
The New Challenges of Inflation and External Imbalances Facing China*

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Abstract

China is facing the threat of inflation, at the same time that the U.S. economy is in trouble. To maintain a sustainable growth rate, China must walk a tightrope. On one hand, China must tighten its monetary policy to bring inflation under control, which will slow down the growth rate of the Chinese economy. On the other hand, China also has to be ready to use expansionary fiscal policy to replace the weakened external demand to prevent its economy from falling into a "growth recession," where the growth rate is below 8 percent, due to the double whammies of monetary tightening and a significant slowdown of the U.S. economy.

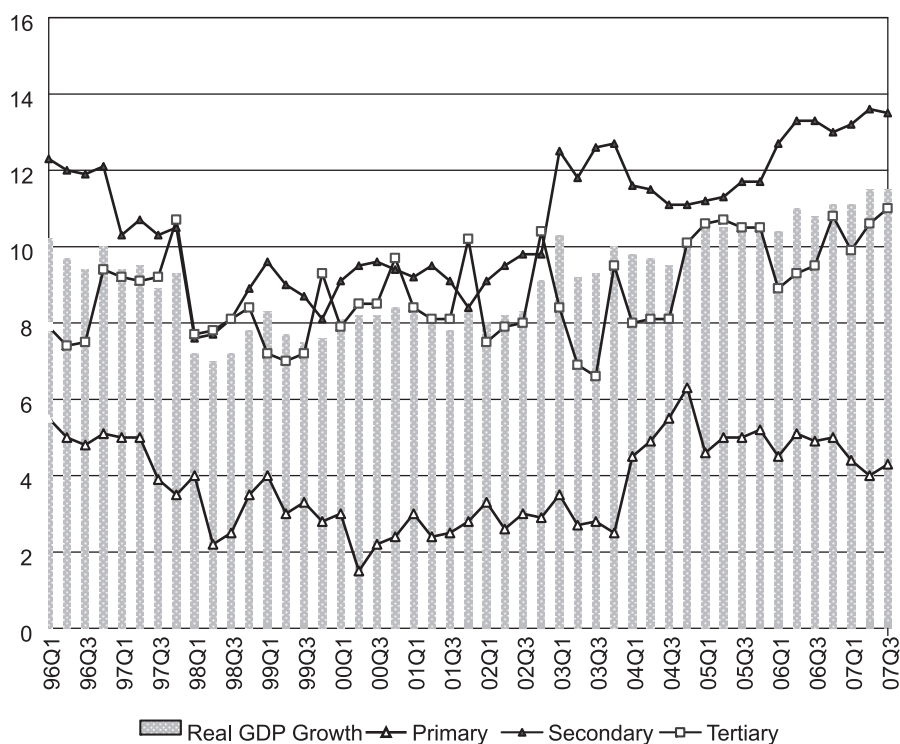
I. Introduction

After five consecutive years of high growth since 2003, red lights have suddenly started flashing for the Chinese economy. China's stock price has been soaring since the second quarter of 2007, and the rise of property price has refused to slow down. There is no doubt whatsoever that China's asset bubbles are serious. To make things worse, the consumer price index has risen rapidly since July 2007. Economic growth might be lowered unless policymakers can reestablish control over both asset prices and inflation.¹ Section 2 is devoted to the discussion of inflation. In this section, the reason inflation should be treated as a serious threat to China's macroeconomic stability is discussed. Section 3 analyzes excess liquidity, which is a major source of China's macroeconomic stability. Section 4 discusses the Chinese government's policy responses to asset bubbles

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¹ For a more comprehensive survey of the 10 most serious challenges facing China, the reader should consult Yu (2007).

Figure 1. China's economic growth (in percent, year over year)



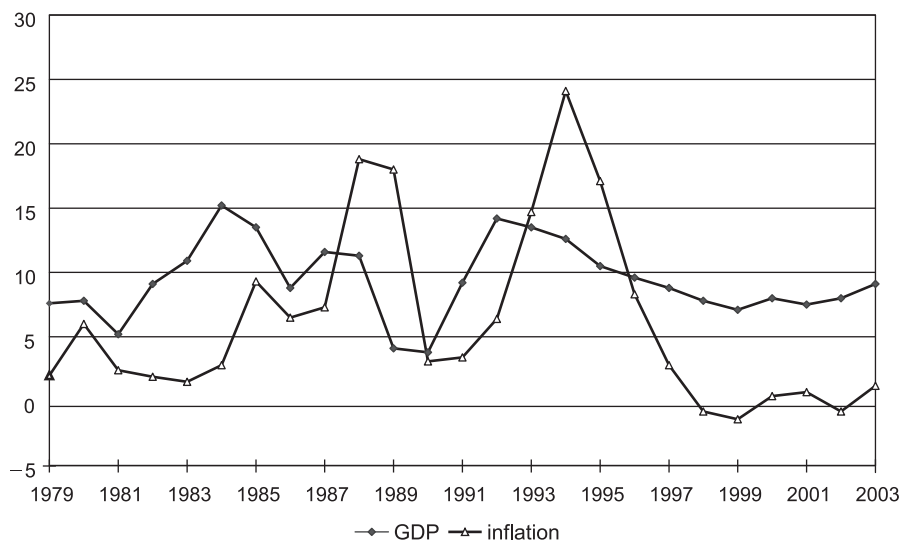
Source: CEIC.

and inflation. It concludes with a discussion of China's policy responses to the challenges it is facing, and section 5 provides a summary of these important issues.

