese government's bonds issued in 2007 increased from 2.5 percent to 3.3 percent. U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 32 (May 2008).

¹⁶⁵ In addition, if interest rates rise to high enough levels, the Chinese government runs the risk that the bonds will attract illegal foreign investment, contrary to Article 7 of the FOREX Rules noted earlier. If not offset by some other means, these inflows in foreign investment would (...continued)

b. Reserve Requirements for Chinese Banks

As a second technique to minimize inflation attributable to the Chinese government's intervention in the exchange markets, the People's Bank of China and the State Administration of Foreign Exchange restrict the growth of the money supply by increasing the renminbi-denominated reserve requirements for banks in China.^{166, 167} The decrease in the amount of renminbi that consequently is available for lending slows the speed of consumption and investment in China and thereby eases inflationary pressures.¹⁶⁸

c. "Window Guidance"

As a more direct measure to minimize inflation, since 2003 the Chinese government has provided "window guidance" to Chinese banks on a monthly basis.¹⁶⁹ "Window guidance" describes requests by Chinese governmental officials that representatives of commercial banks in China avoid excessive expansion of credit while at the same time not dampening China's

(...continued)

strengthen the renminbi. As foreign investors converted their currencies into renminbi to buy renminbi-denominated bonds, the increased demand would push up the renminbi's value against the foreign currencies. Such a strengthening of the renminbi, of course, would undercut the Chinese government's purpose of undervaluing the renminbi by interventions in the exchange markets. See, e.g., The Economist, "Lost in Translation" (May 17, 2007).

¹⁶⁶ U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 33 (May 2008).

¹⁶⁷ There were six reserve increases in the first half of 2007 alone. *Id.*

¹⁶⁸ A recent study by HSBC reportedly has concluded that banks in China also have been required over the last year to hold extra reserves in U.S. dollars rather than in renminbi. The London Telegraph, "Beijing Swells Dollar Reserves Through Stealth" (Aug. 26, 2008), available at <http://www.telegraph.co.uk/money/main.jhtml?xml=/money/2008/08/26/ccchina126.xml>. If so, while details are sparse, it is possible that mandatory extra holdings in U.S. dollars force the Chinese banks to bid up the renminbi-denominated value of the U.S. dollar. Moreover, given that the renminbi used by the Chinese banks already are in circulation in China, the Chinese government does not have to print additional renminbi for the Chinese banks to purchase these additional U.S. dollars. The impact of these two related steps together is that the supply of renminbi circulating in China should be significantly less overall than if the U.S. dollar reserves were not required of the Chinese banks and if the Chinese government was itself purchasing the U.S. dollars with newly-printed renminbi. Once again, inflationary pressures on the renminbi would be reduced.

¹⁶⁹ U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 33 (May 2008).

economic momentum.¹⁷⁰ How closely or not the Chinese government's advice is heeded by commercial banks in China is difficult to ascertain.

4. Summary

As seen in China's FOREX rules, China's ability to set the relative value of its currency derives from China's system of capital controls. These FOREX Rules insulate the renminbi for the most part from economic pressures to appreciate and thereby allow the Chinese government to intervene in the exchange markets effectively. By having intervened for years and years in the exchange markets and having bought on a very large scale U.S. dollars and other foreign currencies in exchange for renminbi, the Chinese government has prevented the renminbi from reaching its equilibrium level on a trade-weighted basis relative to the currencies of other nations, not least the U.S. dollar. Moreover, this intervention by the Chinese government has contributed substantially to excessive, renminbi-denominated liquidity in China and a serious problem with inflation that could become worse. In an effort to keep inflation at bay as much as possible, the Chinese government has relied upon "sterilization" bonds, increasingly strict reserve requirements for Chinese banks, and "window guidance" to Chinese banks. When all is said and done, therefore, it is abundantly evident that China has taken for a long time, and continues to take, extraordinary measures that enforce the renminbi's undervaluation on a trade-weighted basis relative to other countries' currencies, including the U.S. dollar.

D. The Extent of the Renminbi's Undervaluation

As seen, the Chinese government devotes considerable time, effort, and resources to measures designed to undervalue the renminbi. Given this focus by China, it is not surprising that the renminbi has been and remains, in fact, significantly undervalued relative to the currencies of its trading partners. As the U.S. Department of the Treasury has observed, "Exchange rate analysis is inherently complex."¹⁷¹ Even so, there are widely recognized and accepted indicators of undervaluation and methodologies that reasonably quantify the degree of a currency's undervaluation. In particular, there are core indicators and methodologies that are subscribed to by both the IMF and the U.S. Department of the Treasury and that confirm the renminbi's undervaluation.

Thus, both the U.S. Department of the Treasury and the IMF consider the following indicators in evaluating whether a country's currency is undervalued: (1) capital controls and restrictions on payments; (2) protracted, large-scale intervention in one direction in the exchange

¹⁷⁰ See "Trade Policy Review: Report by the Secretariat – People's Republic of China," at 13, ¶ 17 (WT/TPR/S/161, Feb. 28, 2006).

¹⁷¹ U.S. Department of the Treasury, "Report to Congress on Implementation of the International Monetary Fund's 2007 Decision on Bilateral Surveillance Over Members' Policies," at 1 (August 2008).

markets; (3) rapid accumulation of foreign-exchange reserves; (4) large, sustained trade and current-account balances; and (5) econometric estimates of any undervaluation.^{172, 173}

In terms of applying these core indicators to China's circumstances, the picture that emerges is quite unequivocal that the renminbi is markedly undervalued.

