2017 ■ Number 3
https://doi.org/10.20955/es.2017.3

ECONOMIC Synopses

The People's Bank of China Boosts the Yuan

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The Chinese yuan (CNY) gained approximately 1 percent from January 3 to January 5, 2017, after more than 2 years of persistent devaluation (Figures 1 and 2).[1] The CNY has been declining for several years because Chinese growth and interest rate forecasts have been declining. Lower expected interest rates reduce demand for Chinese assets and thus put downward pressure on the domestic currency.

These CNY gyrations reflect the difficult problem that the Chinese authorities face: They would like to maintain a stable exchange rate to facilitate business planning for international business and to help anchor inflation expectations, but they may need to significantly tighten monetary policy—that is, to raise interest rates to keep the CNY's value from falling. But raising interest rates would further slow the economy when the Chinese economy is already slowing, albeit from a blistering pace of growth.

> China has been using traditional and novel policy tools to fight speculative pressure to devalue the yuan.

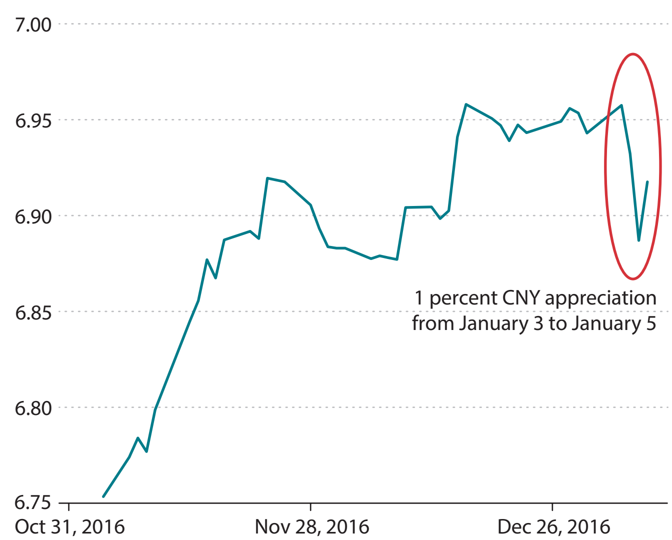
Market measures of devaluation pressures indicate that foreign exchange traders believe that the Chinese authorities are reluctant to tighten monetary policy. One can use options prices to calculate the probability of a currency devaluation. As of September 26, 2016, there was a 22 percent chance of a devaluation of at least 10 percent within one year.[2] This probability suggests that foreign exchange traders see a good chance of a significant devaluation of the Chinese currency but virtually no chance of a large, long-term revaluation. That is, speculators view a bet on a CNY devaluation as a "one-way" bet. To profit from a fall in the value of the CNY, speculators in Hong Kong have been trying to "short" the CNY. Shorting a currency means borrowing it and selling it, hoping for the price to fall so that one can repay the loan in a devalued asset. Just as buying a currency—or anything else—tends to increase its price, shorting a currency tends to decrease the price of that currency. That is, it creates pressure to devalue the CNY.

The Chinese authorities have been fighting this speculative pressure to devalue the CNY with two traditional

Figure 1
CNY/USD (January 2, 2014–January 6, 2017)

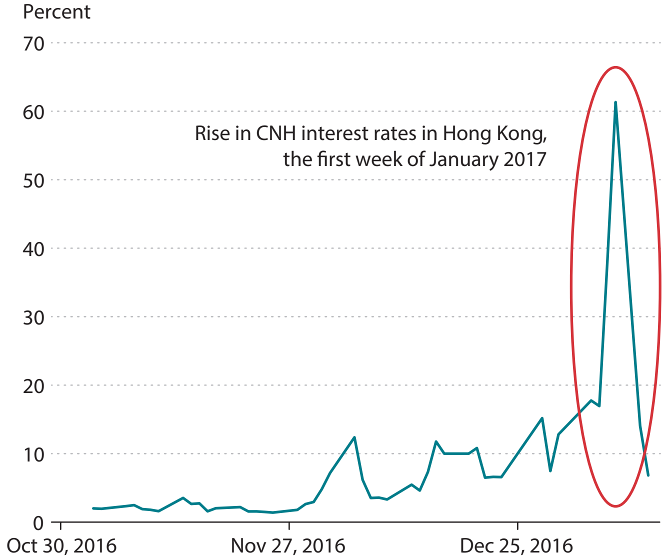
SOURCE: Board of Governors of the Federal Reserve System.

Figure 2
CNY/USD (November 4, 2016–January 6, 2017)



SOURCE: Board of Governors of the Federal Reserve System.

Figure 3
Overnight CNY Interest Rates (November 3, 2016–January 10, 2017)



SOURCE: Bloomberg.

tools: "capital controls" and "sterilized intervention." Capital controls are taxes or restrictions on international transactions in assets like stocks or bonds. For example, Chinese authorities restrict the amount of foreign currency their residents can purchase each year. This helps inhibit speculation against the CNY's value. Sterilized intervention is the practice of a central bank buying or selling foreign currency without letting those transactions affect the domestic money supply or interest rates. Since June 2014, the People's Bank of China (PBOC) has been purchasing its own currency on foreign exchange markets to keep the CNY from falling in value. It has funded these CNY purchases by selling some of its vast foreign exchange reserves. Ordinarily, such CNY purchases would reduce the domestic money supply, but the PBOC has simultaneously taken action to reverse the effect of the CNY purchases on domestic monetary conditions.[3] In the past few months, the Chinese authorities have also tightened capital controls to make it more difficult to short the CNY.

The mainland's capital controls do not apply to the Hong Kong markets in which most speculation against the CNY occurs.[4] These markets are not entirely out of reach of the Chinese authorities, however. In the first week of January, the Chinese authorities squeezed these speculators by instructing mainland banks to reduce the liquidity provided to Hong Kong banks (Cui, Vaishampayan, and Wei, 2017). Figure 3 shows that this squeeze caused the interbank overnight interest rate for CNY deposits in Hong Kong to rise substantially, eventually peaking at 61 percent on January 6. Such high interest rates made it very expensive to "short" the CNY. As a result of this liquidity squeeze, the CNY gained 1 percent in value from January 3 to January 5, 2017.

Two factors may have contributed to the PBOC's recent decision to take action to boost the CNY. First, the CNY/USD has been approaching the psychologically important level of 7.0, which the Chinese authorities would like to maintain as an upper bound.[5] Second, the inauguration of Donald Trump as the U.S. president may put additional devaluation pressure on the CNY through its effects on expectations of U.S. trade policies.

To defend the CNY, the Chinese authorities have resorted to the traditional tactics—imposing capital controls and tightening monetary conditions—used by central banks that wish to defend a managed exchange rate without raising domestic interest rates. In addition, the Chinese authorities have the ability to alter interest rates in Hong Kong with administrative measures, leaving domestic monetary conditions little affected. Although these actions may buy time for the Chinese authorities, it seems unlikely that such tactics will be effective in the long run. ■

NOTES

[1] The source for the calculations of CNY appreciation was the CNY/USD series of daily averages compiled by the Federal Reserve Board. Other data series would show somewhat different results.

[2] The source for the options data is Bloomberg.

[3] The most common way for central banks to sterilize foreign exchange purchases of the domestic currency is to buy domestic bonds, which would reverse the effects of the foreign exchange purchases on the domestic monetary base. The PBOC, however, uses a variety of tools and regulations in its control of monetary conditions.

[4] The CNY is known as the CNH in Hong Kong.

[5] Osler (2003) documents the importance of "round numbers" in the foreign exchange market and establishes their connection to limit orders.

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Posted on March 3, 2017