2. The threat of inflation to stability

Many observers feel that inflation is not the biggest threat to the stability of the Chinese economy, despite the fact that consumer price inflation hit 6.5 percent year-over-year in August 2007, which is the highest rate in 11 years and largely due to a 49 percent surge in meat and poultry prices. My point is that, "[it] is fair to say that inflation is not an immediate threat to China's economic stability. However, there are many reasons for the Chinese government to worry about inflation."² The arguments are as follows.

² Yu Yongding's comments, The FT Economists' Forum, Posted by: Martin Wolf on 25 Oct 2007 12:53:51, available at <http://www.typepad.com/t/trackback/676652/22518146>

Figure 2. GDP growth and inflation (in percent, year over year)

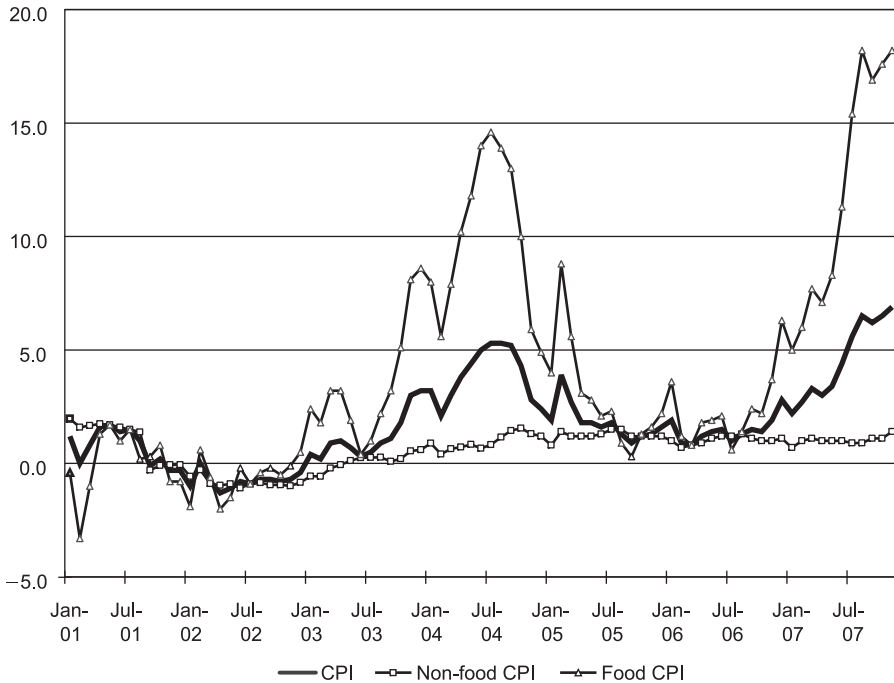
Source: *Statistic Year Book, National Statistic Bureau, various issues.*

First, China's growth rate was more than 11 percent in 2007. According to consensus, China's potential growth rate was 8–9 percent. In China's 11th 5-year program, the growth target was set below 8 percent (Figure 1).

In the past, China has never been able to maintain a growth rate above 10 percent for more than two consecutive years without causing serious inflation with a lag of four to five quarters (Figure 2). In the current cycle, the Chinese economy has maintained a growth rate above 10 percent for 4 consecutive years, while keeping inflation below 3 percent. This is already a miracle indeed. It should be not a surprise that inflation has now begun to get worse.

Some observers have argued that China's productivity has risen significantly to increase its potential growth to more than 10 percent. Therefore, they believe that there is no excess demand and no danger of inflation. However, I do not believe this claim. A large portion of the growth rate of 45 percent for fixed asset investment was caused by local governments undertaking city construction, and the GDP growth has been characterized by wasteful use of energy and raw materials. It is therefore hard for me to believe that China's productivity (measured by total factor productivity or capital–output ratio) has improved so dramatically that China's potential growth rate has risen from 8 to 11 percent and that China will be able to maintain

Figure 3. China's recent inflation (in percent, year over year)



Source: CEIC, calculated by Cao Yongfu (Institute of World Economics and Politics).

the current growth momentum without causing serious inflation. I have no doubt that there is excess demand in China and that excess demand is increasing.

Second, the recent food price hike (Figure 3) cannot be attributed entirely to external shocks. The rise of consumer price index (CPI) is mainly due to the rise of food prices, especially the price of pork. The core CPI is still quite low, below 2 percent. Government officials are quite confident that when piglets grow up next year, the price of pork will go down and so will the CPI. Some economists disagree. It is not just a matter of piglets. The rise of food prices is broadly based, and cannot be attributed to natural disasters, or isolated events. In fact, the prices of all inputs for food production (ranging from seeds and fertilizer to pesticides) have risen, which should be attributed in part to the demand-pull factors of the economy. For example, real estate development has shrunk the size of China's arable land rapidly, pushing it to the lower boundary of preservation set by the government. Therefore, the maturation of piglets will not lead to the fall of food prices across-the-board. Though the government will be able to contain the rise of food prices for a while

through price controls, these factors are not temporary and will not go away automatically.

