

## Rising foreign currency liquidity of banks in China<sup>1</sup>

China's banking system enjoyed a \$75 billion foreign currency surplus in 1999–2001. Most of this foreign currency liquidity arose from the growth of dollar deposits, and the rest from shrinking dollar loans. Understanding such surpluses provides insights into a significant source of financing for the US current account deficits in recent years.

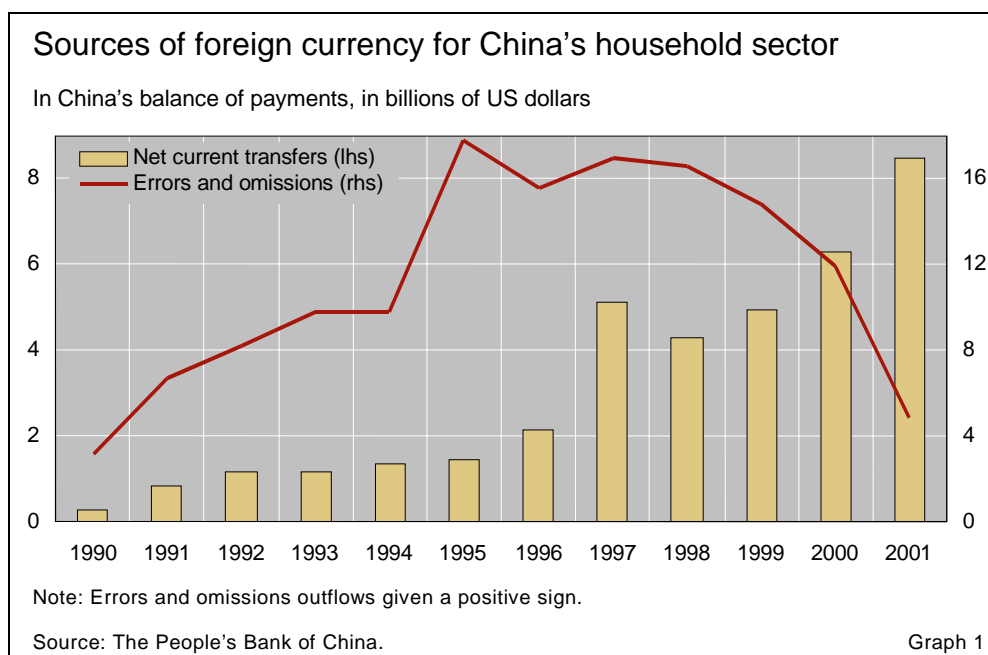
This special feature examines determinants of the demand for foreign currency deposits in Chinese banks. It is found that interest rate differentials, exchange rate concerns and the one-off effect of the liberalisation of part of China's stock market jointly account for almost half their variation. We also

Foreign currency bank deposits of non-banks in mainland China					
End of period, in billions of US dollars					
	1992	1995	1997	2000	2001
Total	60.7	69.7	83.5	145.6	154.5
In mainland China (onshore)	57.9	66.7 <sup>1</sup>	79.7 <sup>1</sup>	134.8	142.6
Locally owned banks	56.1	63.6 <sup>1</sup>	75.2 <sup>1</sup>	128.3	134.9
Individuals	9.4	15.9 <sup>1</sup>	29.2 <sup>1</sup>	73.0	81.6
Firms	26.7	29.3 <sup>1</sup>	33.7 <sup>1</sup>	46.0	45.3
Others	20.1	18.4 <sup>1</sup>	12.3 <sup>1</sup>	9.3	8.0
Foreign banks <sup>2</sup>	1.8	3.1	4.5	6.5	7.8
Offshore <sup>3</sup>	2.8	2.9	3.8	10.9	11.9
<i>Memo:</i>					
<i>In locally owned banks as a percentage of total renminbi deposits</i>	12.3	8.7	6.9	8.6	7.8
<i>Foreign exchange reserves</i>	19.4	73.6	140.0	165.6	212.2

<sup>1</sup> Dollar deposits estimated using bank data from *Almanac of China's Banking and Finance*.  
<sup>2</sup> Onshore foreign currency deposits at foreign banks operating in mainland China are estimated as their total deposits, assuming that they are all foreign currency denominated. <sup>3</sup> Non-bank Chinese deposits at BIS reporting banks.

