HONG KONG — China’s central bank is in a bind.

It has been on a buying binge in the United States over the last seven years, snapping up roughly $1 trillion worth of Treasury bonds and mortgage-backed debt issued by Fannie Mae and Freddie Mac.

Those investments have been declining sharply in value when converted from dollars into the strong yuan, casting a spotlight on the central bank’s tiny capital base. The bank’s capital, just $3.2 billion, has not grown during the buying spree, despite private warnings from the International Monetary Fund.

Now the central bank needs an infusion of capital. Central banks can, of course, print more money, but that would stoke inflation. Instead, the People’s Bank of China has begun discussions with the finance ministry on ways to shore up its capital, said three people familiar with the discussions who insisted on anonymity because the subject is delicate in China.

The central bank’s predicament has several repercussions. For one, it makes it less likely that China will allow the yuan to continue rising against the dollar, say central banking experts. This could heighten trade tensions with the United States. The Bush administration and many Democrats in Congress have sought a stronger yuan to reduce the competitiveness of Chinese exports and trim the American trade deficit.

The central bank has been the main advocate within China for a stronger yuan. But it now finds itself increasingly beholden to the finance ministry, which has tended to oppose a stronger yuan. As the yuan slips in value, China’s exports gain an edge over the goods of other countries.

The two bureaucracies have been ferocious rivals. Accepting an injection of capital from the finance ministry could reduce the independence of the central bank, said Eswar S. Prasad, the International Monetary Fund’s former division chief for China.

“Central banks hate doing that because it puts them more under the thumb of the finance ministry,” he said.

Mr. Prasad said that during his trips to Beijing on behalf of the I.M.F., he had repeatedly cautioned China over the enormous scale of its holdings of American bonds, emphasizing that it left China vulnerable to losses from either a strengthening of the yuan or from a rise in American interest rates. When interest rates rise, the prices of bonds fall.

Officials at the central bank declined to comment, while finance ministry officials did not respond to calls or questions via fax seeking comment. Data in a study by the Bank of International Settlements based in Basel, Switzerland, sometimes called the central bank for central banks, shows that many central banks had small capital bases relative to foreign reserves at the end of 2002, though few were as low as the People’s Bank of China.
Given the poor performance of foreign bonds, the Chinese government could decide to shift some of its foreign exchange reserves into global stock markets.

The central bank started making modest purchases of foreign stocks last winter, but has kept almost all of its reserves in bonds, like other central banks.

The finance ministry, however, has pushed for investments in overseas stocks. Last year, it wrested control of the $200 billion China Investment Corporation, which had been bankrolled by the central bank. That corporation’s most publicized move, a $3 billion investment in the Blackstone Group in May of last year, has lost more than 43 percent of its value.

The central bank’s difficulties do not, by themselves, pose a threat to the economy, economists agree. The government has ample resources and is running a budget surplus. Most likely, the finance ministry would simply transfer bonds of other Chinese government agencies to the bank to increase its capital. But even in a country that strongly discourages criticism of its economic policies, hints of dissatisfaction are appearing over China’s foreign investments.

For instance, a Chinese blogger complained last month, “It is as if China has made a gift to the United States Navy of 200 brand new aircraft carriers.”

Bankers estimate that $1 trillion of China’s total foreign exchange reserves of $1.8 trillion are in American securities. With aircraft carriers costing up to $5 billion apiece, $1 trillion would, in theory, buy 200 of them.

By buying United States bonds, the Chinese government has been investing a large chunk of the country’s savings in assets earning just 3 percent annually in dollars. And those low returns turn into real declines of about 10 percent a year after factoring in inflation and the yuan’s appreciation against the dollar.

The yuan has risen 21 percent against the dollar since China stopped pegging its currency to the dollar in July 2005.

The actual declines in value of the central bank’s various investments are a carefully guarded state secret.

Still China finds itself hemmed in. If it were to curtail its purchases of dollar-denominated securities drastically, the dollar would likely fall and American interest rates could soar.

China spent more than one-eighth of its entire economic output last year on foreign bonds, and then picked up the pace during the first half of this year. Chinese officials have suggested in recent comments that they are increasingly interested in stopping the yuan’s rise, and thus are willing to continue buying foreign securities to support the dollar. In fact, the yuan weakened slightly against the dollar last month after 26 consecutive months of gains.

Along with Treasuries, China has invested heavily in mortgage-backed bonds from Fannie Mae and Freddie Mac, the struggling mortgage finance giants that are sponsored by the United States government. Standard & Poor’s estimates China’s holdings at $340 billion.

Some bond traders suspect that the central bank has scaled back its purchases of these securities, as have China’s commercial banks. But the central bank trades this debt through many third parties in many
countries, making its activity opaque to outside analysts.

The central bank has gone to great lengths to maintain its foreign purchases. The money to buy foreign bonds has come from the reserves required that commercial banks must deposit with the central bank. In effect, China's commercial banks have been lending the central bank more than $1 trillion at an interest rate of less than 2 percent.

To keep the banks strong when they were getting such little interest on their reserves, the central bank has kept deposit rates low.

The gap between what banks are paying on deposits and the rates they are charging ordinary customers to borrow is several percentage points. This amounts to a transfer of wealth from ordinary Chinese savers to the central bank and on to Americans who are selling their debt to the Chinese.

The central bank is now under considerable pressure to reduce the commercial banks' reserve requirements to encourage growth as the Chinese economy shows signs of slowing.

Victor Shih, a specialist in Chinese central banking at Northwestern University, said that when he visited the People’s Bank of China for a series of meetings this summer, he was surprised by how many officials resented the institution’s losses.

He said the officials blamed the United States and believed the controversial assertions set forth in the book “Currency War,” a Chinese best seller published a year ago. The book suggests that the United States deliberately lured China into buying its securities knowing that they would later plunge in value.

“A lot of policy makers in China, at least midlevel policy makers, believe this,” Mr. Shih said.