Third, inflationary expectations have been established among the public. According to a recent survey by the People's Bank of China (PBOC), the public believes that inflation will get worse. People have begun to withdraw their deposits to buy shares and real estate, and push for higher increases in wages and salaries. Therefore, at this stage, even if inflation is not a big threat to stability, worsening inflationary expectations are.

Fourth, the growth rate of wages and salaries has reached double digits in recent years and continues to accelerate. This trend is not reflected in statistics, because unreported income (so called "gray income") is large, and might be even larger than formal income. Furthermore, the new labor laws and other regulations have provided a favorable legal environment for wage rises. Figure 4 shows the income growth in urban and rural China.

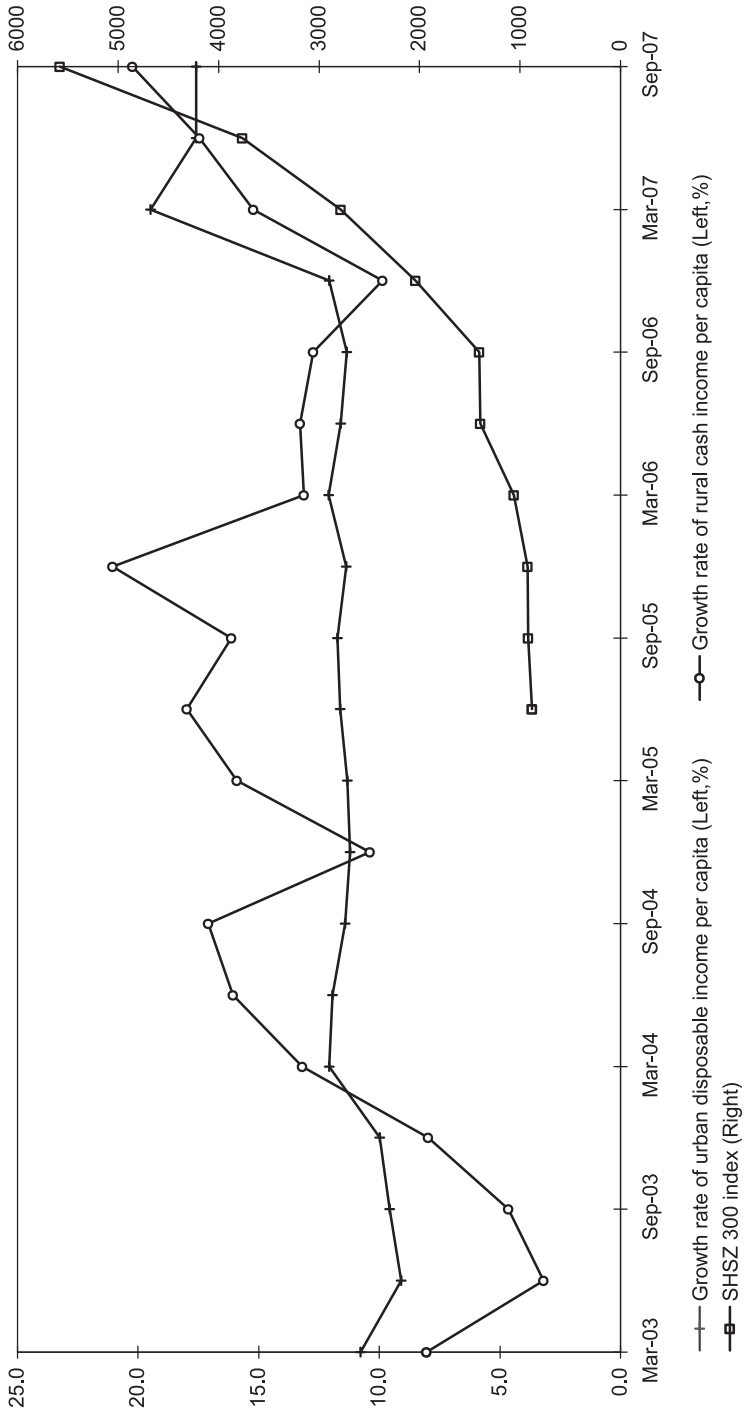
Fifth, price distortion is still widespread. China's energy price is among the lowest in the world; taxes on mining and extraction activities are excessively low; pollution is almost costless; and rents on lands in many places used for foreign direct investment (FDI) are inexpensive. The low inflation to a certain degree is achieved at the expense of low efficiency and the misallocation of resources. Unless the government gives up the plan for further price reforms, price increases for many important products are inevitable, which in turn may worsen inflationary expectations.

Sixth, China's money supply has been growing at a much faster rate than that of GDP for a long time. Currently, despite the PBOC's intention of tightening broad money (M2), M2 still grew more than 18 percent in August 2007. In other words, China's financial conditions are still quite loose and conducive to inflation (see Figure 5).

Seventh, since late 2006, China's equity price has more than doubled and stock market capitalization has increased from less than half of GDP in 2005 to more than 100 percent of GDP currently; see Figure 6. The wealth effect is ubiquitous. More and more people who gained from the stock markets have started to spend lavishly on luxury durable goods.