Sources: The People's Bank of China; *Almanac of China's Banking and Finance*; BIS; authors' own estimates. Table 1

<sup>1</sup> The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS.



analyse the recent declining trend of dollar loans booked by banks in China, and its implications for the strengthening foreign currency liquidity position of banks on the mainland.

### Growth of foreign currency deposits of Chinese non-banks

Foreign currency deposits of non-banks resident in China have grown very rapidly in recent years, rivalling the very substantial official foreign exchange reserves (Table 1). These deposits have accumulated principally at Chinese banks on the mainland, as well as in banks offshore (including in Chinese banks' affiliates in Hong Kong SAR and elsewhere) and at foreign banks in mainland China, which until recently could serve only foreign firms and individuals. Increased individual deposits represent most of the recent growth.

It is difficult to say where all the deposits have come from. One source has been remittances from overseas Chinese, which lie behind the reported net current transfers of over \$8 billion in 2001 (Graph 1). The easing of restrictions on foreign travel by Chinese residents led to 12 million reported travellers in 2001, each entitled to convert domestic currency equivalent to \$2,000 into foreign currency. Leakage in China's foreign exchange controls may partly explain the outflows implied by the substantial errors and omissions in China's balance of payments, feeding the foreign currency deposits. And reasonably competitive interest rates on domestic dollar deposits have served to domesticate what might otherwise have been capital flight.<sup>2</sup>

Dollar deposits may stem from a number of sources

<sup>2</sup> See McCauley and Mo (2000).

## Explanations

Four possible explanations for the growth of foreign currency deposits

Following the structure of an analysis of Taiwanese foreign currency deposits (Fung and McCauley (2001)), we consider four factors to explain the monthly variation of foreign currency deposits in Chinese banks on the mainland. To summarise the results, country risk and credit risk are rejected as explanations, while interest rate differentials and exchange rate expectations appear to play important roles. In addition, the liberalisation of the so-called B-share market, previously intended to be restricted to non-resident investors, explains a drawdown in deposits in the first quarter of 2001. This general finding is remarkably consistent with the earlier works on China (Ma (1999)) and Taiwan, China (Fung and McCauley (2001)).

### *Country risk*

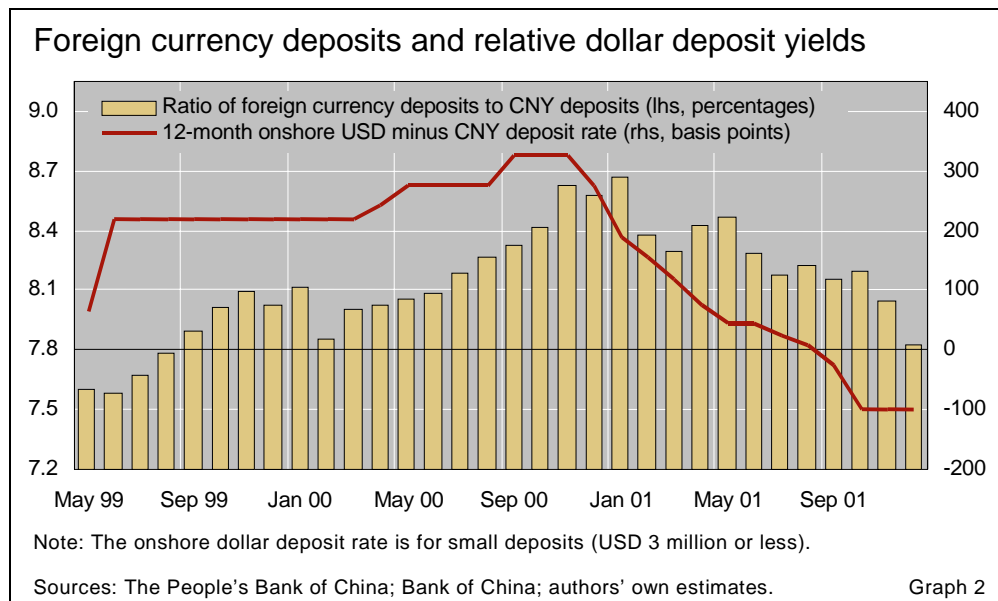
Country risk is rejected ...