First, as to capital controls and restrictions on payments, China's far-reaching FOREX Rules are noted above in Section IV.C.1. As mentioned there, the Chinese government's capital controls essentially exclude foreign currencies from being used in the Chinese domestic market (Article 8) and preclude renminbi from being exchanged for foreign currencies unless approved by the Chinese authorities responsible for foreign exchange (Article 12). This segregation of currencies is critical to the ability of China to control the renminbi's value. Moreover, the sweeping nature and breadth of the FOREX Rules have necessitated extensive implementing regulations that cover a wide variety of topics and situations ranging from a stipulation that a Chinese individual may purchase the foreign-exchange equivalent of no more than U.S.\$50,000 per year¹⁷⁴ to the condition that a foreign firm may own no more than 33 percent of the equity of a domestic Chinese investment bank.¹⁷⁵

Second, the Chinese government's interventions in the exchange markets have been protracted, on a large scale, and in one direction. China's authorities consistently have been purchasing large quantities of U.S. dollars and other foreign currencies since at least 2001,¹⁷⁶ and

¹⁷² U.S. Department of the Treasury, "Report to the Committees on Appropriations on Clarification of Statutory Provisions Addressing Currency Manipulation" (March 11, 2005), available at http://www.ustreas.gov/press/releases/js2308.htm#_ftnref6; and IMF, "Bilateral Surveillance Over Members' Policies: Executive Board Decision," Public Information Notice (PIN) No. 07/69 (June 21, 2007), available at <http://www.imf.org/external/np/sec/pn/2007/pn0769.htm#decision>.

¹⁷³ Both the U.S. Department of the Treasury and the IMF acknowledge a sixth factor, that of the intent of the country that has the undervalued currency and, more specifically, whether the country has "manipulated" its currency with the intent of preventing effective balance-of-payments adjustment or of gaining an unfair competitive advantage over other countries. See *id.*; and Article IV.1(iii) of the IMF's Articles of Agreement. A currency, in other words, can be undervalued but not "manipulated" in the sense just described. This section addresses only undervaluation and so does not further discuss "manipulation" and the factor of intent.

¹⁷⁴ State Administration of Foreign Exchange, "The Circular of the State Administration of Foreign Exchange Concerning the Printing and Distribution of the Detailed Rules for Implementing the Measures for the Administration of Personal Foreign Exchange," at Art. 2 (Jan. 5, 2007).

¹⁷⁵ U.S. Foreign and Commercial Service, "Doing Business in China: A Country Commercial Guide," at 119 (Feb. 27, 2008).

¹⁷⁶ "Trade Policy Review: Report by the Secretariat – People's Republic of China," at 12, ¶ 15 and Chart I.1 (WT/TPR/S/161, Feb. 28, 2006).

the U.S. Department of the Treasury has expressed its agreement that persistent and heavy interventions by China in the exchange markets have played an important role in the PBC's ability to achieve strict management of the renminbi's value versus the U.S. dollar.¹⁷⁷ Indeed, one observer estimated in early 2007 that the Chinese government had been buying in the exchange markets \$15 - \$20 billion per month for several years in order to maintain a low value for the renminbi relative to the value of the U.S. dollar.¹⁷⁸ Given that China's foreign-exchange reserves have grown substantially in 2007 and 2008 to date, it is probable that China's purchases of U.S. dollars in the exchange markets have increased considerably during that period compared with the pace in the prior years. The Chinese government's consistent purchasing of U.S. dollars constitutes intervention in one direction in the exchange markets.

Third, China has rapidly accumulated huge quantities of foreign reserves. China's foreign-exchange reserves rose from approximately \$700 billion as of the second quarter of 2005 to nearly \$1.8 trillion as of May 2008.¹⁷⁹ In the first five months of 2008, China's reported reserves increased by \$269 billion, 20 percent more than the foreign reserves accumulated by China in the same period of 2007.^{180, 181} To put matters in perspective, it has been estimated that China at this juncture is accumulating foreign reserves at the remarkable rate of \$100 million per hour, and the speed of accumulation shows no sign of slowing down.¹⁸²

¹⁷⁷ U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 32 (Dec. 2007).

¹⁷⁸ C. Fred Bergsten, "The Chinese Exchange Rate and the U.S. Economy," at 1 (Jan. 31, 2007).

¹⁷⁹ IAS Group Ltd., "Appreciation of the Renminbi: What's Happened – and What Hasn't," at 7 (July 2008).

¹⁸⁰ The Economist, "Hot and Bothered" (June 26, 2008), available at http://www.economist.com/finance/displaystory.cfm?story_id=11639442. While perhaps \$170 billion of the \$265 billion represent "hot money" or foreign exchange from investors outside China speculating on a significant revaluation of the renminbi in the relatively short-term, *id.*, these speculative inflows represent added demand for the renminbi. If China's government, therefore, would simply allow the market to work, the renminbi's relative value would increase.

¹⁸¹ China's reported foreign reserves appear to understate the true amount of China's accumulated foreign reserves for two reasons. First, China's reported foreign-exchange reserves do not include foreign reserves that are transferred by China's central government to China's sovereign wealth fund, the China Investment Corporation. The World Bank, "China Quarterly Update," at 6 (June 2008). Second, as commented in footnote 168 above, it has recently come to light that the Chinese government requires investment banks in China to hold substantial quantities of U.S. dollars as reserves. It seems likely that these U.S. dollars are not included in China's reported foreign reserves, but properly should be reported.