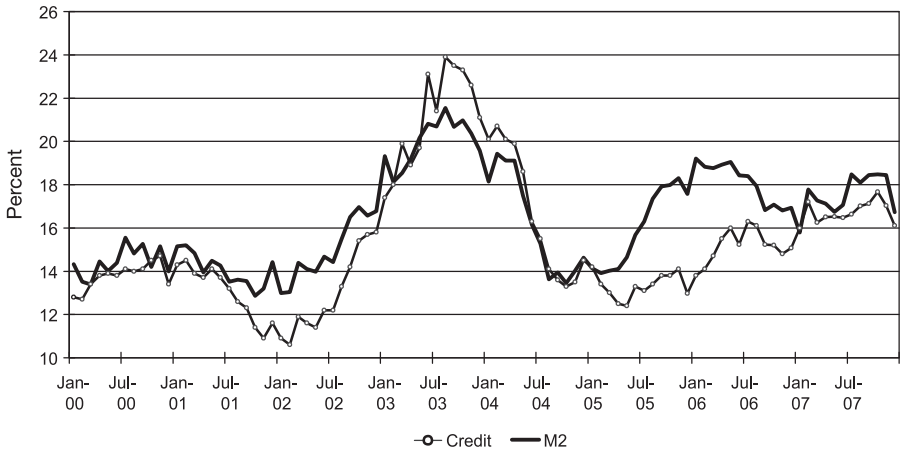
In short, all necessary conditions for the worsening of inflation are present in China. So even if the inflation rate is still low, the government must be vigilant on inflation and regard it as a big threat to stability.

Figure 4. Growth of income in rural and urban areas



Source: CEIC.

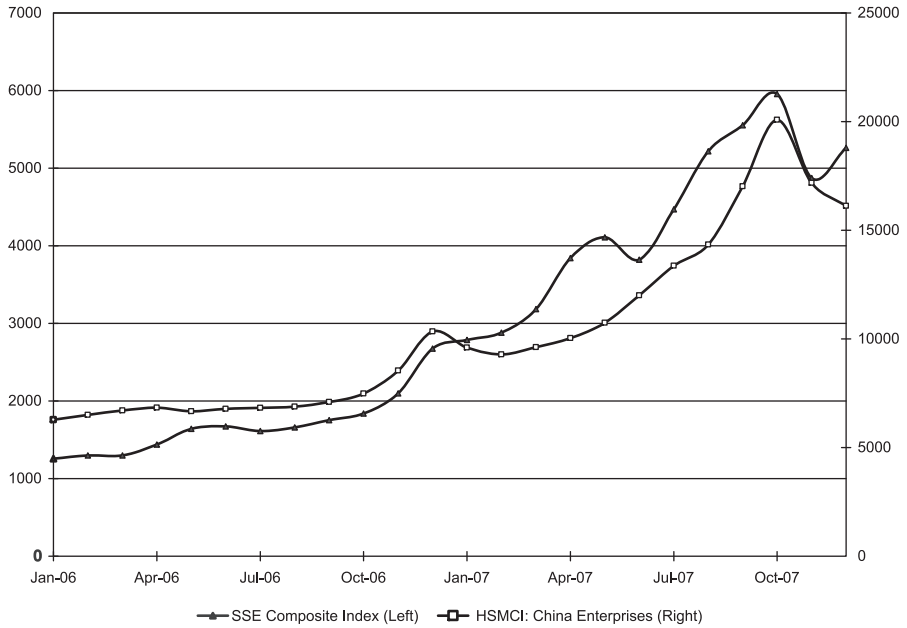
Figure 5. Growth of M2 and credits (in percent)



Source: CEIC.

Note: M2 = broad money.

Figure 6. The rise of the equity price index



Source: CEIC.

It is right to say that China's growth of domestic demand remains subdued, rather than overheated, relative to the rapid growth of potential and actual output. A large portion of demand came from foreign markets. In 2006, the contribution of net exports to China's growth was about 3–4 percentage points. Taking away the growth contribution from trade, China's domestic demand might not have been able to support a growth rate of 9 percent. If China fails to maintain export momentum, its growth rate may fall significantly, due to lack of demand. This implies that while China is suffering overheating, the overheating could turn into deflation quickly.

China experienced investment fever from 2002 to 2004. As a result, in early 2005, the economy showed signs of overcapacity. However, the expected slowdown of the economy failed to materialize because of a second round of investment fever. In a sense, China absorbed the overcapacity by creating more capacity. Unfortunately, this practice is not sustainable. Overheating caused by over-investment at the current period could be followed by deflation caused by overcapacity in the ensuing period.