If Chinese depositors were acquiring dollars to avoid country risk, one would expect to see them placing foreign currency offshore, beyond the reach of domestic authorities. However, the available data do not indicate that they favoured offshore over onshore deposits. While offshore deposits have grown somewhat faster than total foreign currency deposits (Table 1), over 90% of such deposits remain in banks on the mainland, subject to Chinese law and policy. Country risk cannot, therefore, explain much of the build-up of foreign currency deposits.

### *Credit risk*

... as is credit risk

With open discussion of the high levels of non-performing loans in Chinese banks, Chinese depositors might have been expected to react to heightened perceptions of credit risk in the banking system by shifting deposits to better-rated foreign banks in the form of foreign currency deposits. While foreign



banks, under the terms of China's entry into the World Trade Organisation (WTO), will be allowed to take deposits from households in China, they have, however, not generally enjoyed that right to date and deposits at foreign banks in China have remained small. In effect, the credit sensitivity of Chinese depositors largely remains to be tested. Meanwhile, credit risk cannot explain the build-up of foreign currency deposits by non-banks in China.

*Interest rate differentials*

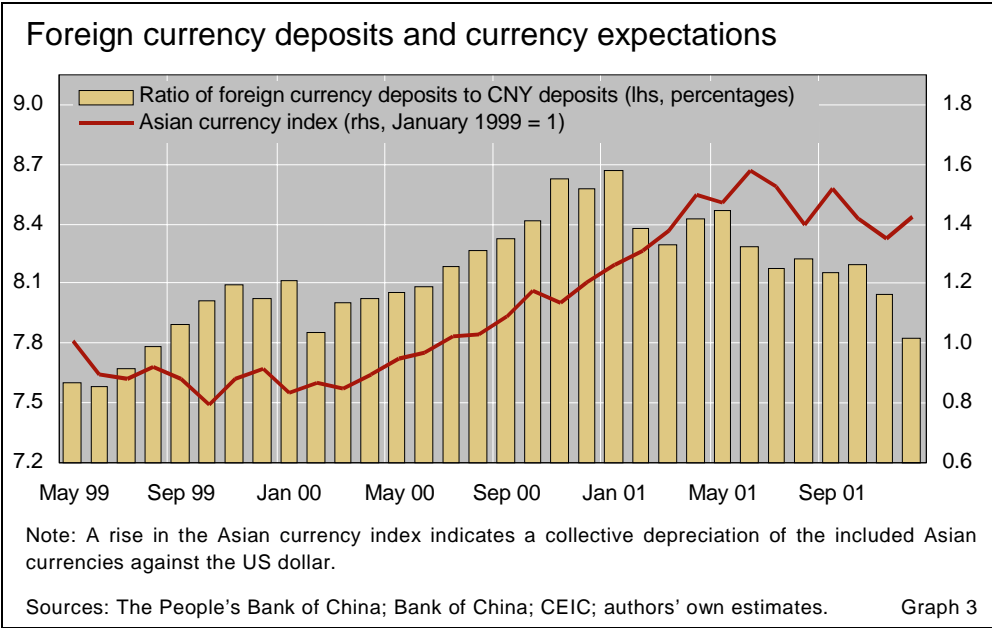
Chinese depositors could adjust the mix of foreign and local currency deposits in response to changing interest rate differentials. Given the anecdotal evidence that nearly 95% of foreign currency deposits are in US dollars, we focus on differentials between the onshore dollar deposit rate and the renminbi deposit rate. From mid-1999 to late 2000, the 12-month dollar/renminbi interest rate spread widened to as much as 300 basis points in favour of onshore dollar deposits, which might have spurred accumulation of foreign currency deposits relative to renminbi deposits (Graph 2). With the Federal Reserve's easing of US dollar rates in 2001, the situation reversed, with dollar/renminbi interest rate differentials turning decisively in favour of renminbi deposits. Chinese depositors apparently reacted by allowing the ratio of dollar to renminbi deposits to fall.

