The Renminbi Dilemma: To Float Or Not To Float

Merouane Lakehal-Ayat (Email: lakehal@sjfc.edu), St. John Fisher College

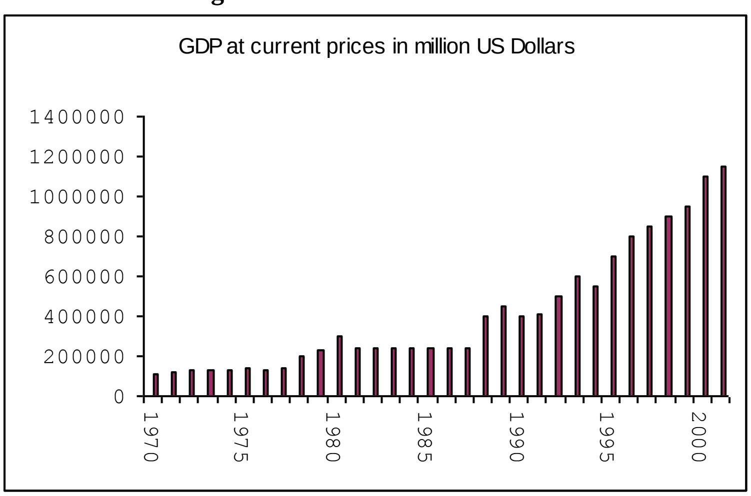
ABSTRACT

The purpose of this research paper is to analyze the Renminbi (the Chinese currency) and suggest whether or not the currency should be allowed to float. The paper makes use of four popular approaches to determine whether or not the currency is currently undervalued and if so, what mechanisms should be used to allow for its proper valuation. According to the purchasing power parity, balance of payments approach, and the asset management approach, the Chinese currency is undervalued and will therefore appreciate in the future. We believe that although floating of the currency is advisable for the long run, it will not be in the best interest of the Chinese economy in the short run given the state of its banking system in particular. Adopting a pure float will probably cause major macro and micro economic imbalances that will be difficult to tackle. Instead, we suggest a pegging of the Renminbi against a basket of currencies to ensure flexibility and stability in the system.

1. INTRODUCTION

China had been a leading civilization, towering above the world in both arts and sciences. But in the 19th and early 20th centuries, the country was plagued by civil unrest, famines and wars. After World War II, the Communists under Mao Zedong, while ensuring China's sovereignty, imposed strict controls over day-to-day life. In 1978, his successor Deng Xiaoping gradually introduced market-oriented reforms and decentralized the economic decision-making. As a result, output quadrupled by 2000. While political controls remain tight, economic controls continue to be re1axed.

Figure 1 Chinese GDP since 1970

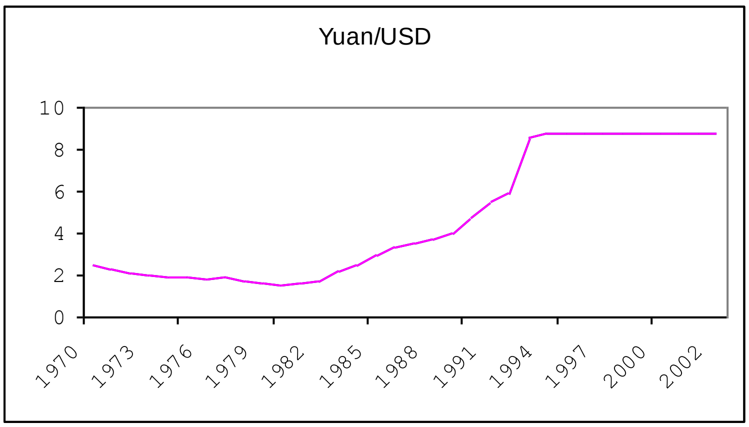


In late 1978, the Chinese economy began to move away from a centrally planned to a more market-oriented economy. By 2003, China became the second-largest economy in the world after the US (based on purchasing power parity) with its 1.3 billion person population and a GDP of $5,000 per capita. Figure 1 shows the continuous rise in the GDP. The economy has recorded large gains due an increase in foreign investments and exports. However, the Chinese economy showed weaknesses such as increased bureaucracy, corruption, and growing income disparities. As a result, the economy has periodically backtracked. It is widely expected that the entrance of China to the World Trade Organization, while strengthening its ability to maintain strong growth rates, may at the same time put additional pressure on the mixed system of strong political controls and growing market openness. In that regard, China has stated its willingness to intensify efforts to stimulate growth not only through foreign investments and exports but also by an increase in spending on infrastructure and social programs.

