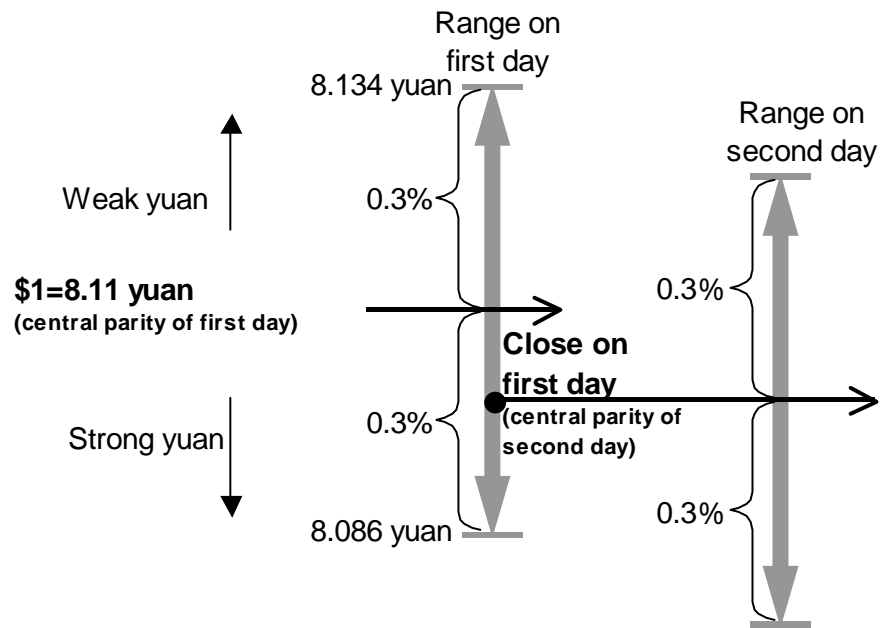

Reform of China's Foreign Exchange Rate System -- How the Newly Adopted Managed Floating System Actually Works

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On July 21, 2005, China announced that it would revalue the yuan by some 2% and shift from its dollar peg system to a managed floating exchange rate regime "based on market supply and demand with reference to a basket of currencies," effective the following day. Dr. Yu Yongding, a member of the Monetary Policy Committee of the People's Bank of China, described this new foreign exchange regime as a managed floating system based on the BBC rules— band, basket and crawl (allowing the exchange rate to appreciate or depreciate at a more or less predictable rate) – as described in textbooks on international finance ("The Historic Decision to Reform the Yuan Exchange Rate Regime," *Jinrong Shibao*, July 23, 2005). However, even after the introduction of the new regime, the yuan's rise against the dollar has been suppressed by the authorities' market intervention, and the "C" in BBC has looked more like "control" than "crawl".

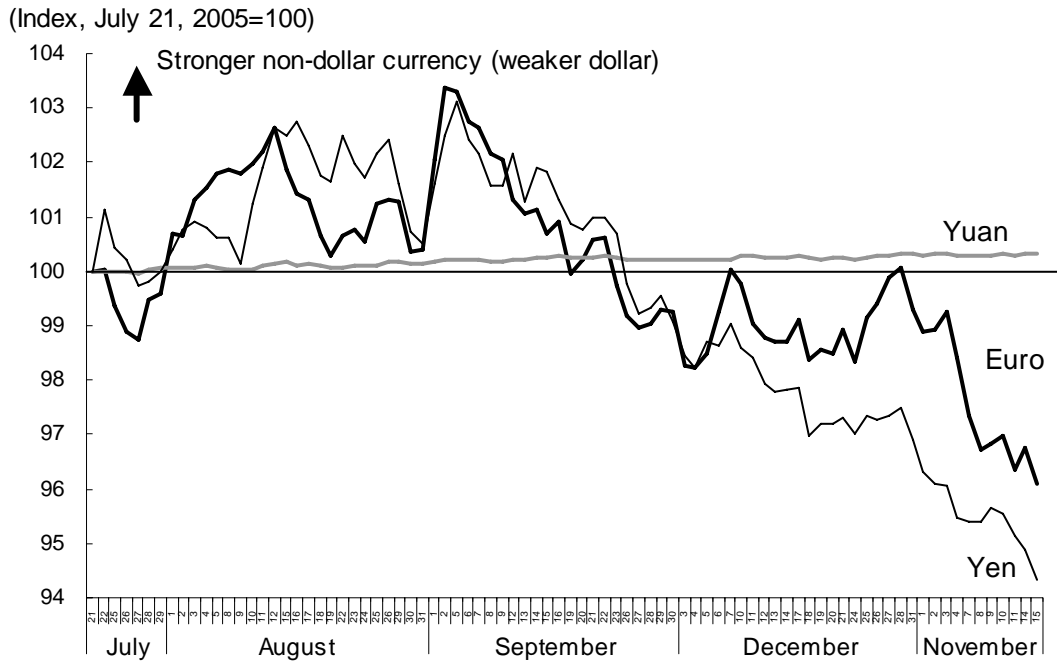
Meanwhile, under the new regime, a band of +/- 0.3% centered on the closing rate of the previous day is set daily, and trading is limited to exchange rates determined within this band. However, a sharp appreciation of the yuan can still occur over a short period of time (over 3% in ten trading days, for example) if the yuan is allowed to rise by the full extent of 0.3% a day within the band (Figure 1). At the present stage, the yuan's actual range of fluctuation is much narrower than +/-0.3%, but in the future, if the government refrains from intervening in the market, the exchange rate will fluctuate more widely within the band, and the band itself will most likely be gradually expanded.