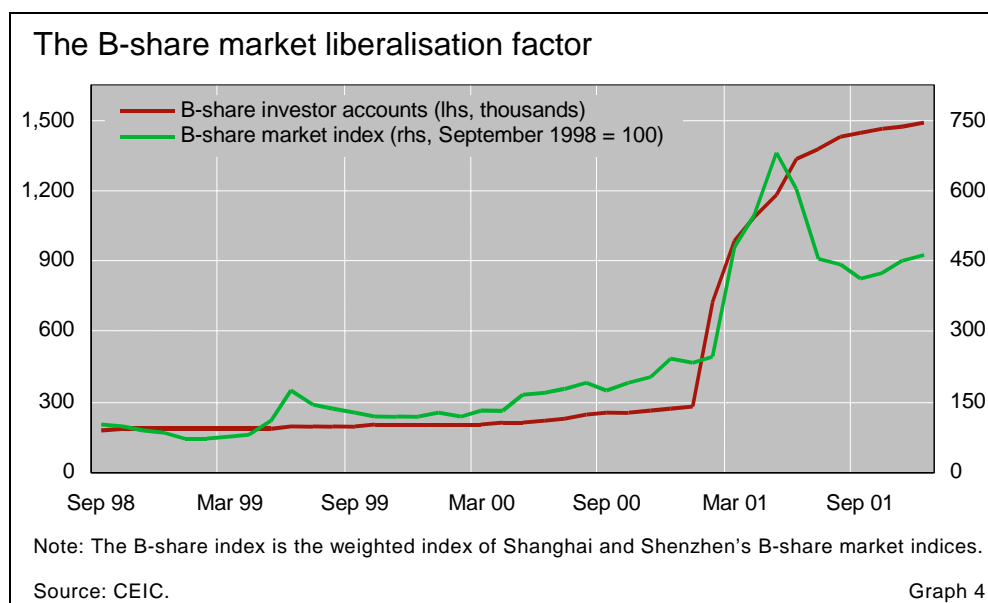
Interest rate differentials seem to influence the currency mix of deposits

*Exchange rate expectations*

Similarly, total expected yields on foreign currency deposits would rise in anticipation of renminbi weakness, which should encourage the holding of foreign currency deposits. Given the stability of the renminbi against the dollar, it may seem odd to speak of expectations of its movement. However, when neighbour currencies weakened against the dollar, there was public discussion of the loss of competitiveness and the possibility of some response in the renminbi's exchange rate. Thus, we take as a proxy for exchange rate

Currency expectations appear to have influenced the decision to hold dollar deposits





expectations (or fears, since the expectations were never justified in the sample period) a trade-weighted index of the main floating East Asian currencies (see note in the box on page 74). When neighbour currencies slip, Chinese depositors might then be expected to hold more foreign currency deposits. The index weakened against the dollar from mid-1999 to late 2000 before stabilising into 2001 (Graph 3). Consistent with our hypothesis, Chinese depositors did seem to adjust the currency denomination of their bank deposits.