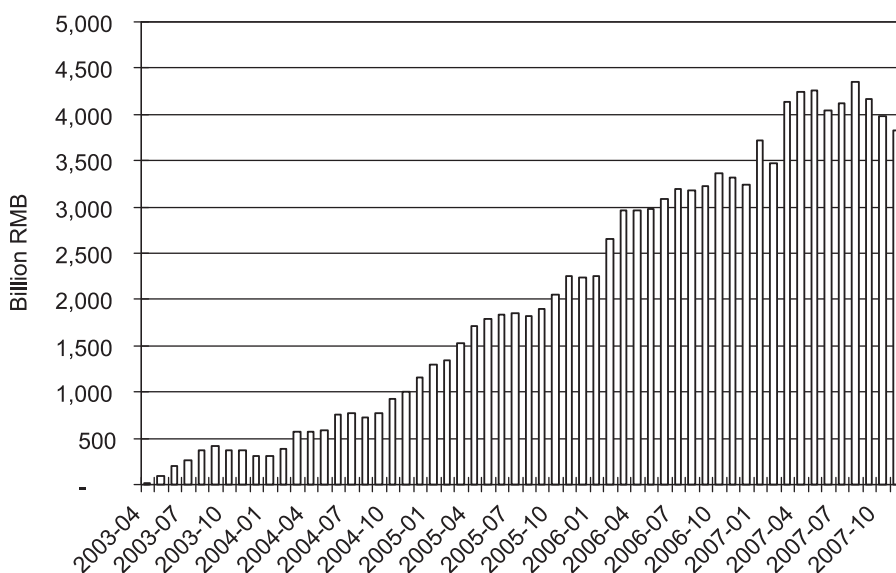
Inflation is a big threat to stability in two senses. First, it creates inflationary expectations, which in turn will sustain inflation by creating a vicious cycle of interaction between cost-push and demand-pull factors. Second, inflation and asset bubbles will reinforce each other and cause serious financial instability. In my view, at this moment, the most dangerous characteristic of China's economic situation is the symbiotic relationship between inflation and the asset bubble.

3. The sources of excess liquidity

In this paper, I define excess liquidity as excess money supply, which equals money supply minus money demand. As I will argue later, before 2007 the main source of excess liquidity came from the supply side of money. It came from the PBOC's intervention in the foreign exchange market to control the pace of the renminbi (RMB) revaluation in the face of increasingly large twin surpluses (current account surplus and capital account surplus). To maintain price stability and contain asset bubbles, the PBOC carried out a large-scale sterilization operation to mop up the excessive liquidity.³

Owing to the enormous scale of the sterilization operation, in just 3 years the PBOC sold out all the government bonds it had accumulated since 1998 when the govern-

³ There are two major forms of sterilization. One is to sell government bonds and central bank bills to commercial banks. The other is to raise the reserve requirements of commercial banks.

Figure 7. Amount of central bank bills outstanding (in RMB billion)

Source: www.chinabond.com.cn Calculated by Zhang Ming.

Note: Our assumption is that the balance of central bank notes was zero at the end of 2002. The highest balance until now is RMB 4.3 trillion in August 2007.

ment issued government bonds to stimulate an economy that was trapped in deflation. The exhaustion of the bond-holding by the PBOC meant that there was no more room for the central bank to manipulate the asset side of its balance sheet. Therefore, the PBOC turned to the liability side in 2003, and began to issue central bank bills to mop up the liquidity.

What is usually neglected in the analysis of sterilization is the impact of sterilization on commercial banks. Because the supply of central bank bills is massive, the sale of central bank bills should force up the interest rates in money markets, especially when the economy is hot and the demand for credits high. However, owing to the fear of speculative capital inflows that increase the pressure on the RMB to appreciate, the PBOC had to somehow sell central bank bills without causing interest rates in China's money markets to rise too much, and, preferably, without causing interest rates to rise above the London Inter-Bank Offer Rate (LIBOR).

The PBOC uses two types of auctions for central bank bills to soak up liquidity: quantity auctions and price (yields) auctions. Quantity auctions are used most frequently. They are aimed at selling a pre-announced amount of central bank bills and

Table 1. Reserve requirement ratios have been increasing steadily

Time of change: year (month/day)	Reserve requirement ratio (%)
2003 (09/21)	7.0
2004 (04/21)	7.5
2006 (07/05)	8.0
2006 (08/15)	8.5
2006 (11/15)	9.0
2007 (01/15)	9.5
2007 (02/25)	10.0
2007 (04/16)	10.5
2007 (05/15)	11.0
2007 (06/05)	11.5
2007 (08/15)	12.0
2007 (09/25)	12.5
2007 (10/15)	13.0
2007 (11/26)	13.5
2007 (12/25)	14.5

letting the market decide the price. However, often, when the PBOC felt the need for further tightening, and knew that there would be difficulties selling the additional central bank bills at the existing interest rates, it would select some commercial banks and require them to purchase these bills, regardless of profitability. (It is possible that the banks were sometimes selected on the basis of how enthusiastic they were in extending loans in the recent period.) Because the commercial banks' holding of central bank bills has been increasing more rapidly than bank loans and other high-yield assets, the share of low-yield assets in banks' total assets has been increasing, which sooner or later would worsen the banks' performance (see Figure 7).

Because most of the central bank bills are short-term bills of 3 months, the burden of rolling-over for the central bank is tremendous. It becomes increasingly more difficult for the PBOC to sell exponentially larger central bank bills, unless increasingly high yields are provided. It is very telling that there are many occasions in auctions when the PBOC fixed the price of central bank bills, and then failed to sell all the bills, thus requiring the PBOC to designate certain banks to purchase the remainder.