¹⁸² See The Economist Intelligence Unit Views Wire, "An Embarrassment of Riches" (June 10, 2008), available at http://www.economist.com/agenda/displaystory.cfm?story_id=11526752.

Fourth, China has large, sustained trade and current-account balances that have grown for over a decade.¹⁸³ China's global trade surplus rose from \$9 billion in 1990 to \$178 billion in 2006.¹⁸⁴ China's current-account surplus grew over the span of 1995 to 2006 from 0.2 percent to 9 percent of China's GDP.¹⁸⁵ Relying upon the Chinese government's official import and export data, the IMF has reported that this trend continued in 2007 when China's current-account balance reached a record high surplus of \$315 billion.¹⁸⁶ According to the World Bank, China's current-account surplus has risen even further in 2008.¹⁸⁷

Fifth, and finally, econometric estimates show that the renminbi is strikingly undervalued both on a bilateral basis with the U.S. dollar and on a multilateral basis relative to the currencies of China's major trading partners. More specifically, as noted earlier, two recent studies – one by the China Currency Coalition and the other by the Peterson Institute for International Economics – have each found that the renminbi is approximately 30 percent undervalued relative to the U.S. dollar on a real-exchange-rate basis as of February 2008.¹⁸⁸ Each study derives its bilateral renminbi-U.S. dollar exchange rate from calculations of the renminbi's trade-weighted, real-effective-exchange-rate with the currencies of China's trading partners.¹⁸⁹ Relying upon

¹⁸³ Elwell, Craig, Mark Labonte, and Wayne Morrison, "Is China a Threat to the U.S. Economy?" at 31 (Cong. Research Service, Jan. 23, 2007). It also should be noted that, in recent years, China's official trade data have shown current account surpluses that are significantly smaller than those based on the trade data of China's trading partners. This skewing takes place because the Chinese government's official data regularly have understated China's reported exports and overstated China's reported imports. These discrepancies persist even after adjustment for trade routed through Hong Kong and adjustment for the inclusion of transport costs in import-value data. Therefore, official Chinese current-account data appear to understate the size of China's current-account surplus. See Magrath, Patrick J., Matthew M. Kemper, and Yan Chun Liu, China's Global Trade Balance Discrepancy: Hong Kong Entrepot Effects and Round-Tripping Chinese Capital (Sept. 2008).

¹⁸⁴ Id. at 6.

¹⁸⁵ Morrison, Wayne M. and Marc Labonte, "China's Currency: Economic Issues and Options for U.S. Trade Policy," at 9-10 (Cong. Research Service, Jan. 9, 2008).

¹⁸⁶ "The International Financial Statistics," at 304 (IMF, Aug. 2008). Again, for the reasons noted in footnote 183, it is believed that the \$315 billion figure taken from the Chinese government's official import and export data is an understatement of China's current-account balance in 2007.

¹⁸⁷ The World Bank, "China Quarterly Update," at 13 (June 2008).

¹⁸⁸ "Estimation of the Fundamental Misalignment of the Chinese Renminbi," at 2 (The China Currency Coalition, July 2008), available at www.chinacurrencycoalition.org; and Cline, William R. and John Williamson, "New Estimates of Fundamental Equilibrium Exchange Rates," at 9, Policy Brief Number PB08-7 (Peterson Institute for International Economics, July 2008).

¹⁸⁹ Id.

somewhat different methodologies, the China Currency Coalition has reckoned that the renminbi's REER is 11.8 percent undervalued, whereas the Peterson Institute for International Economics has found that the renminbi's REER is 18.4 percent undervalued.¹⁹⁰

To recapitulate, then, the five relevant indicators of undervaluation that the U.S. Department of the Treasury and the IMF employ in their analyses of currencies' exchange rates all point toward significant undervaluation of China's renminbi.

E. Ways in Which the Persistent Undervaluation of China's Currency Has Been Detrimentially Affecting the United States and China and Is Likely to Continue Doing So

1. Introduction

China's persistent undervaluation of the renminbi has harmed the U.S.'s manufacturing sector and China's financial and banking sectors. More particularly, the renminbi's undervaluation (1) distorts in China's favor pricing in the import-export markets between the United States and China, (2) adversely affects U.S. trade and current-account deficits with China, (3) increases the vulnerability of the United States to economic shocks, and (4) runs the risk that the United States might react to China's governmentally-skewed international trade by curtailing truly market-driven and beneficial international trade.

China's economy and physical environment also are being damaged as a consequence of the Chinese government's undervaluation of the renminbi. China's monetary policies aimed at lowering the relative value of China's currency are retarding the development of China's banking and financial system. China's undervalued currency is contributing as well unsustainably to excessive production of goods in China while at the same time decreasing the buying power of consumers in China.

¹⁹⁰ While measurement of a currency's equilibrium value relative to other currencies is a demanding task, therefore, careful reliance upon accepted methodologies and public data that are officially maintained by governments and international institutions does yield very reasonable and dependable evaluations of a currency's undervaluation in relation to other currencies. The two methodologies that are the most widely accepted by economists for this purpose are the macroeconomic-balance approach and the reduced-form-real-exchange-rate approach. Indeed, the IMF considers these two methodologies to be reliable for its currency-surveillance operations. See Lee, Jaewoo, Gian Maria Milesi-Ferretti, and Lucia Ricci, "Methodology for CGER Exchange Rate Assessments" (IMF 2006).