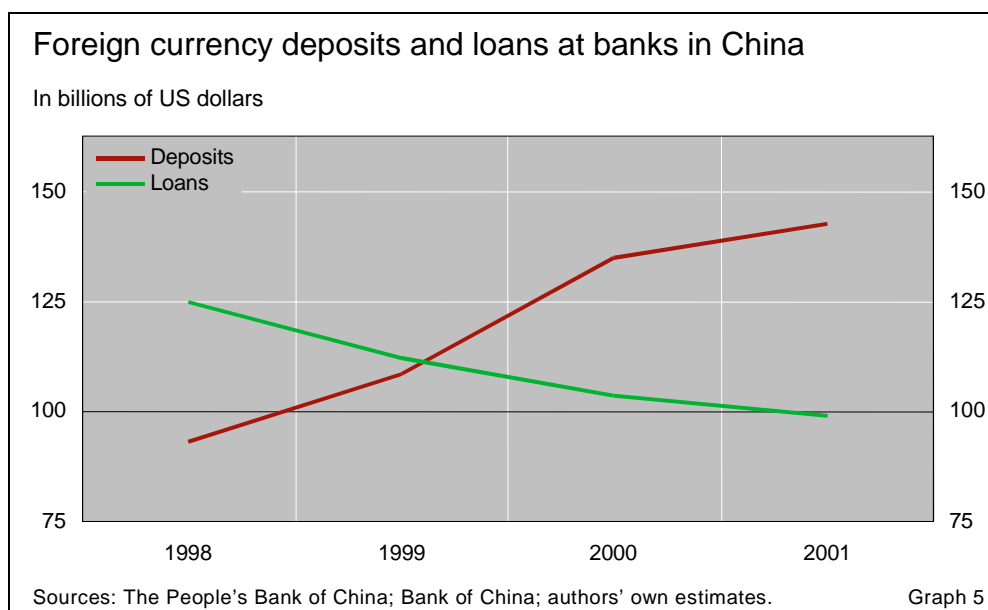
#### *B-share liberalisation*

In February 2001, the Chinese government announced a decision to allow Chinese individuals to invest their existing foreign currency deposits in the B-share market, which is traded in foreign currency. This market had a market capitalisation of less than \$8 billion before the announcement (10% of household dollar deposits), of which it was widely believed that Chinese residents already owned more than half, despite the official prohibition. Given the wide ownership of foreign currency deposits and the relatively attractive valuations of the B-shares at that time, the newly empowered Chinese individual investors snapped them up (Graph 4). This policy shift was associated with a \$2.5 billion drop in foreign currency deposits in February and March 2001. It appears that foreign investors took profits and exited the B-share market and that Chinese residents drew down dollar accounts to finance their purchases. However, over the medium term, the policy shift could increase Chinese demand for such deposits if investors anticipate that foreign currency holdings might tend to enjoy advantages in the course of further liberalisation.

#### **Growing dollar liquidity of Chinese banks**

While Chinese non-banks have built up their onshore foreign currency deposits, Chinese firms have also been paying off their dollar debts.

A one-off effect of partial equity market liberalisation



Cumulatively, onshore dollar loans fell by more than \$25 billion during 1999–2001. As a result, the Chinese foreign currency loan/deposit ratio fell from 130% to 70% in four years (Graph 5). It should be noted that the dollar loan/deposit ratio fell not only at Chinese banks but also at foreign banks operating in China.

Chinese firms seem to have paid off dollar loans for the same reasons that Chinese households and companies increased their holdings of dollar deposits. Falling renminbi lending rates relative to dollar rates induced Chinese companies to switch to local currency loans. Reinforcing this incentive, episodes of heightened perceptions of currency risk may also have encouraged Chinese firms to reduce exposure to dollar obligations. Similarly, fears of renminbi weakening appear to have prompted affiliates of foreign companies operating in China to seek local currency financing of their operations. Since late 2000, dollar loans outstanding appear to have stabilised, consistent with the shift in interest differentials that moderated dollar deposit growth, as discussed earlier.

Lower local currency interest rates led to repayments of dollar loans

Rising dollar deposits, together with declining dollar loans, have generated a foreign currency surplus of \$75 billion in mainland banks during the past three years, a sum larger than the \$67 billion increase in China's official foreign reserves. Taken together, the increase in foreign currency liquidity in China's banking system and higher official foreign exchange reserves suggest that Chinese bank managers and official reserve managers needed to find uses for over \$140 billion during this period. This sum flowed in large part into BIS reporting banks and US debt markets (Ma and McCauley (2002)).