2. THE CURRENCY AND THE CURRENCY REGIMES

The Renminbi (RMB) is China's legal currency. Renminbi in English means 'the People's Currency'. The basic unit of the currency is Yuan (l Yuan = 10 Jiao; l Jiao = 10 fen). China's central bank is authorized to issue and administer the national currency.

Figure 2: Yuan/Dollar exchange rate history



The RMB has been a fairly stable currency in the international markets for the past few decades. This stable performance has mainly been the result of China's restrictive policy on the currency's convertibility.

China's foreign exchange regime underwent a major reform in 1994, in tandem with the deepening of its overall economic reform. China adopted the managed float exchange rate system. The exchange rate was set at 8.7 Yuan/US$, at the beginning of 1994. In April 1994, China's foreign exchange center, located in Shanghai, became operational. It marked the beginning of China's inter-bank foreign exchange market. The value of the RMB appreciated slightly by reaching 8.3 Yuan/US$ by mid 1995 and has been stable at 8.28 Yuan/US$ from September 1998 till present (January 28, 2004). Although China has officially adopted the managed float system, it actually follows a strict pegging system, where the currency is closely linked to the US dollar.

3. OVERVALUED OR UNDERVALUED

China continues to peg the Renminbi against the US dollar. However, there is a growing consensus, especially in the US and Europe, that the RBM is largely undervalued and therefore should be allowed to float independently.

This paper attempts to determine, whether or not the RBM is undervalued. To that effect, we rely on four models of four exchange rate determinations: Purchasing Power Parity, Interest Rate Parity, Balance of Payments approach and the Asset Market approach.

3.1 PURCHASING POWER PARITY (PPP)

Purchasing power parity (PPP) is a theory of exchange rate determination that compares the average costs of goods and services between countries. PPP theory is based on an extension and variation of the "law of one price".

As per the *Law of one price*, the prices of identical goods and services sold in two different markets should be the same, assuming there are no sale or transportation costs of moving the product between markets.

Therefore, by comparing the price of a similar commodity sold in two different countries, we can derive the implied PPP exchange rate. Finally, by comparing the implied PPP exchanger rate with the actual exchange rate, we can determine whether or not a particular currency is overvalued or undervalued.

Table 1: Yuan compared to leading currencies based on the Big Mac Index as on January 15, 2004 - Implied PPP for Yuan.

Country	Big Mac Prices in Local Currency	Implied PPP against$/£/€	Actual Exchange Rate	Overvalued or Undervalued Yuan
China	CNY 9.95	-	-	-
US	$2.65	3.75	8.3 CNY/$	-221.3%
UK	£1.99	5	14.66 CNY/£	-293.2%
Euro	€2.75	3.62	10.52CNY/€	-290.6%

Table 1, shows the implied PPP for the Yuan against leading currencies. The last column, in the table, shows the Renminbi as highly undervalued against all the three currencies.

Implied PPP was calculated by dividing the Big Mac prices in China by the Big Mac prices in the currencies under study. Empirical tests lend some support for PPP. The theory can provide a fair idea about the value of a currency. However, the approach performs better when used for a longer time period. In the short run a number of factors may cause the exchange to deviate from what the theory suggests.

Note: The Big Mac prices were available as of January 15, 2004. Hence the exchange rates and the resulting undervaluation and overvaluation figures are also as on January 15, 2004.

3.2 INTEREST RATE PARITY (LRP)

This theory states that the difference in the national interest rates for securities of similar risks and maturity should be equal to, but opposite in sign to, the forward rate discount or premium for the foreign currency, except for transaction costs.

Using this theory, the interest rates prevailing in two different countries can be used to determine an estimate of the forward exchange rate.