The China Currency Coalition's study accordingly used publicly available data compiled by the World Bank and the IMF and took the straight average of the results of the macroeconomic-balance approach and the reduced-form-real-exchange-rate approach to measure the renminbi's undervaluation. Similarly, the Peterson Institute's study incorporated a variation of the macroeconomic-balance approach.

In short, China's policy of competitive currency depreciation is causing serious harm and is doing no one any lasting good. On the other hand, if China were willing to trust market forces to set the renminbi's relative value, that decision would help the United States to make the transition to a sustainable trade position and would begin to undo the damage that China has inflicted on its own economy and people. Should the undervaluation of the renminbi continue, the grave consequences already sustained by the United States and China likely will seriously worsen.

2. Direct Harm to the U.S. Economy

China's undervaluation of its currency relative to the U.S. dollar acts as an implicit subsidy to Chinese exports to the United States.¹⁹¹ Because U.S. manufacturers do not receive a similar subsidy, they are put at a competitive disadvantage in the U.S. market against Chinese manufacturers who export to the United States.¹⁹² Similarly, the artificially low value of the renminbi relative to the U.S. dollar makes goods manufactured in the United States more expensive compared to Chinese goods in the Chinese market. The relative increase in price for U.S. manufacturers exporting to China acts as an import tariff on U.S. goods going into China.¹⁹³

3. Indirect Harm to the U.S. Economy

The competitive advantages just noted for Chinese producers, gained by the undervaluation of the renminbi relative to the U.S. dollar, have led to several deleterious effects on the U.S. economy. First, China's advantages have contributed to the large and growing U.S. trade deficit with China.¹⁹⁴ The U.S.'s bilateral trade deficit with China contributes to the growth of the U.S.'s global trade deficit, which in turn leads to an increase of the U.S. global current-account deficit.^{195, 196} The demands placed on the U.S. economy by the continual growth

¹⁹¹ Ben S. Bernanke, "The Chinese Economy: Progress and Challenges," Speech Given at the Chinese Academy of Social Sciences (Beijing, China, Dec. 15, 2005), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20061215a.htm>.

¹⁹² See Section II.C. for more detail on the underlying economic theory.

¹⁹³ Id.

¹⁹⁴ Id.

¹⁹⁵ Current Account Balance = Trade Balance + Grants Received or Given + Investment Income + Remittances by Domestic Workers to Foreign Countries. The direct relationship between the Trade Balance and the Current Account means that any increase in the U.S. trade deficit contributes to an increase in the U.S. current-account deficit.

¹⁹⁶ Some economists argue that China's contribution to the U.S.'s trade and current-account deficits comes not through undervaluation, but only as the result of too much saving by China and too much spending by the United States. While the two countries' different rates of saving are germane, an explanation of China's contribution to the U.S. current-account deficit that excludes undervaluation is incomplete. Undervaluation gives Chinese manufacturers a price advantage and gives an incentive and the ability, therefore, to U.S. consumers to buy more
(...continued)

of the U.S. current-account deficit (growth which is in no small part due to China's undervaluation of the renminbi) are becoming unmanageable for the United States.¹⁹⁷ In 2007, the U.S. had to pay \$8 billion in principal and interest every day to finance the U.S. current-account deficit and foreign direct investments made by U.S. persons in foreign countries.¹⁹⁸ As the deficit grows, the amount needed to finance the deficit also grows. At some point, investors in U.S. debt probably will question the U.S.'s ability to finance its debt, which could lead to a reassessment of the creditworthiness of the United States. At that point, investors either will not invest in U.S. debt or will demand a higher rate of return as a risk premium, raising the U.S.'s cost of capital and U.S. debt even more.

In either case, higher returns on U.S. debt would contribute to higher interest rates offered by U.S. lending institutions. The increase in interest rates would slow interest-sensitive investments in the U.S. in production facilities, capital equipment, and housing, which are key to the health of the U.S. economy. In short, if the renminbi continues to be undervalued significantly relative to the U.S. dollar, the consequence almost surely will be increasingly detrimental to the U.S. economy.

Second, in the medium run, the renminbi's undervaluation undermines U.S. exporters and U.S. producers that must try to compete with low-priced imports from China.^{199, 200} U.S.

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Chinese goods than if the renminbi were realistically valued by the market. By the same token, the renminbi's undervaluation means as a practical matter that Chinese consumers generally cannot afford to buy as many manufactured goods from the United States and other countries as they could if the renminbi were properly valued. In addition, by contributing to the weakness of China's banking and financial system and that system's low rates of return (which are kept low by the Chinese government in order to enforce the renminbi's undervaluation), the renminbi's undervaluation also makes investing funds in that system by China's companies unattractive. Instead, therefore, Chinese companies tend to reinvest those funds in their own companies' operations. Thus, the U.S. trade and current-account deficits are increased directly by the renminbi's undervaluation.

¹⁹⁷ Ahearne, Alan and William Cline, Kyung Tae Lee, Yung Chul Park, Jean Pisani-Ferry, and John Williamson, "Global Imbalances: Time For Action," at 4, Policy Brief Number PB 07-4 (Peterson Institute for International Economics, Mar. 2007).

¹⁹⁸ C. Fred Bergsten, "The Chinese Exchange Rate and the U.S. Economy" (Jan. 31, 2007), available at <http://www.iie.com/publications/papers/paper.cfm?ResearchID=706>.