Figure 1 How the Yuan Rate is Determined under the New Regime



Also, a basket of currencies serves as the reference in deciding the foreign exchange rate. People's Bank of China Governor Zhou Xiaochuan has indicated that the currencies that comprise the basket include the US dollar, euro, yen, South Korean won, Singapore dollar, British pound, Malaysian ringgit, Russian ruble, Australian dollar, Thai baht and Canadian dollar, but the exact weights those currencies have in the basket have not been revealed. As can be seen from the fact that the yuan's rate against the dollar has remained stable even after the shift to the new regime, it is clear that the weight of the dollar in the currency basket is very high, while those of the other currencies such as the yen and the euro are low (Figure 2). This conclusion can also be confirmed through regression analysis (refer to Appendix). But left in this state, the expected effectiveness of the currency basket as a built-in stabilizer for exports is limited. In the future, it will be natural for China, which has developed close economic ties through trade and investment with neighboring Asian countries including Japan, to enhance the stability of the yuan against regional currencies by increasing those currencies' weights in the reference basket.

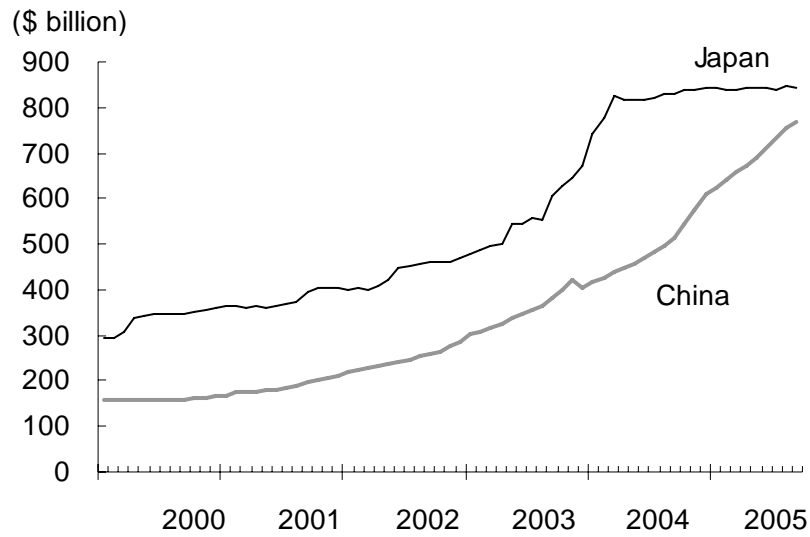
Figure 2 Movements in the US Dollar Exchange Rates of the Yuan, Yen and Euro



Source: Based on Bloomberg data

Furthermore, in order to stabilize the exchange rate against the dollar, the government will have to continue intervening in the market, and as a result, its foreign reserves will continue to balloon. Considering that China's foreign reserves hit \$769.0 billion as of September 2005 and are growing at a pace of roughly \$20 billion a month, China is likely to surpass Japan (\$843.6 billion as of September 2005) to become the world's largest holder of foreign reserves in early 2006. (Figure 3). When this news hits the global media, expectations for the yuan's further revaluation and thus speculation may heighten again. On the other hand, the central bank will have to continue sterilization by issuing huge amounts of financial bills in order to suppress the increase in domestic money supply that results from market intervention. Consequently, the increased independence of monetary policy expected to result from the latest reform package will not be realized.

Figure 3 China's Foreign Reserves Poised to Surpass those of Japan



Source: State Administration of Foreign Exchange <http://www.safe.gov.cn/>
Ministry of Finance <http://www.mof.go.jp/index.htm>

As this shows, the recent changes in the exchange rate regime are merely the first step toward yuan reform. In the future, authorities will have to reduce market intervention as much as possible and loosen their "control" so as to allow the market to set exchange rates, thereby bringing the exchange rate system closer to a true floating regime. As a result, instead of the increase in foreign exchange reserves that we are so used to seeing, the yuan is likely to rise against the dollar over the medium to long term.

[Appendix] Estimations of the Currency Basket

The weight of each of the currencies comprising the currency basket referred to when China manages its foreign exchange policy can be estimated through regression analysis using the yuan's rate against the US dollar (logarithm value) as the dependent variable and the US dollar exchange rates of major currencies such as the yen and euro (logarithm value) as explanatory variables. The coefficient so derived for each currency corresponds to its weight in the basket, and the weight of the dollar, which serves as the numeraire (unit of account), can be obtained as the residual by subtracting the weights of the other currencies from 100%. To simplify, I have narrowed down the currencies used as explanatory variables to the yen and euro, which are supposed to comprise a relatively large part of the basket. Also, to confirm the speed of crawling, I have added a "time trend" to the explanatory variables. The analysis shows that the weight of the yen is 1.5% and that of the euro is 0.8%, so that even the two currencies combined comprise a scant 2.3%, and that the yuan is appreciating at a rate averaging 0.000051% a day (Equation 1 in Table 1). Supposing

that there are 250 trading days in a year, this translates into an annual rate of 1.3% – a very gradual pace. When the euro is excluded from the explanatory variables (Equation 2), the time trend remains almost unchanged but the yen's weight increases slightly to 2.0%. In both cases, the results clearly show that the weight of the dollar, which is calculated as the residual, is very large.

**Table 1 The Weights of the Yen and Euro in the Yuan's Currency Basket:
Results of Regression Analysis**

	Yen weight	Euro weight	Time trend	adjusted R ²	Dollar weight
Equation 1 (Yen and euro)	0.015 (4.39)	0.008 (2.18)	0.000051 (14.34)	0.93	0.977
Equation 2 (Yen only)	0.020 (9.27)	–	0.000052 (24.87)	0.92	0.980

Note: The numbers in parentheses are t-values. The time frame used for calculations was July 21 to November 15 (daily data). The weight of the dollar is calculated as the residual.

Source: Based on Bloomberg data