3 month Chinese Treasury bond yield = 0.95 (See Appendix A)
3 month US treasury bond yield = 0.82 (See Appendix *B)*
Current RMB spot rate = Yuan 8.28/USD.

$$\text{Yuan } 8.28/\text{USD} * \frac{0.95}{0.82}$$

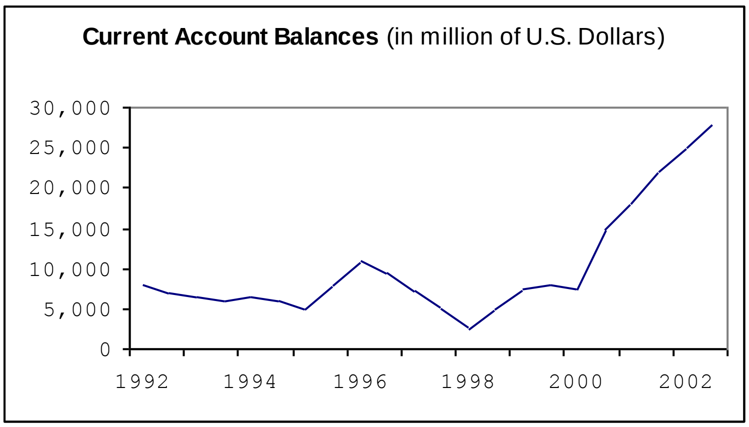
= Yuan 9.59/ USD

The estimated future exchange rate for the Yuan indicates a depreciation of the Yuan against the US dollar. However, it is important to note that short-term deviations may distort the result shown by the IRP. Also, a foreign exchange risk premium may affect the reliability of the theory. Further, the theory assumes that securities with similar risks should be used; however, finding such securities is often impossible.

3.3 BALANCE OF PAYMENTS APPROACH

Depending upon the currency regime adopted by the country, the balance of payments can have a profound effect on the national currency's foreign exchange rate. Chinese authorities claim that they operate in a managed float system for. However, during the past three years, it has behaved like a rate pegged to the dollar. Since 1996, the Renminbi (RMB) has traded consistently around RMB 8.3 per dollar 1. Given the context, let's see if the balance of payments can convey significant information about the true value of the Renminbi.

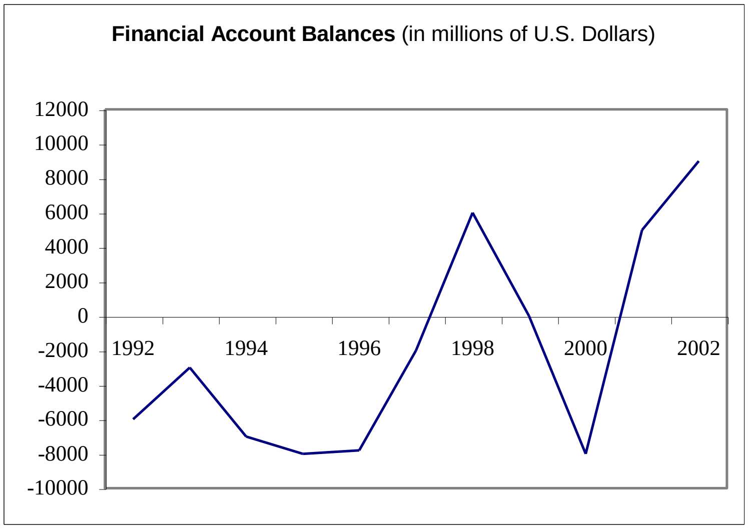
Figure 3 Current Account Balances for China since 1992



China has shown consistent surplus in the current account balance since 1994, although the percentage of current account surplus to the GDP has been decreasing. Within the current account, much of the surplus emanates from the export of goods. China has a comparative advantage over other countries in labor-intensive products like low-cost clothing, textiles, footwear, toys, consumer electronics, sporting goods and equipment, furniture, and plastics. Through availability of cheap labor and infrastructure, these goods can be manufactured at a much cheaper price than elsewhere in the world and as such provide impetus for exports from China.