¹⁹⁹ Elwell, Craig, Mark Labonte, and Wayne Morrison, "Is China a Threat to the U.S. Economy?" at 41 (Cong. Research Service, Jan. 23, 2007). Some commentators have suggested that U.S. and Chinese manufacturers do not compete directly, contending that Chinese manufacturers produce goods that are labor-intensive while U.S. production is more technology-intensive. Yet, China is quickly moving up the technology ladder, so that even industries like the automobile industry that are not currently competing directly with China soon will be.

²⁰⁰ Some economists argue that China maintains a trade advantage over the U.S. due to low salaries of China's work force. However, profit (and therefore trade advantage) is decided not (...continued)

producers have been forced to close down factories and lay off workers.^{201, 202} Layoffs are particularly harsh on smaller towns. Unlike layoffs in larger, more economically diverse cities, the closing of one medium-sized factory in a small town can be devastating as the effects ripple through that town's economy,²⁰³ resulting in dramatic job losses, shuttered factories, and the near devastation of some rural economies.²⁰⁴ The effect of the renminbi's undervaluation goes far beyond rural towns. On a nationwide basis, manufacturing workers account for a disproportional share of workers who have lost their jobs.²⁰⁵ Workers from the manufacturing sector displaced by trade, historically, have had difficulty finding comparable employment elsewhere.²⁰⁶

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by the lowest hourly rates, but by the lowest unit labor cost, that is, the lowest cost per item produced per unit of time. In most cases unit labor costs in low-wage countries like China are at least a substantial percentage of U.S. unit labor costs and in some cases actually exceed the U.S. level. In addition, if China's relatively greater costs of infrastructure, materials, and energy are considered, then China quite possibly does not have an absolute cost advantage over the U.S. producers. Unfortunately, a lack of data from China in these respects prevents confirmation of this point. Elwell, Craig, Mark Labonte and Wayne Morrison, "Is China a Threat to the U.S. Economy?" at 31 (Cong. Research Service, Jan. 23, 2007.)

²⁰¹ Manufactured goods make up about 80 percent of international trade but only 18 percent of U.S. GDP, so factors that affect international trade probably will be more strongly felt in the manufacturing sector than in the wider U.S. economy. Elwell, Craig, Mark Labonte and Wayne Morrison, "Is China a Threat to the U.S. Economy?" at 27 (Cong. Research Service, Jan. 23, 2007.)

²⁰² It has been argued that, even without China's currency policies, there would still be an ongoing loss of U.S. jobs to international producers outside China, particularly companies in other Asian countries. This argument ignores, however, China's influence on the relative values of other Asian countries' currencies. While this impact is not easy to measure, the sheer size of China's population and economy and the renminbi's substantial undervaluation have pressured other Asian countries especially to undervalue their own currencies in an attempt to remain competitive with China. See U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 2 (May 2008); and Cline, William R. and John Williamson, "New Estimates of Fundamental Equilibrium Exchange Rates," Policy Brief Number PB08-7 (Peterson Institute for International Economics, July 2008). Furthermore, the Congressional Budget Office estimates that two-thirds of China's market share in the United States of manufactured goods represents additional production by China and not a loss of U.S. market share by other Asian producers. Congressional Budget Office, "How Changes in the Value of the Chinese Currency Affect U.S. Imports," at 2 (July 2008).

²⁰³ U.S.-China Economic and Security Review Commission, "2007 Report to Congress," at 70 (Nov. 2007.)

²⁰⁴ Id. at 63.

²⁰⁵ Bureau of Labor Statistics, "Displaced Worker Summary: Worker Displacement 2003-2005," (Aug. 17, 2006).

²⁰⁶ Id.

This loss of jobs jeopardizes the U.S. ability to maintain a base of skilled workers in critical manufacturing fields. As American companies have shut down or moved operations abroad, often to China, the jobs lost have included positions in highly specialized areas.²⁰⁷ Skills for some of these jobs are so advanced that it has taken workers years and even generations to acquire those skills through concentrated training and on-the-job apprenticeship. Lay-offs in U.S. manufacturing attributable to off-shoring have resulted in fewer Americans being trained in these fields.²⁰⁸ If the United States, therefore, for whatever reason, were to have the opportunity or need to manufacture in the United States any products requiring specialized knowledge and skills that have been lost, the United States would be in a very awkward, possibly dangerous position and could be caught short.

Third, and lastly, international trade based upon comparative advantage is broadly recognized as being beneficial for all concerned. Unfair trade practices, on the other hand, such as China's undervaluation of the renminbi, do not rest upon any comparative advantage and consequently distort international trade ultimately to no one's advantage. Overvaluation of the U.S. dollar and U.S. trade deficits historically have triggered resistance by the U.S. public to open trade policies. China's undervaluation of the renminbi runs the considerable risk of generating the same sort of reaction.²⁰⁹

4. Harm to China's Economy and Environment

China's economy is also detrimentally affected by the Chinese government's enforced undervaluation of the renminbi relative to the currencies of its trading partners. This policy has left its economy, in the words of China's Premier, Wen Jiabao, unstable, unbalanced, uncoordinated, and unsustainable.²¹⁰ By *unstable*, Premier Wen was referring to excess investment and liquidity and to China's sharply widening current-account surplus. By *unbalanced*, he was alluding to China's economic disparities between China's urban and rural cities and also between China's more wealthy Eastern region and China's less developed Western region. By *uncoordinated*, Premier Wen was drawing attention to the divergence of China's booming manufacturing sector from China's undeveloped services sector and also to the disparities between excess investment and deficient consumption in China. And by *unsustainable*, he was referring to the environmental degradation and overuse of natural

²⁰⁷ For example, these professions include toolmaking, shipbuilding, and aircraft production. U.S.-China Economic and Security Review Commission, "2007 Report to Congress," at 53 (Nov. 2007.)