In addition to the sale of central bank bills, the PBOC has raised the required reserve ratio 15 times between 1 September 2003 and 25 December 2007 (Table 1). The PBOC raised the required reserve ratio from 6 percent to 7 percent on 1 September 2003, and has then been raising it by half a percentage point periodically. At the end of December 2007, the required reserve ratio had increased to 14.5 percent.

The key question is whether sterilization can be implemented indefinitely. As long as the interest rate paid by the central bank on its bills is lower than the corresponding interest rate on American assets (say, the yields of Treasury bills), the central bank should be able to sterilize indefinitely, and therefore maintain effective control

over the monetary base. However, there are several obstacles to the continuation of large-scale sterilization.

First, other things being equal, the sale of central bank bills will push up the interest rates in money markets, which in turn will invite more capital inflows and place more upward pressure on the RMB, increasing the need for more sterilization. Under certain circumstances, a vicious cycle will be created.

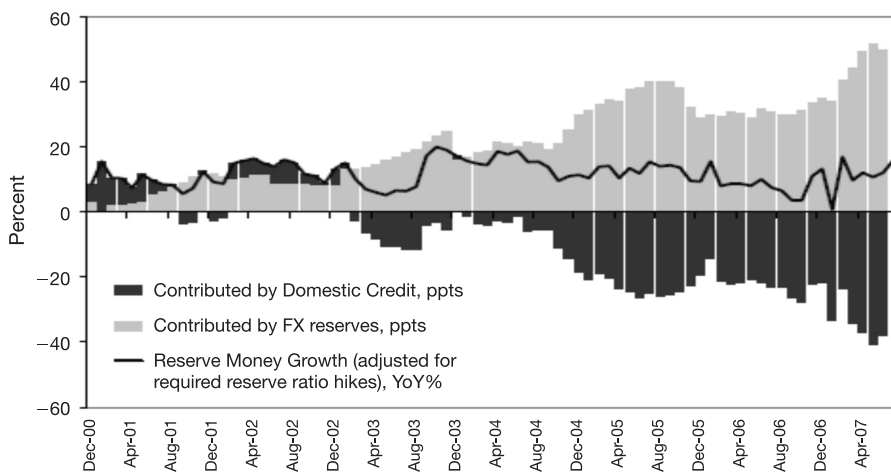
Second, when the overall financial condition is tight, due to the existence of better options, commercial banks may refuse to buy the low-yield central bank bills. As a result, the yields of the central bank bills will be bid up and the central bank may suffer from operation losses, especially if the Federal Reserve rate declines.

The large-scale sterilization through involuntary purchases of central bank bills at low interest rates by commercial banks and the constant increase in the required reserve ratio has produced at least three serious deleterious consequences for the commercial banks. First, the profitability of the commercial banks has been reduced as low-yield assets now account for more than 20 percent of their total assets.

Second, the attempt to maintain profit margins has led commercial banks to increase lending to riskier borrowers who pay higher interest rates. In fact, some banks are providing loans to borrowers to speculate in equity markets without demanding appropriate collateral. These sorts of activities create long-term damage to the fragile banking system, which has been improving after recent injections of capital by the PBOC and write-offs of nonperforming loans (NPLs).

Third, the forced purchases of central bank bills by commercial banks has compromised the whole process of financial reform.

Allsopp and Vines (2000, 7) have observed that in developed countries, “the most important control instrument of the central bank is a short-term interest rate, which influences the behavior of commercial banks by determining the price at which they lend.” Interest rate policy is also an important instrument of monetary policy in China. Since 1999 the interbank money market has assumed an increasingly important role in influencing the liquidity and interest rate structure in the economy. However, the so-called ripple effect of a change in benchmark interest rate is far from perfect, despite the efforts of interest rate liberalization, due to the fragmentation of China’s money market. Furthermore, in China there is still no benchmark interest rate equivalent to the Federal Reserve’s fund rate in the United States, the bank rate in England, and the overnight call rate in Japan. Even though a few key

Figure 8. Growth of monetary base (in percent, year over year)

Source: Wang Qing at Morgan Stanley.

short-term interbank interest rates are determined by market forces and can be influenced by the PBOC, these rates cannot influence the whole interest rate structure of the economy automatically, or in a cascading way. More importantly, due to the dual structure of China's credit market: co-existence of large state-owned enterprises with abundant liquidity and small nonstate-owned enterprises without adequate liquidity, the interest rate policy cannot be used to regulate the demand for and supply of credits. In short, interest rate policy in China is not an effective tool to influence the growth of money supply.

Although the sterilization policy has created serious problems for commercial banks, which have to buy even larger amounts of low-yield central bank bills and deposit an increasingly higher proportion of their cash with the central bank, sterilization operations are largely successful in mopping up liquidity. As a result, the growth rates of monetary base and M2 have been broadly in line with the target of the PBOC; see Figure 8 for details.

However, in my opinion, despite the relative success of sterilization, China's financial system is still flooded with excess liquidity. Otherwise, asset prices would not have soared, the inflation rate would not have increased, and the growth rate of investment would not have remained high. Where does the excess liquidity come from? The answer lies in the fact that excess liquidity is not only a money supply is-

sue, but also a money demand issue. Under special circumstances, the fall in the demand for money can be the cause behind excess liquidity.