## Conclusion

China's households and firms have made significant deposits of foreign currency in Chinese banks over the past decade. Whatever the source of the funds, the government has chosen to attract onshore foreign currency deposits,

partly by keeping onshore dollar deposit rates broadly in line with overseas markets. That this policy was important is suggested by our finding that interest rate differentials seem to affect the monthly variation in the fraction of foreign currency bank deposits. Perhaps more surprisingly, our proxy for currency expectations also helps explain increments in the share of foreign currency deposits, notwithstanding the steadiness of the renminbi. The official coupling of the opening of the B-share market and foreign currency deposits immediately drained away some deposits, but over the medium term it may suggest that further head starts may be given to holders of these accounts, thereby increasing demand for them. The same driving forces behind rising dollar deposits have arguably also led to declining dollar loans. The Chinese banking system's dollar surpluses have joined increases in official reserves in flowing into BIS reporting banks and the US debt markets.

Looking forward, an eventual return to higher dollar interest rates could lead to a resurgence of growth in foreign currency deposits in China. Any shift to a more flexible exchange rate system would add a new element to the formation of exchange rate expectations. Whatever the demand for such deposits, they are serving as an early experiment in China's interest rate liberalisation. In addition, under the terms of China's WTO entry, Chinese and foreign banks will first compete for foreign currency deposits before competing directly in the renminbi business.

## References

Fung, B S C and R N McCauley (2001): "Analysing the growth of Taiwanese deposits in foreign currency", *BIS Quarterly Review*, September, pp 49–55.

Ma, G (1999): "Implications of rising personal foreign currency deposits in China", *Merrill Lynch China Economics Research*, 16 December.

Ma, G and R N McCauley (2002): "Following Chinese banks' foreign currency liquidity", *BIS Quarterly Review*, June, pp 18–19.

McCauley, R N and Y K Mo (2000): "Foreign currency deposits of firms and individuals with banks in China", *BIS Quarterly Review*, August, pp 35–39.

## What determines the growth of Chinese foreign currency deposits: some econometric evidence

We rely on regression analysis to explain the monthly change in the ratio of onshore foreign currency deposits to renminbi deposits for a very limited sample from 1999:06 to 2001:12. We test three hypotheses posed by our analysis. First, the ratio would rise in response to wider differentials between onshore dollar deposit rates and local currency deposit rates. Second, the ratio would increase in anticipation of dollar appreciation vis-à-vis the renminbi. Finally, the recent B-share market liberalisation would drain foreign currency deposits from the system on impact. The estimated coefficients reported below are of the right sign and statistically significant. The empirical evidence lends support to the main arguments of our analysis.

$$(1) F_t = -0.065 + 0.041R_t + 0.382E_{t-1}$$

(-1.96) (2.59) (1.13)

$$\bar{R}^2 = 0.190; DW = 2.175; LLF = 25.14$$

$$(2) F_t = -0.042 + 0.083R_t + 0.558E_{t-1} - 0.002B_t$$

(-1.46) (2.83) (1.93) (-3.54)

$$\bar{R}^2 = 0.426; DW = 2.203; LLF = 31.04$$

where

$F_t$  = the change in the ratio of onshore foreign currency deposits to renminbi deposits

$R_t$  = the interest rate differential (onshore USD minus CNY 12-month rate)

$E_{t-1}$  = the lagged percentage changes in the Asian currency index

$B_t$  = the percentage change in the number of B-share investor accounts.

Note: The "Asian currency index" is the trade-weighted index of the bilateral US dollar rates of seven floating Asian currencies: the Indonesian rupiah, Japanese yen, Korean won, Philippine peso, Singapore dollar, New Taiwan dollar and Thai baht. The trade weight is the 1999 total trade value in dollars.