²⁰⁸ Id.

²⁰⁹ C. Fred Bergsten, "The Chinese Exchange Rate and the U.S. Economy" (Jan. 31, 2007), available at <http://www.iie.com/publications/papers/paper.cfm?ResearchID=706>.

²¹⁰ Stephen S. Roach, Testimony Given at the Senate Finance Committee's Hearing on "Risks and Reforms: The Role of Currency in the U.S.-China Relationship" (Mar. 28, 2007).

resources that has accompanied China's rapid growth.²¹¹ Premier Wen's analysis is insightful and correct.

China's exchange-rate policy has helped to cripple its banking sector, leading to excess liquidity and overinvestment in China's stock and housing markets. As Section IV.C. explained, at the heart of the Chinese government's control of the relative value of the renminbi is its intervention in the exchange markets and its "sterilization" of the renminbi printed to facilitate the intervention. To limit the cost of "sterilization" and to discourage inflows into China of foreign currencies by speculators, the Chinese government sets a low rate of return on "sterilization" bonds. Historically, the Chinese government has invested its U.S. dollar reserves in U.S. government securities. "Sterilization" has two consequences.

First, China could derive more benefit from the U.S. dollars invested in U.S. government securities if these funds were invested in Chinese infrastructural projects or in investments with higher rates of return. Infrastructural projects could allow the rural and western regions of China to share more equitably in China's income growth. Investment in financial instruments other than U.S. Treasury bonds could speed the growth of China's national savings.²¹² China's current reserve investment strategy entails a significant opportunity cost for the country.

Second, "sterilization" bonds substitute for other assets that might be held by banks and private investors. This substitution interferes with growth and development of private financial markets by crowding out other private investment opportunities for the banks.²¹³

In addition to the rising costs of "sterilization" bonds, it appears that perhaps not all of the renminbi being printed by the Chinese government to purchase the inflows into China of foreign currencies are being "sterilized." Inflation is becoming more of a problem, due in part to China's undervaluation policy.²¹⁴ Inflation in China was estimated to have risen above 8 percent during the first quarter of 2008.²¹⁵ The heart of the problem is the excessive liquidity that China is now experiencing in its financial system. Housing prices have increased in many cities in China due to the rising demand for housing encouraged by the excess liquidity. Without attractive interest rates for savings accounts by individuals and businesses in China, money also has flowed into China's stock market, fueling stock-market bubbles.^{216, 217}

²¹¹ Id.

²¹² Some financial instruments are stocks, bonds, and CDs.

²¹³ Ben S. Bernanke, "The Chinese Economy: Progress and Challenges," Speech Given at the Chinese Academy of Social Sciences (Beijing, China, Dec. 15, 2006), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20061215a.htm>.

²¹⁴ U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 29 (May 2008).

²¹⁵ U.S. Department of the Treasury, "Report to Congress on International Economic and Exchange Rate Policies," at 2 (May 2008).

²¹⁶ Asian Development Bank, "Asian Development Outlook 2008," 132-33 (2008).

In reaction to China's growing inflation difficulties, the Chinese government curbs the independence of the People's Bank of China in order to limit the growth of China's money supply in several ways. These curbs limit the PBC's ability to allocate capital efficiently according to market signals, which stifles the growth of the banking sector. First, instead of allowing banks to set their own interest rates to attract depositors, the Chinese government has standardized interest rates for deposits at low levels across Chinese banks so that the interest rates will not be attractive to foreign investors and will not encourage additional speculative inflows that need to be sterilized.^{218, 219} "Window guidance"²²⁰ is another response of the Chinese government to inflation by which the Chinese government influences banks' choices directly, when these banks would be better served by reacting to free-market signals.

Over the long run, such practices by the Chinese government as asking banks to buy low-yield bonds, setting higher reserve requirements, and encouraging banks to curtail credit growth could have a distorting effect on Chinese banks' balance sheets and the overall economy.²²¹

Similarly, China's currency policy has redirected China's economy away from domestic consumption and toward export-oriented manufacturing. The undervalued renminbi's subsidization of exports from China strongly encourages Chinese companies to be export-oriented and likely acts as an inducement for investment by foreign and Chinese interests in these Chinese export oriented companies. Given that Chinese companies have limited investment options for their profits, due to China's hobbled banking and financial sectors, a large percentage of Chinese companies' profits are reinvested in the companies or saved. This plowing back of these corporate funds further fuels a cycle of excess capacity and excess saving in China. As far as individual Chinese persons are concerned, the impact of China's undervalued REER is experienced as an increase in the relative prices of non-Chinese goods. In this way, the buying power of Chinese citizens is reduced by China's undervalued REER.²²² Lack of buying power probably contributes to China's low level of domestic consumption. In combination, as Premier Wen suggested, the effects of the renminbi's undervaluation on Chinese companies and consumers leave China's economy in an uncoordinated state of excess manufacturing capacity and suppressed consumption.

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²¹⁷ The Economist, "Lost In Translation" (May 17, 2007).