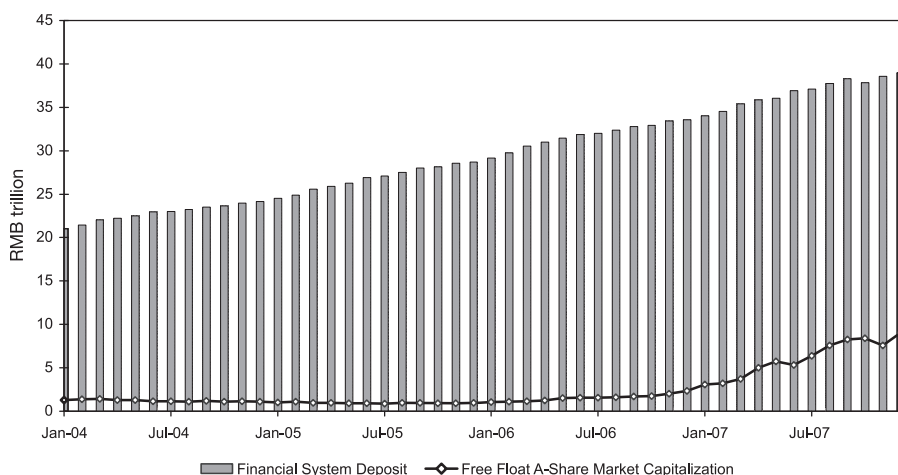
My assessment is that the rise in asset prices and inflation before 2007 was certainly attributable to excess liquidity created by the twin surpluses and capital inflows due to expectations of RMB appreciation, and the central bank's inability to sterilize inflows sufficiently. However, the main culprit of the excess liquidity present in 2007 was due to a sharply weaker demand for money. Under these circumstances, even if the PBOC had managed to totally sterilize inflows arising from China's twin surpluses and lower the growth of M0 and M2 to historical rates, money supply could still have outpaced the demand and created excess liquidity.

There are two fundamental reasons behind the drastic decline in the demand for money since 2007. First, the predilection to hold household savings deposits has been weakening. Developments in capital markets have given normal savers the opportunity to diversify their assets. Stocks, bonds, and fixed assets are now within the reach of many. Along with foreign inflows, reforms in the stock market between 2004 and 2006 have played an important role in igniting the rise of stock prices. The realization that higher returns can be obtained through the stock market has encouraged households to shift their deposits away from banks into stock exchanges. The increase in share prices has in turn encouraged further flight and asset price inflation, ultimately creating a vicious cycle.

Second, even if citizens' preference for savings deposits has not changed, interest rate gains are being outpaced by price increases, hurting intentions to save in the form of savings deposits. The worsening of inflation since the fourth quarter of 2006 has added fuel to the fire. The rise in share prices and inflation accelerated the flight from household savings deposits to equity markets, which in turn make share prices even higher.

Historically speaking China's money supply growth rate has been far greater than the GDP growth rate, and the pool of savings deposits is immense. China's M2/GDP ratio is more than 160 percent, perhaps the highest in the world. With RMB 38 trillion deposits vis-à-vis a stock market capitalization of RMB 8 trillion, the potential for deposits shifting away from banks and entering the stock exchange market to drive up share prices is tremendous. Constant investment into equity and real estate markets prevents rational valuation of assets; see Figure 9.

The current rise of share prices is a positive feedback process that is highly unstable, and hence, the market can crash anytime. Decisive government intervention is re-

Figure 9. Bank deposits and A-share market capitalization (in RMB trillion)

Source: CEIC.

quired to cool down the asset markets as soon as possible, but the government has been reluctant or unable to do so because of many political constraints it is facing.

4. Policy responses to the threats to stability

The maintenance of price stability should always be the priority of the central banks. Sharp rises in prices tend to erode the ability of prices to act as a signaling mechanism for resource allocation. Another concern is that high inflation tends to be followed by a rise in the Gini coefficient. The low-income group is hurt the most by inflation because this population does not possess fixed assets as a form of wealth preservation. Even if the poor participate in the stock market, the burden of risk is immense. A widening of the wealth gap among different social groups caused by inflation poses threats to social stability. Controlling inflation is not just for the sake of economic stability, but as Keynes once noted, also a matter of social justice.

The implicit target rate for China's headline CPI is 3 percent but the current rate is running at 6.5 percent. Most economists in China have tended to play down the importance of current inflation until recently. Some economists had even argued for creating inflation so that the real appreciation of the RMB could spare China the trouble of nominal appreciation. Fortunately, in a recent meeting, Chinese authori-

ties have decided the most important policy target is to prevent “structural price rises from turning into serious inflation.”⁴

While continuing to raise reserve requirements and issue bills in open market operations, the central bank must also increase households’ desire to hold more money. In other words, money demand needs to be raised. Paradoxically, the key to raising the demand for money in the present time is for the PBOC to raise the nominal interest rate⁵ even though the usual textbook exposition has the demand for money being a negative function of the interest rate. There are two parts to the answer.