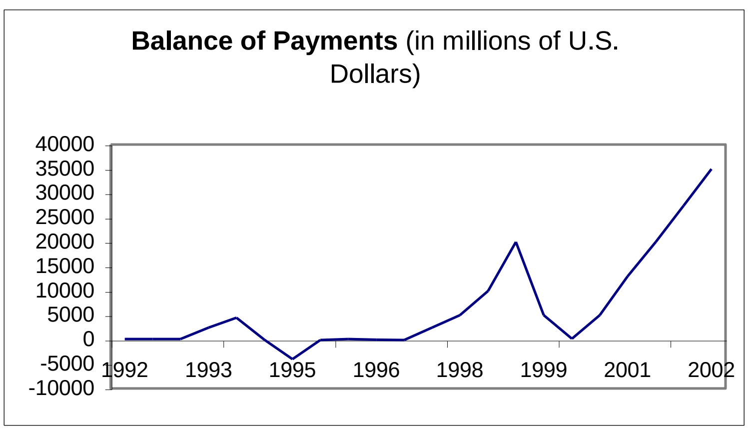
However, China has shown a persistent deficit in trade in services (a trend likely to expand with WTO membership). The Chinese service sector has been highly restricted and also highly underdeveloped. Areas such as banking, insurance, wholesale and retailing, consulting, healthcare, tourism, education, and scientific and technological research have relied on imports resulting in a negative trade balance.

Figure 4: Financial Account Balance for China since 1992



On the other hand, the international investment in China has increased substantially due first to large capital inflows in the previously restricted service sector and second, to a fairly stable investment environment in an otherwise volatile global business climate. China's attractiveness to overseas investors has generated surpluses in the financial account balances. Net inflows of direct investment have fluctuated between US$35 and US$45 billion per year since 1995. Prior to 1997 Asian financial crisis, net portfolio investment also showed surpluses, but that trend has largely reversed in recent years due to reduced investor confidence on equity investments. Overall, the financial account has shown a large surplus since 2002 and the surplus is expected to grow in the future.

Figure 5 China's Balance of Payments since 1992



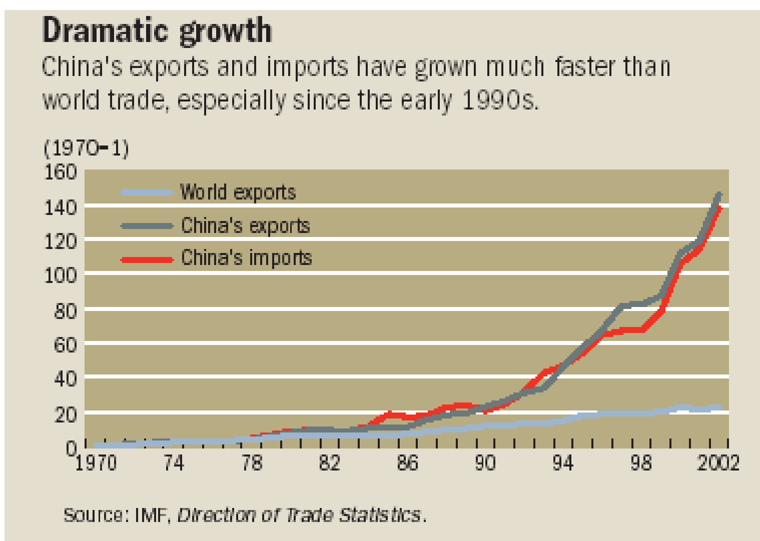
To conclude, following the devaluation of the Yuan in 1993, China's trade balance has expanded rapidly and it has continued to attract substantial inflows of foreign investment, as the rest of the world sees the huge potential for growth in this very large, fast-growing market. With increasing foreign exchange reserves and constant surpluses in its balance of payments, an appreciation of the Renminbi is increasingly expected and hoped for by China's major trade partners.

3.4 ASSET MARKET APPROACH

The asset market approach assumes that foreigners' willingness to invest in a country is dependent on certain investment considerations or drivers. An analysis of these drivers might help capture future trends and possibly reveal the future direction of the country's foreign exchange rate.

Real Interest Rates: China had experienced a negative inflation (deflation) for 15 months before moving back into the positive inflation territory in the beginning of 2003. The deflation caused the real interest rates to be high. However, with inflation setting in, real interest rates started to decline. The real interest rate at the beginning of 2003 was a mere 0.4 percent (one year depository rate of 1.40 percent and inflation of 1 percent) against a high of 2.55 percent (a high even as per international standards). Furthermore, if inflation rates increase as expected, the real interest rates will decrease rapidly. This lower rate would encourage investment and consumption, strengthening domestic demand and spurring economic growth.