²¹⁸ There are strong capital controls preventing Chinese citizens from investing outside China. For more information on capital controls see Sections IV.C. and IV.D.

²¹⁹ Foreign investment inflows into banks would strengthen the renminbi, which would negate the purpose of "sterilization."

²²⁰ See Section IV.C.2 for a definition of "window guidance."

²²¹ See Moskow, Michael H. and Cathy Lemieux, "China Up Close: Understanding the Chinese Economy and Financial System," at 2, Chicago Fed Letter Number 247 (Federal Reserve Bank of Chicago, Feb. 2008.)

²²² See Section III.C. for a more detailed explanation of currency undervaluation's effects on the buying power of Chinese consumers.

China's export-oriented, manufacturing-heavy economy also poses environmental consequences for China. The export sector emits more pollution than do other sectors.²²³ The rapid growth in China's export sector without adequate environmental safeguards has led to a correspondingly rapid growth of pollution in China. The World Bank reports that "[t]wo decades of phenomenal growth have taken a serious toll on the rural natural resource base and urban environment."²²⁴ Twenty of the top 30 most polluted cities in the world are located in China.²²⁵ China's current production mix, which has been influenced by undervaluation, is environmentally unsustainable.

5. Conclusion

China's longstanding undervaluation of its currency has put the economies of the United States and of China on a dangerous path. The renminbi's undervaluation has contributed to unsustainable trade and current-account deficits in the United States and to unbalanced and unstable growth in China. To some degree, other Asian countries have imitated China by undervaluing their currencies as well, which has magnified the negative effects of China's currency policy and thereby reduced the effectiveness of many countries' exchange rates in correcting their trade and current-account imbalances. The sooner, therefore, that China can bring itself with firm encouragement from the rest of the world to allow the renminbi to be revalued by market forces, the better the conditions and climate for international trade and investment will be for everyone.

F. Summary

China's foreign-exchange policies have gone through roughly four phases over the past 30 years as China gradually has opened its economy to international trade. Since 1994, China's foreign-exchange policies have limited the movement of China's currency against the U.S. dollar through direct, large-scale interventions in the exchange markets. These interventions by China have resulted in a measurable and substantial undervaluation of the renminbi versus the U.S. dollar and versus the currencies of many other trading partners of China. At huge cost, China's persistent undervaluation of its currency has harmed, and continues to harm, the U.S. manufacturing sector, China's financial and banking sectors, and China's environment. As turned to in the next section, therefore, it is submitted the international community needs to act in

²²³ Stephen S. Roach, Testimony Given at the Senate Finance Committee's Hearing on "Risks and Reforms: The Role of Currency in the U.S.-China Relationship" (Mar. 28, 2007).

²²⁴ The World Bank, "Country Brief, available at <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CHINAEXTN/0,,contentMDK:20610209~pagePK:1497618~piPK:217854~theSitePK:318950,00.html>.

²²⁵ The World Bank, "China: Quick Facts," available at <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CHINAEXTN/0,,contentMDK:20680895~pagePK:1497618~piPK:217854~theSitePK:318950,00.html>

concert in reliance upon thoughtful international legal precepts to steer China and other countries that undervalue their currencies away from this extremely debilitating practice.

V. **THE NEED FOR EFFECTIVE DETERRENCE BY THE INTERNATIONAL COMMUNITY OF EXCHANGE-RATE UNDERVALUATION**

A. **Collaboration Between the International Monetary Fund and the World Trade Organization**

China's decision not to trust the market and instead to enforce by means of governmental measures the substantial undervaluation of its renminbi poses a tremendous challenge to the IMF and the WTO. If China did not have as large an economy as it has and if China's influence were not as far-reaching as it is, even to the point where some other major trading countries appear to have been undervaluing their currencies in the hope of remaining competitive with China,²²⁶ the problem would not be as pressing. But the international monetary and trading system can ill-afford to allow undervaluation on this enormous scale by any country or countries to continue unchecked. The economic imbalances to which this undervaluation is contributing within the United States, within China, and globally are alarmingly great, and the potential consequences and suffering are cause for grave concern and concerted, purposeful action.

If the IMF and the WTO are to enjoy success in this endeavor, consistent with their charters, their chances will be much enhanced if they do all within their powers to complement each other's strengths and minimize each other's weaknesses by joining their resources, expertise, and powers and by pulling together. This approach reflects the tie between monetary measures and trade measures. While it is hoped that the IMF's 2007 Decision and ad hoc consultations in the surveillance process will sway China to relent in the renminbi's enforced undervaluation, it is reasonable to anticipate that the IMF's surveillance alone will not suffice, especially as China has so much at stake in regard to increasing the standard of living for the hundreds and hundreds of millions of persons in China who live in or near poverty and in regard to becoming a global economic and military power.

What must be kept uppermost in mind is that without a free market in currencies the global community cannot claim the benefits of free trade.²²⁷ What also is worth recalling is the pithy statement of Justice Holmes, that all life is an experiment. When Harry Dexter White and John Maynard Keynes created the International Monetary Fund and the drafters of the GATT shaped its set of international trading rules by dint of hard work and keen intelligence, they were all reacting to a horrendous situation and were experimenting in order to prevent, or at least lessen the chance of, such turmoil and plague ever recurring. While the situation today is quite different in many respects to the situation that prevailed in the mid-1940s, what the present era

²²⁶ See Cline, William R. and John Williamson, "New Estimates of Fundamental Equilibrium Exchange Rates," at 9, Policy Brief Number PB08-7 (Peterson Institute for International Economics, July 2008).