First, the monetary aggregate of concern is M2 not M0. The raising of the deposit rate would encourage people to hold more M2 (more household saving deposits and less cash, M0). Furthermore, the raising of the deposit rate to be above the inflation rate would make holding M2 an attractive riskless investment compared to holding equity or other real assets.

The second part of the answer is that the demand for money is also a negative function of the expected future inflation rate; that in the present time, a decisive hiking of the nominal interest rate would lower the expected future inflation rate drastically, and hence increase the demand for money.

Balancing returns in different asset classes is the only way to strengthen demand for money, easing the effects of disintermediation. However, the PBOC is inhibited by its lack of freedom in setting rates because the higher interest rate would induce greater capital inflows and create new liquidity from the supply side. In short, fundamentally, without capital controls, the high interest rate policy would be ineffective because the higher interest rate would attract more inflows that would, in turn, lower the interest rate back to the original level. The logical solution, therefore, is to strengthen capital controls or allow the RMB to be determined by the foreign exchange market. Unfortunately, China’s capital controls are leaky and authorities are still reluctant to allow the RMB to revalue at a faster pace. China has to use all instruments, though none of them are effective.

It is worth noting that under China’s current circumstances, the collateral damage of a big interest rate hike could be serious for commercial banks. This is because the most important source of profits to Chinese banks comes from interest spreads between the interest on loans and those on deposits, and asymmetrical rises in interest

4 From the Communiqué of the Conference of the Political Bureau of the Communist Party of China, held on November 27th, 2007. Xinhua News Agency.

5 This was the way Premier Zhu Rongji cured inflation between 1994 and 1997.

rates in favor of household saving deposits (which are what I am suggesting) would lower the banks' profitability. Even a symmetrical rise in the interest rates could harm the banks because it would lead to an increase in household saving deposits but a decrease in borrowing by enterprises.

Furthermore, the interest rate hike could cause a production cutback and decrease the income of white-collar professionals who have mortgage loans. The possible default of these mortgage borrowers could cause serious problems for the banks.

However, a small increase in the interest rate is not very useful in raising the demand for money. One possible alternative to raising interest rates deeply is to use fiscal policy. For example, stamp duty is effective in containing equity bubbles. However, the public response to the implementation of these kinds of policies can be negative.

In the long run, the need to reallocate resources to accommodate economic growth means that China must allow the RMB to appreciate. Current events prove that the massive reserve accumulation is inflicting a welfare loss for the country. How long must China underwrite America's asset bubble? In the short term, RMB appreciation is appropriate for fighting inflation. Over the past 3 years, RMB appreciation has improved China's terms of trade without reducing the trade surplus. China's fiscal strength is more than enough to ameliorate the possible damage to China's export industry. The main threat to China's exports is protectionism elsewhere. Slow but steady appreciation has lengthened the adjustment phase for Chinese enterprises to adapt, depriving them of strong motivation to adapt in the process. At the same time, it has provided speculators with an opportunity to enter China's real estate and financial markets and enterprises. In fact, because of the slow appreciation, a great amount of Chinese assets have already been purchased by foreign investors at a discount. The negative effects of an unwillingness to move the currency should not be underestimated.

China has tried countless methods to avoid RMB appreciation, for example, it has sent government delegations abroad to make big purchases like jumbo jets, cut export tax rebates, encouraged domestic enterprises to invest overseas, opened up the financial services industry, and eased capital controls. These measures were necessary but some of them have significant negative side effects. Take the case of relaxing restrictions on capital outflows. Since 2003 the PBOC's policy has been "easy out, difficult in." The problem is that with widespread expectations about large RMB appreciation, this policy is ineffective. The low use of the outward investment mechanism (qualified domestic institutional investors, QDII) provides clear evidence of a lack of demand for outflows.

Relaxing capital controls on outflows to control domestic liquidity without making the exchange rate regime more flexible first is putting the cart before the horse. Capital controls are China's last defense and cannot be eased until China's financial reforms are complete. Growth is cyclical and a sudden change in China's situation could prompt massive capital flight. If there were no restrictions on capital outflow at that point, the effects on China's economy would be disastrous. Capital account liberalization should be treated as a segment of China's structural reform and not a stop-gap measure to solve China's short-term imbalances.

5. Conclusion

China is facing the threat of inflation, and the U.S. economy is in trouble. The state of the U.S. economy will have important consequences on China's growth. To maintain sustainable growth, China must walk a tightrope. China must tighten its monetary policy, but also be ready to use expansionary fiscal policy to replace the weakened external demand to sustain its economic growth. Tight monetary policy means that China has to continue its sterilization policy as well as raise interest rates. However, to implement a tight monetary policy, China should improve its management of capital flows and minimize the flows aimed at arbitrage. Because China's capital control regime is quite leaky, carrying trade into China might become increasingly attractive. As a result, China's efforts at tightening monetary policy could be neutralized. If capital control were to fail to stop capital inflows, then China might have to allow a more speedy appreciation of the RMB so that the central bank's burden on sterilization would be reduced and monetary independence would be preserved as well.

2008 will be a delicate year for China. However, because of China's strong fiscal position, I am quite sure that whatever happens, China will be able to maintain sustainable growth. There is no ground for pessimism.

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