Future Growth Potential and Economic and Political Stability: The Chinese economy has experienced among the highest growth in GDP worldwide. It is also expected to continue to grow at a record 8.5 percent fueled again by exports, foreign investments, domestic demand, as well as by the effect of the reduction in import tariffs. In fact, imports are forecasted to increase by 18.7% in 2004, outpacing the growth rate of total exports.



The Chinese government has taken efforts to promote economic reforms with the adoption of a number of laws and regulations aimed at promoting foreign investment and trade as well as liberalizing the economy. In the year 2000, China implemented revisions of various laws dealing with product quality, environment protection, regional autonomy of minorities, and laws on foreign investment and trade. It also drafted laws on copyrights, trademarks, and reforms on state-owned enterprises. Moreover, laws to counter corruption were successfully implemented.

Nevertheless, potential problems do exist such as the large increases in the volume of domestic bank lending and potential for increased inflation. As of November 2003, the outstanding volume of total loans was up 21.4 percent, nearly double the average increase of 11.9 percent over the period from 1997 to 2002. Most of the loans were directed towards the vast sector of Chinese State-owned enterprises (SOE), by far among the weakest in Chinese economy.

Table 2: China's Foreign Trade, Investment, and Exchange Reserve, 1983-1996 (Billions of US$)

Year	Export	Import	Foreign Direct Investment (Actual)	Foreign Exchange Reserve	Exports as % of China's GDP
1983	22.23	21.39	0.64	8.901	7.59
1984	26.14	27.41	1.26	8.220	8.48
1985	27.35	42.25	1.66	2.664	8.96
1986	30.94	42.90	1.88	2.072	10.47
1987	39.44	43.22	2.31	2.923	12.31
1988	47.52	55.28	3.19	3.372	11.85
1989	52.54	59.14	3.39	5.550	11.70
1990	62.09	53.35	3.49	11.093	16.03
1991	71.84	63.79	4.37	21.712	17.69
1992	84.94	80.59	11.01	19.443	17.59
1993	91.74	103.96	27.52	21.109	15.32
1994	121.04	115.69	33.77	51.620	23.18
1995	148.77	132.08	37.52	73.596	21.52
1996	151.17	138.95	42.35	105.029	18.53
2003	390.34	370.58	311.72	182.208	6.52

Source: The Cato Institute http://www.cato.org/events/china/papers/wong.html
Ministry of Commerce of the People's Republic of China
http://english.mofcom.gov.cn

Also, following 15 months of deflation, China once again experienced inflation at the beginning of 2003. A November 2003 inflation report projects a 3.0 percent annual increase, the sharpest rise in nearly seven years. The Chinese government has taken some contractionary steps such as increasing the reserve requirements for banks. Although these steps have slowed the credit growth, the amount of outstanding credit is still large and as such stands to affect the country's banking industry.

In addition, the country faces certain environmental and healthcare issues; the breakout of SARS in 2003 is an obvious example for this.

To conclude, the inclusion of China in the WTO and opening of its various sectors to the outside world means that China will continue to attract foreign investments. Also expected is the continued growth in both imports and exports. The Chinese government has also shown its willingness to support a strong economy. The performance of the Chinese currency during the Asian crisis of 1997 asserts that the Renminbi is expected to remain strong.

4. RECOMMENDATION: FLOAT OR NOT TO FLOAT

The results of the above three approaches, continuous surpluses on the current and capital accounts in its balance of payments and the accumulation of large international reserves in large amounts, clearly indicate the presence of significant undervaluation of the Chinese currency the Renminbi. (Note: the above approaches offer limited support to measure the extent of the undervaluation, however the popular estimate is that the Renminbi is undervalued by as much as 20 to 30 percent. There is however limited justification for this figure.)