²²⁷ Ralph E. Gomory, Testimony Before the U.S. House of Representatives, Committee on Science and Technology, Subcommittee on Investigations and Oversight, at 8 (May 22, 2008).

shares with that time is a considerable danger that global economic conditions will continue to deteriorate with distressing and not always foreseen or controllable consequences unless there is some reform of the current system.

Exactly what steps that reform might entail are not clear, but greater collaboration between the IMF and the WTO should certainly be an element. Article XV of the GATT is the keystone of the IMF-WTO relationship, and yet its history has left its meaning unclear and open to not unreasonable differences of opinion and uncertainty. It is suggested that one approach to assist in rectifying this lack of clarity be an acknowledgement by the IMF and the WTO, and examples to illustrate, that there will be times and circumstances when approval by the IMF of an exchange action will not excuse that measure from being found inconsistent with the member's obligations under the GATT and the WTO's other covered agreements. While the goal of consistent rulings by the IMF and the WTO is generally sensible and desirable, that purpose should give way at a minimum when exchange action significantly jeopardizes the benefits of free trade.

B. Recourse to Remedies Available Under the World Trade Organization's Provisions Against a Currency's Persistent Undervaluation

Along the lines just urged, a prime instance of an exchange action putting seriously at risk balanced, sustainable trade across national boundaries is a country's protracted large-scale intervention in the exchange markets and other measures that undervalue that country's currency. Whether or not the country that has such a policy intends thereby to prevent effective balance-of-payments adjustment or to gain an unfair competitive advantage over other members is critical in a decision by the IMF on "manipulation" under Article IV:1(iii) of its Articles of Agreement, but is not relevant under the WTO's agreements, either Article VI of the GATT, the Agreement on Subsidies and Countervailing Measures ("the SCM Agreement"), or the Antidumping Agreement, which are concerned only with the effects of trade actions.

In these circumstances, therefore, one route that responsibly can be taken as a matter of international law is for national authorities to entertain countervailing duties to offset injurious imports at low prices due to the enforced undervaluation of the exporting member's currency, whether or not that member's currency is "manipulated."^{228, 229} With its powers of dispute

²²⁸ This approach appears to be recognized in Deborah E. Siegel, "Legal Aspects of the IMF/WTO Relationship: The Fund's Articles of Agreement and the WTO Agreements," 96 A.J.I.L. 561, 593 (2002).

²²⁹ A strong case can be made that undervalued exchange-rate misalignment is a countervailable, prohibited export subsidy. Under Articles 1, 2, and 3 of the SCM Agreement, a measure must satisfy three criteria in order to be considered a prohibited export subsidy. In essence, there must be a governmental financial contribution (Article 1.1(a)(1)), a benefit must thereby be conferred (Article 1.1(b)), and such a subsidy must be specific by virtue of being contingent in law or in fact upon export performance (Articles 1.2, 2.3, and 3.1(a)). The renminbi's enforced undervaluation by the Chinese government meets each of these criteria.

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settlement, which the IMF does not have, the WTO would be in a position to enforce the assessment and collection of countervailing or antidumping duties in that situation. In combination with the IMF's moral suasion and surveillances under Article IV of its Articles of Agreement, this extra remedy under the WTO's agreements might tip the balance within the exporting country's government in favor of those against a policy of undervalued exchange-rate misalignment²³⁰ and also might serve to relieve pressure in the market somewhat gradually, no small factor to be weighed when a country has been undervaluing its currency as long and as much as China has been undervaluing the renminbi.

VI. CONCLUSION

It is hoped that this paper will add constructively to consideration of how the international community will face up to competitive currency depreciation as a governmental policy by some countries. Ultimately no one gains and everyone loses from this practice. That was the lesson learned after World Wars I and II and the Great Depression and ideally will not need to be learned anywhere nearly as painfully again.

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First, in a typical export transaction, having been paid for goods sold to a customer in the United States, as seen earlier the exporter in China must transfer the U.S. dollars received to the Chinese government in return for renminbi at the undervalued exchange rate in effect.

In this sequence of events, the Chinese government provides a financial contribution of funds to the exporter by means of the service of converting U.S. dollars into renminbi.

Second, a benefit is conferred by this governmental financial contribution that is equal to the difference between what the renminbi would be worth if its value were set by the market and its artificially low value as the result of its undervaluation by the Chinese government. With the renminbi undervalued by approximately thirty percent, therefore, for each U.S. dollar earned by the sale of goods to the United States the Chinese exporter will receive thirty percent more renminbi and so is "better off" and benefits from the undervaluation.

Third, and lastly, this subsidy is contingent upon export performance. Only after the exporter has been paid in U.S. dollars for the goods that have been exported to the United States is the exporter required to convert those proceeds into renminbi.

²³⁰ As remarked above, until recently China allowed the renminbi to strengthen nominally against the U.S. dollar after the revaluation in July 2005, but in August 2008 ceased doing so. A report in early September 2008 commented on how the People's Bank of China and China's Ministry of Finance have been engaged in a vigorous debate over China's currency policy, with the former urging that the renminbi be strengthened and the latter advocating enforced undervaluation of the renminbi. See Keith Bradsher, "Main Bank of China Is in Need of Capital," New York Times (Sept. 4, 2008). A trade remedy by way of either countervailing duties or antidumping duties might reinforce the PBC's position that there is more to be gained by China from a policy of enabling the market to value the renminbi than not.