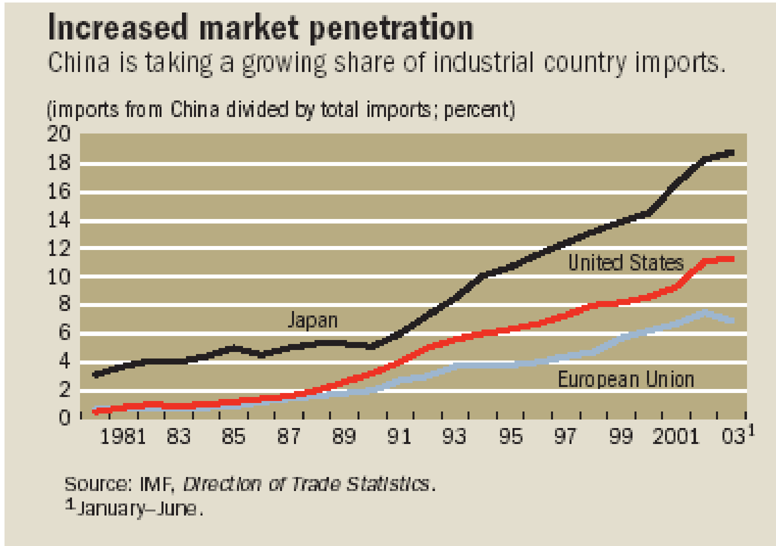
Table 3. Average Costs of Generating Foreign Exchange Earnings and the Official Exchange Rates: 1979-1996

Year	Average Costs of Generating Foreign Exchange Earnings (Yuan per U.S. Dollar)	Official Exchange Rate (Yuan per U.S. Dollar)
1979	2.40	1.56
1980	2.31	1.50
1981	2.48	2.80
1982	2.67	2.80
1983	3.03	2.80
1984	2.79	2.80
1985	3.20	2.94
1986	3.50	3.45
1987	4.20	3.72
1988	4.15	3.72
1989	5.06	3.77
1990	5.87	4.78
1991	5.50	5.32
1992	5.58	5.51
1993	-	5.81
1994	-	8.61
1995	8.40	8.35
1996	-	8.31
2004	-	8.28

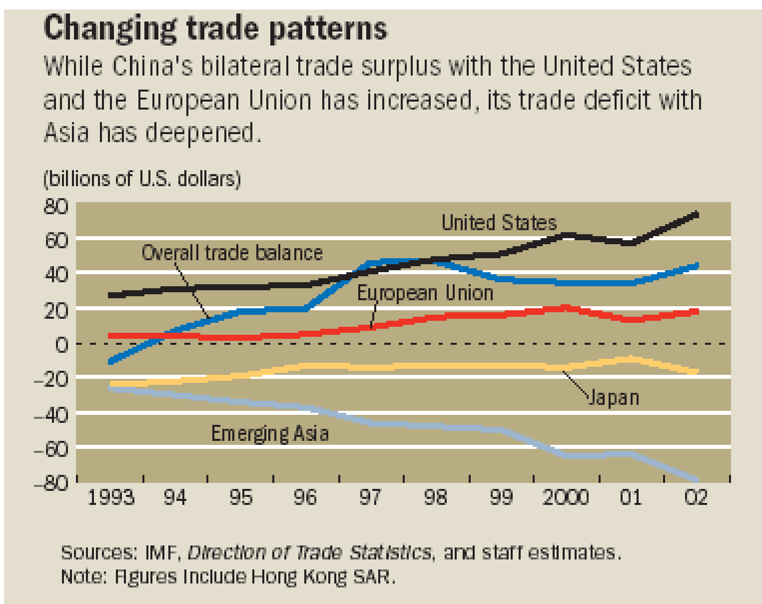
Source: The Cato Institute http://www.cato.org/events/china/papers/wong.html

The current exchange rate has proved helpful to the development of China. Rapid capital inflows and increasing demand for exports have helped strengthen the Chinese economy. However, the capital inflows and reserve accumulation have also led to excessive expansion in bank lending, money supply growth, and investment. In the first half of 2003, the increase in bank loans outstanding relative to GDP rose to an all time high of 38 percent, while the investment share of GDP rose to an all time high of 42 percent. If this trend continues, it will seriously affect the already weak Chinese banking industry. Inflationary trends are also visible and possibly threatening.

Within that context, while the pegging of the Renminbi helped China boost its economic performance, the US and Europe were plagued by large deficits in their trade and financial accounts with China fueled by an undervalued Renminbi. For example in 2003, the US recorded a $550 billion deficit in the current account balance. In that regard, a rise in the value of the RMB would provide an important catalyst for achieving both a broader-based decline in the dollar and a better global "sharing" of the adjustment burden.

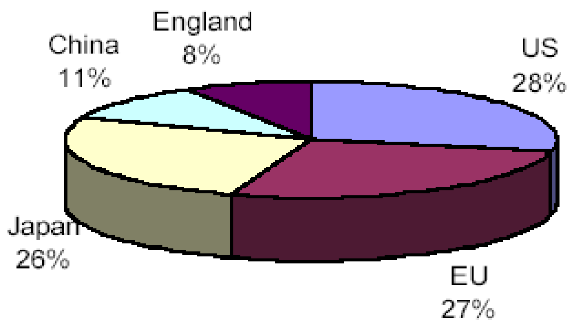


Source: International Monetary Fund
http://www.imf.org/external/pubs/ft/fandd/2003/12/pdf/prasad.pdf



Source: International Monetary Fund
http://www.imf.org/external/pubs/ft/fandd/2003/12/pdf/prasad.pdf

Therefore, the revaluation of the Renminbi and the adoption of a floating exchange rate regime would be an appropriate and logical development for the future, although it may not be in the best interest of the China's domestic economy. Given China's weak banking system (state banks are sill carrying mountains of bad loans) and archaic internal financial system, opening up the capital account might attract speculation and add more fragility to the system. It is imperative for China to have a political and economic system with more transparency, less corruption, and some notion of sound lending practices before choosing to float its currency.



Source: Skorburg, J., (2003). China: Follow the Money. American Farm Bureau Federation http://www.ifbf.org/commodity/pdf/20030905_chinafollowmoney.pdf

The most appropriate approach for China would be to peg the Renminbi against a basket of currencies instead of allowing it to float freely. The basket would consist of China's major trading partners. As of 2003, the four main trade partners were the United States, Japan, Hong Kong, and the European Union as well as the six junior trade partners: Indonesia, Malaysia, Singapore, Thailand, Republic of Korea, and Taiwan. The trade volume with these 10 partners accounted for over 89 percent of the total. Pegging against a basket of these currencies would remove the incentive for further speculative capital inflows and reserve accumulation. A ten-currency basket would increase the stability of China's overall trade-weighted exchange rate and moreover allow the US dollar to depreciate further against the RMB without a series of RMB parity changes.

REFERENCES

1. Chan, J., (2003). "US Pressure Continues Over Value of Chinese Currency". World Socialist Web Site. http://www.wsws.org/articles/2003/oct2003/yuan-o13.shtml
2. Chan, J., (2003). "International Clamor for Revaluation of the Chinese Yuan". World Socialist Web Site. http://www.wsws.org/articles/2003/aug2003/yuan-a18.shtml
3. China Economy. (2003). "Renminbi to Be Pegged to a Basket of Currencies". http://ce.cei.gov.cn/enew/new_i1/n200ia06.htm
4. O'Driscoll, G., (2004). "China: Just Say No to Monetary Protectionism. Center for Trade Policy Studies". http://www.freetrade.org/pubs/FTBs/FTB-006.html
5. Pollak, M., (2003). S&P: "Floating Renminbi Would Wreck China's Banking System". http://archives.econ.utah.edu/archives/pen-l/2003w37/msg00078.htm
6. Prasad, E., Rumbaugh, T. (2003). Beyond "The Great Wall". IMF http://www.imf.org/external/pubs/ft/fandd/2003/12/pdf/prasad.pdf
7. Skorburg, J., (2003). "China: Follow the Money. American Farm Bureau Federation". http://www.ifbf.org/commodity/pdf/20030905_chinafollowmoney.pdf
8. Williamson, J., (2003). "The Renminbi Exchange Rate and the Global Monetary System". Institute for International Economics. http://www.iie.com/publications/papers/williamson1103.htm
9. Wong, R., Wong, S., (1997). "Removing Regulatory Barriers in China: Changing the Foreign Exchange Regime". The Cato Institute. http://www.cato.org/events/china/papers/wong.html